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Lewis Pressurized, Fluidized-Bed Combustion Program—Data and Calculated Results

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LEWIS PRESSURIZED, FLUIDIZED-BED COMBUSTION PROGRAM -

DATA AND CALCULATED RESULTS

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SUMMARY

A 200-kilowatt (thermal), pressurized, fluidized-bed (PFB) reactor and research test facility were designed, constructed, and operated by the NASA Lewis Research Center. The facility was established as part of a NASA-funded project to assess and evaluate the effect of PFB hot-gas effluent on aircraft turbine engine materials that may have applications in stationary powerplant turbogenerators.

The facility was intended for research and development work and was designed to operate over a wide range of conditions. These conditions included the type and rate of consumption of fuel (e.g., coal) and sulfur-reacting sorbent material; the ratio of feed fuel to sorbent material; the ratio of feed fuel to combustion airflow; the depth of the fluidized reaction bed; the temperature and pressure in the reaction bed; and the type of test unit that was exposed to the combustion exhaust gases.

This report presents the test data obtained in carrying out over 200 different tests in a 2-year period. Some of the tests involved the inter-relationship of the various operating parameters on reactor performance, other tests were carried out after making physical changes in the configuration of the reactor and/or gas cleanup system, and still other tests involved steady-state, endurance testing of component materials being investigated.

The report includes a description of the data acquisition and control instrumentation and how the instrument signals were used in making calculations. The procedures used in making these tests, including variations between one test series and another, are also described in this report.

NASA has terminated its in-house experimental PFB research, and the facility has been deactivated. The efforts put forth in this program may be of benefit to others who are considering such work for eventual commercial development of the fluidized-bed combustion concept. Many of the technical problems solved in this small facility are expected to be scalable to larger research or commercial facilities.

INTRODUCTION

This report presents the data and performance of a pressurized, fluidized-bed (PFB), coal-burning combustor that was operated at the NASA Lewis Research Center. The PFB facility was used to furnish high-pressure, high-temperature combustion gases for the evaluation of gas turbine components. Hot-combustion-gas-using turbines have a potential use in future coal-burning power generation plants (ref. 1). In such applications, the turbine components will be subjected to gases containing more contaminants and corrosive substances than current hot gas turbines experience. The Lewis PFB facility

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was the first to flow over 1500° F gases through an operating gas turbine for long durations.

The PFB combustor is of interest because it is capable of in-situ coal-sulfur capture without the use of postcombustion gas cleanup systems. It has the ability to operate at a higher thermal efficiency and at lower operating temperatures than conventional coal-burning combustors (ref. 1). The PFB combustor also has application in cogeneration powerplants that use the hot combustion gases to provide electric power and steam for heating (ref. 2).

The Lewis PFB facility incorporates a 200-kilowatt (thermal) research combustor with several distinguishing features. It uses a tapered conical combustor design that has increasing cross-sectional bed surface area with reactor height. This results in a lower combustion gas bed exit velocity and theoretically lower bed particle entrainment while maintaining the essential PFB characteristics. The combustor has the capability of operating with different types of coal and sulfur sorbent and at any desired constant bed depth.

The physical characteristics and operating procedures used to date with the Lewis PFB facility were reported by Kobak and Rollbuhler (ref. 3). This report describes the tests done in this facility and the data obtained. Some of the tests were carried out to ascertain the combustor performance characteristics, other tests were performed to check out the combustion gas cleanup system, and still other tests involved turbine component life testing.

In this report the data acquisition system parameters and the data sources are described and located in table 1 and figures 1 to 11. Then the equations used to obtain calculation results from the measured data are presented in table 2. The sequence of tests carried out in this program and the key operating parameters of each test are listed in table 3. The test data and calculations from each of these tests have been combined into groupings associated with a particular part of the PFB system (combustor solids input information, combustor temperatures and pressures, etc.) and are presented in table 4. The solid materials associated with the PFB testing (e.g., coal, limestone, bed residue, and combustion gas flyash) were collected, weighed, screened for size, and chemically analyzed for many of the tests, and the results are listed in tables 5 to 10. The information presented is for a program that was carried out from mid-1977 to mid-1979.

Reports have been previously published covering certain specific interest areas of the PFB testing. Initial test results were reported by Priem, Rollbuhler, and Patch (ref. 4). A comparison of theoretical and experimental results in particle carryover was written by Patch (refs. 5 and 6). The characteristics of the PFB control system have been described by Kobak (ref. 7). Results of various gas cleanup techniques were reported by Rollbuhler and Kobak (ref. 8). And the corrosion-erosion behavior of turbine components during life tests can be found in reports by Zellars, Rowe, Lowell, Benford, and Rollbuhler (refs. 9 to 11). This report does not attempt to draw any conclusions but presents all the measured data and calculations for the entire NASA PFB program as a microfiche supplement (table 4).

DATA ACQUISITION PARAMETERS

Data from the Lewis PFB facility were generated from over 150 thermocouples, 45 pressure transducers, 10 fluid-flow-measuring transducers, 8 load cells, and an assortment of valve- and switch-actuated positioners,

rotation transducers, accelerometers, and gas analyzer signals. The data signals from these sources were recorded on high-speed data accumulators; each signal was associated with a particular data channel. There were over 200 channels being used. The data were recorded digitally at selected times in a given test. The accumulator, or recorder, could scan and record the 200 data channels in less than five hundredths of a second. Along with recording the data at selected time intervals, key data values were transmitted to a high-speed digital computer for processing into engineering expressions and performance calculations.

The data parameters are listed in table 1. The table has been divided into sections representative of various segments of the PFB facility. These segments are

- 1(a) - Combustor input solids data
- 1(b) - Combustor input air system data
- 1(c) - Combustor temperature and pressure data
- 1(d) - Combustor wall temperature data
- 1(e) - PFB system solids discharge data
- 1(f) - PFB coolant system data
- 1(g) - Combustion gas system data
- 1(h) - Combustion gas analyzing system data
- 1(i) - PFB test unit data

In each section, or table subdivision, the data parameter recording channel number is listed along with the tests in which the particular parameter applied. Over the program lifetime some parameters were dropped and new parameters put on the same data channel. Sometimes the parameter was switched from one channel to another and at other times the parameter transducer and/or its operating range was changed.

The locations of the parameter transducers are presented in figures 1 to 11. An overall schematic of the Lewis PFB combustion system is shown in figure 1. The main portions of it are the reactor vessel or combustor, the coal and sorbent feed system, the combustion gas cleanup system, the test section, the combustion gas cooldown and vent system, and the component water coolant system. A detailed description of the construction and test operation of these systems is presented in reference 3. Figures 2 to 11 show each of the PFB subsystems in schematic form and the general location of the data-producing transducers. At each measuring transducer location in the figures, a system identification number and the data-recording channel (DC) number are given. The thermocouple identification numbers contain the letter K, T, or R, referring to thermocouple type (K = Chromel-Alumel, T = copper-constantan, and R = platinum-rhodium).

The combustor input solids flow rates (coal and sorbent materials) into the combustor were determined in two ways: from changes in the supply hopper weights over the total time of a test, and from fuel hopper incremental weight readings. The input solids parameters are listed in table 1(a) and identified in figures 3 and 4. The PFB discharge solids were (1) the combustor bed material that was being "skimmed" off the bed surface so as to maintain a constant bed depth, (2) the combustor bed contents that remained in the combustor at the test conclusion, and (3) the combustion gas particles that were captured in the PFB cleanup system. The discharge solid parameters are listed in table 1(e), and the data locations are noted in figures 5, 7, and 11.

The combustor input gas flow during normal operations was heated compressed air. Its flow rate was determined by measuring the air's temperature and pressure and a venturi pressure drop as listed in table 1(b) with

the parameter data locations shown in figure 6. The combustor output gases either flowed through a cleanup, cooldown system and vented to the atmosphere or they flowed through a cleanup system, a test section, and a cooldown system and then vented. The combustion gas parameters are listed in table 1(g) and the transducer locations are presented in figures 7 and 11.

The combustor, or reactor vessel, internal pressure and temperature parameters are listed in tables 1(c) and (d). The temperatures were obtained from thermocouples inserted at various combustor heights into the unit's interior. The thermocouples were protected with Hastelloy jackets. Other thermocouples were located within the reactor refractory and insulated walls. The location and depths are noted in figure 2 and table 1(d). The wall temperatures were used to calculate wall heat transfer rates. Besides measuring the combustion gas absolute pressure values, we determined differential pressures across various portions of the combustor bed.

To initiate combustion within the PFB reactor, a natural gas and compressed-air burner was utilized. It was built into the bottom of the reactor and is shown in figure 8. The instrumentation, which included flowmeters, thermocouples, and pressure transducers, gave information of concern in starting the PFB operations. The operations engineer monitored the startup conditions so as not to exceed certain PFB operating limits. These data parameters are not included in this report because they do not apply to the steady-state PFB testing. More information on starting the PFB is presented in reference 3.

The PFB combustor was kept at steady-state operating temperatures and pressures by controlling the fuel and air flow rates and the heat removal rate from the reactor. The heat removal was accomplished by regulating the cooling water flow rate through and around the reactor. The coolant flowed through internal combustor heat exchangers ("rakes"), which could be varied in number and location within the combustor. The water coolant flow rate and temperature-measuring parameters are listed in table 1(f) and shown in figure 9. Normally not all the available coolant rakes would be used; in fact for the last series of tests, none of them were used. The reactor outer wall was wrapped with a water coolant line that was also instrumented.

As part of the test procedure the combustion gases within and those leaving the combustor were monitored for their composition. A portion of the gases was continuously withdrawn from the system and passed through the gas analyzer. The analyzer determined the concentrations of hydrocarbons, nitrogen oxides, sulfur oxides, carbon monoxide and dioxide, and oxygen. These concentration parameters and other pertinent data concerning the analysis are listed in table 1(h). A schematic of the gas analysis system is shown in figure 10. The gas sample line between the system components was kept warm enough to avoid possible product condensation within it.

The schematic of the turbine component testing system is presented in figure 11. The instrumentation parameters associated with this testing are listed in table 1(i). This testing generally required additional gas cleanup of flyash carryover from the combustor. This was done upstream of the component test units, using a two-stage, cyclone, gas-solids separator plus an optional ceramic filter assembly in series between the combustor gas exit and the component gas input port. The test component unit temperatures and pressures were measured, and instrumentation was provided for taking turbine spinup and braking data. The control of the spin rate was a critical operating parameter.

The instrumentation was set up not only to provide test data but also to serve as a safety system. The key parameter instrumentation was calibrated

daily. The control data values had to remain within specific minimum and maximum values at specific times during a test sequence; otherwise an audible and visual alarm would occur and corrective action would have to be made within a given time before the PFB control system would initiate shut-down procedures. Key data and calculations were displayed in the PFB control room for the operator's use. More information about the operational controls and safety features can be found in reference 7.

DESCRIPTION OF THE DATA CALCULATION PROCEDURES

Once the test data had been obtained, they were not only recorded but many of them were used in calculations determining the performance level of the PFB systems, the system thermodynamics, and the operational rate of change in the processes. These calculations were made by using the formulas listed in table 2.

Calculating the combustion performance and fuel-burning efficiency required knowing the flow rates of the fuel and air entering the combustor and measuring the combustion gas chemical and physical conditions. Determining the actual fuel flow rate proved to be the most difficult calculation. The PFB fuel feed unit was designed to auger a physical volume of material into the combustor per unit of time, but there was no instantaneous rate-measuring flowmeter to verify that this was occurring. Solids flow rate had to be determined from changing fuel hopper weight signals. The rate was determined by using a least-squares fit calculation (CAL05 in table 2) of the changing fuel hopper load cell signals over a finite time span. The longer the time, the more load cell signals that could be fitted into the calculation and the more trustworthy the flow rate answer became. It actually amounted to an average flow rate over the time increment being considered. During this program two different signal acquisition systems were used for this calculation. One was known as the "Modicon" system and the other as the "Escort" system. The Escort system could take more weight signals in a given time to make the calculation than could the Modicon, and therefore more reliance was put on its results.

The fuel itself was a variable mixture of coal and sulfur-retaining ("sorbent") minerals. The solids ratio in this mixture was set by batch mixing of weighed quantities of each component and mechanically blending the solids. The other factor in the combustion process, the air, had its flow rate and density determined continuously from standard venturi flow equations (CAL04).

The combustion efficiency (CAL72) was determined from the available energy in the input coal and the amount of this energy that remained in the combustion gas and solid discharge materials. This involved knowing not only the chemical composition of the combustion products but also the quantity and composition of the partially reacted solids entrained in the gases. The solids in the gases (i.e., flyash) were collected and analyzed at an analytical laboratory. Measurement of the actual combustion gas flow rate (CAL37) was attempted, but the gas flowmeter pressure ports had a tendency to plug with the fine flyash. It was therefore assumed that the combustion gas flow rate was equivalent to the input air flow rate and that the volatile portion of the burning coal was fully oxidized in the air stream.

The PFB heat transfer rates and coefficients were calculated for the heat being removed from the combustion process by the reactor coolant rakes (CAL26, 27, and 30), the heat flowing through the reactor walls (CAL28 and 30), and the heat being carried out of the system in the combustion

gases (CAL38). Miscellaneous heat transfer rates were calculated for the other heat transfer units in the PFB system (CAL29). A large amount of heat was lost through the component walls; therefore the calculated thermal balance for the entire PFB system (CAL58) amounted to about three quarters of the total potential energy in the fuel.

The chief objective during the turbine component testing was to determine the time before turbine material changes began occurring. The combustion gases were therefore held constant, as much as possible, in flow rate, temperature, pressure, and composition over the test lifetime. Calculations were made of the rates of erosion and deposition on the component surfaces. These calculations were based on physical measurements made at intermediate test shutdown times. The samples were chemically analyzed during and after testing. Data on the turbine component tests can be found in references 9 to 11.

TEST SEQUENCE

The complete listing of all tests carried out in the Lewis PFB facility is given in table 3. The listing shows that the testing consisted of two chief phases: (1) testing of the PFB combustion process variables (test series A to N) and (2) time duration testing of gas turbine sample components (test series TB1, TB2, T3, T4, T5, T6, T7, and CAS0 to CAS4).

The testing was usually done on a continuous basis from Monday through Friday with the weekend used for examination of the test samples and the system components. Starting the PFB on Monday used approximately 6 hours before steady-state test conditions were achieved and test data could be recorded. For any test series the combustion bed depth, the type of coal, the type of coal-sulfur sorbent material, and the extent of internal reactor cooling were kept constant. The combustion bed depth was held at a constant level during a given test series except when the combustion gas velocity was excessive and large quantities of solids were being blown out of the reactor.

For the combustion process tests, A to N in table 3, two types of coal were used: Pittsburgh seam No. 8 and Ohio seam. Two types of coal-sulfur sorbent materials were used: pure granular limestone and dolomite. The sorbent-coal ratio, in the fuel put into the reactor, was varied between 0.06 and 0.30.

During a given test series the combustion bed depth was preset to be maintained at some fixed level between 44 and 97 inches. The number of reactor internal coolant rakes was also held constant during a test series from zero to six.

During any test series the fuel-air ratio, the sorbent-coal ratio, the combustion pressure, the fuel flow rate (and combustion temperature), and the combustion air temperature and flow rate could be and were varied. In a given test series the fuel-air ratio was set between 0.04 and 0.10, the combustion pressure operating range was 40 to 90 psia, and the combustion temperature was held to some approximate value between 1500° and 1900° F by the quantity of fuel (10 to 80 lb/hr) injected into the reactor.

Each test was carried out at close to steady-state operating conditions for 2 to 6 hours. During that time span, data were recorded at intervals - usually 1/2 hour apart. These recorded data were given a reading number every time a data scan was made. Thus each test included six or more readings. The data reading numbers are listed for each test in table 3.

A variable in some tests was the input combustion air temperature. It was usually set at about 100° F by passing a portion of the incoming com-

pressed air through an exhaust gas heat exchanger and then remixing the heated air with the remaining ambient-temperature input air. If all the incoming air was passed through the heat exchanger, the input combustion air temperature could be increased to about 300° F.

For the turbine component tests it was desired to hold all the operating conditions at fixed values over the test duration. The test duration varied depending on how well the test samples held up in the combustion gas environment. This included testing of material samples in a cascade test unit (tests CASO to CAS4), testing of turbine sample blades rotating in uncleaned combustion gases (tests TB1A-F and TB2A-G), and testing of research material rotors in a gas turbine (tests T3 to T7). The final turbine test (T7) involved the longest exposure time of a given turbine test rotor to hot combustion gases - over 400 hours.

TEST DATA AND RESULTS

The test data values, in engineering terms, and the calculations obtained from the data, are presented in table 4 for the tests listed in table 3. Table 4 has been divided into sections similar to the way the data parameters were divided in table 1; that is,

- 4(a) - Combustor input solids data
- 4(b) - Combustor input air system data
- 4(c) - Combustor temperature and pressure data
- 4(d) - Combustor wall temperature data
- 4(e) - PFB system solids discharge data
- 4(f) - PFB coolant system data
- 4(g) - Combustion gas system data
- 4(h) - Combustion gas analyzing system data
- 4(i) - PFB test unit data

Table 4 is included as a microfiche supplement to this report.

The data and results are average values for each test. As mentioned in the test sequence section, each test data value has been obtained by averaging the data values obtained in six or more test readings made during the steady-state testing time. It was attempted to keep operating conditions at a steady-state level during that portion of each test when readings were being obtained. The degree that this was attained is indicated by the standard deviation value listed together with the average test data value.

The data were recorded at a higher degree of precision than could reliably be expected from most of the instrumentation. Therefore the data values are presented only to the extent of expected accuracy. Those test data value locations where obviously erroneous data were being recorded are footnoted in the table. Those test data value locations where data were not recorded for that parameter during the test are also footnoted in the table.

The calculation values reported were determined by a computer for each test reading, and then the reading values were averaged for the test that included those readings. The standard deviation was also determined for the calculations that comprised the given test.

The data and calculations are presented for all the tests done in the Lewis PFB facility. No attempt is made in this report to interpret these data or calculations. Interpretations of particular portions of this information can be found in references 4 to 11.

PFB SOLIDS ANALYSIS

An important factor in the operation of a PFB system is what is happening to the solid materials being introduced into the system. The input solids are the coal and the coal-sulfur sorbent material, the output solids are the reactor ash (that which is removed during a test and that remaining in the reactor after a test) and the flyash in the combustion gases. It is desired to operate the PFB at the highest thermal efficiency and at the same time minimize the quantity of solid material in the combustion gases.

The chemical analyses of the two types of coal and the two types of sorbent used in this program are given in table 5. The analyses were provided by the suppliers and verified by spot sample laboratory analysis. The table values are averages with a ± 5 percent variation. The chief difference between the Pittsburgh and Ohio coal, as far as this program was concerned, was the sulfur content and the heat of combustion. The sorbents differed in that the limestone was almost all calcium carbonate, while the dolomite was half calcium carbonate and half magnesium carbonate. Theoretically the calcium has a greater affinity for combining with the sulfur from the burning coal than does the magnesium. The combination of calcium and sulfur forms solid calcium sulfate. The calcium and magnesium are expressed in terms of their oxide form in table 5. This is the form that they assume in a high-temperature environment, such as a PFB combustion bed, with large flows of excess air passing by them.

Before a new test series was started each week the PFB reactor was filled to the desired depth with previously used bed material and topped off with new sorbent material. The quantities put in the reactor before each test series are listed in table 6. Also listed is the quantity of material removed from the reactor at the conclusion of a given test series. The input and output quantities do not agree because for some test series the input quantity settled after being deposited and it took further input during the testing period to bring the bed level up to the desired height. In other tests the combustion gas flow carried out large quantities of very fine bed particles, finer than the particles with which the bed was initially filled.

In order to determine the quantity of bed solid material entrained in the combustion gases as flyash, a portion ($\sim 1/4$) of the gases was diverted periodically during each test through a microfine gas-filtering system. This system is shown in figure 7. The diverted gases passed through a flowmeter, a cyclone-type separator, a microporous element gas filter, and a commercial gas filter bag before venting to the atmosphere. The system was able to capture particles 0.2 micrometer and larger. The quantity of solids removed by this system is assumed to be representative of the rest of the combustion gases and is reported in table 7 as the grains of solid mass per standard cubic foot of gas.

The solids mass balance data for each test are reported in table 7. The input solids that should remain unreacted during testing are the ash in the coal, about 8 percent, and the oxide portion of the sorbent, about 57 percent in limestone. The solids being removed from the PFB system during testing are the bed surface removal unit discharge, the gas cyclone separator discharge solids, and the flyash that remains in the gases leaving the system. The bed surface discharge solids were collected in a weigh system and the net weight is listed as DC023. The cyclone separator discharge solids were also collected and weighed; the value is DC025. At various times

during a test series the accumulation of discharge solids was weighed and samples were taken for particle sizing and chemical analysis.

The solids from the bed surface and from the cyclone were sampled and sent to an analytical laboratory for composition determination. The results of this analysis are given in table 8. The solids were first separated chemically into the volatile and nonvolatile portions. The bed sample was mostly nonvolatile and the cyclone sample was about three quarters nonvolatile. The nonvolatile portion was analyzed for calcium, silica, sulfur, carbon, carbon oxides, sulfur oxides, and hydrogen concentrations.

Some of the solids from the bed surface and from the cyclone separator were analyzed for particle size distribution. Both a dry and a wet sieving technique were used to determine the size distribution of particles 25 micrometers and bigger. For particles smaller than 28 micrometers, the Andreason pipetting technique was used for determining particle size. The size is reported in table 9 as the mass percentage of the sample that is smaller than a stated size. Sizing is reported down to 5 micrometers. It was found to be important that the particle sizing analysis, and to a lesser extent the chemical analysis, of the solids be done as soon as possible after collecting the material. The particles are hygroscopic and they start caking and fusing together within a few days. There is also a change in particle coloring.

Table 10 shows a comparison of the chemical and sizing analysis for three different test bed samples. The finer material from the bed contained a greater percentage of sulfur than did the coarser portion. The coarser material was composed of a higher percentage of lime than were the smaller particles. Since the higher sulfur concentration was in the finer bed particles, it was important for the PFB operator to keep the combustion gas flow rate low enough to minimize the entrainment of these particles in the exhaust gases.

CONCLUDING REMARKS

Within the report is a vast array of test data and calculations pertaining to the operation of a PFB combustion system under various operating conditions. The Lewis PFB system is a research and development facility of 200-kilowatt (thermal) size that can be operated over widely varying conditions. The system is extensively equipped with sophisticated instrumentation and operating controls. A great deal of effort has been put into obtaining a high degree of accuracy in the results.

The data and results have been grouped in this report such that the reader interested in a particular test parameter or test condition can locate the pertinent information without looking through all the data. The reader should first check through the table of test parameters to determine if the ones he is interested in are listed. Or, if he is interested in a particular calculation, the reader can check in table 2 for how that calculation was made and what input data were used in the calculation. Next he should check table 3 for the particular type of PFB test he is concerned with. Knowing the parameters and the tests of interest, the reader can look in table 4 for the data for those tests and the desired parameters.

Together with the PFB facility report (ref. 3) this report shows what results can be obtained with given components and equipment. For example, changes in the gas cleanup system described by Rollbuhler and Kobak (ref. 8) can be related to the gas solids loading and flyash collected as reported in this publication. The description of the controls in both ref-

erences 3 and 7 and an analysis of the standard deviations of the control parameters listed in this report suggest areas of improvement in future PFB installations.

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TABLE 1. - PFB TEST DATA PARAMETERS

(a) Combustor input solids data

| Recording data channel | Parameter | Data source | Valid test series |
|------------------------|---|-----------------|-------------------|
| DC001 | Coal consumed, lb | Δ Weight | All |
| DC002 | Coal hopper meter screw average value | ----- | ↓ |
| DC003 | Sorbent consumed, lb | Δ Weight | |
| DC004 | Sorbent hopper meter screw average value | ----- | |
| DC005 | Fuel consumed, lb | CALC5 | |
| DC006 | Fuel hopper meter screw average value | ----- | ↓ |
| DC014 | Fuel injector line pressure drop, psid | AS085 | J1-T7D |
| DC022 | Fuel injector line wall temperature, °F | K007 | A1A-TB2G |
| DC033 | Fuel injector line pressure drop, psid | AS085 | A1A-TB2G |
| DC092 | Present fuel flow rate, pph (Modicon) | ----- | E1-T7D |
| DC093 | Present fuel flow time, sec (Modicon) | ----- | |
| DC094 | Previous fuel flow rate, pph (Modicon) | ----- | |
| DC095 | Accumulated fuel flow, lb (Modicon) | ----- | ↓ |
| DC100 | Reactor fuel flow indication, mV | ----- | T3A-T7D |
| DC174 | Present fuel flow rate, pph (Modicon) | ----- | A1A-TB2G |
| DC175 | Present fuel flow time, sec (Modicon) | ----- | |
| DC176 | Previous fuel flow rate, ppm (Modicon) | ----- | ↓ |
| DC177 | Accumulated fuel flow, lb (Modicon) | ----- | |
| DC298 | Present fuel flow rate, ppm (Escort) | ----- | T3A-T7D |
| CALC06 | Sorbent-coal ratio | DC004/DC002 | All |
| CALC07 | Coal flow rate, pph | CALC5,6 | All |
| CALC08 | Sorbent flow rate, pph | CALC5,7 | All |
| CALC05 | Fuel flow rate, pph (Δ W least-squares fit) | DC174 | A1A-TB2G |
| CALC05 | Fuel flow rate, pph (Δ W least-squares fit) | DC092 | E1-G19 |
| CALC05 | Fuel flow rate, pph (Δ W least-squares fit) | DC298 | H1-T702 |
| CALC13 | Input calcium-sulfur ratio | CALC8,7 | All |
| DC022 | Fuel line pressure drop, psid | AS085 | E1-T7D |

(b) Combustor input air system data

| Recording data channel | Parameter | Data source | Valid test series |
|------------------------|---|-------------|-------------------|
| DC008 | Combustor air venturi differential pressure, psid | AS046 | All |
| DC009 | Combustor air line pressure, psia | AS025 | ↓ |
| DC010 | Combustor air inlet temperature, °F | K001 | |
| DC011 | Fuel air injector venturi differential pressure, psid | AS010 | |
| DC012 | Fuel air injector line pressure, psia | AS011 | |
| DC013 | Fuel air injector gas temperature, °F | T036 | |
| DC015 | Burner air venturi differential pressure, psid | AS042 | |
| DC016 | Burner air line pressure, psia | AS018 | |
| DC050 | Reactor air inlet temperature, °F | K004 | |
| DC054 | Reactor grid air differential pressure, psid | AS029 | |
| DC055 | Reactor internal gas pressure, psia | TP064 | |
| DC099 | Air heater vent air temperature, °F | K043 | |
| DC131 | Air heater reactor air temperature, °F | K025 | |
| DC148 | Air heater input air pressure, psia | AS035 | |
| DC149 | Air heater venturi differential pressure, psia | AS019 | |
| CALC04A | Combustor airflow rate, pph | DC8,9,10 | ↓ |
| CALC04B | Burner airflow rate, pph | DC13,15,16 | |
| CALC04C | Fuel air injector flow rate, pph | DC11,12,13 | |
| CALC04 | Total combustion airflow rate, pph | CALC4A,B,C | |
| CALC09 | Reactor coal-air ratio | CALC04,07 | |
| CALC16 | Reactor grid airflow coefficient | DC50,54,55 | |

TABLE 1. - Continued.

(c) Combustor temperature and pressure data

| Recording data channel | Parameter | Data source | Valid test series | |
|------------------------|--|-------------|-------------------|----------|
| DC030 | Bed temperature, 5 inches up left side, °F | R097 | A11 | |
| DC031 | Bed temperature, 5 inches up right side, °F | R098 | A11 | |
| DC032 | Bed temperature, 15 inches up, °F | R114 | A11 | |
| DC033 | Bed temperature, 29 inches up, °F | R100 | E1-T7D | |
| DC034 | Bed temperature, 42 inches up, °F | R091 | A11 | |
| DC035 | Bed temperature, 55 inches up, °F | R092 | ↓ | |
| DC036 | Bed temperature, 67 inches up, °F | R093 | | |
| DC037 | Bed temperature, 79 inches up, °F | R094 | | |
| DC038 | Bed temperature, 96 inches up, °F | R095 | | |
| DC039 | Internal temperature below gas exit, °F | R096 | | |
| DC028 | Reactor grid metal temperature, °F | R112 | | A1A-TB2G |
| DC029 | Reactor grid cap metal temperature, °F | R113 | | A1A-TB2G |
| DC051 | Reactor grid to port 1 differential pressure, psid | ----- | | E1-T3E |
| DC052 | Reactor port 1 to port 2 differential pressure, psid | ----- | | E1-T3E |
| DC056 | Reactor overall bed differential pressure, psid | TP042 | | A11 |
| DC167 | Bed sample rod 1 temperature, °F | K011 | ↓ | |
| DC168 | Bed sample rod 2 temperature, °F | K012 | | |
| DC169 | Bed sample rod 3 temperature, °F | K013 | | |
| DC170 | Bed sample rod 4 temperature, °F | K014 | | |
| DC171 | Bed sample rod 5 temperature, °F | K015 | | |
| DC172 | Bed sample rbd 6 temperature, °F | K016 | | |
| DC173 | Bed sample rod 7 temperature, °F | K017 | | |
| DC178 | Reactor grid to port 1 differential pressure, psid | ----- | A1A-TB2G | |
| DC179 | Reactor port 1 to port 2 differential pressure, psid | ----- | ↓ | |
| DC180 | Reactor port 2 to port 3 differential pressure, psid | ----- | | |
| DC181 | Reactor port 3 to port 4 differential pressure, psid | ----- | | |

TABLE 1. - Continued.

(d) Combustor wall temperature data

| Recording data channel | Parameter | Data source | Valid test series |
|------------------------|---|-------------|-------------------|
| DC026 | Reactor port 6 wall surface temperature, °F | T042 | E1-T7D |
| DC027 | Reactor port 4 wall surface temperature, °F | T039 | ↓ |
| DC028 | Reactor port 1 wall surface temperature, °F | T040 | |
| DC029 | Reactor combustor wall surface temperature, °F | R104 | ↓ |
| DC040 | Reactor combustor bottom wall shallow temperature, °F | R101 | A11 |
| DC041 | Reactor combustor bottom wall deep temperature, °F | R102 | A11 |
| DC042 | Reactor combustor top wall shallow temperature, °F | R103 | A11 |
| DC043 | Reactor combustor top wall deep temperature, °F | R104 | A1A-TB2G |
| DC044 | Reactor port 4 wall shallow temperature, °F | R105 | A11 |
| DC045 | Reactor port 4 wall deep temperature, °F | R106 | ↓ |
| DC046 | Reactor top cap wall deep temperature, °F | R107 | |
| DC047 | Reactor top cap wall surface temperature, °F | K026 | ↓ |
| DC048 | Reactor top cap wall surface temperature, °F | K027 | A1A-TB2G |
| DC112 | Reactor port 6 wall insulation temperature, °F | K060 | T3A-T7D |
| DC156 | Reactor gas exit wall temperature, °F | K068 | A1A-E15 |
| DC171 | Reactor exit pipe insert wall temperature, °F | K058 | E1-T7D |
| DC043 | Reactor port 6 wall deep temperature, °F | R112 | ↓ |
| DC048 | Reactor top cap wall surface temperature, °F | R113 | |
| DC156 | Reactor gas exit wall temperature, °F | K042 | F1-T7D |

TABLE 1. - Continued.

(e) PFB system solids discharge data

| Recording data channel | Parameter | Data source | Valid test series |
|------------------------|--|-------------|-------------------|
| DC049 | Reactor-solids discharge pipe wall temperature, °F | K005 | A11 |
| DC118 | Reactor-solids discharge coolant temperature, °F | T030 | A11 |
| DC119 | Reactor-solids removal unit (probe) temperature, °F | T031 | A1A-TB2G |
| DC023 | Reactor-solids discharge, lb | ΔWeight | A11 |
| DC136 | Gas-solids sampler gas pressure, psia | TP055 | ↓ |
| DC137 | Gas-solids sampler venturi differential pressure, psid | TP058 | |
| DC138 | Gas-solids sampler gas temperature, °F | K049 | ↓ |
| DC025 | Gas-solids separator solids discharge, lb | ΔWeight | |
| DC139 | Gas-solids separator hopper wall temperature, °F | K051 | |
| DC140 | Gas-solids separator hopper coolant temperature, °F | T029 | A1A-TB2G |
| DC141 | Gas-solids separator collector temperature, °F | K052 | A1A-E15 |
| DC150 | Gas-solids separator discharge differential pressure, psid | ----- | I1-T7D |
| DC165 | Reactor-solids separator pipe wall temperature, °F | K054 | A11 |
| DC166 | Reactor-solids separator gas temperature, °F | K057 | A11 |
| DC173 | Gas-solids separator gas wall temperature, °F | K055 | E1-T7D |
| DC174 | Gas-solids separator hopper wall temperature, °F | K056 | ↓ |
| DC175 | Gas-solids separator exit gas temperature, °F | K059 | |
| DC176 | Gas-solids filter unit wall temperature, °F | K066 | |
| DC180 | Gas-solids separator differential pressure, psid | TP163 | |

TABLE 1. - Continued.

(f) PFB coolant system data

| Recording data channel | Parameter | Data source | Valid test series | |
|------------------------|---|-------------|-------------------|-------------|
| DC051 | Reactor coolant water flow rate, gal/min | F10 | T3F-T7D | |
| DC052 | Reactor coolant water flow rate, gal/min | F11 | T3F-T7D | |
| DC077 | Reactor coolant water inlet temperature, °F | T038 | A11 | |
| DC078 | Reactor coolant water inlet pressure, psia | WS008 | ↓ A1A-TB2G | |
| DC079 | Reactor coolant water flow rate, gal/min | F2/WS013 | | |
| DC080 | Reactor coolant water exit pressure, psia | WS038 | | |
| DC081 | Reactor coolant 1 outlet temperature, °F | T001 | | |
| DC082 | Reactor coolant 2 outlet temperature, °F | T002 | | |
| DC083 | Reactor coolant 3 outlet temperature, °F | T003 | | |
| DC084 | Reactor coolant 4 outlet temperature, °F | T004 | | |
| DC085 | Reactor coolant 5 outlet temperature, °F | T005 | | |
| DC086 | Reactor coolant 6 outlet temperature, °F | T006 | | |
| DC087 | Reactor coolant 7 outlet temperature, °F | T007 | | |
| DC088 | Reactor coolant 8 outlet temperature, °F | T008 | | |
| DC089 | Reactor coolant 9 outlet temperature, °F | T009 | | |
| DC090 | Reactor coolant 10 outlet temperature, °F | T010 | | |
| DC091 | Reactor coolant 11 outlet temperature, °F | T011 | | |
| DC092 | Reactor coolant 12 outlet temperature, °F | T012 | | |
| DC093 | Reactor coolant 13 outlet temperature, °F | T013 | | ↓ E1-T7D |
| DC094 | Reactor coolant 14 outlet temperature, °F | T014 | | |
| DC095 | Reactor coolant 15 outlet temperature, °F | T015 | ↓ A11 | |
| DC096 | Reactor coolant 16 outlet temperature, °F | T016 | | |
| DC096 | Reactor coolant water flow rate, gal/min | ----- | E1-T7D | |
| DC097 | Reactor coolant combustor water flow rate, gal/min | F3/WS009 | A11 | |
| DC098 | Reactor coolant combustor water outlet temperature, °F | T028 | ↓ A1A-TB2G | |
| DC101 | Reactor coolant water flow rate, gal/min | F1/WS017 | | |
| DC102 | Reactor coolant water exit pressure, psia | WS039 | | |
| DC103 | Reactor coolant 17 outlet temperature, °F | T017 | | |
| DC104 | Reactor coolant 18 outlet temperature, °F | T018 | | |
| DC105 | Reactor coolant 19 outlet temperature, °F | T019 | | |
| DC106 | Reactor coolant 20 outlet temperature, °F | T020 | | |
| DC107 | Reactor coolant 21 outlet temperature, °F | T021 | | |
| DC108 | Reactor coolant 22 outlet temperature, °F | T022 | | |
| DC109 | Reactor coolant 23 outlet temperature, °F | T023 | | |
| DC110 | Reactor coolant 24 outlet temperature, °F | T024 | | |
| DC111 | Reactor coolant 25 outlet temperature, °F | T025 | | |
| DC112 | Reactor coolant 26 outlet temperature, °F | T026 | | |
| DC113 | Reactor coolant transition section flow rate, gal/min | F4/WS012 | | A1A-TB2G |
| DC114 | Reactor coolant transition section exit temperature, °F | T027 | | A11 |
| DC115 | Reactor top wall coolant exit temperature, °F | T032 | | A11 |
| DC116 | Reactor mid-wall coolant exit temperature, °F | T033 | A11 | |
| DC117 | Reactor bottom wall coolant exit temperature, °F | T034 | ↓ A11 | |
| DC120 | Reactor outside wall coolant exit temperature, °F | T075 | | |
| DC121 | Reactor outside wall coolant flow rate, gal/min | F5/WS016 | | |
| DC140 | Reactor transition coolant exit pressure, psia | WP004 | | E1-T7D |
| DC141 | Reactor coolant water flow rate, gal/min | F9 | F1-T7D | |
| DC145 | PFB system coolant discharge pressure, psia | WP004 | A1A-TB2G | |
| CALC26 | Heat exchanger heat transfer rate, Btu/hr | ----- | A11 | |
| CALC27 | Heat exchangers heat transfer rate, Btu/hr | ----- | ↓ | |
| CALC28 | Reactor wall heat transfer rate, Btu/hr | ----- | | |
| CALC30 | Heat transfer coefficient, Btu/hr ft ² °F | ----- | | |
| CALC58 | PFB system total heat transfer rate, Btu/hr | ----- | ↓ | |

TABLE 1. - Continued.

(g) Combustion gas system data

| Recording data channel | Parameter | Data source | Valid test series |
|------------------------|---|-------------|-------------------|
| DC122 | Reactor gas cooler 4 coolant temperature, °F | T050 | All |
| DC123 | Reactor gas cooler 3 coolant temperature, °F | T051 | |
| DC124 | Reactor gas cooler 2 coolant temperature, °F | T059 | |
| DC125 | Reactor gas cooler 1 coolant temperature, °F | T053 | |
| DC126 | Reactor gas cooler 4 gas exit temperature, °F | K028 | |
| DC127 | Reactor gas cooler 3 gas exit temperature, °F | K029 | |
| DC128 | Reactor gas cooler 2 gas exit temperature, °F | K030 | |
| DC129 | Reactor gas cooler 1 gas exit temperature, °F | K031 | |
| DC130 | Exhaust gas cooler exit water temperature, °F | T057 | |
| DC132 | Gas-air heat exchanger 4 gas wall temperature, °F | K032 | |
| DC133 | Gas-air heat exchanger 3 gas wall temperature, °F | K033 | |
| DC134 | Gas-air heat exchanger 2 gas wall temperature, °F | K034 | |
| DC135 | Gas-air heat exchanger 1 gas wall temperature, °F | K035 | |
| DC142 | Gas system coolant water flow rate, gal/min | F6/WS036 | |
| DC143 | Gas system coolant exit temperature, °F | T074 | |
| DC144 | Exhaust gas temperature, °F | K036 | |
| DC145 | Exhaust gas exit pressure, psia | ----- | E1-CAS4 |
| DC146 | Exhaust gas flow rate, mV | ----- | E1-CAS4 |
| DC151 | Exhaust gas flow rate, mV | ----- | T3A-T7D |
| DC076 | Exhaust gas cooler exit gas temperature, °F | K039 | A11 |
| DC152 | Exhaust gas exit pressure, psia | ----- | T3A-T7D |
| CALC29 | Gas system coolant heat transfer, Btu/hr | ----- | A11 |
| CALC37 | Gas flow rate, lb/hr | ----- | |
| CALC38 | Combustion gas heat transfer, Btu/hr | ----- | |
| CALC39 | Combustion gas velocity at reactor grid, ft/sec | ----- | |
| CALC40 | Combustion gas velocity at 26-in. bed depth, ft/sec | ----- | |
| CALC41 | Combustion gas velocity at 44-in. bed depth, ft/sec | ----- | |
| CALC42 | Combustion gas velocity at 56-in. bed depth, ft/sec | ----- | |
| CALC43 | Combustion gas velocity at 68-in. bed depth, ft/sec | ----- | |
| CALC44 | Combustion gas velocity at 80-in. bed depth, ft/sec | ----- | |
| CALC45 | Combustion gas velocity at 97-in. bed depth, ft/sec | ----- | |

TABLE 1. - Continued.

(h) Combustion gas analyzing system data

| Recording data channel | Parameter | Data source | Valid test series |
|------------------------|---|-------------|-------------------|
| DC027 | Reactor sample port gas temperature, °F | K050 | A1A-TB2G |
| DC026 | Reactor sample port gas pressure, psia | TP016 | A1A-TB2G |
| DC063 | Gas analysis NO _x value, ppm | ----- | A1A-TB2G |
| DC064 | Gas analysis NO _x value, ppm | ----- | E1-T7D |
| DC065 | Gas analysis CO value, ppm | ----- | E1-T7D |
| DC066 | Gas analysis CO value, ppm | ----- | A1A-TB2G |
| DC067 | Gas analysis hydrocarbon value, ppm | ----- | A1A-TB2G |
| DC068 | Gas analysis hydrocarbon value, ppm | ----- | E1-T7D |
| DC069 | Gas analysis CO ₂ value, ppm | ----- | A1A-TB2G |
| DC070 | Gas analysis CO ₂ value, ppm | ----- | E1-T7D |
| DC071 | Gas analysis SO _x value, ppm | ----- | A1A-TB2G |
| DC072 | Gas analysis SO _x value, ppm | ----- | E1-T7D |
| DC073 | Gas analysis O ₂ concentration, ppm | ----- | A11 |
| DC074 | Gas analysis SO _x permissive signal, mV | ----- | ↓ |
| DC075 | Gas analysis sample gas temperature, °F | K037 | ↓ |
| DC057 | Gas analysis sample gas pressure, psia | TP109 | ↓ |
| DC089 | Sample line steam heating differential temperature, °F | K040/041 | E1-T7D |
| DC090 | Sample line steam-heated wall temperature, °F | K036 | E1-T7D |
| DC091 | Sample line gas wall temperature, °F | K045 | E1-T7D |
| DC146 | Sample line steam input wall temperature, °F | K038 | A1A-TB2G |
| DC150 | Sample line steam heating differential temperature, °F | K040/041 | A1A-TB2G |
| DC157 | Reactor sample port gas temperature, °F | K050 | J1-T7D |
| DC159 | Sample line gas wall temperature, °F | K045 | A1A-TB2G |
| CALC34 | Combustor gas valid SO _x concentration, ppm | ----- | A11 |
| CALC46 | Exhaust gas NO _x concentration, lb/10 ⁶ Btu | ----- | ↓ |
| CALC47 | Exhaust gas SO _x concentration, lb/10 ⁶ Btu | ----- | ↓ |
| CALC49 | Exhaust sulfur percentage of input coal sulfur | ----- | ↓ |

TABLE 1. - Concluded.

(i) PFB test unit data

| Recording data channel | Parameter | Data source | Valid test series |
|------------------------|--|-------------|-------------------|
| DC051 | Test sample 1 temperature, °F | R121 | A1A-TB2G |
| DC052 | Test sample 2 temperature, °F | R122 | A1A-TB2G |
| DC150 | Test section gas pressure, psia | ----- | E1-H26 |
| DC151 | Test sample rotation rate, rpm | ----- | A1A-M12 |
| DC152 | Test section coolant exit 1 temperature, °F | T049 | A1A-M12 |
| DC153 | Test section coolant exit 2 temperature, °F | T054 | A11 |
| DC154 | Test section coolant exit 3 temperature, °F | T055 | A11 |
| DC155 | Test section coolant exit 4 temperature, °F | T056 | A1A-CAS4 |
| DC157 | Test section gas exit temperature, °F | K044 | E1-I13 |
| DC158 | Test section gas inlet temperature, °F | K044 | A1A-TB2G |
| DC145 | Test turbine stator gas pressure, psia | ----- | L1-T7D |
| DC146 | Test turbine gas exit pressure, psia | ----- | L1-T7D |
| DC119 | Test turbine gas inlet wall temperature, °F | K027 | T3F-T7D |
| DC155 | Test turbine gas exit temperature, °F | K071 | L1-T7D |
| DC158 | Test section 1 sample temperature, °F | R121 | E1-T7D |
| DC159 | Test section 2 sample temperature, °F | R122 | |
| DC167 | Test turbine inlet gas temperature, °F | K067 | |
| DC168 | Test turbine inlet gas temperature, °F | K068 | |
| DC169 | Test turbine body wall differential temperature, °F | K069-070 | |
| DC170 | Test turbine blade temperature, °F | ----- | |
| DC172 | Test turbine coolant exit temperature, °F | T061 | |
| DC177 | Test turbine gas inlet pressure, psia | TP164 | |
| DC178 | Test turbine internal gas pressure, psia | ----- | |
| DC179 | Test turbine gas exit pressure, psia | ----- | |
| DC181 | Test turbine case internal pressure, psia | AS183 | |
| DC182 | Test turbine lubricating oil flow rate, gal/min | LP112 | |
| DC183 | Test turbine bearing 1 temperature, °F | K021 | |
| DC184 | Test turbine bearing 2 temperature, °F | K022 | |
| DC185 | Test turbine thrust bearing 1 temperature, °F | K023 | |
| DC186 | Test turbine thrust bearing 2 temperature, °F | K024 | |
| DC187 | Test turbine journal bearing 1 temperature, °F | K019 | |
| DC188 | Test turbine journal bearing 2 temperature, °F | K020 | |
| DC189 | Test turbine lubrication oil exit temperature, °F | T086 | |
| DC190 | Test turbine lubrication oil inlet temperature, °F | T078 | |
| DC191 | Test turbine brake air temperature, °F | T087 | |
| DC192 | Test turbine brake air pressure, psia | AS152 | |
| DC193 | Test turbine brake air differential pressure, psid | AS153 | |
| DC194 | Test turbine housing gas differential pressure, psid | AS162 | |
| DC195 | Test turbine shaft rotation rate 1, rpm | AS174 | E1-T7D |
| DC196 | Test turbine shaft rotation rate 2, rpm | AS172 | |
| DC197 | Test turbine rotation acceleration 1 | AS164 | |
| DC198 | Test turbine rotation acceleration 2 | AS166 | |
| DC199 | Test turbine window purge gas temperature, °F | T088 | |

TABLE 2. - CALCULATION EQUATIONS (a)

CALC06 = Fuel sorbent-coal ratio (LCRAT)

LCRAT = Ratio of sorbent hopper outflow to coal hopper outflow
 Sorbent hopper outflow = Function of sorbent meter screw rotation rate
 (DC004)
 Coal hopper outflow = Function of coal meter screw rotation rate
 (DC002)

CALC05 = Reactor fuel flow rate, lb/hr (ESHFRN)

ESHFRN = DC174, Modicon-calculated fuel flow rate, lb/hr, for tests A1A-TB2G.
 ESHFRN = DC092, Modicon-calculated fuel flow rate, lb/hr, for tests E1-G19.
 ESHFRN = DC298, Escort-calculated fuel flow rate, lb/hr, for tests Hi-T7D2.
 ESHFRN is determined from a least-squares fit equation:

$$ESHFRN = [(\sum W_i)(\sum T_i) - N\sum(W_i \times T_i)] / [(\sum T_i)^2 - N\sum(T_i)^2]$$

where

W_i = DC005, fuel used in test, lb, since startup
 T_i = Time, sec, since startup
 N = Data points recorded since startup
 For the Modicon, data points taken approximately once a minute.
 For the Escort, data points taken approximately 15 times per minute.

CALC07 = Reactor input coal flow rate, lb/hr (CFRAT)

CFRAT = (ESHFRN)/(1.00 + LCRAT)
 ESHFRN from CALC5
 LCRAT from CALC6

CALC08 = Reactor input sorbent flow rate, lb/hr (LFR)

LFR = ESHFRN - CFRAT
 ESHFRN from CALC05
 CFRAT from CALC07

CALC04 = Reactor input total airflow rate, lb/hr (TAF)

TAF = WAIRR + WAIR + FAF
 WAIRR = Reactor main combustion airflow rate, lb/hr
 = Function of a venturi airflow computer subroutine that uses
 DC008, combustion air venturi differential pressure
 DC009, combustion air line pressure
 DC010, combustion air inlet temperature
 Venturi throat diameter and inlet diameter
 WAIR = Reactor burner system airflow rate, lb/hr
 = Function of a venturi computer subroutine that uses
 DC015, burner air venturi high differential pressure
 DC016, burner air line pressure
 DC013, air inlet temperature, °F
 Venturi throat and inlet diameters
 FAF = Fuel system injection airflow rate, lb/hr
 = Function of a venturi computer subroutine that uses
 DC011, fuel injection air venturi differential pressure
 DC012, fuel injection air line pressure
 DC013, air inlet temperature, °F
 Venturi throat and inlet diameters

CALC09 = Reactor input coal-air ratio (CARAT)

CARAT = CFRAT/TAF
 CFRAT from CALC07
 TAF from CALC04

TABLE 2. - Continued. (b)

CALC13 = PFB input calcium-sulfur ratio (RICSR)

$$\text{RICSR} = \text{Ratio of calcium input to sulfur input from coal} \\ = (\text{LFR})(\text{percent CA})(\text{MWS})/(\text{CFRAT})(\text{percent S})(\text{MWCA})$$

LFR from CALC08

Percent CA = Mole percent calcium in sorbent:

If sorbent is limestone, percent CA = 38

If sorbent is dolomite, percent CA = 20

MWS = Molecular weight of sulfur = 32

CFRAT from CALC07

Percent S = Mole percent sulfur in coal:

If coal is Pittsburgh No. 8, percent S = 1.95

If coal is Ohio seam, percent S = 2.8

MWCA = Molecular weight of calcium = 40

CALC46 = PFB exhaust gas NO_x concentration, lb NO_x/10⁶ Btu energy (NOXVG)

$$\text{NOXVG} = (\text{GANO})(\text{WETAF})(\text{MWNO2})/[(\text{MWE G})(\Delta\text{HCOAL})(\text{CFRAT})]$$

GANO = Exhaust gas NO_x concentration, ppm, DC063 (Tests A1A-TB2G) DC064 (Tests E1-T7D2)

WETAF = TAF, CALC04

MWNO2 = NO₂ molecular weight = 46.007

MWE G = Exhaust gas molecular weight ~ N₂ gas molecular weight = 28.0

ΔHCOAL = Heat content of coal, Btu/lb

CFRAT from CALC07

CALC47 = PFB exhaust gas SO_x concentration, lb SO_x/10⁶ Btu energy (SO2VG)

$$\text{SO2VG} = (\text{SO2})(\text{WETAF})(\text{MWSO2})/[(\text{MWE G})(\Delta\text{HCOAL})(\text{CFRAT})]$$

SO2 = Exhaust gas SO_x concentration valid value, ppm, CALC34

WETAF = TAF

MWSO2 = SO₂ molecular weight = 64.06

MWE G = Exhaust gas molecular weight

ΔHCOAL = Coal heat content, Btu/lb

CFRAT from CALC07

CALC049 = Exhaust gas sulfur as a percentage of input sulfur (PCTSV)

$$\text{PCTSV} = (\text{SO2VG})(\Delta\text{HCOAL})/[(10^4)(\text{FRAC.S in coal})]$$

SO2VG = CALC47

ΔHCOAL = Coal heat content, Btu/lb

FRAC.S = 0.0195 if Pittsburgh coal is used

= 0.0280 if Ohio coal is used

CALC16 = Reactor grid airflow coefficient (GPFC)

$$\text{GPFC} = (\text{WAIRR})/[(\text{K4})(\text{Y4})(\text{DAIR})(\text{RGDP})]$$

WAIRR = Reactor main combustion airflow rate, lb/hr (See CALC04)

K4 = Flow area coefficient = 979.9 for tests A1A-TB2G

= 735.1 for tests E1-CAS4

= 1003.7 for tests L1-T7D2

Y4 = 1.40 + [(RGDP)/(RDGP + RGDP)]

RGDP = DC054, reactor grid air differential pressure, psid

RDGP = DC055, reactor combustion gas pressure, psia

DAIR = Air density, lb/ft³ = Function of RDGP, RGDP, and RAIT

RAIT = DC050 Grid air temperature, °F

TABLE 2 - Continued. (c)

CALC72 = Reactor combustion efficiency (CE)

$$CE = 1.0000 - BETA1 - BETA2$$

BETA1 = Energy loss in gas exhaust products

BETA2 = Energy loss in reactor solid discharge

$$BETA1 = (WEG/MWEG)[(XCO)(MWCO)(QCO) + (XHC)(MWHC)(QHC)]/[(WC)(FC)(QCL)]$$

$$BETA2 = [(WD)(QDL) + (WASG)(WE/WG)(QASL)]/[(WC)(FC)(QCL)]$$

$$WEG = \text{Exhaust gas flow rate corrected for moisture} = (WE) - (WC)(FC)(YH) \\ \times (MWH2O/MWH2)(1 - ZA) - (WC)(1 - FC)$$

$$We = \text{Exhaust gas flow rate} = \{(WA) + (WC)[1 - (FC)(YASH)] - (WD)[(YYC) \\ + (YYH2) + (YYS) + (YCO2)] + (WL)(YXCO2)\}/[1 + (WASG/WG) \\ \times (YAC + YAH2 + YAS + YACO2)]$$

Calculation subroutines:

$$ZH = \text{Weight friction of } H_2 \text{ in discharge} \\ = [(WD)(YYH2) + (WASG)(WE/WG)(YAH2)]/[(WC)(FC)(YH)]$$

$$MWEG = \text{Molecular weight of exhaust gases} \\ = (XN2)(MWN2) + (XCO)(MWCO) + (XCO2)(MWCO2) + (XHC)(MWHC) \\ + (XO2)(MWO2) + (XNOX)(MWN02) + (XS02)(MWS02)$$

$$XN2 = \text{Mole fraction of nitrogen gas} \\ = (1.000) - (XCO) - (XHC) - (XCO2) - (XNOX) - (XS02) - (XO2)$$

$$QCL = \text{Coal } \Delta H = (QCB) - (1040)(YH)(MWH2O/MWH2)$$

$$XCO = \text{Mole fraction of CO} = YCO \times 10^{-6}$$

$$YCO = \text{CO in gases, ppm}$$

$$XCO2 = \text{Mole fraction of CO}_2 = YCO2 \times 10^{-6}$$

$$YCO2 = \text{CO}_2 \text{ in gases, ppm}$$

$$XHC = \text{Mole fraction of hydrocarbons} = YHC \times 10^{-6}$$

$$YHC = \text{HC in gases, ppm}$$

$$XNOX = \text{Mole fraction of nitrogen oxides} = YNOX \times 10^{-6}$$

$$YNOX = \text{NO}_x \text{ in gases, ppm}$$

$$XO2 = \text{Mole fraction of O}_2 = YO2 \times 10^{-6}$$

$$YO2 = \text{O}_2 \text{ in gases, ppm}$$

$$XS02 = \text{Mole fraction of SO}_2 = YS02 \times 10^{-6}$$

$$YS02 = \text{SO}_2 \text{ in gases, ppm}$$

$$MWCO = \text{Molecular weight of CO} = 28.02$$

$$MWN2 = \text{Molecular weight of N}_2 = 28.16$$

$$MWHC = \text{Molecular weight of HC} = 16.05$$

$$MWO2 = \text{Molecular weight of O}_2 = 32.00$$

$$MWH2O = \text{Molecular weight of water} = 18.02$$

$$MWS02 = \text{Molecular weight of SO}_2 = 64.07$$

TABLE 2. - Continued. (a)

MWH2 = Molecular weight of H₂ = 2.02
 MWNO2 = Molecular weight of NO₂ = 46.00
 MWCO2 = Molecular weight of CO₂ = 44.02
 QCO = CO ΔH = 4346 Btu/lb
 QHC = Hydrocarbons ΔH = 21 515 Btu/lb
 QDL = Solids discharge heat value, Btu/lb
 QASL = Gas flyash heat value, Btu/lb
 WC = Coal flow rate, lb/hr, CALC07
 WD = Reactor solids discharge rate, lb/hr
 WG = Exhaust gas flow rate through sampler, lb/hr
 WASG = Exhaust gas flyash flow rate into sampler, lb/hr
 WA = Reactor input combustion airflow rate, lb/hr from CALC04
 WL = Reactor sorbent flow, lb/hr from CALC08
 FC = Ratio of dry to wet coal
 YASH = Weight fraction of ash in coal
 YH = Weight fraction of hydrogen in coal
 YYCO2 = Weight fraction of CO₂ to discharge solids
 YYS = Weight fraction of S in discharge solids
 YYH2 = Weight fraction of H₂ in discharge solids
 YYC = Weight fraction C in discharge solids
 YACO2 = Weight fraction of CO₂ in flyash
 YAS = Weight fraction of S in flyash
 YAH2 = Weight fraction of H₂ in flyash
 YAC = Weight fraction of C in flyash
 YXCO2 = Weight fraction of CO₂ products per pound of limestone

CALC30 = Heat transfer coefficient, Btu/hr ft² °F (UE)

$$UE = (HTR/area)/[(0.5)(GTB + GTA - WTO - WTI)]$$

HTR = Heat transfer rate, Btu/hr

AREA = Heat transfer area, ft²

GTB = Combustion gas temperature before the heat transfer unit, °F

GTA = Combustion gas temperature after the heat transfer unit, °F

WTO = Heat transfer unit coolant outlet temperature, °F

WTI = Heat transfer unit coolant inlet temperature, °F (DC077)

CALC37 = Combustion gas flow rate, lb/hr (WEC)

A venturi gas flowmeter was installed in the PFB exit gas line for tests E1 to CAS4. The flowmeter signal was recorded on DC146. The flowmeter had problems due to flyash fouling, and the results were erratic.

TABLE 2. - Continued. (e)

$$WEC = (1890)(Y7)(K7) \left(\sqrt{(RH07)(EGF)} \right)$$

$$Y7 = 1.000 - (0.293)(2.32)(EGF/EGVP)$$

EGF = Vent gas venturi pressure differential, psid (DC146)

EGVP = Vent gas pressure, psia (DC145)

K7 = Nominal discharge coefficient

RH07 = Vent gas density, lb/ft³

= Nitrogen density = (0.072)(EGVP/14.7)(529.7)/(EGVT) + 460)

EGVT = Vent gas temperature, °F

If WEC was calculated to be less than TAF (CALC04), TAF was assumed to be more accurate than WEC in being the combustion gas flow rate.

CALC34 = Combustion gas valid SO_x concentration, ppm (S02)

S02 = GASD, DC071 (tests A1A to TB2G) or DC72 (tests E1 to T7D2) only if GAO, DC073, is equal to or greater than 50 000 ppm and GAIP, DC057, is greater than 20 psia. If these conditions are not met, S02 = 0.

CALC39 = Reactor grid level gas velocity, ft/sec (VELG)

$$VELG = (TAFS) / [AREA1 \times RHOAIR]$$

TAFS = Combustor airflow rate, lb/sec = TAF/3600

TAF = Combustion airflow rate, lb/hr (CALC04)

AREA1 = Reactor cross-sectional area at grid plate = 0.43 ft²

RHOAIR = Air density, lb/ft³ = Function of RDGP and TBB

RDGP = Combustion pressure, psia (DC055)

TBB = Bed bottom temperature, °F (either DC030 or DC031; whichever is greatest)

CALC40 = Reactor port 1 level gas velocity, ft/sec (VEL1)

$$VEL1 = (WETAF) / [(AREA1)(RHON1)(3600 \text{ sec/hr})]$$

WETAF = WE(CALC37) or TAF(CALC04), whichever is greater

AREA1 = Bed cross-sectional area at port 1 level = 0.43 ft²

RHON1 = Gas density, lb/ft³, at port 1 level

N2 density = (0.072)(RDGP/14.7)(529.7/RBT32 + 460° F)

RDGP = Combustion pressure, psia, DC055

RBT32 = Combustion gas temperature near port 1, °F (DC032)

CALC41 = Reactor port 2 level gas velocity, ft/sec (VEL2)

$$VEL2 = (WETAF) / [(AREA2)(RHON2)(3600 \text{ sec/hr})]$$

WETAF = WE(CALC37) or TAF(CALC04), whichever is greater

AREA2 = Bed cross-sectional area at port 2 level = 0.92 ft²

RHON2 = Gas density, lb/ft³, at port 2 level

N2 density = (0.072)(RDGP/14.7)(529.7/RBT34 + 460)

RDGP = Combustion pressure, psia (DC055)

RBT34 = Combustion gas temperature near port 2 level, °F (DC034)

CALC42 = Reactor port 3 level gas velocity, ft/sec (VEL3)

$$VEL3 = (WETAF) / [(AREA3)(RHON3)(3600 \text{ sec/hr})]$$

WETAF = WE(CALC37) or TAF(CALC04), whichever is greater

AREA3 = Bed cross-sectional area at port 3 level = 1.17 ft²

RHON3 = Gas density, lb/ft³, at port 3 level

N2 density = (0.072)(RDGP/14.7)(529.7/RBT35 + 460)

RDGP = Combustion gas pressure, psia (DC055)

RBT35 = Combustion gas temperature near port 3 level, °F (DC035)

TABLE 2. - Continued. (r)

CALC43 = Reactor port 4 level gas velocity, ft/sec (VEL4)

$$VEL4 = (WETAF)/[(AREA4)(RHON4)(3600 \text{ sec/hr})]$$

WETAF = WE(CALC37) or TAF(CALC04), whichever is greater
 AREA4 = Bed cross-sectional area at port 4 level = 1.40 ft²
 RHON4 = Gas density, lb/ft³, at port 4 level
 N2 density = (0.072)(RDGP/14.7)(529.7/RBT36 + 460)
 RDGP = Combustion gas pressure, psia (DC055)
 RBT36 = Combustion gas temperature near port 4 level, °F (DC036)

CALC44 = Reactor port 5 level gas velocity, ft/sec (VEL5)

$$VEL5 = (WETAF)/[(AREA5)(RHON5)(3600 \text{ sec/hr})]$$

WETAF = WE(CALC37) or TAF(CALC04), whichever is greater
 AREA5 = Bed cross-sectional area at port 5 level = 1.77 ft²
 RHON5 = Gas density, lb/ft³, at port 5 level
 N2 density = (0.072)(RDGP/14.7)(529.7/RBT37 + 460)
 RDGP = Combustion gas pressure, psia (DC055)
 RBT37 = Gas temperature near port 5 level, °F (DC037)

CALC45 = Reactor port 6 level gas velocity, ft/sec (VEL6)

$$VEL6 = (WETAF)/[(AREA6)(RHON6)(3600 \text{ sec/hr})]$$

WETAF = WE(CALC37) or TAF(CALC04), whichever is greater
 AREA6 = Bed cross-sectional area at port 6 level = 2.18 ft²
 RHON6 = Gas density, lb/ft³, at port 6 level
 N2 density = (0.072)(RDGP/14.7)(529.7/RBT38 + 460)
 RDGP = Combustion gas pressure, psia (DC055)
 RBT38 = Gas temperature near port 6 level, °F (DC038)

CALC26 = Heat transfer from reactor heat exchangers, Btu/hr (HETHT)

$$HETHT = (HETCF)(CPW)(HEOT - CWIT)(500 \text{ lb min/gal hr})$$

HETCF = Heat exchanger total coolant flow rate, gal/min (DC097)
 CPW = Heat capacity of coolant = Function of HEOT
 HEOT = Coolant outflow temperature, °F (DC098)
 CWIT = Coolant inlet temperature, °F (DC077)

CALC27 = Heat transfer from reactor heat extractors, Btu/hr (HXTHT)

$$HXTHT = (HXTCF)(CPW)(HXOT - CWIT)(500.4 \text{ lb min/gal hr})$$

HXTCF = Heat extractor total coolant flow rate, gal/min (DC113)
 CPW = Heat capacity of coolant = Function of HXOT
 HXOT = Coolant outflow temperature, °F (DC114)

CALC28 = Reactor wall coolant heat transfer, Btu/hr (RWHT)

$$RWHT = (RWCF)(CPW)(RWCT - CWIT)(500.4 \text{ lb min/gal hr})$$

RWCF = Wall coolant flow rate, gal/min (DC121)
 CPW = Coolant heat capacity = Function of RWCT
 RWCT = Coolant outflow temperature, °F (DC120)

TABLE 2. - Concluded. (g)

CALC29 = Auxiliary systems coolant heat transfer, Btu/hr (ASHT)

$$ASHT = (ASCF)(CPW)(ASCT - CWIT)(500.4 \text{ lb min/gal hr})$$

ASCF = Auxiliary system coolant flow rate, gal/min (DC142)

CPW = Coolant heat capacity = Function of ASCT

ASCT = Coolant outflow temperature, °F (DC077)

CALC38 = Vent gas heat transfer, Btu/hr (WEHT)

$$WEHT = (WEC)(CPN)(EGVT - RAFT)$$

WEC = Vent gas flow rate, lb/hr (CALC37)

CPN = Vent gas heat capacity Nitrogen gas heat capacity

= Function of EGVT and EGVP

EGVT = Vent gas temperature, °F (DC144)

EGVP = Vent gas pressure, psia, DC145 (E1 to CA4), DC152 (T3A to T7D2)

RAFT = Input air temperature, °F (DC010)

CALC58 = PFB total heat transfer, Btu/hr (TARH)

$$TARH = HETHT + HXTHT + ASHT + WEHT + RWHT + CAHT$$

HETHT = CALC26

HXTHT = CALC27

HETHT + HXTHT = CALC26X

ASHT = CALC29

WEHT = CALC38

RWHT = CALC28

CAHT = Preheater air heat adsorption, Btu/hr

CAHT = (CAF)(CP)(CATOUT - AIT)

CAF = Air flow rate, lb/hr

CP = Air heat capacity, Btu/lb/°F, a function of AIT and CAIP

CATOUT = Vent air temperature, °F (DC099) or reactor input air temperature, °F (DC131), whichever is greater.

CAF = Function of a venturi subroutine that includes

AIT, injection air temperature, DC013

CAIP, air heater line pressure, psia (DC148)

CADP, air heater venturi differential pressure, psid (DC149)

Venturi inlet diameter to venturi throat diameter = 0.390/0.1283

Calculation of solids in vent gases (table 6)

$$\text{Solids, lbm} = (\text{grams/std ft}^3 \text{ of gas})(\text{Gas flow rate, lb/hr})(\text{Flow time, hr})/507$$

TABLE 3. - TEST SEQUENCE OPERATING PARAMETERS (a)

| Test series | First reading | Last reading | Combustion coal type | Combustion coal sulfur sorbent type | Combustion bed depth, in. | Number of combustor coolant rakes used | Planned fuel-air ratio | Planned sorbent-coal ratio | Planned combustor pressure, psia | Planned bed temperature, °F | Test elapsed time, hr | | |
|-----------------|---------------|--------------|----------------------|-------------------------------------|---------------------------|--|------------------------|----------------------------|----------------------------------|-----------------------------|-----------------------|------|-----|
| A1A | 184 | 194 | Pitt. 8 | Limestone | 97 | 3 | 0.06 | 0.12 | 60 | 1600 | 8.0 | | |
| A2A | 195 | 209 | | | ↓ | | ↓ | ↓ | .09 | ↓ | 75 | 1700 | 7.5 |
| A11A | 210 | 224 | | | ↓ | | ↓ | ↓ | .11 | ↓ | 40 | ↓ | 7.3 |
| A10A | 225 | 240 | | | ↓ | | ↓ | ↓ | .08 | ↓ | 80 | ↓ | 7.5 |
| A9A | 241 | 256 | | | ↓ | | ↓ | ↓ | .09 | .18 | 60 | ↓ | 3.5 |
| A9B | 260 | 267 | | | ↓ | | ↓ | 56 | .09 | .18 | ↓ | ↓ | 3.4 |
| A1B | 270 | 280 | | | ↓ | | ↓ | ↓ | .07 | .12 | ↓ | 1600 | 3.5 |
| A10B | 281 | 291 | | | ↓ | | ↓ | ↓ | .06 | .15 | ↓ | ↓ | 3.8 |
| A11B | 292 | 309 | | | ↓ | | ↓ | ↓ | .07 | .18 | ↓ | ↓ | 3.5 |
| A8B | 310 | 317 | | | ↓ | | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | 3.5 |
| A7B | 318 | 330 | | | ↓ | | ↓ | ↓ | ↓ | .12 | 70 | 1650 | 6.5 |
| A6B | 331 | 336 | | | ↓ | | ↓ | ↓ | ↓ | ↓ | 50 | 1500 | 2.5 |
| A5B | 337 | 342 | | | ↓ | | ↓ | ↓ | ↓ | ↓ | 40 | 1450 | 2.5 |
| A3B | 343 | 351 | | | ↓ | | ↓ | ↓ | ↓ | ↓ | 50 | 1600 | 3.5 |
| A6B | 382 | 359 | | | ↓ | | ↓ | ↓ | ↓ | ↓ | 40 | 1600 | 3.5 |
| A12B | 360 | 367 | | | ↓ | | ↓ | ↓ | .10 | ↓ | 25 | 1600 | 3.5 |
| A17B | 377 | 382 | | | ↓ | | ↓ | ↓ | .07 | ↓ | 70 | 1700 | 2.5 |
| C1 | 399 | 409 | ↓ | ↓ | 44 | ↓ | ↓ | 60 | 1600 | 4.0 | | | |
| C3 | 411 | 418 | ↓ | ↓ | ↓ | ↓ | ↓ | 50 | ↓ | 3.5 | | | |
| C8 | 419 | 424 | ↓ | ↓ | ↓ | ↓ | ↓ | 60 | ↓ | 2.5 | | | |
| C11 | 431 | 438 | ↓ | ↓ | ↓ | ↓ | .06 | 60 | ↓ | 3.5 | | | |
| C12 | 440 | 447 | ↓ | ↓ | ↓ | .10 | .12 | 25 | ↓ | 3.0 | | | |
| C16 | 448 | 454 | ↓ | ↓ | ↓ | .07 | ↓ | 40 | ↓ | 3.0 | | | |
| C17 | 455 | 462 | ↓ | ↓ | ↓ | .07 | ↓ | 70 | 1700 | 3.0 | | | |
| D6 | 468 | 480 | ↓ | ↓ | 68 | .06 | ↓ | 40 | 1650 | 6.0 | | | |
| D7 | 481 | 492 | ↓ | ↓ | ↓ | .06 | ↓ | 60 | 1650 | 5.5 | | | |
| D2 | 493 | 503 | ↓ | ↓ | ↓ | .06 | ↓ | 80 | 1650 | 4.5 | | | |
| D1 | 511 | 518 | ↓ | ↓ | ↓ | .05 | ↓ | ↓ | 1450 | 3.5 | | | |
| D10 | 519 | 531 | ↓ | ↓ | ↓ | .05 | ↓ | ↓ | 1450 | 6.0 | | | |
| D3 | 533 | 546 | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | 1750 | 6.5 | | | |
| D4 | 547 | 558 | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | 1850 | 6.5 | | | |
| E1 | 111 | 119 | ↓ | ↓ | ↓ | 4 | .08 | .13 | ↓ | 1700 | 3.5 | | |
| E2 | 123 | 131 | ↓ | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | ↓ | 4.0 | | |
| E3 | 132 | 155 | ↓ | ↓ | ↓ | ↓ | .10 | ↓ | ↓ | ↓ | 5.6 | | |
| E4 | 156 | 175 | ↓ | ↓ | ↓ | ↓ | .08 | ↓ | 40 | ↓ | 5.5 | | |
| E5 | 176 | 190 | ↓ | ↓ | ↓ | ↓ | ↓ | 60 | ↓ | 5.5 | | | |
| E6 | 192 | 202 | ↓ | ↓ | ↓ | ↓ | ↓ | 80 | 1500 | 5.0 | | | |
| E9 ^a | 208 | 221 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 1700 | 3.5 | | | |
| E8 | 249 | 263 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 1700 | 7.0 | | | |
| E19 | 272 | 281 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 1700 | 4.5 | | | |
| E13A | 283 | 286 | ↓ | ↓ | ↓ | ↓ | .07 | ↓ | 1800 | 1.5 | | | |
| E13B | 281 | 291 | ↓ | ↓ | ↓ | ↓ | .07 | ↓ | 1800 | 2.0 | | | |

^aAll tests were made using 100° F input air except test series E9, where 300° F input air was used.

TABLE 3. - Continued. (b)

| Test series | First reading | Last reading | Combustion coal type | Combustion coal sulfur sorbent type | Combustion bed depth, in. | Number of combustor coolant rakes used | Planned fuel-air ratio | Planned sorbent-coal ratio | Planned combustor pressure, psia | Planned bed temperature, °F | Test elapsed time, hr | | | | |
|-------------|---------------|--------------|----------------------|-------------------------------------|---------------------------|--|------------------------|----------------------------|----------------------------------|-----------------------------|-----------------------|------|------|------|-----|
| E14 | 296 | 308 | Pitt. 8 | Limestone | 68 | 4 | 0.09 | 0.10 | 80 | 1800 | 3.0 | | | | |
| E11 | 313 | 320 | | | ↓ | | ↓ | 0.07 | | 0.10 | 1600 | 3.5 | | | |
| E12 | 324 | 332 | | | ↓ | | ↓ | 0.09 | | 0.10 | 1600 | 3.5 | | | |
| E15 | 339 | 342 | | | ↓ | | ↓ | 0.07 | | 0.16 | 1600 | 1.5 | | | |
| F1 | 393 | 491 | | | ↓ | | ↓ | 97 | | 0.08 | 0.13 | 1700 | 4.0 | | |
| F2 | 403 | 412 | | | ↓ | | ↓ | ↓ | | 0.06 | ↓ | 1700 | 4.5 | | |
| F3 | 419 | 433 | | | ↓ | | ↓ | ↓ | | 0.10 | ↓ | 1700 | 3.5 | | |
| F4 | 435 | 446 | | | ↓ | | ↓ | ↓ | | 0.07 | ↓ | 1800 | 4.5 | | |
| F6 | 449 | 461 | | | ↓ | | ↓ | ↓ | | 0.08 | ↓ | 1900 | 3.5 | | |
| F5 | 465 | 471 | | | ↓ | | ↓ | ↓ | | 0.09 | ↓ | 1800 | 2.0 | | |
| F7 | 501 | 505 | | | ↓ | | ↓ | ↓ | | 0.08 | ↓ | 1700 | 2.0 | | |
| F8 | 522 | 530 | | | ↓ | | ↓ | ↓ | | 0.08 | ↓ | 60 | 1700 | 4.0 | |
| F9 | 557 | 560 | | | ↓ | | ↓ | ↓ | | 0.08 | ↓ | 40 | 1700 | 1.5 | |
| F19 | 563 | 570 | | | ↓ | | ↓ | ↓ | | 0.07 | 0.16 | 80 | 1800 | 3.5 | |
| F16 | 572 | 580 | | | ↓ | | ↓ | ↓ | | 0.07 | 0.10 | 80 | 1800 | 4.0 | |
| F27 | 584 | 590 | | | ↓ | | ↓ | ↓ | | 0.08 | 0.06 | 60 | 1900 | 3.0 | |
| G2 | 617 | 626 | | | ↓ | | ↓ | 68 | | None | 0.04 | 0.13 | 80 | 1700 | 4.5 |
| G3 | 630 | 638 | | | ↓ | | ↓ | ↓ | | ↓ | 0.03 | ↓ | ↓ | ↓ | 4.0 |
| G6 | 641 | 649 | | | ↓ | | ↓ | ↓ | | ↓ | 0.04 | ↓ | ↓ | ↓ | 4.0 |
| G1 | 672 | 680 | | | ↓ | | ↓ | ↓ | | ↓ | 0.06 | ↓ | ↓ | ↓ | 4.0 |
| G5 | 684 | 694 | ↓ | ↓ | ↓ | ↓ | 0.04 | ↓ | ↓ | 1900 | 4.5 | | | | |
| G10 | 697 | 705 | ↓ | ↓ | ↓ | ↓ | 0.04 | 0.10 | ↓ | 1800 | 4.0 | | | | |
| G9 | 707 | 715 | ↓ | ↓ | ↓ | ↓ | 0.05 | 0.10 | ↓ | 1800 | 4.0 | | | | |
| G13 | 735 | 740 | ↓ | ↓ | ↓ | ↓ | 0.04 | 0.16 | ↓ | 1600 | 2.5 | | | | |
| G12 | 748 | 751 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 1800 | 1.5 | | | | |
| G15A | 781 | 788 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 1700 | 3.5 | | | | |
| G15B | 795 | 803 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 1700 | 4.0 | | | | |
| G14 | 811 | 819 | ↓ | ↓ | ↓ | ↓ | 0.05 | ↓ | ↓ | 1600 | ↓ | | | | |
| G11 | 821 | 829 | ↓ | ↓ | ↓ | ↓ | 0.05 | ↓ | ↓ | 1800 | ↓ | | | | |
| G7 | 835 | 843 | ↓ | ↓ | ↓ | ↓ | 0.05 | 0.10 | ↓ | 1600 | ↓ | | | | |
| G8 | 846 | 853 | ↓ | ↓ | ↓ | ↓ | 0.04 | 0.10 | ↓ | 1600 | 3.5 | | | | |
| G16 | 864 | 871 | ↓ | ↓ | ↓ | ↓ | 0.04 | 0.10 | ↓ | 1700 | 3.5 | | | | |
| G22 | 873 | 881 | ↓ | ↓ | ↓ | ↓ | 0.05 | 0.07 | ↓ | ↓ | 4.0 | | | | |
| G23 | 887 | 890 | ↓ | ↓ | ↓ | ↓ | 0.04 | 0.07 | ↓ | ↓ | 1.5 | | | | |
| G24 | 892 | 900 | ↓ | ↓ | ↓ | ↓ | ↓ | 0.07 | ↓ | ↓ | 4.0 | | | | |
| G17 | 902 | 910 | ↓ | ↓ | ↓ | ↓ | ↓ | 0.13 | ↓ | ↓ | 4.0 | | | | |
| G18 | 914 | 922 | ↓ | ↓ | ↓ | ↓ | ↓ | 0.13 | ↓ | 1800 | 4.0 | | | | |
| G19 | 923 | 929 | ↓ | ↓ | ↓ | ↓ | ↓ | 0.13 | ↓ | 1800 | 3.0 | | | | |
| H1 | 673 | 679 | ↓ | ↓ | 44 | 4 | 0.07 | 0.06 | ↓ | 1700 | 3.0 | | | | |
| H2 | 685 | 689 | ↓ | ↓ | ↓ | ↓ | 0.06 | ↓ | ↓ | ↓ | 2.0 | | | | |
| H3 | 694 | 701 | ↓ | ↓ | ↓ | ↓ | 0.06 | ↓ | 50 | ↓ | 3.5 | | | | |
| H4 | 702 | 711 | ↓ | ↓ | ↓ | ↓ | 0.07 | ↓ | ↓ | ↓ | 4.5 | | | | |
| H5A | 712 | 722 | ↓ | ↓ | ↓ | ↓ | 0.07 | ↓ | ↓ | 1900 | 2.5 | | | | |
| H5B | 731 | 734 | ↓ | ↓ | ↓ | ↓ | 0.06 | ↓ | ↓ | ↓ | 1.5 | | | | |
| H6 | 750 | 754 | ↓ | ↓ | ↓ | ↓ | 0.06 | ↓ | ↓ | ↓ | 2.0 | | | | |
| H7 | 758 | 765 | ↓ | ↓ | ↓ | ↓ | 0.06 | ↓ | 80 | ↓ | 3.5 | | | | |
| H8 | 767 | 774 | ↓ | ↓ | ↓ | ↓ | 0.07 | ↓ | ↓ | ↓ | 3.5 | | | | |
| H9 | 776 | 784 | ↓ | ↓ | ↓ | ↓ | 0.07 | 0.13 | ↓ | ↓ | 4.0 | | | | |
| H10 | 786 | 793 | ↓ | ↓ | ↓ | ↓ | 0.06 | ↓ | ↓ | ↓ | 3.5 | | | | |
| H11 | 795 | 803 | ↓ | ↓ | ↓ | ↓ | 0.07 | ↓ | ↓ | ↓ | 4.0 | | | | |
| H12 | 805 | 813 | ↓ | ↓ | ↓ | ↓ | 0.07 | ↓ | ↓ | 1700 | 4.0 | | | | |

TABLE 3. - Continued. (c)

| Test series | First reading | Last reading | Combustion coal type | Combustion coal sulfur sorbent type | Combustion bed depth, in. | Number of combustor coolant rakes used | Planned fuel-air ratio | Planned sorbent-coal ratio | Planned combustor pressure, psia | Planned bed temperature, F | Test elapsed time, hr | | | |
|-------------|---------------|--------------|----------------------|-------------------------------------|---------------------------|--|------------------------|----------------------------|----------------------------------|----------------------------|-----------------------|------|------|------|
| H14 | 815 | 821 | Pitt. 8 | Limestone | 44 | 4 | 0.07 | 0.13 | 80 | 1900 | 3.0 | | | |
| H13 | 843 | 851 | | ↓ | | | ↓ | ↓ | .06 | ↓ | 80 | 1700 | 3.5 | |
| H15 | 854 | 861 | | ↓ | | | ↓ | ↓ | .07 | ↓ | 50 | 1700 | 3.5 | |
| H16 | 863 | 871 | | ↓ | | | ↓ | ↓ | .06 | ↓ | 50 | 1700 | 4.0 | |
| H18 | 873 | 880 | | ↓ | | | ↓ | ↓ | .07 | ↓ | 50 | 1900 | 3.5 | |
| H19 | 884 | 891 | | ↓ | | | ↓ | ↓ | ↓ | ↓ | 80 | ↓ | 3.5 | |
| H20 | 893 | 900 | | ↓ | | | ↓ | ↓ | ↓ | .30 | ↓ | ↓ | 3.5 | |
| H23 | 904 | 913 | | ↓ | | | ↓ | ↓ | ↓ | .30 | ↓ | ↓ | 4.5 | |
| H24 | 914 | 922 | | ↓ | | | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | 4.0 | |
| H25 | 923 | 931 | | ↓ | | | ↓ | ↓ | ↓ | .13 | ↓ | ↓ | 4.0 | |
| H26 | 932 | 938 | | ↓ | | | ↓ | ↓ | ↓ | .13 | ↓ | ↓ | 3.0 | |
| I1 | 947 | 955 | | Ohio | | | Dolomite | 68 | 4 | ↓ | ↓ | ↓ | ↓ | 4.0 |
| I2 | 956 | 966 | | | | | ↓ | | | ↓ | ↓ | .06 | ↓ | ↓ |
| I3 | 968 | 975 | ↓ | | ↓ | ↓ | .08 | | | ↓ | ↓ | 1700 | 3.5 | |
| I4 | 977 | 985 | ↓ | | ↓ | ↓ | .07 | | | ↓ | ↓ | 1700 | 4.0 | |
| I5A | 988 | 991 | ↓ | | ↓ | ↓ | .06 | | | ↓ | ↓ | 1700 | 1.5 | |
| I5B | 992 | 995 | ↓ | | ↓ | ↓ | .06 | | | ↓ | ↓ | 1700 | 1.5 | |
| I6 | 1008 | 1015 | ↓ | | ↓ | ↓ | .07 | | | ↓ | ↓ | 1900 | 3.5 | |
| I7 | 1017 | 1024 | ↓ | | ↓ | ↓ | .06 | | | .06 | ↓ | 1900 | 3.5 | |
| I8 | 1030 | 1034 | ↓ | | ↓ | ↓ | .07 | | | ↓ | ↓ | 1900 | 2.0 | |
| I9 | 1035 | 1043 | ↓ | | ↓ | ↓ | .06 | | | ↓ | ↓ | 1700 | 4.0 | |
| I10A | 1044 | 1050 | ↓ | | ↓ | ↓ | .07 | | | ↓ | ↓ | ↓ | 3.0 | |
| I10B | 1051 | 1054 | ↓ | | ↓ | ↓ | .07 | | | ↓ | ↓ | ↓ | 1.5 | |
| I11 | 1055 | 1063 | ↓ | | ↓ | ↓ | .07 | | | .25 | ↓ | ↓ | 4.0 | |
| I12 | 1074 | 1082 | ↓ | ↓ | ↓ | .06 | .25 | ↓ | 1900 | 4.0 | | | | |
| I13 | 1094 | 1101 | ↓ | ↓ | ↓ | .06 | .25 | ↓ | 1900 | 3.5 | | | | |
| J1 | 1139 | 1156 | Ohio | Limestone | 68 | 4 | .09 | .13 | ↓ | 1700 | 5.0 | | | |
| J2 | 1159 | 1167 | | | | | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | 1700 | 4.0 |
| J3 | 1174 | 1180 | | | | | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | 1900 | 3.0 |
| J4 | 1186 | 1201 | | | | | ↓ | ↓ | ↓ | .09 | ↓ | ↓ | ↓ | 3.2 |
| J5 | 1206 | 1214 | | | | | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | ↓ | 3.3 |
| J6 | 1216 | 1222 | | | | | ↓ | ↓ | ↓ | .06 | .06 | ↓ | ↓ | 3.0 |
| J7 | 1226 | 1239 | | | | | ↓ | ↓ | ↓ | .09 | ↓ | ↓ | 1700 | 3.1 |
| J8 | 1250 | 1260 | | | | | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | 1700 | 4.5 |
| J9 | 1268 | 1271 | | | | | ↓ | ↓ | ↓ | .09 | ↓ | ↓ | 1700 | 2.5 |
| K1 | 1351 | 1360 | Ohio | Limestone | 68 | 4 | .06 | .13 | ↓ | 1700 | 4.1 | | | |
| K3 | 1410 | 1423 | | | | | ↓ | ↓ | ↓ | .09 | ↓ | ↓ | 1900 | 3.1 |
| K4 | 1424 | 1432 | | | | | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | 1900 | 3.5 |
| K2 | 1435 | 1446 | | | | | ↓ | ↓ | ↓ | .09 | ↓ | ↓ | 1700 | 4.0 |
| K7 | 1448 | 1458 | | | | | ↓ | ↓ | ↓ | .09 | .06 | ↓ | 1700 | 4.0 |
| K8 | 1460 | 1467 | | | | | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | 1700 | 3.5 |
| K6 | 1471 | 1488 | | | | | ↓ | ↓ | ↓ | .09 | ↓ | ↓ | 1900 | 4.0 |
| K5 | 1489 | 1498 | | | | | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | ↓ | 4.5 |
| K9 | 1506 | 1517 | | | | | ↓ | ↓ | ↓ | .09 | ↓ | ↓ | ↓ | 2.5 |
| K10 | 1522 | 1531 | | | | | ↓ | ↓ | ↓ | .09 | .20 | ↓ | ↓ | 2.0 |
| K12 | 1534 | 1543 | | | | | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | 1700 | 4.5 |
| K11 | 1545 | 1533 | | | | | ↓ | ↓ | ↓ | .06 | ↓ | ↓ | 1900 | 4.0 |
| K14 | 1555 | 1572 | | | | | ↓ | ↓ | ↓ | .09 | ↓ | ↓ | 1900 | 4.1 |
| K13 | 1578 | 1589 | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 1700 | 2.5 |
| K15 | 1595 | 1608 | | | | | ↓ | ↓ | ↓ | ↓ | .13 | ↓ | 1900 | 3.0 |
| K16 | 1611 | 1618 | | | | | ↓ | ↓ | ↓ | ↓ | .13 | ↓ | 60 | 1900 |

TABLE 3. - Continued. (d)

| Test series | First reading | Last reading | Combustion coal type | Combustion coal sulfur sorbent type | Combustion bed depth, in. | Number of combustor coolant rakes used | Planned fuel-air ratio | Planned sorbent-coal ratio | Planned combustor pressure, psia | Planned bed temperature, °F | Test elapsed time, hr | | | | |
|-------------|---------------|--------------|----------------------|-------------------------------------|---------------------------|--|------------------------|----------------------------|----------------------------------|-----------------------------|-----------------------|------|------|------|------|
| L1 | 2088 | 2102 | Ohio | Limestone | 68 | 4 | 0.06 | 0.13 | 80 | 1700 | 6.0 | | | | |
| L2 | 2103 | 2125 | | | | | ↓ | ↓ | | ↓ | ↓ | 1700 | 5.6 | | |
| L3 | 2128 | 2151 | | | | | ↓ | ↓ | | ↓ | ↓ | 1900 | 5.6 | | |
| L4 | 2154 | 2167 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 5.5 | | |
| L5 | 2168 | 2189 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 9.0 | | |
| L6 | 2193 | 2202 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 2.1 | | |
| M1 | 2215 | 2227 | Ohio | Limestone | 68 | 0 | .04 | .13 | 80 | 1700 | 6.0 | | | | |
| M2 | 2232 | 2244 | | | | | ↓ | ↓ | | ↓ | ↓ | 1700 | 6.0 | | |
| M3 | 2245 | 2256 | | | | | ↓ | ↓ | | ↓ | ↓ | 1900 | 5.5 | | |
| M4 | 2257 | 2268 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 5.5 | | |
| M5 | 2259 | 2281 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 6.0 | | |
| M6 | 2282 | 2293 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 5.5 | | |
| M7 | 2294 | 2304 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 5.5 | | |
| M8 | 2306 | 2312 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 3.0 | | |
| M9 | 2313 | 2328 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 1700 | 7.5 | |
| M11 | 2329 | 2341 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 1900 | 6.0 | |
| M12 | 2342 | 2352 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 1900 | 5.0 | |
| N1 | 2492 | 2510 | | | | | Pitt. 8 | Limestone | | 68 | ↓ | .05 | .13 | 80 | 1900 |
| N2 | 2511 | 2529 | ↓ | ↓ | ↓ | ↓ | | | ↓ | | | 8.0 | | | |
| N5A | 2530 | 2542 | ↓ | ↓ | ↓ | ↓ | | | ↓ | | | 5.5 | | | |
| N5B | 2543 | 2552 | ↓ | ↓ | ↓ | ↓ | | | ↓ | | | 4.5 | | | |
| N6 | 2553 | 2564 | ↓ | ↓ | ↓ | ↓ | | | ↓ | | | 5.5 | | | |
| N55A | 2566 | 2580 | ↓ | ↓ | ↓ | ↓ | | | ↓ | | | 7.0 | | | |
| N55B | 2581 | 2593 | ↓ | ↓ | ↓ | ↓ | | | ↓ | | | 6.0 | | | |
| N7 | 2594 | 2604 | ↓ | ↓ | ↓ | ↓ | | | ↓ | | | 5.0 | | | |
| CAS0 | 1713 | 1768 | Ohio Pitt. 8 | Limestone | 68 | 2 | .06 | 75 | 75 | 1800 | 25.5 | | | | |
| CAS1 | 1668 | 1706 | | | | | ↓ | | | ↓ | ↓ | ↓ | ↓ | 18.0 | |
| CAS2 | 1770 | 1841 | | | | | ↓ | | | ↓ | ↓ | ↓ | ↓ | 30.5 | |
| CAS3 | 1849 | 1989 | | | | | ↓ | | | ↓ | ↓ | ↓ | ↓ | 77.0 | |
| CAS4 | 1990 | 2078 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 44.8 | | | | | | |
| TB1A | 22 | 27 | Ohio | Limestone | 56 | 3 | ↓ | .12 | 75 | 1600 | 2.5 | | | | |
| TB1B | 30 | 47 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 1600 | 8.5 | |
| TB1C | 53 | 98 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 1600 | 22.5 | |
| TB1D | 116 | 131 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 1700 | 14.0 | |
| TB1E | 135 | 145 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 1700 | 10.0 | |
| TB1F | 146 | 163 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | 1800 | 17.0 | |
| TB1G | 177 | 220 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | ↓ | 43.0 | |
| TB1H | 223 | 270 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | ↓ | 48.0 | |
| TB2A | 285 | 301 | | | | | ↓ | ↓ | | 68 | ↓ | .05 | 75 | ↓ | 18.0 |
| TB2B | 338 | 352 | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | | ↓ | 24.0 |
| TB2C | 353 | 365 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 11.8 | | | | | | |
| TB2D | 374 | 383 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 9.0 | | | | | | |
| TB2E | 386 | 400 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 14.0 | | | | | | |
| TB2F | 407 | 412 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 4.0 | | | | | | |
| TB2G | 415 | 427 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 6.5 | | | | | | |

TABLE 4. - PFB TEST RESULTS
PROVIDED ON MICROFICHE SUPPLEMENT

TABLE 5. - COAL AND SORBENT ANALYSIS

(a) Coal analysis

| Component | Pittsburgh #8 | Ohio |
|-----------------------------------|---------------|--------|
| | Content, wt% | |
| Proximate | | |
| Moisture | 2.12 | 3.24 |
| Ash | 8.20 | 9.64 |
| Volatile | 37.41 | 37.17 |
| Fixed carbon | 52.27 | 49.95 |
| Heating value, Btu/lb | 13 274 | 12 767 |
| Ultimate | | |
| Carbon | 75.38 | 73.66 |
| Hydrogen | 5.14 | 5.08 |
| Nitrogen | 1.49 | 1.25 |
| Sulfur | 1.99 | 2.39 |
| Oxygen | 7.61 | 7.61 |
| Ash | 8.38 | 9.97 |
| Silica as a % of the ash | 46.21 | 47.06 |
| Ferric oxide as a % of the ash | 19.29 | 21.55 |
| Alumina as a % of the ash | 25.68 | 24.67 |
| Lime as a % of the ash | 1.57 | 1.11 |

(b) Sorbent analysis (dry basis)

| Component | Limestone | Dolomite |
|-----------------|--------------|----------|
| | Content, wt% | |
| Calcium oxide | 53.97 | 29.62 |
| Carbon dioxide | 43.42 | 46.00 |
| Silica | 1.17 | 1.46 |
| Magnesium oxide | 1.16 | 20.31 |
| Alumina | .14 | .53 |
| Ferric oxide | .11 | .53 |
| Sulfur | .08 | .16 |

TABLE 6. - PFB REACTOR LOADING

| First test after loading bed | Type of old bed material added | Quantity of old bed material added, lb | Type of new bed material added | Quantity of new bed material added, lb | Total quantity of bed material added, lb | Quantity of bed material removed after last test | Last test |
|------------------------------|--------------------------------|--|--------------------------------|--|--|--|-----------|
| Checkout | Limestone | 208 | Limestone | 548 | 756 | ? | Checkout |
| Checkout | ↓ | 283 | Limestone | 354 | 637 | ? | Checkout |
| A1A | ↓ | 507 | Limestone | 215 | 722 | ? | A9A |
| A9B | ↓ | 252 | None | None | 252 | 180 | A17B |
| C1 | ↓ | ? | Limestone | ? | ? | 72 | C17 |
| D6 | ↓ | 250 | None | None | 250 | 228 | D4 |
| E1 | None | None | Limestone | 270 | 270 | 217 | E8 |
| E17 | Limestone | 217 | None | None | 217 | 255 | E15 |
| F1 | ↓ | 292 | Limestone | 244 | 536 | ? | F5 |
| F7 | ↓ | 40 | Limestone | 540 | 580 | 362 | F27 |
| G2 | ↓ | 200 | None | None | 200 | 205 | G12 |
| G15 | ↓ | 205 | ↓ | ↓ | 205 | 184 | G19 |
| H1 | ↓ | 210 | ↓ | ↓ | 210 | ? | H14 |
| H13 | ↓ | 130 | ↓ | ↓ | 130 | 101 | H26 |
| I1 | ↓ | 91 | Dolomite | 10 | 101 | 117 | I13 |
| J1 | Limestone and Dolomite | 57/67 | Dolomite | 66 | 195 | 130 | J9 |
| K1 | Limestone | 167 | Limestone | 34 | 201 | 140 | K1 |
| K3 | ↓ | 173 | ↓ | 27 | 200 | 130 | K16 |
| L1 | ↓ | 206 | ↓ | 10 | 216 | 112 | L6 |
| M1 | ↓ | 182 | ↓ | 30 | 212 | 164 | M16 |
| N1 | ↓ | 216 | None | None | 216 | 194 | N7 |
| CAS1 | ↓ | 138 | Limestone | 62 | 200 | 125 | CAS1 |
| CAS2 | ↓ | 182 | None | None | 182 | 169 | CAS2 |
| CAS3 | ↓ | 200 | Limestone | 15 | 215 | ? | CAS3 |
| CAS4 | None | None | Limestone | 250 | 250 | 216 | CAS4 |
| TB1A | Limestone | 195 | None | None | 195 | ? | TB1C |
| TB1D | ↓ | 200 | None | None | 200 | 145 | TB1F |
| TB1G | ↓ | 145 | None | None | 145 | 125 | TB1G |
| TB1H | ↓ | 125 | Limestone | 20 | 145 | 160 | TB1H |
| TB2A | ↓ | 228 | None | None | 228 | 232 | TB2A |
| TB2B | ↓ | 270 | Limestone | 80 | 350 | 210 | TB2C |
| TB2D | ↓ | 210 | Limestone | 90 | 300 | ? | TB2E |
| TB2F | ↓ | 300 | None | None | 300 | ? | TB2G |
| T3A | ↓ | 198 | ↓ | ↓ | 198 | 205 | T3A |
| T3B | ↓ | 205 | ↓ | ↓ | 205 | 231 | T3B |
| T3C | ↓ | ? | ↓ | ↓ | ? | ? | T3D |
| T3E | ↓ | ? | ↓ | ↓ | ? | 250 | T3E |
| T3F | ↓ | 210 | ↓ | ↓ | 210 | ? | T3F |
| T4 | Limestone and Dolomite | 25/130 | Dolomite | 40 | 200 | 184 | T4 |
| T5 | Limestone | 134 | Limestone | 66 | 200 | 140 | T5 |
| T6A | Limestone | 205 | Limestone | 10 | 215 | 142 | T6A |
| T6B | None | None | Limestone | 210 | 210 | 215 | T6B |
| T7A | Limestone | 215 | None | None | 215 | 250 | T7A |
| T7B | ↓ | 215 | ↓ | ↓ | 215 | 275 | T7B |
| T7C | ↓ | 215 | ↓ | ↓ | 215 | 173 | T7C |
| T7D | ↓ | 208 | ↓ | ↓ | 208 | 100 | T7D |

TABLE 7. - RC13 PFB TEST RESULTS: SYSTEM SOLIDS MASS BALANCE (a)

| Test | Test date | Test time span, hr | Initial bed weight, lb | Total coal used, lb | Ash in coal used, lb | Total sorbent used, lb | Solids in sorbent used, lb | Bed solids discharge, lb | Turbine separator solids, lb | Separators 1 to 4 solids discharge, lb | Exhaust gas loading, g/std ft ³ | Exhaust gas solids, lb | Final bed weight, lb | Gas flow rate, lb/hr |
|------|-----------|--------------------|------------------------|---------------------|----------------------|------------------------|----------------------------|--------------------------|------------------------------|--|--|------------------------|----------------------|----------------------|
| A1A | 3-10-77 | 7.95 | 722 | 279 | 22.9 | 27 | 15.4 | 50 | ----- | 9.5 | 3.360 | 30.7 | --- | 582 |
| A2A | 3-10-77 | 7.47 | --- | ----- | ----- | 73 | 41.6 | 31 | ----- | 6.6 | 1.226 | 10.2 | --- | 564 |
| A11A | 3-10-77 | 7.32 | --- | 253 | 20.7 | 51 | 29.1 | 23 | ----- | 5.2 | 1.734 | 14.1 | --- | 565 |
| A10A | 5-11-77 | 7.45 | --- | 272 | 22.3 | 31 | 17.7 | 36 | ----- | ----- | 2.350 | 19.8 | --- | 574 |
| A9A | 5-11-77 | 3.53 | --- | 127 | 10.4 | 12 | 6.8 | ----- | ----- | ----- | ----- | ----- | --- | 564 |
| A9B | 5-18-77 | 3.42 | 252 | 125 | 10.2 | 25 | 14.3 | 15 | ----- | ----- | 1.865 | 7.2 | --- | 573 |
| A1B | 5-18-77 | 3.52 | --- | 121 | 9.9 | 24 | 13.7 | 14 | ----- | ----- | 1.635 | 5.8 | --- | 507 |
| A10B | 5-19-77 | 3.82 | --- | 127 | 10.4 | 20 | 11.4 | 13 | ----- | ----- | 1.847 | 7.9 | --- | 565 |
| A11B | ↓ | 3.50 | --- | 124 | 10.2 | ----- | ----- | 13 | ----- | ----- | 2.090 | 8.2 | --- | 569 |
| A8B | ↓ | 3.50 | --- | 118 | 9.7 | 12 | 6.8 | ----- | ----- | 6.9 | 1.967 | 7.6 | --- | 560 |
| A7B | ↓ | 6.50 | --- | 235 | 19.3 | 40 | 22.8 | ----- | ----- | 4.3 | 1.886 | 14.7 | --- | 606 |
| A6B | ↓ | 2.50 | --- | 78 | 6.4 | 6 | 3.4 | ----- | ----- | 4.0 | 3.020 | 7.7 | --- | 520 |
| A5B | 5-20-77 | 2.50 | --- | 100 | 8.2 | 7 | 4.0 | ----- | ----- | 3.6 | 2.880 | 7.0 | --- | 494 |
| A3B | ↓ | 3.50 | --- | 102 | 8.4 | 10 | 5.7 | ----- | ----- | 7.6 | 2.540 | 10.0 | --- | 568 |
| A16B | ↓ | 3.50 | --- | 109 | 8.9 | 10 | 5.7 | ----- | ----- | 8.3 | 2.760 | 10.8 | --- | 565 |
| A12B | ↓ | 3.50 | --- | 98 | 8.0 | ----- | ----- | ----- | ----- | 4.9 | 2.770 | 6.2 | --- | 325 |
| A17B | ↓ | 2.50 | --- | 31 | 2.5 | 13 | 7.4 | ----- | ----- | 8.5 | 1.551 | 4.8 | 180 | 634 |
| C1 | 6-2-77 | 4.00 | 195 | 133 | 10.8 | 23 | 13.1 | 16 | ----- | .7 | 2.440 | 11.3 | --- | 589 |
| C3 | 6-2-77 | 3.50 | --- | 123 | 10.1 | 10 | 5.7 | 4 | ----- | 2.2 | 1.657 | 6.7 | --- | 586 |
| C8 | 6-3-77 | 2.50 | --- | 89 | 7.2 | 10 | 6.0 | 12 | ----- | 11.6 | 1.552 | 4.5 | --- | 584 |
| C11 | ↓ | 3.50 | --- | 117 | 9.6 | 15 | 8.4 | ----- | ----- | 1.1 | 1.414 | 5.8 | --- | 597 |
| C12 | ↓ | 2.95 | --- | 105 | 8.6 | 16 | 9.5 | ----- | ----- | 4.6 | 1.992 | 4.1 | --- | 350 |
| C16 | ↓ | 3.00 | --- | 114 | 9.3 | 8 | 4.8 | ----- | ----- | 3.5 | 2.340 | 8.1 | --- | 588 |
| C17 | ↓ | 3.00 | --- | 129 | 10.6 | 10.5 | 6.0 | ----- | ----- | 5.5 | 1.028 | 4.2 | 72 | 688 |
| D6 | 7-26-77 | 6.00 | 250 | 224 | 18.4 | 17 | 9.7 | ----- | ----- | ----- | 3.400 | 24.1 | --- | 598 |
| D7 | ↓ | 5.50 | --- | 192 | 15.7 | 20 | 11.4 | ----- | ----- | ----- | 1.807 | 11.9 | --- | 607 |
| D2 | ↓ | 4.50 | --- | 145 | 11.9 | 11 | 6.3 | ----- | ----- | ----- | 1.791 | 9.3 | --- | 587 |
| D1 | ↓ | 3.50 | --- | 105 | 8.6 | 4 | 2.3 | ----- | ----- | ----- | 1.697 | 7.0 | --- | 595 |
| D10 | 7-27-77 | 5.50 | --- | 138 | 11.3 | ----- | ----- | ----- | ----- | ----- | 1.768 | 8.7 | --- | 452 |
| D3 | 7-27-77 | 6.00 | --- | 217 | 17.8 | 4.7 | 2.7 | ----- | ----- | ----- | 1.419 | 10.4 | --- | 619 |
| D4 | 7-27-77 | 6.50 | --- | 159 | 13.0 | 53.4 | 30.4 | ----- | ----- | ----- | ----- | ----- | 228 | 587 |
| TB1A | 5-25-77 | 2.0 | 180 | 91.6 | 7.5 | 6.0 | 3.4 | 12.3 | ----- | 1.8 | 2.70 | 6.1 | --- | 571 |
| TB1B | 5-26-77 | 4.0 | --- | 297 | 24.4 | 17.9 | 10.2 | 31 | ----- | 17.5 | 2.26 | 10.4 | --- | 584 |
| TB1C | 5-26-77 | 2.0 | 195 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | 2.51 | 5.7 | --- | 572 |
| TB1D | 6-9-77 | 2.3 | 200 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | 1.21 | 3.5 | --- | 635 |
| TB1E | 6-10-77 | 2.0 | --- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | 3.38 | 8.7 | --- | 655 |
| TB1F | 6-10-77 | 2.0 | --- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | 1.89 | 4.8 | 145 | 643 |
| TB1G | 6-16-77 | 2.0 | 145 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | .45 | 1.1 | 125 | 625 |
| TB1H | 7-14-77 | 2.7 | 145 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | .91 | 3.0 | 160 | 629 |
| TB2A | 8-4-77 | ? | 228 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | 1.53 | ----- | 232 | 575 |
| TB2B | 8-11-77 | 5.1 | 350 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | 1.62 | 9.6 | --- | 592 |
| TB2C | 8-12-77 | 6.5 | --- | 322 | 26.4 | 38 | 21.7 | ----- | ----- | ----- | .66 | 5.0 | 210 | 590 |

TABLE 7. - Continued. (b)

| Test | Test date | Test time span, hr | Initial bed weight, lb | Total coal used, lb | Ash in coal used, lb | Total sorbent used, lb | Solids in sorbent used, lb | Bed solids discharge, lb | Turbine separator solids, lb | Separators 1 to 4 solids discharge, lb | Exhaust gas loading, g/std ft ³ | Exhaust gas solids, lb | Final bed weight, lb | Gas flow rate, lb/hr |
|------|-----------|--------------------|------------------------|---------------------|----------------------|------------------------|----------------------------|--------------------------|------------------------------|--|--|------------------------|----------------------|----------------------|
| TB2D | 8-16-77 | 2.5 | 300 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | 1.93 | 5.8 | --- | 610 |
| TB2E | 8-17-77 | 3.0 | --- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | 3.52 | 12.0 | --- | 575 |
| TB2F | 8-31-77 | 3.7 | 300 | 114 | 9.3 | 5.4 | 3.1 | ----- | ----- | ----- | 1.42 | 6.2 | --- | 591 |
| TB2G | 8-31-77 | ? | --- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | 1.65 | ----- | --- | 591 |
| E1 | 3-22-78 | 3.5 | --- | 195 | 16.0 | 20 | 11.4 | 8.32 | 2.54 | 1.77 | .567 | 5.1 | --- | 542 |
| E2 | 3-22-78 | 4.0 | --- | 211 | 17.3 | 25 | 14.3 | 20.72 | 7.12 | 4.18 | 1.404 | 14.6 | --- | 875 |
| E3 | 3-22-78 | 5.5 | --- | 244 | 20.0 | 29 | 16.5 | 6.22 | 1.86 | 1.34 | .707 | 4.8 | --- | 399 |
| E4 | 3-23-78 | 5.5 | --- | 253 | 20.7 | 30 | 17.1 | 14.65 | 8.56 | 10.30 | .783 | 12.3 | --- | 498 |
| E5 | 3-23-78 | 5.5 | --- | 259 | 21.2 | 30 | 17.1 | 9.20 | 1.78 | 8.73 | 1.394 | 9.4 | --- | 507 |
| E6 | 3-23-78 | 5.0 | --- | 168 | 13.8 | 19 | 10.8 | .70 | 2.48 | 13.74 | .727 | 5.1 | --- | 416 |
| E9 | 3-23-78 | 3.5 | --- | 146 | 12.0 | 17 | 9.7 | 13.82 | 2.10 | 2.28 | .538 | 3.0 | --- | 474 |
| E8 | 3-24-78 | 6.98 | --- | 337 | 27.6 | 39.2 | 29.3 | ----- | ----- | ----- | ----- | ----- | --- | 569 |
| E19 | 3-28-78 | 4.5 | --- | 186 | 15.3 | 20.3 | 11.6 | 2.59 | ----- | 6.68 | .968 | 4.7 | --- | 548 |
| E13A | 3-28-78 | 1.5 | --- | 71 | 5.8 | 6.3 | 3.6 | ----- | ----- | ----- | ----- | ----- | --- | 665 |
| E13B | 3-28-78 | 2.0 | --- | 88 | 7.2 | 7.8 | 4.4 | 3.66 | 1.132 | 3.66 | 1.132 | 3.0 | --- | 679 |
| E14 | 3-28-78 | 3.0 | --- | 126 | 10.3 | 11.1 | 6.3 | 1.49 | ----- | .23 | .683 | 2.0 | --- | 488 |
| E11 | 3-29-78 | 3.5 | --- | 131 | 10.7 | 11.0 | 6.3 | 4.11 | ----- | .01 | .975 | 3.7 | --- | 550 |
| E12 | 3-29-78 | 3.5 | --- | 115 | 9.4 | 14.6 | 8.3 | 2.11 | ----- | ----- | 1.679 | 4.7 | --- | 405 |
| E15 | 3-29-78 | 1.5 | --- | 55 | 4.5 | 8.1 | 4.6 | .54 | ----- | ----- | 4.367 | 6.6 | --- | 555 |
| F1 | 4-12-78 | 4.02 | --- | 188 | 15.4 | 22.0 | 12.5 | .14 | ----- | 8.42 | 1.751 | 7.8 | --- | 562 |
| F2 | 4-12-78 | 4.50 | --- | 219 | 18.0 | 25.7 | 14.6 | .40 | ----- | 31.77 | 3.012 | 21.4 | --- | 801 |
| F3 | 4-12-78 | 3.50 | --- | 132 | 10.8 | 15.4 | 8.8 | .08 | ----- | 14.15 | 3.796 | 10.0 | --- | 380 |
| F6 | 4-13-78 | 3.50 | --- | 191 | 15.7 | 22.2 | 12.7 | 1.07 | ----- | 14.28 | 1.415 | 6.2 | --- | 631 |
| F4 | 4-13-78 | 4.50 | --- | 230 | 18.9 | 26.8 | 15.3 | .59 | ----- | 7.22 | 2.309 | 14.1 | --- | 690 |
| F7 | 4-19-78 | 2.00 | --- | 68 | 5.6 | 7.9 | 4.5 | ----- | ----- | ----- | ----- | ----- | --- | --- |
| F8 | 4-20-78 | 4.00 | --- | 153 | 12.5 | 18.0 | 10.3 | .66 | ----- | 7.03 | 1.826 | 6.9 | --- | 481 |
| F9 | 4-20-78 | 1.50 | --- | 45 | 3.7 | 6.9 | 3.9 | ----- | 16.97 | .51 | 3.242 | 4.5 | --- | 473 |
| F19 | 4-21-78 | 3.50 | --- | 179 | 14.7 | 19.2 | 10.9 | .44 | ----- | 9.79 | 1.577 | 7.5 | --- | 692 |
| F16 | 4-21-78 | 4.00 | --- | 180 | 14.8 | 16.5 | 9.4 | .44 | ----- | 10.79 | 1.575 | 8.4 | --- | 680 |
| F27 | 4-21-78 | 3.00 | --- | 135 | 11.8 | 7.6 | 4.3 | 7.33 | ----- | 13.07 | 2.419 | 9.1 | --- | 637 |
| G2 | 3-9-78 | 4.5 | ? | 79 | 6.5 | 9 | 5.1 | 2.25 | 3.96 | ----- | .164 | .8 | --- | 574 |
| G3 | 3-9-78 | 4.0 | --- | 111 | 9.1 | 13 | 7.4 | 17.34 | 9.83 | .20 | .146 | .9 | --- | 793 |
| G6 | 3-9-78 | 4.0 | --- | 91 | 7.5 | 11 | 6.3 | 6.48 | 5.82 | .04 | .137 | .7 | --- | 607 |
| G7 | 5-11-78 | 4.0 | --- | 75 | 6.2 | 6 | 3.4 | .03 | 2.03 | .17 | .538 | 1.8 | --- | 418 |
| G5 | 5-11-78 | 4.5 | --- | 165 | 13.5 | 15 | 8.6 | 6.76 | 7.67 | 1.90 | .387 | 2.9 | --- | 851 |
| G10 | 5-11-78 | 4.0 | --- | 129 | 10.6 | 11 | 6.3 | 15.69 | 7.89 | 1.79 | .452 | 3.0 | --- | 845 |
| G9 | 5-11-78 | 4.0 | --- | 106 | 7.6 | 9 | 5.1 | 3.46 | 5.03 | 2.28 | .295 | 1.3 | --- | 558 |
| G13 | 5-12-78 | 2.5 | --- | 52 | 4.3 | 8 | 4.6 | 7.00 | 4.33 | 2.23 | .552 | 1.7 | --- | 635 |
| G12 | 5-12-78 | 1.5 | --- | 47 | 3.9 | 7 | 4.0 | 17.03 | 3.20 | 1.43 | 9.380 | .6 | --- | 555 |
| G15A | 5-15-78 | 3.5 | --- | 85 | 7.0 | 13 | 7.4 | 24.09 | 4.89 | 1.44 | .298 | 1.2 | --- | 594 |
| G15B | 5-16-78 | 4.0 | --- | 118 | 9.7 | 18 | 10.3 | 13.08 | 3.77 | 1.20 | .312 | 1.4 | --- | 579 |
| G14 | 5-17-78 | 4.0 | --- | 53 | 4.3 | 8 | 4.6 | 2.59 | 2.05 | 1.41 | .350 | 1.1 | --- | 411 |

TABLE 7. - Continued. (a)

| Test | Test date | Test time span, hr | Initial bed weight, lb | Total coal used, lb | Ash in coal used, lb | Total sorbent used, lb | Solids in sorbent used, lb | Bed solids discharge, lb | Turbine separator solids, lb | Separators 1 to 4 solids discharge, lb | Exhaust gas loading, g/std ft ³ | Exhaust gas solids, lb | Final bed weight, lb | Gas flow rate, lb/hr |
|------|-----------|--------------------|------------------------|---------------------|----------------------|------------------------|----------------------------|--------------------------|------------------------------|--|--|------------------------|----------------------|----------------------|
| I1 | 10-3-78 | 4.00 | --- | 239 | 19.6 | 40.5 | 23.1 | 8.12 | 16.22 | 7.57 | ----- | ----- | --- | 832 |
| I2 | 10-3-78 | 5.00 | --- | 327 | 26.8 | 53.6 | 30.6 | 10.81 | 19.31 | .57 | ----- | ----- | --- | 1021 |
| I3 | 10-3-78 | 3.50 | --- | 184 | 15.1 | 29.4 | 16.8 | 10.92 | 5.97 | .22 | ----- | ----- | --- | 656 |
| I4 | 10-4-78 | 4.02 | --- | 160 | 13.1 | 25.8 | 14.7 | 9.32 | 1.42 | 1.92 | ----- | ----- | --- | 502 |
| I5A | ↓ | 1.50 | --- | 71 | 5.8 | 12.6 | 7.2 | ----- | ----- | ----- | ----- | ----- | --- | 684 |
| I5B | ↓ | 1.50 | --- | 74 | 6.1 | 12.9 | 7.4 | 12.61 | 1.25 | 58.67 | ----- | ----- | --- | 741 |
| I6 | ↓ | 3.50 | --- | 218 | 17.9 | 21.6 | 12.3 | 10.59 | 5.18 | 35.12 | 3.611 | 20.6 | --- | 827 |
| I7 | ↓ | 3.52 | --- | 245 | 20.1 | 16.4 | 9.3 | 7.77 | 3.02 | 4.86 | 3.542 | 25.5 | --- | 1038 |
| I8 | 10-5-78 | 2.00 | --- | 120 | 9.8 | 8.1 | 4.6 | 9.51 | .32 | 9.52 | 2.164 | 6.5 | --- | 763 |
| I9 | ↓ | 4.00 | --- | 200 | 16.4 | 14.7 | 8.4 | 6.98 | .70 | 16.51 | 1.983 | 11.4 | --- | 729 |
| I10A | ↓ | 3.00 | --- | 125 | 10.3 | 18.7 | 10.7 | ----- | ----- | ----- | ----- | ----- | --- | 575 |
| I10B | ↓ | 1.50 | --- | 60 | 4.9 | 21.6 | 12.3 | 7.17 | .45 | 11.62 | 3.252 | 5.4 | --- | 561 |
| I11 | ↓ | 4.00 | --- | 181 | 14.8 | 64.7 | 36.9 | 9.17 | 1.50 | 9.62 | 6.030 | 29.8 | --- | 627 |
| I12 | 10-6-78 | 4.00 | --- | 226 | 18.5 | 80.7 | 46.0 | 9.02 | 3.32 | 27.52 | ----- | ----- | --- | 834 |
| I13 | 10-6-78 | 3.50 | --- | 239 | 19.6 | 86.1 | 49.1 | 19.37 | .05 | 69.42 | 5.529 | 40.2 | --- | 1052 |
| J1 | 11-7-78 | 5.00 | --- | 181 | 17.4 | 23.1 | 13.2 | ----- | 20.32 | .14 | .362 | 1.4 | --- | 385 |
| J2 | 11-7-78 | 4.00 | --- | 191 | 18.3 | 24.3 | 13.9 | .10 | 26.17 | .11 | .346 | 1.9 | --- | 684 |
| J3 | 11-8-78 | 3.00 | --- | 192 | 18.4 | 24.5 | 14.0 | .24 | 35.33 | ----- | 3.353 | 20.1 | --- | 1011 |
| J4 | ↓ | 3.20 | --- | 154 | 14.8 | 19.6 | 11.2 | ----- | 9.97 | 27.52 | 2.119 | 7.0 | --- | 521 |
| J5 | ↓ | 3.27 | --- | 210 | 20.2 | 26.7 | 15.2 | .52 | 41.43 | 11.16 | 2.551 | 16.7 | --- | 1014 |
| J6 | ↓ | 3.00 | --- | 209 | 20.1 | 13.0 | 7.4 | .32 | 17.92 | .01 | .840 | 5.0 | --- | 1007 |
| J7 | ↓ | 3.05 | --- | 145 | 13.9 | 9.0 | 5.1 | .09 | 7.17 | ----- | 4.099 | 11.1 | --- | 450 |
| J8 | 11-9-78 | 4.50 | --- | 228 | 21.9 | 14.2 | 8.1 | .12 | 11.77 | 10.17 | ----- | ----- | --- | 771 |
| J9 | 11-9-78 | 2.47 | --- | 99 | 9.5 | 6.1 | 3.5 | .06 | 22.62 | .06 | ----- | ----- | --- | 376 |
| T4 | 11-15-78 | 21.5 | 200 | 1060 | 101.8 | 128 | 73.0 | ----- | 12.60 | ----- | 1.385 | 36.81 | 184 | 627 |
| K1 | 11-29-78 | 4.08 | --- | 163 | 15.6 | 21 | 12.0 | .14 | 15.63 | .27 | .431 | 2.2 | --- | 645 |
| K3 | 12-5-78 | 3.05 | --- | 138 | 13.2 | 17.9 | 10.2 | .13 | 8.08 | .31 | .102 | .3 | --- | 450 |
| K4 | ↓ | 3.52 | --- | 209 | 20.1 | 27.1 | 15.5 | 4.34 | 25.24 | 7.49 | 1.332 | 8.8 | --- | 955 |
| K2 | ↓ | 4.00 | --- | 148 | 14.2 | 15.5 | 9.5 | .09 | 11.16 | 6.11 | .580 | 1.9 | --- | 412 |
| K7 | ↓ | 4.00 | --- | 152 | 14.6 | 9.4 | 5.4 | .14 | 10.75 | .08 | .136 | .5 | --- | 415 |
| K8 | ↓ | 3.50 | --- | 168 | 16.1 | 10.2 | 5.9 | 2.61 | 13.63 | 1.53 | 2.009 | 10.0 | --- | 722 |
| K6 | 12-6-78 | 4.02 | --- | 187 | 18.0 | 11.4 | 6.5 | .89 | 13.85 | .96 | 1.871 | 6.7 | --- | 455 |
| K5 | 12-6-78 | 4.50 | --- | 292 | 28.9 | 17.8 | 10.2 | 2.45 | 72.06 | 25.50 | 3.002 | 26.0 | --- | 974 |
| K9 | ↓ | 2.52 | --- | 126 | 12.1 | 7.7 | 4.4 | .31 | 14.59 | 9.84 | .693 | 1.5 | --- | 449 |
| K10 | 12-6-78 | 2.02 | --- | 92 | 8.8 | 18.3 | 10.4 | .20 | 15.18 | 1.99 | .419 | .8 | --- | 470 |
| K12 | 12-6-78 | 4.50 | --- | 196 | 18.8 | 39.2 | 22.3 | 1.08 | 16.65 | 3.24 | ----- | ----- | --- | 649 |
| K11 | 12-7-78 | 3.98 | --- | 268 | 25.7 | 53.7 | 30.6 | 2.03 | 77.31 | 41.81 | 1.534 | 11.8 | --- | 982 |
| K14 | ↓ | 4.05 | --- | 180 | 19.3 | 36.1 | 20.6 | 5.03 | 13.65 | .25 | ----- | ----- | --- | 433 |
| K13 | ↓ | 2.53 | --- | 88 | 8.4 | 17.6 | 10.0 | .21 | 12.44 | 2.23 | ----- | ----- | --- | 376 |
| K15 | ↓ | 3.02 | --- | 127 | 12.2 | 16.7 | 9.5 | .25 | 14.96 | 1.28 | ----- | ----- | --- | 449 |
| K16 | ↓ | 1.52 | --- | 58 | 5.6 | 7.7 | 4.4 | .96 | 14.01 | .29 | ----- | ----- | --- | 450 |

TABLE 8. - RC13 PFB TEST RESULTS: REACTOR BED AND EXHAUST GAS SOLIDS CHEMICAL COMPOSITION (a)

[ASTM D-3174 and D-3175 for coal analysis.]

| Test and date | Solids source | Ash | Volatiles | Sulfur | Silica | Calcia | Hydrogen | Carbon | Alumina | CO ₂ | Fe ₂ O ₃ | Magnesia | SO ₃ | Miscellaneous |
|---------------|---------------|------|-----------|--------|--------|--------|----------|--------|---------|-----------------|--------------------------------|----------|-----------------|---------------|
| | | | | | | | | | | | | | | |
| A1A | Bed | 76.5 | 25.2 | 3.7 | 7.3 | 47.6 | 0.3 | 0.6 | 3.1 | 21.1 | ---- | 0.6 | ---- | ---- |
| 5-10-77 | Gas | 87.4 | 13.0 | 2.2 | 34.3 | 18.3 | ↓ | 16.5 | 17.7 | 2.9 | ---- | .3 | ---- | ---- |
| A2A | Bed | ---- | ---- | 5.9 | ---- | ---- | ↓ | .6 | ---- | 16.6 | ---- | ---- | ---- | ---- |
| 5-10-77 | Gas | 97.1 | 6.9 | 2.1 | 38.8 | 12.1 | ↓ | 16.5 | 21.6 | 1.0 | ---- | .2 | ---- | ---- |
| A11A | Bed | ---- | 10.2 | 5.9 | 3.2 | 64.6 | ↓ | .6 | ---- | 16.6 | ---- | ---- | ---- | ---- |
| 5-10-77 | Gas | 96.4 | 8.3 | 2.2 | 39.0 | 11.0 | ↓ | 16.5 | 21.0 | .7 | ---- | .2 | ---- | ---- |
| A10A | Bed | 92.3 | 8.7 | 6.1 | 4.7 | 63.9 | ↓ | .6 | 2.0 | 9.8 | ---- | .8 | ---- | ---- |
| 5-10-77 | Gas | 89.5 | 9.3 | 1.8 | 36.3 | 11.8 | ↓ | 16.5 | 19.2 | 2.5 | ---- | .3 | ---- | ---- |
| A9A | Bed | ---- | ---- | 7.5 | ---- | ---- | ↓ | .6 | ---- | 5.7 | ---- | ---- | ---- | ---- |
| 5-10-77 | Gas | ---- | ---- | 1.5 | ---- | ---- | ↓ | 16.5 | ---- | 1.5 | ---- | ---- | ---- | ---- |
| A9B | Bed | 94.2 | 6.2 | 7.5 | 3.8 | 60.3 | ↓ | .6 | ---- | 5.7 | ---- | ---- | ---- | ---- |
| 5-18-77 | Gas | 79.3 | 10.0 | 1.5 | 33.9 | 5.6 | ↓ | 10.7 | ---- | 1.5 | ---- | ---- | ---- | ---- |
| A1B | Bed | 97.9 | 13.5 | 5.2 | 4.2 | 66.7 | ↓ | .6 | .4 | 5.2 | ---- | .5 | ---- | ---- |
| 5-18-77 | Gas | 81.0 | 8.3 | 1.5 | 34.3 | 5.0 | ↓ | 10.8 | 18.3 | .4 | ---- | .7 | ---- | ---- |
| A10B | Bed | 97.9 | 2.1 | 8.1 | 4.2 | 62.2 | ↓ | ---- | ---- | 1.7 | ---- | ---- | ---- | ---- |
| 5-19-77 | Gas | 85.1 | 12.0 | 2.9 | 31.6 | 8.9 | ↓ | 2.9 | ---- | 1.7 | ---- | ---- | ---- | ---- |
| A11B | Bed | 98.5 | 1.8 | 8.2 | 6.9 | 65.1 | ↓ | ---- | ---- | 1.2 | ---- | ---- | ---- | ---- |
| 5-19-77 | Gas | 86.9 | 11.8 | 3.5 | 29.7 | 10.8 | ↓ | 1.3 | ---- | .6 | ---- | ---- | ---- | ---- |
| A8B | Bed | 98.3 | 1.4 | 8.6 | 4.5 | 62.2 | ↓ | .4 | ---- | 1.3 | ---- | ---- | ---- | ---- |
| 5-19-77 | Gas | 86.5 | 14.8 | 4.3 | 28.4 | 13.3 | ↓ | 16.5 | ---- | 2.1 | ---- | ---- | ---- | ---- |
| A7B | Bed | 98.4 | 1.5 | 7.7 | 5.0 | 62.2 | ↓ | .1 | ---- | 1.1 | ---- | ---- | ---- | ---- |
| 5-19-77 | Gas | 83.8 | 15.4 | 3.9 | 31.5 | 10.0 | ↓ | .8 | ---- | .8 | ---- | ---- | ---- | ---- |
| A6B | Bed | 92.5 | 7.6 | 8.2 | 5.1 | 57.1 | ↓ | 2.4 | ---- | 9.7 | ---- | ---- | ---- | ---- |
| 5-19-77 | Gas | 81.1 | 16.5 | 3.5 | 30.6 | 8.0 | ↓ | 2.4 | ---- | .7 | ---- | ---- | ---- | ---- |
| A5B | Bed | 88.6 | 11.7 | 6.9 | 4.1 | 53.0 | ↓ | 12.1 | ---- | 12.5 | ---- | ---- | ---- | ---- |
| 5-20-77 | Gas | 72.6 | 15.4 | 3.3 | 23.6 | 6.2 | ↓ | 12.1 | ---- | .5 | ---- | ---- | ---- | ---- |
| A3B | Bed | 89.9 | 10.7 | 7.4 | 3.8 | 51.8 | ↓ | .6 | ---- | 10.5 | ---- | ---- | ---- | ---- |
| 5-20-77 | Gas | 80.2 | 16.3 | 3.7 | 23.2 | 9.4 | ↓ | 3.4 | ---- | .5 | ---- | ---- | ---- | ---- |
| A16B | Bed | 97.5 | 2.6 | 9.6 | 5.4 | 60.2 | ↓ | .6 | ---- | 3.0 | ---- | ---- | ---- | ---- |
| 5-20-77 | Gas | 80.1 | 17.0 | 3.9 | 26.8 | 9.3 | ↓ | 2.9 | ---- | 1.9 | ---- | ---- | ---- | ---- |
| A12B | Bed | 98.6 | 1.5 | 8.1 | 7.0 | 59.9 | ↓ | .6 | ---- | 1.0 | ---- | ---- | ---- | ---- |
| 5-20-77 | Gas | 62.8 | 12.7 | 1.9 | 24.9 | 3.5 | ↓ | 24.5 | ---- | .4 | ---- | ---- | ---- | ---- |
| A17B | Bed | 98.8 | 1.2 | 5.8 | 4.2 | 64.1 | ↓ | .6 | ---- | 1.1 | ---- | ---- | ---- | ---- |
| 5-20-77 | Gas | 93.5 | 9.6 | 2.6 | 35.8 | 12.2 | ↓ | 16.5 | ---- | .5 | ---- | ---- | ---- | ---- |
| C1 | Bed | 86.4 | 14.9 | 4.8 | 5.0 | 53.1 | ↓ | .6 | 1.8 | 17.5 | ---- | .6 | ---- | ---- |
| 6-2-77 | Gas | 78.9 | 18.5 | 3.6 | 30.2 | 9.0 | ↓ | 2.6 | 15.3 | 1.4 | ---- | .3 | ---- | ---- |
| C3 | Bed | 97.5 | 3.1 | 5.4 | 3.8 | 63.3 | ↓ | .6 | ---- | 2.6 | ---- | ---- | ---- | ---- |
| 6-2-77 | Gas | 78.7 | 14.8 | 3.2 | 29.3 | 9.4 | ↓ | 6.6 | ---- | 1.7 | ---- | ---- | ---- | ---- |
| C8 | Bed | 95.1 | 6.2 | 5.5 | 5.4 | 59.9 | ↓ | .6 | ---- | 5.8 | ---- | ---- | ---- | ---- |
| 6-3-77 | Gas | 79.8 | 16.0 | 3.5 | 30.6 | 8.5 | ↓ | 4.3 | ---- | 1.7 | ---- | ---- | ---- | ---- |
| C11 | Bed | 98.3 | 2.1 | 5.9 | 4.4 | 63.3 | ↓ | .6 | ---- | 1.7 | ---- | ---- | ---- | ---- |
| 6-3-77 | Gas | 80.8 | 15.3 | 3.3 | 29.8 | 10.7 | ↓ | 3.9 | ---- | 2.2 | ---- | ---- | ---- | ---- |
| C12 | Bed | 99.1 | 1.3 | 6.0 | 4.1 | 61.1 | ↓ | .6 | ---- | .9 | ---- | ---- | ---- | ---- |
| 6-3-77 | Gas | 64.4 | 17.9 | 2.8 | 22.1 | 8.3 | ↓ | 17.7 | ---- | 1.7 | ---- | ---- | ---- | ---- |

TABLE 8. - Continued. (b)

[ASTM D-3174 and D-3175 for coal analysis.]

| Test and date | Solids source | Ash | Volatiles | Sulfur | Silica | Calcia | Hydrogen | Carbon | Alumina | CO ₂ | Fe ₂ O ₃ | Magnesia | SO ₃ | Miscellaneous | Content, wt% |
|---------------|---------------|------|-----------|--------|--------|--------|----------|--------|---------|-----------------|--------------------------------|----------|-----------------|---------------|--------------|
| | | | | | | | | | | | | | | | |
| C16 | Bed | 98.6 | 1.8 | 6.1 | 3.9 | 61.1 | 0.3 | 0.6 | ---- | 1.5 | ---- | ---- | ---- | ---- | |
| 6-3-77 | Gas | 75.2 | 16.7 | 3.2 | 26.7 | 10.2 | | 8.1 | ---- | 1.8 | ---- | ---- | ---- | ---- | |
| C17 | Bed | 99.8 | 0.5 | 6.2 | 4.0 | 63.8 | | 0.6 | ---- | .6 | ---- | ---- | ---- | ---- | |
| 6-3-77 | Gas | 87.5 | 19.2 | 3.7 | 33.3 | 9.1 | | 16.5 | ---- | .8 | ---- | ---- | ---- | ---- | |
| D1 | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| 7-26-77 | Gas | 80.3 | 14.7 | 3.3 | 35.0 | 7.5 | | 5.0 | ---- | .5 | ---- | ---- | ---- | ---- | |
| D2 | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| 7-26-77 | Gas | 90.9 | 13.0 | 3.5 | 32.8 | 12.2 | | 16.5 | 16.5 | .8 | 0.8 | ---- | ---- | ---- | |
| D3 | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| 7-27-77 | Gas | 93.9 | 7.5 | 3.3 | 36.8 | 11.2 | | 16.5 | ---- | .4 | ---- | ---- | ---- | ---- | |
| D4 | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| ? | Gas | ---- | ---- | 3.3 | ---- | ---- | | 16.5 | ---- | .4 | ---- | ---- | ---- | ---- | |
| D6 | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .6 | ---- | ---- | ---- | ---- | |
| 7-26-77 | Gas | 88.4 | 13.4 | 3.0 | 22.6 | 28.8 | | 16.5 | ---- | .8 | ---- | ---- | ---- | ---- | |
| D7 | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| 7-26-77 | Gas | 88.8 | 12.4 | 2.9 | 27.4 | 16.5 | | 16.5 | ---- | .4 | ---- | ---- | ---- | ---- | |
| D10 | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| 7-27-77 | Gas | 78.6 | 16.1 | 3.5 | 34.2 | 4.6 | | 5.3 | ---- | .4 | ---- | ---- | ---- | ---- | |
| TB1A | Bed | ---- | ---- | 5.8 | ---- | ---- | | .6 | ---- | 1.1 | ---- | ---- | ---- | ---- | |
| | Gas | ---- | ---- | 2.6 | ---- | ---- | | 16.5 | ---- | .5 | ---- | ---- | ---- | ---- | |
| TB1B | Bed | ---- | ---- | 5.8 | ---- | ---- | | .6 | ---- | 1.1 | ---- | ---- | ---- | ---- | |
| | Gas | ---- | ---- | 2.6 | ---- | ---- | | 16.5 | ---- | .5 | ---- | ---- | ---- | ---- | |
| TB1C | Bed | ---- | ---- | 5.8 | ---- | ---- | | .6 | ---- | 1.1 | ---- | ---- | ---- | ---- | |
| | Gas | ---- | ---- | 2.6 | ---- | ---- | | 16.5 | ---- | .5 | ---- | ---- | ---- | ---- | |
| TB1D | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| | Gas | ---- | ---- | 2.8 | ---- | ---- | | 16.5 | ---- | 1.7 | ---- | ---- | ---- | ---- | |
| TB1E | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| | Gas | ---- | ---- | 2.8 | ---- | ---- | | 16.5 | ---- | 1.7 | ---- | ---- | ---- | ---- | |
| TB1F | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| | Gas | ---- | ---- | 2.8 | ---- | ---- | | 16.5 | ---- | 1.7 | ---- | ---- | ---- | ---- | |
| TB1G | Bed | ---- | ---- | 6.2 | ---- | ---- | | .6 | ---- | .6 | ---- | ---- | ---- | ---- | |
| 6-16-77 | Gas | ---- | ---- | 2.3 | 37.0 | ---- | | 16.5 | 19.8 | .8 | 16.2 | ---- | ---- | ---- | |
| TB1H | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| 7-14-77 | Gas | ---- | ---- | 3.1 | 36.4 | ---- | | 16.5 | 19.4 | .8 | 14.3 | ---- | ---- | ---- | |
| TB2A | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| | Gas | ---- | ---- | 3.3 | ---- | ---- | | 16.5 | ---- | .4 | ---- | ---- | ---- | ---- | |
| TB2B | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| | Gas | ---- | ---- | 3.3 | ---- | ---- | | 16.5 | ---- | .4 | ---- | ---- | ---- | ---- | |
| TB2C | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| 8-12-77 | Gas | ---- | ---- | .9 | 36.5 | 8.2 | | 16.5 | 17.5 | .4 | 15.7 | ---- | ---- | ---- | |
| TB2D | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| | Gas | ---- | ---- | 3.3 | ---- | ---- | | 16.5 | ---- | .4 | ---- | ---- | ---- | ---- | |
| TB2E | Bed | ---- | ---- | 6.0 | ---- | ---- | | .6 | ---- | .9 | ---- | ---- | ---- | ---- | |
| | Gas | ---- | ---- | 3.3 | ---- | ---- | | 16.5 | ---- | .4 | ---- | ---- | ---- | ---- | |

TABLE 8. - Continued. (a)

[ASTM D-3174 and D-3175 for coal analysis.]

| Test and date | Solids source | Ash | Volatiles | Sulfur | Silica | Calcia | Hydrogen | Carbon | Alumina | CO ₂ | Fe ₂ O ₃ | Magnesia | SO ₃ | Miscell-aneous |
|---------------|---------------|------|-----------|--------|--------|--------|----------|--------|---------|-----------------|--------------------------------|----------|-----------------|----------------|
| | | | | | | | | | | | | | | |
| F8 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0.5 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 2.3 | ---- | ---- | ---- | ---- | ---- | ---- |
| F9 | Bed | ---- | ---- | --- | ---- | ---- | --- | --- | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 5.8 | ---- | ---- | ---- | ---- | ---- | ---- |
| F16 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | .3 | ---- | ---- | ---- | ---- | ---- | ---- |
| F19 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | .6 | ---- | ---- | ---- | ---- | ---- | ---- |
| F27 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | .5 | ---- | ---- | ---- | ---- | ---- | ---- |
| G1 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .2 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 3.4 | ---- | ---- | ---- | ---- | ---- | ---- |
| G2 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 5.2 | ---- | ---- | ---- | ---- | ---- | ---- |
| G3 | Bed | 99.5 | ---- | 6.5 | ---- | ---- | .4 | .2 | ---- | 1.8 | ---- | ---- | 5.4 | 0.1 |
| | Gas | 81.3 | ---- | 1.9 | ---- | ---- | .3 | 2.1 | ---- | .7 | ---- | ---- | 5.5 | .1 |
| G5 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | 0 | .9 | ---- | ---- | ---- | ---- | ---- | ---- |
| G6 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 1.5 | ---- | ---- | ---- | ---- | ---- | ---- |
| G7 | Bed | 99.1 | ---- | 9.1 | ---- | ---- | .2 | .2 | ---- | 1.3 | ---- | ---- | 4.4 | 0 |
| | Gas | 89.1 | ---- | 1.6 | ---- | ---- | .2 | 3.1 | ---- | .5 | ---- | ---- | 3.6 | .2 |
| G8 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 5.8 | ---- | ---- | ---- | ---- | ---- | ---- |
| G9 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 2.6 | ---- | ---- | ---- | ---- | ---- | ---- |
| G10 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | 0 | 2.2 | ---- | ---- | ---- | ---- | ---- | ---- |
| G11 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | .7 | ---- | ---- | ---- | ---- | ---- | ---- |
| G12 | Bed | ---- | ---- | --- | ---- | ---- | --- | --- | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | 0 | .5 | ---- | ---- | ---- | ---- | ---- | ---- |
| G13 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .2 | 6.2 | ---- | ---- | ---- | ---- | ---- | ---- |
| G14 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .2 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 2.3 | ---- | ---- | ---- | ---- | ---- | ---- |
| G15 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 1.3 | ---- | ---- | ---- | ---- | ---- | ---- |
| G16 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 2.1 | ---- | ---- | ---- | ---- | ---- | ---- |
| G17 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 3.7 | ---- | ---- | ---- | ---- | ---- | ---- |
| G18 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | .3 | ---- | ---- | ---- | ---- | ---- | ---- |

TABLE 8. - Continued. (e)

[ASTM D-3174 and D-3175 for coal analysis.]

| Test and date | Solids source | Ash | Volatiles | Sulfur | Silica | Calcia | Hydrogen | Carbon | Alumina | CO ₂ | Fe ₂ O ₃ | Magnesia | SO ₃ | Miscellaneous |
|---------------|---------------|------|-----------|--------|--------|--------|----------|--------|---------|-----------------|--------------------------------|----------|-----------------|---------------|
| Content, wt% | | | | | | | | | | | | | | |
| G19 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | 97.9 | --- | 3.3 | 33.5 | 20.1 | 0.1 | 0.3 | --- | 0.8 | --- | --- | --- | --- |
| G22 | Bed | --- | --- | --- | --- | --- | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 1.6 | --- | --- | --- | --- | --- | --- |
| G23 | Bed | --- | --- | --- | --- | --- | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | 0 | 1.8 | --- | --- | --- | --- | --- | --- |
| G24 | Bed | --- | --- | --- | --- | --- | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 1.1 | --- | --- | --- | --- | --- | --- |
| T3A-1 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| T3A-2 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | .8 | 44.8 | 9.0 | --- | .1 | 22.1 | --- | 14.8 | 1.1 | --- | 0.9 |
| T3A-3 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | .8 | 44.9 | 9.1 | --- | 0 | 21.0 | --- | 14.8 | 1.2 | --- | 1.0 |
| T3B | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | .8 | 44.8 | 9.0 | --- | .1 | 22.1 | --- | 14.8 | 1.1 | --- | .9 |
| T3C | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | 1.0 | 44.1 | 8.9 | --- | .2 | 21.9 | --- | 14.7 | 1.4 | --- | 1.0 |
| T3D | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | 1.1 | 43.3 | 8.5 | --- | 0 | 22.2 | --- | 15.1 | 1.4 | --- | .9 |
| T3E | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | .8 | 44.0 | 8.6 | --- | .5 | 21.1 | --- | 15.8 | 1.4 | --- | 1.0 |
| T3F | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | 3.0 | 32.7 | 7.3 | --- | 1.0 | 18.5 | --- | 17.9 | 1.5 | --- | 2.6 |
| H1 | Bed | --- | --- | 7.9 | 7.5 | 60.0 | 0 | .1 | --- | 1.0 | --- | --- | --- | --- |
| | Gas | 92.1 | --- | 1.0 | 39.0 | 7.1 | .1 | 7.9 | --- | .9 | --- | --- | --- | --- |
| H2 | Bed | --- | --- | 8.5 | 7.0 | 60.5 | 0 | 0 | --- | .7 | --- | --- | --- | --- |
| | Gas | 89.9 | --- | 2.3 | 32.3 | 11.8 | .1 | 9.8 | --- | 1.1 | --- | --- | --- | --- |
| H3 | Bed | --- | --- | --- | --- | --- | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 10.7 | --- | --- | --- | --- | --- | --- |
| H4 | Bed | --- | --- | --- | --- | --- | 0 | .1 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | 18.1 | --- | --- | --- | --- | --- | --- |
| H5 | Bed | --- | --- | --- | --- | --- | 0 | .1 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 4.9 | --- | --- | --- | --- | --- | --- |
| H6 | Bed | --- | --- | --- | --- | --- | 0 | .1 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 2.8 | --- | --- | --- | --- | --- | --- |
| H7 | Bed | --- | --- | 7.3 | 9.7 | 61.2 | 0 | .1 | --- | .9 | --- | --- | --- | --- |
| | Gas | 99.0 | --- | 1.0 | 38.1 | 14.1 | .1 | .8 | --- | 1.0 | --- | --- | --- | --- |
| H8 | Bed | --- | --- | 6.3 | 9.9 | 64.7 | 0 | .1 | --- | .7 | --- | --- | --- | --- |
| | Gas | 99.0 | --- | .7 | 43.7 | 8.6 | .1 | .8 | --- | .6 | --- | --- | --- | --- |
| H10 | Bed | --- | --- | 6.3 | 9.9 | 61.7 | 0 | 0 | --- | .8 | --- | --- | --- | --- |
| | Gas | 98.8 | --- | 1.2 | 38.9 | 13.4 | .1 | .5 | --- | 1.1 | --- | --- | --- | --- |
| H11 | Bed | --- | --- | 6.3 | 9.3 | 62.9 | 0 | 0 | --- | .3 | --- | --- | --- | --- |
| | Gas | 98.7 | --- | 1.1 | 38.7 | 11.5 | .1 | .4 | --- | .8 | --- | --- | --- | --- |

TABLE 8. - Continued. (r)

[ASTM D-3174 and D-3175 for coal analysis.]

| Test and date | Solids source | Ash | Volatiles | Sulfur | Silica | Calcia | Hydrogen | Carbon | Alumina | CO ₂ | Fe ₂ O ₃ | Magnesia | SO ₃ | Miscellaneous |
|---------------|---------------|------|-----------|--------|--------|--------|----------|--------|---------|-----------------|--------------------------------|----------|-----------------|---------------|
| Content, wt% | | | | | | | | | | | | | | |
| H13 | Bed | ---- | ---- | 5.8 | 7.8 | 62.7 | 0 | 0 | ---- | 5.5 | ---- | ---- | ---- | ---- |
| | Gas | 90.9 | ---- | 3.8 | 22.4 | 22.5 | .1 | 7.6 | ---- | 1.7 | ---- | ---- | ---- | ---- |
| H14 | Bed | ---- | ---- | 5.9 | 10.1 | 62.2 | 0 | 0 | ---- | .5 | ---- | ---- | ---- | ---- |
| | Gas | 92.9 | ---- | 1.2 | 35.8 | 8.6 | .1 | 6.7 | ---- | .8 | ---- | ---- | ---- | ---- |
| H15 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | .1 | 5.4 | ---- | ---- | ---- | ---- | ---- | ---- |
| H16 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .2 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | 0 | 3.3 | ---- | ---- | ---- | ---- | ---- | ---- |
| H18 | Bed | ---- | ---- | 7.1 | 7.7 | 63.7 | .1 | .7 | ---- | .3 | ---- | ---- | ---- | ---- |
| | Gas | 97.3 | ---- | 4.2 | 10.9 | 47.1 | 0 | 1.8 | ---- | 1.0 | ---- | ---- | ---- | ---- |
| H19 | Bed | ---- | ---- | 7.4 | 7.7 | 62.9 | 0 | .1 | ---- | .5 | ---- | ---- | ---- | ---- |
| | Gas | 98.5 | ---- | 3.3 | 21.9 | 34.2 | 0 | .7 | ---- | 1.5 | ---- | ---- | ---- | ---- |
| H20 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | 0 | .4 | ---- | ---- | ---- | ---- | ---- | ---- |
| H23 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .2 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | .1 | .8 | ---- | ---- | ---- | ---- | ---- | ---- |
| H24 | Bed | ---- | ---- | 5.5 | 7.2 | 69.6 | 0 | .2 | ---- | 1.1 | ---- | ---- | ---- | ---- |
| | Gas | 97.9 | ---- | 2.9 | 18.6 | 42.8 | .1 | .6 | ---- | 1.7 | ---- | ---- | ---- | ---- |
| H25 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | 0 | .2 | ---- | ---- | ---- | ---- | ---- | ---- |
| I1 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | 0 | .2 | ---- | ---- | ---- | ---- | ---- | ---- |
| I2 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| I3 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | 0 | .2 | ---- | ---- | ---- | ---- | ---- | ---- |
| I4 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | .1 | 1.8 | ---- | ---- | ---- | ---- | ---- | ---- |
| I5 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | .1 | 2.5 | ---- | ---- | ---- | ---- | ---- | ---- |
| I6 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | 0 | .3 | ---- | ---- | ---- | ---- | ---- | ---- |
| I7 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | 0 | .9 | ---- | ---- | ---- | ---- | ---- | ---- |
| I8 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | .1 | 1.0 | ---- | ---- | ---- | ---- | ---- | ---- |
| I9 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | .1 | 6.7 | ---- | ---- | ---- | ---- | ---- | ---- |
| I10 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | .2 | 11.0 | ---- | ---- | ---- | ---- | ---- | ---- |
| I11 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | .1 | 1.4 | ---- | ---- | ---- | ---- | ---- | ---- |
| I12 | Bed | ---- | ---- | ---- | ---- | ---- | 0 | .2 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | ---- | ---- | ---- | 0 | .4 | ---- | ---- | ---- | ---- | ---- | ---- |

TABLE 8. - Continued. (g)

[ASTM D-3174 and D-3175 for coal analysis.]

| Test and date | Solids source | Ash | Volatiles | Sulfur | Silica | Calcia | Hydrogen | Carbon | Alumina | CO ₂ | Fe ₂ O ₃ | Magnesia | SO ₃ | Miscellaneous |
|---------------|---------------|-----|-----------|--------|--------|--------|----------|--------|---------|-----------------|--------------------------------|----------|-----------------|---------------|
| Content, wt% | | | | | | | | | | | | | | |
| I13 | Bed | --- | --- | --- | --- | --- | 0 | 0.1 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 1.0 | --- | --- | --- | --- | --- | --- |
| J1 | Bed | --- | --- | --- | --- | --- | .1 | 3.7 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | 10.3 | --- | --- | --- | --- | --- | --- |
| J2 | Bed | --- | --- | --- | --- | --- | .1 | .9 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | 0 | .5 | --- | --- | --- | --- | --- | --- |
| J3 | Bed | --- | --- | --- | --- | --- | 0 | .2 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 4.2 | --- | --- | --- | --- | --- | --- |
| J4 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 2.6 | --- | --- | --- | --- | --- | --- |
| J5 | Bed | --- | --- | --- | --- | --- | 0 | .8 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 1.0 | --- | --- | --- | --- | --- | --- |
| J6 | Bed | --- | --- | --- | --- | --- | 0 | .2 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | .5 | --- | --- | --- | --- | --- | --- |
| J7 | Bed | --- | --- | --- | --- | --- | 0 | .4 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 3.9 | --- | --- | --- | --- | --- | --- |
| J8 | Bed | --- | --- | --- | --- | --- | .1 | .7 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 2.9 | --- | --- | --- | --- | --- | --- |
| J9 | Bed | --- | --- | --- | --- | --- | .1 | 1.6 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | 0 | 1.0 | --- | --- | --- | --- | --- | --- |
| T4 | Coarse flyash | --- | --- | 4.3 | 27.0 | 17.2 | --- | .9 | 12.8 | --- | 16.8 | 11.2 | --- | 0.6 |
| | Fine flyash | --- | --- | 4.0 | 36.9 | 9.7 | --- | 2.8 | 18.7 | --- | 11.9 | 5.3 | --- | 1.8 |
| K1 | Bed | --- | --- | --- | --- | --- | .1 | .5 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 4.0 | --- | --- | --- | --- | --- | --- |
| K2 | Bed | --- | --- | --- | --- | --- | 0 | .4 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 5.3 | --- | --- | --- | --- | --- | --- |
| K3 | Bed | --- | --- | --- | --- | --- | 0 | .2 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 4.7 | --- | --- | --- | --- | --- | --- |
| K4 | Bed | --- | --- | --- | --- | --- | 0 | .1 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | .4 | --- | --- | --- | --- | --- | --- |
| K5 | Bed | --- | --- | --- | --- | --- | 0 | .1 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | 0 | .3 | --- | --- | --- | --- | --- | --- |
| K6 | Bed | --- | --- | --- | --- | --- | 0 | .2 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 3.3 | --- | --- | --- | --- | --- | --- |
| K7 | Bed | --- | --- | --- | --- | --- | .1 | .4 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | 7.4 | --- | --- | --- | --- | --- | --- |
| K8 | Bed | --- | --- | --- | --- | --- | 0 | .1 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | 2.8 | --- | --- | --- | --- | --- | --- |
| K9 | Bed | --- | --- | --- | --- | --- | 0 | .4 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 2.3 | --- | --- | --- | --- | --- | --- |
| K10 | Bed | --- | --- | --- | --- | --- | .1 | .4 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .1 | 1.3 | --- | --- | --- | --- | --- | --- |

TABLE 8. - Continued. (h)

[ASTM D-3174 and D-3175 for coal analysis.]

| Test and date | Solids source | Ash | Volatiles | Sulfur | Silica | Calcia | Hydrogen | Carbon | Alumina | CO ₂ | Fe ₂ O ₃ | Magnesia | SO ₃ | Miscellaneous |
|---------------|---------------|------|-----------|--------|--------|--------|----------|--------|---------|-----------------|--------------------------------|----------|-----------------|---------------|
| Content, wt% | | | | | | | | | | | | | | |
| K11 | Bed | ---- | ---- | --- | ---- | ---- | 0 | 0.1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| K12 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 1.4 | ---- | ---- | ---- | ---- | ---- | ---- |
| K13 | Bed | ---- | ---- | --- | ---- | ---- | .1 | .6 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 1.8 | ---- | ---- | ---- | ---- | ---- | ---- |
| K14 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .6 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 4.0 | ---- | ---- | ---- | ---- | ---- | ---- |
| K15 | Bed | ---- | ---- | --- | ---- | ---- | .1 | .4 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .1 | 1.8 | ---- | ---- | ---- | ---- | ---- | ---- |
| K16 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .4 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .2 | 5.8 | ---- | ---- | ---- | ---- | ---- | ---- |
| T5 | Coarse flyash | ---- | ---- | 1.9 | 31.2 | 28.8 | --- | .7 | 15.5 | ---- | 13.3 | 1.8 | ---- | 0.8 |
| | Fine flyash | ---- | ---- | 2.0 | 37.9 | 22.2 | --- | .9 | 18.7 | ---- | 11.2 | 1.9 | ---- | 1.5 |
| CAS1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | (a) |
| CAS0 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ↓ |
| CAS2 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | |
| CAS3 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | |
| CAS4 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | |
| L1 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .2 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .3 | 6.3 | ---- | ---- | ---- | ---- | ---- | ---- |
| L2 | Bed | ---- | ---- | --- | ---- | ---- | .1 | 1.3 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .3 | 3.7 | ---- | ---- | ---- | ---- | ---- | ---- |
| L3 | Bed | ---- | ---- | --- | ---- | ---- | .1 | .8 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .2 | 1.7 | ---- | ---- | ---- | ---- | ---- | ---- |
| L4 | Bed | ---- | ---- | --- | ---- | ---- | 0 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .2 | .4 | ---- | ---- | ---- | ---- | ---- | ---- |
| L5 | Bed | ---- | ---- | --- | ---- | ---- | .1 | .5 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .2 | .7 | ---- | ---- | ---- | ---- | ---- | ---- |
| L6 | Bed | ---- | ---- | --- | ---- | ---- | .1 | .4 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .2 | 2.7 | ---- | ---- | ---- | ---- | ---- | ---- |
| M1 | Bed | ---- | ---- | --- | ---- | ---- | .1 | .3 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .2 | 1.4 | ---- | ---- | ---- | ---- | ---- | ---- |
| M2 | Bed | ---- | ---- | --- | ---- | ---- | .1 | .2 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .2 | 1.5 | ---- | ---- | ---- | ---- | ---- | ---- |
| M3 | Bed | ---- | ---- | --- | ---- | ---- | .2 | .3 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .2 | .4 | ---- | ---- | ---- | ---- | ---- | ---- |
| M4 | Bed | ---- | ---- | --- | ---- | ---- | .1 | .1 | ---- | ---- | ---- | ---- | ---- | ---- |
| | Gas | ---- | ---- | --- | ---- | ---- | .2 | .2 | ---- | ---- | ---- | ---- | ---- | ---- |

^aNo analysis.

TABLE 8. - Concluded. (i)

[ASTM D-3174 and D-3175 for coal analysis.]

| Test and date | Solids source | Ash | Volatiles | Sulfur | Silica | Calcia | Content, wt% | | | | | | | |
|---------------|---------------|-----|-----------|--------|--------|--------|--------------|--------|---------|-----------------|--------------------------------|----------|-----------------|---------------|
| | | | | | | | Hydrogen | Carbon | Alumina | CO ₂ | Fe ₂ O ₃ | Magnesia | SO ₃ | Miscellaneous |
| M5 | Bed | --- | --- | --- | --- | --- | 0.1 | 1.7 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | 1.2 | --- | --- | --- | --- | --- | --- |
| M6 | Bed | --- | --- | --- | --- | --- | .1 | .3 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | .2 | --- | --- | --- | --- | --- | --- |
| M7 | Bed | --- | --- | --- | --- | --- | .1 | .6 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .3 | .6 | --- | --- | --- | --- | --- | --- |
| M8 | Bed | --- | --- | --- | --- | --- | .1 | .6 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .3 | 1.7 | --- | --- | --- | --- | --- | --- |
| M9 | Bed | --- | --- | --- | --- | --- | .1 | .2 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | 1.5 | --- | --- | --- | --- | --- | --- |
| M11 | Bed | --- | --- | --- | --- | --- | .1 | .2 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | .7 | --- | --- | --- | --- | --- | --- |
| M12 | Bed | --- | --- | --- | --- | --- | .1 | .1 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | .3 | --- | --- | --- | --- | --- | --- |
| N1 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | .6 | --- | --- | --- | --- | --- | --- |
| N2 | Bed | --- | --- | --- | --- | --- | 0 | .1 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | .6 | --- | --- | --- | --- | --- | --- |
| N5A | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| N5B | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| N6 | Bed | --- | --- | --- | --- | --- | .1 | .7 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | .5 | --- | --- | --- | --- | --- | --- |
| N55A | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| N55B | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| N7 | Bed | --- | --- | --- | --- | --- | .1 | .4 | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | .2 | .3 | --- | --- | --- | --- | --- | --- |
| T6A | Bed | --- | --- | --- | --- | (a) | (a) | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | ↓ | ↓ | --- | --- | --- | --- | --- | --- | --- |
| T6B | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| T7 | Bed | --- | --- | --- | 47 | 4 | --- | --- | 25 | --- | 17 | 1 | --- | --- |
| | Coarse flyash | --- | --- | --- | 36 | 15 | --- | --- | 18 | --- | 13 | 1 | 9 | --- |
| | Fine flyash | --- | --- | --- | 28 | 3 | --- | --- | 16 | --- | 14 | 1 | 26 | --- |

^aNo analysis.

TABLE 9. - RC13 TEST RESULTS: COLLECTED SOLIDS SIZE DISTRIBUTION (a)

| Test | Solids source | Solids size, μm | | | | | | | | | | | |
|---------|---------------|--|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 2000 | 1410 | 1000 | 707 | 500 | 354 | 177 | 74 | 37 | 25 | 10 | 5 |
| | | Amount of solids smaller than stated size, wt% | | | | | | | | | | | |
| A1A | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | 98.6 | 84.6 | 47.0 | 31.3 | 27.1 | 19.9 |
| A2A | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | 99.2 | 88.1 | 29.1 | 13.7 | 10.6 | 8.3 |
| A9A | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| A10A | Bed | 94.8 | 73.5 | 50.9 | 28.4 | 19.3 | 12.5 | 6.4 | 3.0 | .7 | ----- | ----- | ----- |
| 5-11-77 | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| A11A | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| A1B | Bed | 97.9 | 77.1 | 48.5 | 20.8 | 11.8 | 6.1 | 1.4 | .2 | ----- | ----- | ----- | ----- |
| 5-18-77 | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| A3B | Bed | 97.1 | 88.8 | 71.2 | 46.9 | 28.5 | 13.9 | 4.3 | 1.1 | .6 | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | 70 | 40.6 | 26.3 | 16.8 | ----- |
| A5B | Bed | 97.3 | 86.0 | 69.9 | 43.5 | 24.8 | 13.3 | 4.0 | 1.3 | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.9 | 99.9 | 99.5 | 98.1 | 84.1 | 34.9 | 19.8 | 14.9 | 9.6 |
| A6B | Bed | 98.5 | 90.2 | 74.9 | 50.0 | 30.0 | 16.7 | 5.0 | 1.6 | .8 | ----- | ----- | ----- |
| 5-19-77 | Gas | ---- | ---- | ---- | 99.5 | 99.2 | 98.6 | 96.4 | 80.5 | 48.1 | 29.2 | 22.2 | 16.7 |
| A7B | Bed | 98.5 | 88.8 | 73.4 | 47.1 | 27.1 | 14.8 | 4.5 | 2.0 | 1.2 | .9 | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | 36.3 | 19.0 | 16.5 | 11.0 |
| A8B | Bed | 98.2 | 86.6 | 68.4 | 41.0 | 23.8 | 13.5 | 9.7 | .7 | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 100 | 99.5 | 99.1 | 97.7 | 75.6 | 34.9 | 22.7 | 17.1 | 11.7 |
| A9B | Bed | 98.9 | 80.1 | 53.3 | 26.0 | 16.9 | 10.3 | 5.5 | .8 | .4 | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.5 | 99.0 | 98.6 | 95.1 | 76.4 | 30.3 | 19.9 | 14.6 | 9.8 |
| A10B | Bed | 91.6 | 81.0 | 58.7 | 31.6 | 20.1 | 13.4 | 5.8 | 2.0 | .9 | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.8 | 99.0 | 98.0 | 96.8 | 73.0 | 34.8 | 18.9 | 15.3 | ----- |
| A11B | Bed | 97.9 | 84.4 | 63.9 | 35.8 | 20.7 | 11.7 | 4.2 | 1.1 | .8 | .8 | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| A12B | Bed | 96.4 | 82.0 | 65.8 | 43.0 | 25.9 | 14.5 | 9.2 | 1.0 | .8 | .8 | ----- | ----- |
| 5-20-77 | Gas | ---- | ---- | ---- | 100 | 99.9 | 99.6 | 97.8 | 86.0 | 53.1 | 38.3 | 34.7 | 22.1 |
| A16B | Bed | 99.6 | 88.0 | 79.3 | 50.1 | 30.3 | 16.8 | 3.5 | 1.1 | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.9 | 99.8 | 99.1 | 97.3 | 78.6 | 44.3 | 37.0 | 11.8 | ----- |
| A17B | Bed | 97.3 | 85.9 | 71.4 | 49.4 | 28.9 | 14.9 | 5.0 | 2.9 | 2.8 | 2.7 | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | 99.5 | 99.2 | 97.7 | 81.0 | 55.5 | 29.7 | 22.9 | 19.1 |
| C1 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.7 | 99.2 | 98.4 | 91.9 | 74.2 | 39.9 | 16.9 | 15.9 | 14.7 |
| C3 | Bed | 97.9 | 82.6 | 63.1 | 37.6 | 21.9 | 11.8 | 2.9 | .9 | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.8 | 99.5 | 98.9 | 93.2 | 72.0 | 39.1 | 21.5 | 19.1 | 17.0 |
| C8 | Bed | 96.8 | 80.4 | 62.4 | 37.9 | 20.8 | 11.1 | 2.3 | .3 | ----- | ----- | ----- | ----- |
| 6-3-77 | Gas | ---- | ---- | ---- | 99.1 | 98.6 | 98.3 | 96.3 | 80.6 | 48.3 | 34.3 | 24.9 | 16.8 |
| C11 | Bed | 97.3 | 84.8 | 69.9 | 46.2 | 28.0 | 15.5 | 3.6 | 1.0 | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.6 | 99.4 | 99.2 | 97.9 | 82.2 | 47.8 | 33.0 | 25.8 | 16.4 |
| C12 | Bed | 96.9 | 81.5 | 65.3 | 42.0 | 24.6 | 13.4 | 3.3 | 1.1 | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.9 | 99.8 | 99.3 | 94.4 | 64.6 | 20.5 | 17.6 | 13.4 | 9.8 |
| C16 | Bed | 97.1 | 89.1 | 69.4 | 46.2 | 27.9 | 15.4 | 3.3 | 1.4 | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.8 | 99.5 | 98.9 | 95.6 | 76.6 | 38.2 | 20.5 | 18.3 | 15.9 |

TABLE 9. - Continued. (c)

| Test | Solids source | Solids size, μm | | | | | | | | | | | |
|--|---------------|----------------------------|------|------|-------|-------|-------|-------|-------|-----|------|-----|-----|
| | | 2000 | 1410 | 1000 | 707 | 500 | 354 | 177 | 74 | 37 | 25 | 10 | 5 |
| Amount of solids smaller than stated size, wt% | | | | | | | | | | | | | |
| E1 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E1 | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E2 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E2 | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E3 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E3 | Gas | --- | --- | --- | 99.40 | 99.0 | 98.2 | 91.9 | --- | --- | --- | --- | --- |
| E4 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E4 | Gas | --- | --- | --- | 96.1 | 88.2 | 74.50 | 47.90 | 31.50 | 6.2 | 1.30 | --- | --- |
| E5 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E5 | Gas | --- | --- | --- | 99.40 | 98.2 | 94.6 | 79.10 | 40.0 | --- | --- | --- | --- |
| E6 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E6 | Gas | --- | --- | --- | 99.7 | 99.5 | 98.8 | 92.9 | --- | --- | --- | --- | --- |
| E9 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E9 | Gas | --- | --- | --- | 99.20 | 98.75 | 97.8 | 92.2 | --- | --- | --- | --- | --- |
| E11 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E11 | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E12 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E12 | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E13 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E13 | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E14 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E14 | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E15 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E15 | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E17 | Bed | 99.5 | 89.3 | 67.8 | 32.2 | 10.9 | 3.7 | --- | --- | --- | --- | --- | --- |
| E17 | Gas | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F1 | --- | (a) | (a) | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F4 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F7 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F9 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F9 | Gas | --- | --- | --- | 97.6 | 95.0 | 90.0 | 77.1 | 57.1 | --- | --- | --- | --- |
| F16 | --- | (a) | (a) | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F19 | --- | (a) | (a) | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F27 | --- | (a) | (a) | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| G1 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| G1 | Gas | --- | --- | --- | 99.6 | 99.4 | 99.1 | 95.1 | 76.0 | --- | --- | --- | --- |
| G2 | Bed | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| G2 | Gas | --- | --- | --- | 98.8 | 98.1 | 96.8 | 88.9 | 71.7 | --- | --- | --- | --- |

^aNo analysis.

TABLE 9. - Continued. (f)

| Test | Solids source | Solids size, μm | | | | | | | | | | | |
|----------|---------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 2000 | 1410 | 1000 | 707 | 500 | 354 | 177 | 74 | 37 | 25 | 10 | 5 |
| | | Amount of solids smaller than stated size, wt% | | | | | | | | | | | |
| I7 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| I8 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| I9 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| I10 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| I11 | Bed | 98.3 | 92.0 | 84.0 | 71.2 | 50.6 | 29.5 | 5.7 | ----- | ----- | ----- | ----- | ----- |
| | Gas | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| I12 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| I13 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| J3 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 92.3 | 84.2 | 73.5 | 48.0 | 28.0 | 17.7 | 143.9 | 7.4 | 3.2 |
| J5 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 92.8 | 85.5 | 75.0 | 46.5 | 22.2 | 18.0 | 13.7 | 3.8 | 1.2 |
| J6 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 96.3 | 90.5 | 82.5 | 63.6 | 51.0 | 35.5 | 27.7 | 6.2 | 2.3 |
| T4 | Bed | 97.9 | 91.1 | 79.5 | 65.2 | 46.5 | 33.1 | 9.5 | ----- | ----- | ----- | ----- | ----- |
| | Gas | ----- | ----- | ----- | 99.8 | ----- | ----- | 97.5 | 94.9 | 89.2 | 68.4 | 32.0 | 14.3 |
| K1 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.5 | 99.1 | 98.5 | 97.0 | 83.5 | 64.0 | 49.7 | 21.0 | 8.3 |
| T5 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | 99.3 | 98.0 | 94.1 | 91.2 | 51.0 | 23.5 |
| CAS1 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | 96.1 | 93.1 | 83.9 | 74.5 | 70.3 | 52.4 | 25.5 |
| CAS0-1 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 0-18-79 | Gas | ---- | ---- | ---- | 99.1 | 97.5 | 97.1 | 96.3 | 92.3 | 87.5 | 83.2 | 51.0 | 21.2 |
| CAS0-2 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1-19-79 | Gas | ---- | ---- | ---- | 99.1 | ----- | ----- | 98.8 | 97.3 | 9.20 | 83.5 | 51.5 | 19.5 |
| CAS0-3 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1-19-79 | Gas | ---- | ---- | ---- | 98.5 | 97.6 | 96.0 | 91.0 | 85.7 | 74.2 | 63.5 | 42.5 | 17.5 |
| CAS0-4 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1-19-79 | Gas | ---- | ---- | ---- | ----- | ----- | ----- | 97.5 | 94.5 | 91.5 | 72.5 | 35.2 | 17.5 |
| CAS2-1 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 10-30-79 | Gas | ---- | ---- | ---- | 89.0 | 84.5 | 80.0 | 71.0 | 33.0 | 18.0 | 13.5 | ----- | ----- |
| CAS2-3 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1-31-79 | Gas | ---- | ---- | ---- | ----- | ----- | ----- | 95.4 | 91.7 | 88.1 | 85.6 | ----- | ----- |
| CAS2-4 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1-31-79 | Gas | ---- | ---- | ---- | 93.4 | 89.4 | 85.2 | 82.2 | 71.7 | 55.5 | 45.0 | 22.0 | 9.5 |
| CAS3-2 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 2-14-79 | Gas | ---- | ---- | ---- | ----- | 96.2 | ----- | 92.1 | 84.5 | 80.5 | 60.0 | 34.5 | 13.5 |
| CAS3-4 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 2-15-79 | Gas | ---- | ---- | ---- | ----- | ----- | ----- | 92.6 | 87.5 | 70.5 | 61.5 | 37.5 | 14.2 |

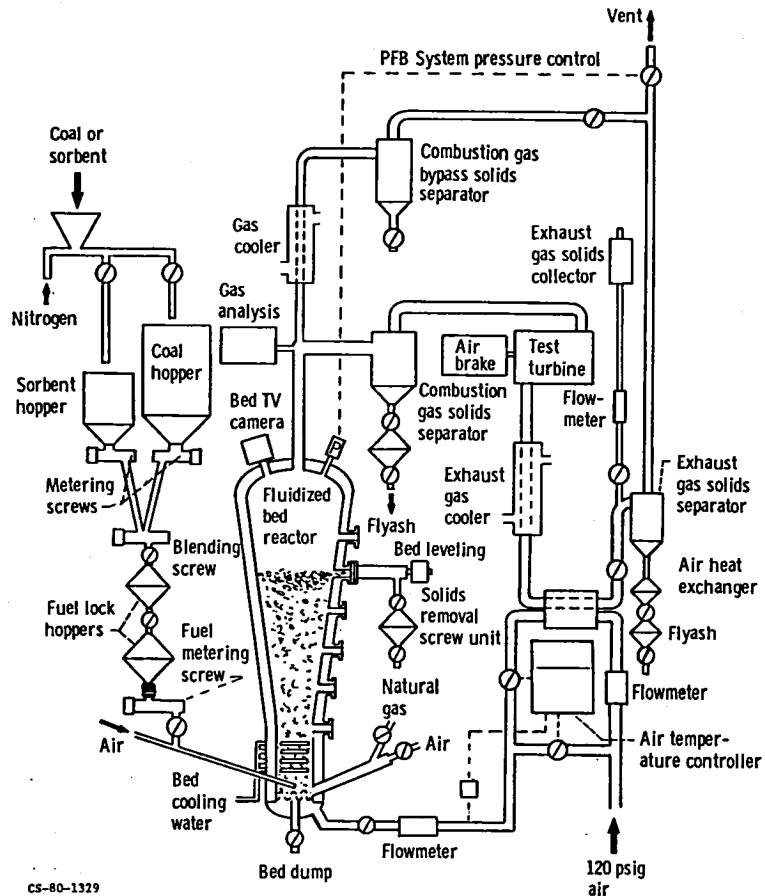
TABLE 9. - Concluded. (g)

| Test | Solids source | Solids size, μm | | | | | | | | | | | |
|--|---------------|----------------------------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 2000 | 1410 | 1000 | 707 | 500 | 354 | 177 | 74 | 37 | 25 | 10 | 5 |
| Amount of solids smaller than stated size, wt% | | | | | | | | | | | | | |
| CAS4-2 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 2-22-79 | Gas | ---- | ---- | ---- | ----- | ----- | ----- | 97.5 | 94.5 | 91.5 | 62.5 | 39.5 | 18.8 |
| L1 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 98.8 | 98.1 | 97.6 | 97.0 | 95.1 | 88.3 | 80.6 | 35.5 | 16.5 |
| L2 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 98.6 | 97.6 | 96.6 | 95.1 | 63.5 | 40.2 | 23.2 | 16.7 | ----- |
| L3 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 98.7 | 97.5 | 96.2 | 94.5 | 55.5 | 29.2 | 19.5 | ----- | ----- |
| L4 | Bed | ---- | ---- | 98.2 | 91.0 | 81.0 | 78.0 | 75.5 | 54.5 | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 98.5 | 97.6 | 96.5 | 94.5 | 78.2 | 34.5 | 21.0 | ----- | ----- |
| L5 | Bed | ---- | ---- | 82.5 | 68.2 | 52.0 | 41.0 | 24.5 | 13.8 | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 98.5 | 97.0 | 95.0 | 92.0 | 87.5 | 86.5 | 83.5 | 28.2 | 14.5 |
| L6 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 98.7 | 97.6 | 96.6 | 94.5 | 92.2 | 78.5 | 30.2 | 17.5 | ----- |
| M1 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.4 | 99.1 | 98.7 | 97.7 | 903.4 | 88.0 | 79.2 | 40.5 | 17.5 |
| M4 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.7 | 98.6 | 98.0 | 95.8 | 92.7 | 85.5 | 78.6 | 35.5 | 14.5 |
| M5 | Bed | ---- | ---- | 82.0 | 72.5 | 56.5 | 42.5 | 32.5 | 18.2 | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 98.6 | 98.5 | 98.0 | 95.3 | 90.0 | 83.5 | 79.2 | 37.5 | 15.5 |
| M12 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 71.0 | 56.5 | 46.0 | 33.0 | 23.5 | 15.5 | 11.0 | 2.8 | .8 |
| T6 | Bed | ---- | ---- | (a) | (a) | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| N5A | Bed | ---- | ---- | 87.5 | 76.2 | 55.2 | 38.2 | 26.5 | 18.2 | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| N5B | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 98.6 | 97.6 | 94.8 | 86.2 | 55.5 | 16.5 | 5.0 | ----- | ----- |
| N6 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 98.8 | 97.8 | 97.5 | 96.2 | 81.5 | 30.0 | 25.5 | 14.5 | ----- |
| N55A | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 99.4 | 98.6 | 97.5 | 96.0 | 91.5 | 74.2 | 51.0 | 32.5 | ----- |
| N55B | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | 98.5 | 97.5 | 96.4 | 94.6 | 90.2 | 83.2 | 70.0 | ----- | ----- |
| N7 | Bed | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | 99.4 | 98.6 | 97.5 | 96.4 | 95.0 | 87.2 | 56.2 | 21.0 | 10.5 | ----- |
| T7 | Bed | ---- | ---- | (a) | (a) | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | Gas | ---- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |

^aNo analysis.

TABLE 10. - PFB COMBUSTION BED DISCHARGE ANALYSIS

| Test and date | | Particle size range, μm | | | |
|-----------------|---------------------------------|------------------------------------|-----------|------------|-------|
| | | <590 | 590 - 840 | 840 - 1410 | >1410 |
| A10A 5/11/77 | Amount in size range, percent | 22.8 | 13.7 | 36.5 | 26.5 |
| | Silica content, percent | 6.9 | 3.2 | 3.4 | 4.1 |
| | Lime content, percent | 55.9 | 64.6 | 66.9 | 71.8 |
| | Sulfur content, percent | 9.8 | 10.2 | 8.8 | 6.0 |
| | Carbon dioxide content, percent | .9 | .7 | .6 | .2 |
| | Ignition loss, percent | 4.0 | 3.3 | 2.8 | 3.8 |
| A10B 5/19/77 | Amount in size range, percent | 24.1 | 17.9 | 39.0 | 19.0 |
| | Silica content, percent | 8.3 | 4.4 | 4.6 | 4.1 |
| | Lime content, percent | 54.2 | 63.5 | 65.1 | 71.7 |
| | Sulfur content, percent | 8.6 | 9.2 | 8.2 | 6.4 |
| | Carbon dioxide content, percent | 2.9 | .7 | .9 | .6 |
| | Ignition loss, percent | 6.2 | 5.6 | 5.0 | 3.4 |
| C3 6/27/77 | Amount in size range, percent | 27.6 | 22.3 | 32.5 | 17.4 |
| | Silica content, percent | 10.2 | 4.8 | 3.7 | 3.8 |
| | Lime content, percent | 49.9 | 65.2 | 68.4 | 73.5 |
| | Sulfur content, percent | 9.2 | 8.5 | 5.6 | 3.9 |
| | Carbon dioxide content, percent | .1 | 1.6 | 2.4 | 5.1 |
| | Ignition loss, percent | 2.7 | 3.5 | 4.3 | 7.2 |



CS-80-1329

Figure 1. - Schematic of Lewis PFB combustor system.

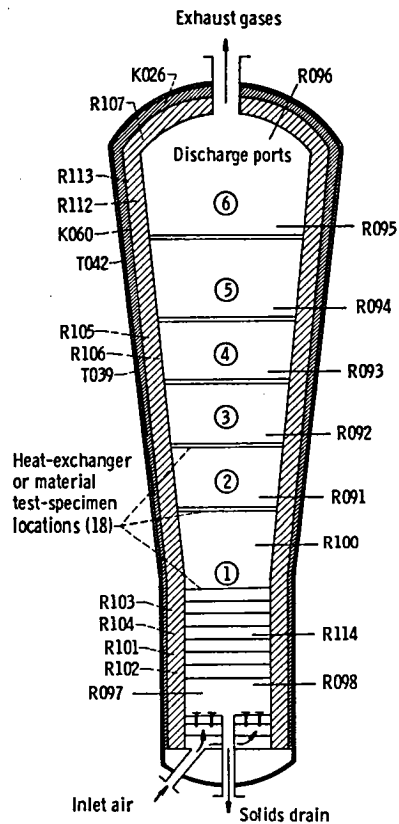


Figure 2. - PFB reactor temperature instrumentation.

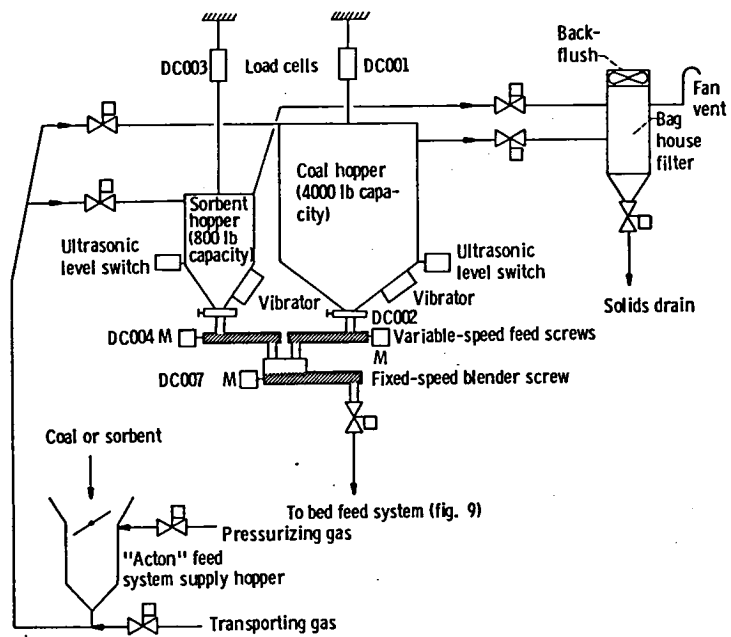


Figure 3. - PFB fuel supply system.

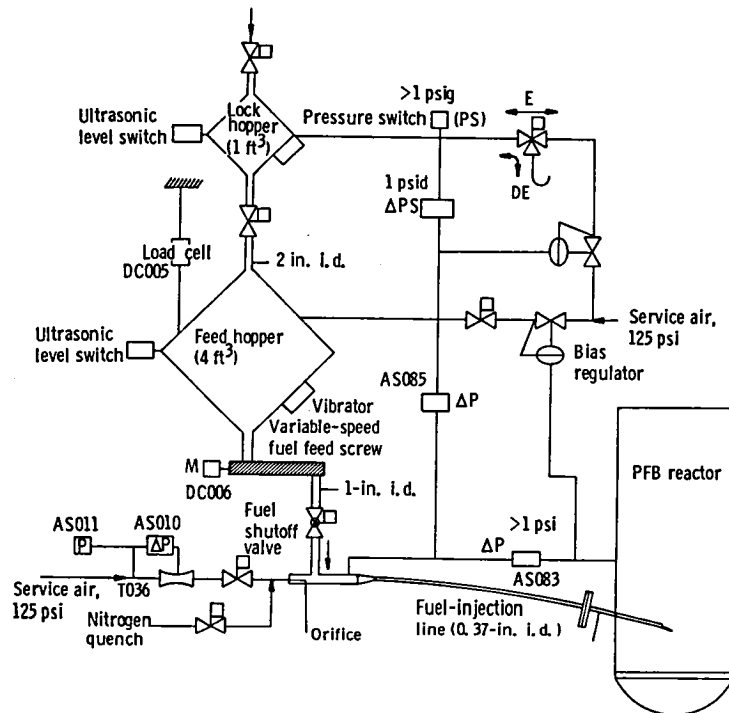


Figure 4. - PFB bed feed system.

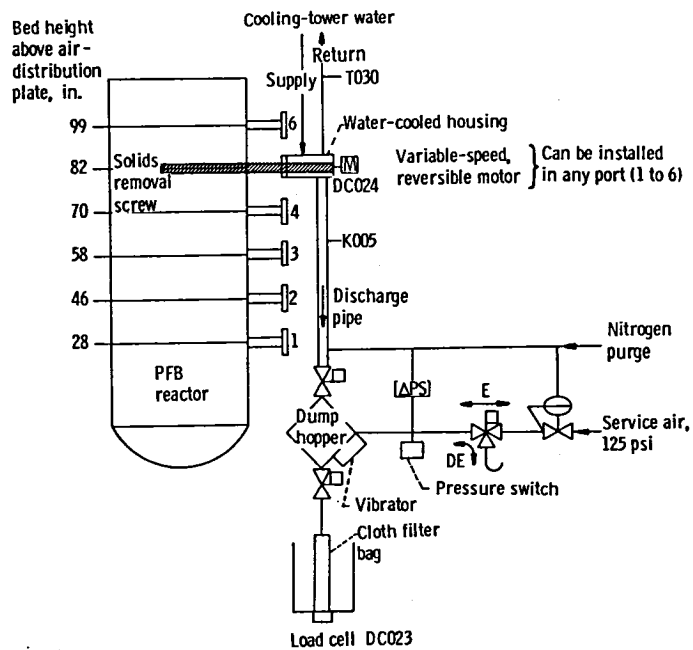


Figure 5. - PFB solids removal system.

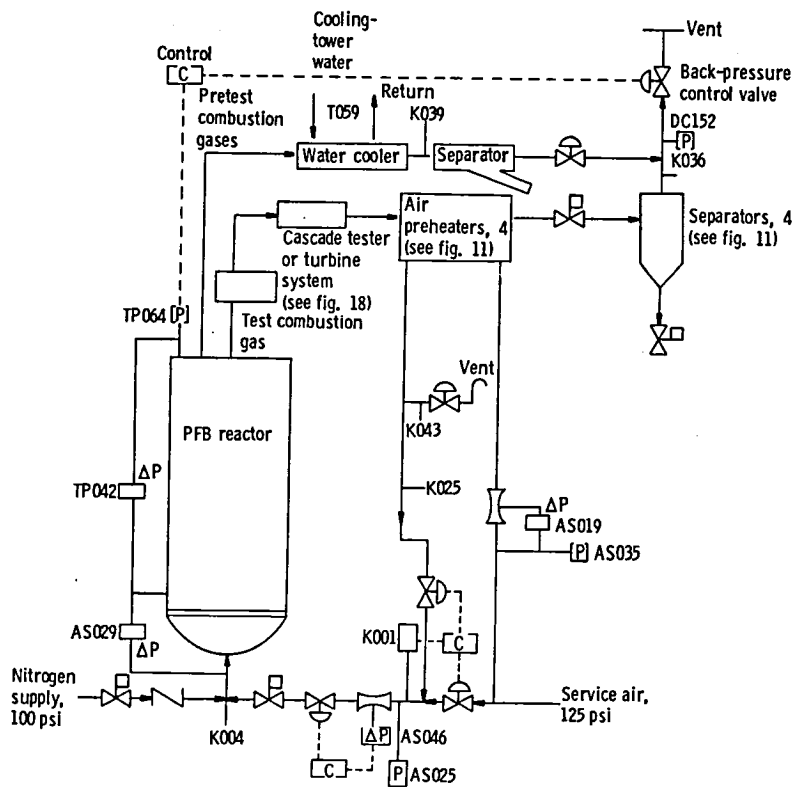


Figure 6. - PFB combustion air system.

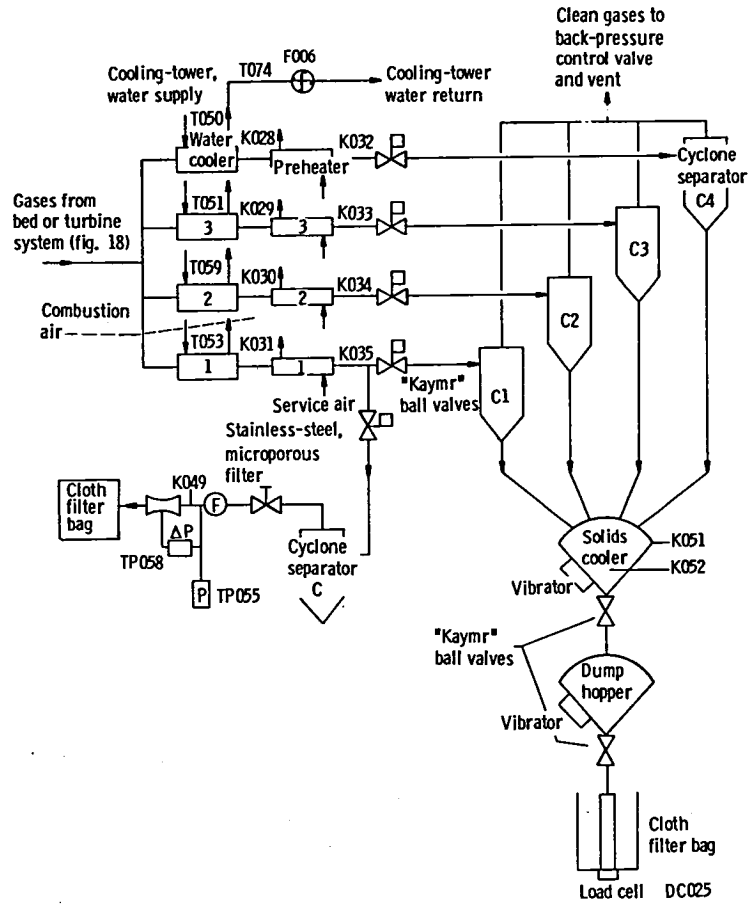


Figure 7. - PFB exhaust system.

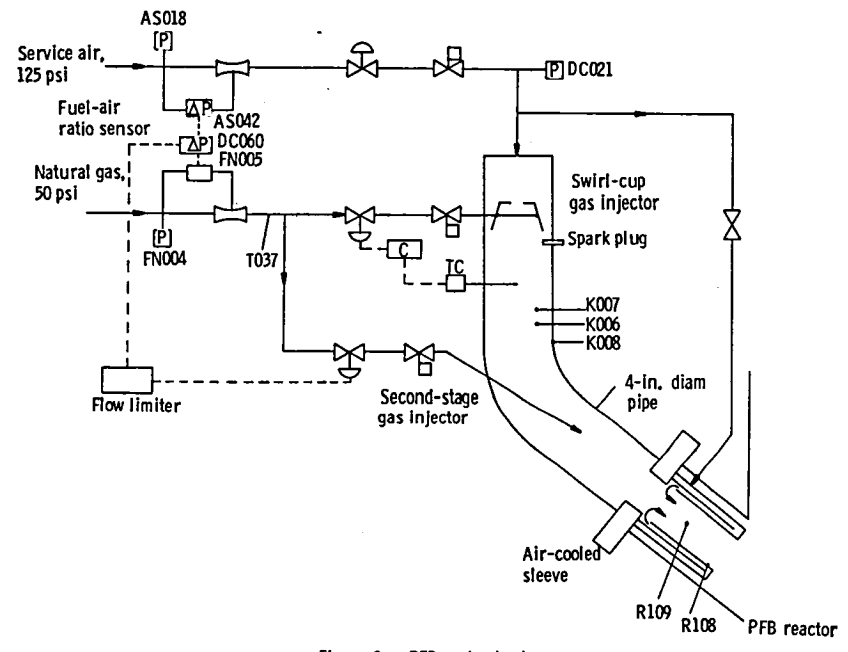


Figure 8. - PFB preheater burner.

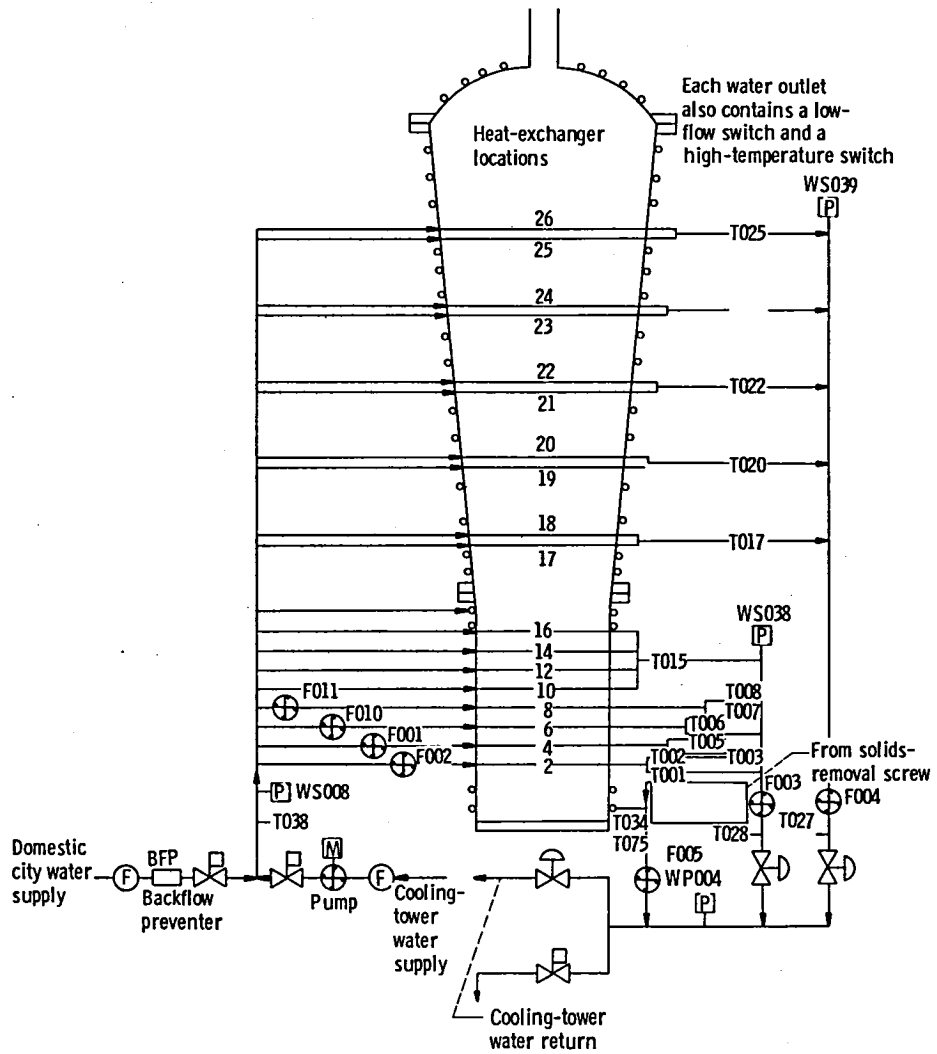


Figure 9. - PFB reactor water cooling system.

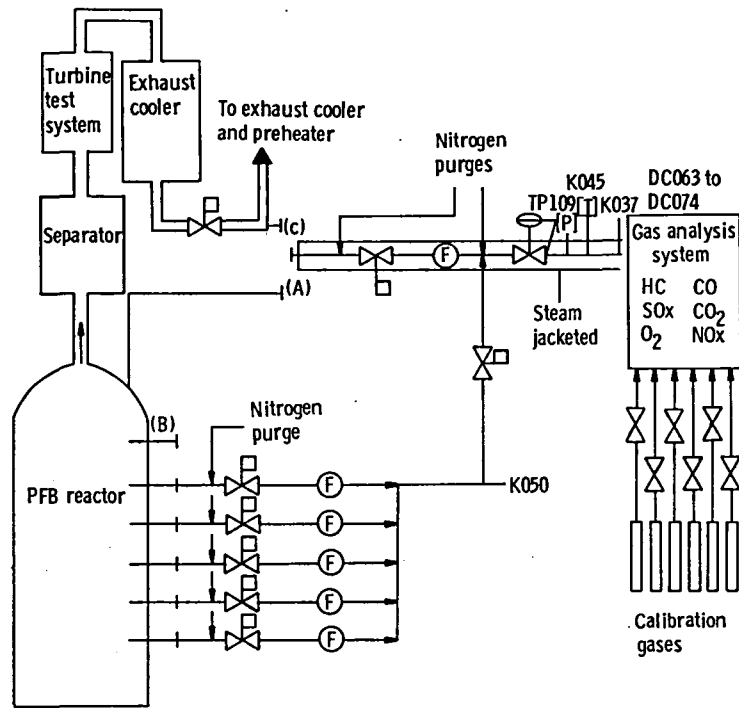


Figure 10. - PFB gas analysis system.

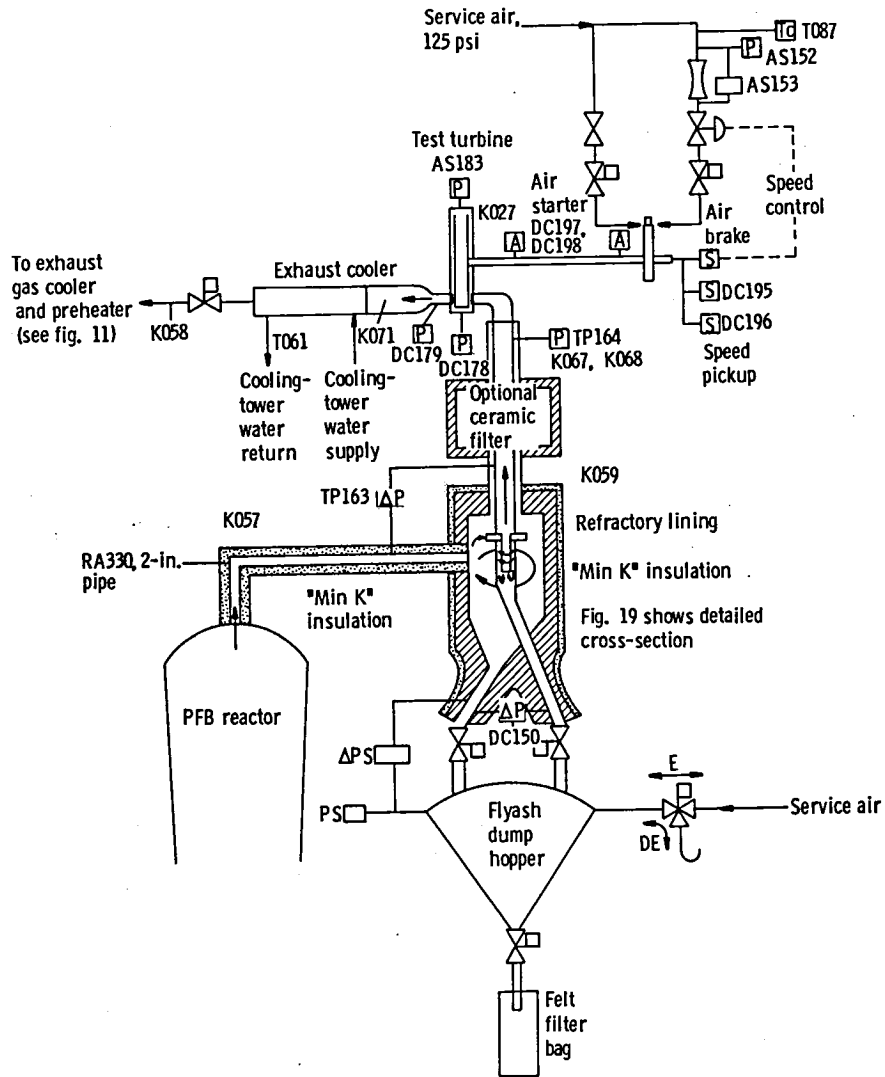


Figure 11. - Turbine test section and hot gas cleanup system.

| | | | |
|--|--|--|--|
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| | | 15. Supplementary Notes | |
| 16. Abstract A 200-kW (thermal), pressurized, fluidized-bed (PFB) combustion reactor and a related testing facility were designed, constructed, and operated by the NASA Lewis Research Center. The facility was intended for the evaluation of advanced aircraft turbine engine materials that might be used in powerplant turbogenerators utilizing PFB combustors. The facility reactor could be operated over a range of parameters: type of fuel, type of sulfur sorbent material, percentage of sorbent in the fuel, flow rate of fuel and combustion air, reactor bed depth, temperature and pressure of combustion exhaust gases, and combustion operating time. Tests were made to determine the relationships between the operating parameters and the reactor and gas cleanup systems and to check out how changes in the physical configuration of the system affected performance and how various materials were affected during long-time, steady-state exposure to the PFB environment. The instrumentation and control data are presented along with how they were used to obtain the test results. The various formulas used are also given. The operating procedures and test variations are presented. NASA has terminated its PFB work, but many of the results obtained may be useful for future research or commercial development of PFB facilities. | | | |
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MICROFICHE SUPPLEMENT TO NASA TM-81767
TABLE 4. - PFB TEST RESULTS

TABLE 4. - PFB TEST RESULTS

FOLDOUT FRAME I

(a) Combustor input solids data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|------|
| | | A1A | A2A | A11A | A10A | A9A | A9B | A1B | A10B | A11B |
| 001 | Coal consumed, lb | 278 | (a) | 253 | 271 | 103 | 125 | 121 | 127 | 124 |
| 002 | Coal meter screw value | 65 | 55 | 95 | 52 | 67 | 25 | 49 | 43 | 37 |
| 002 | Standard deviation | (a) | (a) | 0 | (a) | (a) | (a) | (a) | (a) | (a) |
| 003 | Sorbent consumed, lb | 27 | 73 | 51 | 31 | 16 | 24 | 29 | 20 | (b) |
| 004 | Sorbent meter screw value | 8 | 4 | 7 | 5 | 4 | 4 | 8 | 10 | 2 |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 005 | Fuel consumed, lb | 368 | 319 | 303 | 341 | 134 | 158 | 135 | 168 | 171 |
| 006 | Fuel meter screw value | 18 | 16 | 17 | 18 | 16 | 15 | 13 | 15 | 15 |
| 006 | Standard deviation | 1 | 0 | 1 | 1 | 1 | 1 | 4 | 1 | 1 |
| 014 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | 62 | 67 | 69 | 56 | 61 | 85 | 84 | 69 | 66 |
| 022 | Standard deviation | 0 | 3 | 5 | 2 | 3 | 2 | 4 | 1 | 1 |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differ- ential pressure, psid | 10.8 | 9.9 | 10.0 | 11.5 | 10.8 | 14.3 | 14.4 | 13.0 | 14.3 |
| 033 | Standard deviation | 0.1 | 0.5 | 0.4 | 0.7 | 0.5 | 0.3 | 1.0 | 0.6 | 0.2 |
| 092 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Accumulated fuel, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | 54.2 | 34.1 | 44.8 | 39.9 | 44.0 | 41.0 | 38.1 | 44.5 | 49.5 |
| 174 | Standard deviation | 10.9 | 17.2 | 8.5 | 11.7 | 8.2 | 6.5 | 14.8 | 4.8 | 15.5 |
| 175 | Fuel flow time, sec | 1000 | 1121 | 1102 | 912 | 1105 | 1315 | 1025 | 874 | 1272 |
| 175 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 176 | Previous fuel flow, lb/hr | 45.3 | 43.7 | 41.2 | 45.3 | 43.8 | 43.5 | 42.0 | 39.3 | 43.6 |
| 176 | Standard deviation | 2.7 | 14.1 | 4.2 | 3.9 | 1.6 | 1.3 | 1.6 | 7.2 | 1.8 |
| 177 | Accumulated fuel flow, lb | 316 | 699 | 432 | 392 | 662 | 122 | 294 | 516 | 701 |
| 177 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.17 | 0.16 | 0.15 | 0.15 | 0.13 | 0.13 | 0.13 | 0.15 | 0.20 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 46.3 | 29.4 | 38.8 | 34.7 | 38.9 | 36.2 | 33.6 | 38.7 | 41.1 |

| | | | | | | | | | | |
|-----|----------------------------|------|------|------|------|------|------|------|------|------|
| 176 | Standard deviation | 2.7 | 14.1 | 4.2 | 3.9 | 1.6 | 1.3 | 1.6 | 7.2 | 1.8 |
| 177 | Accumulated fuel flow, lb | 316 | 699 | 432 | 392 | 662 | 122 | 294 | 516 | 701 |
| 177 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.17 | 0.16 | 0.15 | 0.15 | 0.13 | 0.13 | 0.13 | 0.15 | 0.20 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 46.3 | 29.4 | 38.8 | 34.7 | 38.9 | 36.2 | 33.6 | 38.7 | 41.1 |
| C07 | Standard deviation | 9.3 | 14.8 | 7.4 | 10.2 | 7.3 | 5.8 | 13.1 | 4.2 | 12.9 |
| C08 | Sorbent flow rate, lb/hr | 8.0 | 4.7 | 6.0 | 5.2 | 5.1 | 4.7 | 4.4 | 5.8 | 8.4 |
| C08 | Standard deviation | 1.6 | 2.4 | 1.1 | 1.5 | 1.0 | 0.8 | 1.7 | 0.6 | 2.6 |
| C05 | Fuel flow rate, lb/hr | 54.2 | 34.1 | 44.8 | 39.9 | 44.0 | 40.9 | 38.1 | 44.5 | 49.5 |
| C05 | Standard deviation | 10.9 | 17.2 | 8.5 | 11.7 | 8.2 | 6.5 | 14.8 | 4.8 | 15.5 |
| C13 | Input calcium-sulfur ratio | 2.68 | 2.48 | 2.40 | 2.34 | 2.04 | 2.04 | 2.06 | 2.35 | 3.16 |
| C13 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME 2

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|------|------|-------|------|------|------|------|
| | | A8B | A7B | A6B | A5B | A3B | A16B | A12B | A17B |
| 001 | Coal consumed, lb | 118 | 234 | 79 | 100 | 101 | 109 | 98 | 31 |
| 002 | Coal meter screw value | 25 | 30 | 33 | 17 | 43 | 25 | 13 | (b) |
| 002 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 003 | Sorbent consumed, lb | 12 | 41 | 6 | 7 | 9 | 11 | (a) | 13 |
| 004 | Sorbent meter screw value | 4 | 4 | 5 | 2 | 6 | 4 | 2 | (a) |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (b) |
| 005 | Fuel consumed, lb | 166 | 245 | 105 | 78 | 158 | 138 | 116 | 85 |
| 006 | Fuel meter screw value | 14 | 17 | 13 | 11 | 16 | 17 | 9 | 19 |
| 006 | Standard deviation | 0 | 4 | 1 | 1 | 1 | 1 | 1 | 0 |
| 014 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | 74 | 82 | 74 | 68 | 66 | 69 | 83 | 86 |
| 022 | Standard deviation | 5 | 3 | 3 | 1 | 1 | 4 | 4 | 1 |
| 033 | Fuel injector differ- ential pressure, psid | 13.4 | 10.3 | 10.8 | 11.3 | 11.6 | 12.2 | 10.5 | 8.6 |
| 033 | Standard deviation | 0.5 | 1.2 | 0 | 0.1 | 0.1 | 0.4 | 0.3 | 0.1 |
| 092 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Accumulated fuel, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | 44.1 | 45.9 | 43.0 | 140.2 | 48.1 | 48.7 | 36.5 | 51.4 |
| 174 | Standard deviation | 5.9 | 7.9 | 8.6 | 226.7 | 14.2 | 4.9 | 9.0 | 13.6 |
| 175 | Fuel flow time, sec | 1195 | 1106 | 1062 | 1452 | 777 | 1138 | 948 | 1336 |
| 175 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 176 | Previous fuel flow, lb/hr | 41.9 | 44.8 | 40.4 | 32.9 | 41.1 | 48.7 | 34.4 | 57.7 |
| 176 | Standard deviation | 1.6 | 4.9 | 2.7 | 12.8 | 6.1 | 3.2 | 4.0 | 16.2 |
| 177 | Accumulated fuel flow, lb | 871 | 252 | 304 | 410 | 558 | 741 | 903 | 165 |
| 177 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.09 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 40.5 | 40.4 | 37.9 | 123.4 | 42.4 | 42.7 | 32.1 | 45.2 |
| C07 | Standard deviation | 5.4 | 7.0 | 7.6 | 199.5 | 12.5 | 4.3 | 8.0 | 12.0 |

| | | | | | | | | | |
|-----|----------------------------|------|------|------|-------|------|------|------|------|
| 174 | Standard deviation | 5.9 | 7.5 | 8.0 | 22.0 | 7.2 | 7.2 | 9.8 | 13.6 |
| 175 | Fuel flow time, sec | 1195 | 1106 | 1062 | 1452 | 777 | 1138 | 948 | 1336 |
| 175 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 176 | Previous fuel flow, lb/hr | 41.9 | 44.8 | 40.4 | 32.9 | 41.1 | 48.7 | 34.4 | 57.7 |
| 176 | Standard deviation | 1.6 | 4.9 | 2.7 | 12.8 | 6.1 | 3.2 | 4.0 | 16.2 |
| 177 | Accumulated fuel flow, lb | 871 | 252 | 304 | 410 | 558 | 741 | 903 | 165 |
| 177 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.09 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 40.5 | 40.4 | 37.9 | 123.4 | 42.4 | 42.7 | 32.1 | 45.2 |
| C07 | Standard deviation | 5.4 | 7.0 | 7.6 | 199.5 | 12.5 | 4.3 | 8.0 | 12.0 |
| C08 | Sorbent flow rate, lb/hr | 3.6 | 5.5 | 5.1 | 16.8 | 5.8 | 5.9 | 4.4 | 6.2 |
| C08 | Standard deviation | 0.5 | 1.0 | 1.0 | 27.1 | 1.7 | 0.6 | 1.1 | 1.6 |
| C05 | Fuel flow rate, lb/hr | 44.1 | 45.9 | 43.0 | 140.2 | 48.1 | 48.7 | 36.5 | 51.4 |
| C05 | Standard deviation | 5.9 | 7.9 | 8.6 | 226.7 | 14.2 | 4.9 | 9.0 | 13.6 |
| C13 | Input calcium-sulfur ratio | 1.39 | 2.12 | 2.12 | 2.12 | 2.12 | 2.17 | 2.12 | 2.12 |
| C13 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME

2

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | C1 | C3 | C8 | C11 | C12 | C16 | C17 |
| 001 | Coal consumed, lb | 132 | 122 | 88 | 117 | (a) | 113 | 128 |
| 002 | Coal meter screw value | 43 | 49 | (b) | 25 | 49 | 28 | 82 |
| 002 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 003 | Sorbent consumed, lb | 23 | 10 | 11 | 15 | 17 | 8 | (a) |
| 004 | Sorbent meter screw value | 11 | 6 | (b) | 14 | 14 | 14 | 14 |
| 004 | Standard deviation | (a) | (a) | (b) | (a) | 0 | 0 | 0 |
| 005 | Fuel consumed, lb | 142 | 137 | 86 | 147 | 122 | 139 | 125 |
| 006 | Fuel meter screw value | 18 | 19 | 18 | 21 | 13 | 20 | 23 |
| 006 | Standard deviation | 1 | 0 | 0 | 1 | 2 | 1 | 1 |
| 014 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | 63 | 60 | 57 | 53 | 63 | 71 | 73 |
| 022 | Standard deviation | 1 | 0 | 2 | 1 | 3 | 1 | 0 |
| 033 | Fuel injector differ- ential pressure, psid | 11.3 | 11.7 | 11.0 | 11.7 | 11.7 | 11.6 | 10.2 |
| 033 | Standard deviation | 0.4 | 0 | 0.6 | 0.2 | 0.1 | 0.8 | 0.1 |
| 092 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Accumulated fuel, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | 37.9 | 46.7 | 39.7 | 53.7 | 40.2 | 41.9 | 41.2 |
| 174 | Standard deviation | 8.3 | 18.5 | 5.4 | 18.3 | 9.6 | 3.8 | 6.6 |
| 175 | Fuel flow time, sec | 950 | 840 | 1165 | 1206 | 991 | 1263 | 604 |
| 175 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 176 | Previous fuel flow, lb/hr | 39.8 | 47.7 | 41.7 | 37.7 | 38.5 | 40.8 | 44.3 |
| 176 | Standard deviation | 7.5 | 16.1 | 4.6 | 7.2 | 7.7 | 3.1 | 7.3 |
| 177 | Accumulated fuel flow, lb | 848 | 297 | 182 | 397 | 567 | 697 | 845 |
| 177 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.14 | 0.15 | 0.08 | 0.20 | 0.19 | 0.20 | 0.09 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 33.2 | 40.5 | 36.8 | 44.7 | 33.7 | 35.1 | 37.9 |
| C07 | Standard deviation | 7.2 | 16.1 | 5.0 | 15.3 | 8.0 | 3.2 | 6.1 |
| C08 | Sorbent flow rate, lb/hr | 4.7 | 6.2 | 2.9 | 8.9 | 6.4 | 6.9 | 3.3 |

| | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|------|
| 174 | Standard deviation | 8.3 | 18.5 | 5.4 | 18.3 | 9.6 | 3.8 | 6.6 |
| 175 | Fuel flow time, sec | 950 | 840 | 1165 | 1206 | 991 | 1263 | 604 |
| 175 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 176 | Previous fuel flow, lb/hr | 39.8 | 47.7 | 41.7 | 37.7 | 38.5 | 40.8 | 44.3 |
| 176 | Standard deviation | 7.5 | 16.1 | 4.6 | 7.2 | 7.7 | 3.1 | 7.3 |
| 177 | Accumulated fuel flow, lb | 848 | 297 | 182 | 397 | 567 | 697 | 845 |
| 177 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.14 | 0.15 | 0.08 | 0.20 | 0.19 | 0.20 | 0.09 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 33.2 | 40.5 | 36.8 | 44.7 | 33.7 | 35.1 | 37.9 |
| C07 | Standard deviation | 7.2 | 16.1 | 5.0 | 15.3 | 8.0 | 3.2 | 6.1 |
| C08 | Sorbent flow rate, lb/hr | 4.7 | 6.2 | 2.9 | 8.9 | 6.4 | 6.9 | 3.3 |
| C08 | Standard deviation | 1.0 | 2.5 | 0.4 | 3.1 | 1.5 | 0.6 | 0.5 |
| C05 | Fuel flow rate, lb/hr | 37.9 | 46.7 | 39.7 | 53.7 | 40.2 | 41.9 | 41.2 |
| C05 | Standard deviation | 8.3 | 18.5 | 5.4 | 18.3 | 9.6 | 3.8 | 6.6 |
| C13 | Input calcium-sulfur ratio | 2.23 | 2.39 | 1.22 | 3.12 | 2.98 | 3.07 | 1.36 |
| C13 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME 2

FOLDOUT FRAME |

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | D6 | D7 | D2 | D1 | D10 | D3 | D4 |
| 001 | Coal consumed, lb | 224 | 191 | 144 | 105 | 138 | 217 | 159 |
| 002 | Coal meter screw value | 96 | 96 | 96 | 96 | 96 | 96 | 96 |
| 002 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 003 | Sorbent consumed, lb | 17 | 20 | 11 | 4 | (b) | 5 | 53 |
| 004 | Sorbent meter screw value | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 004 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 005 | Fuel consumed, lb | 257 | 217 | 161 | 111 | 156 | 254 | 191 |
| 006 | Fuel meter screw value | 20 | 19 | 18 | 13 | 10 | 21 | 19 |
| 006 | Standard deviation | 1 | 0 | 1 | 1 | 0 | 2 | 4 |
| 014 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | 75 | 72 | 77 | 74 | 68 | 72 | 82 |
| 022 | Standard deviation | 2 | 1 | 1 | 2 | 1 | 6 | 1 |
| 033 | Fuel injector differ- ential pressure, psid | 2.77 | 2.35 | 1.45 | 1.80 | 3.31 | 2.71 | 2.65 |
| 033 | Standard deviation | 0.18 | 0.24 | 0.11 | 0.45 | 0.43 | 0.23 | 0.20 |
| 092 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Accumulated fuel, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | 45.5 | 37.1 | 26.3 | 29.1 | 25.1 | 45.8 | 37.4 |
| 174 | Standard deviation | 8.5 | 4.2 | 8.5 | 3.1 | 2.7 | 8.9 | 7.6 |
| 175 | Fuel flow time, sec | 865 | 1112 | 695 | 1636 | 1694 | 823 | 1151 |
| 175 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 176 | Previous fuel flow, lb/hr | 43.1 | 37.9 | 32.3 | 30.1 | 26.4 | 43.1 | 35.1 |
| 176 | Standard deviation | 4.0 | 3.0 | 11.7 | 2.6 | 1.6 | 7.0 | 9.4 |
| 177 | Accumulated fuel flow, lb | 174 | 416 | 578 | 909 | 206 | 296 | 546 |
| 177 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.14 | 0.14 | 0.13 | 0.11 | 0.13 | 0.12 | 0.12 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 40.1 | 32.7 | 23.4 | 26.2 | 22.2 | 40.9 | 33.4 |
| C07 | Standard deviation | 7.5 | 3.7 | 7.6 | 2.8 | 2.4 | 8.0 | 6.8 |
| C08 | Sorbent flow rate, lb/hr | 5.5 | 4.4 | 2.9 | 3.0 | 2.8 | 4.9 | 4.0 |
| C08 | Standard deviation | 1.0 | 0.5 | 0.9 | 0.3 | 0.3 | 1.0 | 0.8 |

| | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|------|
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | 45.5 | 37.1 | 26.3 | 29.1 | 25.1 | 45.8 | 37.4 |
| 174 | Standard deviation | 8.5 | 4.2 | 8.5 | 3.1 | 2.7 | 8.9 | 7.6 |
| 175 | Fuel flow time, sec | 865 | 1112 | 695 | 1636 | 1694 | 823 | 1151 |
| 175 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 176 | Previous fuel flow, lb/hr | 43.1 | 37.9 | 32.3 | 30.1 | 26.4 | 43.1 | 35.1 |
| 176 | Standard deviation | 4.0 | 3.0 | 11.7 | 2.6 | 1.6 | 7.0 | 9.4 |
| 177 | Accumulated fuel flow, lb | 174 | 416 | 578 | 909 | 206 | 296 | 546 |
| 177 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.14 | 0.14 | 0.13 | 0.11 | 0.13 | 0.12 | 0.12 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 40.1 | 32.7 | 23.4 | 26.2 | 22.2 | 40.9 | 33.4 |
| C07 | Standard deviation | 7.5 | 3.7 | 7.6 | 2.8 | 2.4 | 8.0 | 6.8 |
| C08 | Sorbent flow rate, lb/hr | 5.5 | 4.4 | 2.9 | 3.0 | 2.8 | 4.9 | 4.0 |
| C08 | Standard deviation | 1.0 | 0.5 | 0.9 | 0.3 | 0.3 | 1.0 | 0.8 |
| C05 | Fuel flow rate, lb/hr | 45.5 | 37.1 | 26.3 | 29.1 | 25.0 | 45.8 | 37.4 |
| C05 | Standard deviation | 8.5 | 4.2 | 8.5 | 3.1 | 2.7 | 8.9 | 7.6 |
| C13 | Input calcium-sulfur ratio | 2.14 | 2.12 | 1.95 | 1.76 | 2.00 | 1.87 | 1.87 |
| C13 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME 2

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data channel | Parameter | Test | | | | | | | |
|--------------|---|------|------|------|------|------|------|------|------|
| | | TB1A | TB1B | TB1C | TB1D | TB1E | TB1F | TB1G | TB1H |
| 001 | Coal consumed, lb | 92 | 297 | (a) | 582 | 418 | (a) | 1610 | 1530 |
| 002 | Coal meter screw value | 7 | 16 | 47 | 56 | 68 | 40 | 44 | 47 |
| 002 | Standard deviation | 0 | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 003 | Sorbent consumed, lb | 6 | 18 | 69 | 80 | 64 | 114 | 181 | 64 |
| 004 | Sorbent meter screw value | 6 | 4 | 3 | 6 | 8 | 5 | 6 | 7 |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 005 | Fuel consumed, lb | 99 | 311 | 849 | 645 | 468 | 808 | 1950 | 1700 |
| 006 | Fuel meter screw value | 15 | 14 | 14 | 23 | 21 | 21 | 20 | 20 |
| 006 | Standard deviation | 0 | 1 | 1 | 1 | 0 | 1 | 2 | 6 |
| 014 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | 75 | 73 | 74 | 67 | 64 | 67 | 75 | 84 |
| 022 | Standard deviation | 1 | 1 | 5 | 2 | 3 | 6 | 6 | 6 |
| 033 | Fuel injector differential pressure, psid | 12.1 | 11.6 | 10.8 | 9.3 | 9.6 | 11.6 | 16.1 | 15.8 |
| 033 | Standard deviation | 0.4 | 0.5 | 0.5 | 0.4 | 0.3 | 0.6 | 1.1 | 1.5 |
| 092 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Accumulated fuel, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | 40.5 | 42.3 | 40.6 | 47.7 | 50.0 | 46.4 | 46.3 | 41.8 |
| 174 | Standard deviation | 7.6 | 9.7 | 11.7 | 6.1 | 10.0 | 9.0 | 7.0 | 7.0 |
| 175 | Fuel flow time, sec | 657 | 861 | 1021 | 1100 | 624 | 1030 | 1018 | 985 |
| 175 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 176 | Previous fuel flow, lb/hr | 37.1 | 38.6 | 40.5 | 46.7 | 48.1 | 50.6 | 44.8 | 41.6 |
| 176 | Standard deviation | 2.1 | 2.2 | 10.4 | 3.4 | 2.5 | 8.8 | 3.4 | 8.1 |
| 177 | Accumulated fuel flow, lb | 213 | 464 | 488 | 467 | 337 | 531 | 487 | 409 |
| 177 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.12 | 0.12 | 0.12 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 36.2 | 37.8 | 36.3 | 42.2 | 44.2 | 41.0 | 40.9 | 36.8 |
| C07 | Standard deviation | 6.8 | 8.6 | 10.5 | 5.4 | 8.8 | 8.0 | 6.2 | 6.1 |
| C08 | Sorbent flow rate, lb/hr | 4.3 | 4.5 | 4.3 | 5.5 | 5.9 | 5.5 | 5.4 | 5.0 |

| | lb/hr | | | | | | | | |
|-----|----------------------------|------|------|------|------|------|------|------|------|
| 174 | Standard deviation | 7.6 | 9.7 | 11.7 | 6.1 | 10.0 | 9.0 | 7.0 | 7.0 |
| 175 | Fuel flow time, sec | 657 | 861 | 1021 | 1100 | 624 | 1030 | 1018 | 985 |
| 175 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 176 | Previous fuel flow, lb/hr | 37.1 | 38.6 | 40.5 | 46.7 | 48.1 | 50.6 | 44.8 | 41.6 |
| 176 | Standard deviation | 2.1 | 2.2 | 10.4 | 3.4 | 2.5 | 8.8 | 3.4 | 8.1 |
| 177 | Accumulated fuel flow, lb | 213 | 464 | 488 | 467 | 337 | 531 | 487 | 409 |
| 177 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.12 | 0.12 | 0.12 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 36.2 | 37.8 | 36.3 | 42.2 | 44.2 | 41.0 | 40.9 | 36.8 |
| C07 | Standard deviation | 6.8 | 8.6 | 10.5 | 5.4 | 8.8 | 8.0 | 6.2 | 6.1 |
| C08 | Sorbent flow rate, lb/hr | 4.3 | 4.5 | 4.3 | 5.5 | 5.9 | 5.5 | 5.4 | 5.0 |
| C08 | Standard deviation | 0.8 | 1.0 | 1.2 | 0.7 | 1.2 | 1.1 | 0.8 | 0.8 |
| C05 | Fuel flow rate, lb/hr | 40.5 | 42.3 | 40.6 | 47.7 | 50.0 | 46.5 | 46.3 | 41.8 |
| C05 | Standard deviation | 7.6 | 9.6 | 11.7 | 6.1 | 10.0 | 9.0 | 7.0 | 7.0 |
| C13 | Input calcium-sulfur ratio | 1.86 | 1.86 | 1.86 | 2.03 | 2.07 | 2.07 | 2.07 | 2.14 |
| C13 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.01 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | |
|-----|----------------------------|------|------|------|------|------|------|------|
| 174 | Standard deviation | 9.7 | 6.0 | 7.3 | 5.7 | 8.2 | 2.0 | 7.4 |
| 175 | Fuel flow time, sec | 551 | 1272 | 1406 | 1299 | 1414 | 1248 | 1616 |
| 175 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 176 | Previous fuel flow, lb/hr | 44.5 | 32.6 | 31.5 | 33.8 | 30.6 | 34.1 | 38.8 |
| 176 | Standard deviation | 1.6 | 0.9 | 3.5 | 1.6 | 1.9 | 1.6 | 15.7 |
| 177 | Accumulated fuel flow, lb | 481 | 476 | 719 | 287 | 735 | 186 | 408 |
| 177 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 39.4 | 28.2 | 28.2 | 32.6 | 29.1 | 29.4 | 32.4 |
| C07 | Standard deviation | 8.6 | 5.3 | 6.4 | 5.0 | 7.3 | 1.8 | 6.5 |
| C08 | Sorbent flow rate, lb/hr | 5.2 | 3.8 | 3.8 | 4.3 | 3.9 | 3.9 | 4.3 |
| C08 | Standard deviation | 1.1 | 0.7 | 0.9 | 0.7 | 1.0 | 0.2 | 0.9 |
| C05 | Fuel flow rate, lb/hr | 44.6 | 31.9 | 32.0 | 36.9 | 33.0 | 33.3 | 36.7 |
| C05 | Standard deviation | 9.7 | 6.0 | 7.3 | 5.7 | 8.2 | 2.0 | 7.4 |
| C13 | Input calcium-sulfur ratio | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 |
| C13 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME **2**

| | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|------|
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 53.2 | 60.6 | 42.8 | 48.8 | 45.8 | 32.7 | 43.7 |
| C07 | Standard deviation | 12.3 | 7.5 | 13.6 | 12.0 | 13.2 | 4.4 | 4.3 |
| C08 | Sorbent flow rate, lb/hr | 6.2 | 7.1 | 5.0 | 5.7 | 5.3 | 3.8 | 5.1 |
| C08 | Standard deviation | 1.4 | 0.9 | 1.6 | 1.4 | 1.5 | 0.5 | 0.5 |
| C05 | Fuel flow rate, lb/hr | 59.4 | 67.7 | 47.7 | 54.5 | 51.2 | 36.5 | 48.8 |
| C05 | Standard deviation | 13.8 | 8.4 | 15.2 | 13.3 | 14.8 | 4.9 | 4.8 |
| C13 | Input calcium-sulfur ratio | 1.81 | 1.82 | 1.81 | 1.81 | 1.81 | 1.79 | 1.81 |
| C13 | Standard deviation | 0 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME 2

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | E19 | E13A | E13B | E14 | E11 | E12 | E15 |
| 001 | Coal consumed, lb | 186 | 71 | 88 | 126 | 131 | 115 | 55 |
| 002 | Coal meter screw value | 96 | 96 | 96 | 96 | 95 | 96 | (b) |
| 002 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | (b) |
| 003 | Sorbent consumed, lb | 20 | 6 | 8 | 11 | 11 | 15 | 8 |
| 004 | Sorbent meter screw value | 15 | 12 | 12 | 12 | 12 | 21 | (b) |
| 004 | Standard deviation | 2 | 0 | 0 | 0 | 0 | 0 | (b) |
| 005 | Fuel consumed, lb | 206 | 77 | 96 | 137 | 142 | 129 | 63 |
| 006 | Fuel meter screw value | 22 | 29 | 27 | 23 | 20 | 15 | 17 |
| 006 | Standard deviation | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 014 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 50.3 | 60.9 | 53.1 | 48.0 | 38.4 | 45.8 | 42.5 |
| 092 | Standard deviation | 11.3 | 2.1 | 4.1 | 13.4 | 12.7 | 18.6 | 4.9 |
| 093 | Fuel flow time, sec | 848 | 399 | 1098 | 514 | 1239 | 1066 | 1311 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 43.8 | 54.6 | 52.6 | 47.3 | 40.3 | 32.3 | 38.5 |
| 094 | Standard deviation | 6.9 | 1.1 | 1.9 | 5.5 | 4.3 | 2.4 | 3.5 |
| 095 | Accumulated fuel, lb | 232 | 428 | 538 | 733 | 709 | 138 | 368 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 006 | Sorbent-coal ratio | 0.11 | 0.09 | 0.09 | 0.09 | 0.08 | 0.13 | 0.15 |

| | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|------|
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.11 | 0.09 | 0.09 | 0.09 | 0.08 | 0.13 | 0.15 |
| C06 | Standard deviation | 0.01 | 0 | 0 | 0 | 0.01 | 0.03 | 0 |
| C07 | Coal flow rate, lb/hr | 45.3 | 55.9 | 48.8 | 44.1 | 35.5 | 40.6 | 37.0 |
| C07 | Standard deviation | 10.1 | 1.9 | 3.7 | 12.4 | 11.7 | 16.1 | 4.2 |
| C08 | Sorbent flow rate, lb/hr | 5.0 | 4.9 | 4.3 | 3.9 | 2.9 | 5.2 | 5.5 |
| C08 | Standard deviation | 1.3 | 0.2 | 0.3 | 1.1 | 1.0 | 2.8 | 0.6 |
| C05 | Fuel flow rate, lb/hr | 50.3 | 60.9 | 53.1 | 48.0 | 38.4 | 45.8 | 42.5 |
| C05 | Standard deviation | 11.3 | 2.1 | 4.1 | 13.4 | 12.7 | 18.6 | 4.9 |
| C13 | Input calcium-sulfur ratio | 1.73 | 1.38 | 1.37 | 1.38 | 1.28 | 1.96 | 2.30 |
| C13 | Standard deviation | 0.18 | 0.02 | 0 | 0.01 | 0.13 | 0.46 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|------|------|
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.11 | 0.12 | 0.12 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 50.5 | 52.8 | 38.9 | 51.1 | 47.8 | 41.8 | 36.9 | 44.2 |
| C07 | Standard deviation | 8.4 | 4.9 | 6.9 | 11.5 | 15.6 | 2.1 | 1.5 | 11.8 |
| C08 | Sorbent flow rate, lb/hr | 5.9 | 6.2 | 4.5 | 6.0 | 5.6 | 4.8 | 4.3 | 5.2 |
| C08 | Standard deviation | 1.0 | 0.6 | 0.8 | 1.3 | 1.8 | 0.2 | 0.2 | 1.3 |
| C05 | Fuel flow rate, lb/hr | 56.4 | 58.9 | 43.5 | 57.1 | 53.3 | 46.6 | 41.2 | 49.4 |
| C05 | Standard deviation | 9.3 | 5.5 | 7.7 | 12.8 | 17.4 | 2.3 | 1.7 | 13.2 |
| C13 | Input calcium-sulfur ratio | 1.82 | 1.83 | 1.82 | 1.82 | 1.81 | 1.79 | 1.82 | 1.83 |
| C13 | Standard deviation | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0 | 0.01 | 0.03 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|------|------|
| 174 | Standard deviation lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.11 | 0.09 | 0.06 | 0.12 | 0.12 | 0.12 | 0.09 | 0.09 |
| C06 | Standard deviation | 0.03 | 0 | 0 | 0 | 0 | 0 | 0.01 | 0 |
| C07 | Coal flow rate, lb/hr | 52.9 | 49.0 | 47.1 | 28.3 | 26.5 | 24.3 | 23.4 | 45.2 |
| C07 | Standard deviation | 9.4 | 2.0 | 6.5 | 12.3 | 10.0 | 4.3 | 12.2 | 7.1 |
| C08 | Sorbent flow rate, lb/hr | 5.6 | 4.5 | 2.6 | 3.3 | 3.1 | 2.8 | 2.1 | 4.0 |
| C08 | Standard deviation | 1.5 | 0.2 | 0.3 | 1.4 | 1.2 | 0.5 | 1.0 | 0.6 |
| C05 | Fuel flow rate, lb/hr | 58.6 | 53.4 | 49.8 | 31.6 | 29.6 | 27.1 | 25.5 | 49.2 |
| C05 | Standard deviation | 10.2 | 2.2 | 6.8 | 13.8 | 11.2 | 4.8 | 13.2 | 7.7 |
| C13 | Input calcium-sulfur ratio | 1.68 | 1.42 | 0.87 | 1.82 | 1.82 | 1.80 | 1.41 | 1.37 |
| C13 | Standard deviation | 0.43 | 0 | 0.01 | 0 | 0.01 | 0 | 0.18 | 0.01 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|------|------|------|
| 094 | Standard deviation | 10.7 | 1.9 | 5.7 | 1.7 | 4.5 | 8.7 | 2.3 | 7.8 | 0.8 |
| 095 | Accumulated fuel, lb | 541 | 701 | 61 | 229 | 337 | 504 | 663 | 793 | 957 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 128 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.09 | 0.09 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.09 | 0.09 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 36.4 | 30.0 | 26.3 | 26.9 | 26.2 | 17.0 | 15.2 | 32.9 | 12.6 |
| C07 | Standard deviation | 7.4 | 12.2 | 2.3 | 1.3 | 3.8 | 9.8 | 3.2 | 3.3 | 4.8 |
| C08 | Sorbent flow rate, lb/hr | 3.1 | 2.7 | 3.9 | 4.0 | 3.9 | 2.5 | 2.2 | 2.9 | 1.1 |
| C08 | Standard deviation | 0.6 | 1.1 | 0.3 | 0.2 | 0.6 | 1.5 | 0.5 | 0.3 | 0.4 |
| C05 | Fuel flow rate, lb/hr | 39.5 | 32.7 | 30.2 | 30.9 | 30.0 | 19.5 | 17.4 | 35.8 | 13.8 |
| C05 | Standard deviation | 8.1 | 13.3 | 2.7 | 1.5 | 4.3 | 11.3 | 3.7 | 3.6 | 5.2 |
| C13 | Input calcium-sulfur ratio | 1.35 | 1.38 | 2.31 | 2.33 | 2.31 | 2.31 | 2.29 | 1.37 | 1.37 |
| C13 | Standard deviation | 0 | 0 | 0 | 0 | 0.01 | 0.01 | 0 | 0 | 0.01 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME 2

FOLDOUT FRAME

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|-------|-------|-------|-------|-------|------|------|
| | | G8 | G16 | G22 | G23 | G24 | G17 | G18 | G19 |
| 001 | Coal consumed, lb | 66 | 72 | 50 | 26 | 122 | 68 | 92 | 76 |
| 002 | Coal meter screw value | 96 | 96 | (b) | (b) | 96 | 96 | 96 | (b) |
| 002 | Standard deviation | 0 | 0 | (b) | (b) | 0 | 0 | 0 | (b) |
| 003 | Sorbent consumed, lb | 5 | 4 | 3 | 1 | 15 | 8 | 11 | 9 |
| 004 | Sorbent meter screw value | 7 | 7 | (b) | (a) | 17 | 16 | 16 | (b) |
| 004 | Standard deviation | 0 | 0 | (b) | (b) | 0 | 0 | 0 | (b) |
| 005 | Fuel consumed, lb | 72 | 76 | 53 | 28 | 136 | 76 | 102 | 84 |
| 006 | Fuel meter screw value | 11 | 16 | 6 | 12 | 17 | 12 | 19 | 16 |
| 006 | Standard deviation | 1 | 0 | 1 | 1 | 2 | 1 | 1 | 0 |
| 014 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | 0.174 | 0.174 | 0.177 | 0.143 | 0.126 | (a) | (a) |
| 022 | Standard deviation | (b) | 0.074 | 0.096 | 0.078 | 0.123 | 0.034 | (b) | (b) |
| 033 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 19.6 | 25.3 | 14.2 | 23.6 | 32.8 | 24.7 | 43.1 | 29.8 |
| 092 | Standard deviation | 7.4 | 3.2 | 6.9 | 3.1 | 5.1 | 11.2 | 23.0 | 5.2 |
| 093 | Fuel flow time, sec | 1126 | 1520 | 1760 | 1628 | 1097 | 1225 | 1114 | 1532 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous-fuel flow, lb/hr | 20.1 | 23.4 | 17.6 | 21.3 | 34.3 | 23.1 | 30.7 | 30.0 |
| 094 | Standard deviation | 7.1 | 1.2 | 4.8 | 1.0 | 9.1 | 5.6 | 3.5 | 2.4 |
| 095 | Accumulated fuel, lb | 59 | 240 | 342 | 470 | 580 | 715 | 875 | 562 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.08 | 0.06 | 0.06 | 0.06 | 0.11 | 0.12 | 0.11 | 0.11 |

| | | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|------|------|
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C06 | Sorbent-coal ratio | 0.08 | 0.06 | 0.06 | 0.06 | 0.11 | 0.12 | 0.11 | 0.11 |
| C06 | Standard deviation | 0.02 | 0 | 0 | 0 | 0.02 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 18.2 | 23.9 | 13.4 | 22.3 | 29.6 | 22.2 | 38.7 | 26.7 |
| C07 | Standard deviation | 6.8 | 3.0 | 6.6 | 2.9 | 4.6 | 10.1 | 20.7 | 4.6 |
| C08 | Sorbent flow rate, lb/hr | 1.4 | 1.4 | 0.8 | 1.3 | 3.3 | 2.6 | 4.4 | 3.1 |
| C08 | Standard deviation | 0.6 | 0.2 | 0.4 | 0.2 | 0.8 | 1.2 | 2.4 | 0.5 |
| C05 | Fuel flow rate, lb/hr | 19.6 | 25.3 | 14.2 | 23.6 | 32.8 | 24.7 | 43.1 | 29.8 |
| C05 | Standard deviation | 7.4 | 3.2 | 6.9 | 3.1 | 5.1 | 11.2 | 23.0 | 5.2 |
| C13 | Input calcium-sulfur ratio | 1.18 | 0.89 | 0.89 | 0.89 | 1.72 | 1.81 | 1.78 | 1.78 |
| C13 | Standard deviation | 0.24 | 0 | 0 | 0 | 0.31 | 0.02 | 0 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME 2

FOLDOUT FRAME

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|---|------|------|------|------|------|-------|-------|------|------|
| | | H1 | H2 | H3 | H4 | H5A | H5B | H6 | H7 | H8 |
| 001 | Coal consumed, lb | 106 | 84 | 155 | 210 | 89 | 94 | 138 | 224 | 203 |
| 002 | Coal meter screw value | 95 | (b) | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| 002 | Standard deviation | 0 | (b) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 003 | Sorbent consumed, lb | 5 | 4 | 8 | 10 | 4 | 5 | 7 | 12 | 20 |
| 004 | Sorbent meter screw value | 7 | (a) | 6 | 5 | 5 | 7 | 7 | 5 | 16 |
| 004 | Standard deviation | (a) | (b) | (a) | (a) | (a) | 0 | 0 | (a) | 0 |
| 005 | Fuel consumed, lb | 112 | 88 | 163 | 221 | 93 | 99 | 146 | 236 | 223 |
| 006 | Fuel meter screw value | 18 | 25 | 31 | 29 | 40 | 46 | 46 | 44 | 37 |
| 006 | Standard deviation | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 014 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (a) | (a) | (a) | 0.16 | 0.15 | (a) | 0.12 |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | 0.21 | 0 | (b) | 0.04 |
| 033 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 36.0 | 42.5 | 49.7 | 48.7 | 72.7 | 102.4 | 92.5 | 72.2 | 62.1 |
| 092 | Standard deviation | 2.8 | 2.8 | 8.9 | 13.7 | 18.5 | 0.1 | 16.6 | 25.5 | 4.8 |
| 093 | Fuel flow time, sec | 1451 | 1159 | 849 | 662 | 621 | 645 | 459 | 588 | 901 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 35.1 | 44.5 | 48.1 | 47.3 | 71.3 | 101.8 | 91.9 | 95.0 | 60.9 |
| 094 | Standard deviation | 1.2 | 0.6 | 2.1 | 3.6 | 15.0 | 1.0 | 17.5 | 12.8 | 2.9 |
| 095 | Accumulated fuel, lb | 334 | 799 | 1024 | 448 | 370 | 66 | 343 | 219 | 328 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | 46 | (b) | (b) | (b) | (b) | 46 | (b) | (b) | (b) |
| 100 | Standard deviation | (a) | (b) | (b) | (b) | (b) | (a) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 34.7 | 43.2 | 45.6 | 47.9 | 60.9 | 70.9 | 163.0 | 65.6 | 60.7 |
| 298 | Standard deviation | 1.6 | 0.9 | 4.4 | 3.7 | 2.1 | 1.8 | 192.4 | 7.0 | 7.0 |

| | | | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|-------|------|------|
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | |
| 100 | Fuel flow indicated value | 46 | (b) | (b) | (b) | (b) | 46 | (b) | (b) | |
| 100 | Standard deviation | (a) | (b) | (b) | (b) | (b) | (a) | (b) | (b) | |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 298 | Present fuel flow, lb/hr | 34.7 | 43.2 | 45.6 | 47.9 | 60.9 | 70.9 | 163.0 | 65.6 | 60.7 |
| 298 | Standard deviation | 1.6 | 0.9 | 4.4 | 3.7 | 2.1 | 1.8 | 183.4 | 7.8 | 7.0 |
| C06 | Sorbent-coal ratio | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.09 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.03 |
| C07 | Coal flow rate, lb/hr | 32.9 | 41.2 | 43.5 | 45.6 | 58.1 | 67.6 | 155.3 | 62.3 | 55.6 |
| C07 | Standard deviation | 1.4 | 0.9 | 4.2 | 3.6 | 2.0 | 1.7 | 174.4 | 7.5 | 6.1 |
| C08 | Sorbent flow rate, lb/hr | 1.7 | 2.0 | 2.1 | 2.3 | 2.9 | 3.4 | 7.7 | 3.2 | 5.1 |
| C08 | Standard deviation | 0.2 | 0 | 0.2 | 0.1 | 0.1 | 0.1 | 8.6 | 0.3 | 1.9 |
| C05 | Fuel flow rate, lb/hr | 34.7 | 43.2 | 45.6 | 47.9 | 60.9 | 70.9 | 163.0 | 65.6 | 60.6 |
| C05 | Standard deviation | 1.6 | 0.9 | 4.4 | 3.7 | 2.1 | 1.8 | 183.4 | 7.8 | 7.0 |
| C13 | Input calcium-sulfur ratio | 0.81 | 0.76 | 0.76 | 0.77 | 0.77 | 0.77 | 0.78 | 0.81 | 1.43 |
| C13 | Standard deviation | 0.04 | 0 | 0.02 | 0.02 | 0.01 | 0 | 0.05 | 0.04 | 0.51 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME

2

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|------|
| | | H9 | H10 | H11 | H12 | H14 | H13 | H15 | H16 | H18 |
| 001 | Coal consumed, lb | 219 | 206 | 212 | 144 | 159 | 167 | 167 | 197 | 175 |
| 002 | Coal meter screw value | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| 002 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 003 | Sorbent consumed, lb | 26 | 24 | 26 | 17 | 19 | 19 | 20 | 23 | 21 |
| 004 | Sorbent meter screw value | 11 | 12 | 11 | 13 | 13 | 12 | 16 | 16 | 17 |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | 0 | 0 | 0 |
| 005 | Fuel consumed, lb | 246 | 231 | 238 | 162 | 179 | 186 | 187 | 220 | 196 |
| 006 | Fuel meter screw value | 38 | 44 | 38 | 20 | 37 | 31 | 30 | 34 | 34 |
| 006 | Standard deviation | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 1 |
| 014 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 60.9 | 66.6 | 56.3 | 39.6 | 60.3 | 62.7 | 49.0 | 58.3 | 57.5 |
| 092 | Standard deviation | 5.5 | 13.2 | 15.5 | 3.0 | 2.5 | 33.4 | 6.8 | 8.8 | 2.8 |
| 093 | Fuel flow time, sec | 1111 | 512 | 641 | 1128 | 769 | 1021 | 720 | 838 | 884 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 66.5 | 70.1 | 59.5 | 38.6 | 60.7 | 50.3 | 50.5 | 54.4 | 54.5 |
| 094 | Standard deviation | 13.1 | 2.8 | 2.2 | 2.4 | 2.7 | 2.4 | 4.7 | 3.5 | 3.6 |
| 095 | Accumulated fuel, lb | 613 | 673 | 221 | 452 | 671 | 167 | 418 | 663 | 692 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | 46 | (b) | 46 | (b) | 46 | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | 0 | (b) | 0 | (b) | 0 | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 60.5 | 72.3 | 61.1 | 54.2 | 60.1 | 51.7 | 50.4 | 57.1 | 52.9 |
| 298 | Standard deviation | 2.7 | 8.1 | 5.5 | 42.9 | 4.6 | 4.5 | 2.1 | 6.5 | 8.5 |
| C06 | Sorbent-coal ratio | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.11 | 0.12 | 0.12 | 0.12 |

| | | | | | | | | | | |
|-----|----------------------------|------|------|------|------|------|------|------|------|------|
| 094 | Standard deviation | 13.1 | 2.8 | 2.2 | 2.4 | 2.7 | 2.4 | 4.7 | 3.5 | 3.6 |
| 095 | Accumulated fuel, lb | 613 | 673 | 221 | 452 | 671 | 167 | 418 | 663 | 692 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | 46 | (b) | 46 | (b) | 46 | (b) | (b) | (b) |
| 100 | Standard deviation | (b) | 0 | (b) | 0 | (b) | 0 | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 60.5 | 72.3 | 61.1 | 54.2 | 60.1 | 51.7 | 50.4 | 57.1 | 52.9 |
| 298 | Standard deviation | 2.7 | 8.1 | 5.5 | 42.9 | 4.6 | 4.5 | 2.1 | 6.5 | 8.5 |
| C06 | Sorbent-coal ratio | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.11 | 0.12 | 0.12 | 0.12 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0.01 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 54.0 | 64.6 | 54.6 | 48.5 | 53.6 | 46.5 | 45.1 | 51.1 | 47.3 |
| C07 | Standard deviation | 2.5 | 7.0 | 5.0 | 38.5 | 4.0 | 4.1 | 2.0 | 5.8 | 7.6 |
| C08 | Sorbent flow rate, lb/hr | 6.5 | 7.6 | 6.5 | 5.7 | 6.5 | 5.3 | 5.3 | 5.9 | 5.6 |
| C08 | Standard deviation | 0.3 | 1.1 | 0.5 | 4.5 | 0.7 | 0.5 | 0.2 | 0.6 | 0.9 |
| C05 | Fuel flow rate, lb/hr | 60.5 | 72.3 | 61.1 | 54.2 | 60.1 | 51.7 | 50.4 | 57.1 | 52.9 |
| C05 | Standard deviation | 2.7 | 8.1 | 5.5 | 42.9 | 4.6 | 4.5 | 2.1 | 6.5 | 8.5 |
| C13 | Input calcium-sulfur ratio | 1.87 | 1.83 | 1.86 | 1.84 | 1.88 | 1.77 | 1.83 | 1.81 | 1.84 |
| C13 | Standard deviation | 0.06 | 0.06 | 0.03 | 0.06 | 0.09 | 0 | 0.05 | 0.04 | 0.05 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME **2**

FOLDOUT FRAME |

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data chan- nel | Parameter | Test | | | | | |
|----------------------|---|------|------|------|------|------|------|
| | | H19 | H20 | H23 | H24 | H25 | H26 |
| 001 | Coal consumed, lb | 179 | 190 | 272 | 206 | 233 | 173 |
| 002 | Coal meter screw value | 95 | 95 | 95 | 95 | 95 | 94 |
| 002 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 |
| 003 | Sorbent consumed, lb | 43 | 48 | 25 | 20 | 27 | 20 |
| 004 | Sorbent meter screw value | 31 | 35 | 15 | 13 | 16 | 16 |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) |
| 005 | Fuel consumed, lb | 222 | 239 | 297 | 227 | 260 | 194 |
| 006 | Fuel meter screw value | 38 | 41 | 38 | 35 | 38 | 39 |
| 006 | Standard deviation | 1 | 0 | 1 | 1 | 1 | 0 |
| 014 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 61.8 | 72.6 | 59.7 | 83.1 | 77.4 | 67.5 |
| 092 | Standard deviation | 5.9 | 12.8 | 9.9 | 40.3 | 26.6 | 8.9 |
| 093 | Fuel flow time, sec | 925 | 599 | 826 | 759 | 690 | 617 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 67.1 | 69.6 | 64.9 | 58.4 | 63.3 | 61.4 |
| 094 | Standard deviation | 9.2 | 3.5 | 11.5 | 3.8 | 2.3 | 1.5 |
| 095 | Accumulated fuel, lb | 258 | 569 | 493 | 269 | 542 | 788 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | 46 | (b) | 46 | (b) | (b) | 46 |
| 100 | Standard deviation | 0 | (b) | 0 | (b) | (b) | 0 |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 61.4 | 67.3 | 61.4 | 60.3 | 63.5 | 60.7 |
| 298 | Standard deviation | 4.2 | 5.2 | 5.8 | 7.1 | 1.5 | 4.0 |
| C06 | Sorbent-coal ratio | 0.22 | 0.25 | 0.11 | 0.10 | 0.11 | 0.12 |

| | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|
| 094 | Standard deviation | 9.2 | 3.5 | 11.5 | 3.8 | 2.3 | 1.5 |
| 095 | Accumulated fuel, lb | 258 | 569 | 493 | 269 | 542 | 788 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | 46 | (b) | 46 | (b) | (b) | 46 |
| 100 | Standard deviation | 0 | (b) | 0 | (b) | (b) | 0 |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 61.4 | 67.3 | 61.4 | 60.3 | 63.5 | 60.7 |
| 298 | Standard deviation | 4.2 | 5.2 | 5.8 | 7.1 | 1.5 | 4.0 |
| C06 | Sorbent-coal ratio | 0.22 | 0.25 | 0.11 | 0.10 | 0.11 | 0.12 |
| C06 | Standard deviation | 0.06 | 0 | 0.09 | 0.03 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 50.4 | 53.7 | 55.3 | 55.2 | 57.0 | 54.4 |
| C07 | Standard deviation | 3.0 | 4.1 | 2.2 | 7.7 | 1.3 | 3.6 |
| C08 | Sorbent flow rate, lb/hr | 11.0 | 13.5 | 6.0 | 5.1 | 6.5 | 6.3 |
| C08 | Standard deviation | 3.0 | 1.0 | 5.2 | 1.3 | 0.2 | 0.4 |
| C05 | Fuel flow rate, lb/hr | 61.4 | 67.3 | 61.4 | 60.3 | 63.5 | 60.7 |
| C05 | Standard deviation | 4.2 | 5.2 | 5.8 | 7.1 | 1.5 | 4.0 |
| C13 | Input calcium-sulfur ratio | 3.42 | 3.92 | 1.70 | 1.48 | 1.77 | 1.81 |
| C13 | Standard deviation | 0.95 | 0.02 | 1.45 | 0.44 | 0.01 | 0.02 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME **2**

FOLDOUT FRAME |

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|------|
| | | I1 | I2 | I3 | I4 | I5 | I5B | I6 | I7 | I8 |
| 001 | Coal consumed, lb | 239 | 327 | 184 | 160 | 71 | 74 | 218 | 245 | 120 |
| 002 | Coal meter screw value | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| 002 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 003 | Sorbent consumed, lb | 41 | 54 | 29 | 26 | 13 | 13 | 22 | 16 | 8 |
| 004 | Sorbent meter screw value | 12 | 17 | 16 | 12 | 14 | 9 | 9 | 5 | 5 |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 005 | Fuel consumed, lb | 280 | 381 | 214 | 186 | 84 | 87 | 240 | 262 | 129 |
| 006 | Fuel meter screw value | 45 | 50 | 40 | 28 | 36 | 36 | 49 | 56 | 47 |
| 006 | Standard deviation | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 014 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 74.0 | 73.4 | 62.0 | 52.3 | 57.1 | 60.7 | 75.5 | 83.3 | 64.9 |
| 092 | Standard deviation | 8.4 | 21.1 | 3.5 | 13.6 | 24.2 | 6.8 | 16.1 | 25.3 | 5.4 |
| 093 | Fuel flow time, sec | 705 | 359 | 841 | 827 | 531 | 877 | 659 | 647 | 701 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 68.6 | 76.5 | 61.6 | 46.1 | 54.8 | 57.5 | 68.6 | 72.6 | 61.1 |
| 094 | Standard deviation | 2.8 | 3.0 | 2.7 | 1.6 | 1.1 | 3.1 | 3.4 | 2.7 | 4.6 |
| 095 | Accumulated fuel, lb | 232 | 600 | 534 | 211 | 398 | 506 | 780 | 217 | 602 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | 46 | (b) | (b) | (b) | (b) | (b) | (b) | 46 | (b) |
| 100 | Standard deviation | 0 | (b) | (b) | (b) | (b) | (b) | (b) | 0 | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 69.3 | 75.2 | 62.2 | 46.3 | 54.5 | 57.8 | 70.4 | 73.8 | 65.1 |
| 298 | Standard deviation | 2.9 | 5.2 | 2.4 | 1.1 | 3.1 | 1.4 | 5.8 | 2.9 | 4.4 |
| C06 | Sorbent-coal ratio | 0.17 | 0.16 | 0.16 | 0.16 | 0.18 | 0.17 | 0.11 | 0.07 | 0.07 |

| | | | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|------|------|------|
| 100 | Standard deviation | 0 | (b) | (b) | (b) | (b) | (b) | 0 | (b) | |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 298 | Present fuel flow, lb/hr | 69.3 | 75.2 | 62.2 | 46.3 | 54.5 | 57.8 | 70.4 | 73.8 | 65.1 |
| 298 | Standard deviation | 2.9 | 5.2 | 2.4 | 1.1 | 3.1 | 1.4 | 5.8 | 2.9 | 4.4 |
| C06 | Sorbent-coal ratio | 0.17 | 0.16 | 0.16 | 0.16 | 0.18 | 0.17 | 0.11 | 0.07 | 0.07 |
| C06 | Standard deviation | 0.01 | 0 | 0 | 0 | 0 | 0.01 | 0.05 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 59.2 | 64.6 | 53.6 | 39.9 | 46.2 | 49.3 | 63.7 | 69.1 | 61.0 |
| C07 | Standard deviation | 2.5 | 4.6 | 2.1 | 1.0 | 2.7 | 1.3 | 5.3 | 2.7 | 4.1 |
| C08 | Sorbent flow rate, lb/hr | 10.1 | 10.5 | 8.6 | 6.4 | 8.2 | 8.5 | 6.8 | 4.7 | 4.1 |
| C08 | Standard deviation | 0.6 | 0.6 | 0.3 | 0.2 | 0.5 | 0.3 | 2.8 | 0.3 | 0.3 |
| C05 | Fuel flow rate, lb/hr | 69.3 | 75.2 | 62.2 | 46.3 | 54.5 | 57.8 | 70.4 | 73.8 | 65.1 |
| C05 | Standard deviation | 2.9 | 5.2 | 2.4 | 1.0 | 3.1 | 1.4 | 5.8 | 2.9 | 4.4 |
| C13 | Input calcium-sulfur ratio | 1.40 | 1.34 | 1.31 | 1.32 | 1.42 | 0.88 | 0.55 | 0.55 | 0.55 |
| C13 | Standard deviation | 0.07 | 0.03 | 0.01 | 0.04 | 0.04 | 0.05 | 0.38 | 0.02 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME 2

FOLDOUT FRAME

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data channel | Parameter | Test | | | | | |
|--------------|---|------|------|------|------|------|------|
| | | 19 | 110A | 110B | 111 | 112 | 113 |
| 001 | Coal consumed, lb | 200 | 125 | 60 | 181 | 226 | 239 |
| 002 | Coal meter screw value | 95 | 95 | 95 | 95 | 94 | 95 |
| 002 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 |
| 003 | Sorbent consumed, lb | 15 | 19 | 22 | 65 | 81 | 86 |
| 004 | Sorbent meter screw value | 6 | 17 | 36 | 28 | 29 | 36 |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) |
| 005 | Fuel consumed, lb | 215 | 144 | 82 | 246 | 307 | 326 |
| 006 | Fuel meter screw value | 36 | 31 | 31 | 37 | 46 | 57 |
| 006 | Standard deviation | 0 | 2 | 1 | 1 | 0 | 2 |
| 014 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 68.9 | 61.9 | 50.1 | 79.7 | 75.8 | 98.6 |
| 092 | Standard deviation | 35.8 | 14.9 | 4.8 | 37.5 | 6.5 | 4.4 |
| 093 | Fuel flow time, sec | 656 | 546 | 963 | 510 | 592 | 513 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 65.9 | 49.0 | 52.9 | 62.7 | 75.5 | 94.5 |
| 094 | Standard deviation | 40.9 | 3.9 | 6.2 | 1.3 | 5.1 | 4.0 |
| 095 | Accumulated fuel, lb | 796 | 429 | 128 | 327 | 792 | 246 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | 34 | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | 12 | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 53.5 | 47.2 | 55.2 | 60.3 | 76.6 | 93.4 |
| 298 | Standard deviation | 1.7 | 3.3 | 2.4 | 2.4 | 1.9 | 3.4 |
| C06 | Sorbent-coal ratio | 0.07 | 0.15 | 0.36 | 0.36 | 0.36 | 0.36 |
| C06 | Standard deviation | 0 | 0.13 | 0.01 | 0 | 0.01 | 0.01 |
| C07 | Coal flow rate, lb/hr | 49.9 | 41.5 | 40.7 | 44.4 | 56.4 | 69.9 |

| | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | 54 | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | 12 | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 53.5 | 47.2 | 55.2 | 60.3 | 76.6 | 93.4 |
| 298 | Standard deviation | 1.7 | 3.3 | 2.4 | 2.4 | 1.9 | 3.4 |
| C06 | Sorbent-coal ratio | 0.07 | 0.15 | 0.36 | 0.36 | 0.36 | 0.36 |
| C06 | Standard deviation | 0 | 0.13 | 0.01 | 0 | 0.01 | 0.01 |
| C07 | Coal flow rate, lb/hr | 49.9 | 41.5 | 40.7 | 44.4 | 56.4 | 68.8 |
| C07 | Standard deviation | 1.6 | 5.9 | 1.6 | 1.8 | 1.6 | 2.5 |
| C08 | Sorbent flow rate, lb/hr | 3.6 | 5.6 | 14.4 | 15.8 | 20.2 | 24.6 |
| C08 | Standard deviation | 0.2 | 4.0 | 0.8 | 0.6 | 0.4 | 0.9 |
| C05 | Fuel flow rate, lb/hr | 53.5 | 47.2 | 55.2 | 60.3 | 76.6 | 93.4 |
| C05 | Standard deviation | 1.7 | 3.3 | 2.4 | 2.4 | 1.9 | 3.4 |
| C13 | Input calcium-sulfur ratio | 0.60 | 1.25 | 2.92 | 2.93 | 2.94 | 2.94 |
| C13 | Standard deviation | 0.03 | 1.07 | 0.05 | 0.04 | 0.07 | 0.05 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME

2

| | | | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|------|------|------|
| 094 | Standard deviation | 4.4 | 3.4 | 3.1 | 3.3 | 4.0 | 6.3 | 1.6 | 14.4 | 2.2 |
| 095 | Accumulated fuel, lb | 454 | 718 | 145 | 427 | 819 | 241 | 354 | 776 | 280 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | 0 | 0 | 23 | 46 | (b) | 0 | 0 | (b) | 46 |
| 100 | Standard deviation | (b) | (b) | (a) | (a) | (b) | (b) | (b) | (b) | (a) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 42.5 | 53.3 | 71.5 | 55.3 | 69.5 | 73.3 | 50.6 | 55.4 | 42.2 |
| 298 | Standard deviation | 4.4 | 3.6 | 1.5 | 3.9 | 6.2 | 2.6 | 3.5 | 2.3 | 2.1 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.06 | 0.06 | 0.06 | 0.06 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 37.7 | 47.3 | 63.4 | 49.0 | 61.7 | 69.0 | 47.6 | 52.1 | 39.8 |
| C07 | Standard deviation | 3.9 | 3.2 | 1.3 | 3.5 | 5.5 | 2.5 | 3.3 | 2.1 | 2.0 |
| C08 | Sorbent flow rate, lb/hr | 4.8 | 6.0 | 8.1 | 6.2 | 7.8 | 4.3 | 3.0 | 3.2 | 2.5 |
| C08 | Standard deviation | 0.5 | 0.4 | 0.2 | 0.4 | 0.7 | 0.2 | 0.2 | 0.1 | 0.1 |
| C05 | Fuel flow rate, lb/hr | 42.5 | 53.3 | 71.5 | 55.3 | 69.5 | 73.3 | 50.6 | 55.4 | 42.2 |
| C05 | Standard deviation | 4.4 | 3.6 | 1.5 | 3.9 | 6.2 | 2.6 | 3.5 | 2.3 | 2.1 |
| C13 | Input calcium-sulfur ratio | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.35 | 0.35 | 0.35 | 0.35 |
| C13 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME

2

FOLDOUT FRAME |

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|------|
| | | K1 | K3 | K4 | K2 | K7 | K8 | K6 | K5 | K9 |
| 001 | Coal consumed, lb | 163 | 138 | 209 | 148 | 152 | 168 | 187 | 292 | 126 |
| 002 | Coal meter screw value | 19 | 34 | 60 | 16 | 35 | 24 | 64 | 48 | 80 |
| 002 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 003 | Sorbent consumed, lb | 21 | 18 | 27 | 17 | 9 | 10 | 11 | 18 | 8 |
| 004 | Sorbent meter screw value | 3 | 6 | 10 | 1 | 3 | 2 | 5 | 4 | 21 |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 005 | Fuel consumed, lb | 184 | 156 | 237 | 165 | 162 | 179 | 199 | 310 | 134 |
| 006 | Fuel meter screw value | 22 | 25 | 38 | 18 | 19 | 29 | 27 | 42 | 27 |
| 006 | Standard deviation | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 014 | Fuel injector differ- ential pressure, psid | 0.97 | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | 0.44 | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 53.9 | 53.2 | 78.0 | 43.3 | 39.7 | 54.8 | 50.6 | 71.3 | 52.0 |
| 092 | Standard deviation | 18.2 | 7.7 | 15.4 | 4.2 | 4.0 | 5.0 | 6.8 | 8.7 | 9.5 |
| 093 | Fuel flow time, sec | 1180 | 793 | 369 | 932 | 1334 | 849 | 672 | 848 | 575 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 44.6 | 51.1 | 65.4 | 42.4 | 39.2 | 50.6 | 47.8 | 70.5 | 51.4 |
| 094 | Standard deviation | 3.2 | 1.7 | 5.0 | 3.1 | 1.0 | 1.9 | 1.3 | 5.7 | 3.0 |
| 095 | Accumulated fuel, lb | 127 | 243 | 465 | 711 | 897 | 106 | 339 | 608 | 787 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | 46 | 46 | (b) | (b) | 46 | (b) | (b) | 46 | 46 |
| 100 | Standard deviation | 0 | 0 | (b) | (b) | 0 | (b) | (b) | 0 | 0 |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 45.4 | 50.8 | 67.9 | 41.4 | 39.4 | 50.7 | 48.1 | 67.3 | 53.5 |
| 298 | Standard deviation | 2.8 | 1.4 | 9.3 | 2.6 | 0.8 | 2.3 | 1.8 | 2.5 | 5.3 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.12 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 40.2 | 44.9 | 60.1 | 37.1 | 37.1 | 47.8 | 45.3 | 63.4 | 50.4 |
| C07 | Standard deviation | 2.5 | 1.2 | 9.2 | 2.0 | 0.7 | 2.2 | 1.7 | 2.4 | 5.0 |

| | | | | | | | | | | |
|-----|----------------------------|------|------|------|------|------|------|------|------|------|
| 095 | Accumulated fuel, lb | 3.2 | 1.7 | 5.0 | 3.1 | 1.0 | 1.9 | 1.3 | 5.7 | 3.0 |
| 095 | Standard deviation | 127 | 243 | 465 | 711 | 897 | 106 | 339 | 608 | 787 |
| 100 | Fuel flow indicated value | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Standard deviation | 46 | 46 | (b) | (b) | 46 | (b) | (b) | 46 | 46 |
| 174 | Present fuel flow, lb/hr | 0 | 0 | (b) | (b) | 0 | (b) | (b) | 0 | 0 |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 45.4 | 50.8 | 67.9 | 41.4 | 39.4 | 50.7 | 48.1 | 67.3 | 53.5 |
| 298 | Standard deviation | 2.8 | 1.4 | 9.3 | 2.6 | 0.8 | 2.3 | 1.8 | 2.5 | 5.3 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.12 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 40.2 | 44.9 | 60.1 | 37.1 | 37.1 | 47.8 | 45.3 | 63.4 | 50.4 |
| C07 | Standard deviation | 2.5 | 1.2 | 8.2 | 2.9 | 0.7 | 2.2 | 1.7 | 2.4 | 5.0 |
| C08 | Sorbent flow rate, lb/hr | 5.2 | 5.8 | 7.8 | 4.3 | 2.3 | 2.9 | 2.8 | 3.9 | 3.1 |
| C08 | Standard deviation | 0.3 | 0.2 | 1.1 | 0.8 | 0 | 0.1 | 0.1 | 0.1 | 0.3 |
| C05 | Fuel flow rate, lb/hr | 45.4 | 50.8 | 67.9 | 41.4 | 39.4 | 50.7 | 48.1 | 67.3 | 53.5 |
| C05 | Standard deviation | 2.8 | 1.4 | 9.3 | 2.6 | 0.8 | 2.3 | 1.8 | 2.5 | 5.3 |
| C13 | Input calcium-sulfur ratio | 1.39 | 1.40 | 1.40 | 1.28 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 |
| C13 | Standard deviation | 0 | 0 | 0 | 0.28 | 0.01 | 0 | 0 | 0.01 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME

2

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | K10 | K12 | K11 | K14 | K13 | K15 | K16 |
| 001 | Coal consumed, lb | 92 | 196 | 268 | 180 | 88 | 127 | 58 |
| 002 | Coal meter screw value | 0 | 39 | 64 | 22 | 48 | 48 | 0 |
| 002 | Standard deviation | (b) | (a) | (a) | (a) | (a) | (a) | (b) |
| 003 | Sorbent consumed, lb | 18 | 39 | 54 | 36 | 18 | 17 | 8 |
| 004 | Sorbent meter screw value | 0 | 10 | 17 | 6 | 8 | 3 | 0 |
| 004 | Standard deviation | (b) | (a) | (a) | (a) | (a) | (a) | (b) |
| 005 | Fuel consumed, lb | 110 | 236 | 322 | 217 | 106 | 144 | 66 |
| 006 | Fuel meter screw value | 32 | 27 | 48 | 29 | 19 | 26 | 25 |
| 006 | Standard deviation | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 014 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differ- ential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 52.9 | 63.8 | 89.3 | 54.8 | 55.5 | 50.2 | 42.9 |
| 092 | Standard deviation | 1.3 | 28.9 | 27.9 | 8.7 | 37.9 | 7.6 | 0.9 |
| 093 | Fuel flow time, sec | 1094 | 843 | 531 | 1096 | 919 | 740 | 1101 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 52.5 | 52.8 | 80.0 | 54.0 | 41.1 | 47.9 | 43.1 |
| 094 | Standard deviation | 1.3 | 2.0 | 3.4 | 4.0 | 2.0 | 3.3 | 1.1 |
| 095 | Accumulated fuel, lb | 205 | 433 | 782 | 208 | 345 | 562 | 703 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | 23 | 46 | (b) | 46 | (b) | 45 |
| 100 | Standard deviation | (b) | (a) | 0 | (b) | 0 | (b) | 1 |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 54.6 | 52.4 | 80.1 | 52.7 | 41.0 | 46.9 | 43.9 |
| 298 | Standard deviation | 1.2 | 2.2 | 6.6 | 1.6 | 2.6 | 3.8 | 0.4 |
| C06 | Sorbent-coal ratio | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.13 | 0.13 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 45.5 | 43.7 | 66.8 | 43.9 | 34.2 | 41.5 | 38.8 |

| | | | | | | | | |
|-----|----------------------------|------|------|------|------|------|------|------|
| 094 | Standard deviation | 1.3 | 2.0 | 3.4 | 4.0 | 2.0 | 3.3 | 1.1 |
| 095 | Accumulated fuel, lb | 205 | 433 | 782 | 208 | 345 | 562 | 703 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | 23 | 46 | (b) | 46 | (b) | 45 |
| 100 | Standard deviation | (b) | (a) | 0 | (b) | 0 | (b) | 1 |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 54.6 | 52.4 | 80.1 | 52.7 | 41.0 | 46.9 | 43.9 |
| 298 | Standard deviation | 1.2 | 2.2 | 6.6 | 1.6 | 2.6 | 3.8 | 0.4 |
| C06 | Sorbent-coal ratio | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.13 | 0.13 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 45.5 | 43.7 | 66.8 | 43.9 | 34.2 | 41.5 | 38.8 |
| C07 | Standard deviation | 1.0 | 1.9 | 5.5 | 1.3 | 2.2 | 3.3 | 0.3 |
| C08 | Sorbent flow rate, lb/hr | 9.1 | 8.7 | 13.4 | 8.8 | 6.8 | 5.4 | 5.1 |
| C08 | Standard deviation | 0.2 | 0.4 | 1.1 | 0.2 | 0.4 | 0.4 | 0 |
| C05 | Fuel flow rate, lb/hr | 54.6 | 52.4 | 80.1 | 52.7 | 41.0 | 46.9 | 43.9 |
| C05 | Standard deviation | 1.2 | 2.2 | 6.6 | 1.6 | 2.6 | 3.8 | 0.4 |
| C13 | Input calcium-sulfur ratio | 2.16 | 2.16 | 2.18 | 2.17 | 2.16 | 1.42 | 1.42 |
| C13 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME **2**

FOLDOUT FRAME

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data channel | Parameter | Test | | | | |
|--------------|---|------|------|------|------|------|
| | | CAS0 | CAS1 | CAS2 | CAS3 | CAS4 |
| 001 | Coal consumed, lb | 1030 | 866 | 1200 | 2100 | 1260 |
| 002 | Coal meter screw value | 95 | 95 | 52 | 28 | 28 |
| 002 | Standard deviation | (a) | (a) | (a) | (a) | (a) |
| 003 | Sorbent consumed, lb | 133 | 112 | 155 | 267 | 161 |
| 004 | Sorbent meter screw value | 16 | 12 | 9 | 6 | 4 |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) |
| 005 | Fuel consumed, lb | 1170 | 979 | 1360 | 2370 | 1420 |
| 006 | Fuel meter screw value | 22 | 29 | 23 | 14 | 15 |
| 006 | Standard deviation | (a) | (a) | (a) | (a) | (a) |
| 014 | Fuel injector differential pressure, psid | (b) | (b) | (b) | 5.02 | 3.73 |
| 014 | Standard deviation | (b) | (b) | (b) | 2.74 | 0 |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 48.3 | 75.8 | 50.9 | 39.5 | 39.3 |
| 092 | Standard deviation | 24.0 | 35.8 | 14.3 | 27.4 | 19.5 |
| 093 | Fuel flow time, sec | 1179 | 734 | 794 | 1137 | 1135 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 45.8 | 72.3 | 49.1 | 34.8 | 38.4 |
| 094 | Standard deviation | 21.5 | 31.2 | 24.9 | 19.7 | 23.9 |
| 095 | Accumulated fuel, lb | 492 | 445 | 414 | 463 | 404 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (a) | (a) | (a) | (a) | (a) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 42.0 | 60.7 | 44.7 | 68.0 | 64.2 |
| 298 | Standard deviation | 4.3 | 7.5 | 7.1 | 43.9 | 35.6 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 |

| | | | | | | |
|-----|-------------------------------|------|------|------|------|------|
| 094 | Standard deviation | 21.5 | 31.2 | 24.9 | 19.7 | 23.9 |
| 095 | Accumulated fuel, lb | 492 | 445 | 414 | 463 | 404 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (a) | (a) | (a) | (a) | (a) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 42.0 | 60.7 | 44.7 | 68.0 | 64.2 |
| 298 | Standard deviation | 4.3 | 7.5 | 7.1 | 43.9 | 35.6 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 37.3 | 53.8 | 39.6 | 35.0 | 34.8 |
| C07 | Standard deviation | 3.8 | 6.6 | 6.3 | 24.3 | 17.3 |
| C08 | Sorbent flow rate, lb/hr | 4.8 | 7.0 | 5.1 | 4.4 | 4.5 |
| C08 | Standard deviation | 0.5 | 0.9 | 0.8 | 3.1 | 2.2 |
| C05 | Fuel flow rate, lb/hr | 42.0 | 60.7 | 44.7 | 39.5 | 39.3 |
| C05 | Standard deviation | 4.3 | 7.5 | 7.1 | 27.4 | 19.5 |
| C13 | Input calcium-sulfur ratio | 2.00 | 1.40 | 2.01 | 1.98 | 2.00 |
| C13 | Standard deviation | 0.01 | 0.01 | 0.01 | 0.02 | 0.03 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME **2**

FOLDOUT FRAME

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data channel | Parameter | Test | | | | | | | |
|--------------|---|------|------|------|------|------|------|------|------|
| | | T3A | T3B | T3C | T3D | T3D | T3F | T4 | T5 |
| 001 | Coal consumed, lb | 332 | 1150 | 914 | 891 | 2390 | 315 | 1060 | 652 |
| 002 | Coal meter screw value | 22 | 20 | 21 | 49 | 30 | 95 | 44 | 53 |
| 002 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 003 | Sorbent consumed, lb | 51 | 140 | 109 | 108 | 288 | 36 | 128 | 85 |
| 004 | Sorbent meter screw value | 2 | 4 | 4 | 5 | 6 | 9 | 5 | 8 |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 005 | Fuel consumed, lb | 383 | 1290 | 1020 | 1000 | 2680 | 351 | 1190 | 737 |
| 006 | Fuel meter screw value | 15 | 15 | 12 | 20 | 20 | 13 | 32 | 24 |
| 006 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 014 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | 5.16 | 0:37 |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 2.49 | 0 |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | 0.14 | 4.56 | 30.0 | 22.5 | 0.16 | 0.15 | 0.14 | 0.29 |
| 022 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | 0 | 0 |
| 033 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 34.3 | 33.5 | 34.2 | 42.5 | 45.7 | 43.9 | 64.1 | 65.5 |
| 092 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 093 | Fuel flow time, sec | 1070 | 984 | 905 | 927 | 1032 | 352 | 821 | 435 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 39.9 | 31.7 | 30.2 | 38.9 | 38.7 | 42.6 | 56.2 | 58.3 |
| 094 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 095 | Accumulated fuel, lb | 233 | 503 | 490 | 649 | 555 | 143 | 436 | 378 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | 39 | 37 | 29 | 38 | 34 | 43 | (b) | (b) |
| 100 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (a) | (a) | (a) | (a) | (a) | 59.2 | 58.4 | 56.3 |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (a) | 18.7 | 9.9 |
| C06 | Sorbent-coal ratio | 0.15 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.13 |
| C06 | Standard deviation | 0 | 0.01 | 0 | 0 | 0 | 0 | 0.02 | 0 |

| | | | | | | | | |
|-----|----------------------------|------|------|------|------|------|------|------|
| 094 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 095 | Accumulated fuel, lb | 233 | 503 | 490 | 649 | 555 | 143 | 436 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | 39 | 37 | 29 | 38 | 34 | 43 | (b) |
| 100 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (a) | (a) | (a) | (a) | (a) | 59.2 | 58.4 |
| 298 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (a) | 18.7 |
| C06 | Sorbent-coal ratio | 0.15 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| C06 | Standard deviation | 0 | 0.01 | 0 | 0 | 0 | 0 | 0.02 |
| C07 | Coal flow rate, lb/hr | 29.8 | 29.8 | 30.6 | 37.9 | 40.8 | 39.4 | 52.1 |
| C07 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | 16.4 |
| C08 | Sorbent flow rate, lb/hr | 4.6 | 3.7 | 3.6 | 4.6 | 4.9 | 4.6 | 6.3 |
| C08 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | 2.5 |
| C05 | Fuel flow rate, lb/hr | 34.3 | 33.5 | 34.2 | 42.5 | 45.7 | 43.9 | 58.4 |
| C05 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | 18.7 |
| C13 | Input calcium-sulfur ratio | 2.39 | 1.91 | 1.84 | 1.88 | 1.90 | 1.80 | 0.67 |
| C13 | Standard deviation | 0.03 | 0.13 | 0.06 | 0.04 | 0.06 | 0.01 | 0.13 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME

2

FOLDOUT FRAME

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data channel | Parameter | Test | | | | | | | |
|--------------|---|------|------|-------|-------|-------|------|------|------|
| | | L1 | L2 | L3 | L4 | L5 | L6 | M1 | M2 |
| 001 | Coal consumed, lb | 334 | 166 | 225 | 362 | 447 | 91 | 127 | 71 |
| 002 | Coal meter screw value | 54 | 35 | 30 | 41 | 73 | 0 | 16 | 0 |
| 002 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 003 | Sorbent consumed, lb | 42 | 21 | 29 | 46 | 27 | 5 | 17 | 9 |
| 004 | Sorbent meter screw value | 16 | 16 | 16 | 16 | 8 | (b) | 1 | 0 |
| 004 | Standard deviation | 0 | 0 | 0 | 0 | 0 | (b) | (a) | 0 |
| 005 | Fuel consumed, lb | 377 | 187 | 254 | 408 | 473 | 97 | 144 | 81 |
| 006 | Fuel meter screw value | 30 | 16 | 25 | 40 | 41 | 24 | 8 | 3 |
| 006 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (b) |
| | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 59.9 | 40.4 | 53.0 | 73.8 | 67.1 | 45.9 | 23.9 | 19.9 |
| 092 | Standard deviation | 3.8 | 8.8 | 6.6 | 4.6 | 6.0 | 1.4 | 2.3 | 5.0 |
| 093 | Fuel flow time, sec | 691 | 1107 | 737 | 652 | 678 | 1195 | 2087 | 2604 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 61.9 | 37.0 | 52.7 | 76.1 | 66.9 | 50.5 | 24.3 | 18.1 |
| 094 | Standard deviation | 5.5 | 3.7 | 6.5 | 8.1 | 8.4 | 3.0 | 0.8 | 1.7 |
| 095 | Accumulated fuel, lb | 292 | 578 | 855 | 272 | 745 | 163 | 154 | 334 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | 46 | (b) | 46 | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | 0 | (b) | 0 | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 97.5 | 76.2 | 110.3 | 121.9 | 103.4 | 54.6 | 26.8 | 25.1 |
| 298 | Standard deviation | 42.1 | 59.1 | 47.8 | 45.8 | 43.9 | 8.7 | 2.9 | 1.7 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.06 | 0.06 | 0.13 | 0.13 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 53.2 | 35.8 | 47.0 | 65.5 | 63.3 | 43.3 | 21.2 | 17.6 |

| | | | | | | | | | |
|-----|----------------------------|------|------|-------|-------|-------|------|------|------|
| 094 | Standard deviation | 5.5 | 3.7 | 6.5 | 8.1 | 8.4 | 3.0 | 0.8 | 1.7 |
| 095 | Accumulated fuel, lb | 292 | 578 | 855 | 272 | 745 | 163 | 154 | 334 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | 46 | (b) | 46 | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | 0 | (b) | 0 | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 97.5 | 76.2 | 110.3 | 121.9 | 103.4 | 54.6 | 26.8 | 25.1 |
| 298 | Standard deviation | 42.1 | 59.1 | 47.8 | 45.8 | 43.9 | 8.7 | 2.9 | 1.7 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.06 | 0.06 | 0.13 | 0.13 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 53.2 | 35.8 | 47.0 | 65.5 | 63.3 | 43.3 | 21.2 | 17.6 |
| C07 | Standard deviation | 3.3 | 7.8 | 5.9 | 4.1 | 5.6 | 1.3 | 2.0 | 4.4 |
| C08 | Sorbent flow rate, lb/hr | 6.8 | 4.6 | 6.0 | 8.3 | 3.8 | 2.6 | 2.8 | 2.3 |
| C08 | Standard deviation | 0.4 | 1.0 | 0.7 | 0.5 | 0.3 | 0.1 | 0.3 | 0.6 |
| C05 | Fuel flow rate, lb/hr | 60.0 | 40.4 | 53.0 | 73.8 | 67.1 | 45.9 | 23.9 | 20.0 |
| C05 | Standard deviation | 3.8 | 8.8 | 6.6 | 4.6 | 6.0 | 1.4 | 2.3 | 5.0 |
| C13 | Input calcium-sulfur ratio | 1.38 | 1.39 | 1.38 | 1.38 | 0.65 | 0.65 | 1.41 | 1.40 |
| C13 | Standard deviation | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0 | 0 | 0 |

^aThe data or results obtained are obviously in error.
^bData or results were not obtained.

FOLDOUT FRAME **2**

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|---|------|------|------|------|------|------|------|------|------|
| | | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M11 | M12 |
| 001 | Coal consumed, lb | 95 | 194 | 196 | 110 | 87 | 60 | 167 | 162 | 150 |
| 002 | Coal meter screw value | 97 | 92 | 97 | (b) | (b) | 96 | 96 | 96 | 96 |
| 002 | Standard deviation | 0 | 6 | 0 | (b) | (b) | 0 | 0 | 0 | 0 |
| 003 | Sorbent consumed, lb | 12 | 25 | 11 | 6 | 5 | 3 | 33 | 32 | 30 |
| 004 | Sorbent meter screw value | 4 | 4 | 3 | (b) | (b) | 8 | 11 | 25 | 20 |
| 004 | Standard deviation | (a) | (a) | (a) | (b) | (b) | (a) | (a) | (a) | (a) |
| 005 | Fuel consumed, lb | 107 | 219 | 207 | 117 | 93 | 64 | 201 | 195 | 181 |
| 006 | Fuel meter screw value | 7 | 18 | 18 | 7 | 3 | 9 | 9 | 5 | 18 |
| 006 | Standard deviation | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 014 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 24.6 | 41.2 | 40.5 | 23.5 | 17.4 | 22.8 | 29.1 | 27.9 | 45.2 |
| 092 | Standard deviation | 2.1 | 5.4 | 6.6 | 1.1 | 2.5 | 6.6 | 18.2 | 3.4 | 6.0 |
| 093 | Fuel flow time, sec | 1898 | 1032 | 1220 | 2538 | 1891 | 1199 | 1186 | 1503 | 990 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 21.0 | 37.9 | 37.6 | 29.5 | 17.2 | 28.3 | 29.9 | 32.0 | 40.6 |
| 094 | Standard deviation | 3.4 | 4.5 | 1.4 | 8.0 | 1.8 | 6.8 | 18.5 | 12.0 | 4.4 |
| 095 | Accumulated fuel, lb | 461 | 663 | 902 | 75 | 207 | 307 | 449 | 650 | 895 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | 46 | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 0 | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (b) | 72.4 | 81.0 | 26.6 | 23.7 | 58.3 | 32.9 | 66.3 | 61.5 |
| 298 | Standard deviation | (b) | 52.2 | 79.5 | 1.5 | 0 | 55.7 | 7.6 | 81.7 | 19.8 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.06 | 0.06 | 0.06 | 0.06 | 0.20 | 0.20 | 0.20 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 21.8 | 36.6 | 38.3 | 22.2 | 16.4 | 21.6 | 24.3 | 23.3 | 37.7 |
| C07 | Standard deviation | 1.9 | 4.7 | 6.2 | 1.1 | 2.4 | 6.2 | 15.2 | 2.9 | 5.0 |

| | | | | | | | | | | |
|-----|-------------------------------|------|------|------|------|------|------|------|------|------|
| 094 | Standard deviation | 3.4 | 4.5 | 1.4 | 8.0 | 1.8 | 6.8 | 18.5 | 12.0 | 4.4 |
| 095 | Accumulated fuel, lb | 461 | 663 | 902 | 75 | 207 | 307 | 449 | 650 | 895 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (b) | (b) | (b) | (b) | (b) | (b) | 46 | (b) | (b) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 0 | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | (b) | 72.4 | 81.0 | 26.6 | 23.7 | 58.3 | 32.9 | 66.3 | 61.5 |
| 298 | Standard deviation | (b) | 52.2 | 79.5 | 1.5 | 0 | 55.7 | 7.6 | 81.7 | 19.8 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.06 | 0.06 | 0.06 | 0.06 | 0.20 | 0.20 | 0.20 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 21.8 | 36.6 | 38.3 | 22.2 | 16.4 | 21.6 | 24.3 | 23.3 | 37.7 |
| C07 | Standard deviation | 1.9 | 4.7 | 6.2 | 1.1 | 2.4 | 6.2 | 15.2 | 2.9 | 5.0 |
| C08 | Sorbent flow rate, lb/hr | 2.8 | 4.6 | 2.2 | 1.3 | 1.0 | 1.2 | 4.8 | 4.6 | 7.5 |
| C08 | Standard deviation | 0.2 | 0.7 | 0.4 | 0.1 | 0.1 | 0.3 | 3.0 | 0.6 | 1.0 |
| C05 | Fuel flow rate, lb/hr | 24.6 | 41.2 | 40.5 | 23.5 | 17.4 | 22.8 | 29.1 | 27.9 | 45.2 |
| C05 | Standard deviation | 2.1 | 5.4 | 6.6 | 1.1 | 2.5 | 6.6 | 18.2 | 3.4 | 6.00 |
| C13 | Input calcium-sulfur ratio | 1.41 | 1.36 | 0.63 | 0.63 | 0.63 | 0.62 | 2.16 | 2.16 | 2.16 |
| C13 | Standard deviation | 0 | 0.04 | 0 | 0 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME **2**

TABLE 4. - Continued.

(a) Continued. - Combustor input solids data

| Data channel | Parameter | Test | | | | | | | |
|--------------|---|------|------|------|------|------|------|------|------|
| | | N1 | N2 | N5A | N5B | N6 | N55A | N55B | N7 |
| 001 | Coal consumed, lb | 288 | 235 | 161 | 134 | 110 | 212 | 181 | 48 |
| 002 | Coal meter screw value | 31 | 64 | 41 | 29 | 24 | 30 | 83 | 96 |
| 002 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | 0 |
| 003 | Sorbent consumed, lb | 37 | 31 | 21 | 18 | 14 | 28 | 24 | 6 |
| 004 | Sorbent meter screw value | 5 | 11 | 7 | 5 | 4 | 11 | 16 | 16 |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | 0 | 0 |
| 005 | Fuel consumed, lb | 326 | 266 | 183 | 152 | 125 | 240 | 205 | 54 |
| 006 | Fuel meter screw value | 22 | 18 | 20 | 15 | 9 | 16 | 14 | 3 |
| 006 | Standard deviation | 2 | 1 | 6 | 0 | 1 | 1 | 1 | 0 |
| 014 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 36.1 | 37.1 | 45.2 | 36.3 | 23.2 | 33.4 | 43.8 | 19.7 |
| 092 | Standard deviation | 13.6 | 10.6 | 27.7 | 16.2 | 6.4 | 4.8 | 39.5 | 2.9 |
| 093 | Fuel flow time, sec | 1175 | 1404 | 1249 | 1327 | 2008 | 1230 | 1152 | 1490 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 34.7 | 33.5 | 32.7 | 33.0 | 24.3 | 34.6 | 33.8 | 20.6 |
| 094 | Standard deviation | 4.7 | 1.4 | 1.1 | 1.3 | 4.0 | 3.3 | 1.6 | 6.1 |
| 095 | Accumulated fuel, lb | 228 | 536 | 761 | 739 | 87 | 310 | 545 | 702 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (a) | (a) | (a) | (a) | (a) | 46 | (a) | (a) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | 0 | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 34.9 | 32.7 | 34.5 | 33.9 | 23.3 | 34.4 | 33.7 | 19.6 |
| 298 | Standard deviation | 5.9 | 3.2 | 5.9 | 4.5 | 4.1 | 2.1 | 1.5 | 2.5 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 30.9 | 28.9 | 30.5 | 30.0 | 20.6 | 30.4 | 29.8 | 17.4 |
| C07 | Standard deviation | 5.2 | 2.8 | 5.2 | 3.9 | 3.6 | 1.9 | 1.3 | 2.2 |

| | | | | | | | | | |
|-----|----------------------------|------|------|------|------|------|------|------|------|
| 094 | Standard deviation | 4.7 | 1.4 | 1.1 | 1.3 | 4.0 | 3.3 | 1.6 | 6.1 |
| 095 | Accumulated fuel, lb | 228 | 536 | 761 | 739 | 87 | 310 | 545 | 702 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | (a) | (a) | (a) | (a) | (a) | 46 | (a) | (a) |
| 100 | Standard deviation | (b) | (b) | (b) | (b) | (b) | 0 | (b) | (b) |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 34.9 | 32.7 | 34.5 | 33.9 | 23.3 | 34.4 | 33.7 | 19.6 |
| 298 | Standard deviation | 5.9 | 3.2 | 5.9 | 4.5 | 4.1 | 2.1 | 1.5 | 2.5 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| C06 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 30.9 | 28.9 | 30.5 | 30.0 | 20.6 | 30.4 | 29.8 | 17.4 |
| C07 | Standard deviation | 5.2 | 2.8 | 5.2 | 3.9 | 3.6 | 1.9 | 1.3 | 2.2 |
| C08 | Sorbent flow rate, lb/hr | 4.0 | 3.7 | 4.0 | 3.9 | 2.6 | 4.0 | 3.9 | 2.2 |
| C08 | Standard deviation | 0.7 | 0.4 | 0.7 | 0.5 | 0.5 | 0.2 | 0.2 | 0.3 |
| C05 | Fuel flow rate, lb/hr | 34.9 | 32.7 | 34.5 | 33.9 | 23.3 | 34.4 | 33.7 | 19.6 |
| C05 | Standard deviation | 5.9 | 3.2 | 5.9 | 4.5 | 4.1 | 2.1 | 1.5 | 2.5 |
| C13 | Input calcium-sulfur ratio | 2.01 | 2.02 | 2.04 | 2.03 | 1.99 | 2.03 | 2.02 | 2.01 |
| C13 | Standard deviation | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME

2

TABLE 4. - Continued.

(a) Concluded. - Combustor input solids

| Data channel | Parameter | Test | | | | | | |
|--------------|---|------|------|------|------|-------|-------|-------|
| | | T6A | T6B | T7A | T7B | T7C | T7D1 | T7D2 |
| 001 | Coal consumed, lb | 903 | 790 | 2820 | 2580 | 2320 | 2140 | 1910 |
| 002 | Coal meter screw value | 96 | 34 | 32 | 72 | 38 | 72 | 83 |
| 002 | Standard deviation | 0 | (a) | (a) | (a) | (a) | (a) | (a) |
| 003 | Sorbent consumed, lb | 119 | 101 | 371 | 333 | 302 | 277 | 249 |
| 004 | Sorbent meter screw value | 8 | 6 | 6 | 13 | 6 | 10 | 12 |
| 004 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 005 | Fuel consumed, lb | 1020 | 892 | 3190 | 2910 | 2630 | 2410 | 2160 |
| 006 | Fuel meter screw value | 18 | 16 | 16 | 17 | 20 | 20 | 22 |
| 006 | Standard deviation | 2 | 5 | 1 | 3 | 5 | 3 | 2 |
| 014 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | 17.11 | 17.49 | 20.63 |
| 014 | Standard deviation | (b) | (b) | (b) | (b) | 2.13 | 1.05 | 3.00 |
| 022 | Fuel injector line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 022 | Fuel line pressure differential, psid | 0.23 | 0.13 | 0.09 | 0.12 | 2.06 | 0.20 | (b) |
| 022 | Standard deviation | 0.21 | 0.04 | 0.08 | 0.13 | 1.63 | 0.24 | (b) |
| 033 | Fuel injector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Present fuel flow, lb/hr | 41.0 | 39.9 | 39.9 | 37.7 | 38.0 | 42.3 | 40.1 |
| 092 | Standard deviation | 18.5 | 22.5 | 23.0 | 18.8 | 18.5 | 19.5 | 17.8 |
| 093 | Fuel flow time, sec | 1189 | 1172 | 1238 | 1172 | 1154 | 1070 | 988 |
| 093 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 094 | Previous fuel flow, lb/hr | 36.0 | 34.0 | 37.5 | 36.5 | 36.6 | 38.7 | 37.9 |
| 094 | Standard deviation | 12.2 | 6.8 | 19.3 | 12.1 | 12.6 | 11.7 | 11.3 |
| 095 | Accumulated fuel, lb | 478 | 433 | 486 | 493 | 459 | 517 | 480 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | 39 | 43 | 0 | 46 | 38 | 23 | 46 |
| 100 | Standard deviation | (a) | (a) | (a) | 1 | (a) | (a) | 0 |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 40.2 | 34.5 | 35.9 | 34.4 | 33.9 | 37.0 | 38.2 |
| 298 | Standard deviation | 10.2 | 5.7 | 5.9 | 5.5 | 8.2 | 5.9 | 19.8 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| C06 | Standard deviation | 0.02 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 36.1 | 30.6 | 31.8 | 30.5 | 30.1 | 32.8 | 33.8 |

| | | | | | | | | |
|-----|----------------------------|------|------|------|------|------|------|------|
| 094 | Standard deviation | 12.2 | 6.8 | 19.3 | 12.1 | 12.6 | 11.7 | 11.3 |
| 095 | Accumulated fuel, lb | 478 | 433 | 486 | 493 | 459 | 517 | 480 |
| 095 | Standard deviation | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 100 | Fuel flow indicated value | 39 | 43 | 0 | 46 | 38 | 23 | 46 |
| 100 | Standard deviation | (a) | (a) | (a) | 1 | (a) | (a) | 0 |
| 174 | Present fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Fuel flow time, sec | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Previous fuel flow, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Accumulated fuel flow, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 177 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 298 | Present fuel flow, lb/hr | 40.2 | 34.5 | 35.9 | 34.4 | 33.9 | 37.0 | 38.2 |
| 298 | Standard deviation | 10.2 | 5.7 | 5.9 | 5.5 | 8.2 | 5.9 | 19.8 |
| C06 | Sorbent-coal ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| C06 | Standard deviation | 0.02 | 0 | 0 | 0 | 0 | 0 | 0 |
| C07 | Coal flow rate, lb/hr | 36.1 | 30.6 | 31.8 | 30.5 | 30.1 | 32.8 | 33.8 |
| C07 | Standard deviation | 15.9 | 5.0 | 5.2 | 4.8 | 7.3 | 5.2 | 17.5 |
| C08 | Sorbent flow rate, lb/hr | 4.9 | 3.9 | 4.2 | 3.9 | 3.9 | 4.3 | 4.4 |
| C08 | Standard deviation | 2.7 | 0.6 | 0.7 | 0.6 | 0.9 | 0.7 | 2.3 |
| C05 | Fuel flow rate, lb/hr | 41.0 | 34.5 | 35.9 | 34.4 | 33.9 | 37.0 | 38.2 |
| C05 | Standard deviation | 18.5 | 5.7 | 5.9 | 5.5 | 8.2 | 5.9 | 19.8 |
| C13 | Input calcium-sulfur ratio | 2.09 | 2.00 | 2.05 | 2.01 | 2.01 | 2.02 | 2.03 |
| C13 | Standard deviation | 0.30 | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 |

^aThe data or results obtained are obviously in error.

^bData or results were not obtained.

FOLDOUT FRAME

2

| | | | | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 131 | Air heater combustor temperature, °F | 65 | 73 | 73 | 62 | 74 | 92 | 98 | 86 | 149 | 130 |
| 131 | Standard deviation | | | | | | | | | | |
| 148 | Air heater inlet pressure, psia | 134 | 135 | 129 | 130 | 133 | 130 | 130 | 130 | 130 | 130 |
| 148 | Standard deviation | | | | | | | | | | |
| 149 | Air heater venturi differential pressure, psid | 0.02 | 0.04 | 0.06 | 0.04 | 0.05 | 0.18 | 0.13 | 0.17 | 0.86 | 0.86 |
| 149 | Standard deviation | | | | | | | | | | |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | 1.21 | (b) |
| C04A | Standard deviation | | | | | | | | | | |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | | | | | | | | | | |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | | | | | | | | | | |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | | | | | | | | | | |
| C04 | Total airflow rate, lb/hr | 582 | 564 | 565 | 574 | 564 | 573 | 507 | 565 | 569 | 569 |
| C04 | Standard deviation | | | | | | | | | | |
| C09 | Reactor coal-air ratio | 4 | 24 | 7 | 4 | 12 | 11 | 188 | 7 | 11 | 11 |
| C09 | Standard deviation | 0.080 | 0.052 | 0.069 | 0.061 | 0.069 | 0.063 | 0.058 | 0.068 | 0.072 | 0.072 |
| C16 | Reactor grid flow coefficient | 0.016 | 0.026 | 0.013 | 0.018 | 0.013 | 0.009 | 0.022 | 0.007 | 0.022 | 0.022 |
| C16 | Standard deviation | 0.388 | 0.451 | 0.433 | 0.436 | 0.460 | 0.133 | 0.140 | 0.181 | 0.197 | 0.197 |
| C16 | Standard deviation | 0.024 | 0.015 | 0.006 | 0.015 | 0.008 | 0.002 | 0.002 | 0.009 | 0.005 | 0.005 |

^bData or results were not obtained.

FOLDOUT FRAME 2

(b) Continued. - Combustor input air system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|
| | | A8B | A7B | A6B | A5B | A3B | A16B | A12B | A17B |
| 008 | Air venturi pressure differential, psid | 4.52 | 5.10 | 3.99 | 3.41 | 4.56 | 4.57 | 0.99 | 6.55 |
| 008 | Standard deviation | 0.02 | 1.39 | 0.02 | 0.01 | 0.01 | 0.02 | 0.01 | 0.04 |
| 009 | Air line pressure, psid | 129.9 | 127.0 | 126.5 | 126.3 | 129.6 | 128.7 | 129.3 | 127.6 |
| 009 | Standard deviation | 4.5 | 1.6 | 1.1 | 1.5 | 0.9 | 3.0 | 2.2 | 0.7 |
| 010 | Air inlet temperature, °F | 84 | 87 | 70 | 66 | 64 | 72 | 96 | 90 |
| 010 | Standard deviation | 5 | 5 | 2 | 1 | 1 | 7 | 4 | 4 |
| 011 | Fuel air venturi pressure differential, psid | 3.16 | 2.65 | 3.32 | 3.50 | 3.44 | 3.60 | 3.66 | 2.76 |
| 011 | Standard deviation | 0.25 | 0.28 | 0.06 | 0.06 | 0.05 | 0.13 | 0.06 | 0.04 |
| 012 | Fuel air line pressure, psia | 131.5 | 128.5 | 128.0 | 127.8 | 129.7 | 130.1 | 130.9 | 129.2 |
| 012 | Standard deviation | 4.5 | 1.5 | 1.1 | 1.5 | 1.1 | 3.2 | 2.2 | 0.7 |
| 013 | Fuel air inlet temperature, °F | 87 | 91 | 72 | 69 | 66 | 78 | 101 | 92 |
| 013 | Standard deviation | 5 | 6 | 2 | 1 | 1 | 9 | 4 | 5 |
| 015 | Burner air venturi pressure differential, psid | 0.17 | 1.08 | 0.15 | 0.15 | 0.19 | 0.18 | 0.14 | 0.20 |
| 015 | Standard deviation | 0.02 | 3.21 | 0.01 | 0.01 | 0.01 | 0.08 | 0.01 | 0.04 |
| 016 | Burner air pressure, psia | 129.7 | 126.7 | 126.3 | 126.1 | 128.3 | 128.4 | 129.2 | 127.5 |
| 016 | Standard deviation | 4.5 | 1.8 | 1.1 | 1.5 | 0.9 | 2.9 | 2.2 | 0.7 |
| 050 | Reactor inlet air temperature, °F | 74 | 83 | 71 | 66 | 64 | 68 | 83 | 89 |
| 050 | Standard deviation | 5 | 2 | 2 | 1 | 1 | 4 | 4 | 3 |
| 054 | Reactor grid air differential pressure, psid | 12.0 | 7.9 | 5.8 | 5.1 | 6.1 | 6.6 | 2.7 | 5.3 |
| 054 | Standard deviation | 0.3 | 3.4 | 0.3 | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 |
| 055 | Reactor internal pressure, psia | 72.2 | 79.7 | 64.1 | 56.9 | 63.0 | 55.8 | 39.7 | 79.4 |
| 055 | Standard deviation | 0.2 | 11.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0.2 |
| 099 | Air heater vent. temperature, °F | 437 | 380 | 373 | 358 | 394 | 407 | 334 | 490 |
| 099 | Standard deviation | 6 | 65 | 33 | 31 | 41 | 41 | 23 | 33 |
| 131 | Air heater combustor temperature, °F | 269 | 265 | 268 | 252 | 266 | 272 | 237 | 334 |
| 131 | Standard deviation | 5 | 45 | 10 | 5 | 3 | 3 | 13 | 4 |
| 148 | Air heater inlet pressure, psia | 130.0 | 126.1 | 126.6 | 126.9 | 130.0 | 129.4 | 129.4 | 127.4 |
| 148 | Standard deviation | 3.3 | 2.8 | 0.8 | 1.5 | 1.0 | 3.6 | 2.0 | 0.8 |
| 149 | Air heater venturi dif- ferential pressure, psid | 1.97 | 1.88 | 2.23 | 2.32 | 2.31 | 2.30 | 2.21 | 3.27 |
| 149 | Standard deviation | 0.05 | 0.46 | 0.13 | 0.05 | 0.09 | 0.16 | 0.12 | 0.13 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate | 560 | 606 | 520 | 494 | 568 | 565 | 325 | 634 |

| | | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|-------|
| 099 | Standard deviation | 6 | 65 | 33 | 31 | 41 | 41 | 23 | 33 |
| 131 | Air heater combustor temperature, °F | 269 | 265 | 268 | 252 | 266 | 272 | 237 | 334 |
| 131 | Standard deviation | 5 | 45 | 10 | 5 | 3 | 3 | 13 | 4 |
| 148 | Air heater inlet pressure, psia | 130.0 | 126.1 | 126.6 | 126.9 | 130.0 | 129.4 | 129.4 | 127.4 |
| 148 | Standard deviation | 3.3 | 2.8 | 0.8 | 1.5 | 1.0 | 3.6 | 2.0 | 0.8 |
| 149 | Air heater venturi differential pressure, psid | 1.97 | 1.88 | 2.23 | 2.32 | 2.31 | 2.30 | 2.21 | 3.27 |
| 149 | Standard deviation | 0.05 | 0.46 | 0.13 | 0.05 | 0.09 | 0.16 | 0.12 | 0.13 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 560 | 606 | 520 | 494 | 568 | 565 | 325 | 634 |
| C04 | Standard deviation | 12 | 67 | 3 | 6 | 3 | 9 | 3 | 7 |
| C09 | Reactor coal-air ratio | 0.072 | 0.067 | 0.072 | 0.252 | 0.075 | 0.076 | 0.098 | 0.071 |
| C09 | Standard deviation | 0.009 | 0.013 | 0.015 | 0.408 | 0.022 | 0.008 | 0.024 | 0.019 |
| C16 | Reactor grid flow coefficient | 0.198 | 0.242 | 0.268 | 0.295 | 0.342 | 0.348 | 0.270 | 0.504 |
| C16 | Standard deviation | 0.021 | 0.032 | 0.017 | 0.012 | 0.009 | 0.009 | 0.010 | 0.009 |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | 73 | 191 | 184 | 109 | 173 | 230 | 310 |
|------|--|-------|-------|-------|-------|-------|-------|
| 131 | Air heater combustor temperature, °F | | | | | | |
| 131 | 12 | 1 | 2 | 28 | 7 | 32 | 37 |
| 148 | Air heater inlet pressure, psia | | | | | | |
| 148 | 132.4 | 130.9 | 130.3 | 131.3 | 129.3 | 132.1 | 132.0 |
| 148 | Standard deviation | | | | | | |
| 149 | 3.2 | 1.1 | 0.8 | 1.5 | 5.6 | 2.6 | 0.7 |
| 149 | Air heater venturi differential pressure, psid | | | | | | |
| 149 | 0 | 0.01 | 0.01 | 0.07 | 0.04 | 0.31 | 1.64 |
| C04A | Combustor airflow rate, lb/hr | | | | | | |
| C04A | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | | | | | | |
| C04B | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | | | | | | |
| C04B | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | | | | | | |
| C04C | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | | | | | | |
| C04C | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | | | | | | |
| C04 | 589 | 586 | 584 | 597 | 350 | 588 | 688 |
| C04 | Total airflow rate, lb/hr | | | | | | |
| C04 | 7 | 4 | 3 | 7 | 10 | 7 | 3 |
| C04 | Standard deviation | | | | | | |
| C09 | 0.056 | 0.069 | 0.063 | 0.075 | 0.096 | 0.060 | 0.055 |
| C09 | Reactor coal-air ratio | | | | | | |
| C09 | 0.012 | 0.027 | 0.008 | 0.025 | 0.021 | 0.005 | 0.008 |
| C09 | Standard deviation | | | | | | |
| C16 | 0.448 | 0.533 | 0.614 | 0.804 | 0.506 | 0.740 | 0.916 |
| C16 | Reactor grid flow coefficient | | | | | | |
| C16 | 0.042 | 0.022 | 0.015 | 0.019 | 0.141 | 0.029 | 0.024 |
| C16 | Standard deviation | | | | | | |

^bData or results were not obtained.

FOLDOUT FRAME 2

C00 Sorbent-coal ratio 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0
 C06 Standard deviation 0 0 0 0 0 0 0 0
 C07 Coal flow rate, lb/hr 53.2 35.8 47.0 65.5 63.3 43.3 21.2 17.6

FOLDOUT FRAME /

TABLE 4. - Continued.

(b) Continued. - Combustor input air system data

| Data channel | Parameter | Test | | | | | | |
|--------------|--|-------|-------|-------|-------|-------|-------|-------|
| | | D6 | D7 | D2 | D1 | D10 | D3 | D4 |
| 008 | Air venturi pressure differential, psid | 5.76 | 5.75 | 5.74 | 5.72 | 2.69 | 5.72 | 5.73 |
| 008 | Standard deviation | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 0.03 | 0.03 |
| 009 | Air line pressure, psid | 124.1 | 128.4 | 126.1 | 125.4 | 126.3 | 132.7 | 124.6 |
| 009 | Standard deviation | 1.6 | 2.3 | 2.3 | 1.7 | 3.8 | 2.2 | 2.4 |
| 010 | Air inlet temperature, °F | 70 | 67 | 81 | 69 | 62 | 74 | 84 |
| 010 | Standard deviation | 3 | 1 | 2 | 2 | 1 | 8 | 4 |
| 011 | Fuel air venturi pressure differential, psid | 3.52 | 3.32 | 2.47 | 2.50 | 2.49 | 2.85 | 2.43 |
| 011 | Standard deviation | 0.12 | 0.12 | 0.12 | 0.12 | 0.19 | 0.17 | 0.20 |
| 012 | Fuel air line pressure, psia | 123.5 | 127.8 | 125.7 | 124.8 | 125.4 | 132.2 | 124.1 |
| 012 | Standard deviation | 1.7 | 2.3 | 2.3 | 1.4 | 3.7 | 2.2 | 2.5 |
| 013 | Fuel air inlet temperature, °F | 74 | 69 | 85 | 71 | 65 | 78 | 87 |
| 013 | Standard deviation | 3 | 2 | 3 | 2 | 2 | 8 | 4 |
| 015 | Burner air venturi pressure differential, psid | 0.11 | 0.10 | 0.09 | 0.10 | 0.14 | 0.13 | 0.12 |
| 015 | Standard deviation | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 |
| 016 | Burner air pressure, psia | 124.2 | 128.5 | 126.3 | 125.5 | 126.3 | 132.8 | 124.7 |
| 016 | Standard deviation | 1.6 | 2.3 | 2.3 | 1.7 | 3.7 | 2.2 | 2.4 |
| 050 | Reactor inlet air temperature, °F | 72 | 68 | 76 | 70 | 63 | 69 | 81 |
| 050 | Standard deviation | 3 | 1 | 2 | 2 | 2 | 6 | 2 |
| 054 | Reactor grid air differential pressure, psid | 3.80 | 2.75 | 2.11 | 1.75 | 0.95 | 1.64 | 1.83 |
| 054 | Standard deviation | 0.20 | 0.24 | 0.16 | 0.10 | 0.09 | 0.16 | 0.26 |
| 055 | Reactor internal pressure, psia | 41.2 | 61.7 | 82.1 | 82.2 | 82.1 | 82.1 | 81.9 |
| 055 | Standard deviation | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.4 | 0.2 |
| 099 | Air heater vent temperature, °F | 412 | 463 | 212 | 408 | 372 | 474 | 465 |
| 099 | Standard deviation | 99 | 4 | 158 | 2 | 5 | 3 | 11 |
| 131 | Air heater combustor temperature, °F | 250 | 287 | 135 | 236 | 217 | 267 | 266 |
| 131 | Standard deviation | 62 | 3 | 75 | 5 | 5 | 5 | 7 |
| 148 | Air heater inlet pressure, psia | 123.9 | 128.4 | 123.1 | 125.4 | 126.1 | 132.6 | 124.4 |
| 148 | Standard deviation | 1.7 | 2.4 | 8.8 | 1.7 | 3.8 | 2.2 | 2.6 |
| 149 | Air heater venturi differential pressure, psid | 2.44 | 2.71 | 0.79 | 1.33 | 1.55 | 1.45 | 1.29 |
| 149 | Standard deviation | 0.37 | 0.04 | 0.55 | 0.04 | 0.07 | 0.09 | 0.09 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate | 598 | 607 | 587 | 595 | 452 | 610 | 597 |

| | | 120.7 | 120.7 | 120.7 | 120.7 | 120.7 | 120.7 | 120.7 |
|------|--|-------|-------|-------|-------|-------|-------|-------|
| 148 | pressure, psia Standard deviation | 1.7 | 2.4 | 8.8 | 1.7 | 3.8 | 2.2 | 2.6 |
| 149 | Air heater venturi dif- ferential pressure, psid | 2.44 | 2.71 | 0.79 | 1.33 | 1.55 | 1.45 | 1.29 |
| 149 | Standard deviation | 0.37 | 0.04 | 0.55 | 0.04 | 0.07 | 0.09 | 0.09 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 598 | 607 | 587 | 595 | 452 | 619 | 587 |
| C04 | Standard deviation | 5 | 5 | 6 | 7 | 10 | 10 | 8 |
| C09 | Reactor coal-air ratio | 0.067 | 0.054 | 0.039 | 0.044 | 0.049 | 0.066 | 0.057 |
| C09 | Standard deviation | 0.013 | 0.006 | 0.013 | 0.004 | 0.005 | 0.013 | 0.012 |
| C16 | Reactor grid flow coefficient | 0.351 | 0.522 | 0.457 | 0.628 | 0.669 | 0.815 | 0.582 |
| C16 | Standard deviation | 0.027 | 0.035 | 0.038 | 0.029 | 0.059 | 0.046 | 0.160 |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|-------|
| 131 | Air heater combustor temperature, °F | 79 | 181 | 210 | 221 | 275 | 230 | 267 | 238 |
| 131 | Standard deviation | 3 | 58 | 21 | 72 | 16 | 85 | 9 | 64 |
| 148 | Air heater inlet pressure, psia | 127.9 | 128.8 | 127.0 | 127.4 | 132.2 | 131.6 | 132.2 | 132.8 |
| 148 | Standard deviation | 2.4 | 4.3 | 2.1 | 1.8 | 3.0 | 2.5 | 2.1 | 2.7 |
| 149 | Air heater venturi differential pressure, psid | (b) | 0.45 | 0.53 | 1.19 | 1.80 | 2.70 | 1.58 | 2.12 |
| 149 | Standard deviation | (b) | 0.13 | 0.22 | 0.70 | 0.35 | 0.47 | 0.20 | 6.55 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 571 | 584 | 572 | 635 | 655 | 643 | 625 | 629 |
| C04 | Standard deviation | 8 | 12 | 9 | 31 | 11 | 14 | 9 | 116 |
| C09 | Reactor coal-air ratio | 0.063 | 0.065 | 0.063 | 0.067 | 0.067 | 0.064 | 0.065 | 0.106 |
| C09 | Standard deviation | 0.012 | 0.015 | 0.018 | 0.009 | 0.013 | 0.013 | 0.010 | 0.299 |
| C16 | Reactor grid flow coefficient | 0.257 | 0.330 | 0.474 | 0.607 | 0.633 | 0.508 | 0.928 | 0.545 |
| C16 | Standard deviation | 0.023 | 0.053 | 0.094 | 0.086 | 0.084 | 0.069 | 0.169 | 0.099 |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|
| 099 | Standard deviation | 5 | 6 | 6 | 13 | 11 | 39 | 14 |
| 131 | Air heater combustor temperature, °F | 294 | 274 | 288 | 266 | 270 | 240 | 267 |
| 131 | Standard deviation | 3 | 5 | 5 | 14 | 8 | 32 | 19 |
| 148 | Air heater inlet pressure, psia | 126.1 | 129.1 | 130.0 | 131.5 | 126.3 | 131.6 | 131.7 |
| 148 | Standard deviation | 3.2 | 4.5 | 4.7 | 7.7 | 2.5 | 0.7 | 0.6 |
| 149 | Air heater venturi dif- ferential pressure, psid | 3.17 | 1.47 | 1.74 | 1.59 | 1.40 | 0.77 | 1.19 |
| 149 | Standard deviation | 0.46 | 0.11 | 0.29 | 0.71 | 0.11 | 0.34 | 0.14 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 575 | 592 | 590 | 610 | 575 | 599 | 591 |
| C04 | Standard deviation | 17 | 14 | 11 | 69 | 7 | 11 | 2 |
| C09 | Reactor coal-air ratio | 0.069 | 0.048 | 0.048 | 0.054 | 0.051 | 0.049 | 0.055 |
| C09 | Standard deviation | 0.016 | 0.008 | 0.010 | 0.010 | 0.013 | 0.003 | 0.011 |
| C16 | Reactor grid flow coefficient | 0.752 | 0.753 | 0.810 | 0.457 | 0.607 | 0.466 | 0.360 |
| C16 | Standard deviation | 0.098 | 0.058 | 0.027 | 0.025 | 0.083 | 0.028 | 0.047 |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 099 | 6 | 20 | 24 | 11 | 3 | 5 | 10 | 5 |
| 131 | 293 | 336 | 280 | 282 | 278 | 243 | 275 | 290 |
| 131 | 5 | 3 | 17 | 21 | 5 | 5 | 8 | 8 |
| 148 | 126.3 | 125.2 | 126.8 | 125.3 | 125.2 | 121.5 | 121.2 | 127.6 |
| 148 | 1.3 | 1.0 | 1.0 | 0.9 | 2.9 | 1.9 | 2.1 | 2.7 |
| 149 | 0.91 | 1.47 | 0.55 | 0.96 | 1.01 | 1.01 | 5.22 | 1.20 |
| 149 | 0.26 | 0.05 | 0.06 | 0.14 | 0.11 | 0.06 | 0.06 | 0.08 |
| C04A | 482 | 816 | 338 | 433 | 442 | 360 | 417 | 506 |
| C04A | 85 | 6 | 3 | 5 | 5 | 3 | 4 | 10 |
| C04B | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | 542 | 875 | 399 | 498 | 507 | 416 | 474 | 569 |
| C04 | 85 | 6 | 4 | 5 | 7 | 4 | 5 | 12 |
| C09 | 0.100 | 0.069 | 0.107 | 0.098 | 0.091 | 0.079 | 0.092 | 0.084 |
| C09 | 0.029 | 0.009 | 0.034 | 0.024 | 0.027 | 0.010 | 0.009 | 0.019 |
| C16 | 0.494 | 0.414 | 0.381 | 0.375 | 0.374 | 0.415 | 0.374 | 0.647 |
| C16 | 0.006 | 0.005 | 0.041 | 0.003 | 0.004 | 0.024 | 0.002 | 0.011 |

^bData or results were not obtained.

FOLDOUT FRAME **2**

| | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|
| 099 | Standard deviation | 24 | 3 | 2 | 3 | 4 | 9 | 4 |
| 131 | Air heater combustor temperature, °F | 323 | 312 | 323 | 300 | 294 | 262 | 277 |
| 131 | Standard deviation | 37 | 6 | 3 | 6 | 6 | 12 | 6 |
| 148 | Air heater inlet pressure, psia | 132.3 | 132.3 | 131.7 | 133.2 | 132.3 | 133.2 | 129.4 |
| 148 | Standard deviation | 2.0 | 0.8 | 0.5 | 0.8 | 0.6 | 1.3 | 2.0 |
| 149 | Air heater venturi differential pressure, psid | 1.65 | 2.11 | 2.06 | 1.56 | 1.98 | 1.63 | 1.88 |
| 149 | Standard deviation | 0.79 | 0.07 | 0.04 | 0.12 | 0.08 | 0.15 | 0.15 |
| C04A | Combustor airflow rate, lb/hr | 486 | 603 | 618 | 425 | 486 | 339 | 447 |
| C04A | Standard deviation | 4 | 8 | 2 | 2 | 3 | 4 | 48 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 548 | 665 | 679 | 488 | 550 | 405 | 511 |
| C04 | Standard deviation | 4 | 8 | 2 | 3 | 4 | 4 | 49 |
| C09 | Reactor coal-air ratio | 0.083 | 0.084 | 0.072 | 0.090 | 0.065 | 0.100 | 0.074 |
| C09 | Standard deviation | 0.019 | 0.003 | 0.006 | 0.025 | 0.021 | 0.040 | 0.015 |
| C16 | Reactor grid flow coefficient | 0.518 | 0.525 | 0.526 | 0.502 | 0.520 | 0.507 | 0.524 |
| C16 | Standard deviation | 0.005 | 0.005 | 0.004 | 0.008 | 0.004 | 0.012 | 0.012 |

^bData or results were not obtained.

FOLDOUT FRAME 2

(b) Continued. - Combustor input air system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | F1 | F2 | F3 | F4 | F6 | F5 | F7 | F8 | F9 |
| 008 | Air venturi pressure differential, psid | 5.95 | 14.53 | 2.32 | 9.82 | 8.08 | 4.57 | 4.24 | 4.16 | 3.98 |
| 008 | Standard deviation | 0.03 | 0.06 | 0.15 | 0.05 | 0.04 | 0.20 | 0.01 | 0.03 | 0.02 |
| 009 | Air line pressure, psid | 130.8 | 128.0 | 132.1 | 130.1 | 129.0 | 130.9 | 132.8 | 127.4 | 128.7 |
| 009 | Standard deviation | 2.2 | 1.0 | 2.0 | 1.1 | 2.2 | 1.7 | 1.6 | 1.0 | 3.5 |
| 010 | Air inlet temperature, °F | 98 | 98 | 102 | 96 | 99 | 97 | 57 | 94 | 102 |
| 010 | Standard deviation | 4 | 0 | 3 | 2 | 2 | 3 | 3 | 2 | 2 |
| 011 | Fuel air venturi pressure differential, psid | 6.22 | 5.65 | 5.34 | 5.71 | 5.61 | 6.01 | 6.12 | 6.68 | 6.78 |
| 011 | Standard deviation | 0.19 | 0.12 | 0.33 | 0.13 | 0.22 | 0.23 | 0.12 | 0.05 | 0.18 |
| 012 | Fuel air line pressure, psia | 130.9 | 128.4 | 132.1 | 130.4 | 129.5 | 131.1 | 132.7 | 128.1 | 128.8 |
| 012 | Standard deviation | 2.2 | 1.0 | 2.0 | 1.2 | 2.2 | 1.7 | 1.6 | 1.0 | 3.5 |
| 013 | Fuel air inlet temperature, °F | 52 | 73 | 61 | 57 | 51 | 53 | 52 | 45 | 38 |
| 013 | Standard deviation | 7 | 2 | 4 | 1 | 2 | 1 | 4 | 3 | 0 |
| 015 | Burner air venturi pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 015 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 016 | Burner air pressure, psia | 130.9 | 128.4 | 132.2 | 130.5 | 129.6 | 131.0 | 132.8 | 128.1 | 128.8 |
| 016 | Standard deviation | 2.2 | 1.0 | 2.0 | 1.1 | 2.2 | 1.7 | 1.6 | 1.0 | 3.5 |
| 050 | Reactor inlet air temperature, °F | 99 | 100 | 101 | 101 | 101 | 98 | 60 | 98 | 103 |
| 050 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 054 | Reactor grid air differential pressure, psid | 2.04 | 7.68 | 0.67 | 4.51 | 3.76 | 2.16 | 1.86 | 1.97 | 2.38 |
| 054 | Standard deviation | 0.09 | 0.21 | 0.05 | 0.16 | 0.19 | 0.06 | 0.10 | 0.03 | 0.04 |
| 055 | Reactor internal pressure, psia | 73.2 | 79.9 | 72.8 | 81.0 | 80.7 | 76.6 | 80.1 | 60.4 | 40.7 |
| 055 | Standard deviation | 0.8 | 0.1 | 6.0 | 0.6 | 0.2 | 2.1 | 0.2 | 0.1 | 0.0 |
| 099 | Air heater vent temperature, °F | 302 | 518 | 251 | 422 | 508 | 273 | 435 | 437 | 266 |
| 099 | Standard deviation | 63 | 12 | 10 | 100 | 17 | 32 | 2 | 8 | 1 |
| 131 | Air heater combustor temperature, °F | 416 | 527 | 363 | 496 | 525 | 403 | 266 | 441 | 410 |
| 131 | Standard deviation | 11 | 13 | 8 | 40 | 8 | 7 | 2 | 5 | 1 |
| 148 | Air heater inlet pressure, psia | 126.2 | 124.2 | 127.3 | 125.9 | 125.1 | 126.3 | 127.9 | 124.0 | 124.6 |
| 148 | Standard deviation | 1.0 | 0.8 | 1.7 | 0.9 | 1.9 | 1.4 | 1.4 | 0.9 | 2.9 |
| 149 | Air heater venturi differential pressure, psid | 0.39 | 1.95 | 0.20 | 1.43 | 2.31 | 0.31 | 1.70 | 3.19 | 0.37 |
| 149 | Standard deviation | 0.03 | 0.69 | 0.01 | 0.90 | 0.66 | 0.02 | 0.02 | 0.04 | 0.01 |
| C04A | Combustor airflow rate, lb/hr | 500 | 743 | 317 | 631 | 572 | 441 | 445 | 417 | 407 |
| C04A | Standard deviation | 4 | 4 | 11 | 3 | 6 | 8 | 4 | 2 | 5 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, | 562 | 801 | 380 | 690 | 631 | 502 | 507 | 481 | 473 |

| | 302 | 316 | 331 | 422 | 506 | 273 | 453 | 457 | 400 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 099 | | | | | | | | | |
| 131 | | | | | | | | | |
| 131 | | | | | | | | | |
| 148 | | | | | | | | | |
| 148 | | | | | | | | | |
| 149 | | | | | | | | | |
| 149 | | | | | | | | | |
| C04A | | | | | | | | | |
| C04A | | | | | | | | | |
| C04B | | | | | | | | | |
| C04B | | | | | | | | | |
| C04C | | | | | | | | | |
| C04C | | | | | | | | | |
| C04 | | | | | | | | | |
| C04 | | | | | | | | | |
| C09 | | | | | | | | | |
| C09 | | | | | | | | | |
| C16 | | | | | | | | | |
| C16 | | | | | | | | | |

^bData or results were not obtained.

FOLDOUT FRAME **2**

(b) Continued. - Combustor input air system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|
| | | F19 | F16 | F27 | G2 | G3 | G6 | G1 | G5 |
| 008 | Air venturi pressure differential, psid | 9.84 | 9.62 | 7.83 | 6.06 | 13.82 | 7.52 | 2.92 | 16.16 |
| 008 | Standard deviation | 0.05 | 0.04 | 0.04 | 0.04 | 0.09 | 0.06 | 0.05 | 0.10 |
| 009 | Air line pressure, psid | 131.4 | 129.6 | 132.9 | 128.8 | 130.4 | 129.3 | 134.9 | 131.5 |
| 009 | Standard deviation | 1.2 | 2.2 | 0.6 | 2.5 | 2.0 | 1.3 | 1.7 | 1.2 |
| 010 | Air inlet temperature, °F | 106 | 104 | 106 | 67 | 99 | 111 | 119 | 96 |
| 010 | Standard deviation | 5 | 3 | 1 | 4 | 2 | 4 | 3 | 2 |
| 011 | Fuel air venturi pressure differential, psid | 6.06 | 5.87 | 7.03 | 5.79 | 5.68 | 5.58 | 6.13 | 5.99 |
| 011 | Standard deviation | 0.10 | 0.22 | 0.05 | 0.35 | 0.20 | 0.11 | 0.15 | 0.14 |
| 012 | Fuel air line pressure, psia | 131.8 | 130.1 | 133.3 | 128.8 | 130.4 | 129.4 | 135.0 | 131.6 |
| 012 | Standard deviation | 1.2 | 2.2 | 0.7 | 2.4 | 1.9 | 1.3 | 1.7 | 1.1 |
| 013 | Fuel air inlet temperature, °F | 39 | 37 | 37 | 63 | 56 | 51 | 48 | 64 |
| 013 | Standard deviation | 1 | 1 | 2 | 5 | 4 | 1 | 1 | 8 |
| 015 | Burner air venturi pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 015 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 016 | Burner air pressure, psia | 131.8 | 130.0 | 133.3 | 128.9 | 130.5 | 129.4 | 134.9 | 131.6 |
| 016 | Standard deviation | 1.2 | 2.2 | 0.6 | 2.4 | 1.9 | 1.3 | 1.7 | 1.2 |
| 050 | Reactor inlet air temperature, °F | 104 | 103 | 104 | 68 | 104 | 103 | 103 | 102 |
| 050 | Standard deviation | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 054 | Reactor grid air differential pressure, psid | 3.81 | 3.88 | 4.12 | 1.09 | 3.34 | 2.11 | 0.93 | 2.95 |
| 054 | Standard deviation | 0.13 | 0.10 | 0.06 | 0.16 | 0.05 | 0.04 | 0.23 | 0.04 |
| 055 | Reactor internal pressure, psia | 80.7 | 80.8 | 60.6 | 75.7 | 79.9 | 79.6 | 79.9 | 80.6 |
| 055 | Standard deviation | 0.1 | 0.1 | 0.2 | 11.9 | 0.2 | 0.3 | 0.2 | 0.3 |
| 099 | Air heater vent temperature, °F | 489 | 524 | 533 | 106 | 264 | 241 | 191 | 279 |
| 099 | Standard deviation | 69 | 5 | 12 | 8 | 2 | 2 | 2 | 4 |
| 131 | Air heater combustor temperature, °F | 527 | 545 | 555 | 98 | 389 | 359 | 267 | 415 |
| 131 | Standard deviation | 21 | 12 | 4 | 5 | 2 | 3 | 4 | 8 |
| 148 | Air heater inlet pressure, psia | 127.2 | 125.7 | 128.6 | 124.7 | 126.1 | 125.1 | 129.9 | 127.0 |
| 148 | Standard deviation | 1.0 | 2.0 | 0.5 | 1.9 | 1.7 | 1.1 | 1.5 | 0.9 |
| 149 | Air heater venturi dif- ferential pressure, psid | 1.80 | 2.09 | 1.64 | (b) | 0.72 | 0.64 | 0.54 | 0.54 |
| 149 | Standard deviation | 0.49 | 0.13 | 0.03 | (b) | 0.05 | 0.02 | 0.02 | 0.12 |
| C04A | Combustor airflow rate, lb/hr | 629 | 619 | 570 | 515 | 734 | 549 | 354 | 791 |
| C04A | Standard deviation | 5 | 6 | 2 | 6 | 7 | 3 | 5 | 4 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 692 | 680 | 637 | 574 | 793 | 607 | 417 | 851 |

| | 489 | 524 | 533 | 106 | 264 | 241 | 191 | 279 |
|------|--|-------|-------|-------|-------|-------|-------|-------|
| 099 | Air heater vent temperature, °F | | | | | | | |
| | 69 | 5 | 12 | 8 | 2 | 2 | 2 | 4 |
| 131 | Standard deviation | | | | | | | |
| | 527 | 545 | 555 | 98 | 389 | 359 | 267 | 415 |
| 131 | Air heater combustor temperature, °F | | | | | | | |
| | 21 | 12 | 4 | 5 | 2 | 3 | 4 | 8 |
| 148 | Standard deviation | | | | | | | |
| | 127.2 | 125.7 | 128.6 | 124.7 | 126.1 | 125.1 | 129.9 | 127.0 |
| 148 | Air heater inlet pressure, psia | | | | | | | |
| | 1.0 | 2.0 | 0.5 | 1.9 | 1.7 | 1.1 | 1.5 | 0.9 |
| 149 | Standard deviation | | | | | | | |
| | 1.80 | 2.09 | 1.64 | (b) | 0.72 | 0.64 | 0.54 | 0.54 |
| 149 | Air heater venturi differential pressure, psid | | | | | | | |
| | 0.49 | 0.13 | 0.03 | (b) | 0.05 | 0.02 | 0.02 | 0.12 |
| C04A | Standard deviation | | | | | | | |
| | 629 | 619 | 570 | 515 | 734 | 549 | 354 | 791 |
| C04A | Combustor airflow rate, lb/hr | | | | | | | |
| | 5 | 6 | 2 | 6 | 7 | 3 | 5 | 4 |
| C04B | Standard deviation | | | | | | | |
| | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | | | | | | | |
| | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | | | | | | | |
| | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | | | | | | | |
| | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | | | | | | | |
| | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | | | | | | | |
| | 692 | 680 | 637 | 574 | 793 | 607 | 417 | 851 |
| C04 | Standard deviation | | | | | | | |
| | 6 | 8 | 2 | 7 | 8 | 4 | 6 | 4 |
| C09 | Reactor coal-air ratio | | | | | | | |
| | 0.077 | 0.072 | 0.074 | 0.049 | 0.033 | 0.039 | 0.056 | 0.053 |
| C09 | Standard deviation | | | | | | | |
| | 0.014 | 0.003 | 0.010 | 0.021 | 0.013 | 0.007 | 0.029 | 0.008 |
| C16 | Reactor grid flow coefficient | | | | | | | |
| | 0.525 | 0.511 | 0.526 | 0.817 | 0.658 | 0.620 | 0.614 | 0.750 |
| C16 | Standard deviation | | | | | | | |
| | 0.007 | 0.006 | 0.005 | 0.036 | 0.003 | 0.005 | 0.066 | 0.004 |

^bData or results were not obtained.

FOLDOUT FRAME 2

TABLE 4. - Continued.

(b) Continued. - Combustor input air system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | G10 | G9 | G13 | G12 | G15A | G15B | G14 | G11 | G7 |
| 008 | Air venturi pressure differential, psid | 16.13 | 5.84 | 8.19 | 6.08 | 6.76 | 6.58 | 2.88 | 16.31 | 2.91 |
| 008 | Standard deviation | 0.08 | 0.02 | 0.03 | 0.01 | 0.03 | 0.02 | 0.01 | 0.13 | 0.02 |
| 009 | Air line pressure, psid | 130.8 | 132.2 | 129.0 | 128.1 | 133.5 | 130.6 | 133.3 | 130.7 | 133.3 |
| 009 | Standard deviation | 1.3 | 1.3 | 3.0 | 1.5 | 2.3 | 1.0 | 0.8 | 3.5 | 2.9 |
| 010 | Air inlet temperature, °F | 99 | 101 | 100 | 103 | 107 | 108 | 117 | 96 | 110 |
| 010 | Standard deviation | 1 | 2 | 2 | 2 | 4 | 5 | 4 | 3 | 2 |
| 011 | Fuel air venturi pressure differential, psid | 5.82 | 6.12 | 5.87 | 5.67 | 6.08 | 5.85 | 5.98 | 5.79 | 6.13 |
| 011 | Standard deviation | 0.15 | 0.10 | 0.27 | 0.15 | 0.22 | 0.14 | 0.07 | 0.31 | 0.26 |
| 012 | Fuel air line pressure, psia | 130.8 | 132.2 | 129.1 | 128.2 | 133.5 | 130.5 | 133.3 | 130.7 | 133.2 |
| 012 | Standard deviation | 1.4 | 1.3 | 3.0 | 1.5 | 2.3 | 1.0 | 0.8 | 3.5 | 2.9 |
| 013 | Fuel air inlet temperature, °F | 79 | 68 | 62 | 59 | 60 | 63 | 50 | 52 | 68 |
| 013 | Standard deviation | 3 | 5 | 2 | 2 | 4 | 6 | 0 | 3 | 3 |
| 015 | Burner air venturi pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 015 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 016 | Burner air pressure, psia | 131.0 | 132.3 | 129.2 | 128.3 | 133.5 | 130.6 | 133.3 | 130.8 | 133.2 |
| 016 | Standard deviation | 1.3 | 1.3 | 3.0 | 1.5 | 2.2 | 1.0 | 0.8 | 3.5 | 2.9 |
| 050 | Reactor inlet air temperature, °F | 102 | 103 | 102 | 103 | 102 | 103 | 103 | 102 | 103 |
| 050 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 054 | Reactor grid air differential pressure, psid | 2.82 | 1.39 | 1.72 | 1.38 | 2.00 | 2.18 | 1.10 | 4.29 | 1.13 |
| 054 | Standard deviation | 0.02 | 0.02 | 0.03 | 0.04 | 0.05 | 0.05 | 0.03 | 0.12 | 0.03 |
| 055 | Reactor internal pressure, psia | 80.5 | 80.6 | 80.6 | 80.4 | 80.6 | 80.1 | 80.0 | 80.1 | 80.1 |
| 055 | Standard deviation | 0.3 | 0.2 | 0.3 | 0.2 | 0.3 | 0.2 | 0.1 | 0.2 | 0.1 |
| 099 | Air heater vent temperature, °F | 257 | 231 | 238 | 228 | 223 | 211 | 168 | 256 | 174 |
| 099 | Standard deviation | 5 | 4 | 4 | 1 | 11 | 4 | 1 | 4 | 9 |
| 131 | Air heater combustor temperature, °F | 377 | 323 | 341 | 327 | 321 | 304 | 238 | 387 | 241 |
| 131 | Standard deviation | 7 | 4 | 3 | 1 | 22 | 4 | 1 | 6 | 11 |
| 148 | Air heater inlet pressure, psia | 126.7 | 127.7 | 124.9 | 124.2 | 128.7 | 126.3 | 128.7 | 126.5 | 128.5 |
| 148 | Standard deviation | 0.8 | 1.1 | 2.6 | 1.3 | 2.0 | 0.8 | 0.7 | 3.1 | 2.5 |
| 149 | Air heater venturi dif- ferential pressure, psid | 0.36 | 0.39 | 0.51 | 0.56 | 0.66 | 0.67 | 0.77 | 0.99 | 0.50 |
| 149 | Standard deviation | 0.05 | 0.04 | 0.05 | 0.03 | 0.09 | 0.08 | 0.01 | 0.06 | 0.07 |
| C04A | Combustor airflow rate, lb/hr | 786 | 497 | 575 | 497 | 533 | 519 | 350 | 791 | 353 |
| C04A | Standard deviation | 5 | 2 | 8 | 4 | 4 | 4 | 2 | 13 | 4 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| | | 045 | 550 | 625 | 556 | 504 | 579 | 411 | 851 | 415 |

| | | | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 099 | Standard deviation | 5 | 4 | 4 | 1 | 11 | 4 | 1 | 4 | 9 |
| 131 | Air heater combustor temperature, °F | 377 | 323 | 341 | 327 | 321 | 304 | 238 | 387 | 241 |
| 131 | Standard deviation | 7 | 4 | 3 | 1 | 22 | 4 | 1 | 6 | 11 |
| 148 | Air heater inlet pressure, psia | 126.7 | 127.7 | 124.9 | 124.2 | 128.7 | 126.3 | 128.7 | 126.5 | 128.5 |
| 148 | Standard deviation | 0.8 | 1.1 | 2.6 | 1.3 | 2.0 | 0.8 | 0.7 | 3.1 | 2.5 |
| 149 | Air heater venturi differential pressure, psid | 0.36 | 0.39 | 0.51 | 0.56 | 0.66 | 0.67 | 0.77 | 0.99 | 0.50 |
| 149 | Standard deviation | 0.05 | 0.04 | 0.05 | 0.03 | 0.09 | 0.08 | 0.01 | 0.06 | 0.07 |
| C04A | Combustor airflow rate, lb/hr | 786 | 497 | 575 | 497 | 533 | 519 | 350 | 791 | 353 |
| C04A | Standard deviation | 5 | 2 | 8 | 4 | 4 | 4 | 2 | 13 | 4 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 845 | 558 | 635 | 556 | 594 | 579 | 411 | 851 | 415 |
| C04 | Standard deviation | 6 | 3 | 9 | 5 | 5 | 4 | 2 | 15 | 6 |
| C09 | Reactor coal-air ratio | 0.043 | 0.054 | 0.041 | 0.048 | 0.044 | 0.029 | 0.037 | 0.039 | 0.031 |
| C09 | Standard deviation | 0.009 | 0.022 | 0.004 | 0.003 | 0.006 | 0.017 | 0.008 | 0.004 | 0.012 |
| C16 | Reactor grid flow coefficient | 0.762 | 0.690 | 0.716 | 0.693 | 0.615 | 0.576 | 0.547 | 0.623 | 0.545 |
| C16 | Standard deviation | 0.005 | 0.004 | 0.007 | 0.008 | 0.008 | 0.006 | 0.010 | 0.005 | 0.009 |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | 234 | 235 | 199 | 224 | 252 | 217 | 270 | 280 |
|------|--|-------|-------|-------|-------|-------|-------|-------|
| 099 | Air heater vent temperature, °F | | | | | | | |
| 099 | 3 | 2 | 3 | 1 | 2 | 4 | 9 | 7 |
| 131 | Air heater combustor temperature, °F | | | | | | | |
| 131 | 4 | 3 | 5 | 3 | 5 | 5 | 5 | 3 |
| 148 | Air heater inlet pressure, psia | | | | | | | |
| 148 | 130.2 | 129.4 | 127.6 | 126.0 | 125.7 | 126.2 | 128.1 | 127.2 |
| 148 | Standard deviation | | | | | | | |
| 148 | 2.0 | 2.0 | 1.7 | 0.8 | 1.2 | 1.3 | 2.6 | 0.9 |
| 149 | Air heater venturi differential pressure, psid | | | | | | | |
| 149 | 0.55 | 0.66 | 0.37 | 0.41 | 0.70 | 0.74 | 9.47 | 13.69 |
| 149 | Standard deviation | | | | | | | |
| 149 | 0.06 | 0.06 | 0.01 | 0.01 | 0.08 | 0.06 | 0.31 | 0.17 |
| C04A | Combustor airflow rate, lb/hr | | | | | | | |
| C04A | 568 | 567 | 374 | 526 | 737 | 536 | 650 | 628 |
| C04A | Standard deviation | | | | | | | |
| C04A | 12 | 7 | 3 | 6 | 7 | 4 | 7 | 3 |
| C04B | Burner airflow rate, lb/hr | | | | | | | |
| C04B | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | | | | | | | |
| C04B | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | | | | | | | |
| C04C | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | | | | | | | |
| C04C | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | | | | | | | |
| C04 | 631 | 629 | 435 | 585 | 797 | 596 | 710 | 685 |
| C04 | Standard deviation | | | | | | | |
| C04 | 13 | 9 | 5 | 6 | 8 | 5 | 9 | 4 |
| C09 | Reactor coal-air ratio | | | | | | | |
| C09 | 0.029 | 0.038 | 0.031 | 0.038 | 0.037 | 0.037 | 0.055 | 0.039 |
| C09 | Standard deviation | | | | | | | |
| C09 | 0.011 | 0.005 | 0.015 | 0.005 | 0.006 | 0.017 | 0.030 | 0.007 |
| C16 | Reactor grid flow coefficient | | | | | | | |
| C16 | 0.611 | 0.641 | 0.585 | 0.630 | 0.664 | 0.618 | 0.651 | 0.652 |
| C16 | Standard deviation | | | | | | | |
| C16 | 0.007 | 0.009 | 0.007 | 0.005 | 0.007 | 0.008 | 0.004 | 0.002 |

^bData or results were not obtained.

FOLDOUT FRAME **2**

TABLE 4. - Continued.

(b) Continued. - Combustor input air system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | H1 | H2 | H3 | H4 | H5A | H5B | H6 | H7 | H8 |
| 008 | Air venturi pressure differential, psid | 3.23 | 7.39 | 7.84 | 5.33 | 10.52 | 25.89 | 20.30 | 21.30 | 11.13 |
| 008 | Standard deviation | 0.06 | 0.19 | 0.37 | 0.07 | 0.32 | 0.64 | 2.25 | 0.72 | 0.44 |
| 009 | Air line pressure, psid | 128.1 | 134.2 | 132.9 | 135.7 | 130.5 | 116.7 | 131.7 | 131.9 | 125.9 |
| 009 | Standard deviation | 2.4 | 3.1 | 5.0 | 1.6 | 3.3 | 0.5 | 1.7 | 2.8 | 3.9 |
| 010 | Air inlet temperature, °F | 101 | 98 | 98 | 99 | 99 | 97 | 95 | 95 | 99 |
| 010 | Standard deviation | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 011 | Fuel air venturi pressure differential, psid | 5.56 | 6.04 | 6.65 | 6.85 | 6.17 | 5.39 | 6.66 | 6.14 | 5.40 |
| 011 | Standard deviation | 0.19 | 0.25 | 0.26 | 0.07 | 0.21 | 0.14 | 0.08 | 0.20 | 0.27 |
| 012 | Fuel air line pressure, psia | 128.1 | 134.1 | 132.9 | 135.8 | 130.7 | 118.2 | 131.9 | 132.2 | 126.1 |
| 012 | Standard deviation | 2.4 | 3.1 | 5.0 | 1.6 | 3.3 | 0.5 | 1.8 | 2.7 | 3.9 |
| 013 | Fuel air inlet temperature, °F | 92 | 72 | 70 | 69 | 95 | 89 | 71 | 76 | 91 |
| 013 | Standard deviation | 3 | 1 | 0 | 0 | 2 | 4 | 0 | 5 | 3 |
| 015 | Burner air venturi pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 015 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 016 | Burner air pressure, psia | 130.2 | 136.3 | 135.1 | 137.9 | 132.7 | 120.1 | 134.1 | 134.3 | 128.2 |
| 016 | Standard deviation | 2.4 | 3.1 | 5.0 | 1.6 | 3.3 | 0.5 | 1.8 | 2.8 | 3.9 |
| 050 | Reactor inlet air temperature, °F | 101 | 100 | 99 | 99 | 99 | 98 | 99 | 100 | 101 |
| 050 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 054 | Reactor grid air differential pressure, psid | 2.67 | 6.76 | 12.45 | 8.72 | 15.34 | 7.82 | 5.14 | 4.22 | 2.65 |
| 054 | Standard deviation | 0.04 | 0.08 | 0.46 | 0.50 | 0.34 | 0.29 | 0.35 | 0.03 | 0.05 |
| 055 | Reactor internal pressure, psia | 80.1 | 80.2 | 49.2 | 49.2 | 50.1 | 62.2 | 60.5 | 79.0 | 79.2 |
| 055 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.2 | 0.9 | 0.1 | 2.2 | 0.1 | 0.2 |
| 099 | Air heater vent temperature, °F | 213 | 225 | 237 | 223 | 207 | 498 | 445 | 481 | 419 |
| 099 | Standard deviation | 11 | 2 | 2 | 4 | 15 | 44 | 77 | 15 | 12 |
| 131 | Air heater combustor temperature, °F | 295 | 336 | 348 | 327 | 274 | 391 | 476 | 470 | 408 |
| 131 | Standard deviation | 16 | 2 | 4 | 9 | 35 | 147 | 23 | 11 | 17 |
| 148 | Air heater inlet pressure, psia | 124.9 | 130.1 | 129.1 | 131.5 | 127.1 | 116.3 | 128.4 | 128.5 | 123.4 |
| 148 | Standard deviation | 2.1 | 2.5 | 4.3 | 1.3 | 2.8 | 0.5 | 1.5 | 2.4 | 3.4 |
| 149 | Air heater venturi differential pressure, psid | 0.04 | 0.27 | 0.30 | 0.25 | 0.02 | 7.03 | 0.88 | 1.00 | 1.01 |
| 149 | Standard deviation | 0.02 | 0.01 | 0.01 | 0.02 | 0.02 | 0.46 | 0.31 | 0.01 | 0.02 |
| C04A | Combustor airflow rate, lb/hr | 368 | 561 | 574 | 483 | 650 | 883 | 868 | 888 | 654 |
| C04A | Standard deviation | 1 | 2 | 1 | 1 | 1 | 9 | 39 | 1 | 1 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate | 424 | 622 | 637 | 548 | 700 | 827 | 822 | 840 | 700 |

| | | | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 099 | Air heater vent temperature, °F | 11 | 2 | 2 | 4 | 15 | 44 | 77 | 15 | 12 |
| 131 | Standard deviation | 295 | 336 | 348 | 327 | 274 | 391 | 476 | 470 | 408 |
| 131 | Air heater combustor temperature, °F | 16 | 2 | 4 | 9 | 35 | 147 | 23 | 11 | 17 |
| 148 | Standard deviation | 124.9 | 130.1 | 129.1 | 131.5 | 127.1 | 116.3 | 128.4 | 128.5 | 123.4 |
| 148 | Air heater inlet pressure, psia | 2.1 | 2.5 | 4.3 | 1.3 | 2.8 | 0.5 | 1.5 | 2.4 | 3.4 |
| 149 | Standard deviation | 0.04 | 0.27 | 0.30 | 0.25 | 0.02 | 7.03 | 0.88 | 1.00 | 1.01 |
| 149 | Air heater venturi differential pressure, psid | 0.02 | 0.01 | 0.01 | 0.02 | 0.02 | 0.46 | 0.31 | 0.01 | 0.02 |
| C04A | Standard deviation | 368 | 561 | 574 | 483 | 650 | 883 | 868 | 888 | 654 |
| C04A | Combustor airflow rate, lb/hr | 1 | 2 | 1 | 1 | 1 | 9 | 39 | 1 | 1 |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 424 | 622 | 637 | 548 | 709 | 937 | 932 | 949 | 709 |
| C04 | Standard deviation | 2 | 2 | 2 | 1 | 2 | 10 | 39 | 3 | 2 |
| C09 | Reactor coal-air ratio | 0.078 | 0.066 | 0.068 | 0.083 | 0.082 | 0.072 | 0.175 | 0.066 | 0.078 |
| C09 | Standard deviation | 0.003 | 0.001 | 0.006 | 0.007 | 0.003 | 0.002 | 0.208 | 0.008 | 0.009 |
| C16 | Reactor grid flow coefficient | 0.367 | 0.349 | 0.326 | 0.333 | 0.327 | 0.576 | 0.713 | 0.708 | 0.660 |
| C16 | Standard deviation | 0.003 | 0.001 | 0.006 | 0.009 | 0.002 | 0.010 | 0.005 | 0.001 | 0.007 |

^bData or results were not obtained.

FOLDOUT FRAME **2**

TABLE 4. - Continued.

(b) Continued. - Combustor input air system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | H9 | H10 | H11 | H12 | H14 | H13 | H15 | H16 | H18 |
| 008 | Air venturi pressure differential, psid | 10.78 | 17.70 | 10.10 | 2.89 | 11.33 | 8.51 | 5.83 | 9.98 | 7.46 |
| 008 | Standard deviation | 0.88 | 0.35 | 0.13 | 0.06 | 0.55 | 0.25 | 0.16 | 0.52 | 0.22 |
| 009 | Air line pressure, psid | 126.3 | 132.2 | 134.4 | 132.9 | 123.4 | 130.9 | 129.1 | 126.0 | 131.8 |
| 009 | Standard deviation | 8.9 | 1.9 | 1.4 | 2.4 | 4.9 | 2.3 | 3.2 | 4.6 | 3.7 |
| 010 | Air inlet temperature, °F | 95 | 94 | 95 | 98 | 95 | 95 | 97 | 97 | 95 |
| 010 | Standard deviation | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 2 |
| 011 | Fuel air venturi pressure differential, psid | 5.59 | 6.17 | 6.32 | 6.23 | 5.40 | 5.52 | 6.20 | 5.97 | 6.75 |
| 011 | Standard deviation | 0.83 | 0.12 | 0.17 | 0.21 | 0.47 | 0.20 | 0.13 | 0.20 | 0.21 |
| 012 | Fuel air line pressure, psia | 126.5 | 132.4 | 134.7 | 133.2 | 123.7 | 130.9 | 129.0 | 126.0 | 131.7 |
| 012 | Standard deviation | 8.9 | 1.9 | 1.4 | 2.4 | 4.9 | 2.2 | 3.2 | 4.6 | 3.7 |
| 013 | Fuel air inlet temperature, °F | 66 | 62 | 59 | 58 | 67 | 56 | 82 | 81 | 58 |
| 013 | Standard deviation | 2 | 0 | 1 | 2 | 2 | 4 | 4 | 6 | 4 |
| 015 | Burner air venturi pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 015 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 016 | Burner air pressure, psia | 128.5 | 134.6 | 136.9 | 135.4 | 125.7 | 133.3 | 131.4 | 128.4 | 134.1 |
| 016 | Standard deviation | 9.0 | 1.8 | 1.4 | 2.5 | 5.0 | 2.3 | 3.2 | 4.7 | 3.7 |
| 050 | Reactor inlet air temperature, °F | 101 | 100 | 99 | 98 | 99 | 98 | 99 | 99 | 98 |
| 050 | Standard deviation | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 054 | Reactor grid air differential pressure, psid | 2.46 | 3.56 | 2.52 | 1.21 | 2.60 | 11.22 | 13.10 | 19.99 | 18.09 |
| 054 | Standard deviation | 0.05 | 0.05 | 0.05 | 0.07 | 0.12 | 0.30 | 0.42 | 0.71 | 2.60 |
| 055 | Reactor internal pressure, psia | 79.1 | 79.0 | 78.9 | 78.8 | 78.2 | 80.0 | 49.5 | 49.3 | 49.3 |
| 055 | Standard deviation | 0.1 | 0.1 | 0.2 | 0.2 | 1.6 | 0.1 | 0.1 | 0.1 | 0.1 |
| 099 | Air heater vent temperature, °F | 413 | 487 | 422 | 333 | 456 | 426 | 352 | 427 | 428 |
| 099 | Standard deviation | 36 | 15 | 24 | 6 | 15 | 8 | 60 | 21 | 3 |
| 131 | Air heater combustor temperature, °F | 404 | 485 | 425 | 319 | 448 | 440 | 407 | 439 | 433 |
| 131 | Standard deviation | 33 | 7 | 4 | 4 | 5 | 10 | 15 | 8 | 2 |
| 148 | Air heater inlet pressure, psia | 123.6 | 128.8 | 130.7 | 129.4 | 121.1 | 126.9 | 125.3 | 122.6 | 127.5 |
| 148 | Standard deviation | 7.7 | 1.5 | 1.2 | 2.1 | 4.3 | 1.9 | 2.7 | 4.0 | 3.1 |
| 149 | Air heater venturi dif- ferential pressure, psid | 0.97 | 1.30 | 1.37 | 1.21 | 1.22 | 0.74 | 0.68 | 0.68 | 0.67 |
| 149 | Standard deviation | 0.02 | 0.26 | 0.15 | 0.02 | 0.03 | 0.17 | 0.01 | 0.01 | 0.02 |
| C04A | Combustor airflow rate, lb/hr | 646 | 826 | 651 | 356 | 654 | 593 | 492 | 624 | 560 |
| C04A | Standard deviation | 5 | 2 | 1 | 1 | 2 | 7 | 1 | 8 | 2 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 703 | 888 | 714 | 418 | 709 | 652 | 552 | 682 | 625 |

| | | | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 099 | Standard deviation | 36 | 15 | 24 | 6 | 15 | 8 | 60 | 21 | 3 |
| 131 | Air heater combustor temperature, °F | 404 | 485 | 425 | 319 | 448 | 440 | 407 | 439 | 433 |
| 131 | Standard deviation | 33 | 7 | 4 | 4 | 5 | 10 | 15 | 8 | 2 |
| 148 | Air heater inlet pressure, psia | 123.6 | 128.8 | 130.7 | 129.4 | 121.1 | 126.9 | 125.3 | 122.6 | 127.5 |
| 148 | Standard deviation | 7.7 | 1.5 | 1.2 | 2.1 | 4.3 | 1.9 | 2.7 | 4.0 | 3.1 |
| 149 | Air heater venturi differential pressure, psid | 0.97 | 1.30 | 1.37 | 1.21 | 1.22 | 0.74 | 0.68 | 0.68 | 0.67 |
| 149 | Standard deviation | 0.02 | 0.26 | 0.15 | 0.02 | 0.03 | 0.17 | 0.01 | 0.01 | 0.02 |
| C04A | Combustor airflow rate, lb/hr | 646 | 826 | 651 | 356 | 654 | 593 | 492 | 624 | 560 |
| C04A | Standard deviation | 5 | 2 | 1 | 1 | 2 | 7 | 1 | 8 | 2 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 703 | 888 | 714 | 418 | 709 | 652 | 552 | 682 | 625 |
| C04 | Standard deviation | 10 | 2 | 2 | 2 | 4 | 7 | 2 | 8 | 3 |
| C09 | Reactor coal-air ratio | 0.077 | 0.073 | 0.076 | 0.116 | 0.076 | 0.071 | 0.082 | 0.075 | 0.076 |
| C09 | Standard deviation | 0.003 | 0.008 | 0.007 | 0.091 | 0.006 | 0.007 | 0.003 | 0.009 | 0.012 |
| C16 | Reactor grid flow coefficient | 0.678 | 0.717 | 0.674 | 0.535 | 0.670 | 0.284 | 0.271 | 0.272 | 0.261 |
| C16 | Standard deviation | 0.007 | 0.005 | 0.008 | 0.016 | 0.010 | 0.002 | 0.005 | 0.003 | 0.021 |

^bData or results were not obtained.

FOLDOUT FRAME **2**

FOLDOUT FRAME

TABLE 4. - Continued.

(b) Continued. - Combustor input air system data

| Data channel | Parameter | Test | | | | | |
|--------------|--|-------|-------|-------|-------|-------|-------|
| | | H19 | H20 | H23 | H24 | H25 | H26 |
| 008 | Air venturi pressure differential, psid | 8.95 | 10.15 | 10.89 | 10.92 | 10.43 | 10.64 |
| 008 | Standard deviation | 0.04 | 1.03 | 0.22 | 0.45 | 0.30 | 0.12 |
| 009 | Air line pressure, psid | 136.5 | 132.4 | 128.8 | 128.6 | 133.2 | 131.1 |
| 009 | Standard deviation | 0.7 | 5.6 | 1.9 | 4.3 | 3.0 | 1.3 |
| 010 | Air inlet temperature, °F | 93 | 93 | 95 | 95 | 99 | 96 |
| 010 | Standard deviation | 3 | 2 | 1 | 1 | 3 | 4 |
| 011 | Fuel air venturi pressure differential, psid | 6.01 | 5.66 | 5.58 | 5.41 | 5.77 | 5.63 |
| 011 | Standard deviation | 0.05 | 0.44 | 0.21 | 0.29 | 0.25 | 0.10 |
| 012 | Fuel air line pressure, psia | 136.4 | 132.4 | 128.8 | 128.6 | 133.1 | 131.1 |
| 012 | Standard deviation | 0.7 | 5.5 | 1.9 | 4.3 | 3.0 | 1.2 |
| 013 | Fuel air inlet temperature, °F | 53 | 54 | 68 | 59 | 50 | 47 |
| 013 | Standard deviation | 1 | 3 | 1 | 6 | 1 | 1 |
| 015 | Burner air venturi pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 015 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 016 | Burner air pressure, psia | 138.9 | 134.7 | 131.1 | 130.9 | 135.6 | 133.4 |
| 016 | Standard deviation | 0.7 | 5.6 | 1.9 | 4.4 | 3.1 | 1.3 |
| 050 | Reactor inlet air temperature, °F | 98 | 97 | 98 | 98 | 97 | 97 |
| 050 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 |
| 054 | Reactor grid air differential pressure, psid | 11.49 | 12.23 | 11.00 | 11.20 | 12.00 | 12.30 |
| 054 | Standard deviation | 0.16 | 0.63 | 0.19 | 0.17 | 0.29 | 0.24 |
| 055 | Reactor internal pressure, psia | 79.9 | 80.1 | 80.3 | 80.3 | 80.2 | 80.3 |
| 055 | Standard deviation | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 |
| 099 | Air heater vent temperature, °F | 435 | 429 | 440 | 397 | 332 | 314 |
| 099 | Standard deviation | 9 | 5 | 7 | 26 | 33 | 33 |
| 131 | Air heater combustor temperature, °F | 441 | 440 | 443 | 405 | 388 | 396 |
| 131 | Standard deviation | 7 | 3 | 5 | 21 | 2 | 8 |
| 148 | Air heater inlet pressure, psia | 132 | 128 | 125 | 125 | 129 | 127 |
| 148 | Standard deviation | 1 | 5 | 2 | 4 | 3 | 1 |
| 149 | Air heater venturi differential pressure, psid | 0.634 | 0.638 | 0.666 | 0.652 | 0.627 | 0.629 |
| 149 | Standard deviation | 0.011 | 0.011 | 0.026 | 0.016 | 0.016 | 0.014 |
| C04A | Combustor airflow rate, lb/hr | 622 | 647 | 658 | 658 | 655 | 657 |
| C04A | Standard deviation | 2 | 19 | 1 | 1 | 2 | 2 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |

| | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|
| 099 | Air heater vent temperature, °F | 435 | 429 | 440 | 397 | 332 | 314 |
| 099 | Standard deviation | 9 | 5 | 7 | 26 | 33 | 33 |
| 131 | Air heater combustor temperature, °F | 441 | 440 | 443 | 405 | 388 | 396 |
| 131 | Standard deviation | 7 | 3 | 5 | 21 | 2 | 8 |
| 148 | Air heater inlet pressure, psia | 132 | 128 | 125 | 125 | 129 | 127 |
| 148 | Standard deviation | 1 | 5 | 2 | 4 | 3 | 1 |
| 149 | Air heater venturi dif- ferential pressure, psid | 0.634 | 0.638 | 0.666 | 0.652 | 0.627 | 0.629 |
| 149 | Standard deviation | 0.011 | 0.011 | 0.026 | 0.016 | 0.016 | 0.014 |
| C04A | Combustor airflow rate, lb/hr | 622 | 647 | 658 | 658 | 655 | 657 |
| C04A | Standard deviation | 2 | 19 | 1 | 1 | 2 | 2 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 684 | 706 | 716 | 715 | 716 | 717 |
| C04 | Standard deviation | 2 | 17 | 1 | 3 | 3 | 2 |
| C09 | Reactor coal-air ratio | 0.074 | 0.076 | 0.077 | 0.077 | 0.080 | 0.076 |
| C09 | Standard deviation | 0.004 | 0.006 | 0.003 | 0.010 | 0.002 | 0.005 |
| C16 | Reactor grid flow coefficient | 0.294 | 0.295 | 0.317 | 0.314 | 0.302 | 0.299 |
| C16 | Standard deviation | 0.002 | 0.006 | 0.003 | 0.002 | 0.004 | 0.003 |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | 392 | 549 | 270 | 210 | 238 | 246 | 313 | 537 | 440 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 099 | | | | | | | | | |
| 131 | 115 | 36 | 59 | 3 | 2 | 4 | 81 | 11 | 30 |
| | 457 | 534 | 370 | 308 | 360 | 368 | 419 | 522 | 447 |
| 131 | | | | | | | | | |
| 148 | 32 | 19 | 9 | 3 | 5 | 5 | 27 | 7 | 13 |
| | 131.4 | 128.0 | 130.3 | 130.4 | 130.4 | 129.9 | 129.6 | 127.5 | 129.9 |
| 148 | | | | | | | | | |
| 149 | 0.9 | 2.1 | 0.9 | 1.0 | 0.8 | 0.9 | 0.9 | 1.2 | 1.3 |
| | 0.92 | 4.50 | 0.97 | 0.64 | 0.80 | 0.78 | 0.81 | 4.90 | 4.81 |
| 149 | | | | | | | | | |
| C04A | 0.42 | 1.63 | 0.78 | 0.04 | 0.02 | 0.06 | 0.32 | 0.19 | 0.02 |
| | 770 | 961 | 595 | 440 | 622 | 680 | 767 | 979 | 702 |
| C04A | | | | | | | | | |
| C04B | 1 | 11 | 3 | 2 | 14 | 1 | 2 | 5 | 0 |
| | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | | | | | | | | | |
| C04C | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | | | | | | | | | |
| C04 | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| | 832 | 1021 | 656 | 502 | 684 | 741 | 827 | 1038 | 763 |
| C04 | | | | | | | | | |
| C09 | 1 | 9 | 4 | 2 | 14 | 0 | 3 | 5 | 1 |
| | 0.071 | 0.063 | 0.082 | 0.079 | 0.068 | 0.067 | 0.077 | 0.067 | 0.080 |
| C09 | | | | | | | | | |
| | 0.003 | 0.004 | 0.004 | 0.002 | 0.004 | 0.002 | 0.006 | 0.003 | 0.005 |
| C16 | | | | | | | | | |
| | 0.585 | 0.568 | 0.510 | 0.460 | 0.524 | 0.547 | 0.489 | 0.511 | 0.496 |
| C16 | | | | | | | | | |
| | 0.006 | 0.009 | 0.003 | 0.006 | 0.004 | 0.004 | 0.002 | 0.010 | 0.005 |

^bData or results were not obtained.

FOLDOUT FRAME 2

TABLE 4. - Continued.

(b) Continued. - Combustor input air system data

| Data chan- nel | Parameter | Test | | | | | |
|----------------------|--|-------|-------|-------|-------|-------|-------|
| | | 19 | 110A | 110B | 111 | 112 | 113 |
| 008 | Air venturi pressure differential, psid | 10.66 | 6.24 | 5.77 | 7.74 | 14.78 | 28.31 |
| 008 | Standard deviation | 0.19 | 1.86 | 0.06 | 0.13 | 0.33 | 3.04 |
| 009 | Air line pressure, psid | 134.7 | 134.7 | 134.4 | 131.6 | 132.5 | 132.2 |
| 009 | Standard deviation | 1.9 | 4.1 | 1.5 | 2.1 | 1.1 | 1.1 |
| 010 | Air inlet temperature, °F | 96 | 97 | 96 | 99 | 84 | 92 |
| 010 | Standard deviation | 1 | 1 | 1 | 5 | 18 | 1 |
| 011 | Fuel air venturi pressure differential, psid | 5.99 | 5.93 | 5.88 | 5.67 | 5.82 | 5.88 |
| 011 | Standard deviation | 0.12 | 0.33 | 0.13 | 0.17 | 0.09 | 0.08 |
| 012 | Fuel air line pressure, psia | 135.0 | 134.5 | 134.2 | 131.4 | 132.5 | 132.3 |
| 012 | Standard deviation | 1.7 | 4.1 | 1.5 | 2.1 | 1.1 | 1.1 |
| 013 | Fuel air inlet temperature, °F | 53 | 65 | 66 | 61 | 47 | 57 |
| 013 | Standard deviation | 3 | 4 | 1 | 9 | 1 | 1 |
| 015 | Burner air venturi pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 015 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 016 | Burner air pressure, psia | 137.2 | 136.7 | 136.4 | 133.6 | 134.6 | 134.5 |
| 016 | Standard deviation | 1.7 | 4.1 | 1.5 | 2.1 | 1.1 | 1.1 |
| 050 | Reactor inlet air temperature, °F | 97 | 97 | 97 | 97 | 86 | 97 |
| 050 | Standard deviation | 0 | 0 | 0 | 0 | 19 | 0 |
| 054 | Reactor grid air differential pressure, psid | 4.60 | 3.05 | 2.89 | 3.51 | 8.09 | 9.14 |
| 054 | Standard deviation | 0.02 | 0.64 | 0.01 | 0.02 | 0.15 | 1.49 |
| 055 | Reactor internal pressure, psia | 80.1 | 80.1 | 80.2 | 80.2 | 80.3 | 80.1 |
| 055 | Standard deviation | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 |
| 099 | Air heater vent temperature, °F | 376 | 223 | 216 | 229 | 230 | 247 |
| 099 | Standard deviation | 71 | 13 | 3 | 7 | 79 | 6 |
| 131 | Air heater combustor temperature, °F | 391 | 328 | 312 | 339 | 348 | 375 |
| 131 | Standard deviation | 16 | 19 | 4 | 10 | 141 | 8 |
| 148 | Air heater inlet pressure, psia | 131.2 | 130.7 | 130.4 | 128.1 | 128.9 | 128.9 |
| 148 | Standard deviation | 1.4 | 3.5 | 1.3 | 1.8 | 0.9 | 0.9 |
| 149 | Air heater venturi dif- ferential pressure, psid | 3.44 | 0.51 | 0.51 | 0.60 | 0.74 | 1.37 |
| 149 | Standard deviation | 1.94 | 0.07 | 0.02 | 0.13 | 0.37 | 0.11 |
| C04A | Combustor airflow rate, lb/hr | 667 | 514 | 500 | 567 | 774 | 991 |
| C04A | Standard deviation | 1 | 65 | 0 | 3 | 10 | 35 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Total airflow rate | 729 | 575 | 561 | 627 | 824 | 1052 |

| | | 210 | 220 | 210 | 225 | 233 | 247 |
|------|--|-------|-------|-------|-------|-------|-------|
| 099 | Standard deviation temperature, °F | 71 | 13 | 3 | 7 | 79 | 6 |
| 131 | Air heater combustor temperature, °F | 391 | 328 | 312 | 339 | 348 | 375 |
| 131 | Standard deviation | 16 | 19 | 4 | 10 | 141 | 8 |
| 148 | Air heater inlet pressure, psia | 131.2 | 130.7 | 130.4 | 128.1 | 128.9 | 128.9 |
| 148 | Standard deviation | 1.4 | 3.5 | 1.3 | 1.8 | 0.9 | 0.9 |
| 149 | Air heater venturi dif- ferential pressure, psid | 3.44 | 0.51 | 0.51 | 0.60 | 0.74 | 1.37 |
| 149 | Standard deviation | 1.94 | 0.07 | 0.02 | 0.13 | 0.37 | 0.11 |
| C04A | Combustor airflow rate, lb/hr | 667 | 514 | 500 | 567 | 774 | 991 |
| C04A | Standard deviation | 1 | 65 | 0 | 3 | 10 | 35 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 729 | 575 | 561 | 627 | 834 | 1052 |
| C04 | Standard deviation | 1 | 65 | 1 | 3 | 10 | 35 |
| C09 | Reactor coal-air ratio | 0.068 | 0.073 | 0.073 | 0.071 | 0.068 | 0.065 |
| C09 | Standard deviation | 0.002 | 0.013 | 0.003 | 0.003 | 0.002 | 0.002 |
| C16 | Reactor grid flow coefficient | 0.504 | 0.480 | 0.479 | 0.491 | 0.432 | 0.529 |
| C16 | Standard deviation | 0.001 | 0.011 | 0.001 | 0.003 | 0.006 | 0.025 |

^bData or results were not obtained.

FOLDOUT FRAME **2**

TABLE 4. - Continued.

(b) Continued. - Combustor input air system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 |
| 008 | Air venturi pressure differential, psid | 2.34 | 9.84 | 27.32 | 5.22 | 30.02 | 29.80 | 3.73 | 12.62 | 2.50 |
| 008 | Standard deviation | 0.09 | 0.25 | 0.56 | 0.13 | 3.36 | 3.43 | 0.10 | 0.64 | 0.06 |
| 009 | Air line pressure, psid | 135.6 | 129.2 | 125.9 | 129.7 | 123.3 | 122.2 | 128.7 | 131.3 | 125.5 |
| 009 | Standard deviation | 1.6 | 3.0 | 1.0 | 2.9 | 5.1 | 6.1 | 3.9 | 5.2 | 3.2 |
| 010 | Air inlet temperature, °F | 103 | 102 | 87 | 112 | 95 | 92 | 111 | 93 | 105 |
| 010 | Standard deviation | 3 | 3 | 1 | 9 | 1 | 1 | 5 | 5 | 4 |
| 011 | Fuel air venturi pressure differential, psid | 6.01 | 5.56 | 5.23 | 5.49 | 5.11 | 4.97 | 5.51 | 5.73 | 5.35 |
| 011 | Standard deviation | 0.12 | 0.23 | 0.11 | 0.22 | 0.49 | 0.56 | 0.36 | 0.46 | 0.29 |
| 012 | Fuel air line pressure, psia | 135.2 | 128.8 | 125.7 | 129.4 | 123.3 | 121.9 | 128.4 | 131.2 | 125.4 |
| 012 | Standard deviation | 1.6 | 3.0 | 1.0 | 2.8 | 5.2 | 6.0 | 3.8 | 5.1 | 3.2 |
| 013 | Fuel air inlet temperature, °F | 49 | 44 | 41 | 36 | 62 | 55 | 41 | 41 | 66 |
| 013 | Standard deviation | 2 | 1 | 1 | 2 | 1 | 5 | 1 | 2 | 4 |
| 015 | Burner air venturi pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 015 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 016 | Burner air pressure, psia | 135.6 | 129.3 | 126.0 | 129.7 | 123.7 | 122.4 | 128.8 | 131.5 | 125.7 |
| 016 | Standard deviation | 1.6 | 3.0 | 1.0 | 2.8 | 5.1 | 6.0 | 3.8 | 5.1 | 3.2 |
| 050 | Reactor inlet air temperature, °F | 100 | 101 | 99 | 102 | 100 | 100 | 99 | 99 | 99 |
| 050 | Standard deviation | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 054 | Reactor grid air differential pressure, psid | 2.42 | 5.74 | 14.47 | 4.70 | 8.50 | 7.89 | 1.64 | 3.65 | 0.97 |
| 054 | Standard deviation | 1.84 | 0.34 | 0.56 | 0.19 | 0.54 | 0.44 | 0.44 | 0.18 | 0.04 |
| 055 | Reactor internal pressure, psia | 79.5 | 79.8 | 79.5 | 79.4 | 79.7 | 79.7 | 79.4 | 79.3 | 79.4 |
| 055 | Standard deviation | 0.4 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0 |
| 099 | Air heater vent temperature, °F | 214 | 277 | 290 | 243 | 520 | 420 | 364 | 293 | 387 |
| 099 | Standard deviation | 3 | 7 | 2 | 4 | 26 | 92 | 3 | 10 | 9 |
| 131 | Air heater combustor temperature, °F | 316 | 428 | 444 | 371 | 517 | 503 | 366 | 441 | 380 |
| 131 | Standard deviation | 4 | 8 | 2 | 4 | 12 | 14 | 1 | 4 | 5 |
| 148 | Air heater inlet pressure, psia | 131.3 | 125.9 | 123.0 | 126.1 | 120.9 | 119.7 | 125.1 | 127.3 | 122.3 |
| 148 | Standard deviation | 1.3 | 2.5 | 0.9 | 2.4 | 4.5 | 5.3 | 3.4 | 4.4 | 2.8 |
| 149 | Air heater venturi dif- ferential pressure, psid | 0.28 | 0.53 | 0.91 | 0.41 | 1.69 | 0.89 | 0.51 | 0.49 | 0.40 |
| 149 | Standard deviation | 0.01 | 0.03 | 0.03 | 0.03 | 0.65 | 0.32 | 0.03 | 0.07 | 0.01 |
| C04A | Combustor airflow rate, lb/hr | 323 | 625 | 954 | 462 | 960 | 953 | 391 | 711 | 318 |
| C04A | Standard deviation | 6 | 2 | 5 | 4 | 11 | 10 | 3 | 3 | 1 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 385 | 684 | 1011 | 521 | 1014 | 1007 | 450 | 771 | 376 |

| | | | | | | | | | | |
|------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 099 | Air heater vent temperature, °F | 3 | 7 | 2 | 4 | 26 | 92 | 3 | 10 | 9 |
| 131 | Standard deviation Air heater combustor temperature, °F | 316 | 428 | 444 | 371 | 517 | 503 | 366 | 441 | 380 |
| 131 | Standard deviation | 4 | 8 | 2 | 4 | 12 | 14 | 1 | 4 | 5 |
| 148 | Air heater inlet pressure, psia | 131.3 | 125.9 | 123.0 | 126.1 | 120.9 | 119.7 | 125.1 | 127.3 | 122.3 |
| 148 | Standard deviation | 1.3 | 2.5 | 0.9 | 2.4 | 4.5 | 5.3 | 3.4 | 4.4 | 2.8 |
| 149 | Air heater venturi dif- ferential pressure, psid | 0.28 | 0.53 | 0.91 | 0.41 | 1.69 | 0.89 | 0.51 | 0.49 | 0.40 |
| 149 | Standard deviation | 0.01 | 0.03 | 0.03 | 0.03 | 0.65 | 0.32 | 0.03 | 0.07 | 0.01 |
| C04A | Combustor airflow rate, lb/hr | 323 | 625 | 954 | 462 | 960 | 953 | 391 | 711 | 318 |
| C04A | Standard deviation | 6 | 2 | 5 | 4 | 11 | 10 | 3 | 3 | 1 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 385 | 684 | 1011 | 521 | 1014 | 1007 | 450 | 771 | 376 |
| C04 | Standard deviation | 6 | 3 | 5 | 4 | 10 | 10 | 5 | 6 | 3 |
| C09 | Reactor coal-air ratio | 0.098 | 0.069 | 0.063 | 0.094 | 0.061 | 0.069 | 0.106 | 0.068 | 0.106 |
| C09 | Standard deviation | 0.010 | 0.005 | 0.001 | 0.006 | 0.005 | 0.002 | 0.007 | 0.003 | 0.005 |
| C16 | Reactor grid flow coefficient | 0.365 | 0.425 | 0.401 | 0.348 | 0.532 | 0.550 | 0.501 | 0.609 | 0.533 |
| C16 | Standard deviation | 0.047 | 0.013 | 0.010 | 0.008 | 0.012 | 0.013 | 0.005 | 0.015 | 0.011 |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 099 | Standard deviation | 22 | 50 | 13 | 12 | 3 | 10 | 7 | 21 | 2 |
| 131 | Air heater combustor temperature, °F | 356 | 303 | 441 | 366 | 425 | 479 | 368 | 502 | 351 |
| 131 | Standard deviation | 36 | 86 | 12 | 10 | 8 | 6 | 5 | 16 | 1 |
| 148 | Air heater inlet pressure, psia | 133.3 | 131.4 | 130.9 | 131.7 | 131.1 | 125.6 | 128.7 | 126.0 | 131.3 |
| 148 | Standard deviation | 1.0 | 1.1 | 1.3 | 1.4 | 0.8 | 3.7 | 2.1 | 3.2 | 1.2 |
| 149 | Air heater venturi differential pressure, psid | 0.84 | 0.49 | 1.01 | 0.81 | 0.83 | 4.23 | 4.11 | 4.18 | 0.36 |
| 149 | Standard deviation | 0.36 | 0.20 | 0.05 | 0.02 | 0.01 | 0.22 | 0.23 | 0.04 | 0.02 |
| C04A | Combustor airflow rate, lb/hr | 493 | 387 | 892 | 349 | 352 | 663 | 394 | 913 | 388 |
| C04A | Standard deviation | 5 | 6 | 3 | 3 | 2 | 3 | 2 | 8 | 1 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 645 | 450 | 955 | 412 | 415 | 722 | 455 | 974 | 449 |
| C04 | Standard deviation | 7 | 6 | 4 | 3 | 2 | 6 | 3 | 11 | 2 |
| C09 | Reactor coal-air ratio | 0.062 | 0.100 | 0.063 | 0.090 | 0.089 | 0.066 | 0.100 | 0.065 | 0.112 |
| C09 | Standard deviation | 0.003 | 0.003 | 0.009 | 0.007 | 0.002 | 0.003 | 0.004 | 0.002 | 0.011 |
| C16 | Reactor grid flow coefficient | 0.481 | 0.460 | 0.318 | 0.276 | 0.289 | 0.318 | 0.296 | 0.302 | 0.276 |
| C16 | Standard deviation | 0.012 | 0.012 | 0.003 | 0.003 | 0.007 | 0.005 | 0.005 | 0.008 | 0.004 |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|
| 099 | temperature, °F | 3 | 2 | 27 | 45 | 2 | 1 | 1 |
| 131 | Standard deviation | 362 | 415 | 487 | 350 | 313 | 353 | 351 |
| 131 | Air heater combustor temperature, °F | | | | | | | |
| 131 | Standard deviation | 3 | 3 | 4 | 9 | 5 | 1 | 1 |
| 148 | Air heater inlet pressure, psia | 132.7 | 130.6 | 128.1 | 132.5 | 132.8 | 132.2 | 128.6 |
| 148 | Standard deviation | 0.9 | 1.7 | 1.8 | 0.7 | 0.6 | 0.7 | 0.4 |
| 149 | Air heater venturi differential pressure, psid | 0.407 | 0.568 | 1.258 | 0.448 | 0.331 | 0.364 | 0.381 |
| 149 | Standard deviation | 0.012 | 0.009 | 0.166 | 0.170 | 0.009 | 0.008 | 0.005 |
| C04A | Combustor airflow rate, lb/hr | 407 | 588 | 924 | 371 | 315 | 388 | 387 |
| C04A | Standard deviation | 4 | 4 | 4 | 3 | 1 | 2 | 1 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 470 | 649 | 982 | 433 | 376 | 449 | 450 |
| C04 | Standard deviation | 5 | 4 | 5 | 3 | 1 | 2 | 1 |
| C09 | Reactor coal-air ratio | 0.097 | 0.067 | 0.068 | 0.102 | 0.091 | 0.092 | 0.086 |
| C09 | Standard deviation | 0.002 | 0.003 | 0.006 | 0.003 | 0.006 | 0.008 | 0.001 |
| C16 | Reactor grid flow coefficient | 0.289 | 0.319 | 0.321 | 0.309 | 0.301 | 0.323 | 0.322 |
| C16 | Standard deviation | 0.004 | 0.011 | 0.008 | 0.005 | 0.005 | 0.007 | 0.010 |

^bData or results were not obtained.

FOLDOUT FRAME 2

TABLE 4. - Continued.

(b) Continued. - Combustor input air system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|
| | | T3A | T3B | T3C | T3D | T3E | T3F | T4 | T5 |
| 008 | Air venturi pressure differential, psid | 6.38 | 7.31 | 5.71 | 6.83 | 6.37 | 2.75 | 7.40 | 5.32 |
| 008 | Standard deviation | 3.42 | 2.76 | 3.15 | 2.03 | 2.51 | 1.96 | 1.15 | 3.05 |
| 009 | Air line pressure, psid | 124.1 | 126.6 | 130.5 | 131.6 | 129.7 | 119.8 | 129.0 | 128.1 |
| 009 | Standard deviation | 19.4 | 13.5 | 2.9 | 1.9 | 4.6 | 30.7 | 3.6 | 20.1 |
| 010 | Air inlet temperature, °F | 93 | 85 | 78 | 76 | 76 | 67 | 56 | 46 |
| 010 | Standard deviation | 10 | 9 | 9 | 6 | 9 | 3 | 6 | 8 |
| 011 | Fuel air venturi pressure differential, psid | 5.56 | 5.43 | 5.59 | 5.48 | 5.75 | 5.62 | 5.94 | 5.59 |
| 011 | Standard deviation | 0.80 | 1.07 | 1.23 | 1.34 | 0.61 | 1.67 | 0.44 | 1.08 |
| 012 | Fuel air line pressure, psia | 123.9 | 126.2 | 129.9 | 131.1 | 129.4 | 119.7 | 128.8 | 127.9 |
| 012 | Standard deviation | 19.3 | 13.5 | 2.9 | 1.9 | 4.6 | 30.6 | 3.5 | 20.1 |
| 013 | Fuel air inlet temperature, °F | 81 | 79 | 74 | 73 | 72 | 63 | 52 | 37 |
| 013 | Standard deviation | 14 | 8 | 10 | 6 | 9 | 2 | 6 | 5 |
| 015 | Burner air venturi pressure differential, psid | 5.95 | 2.71 | 3.46 | 1.04 | 3.18 | 4.17 | 7.52 | 6.32 |
| 015 | Standard deviation | 3.17 | 3.40 | 3.51 | 2.46 | 3.84 | 5.23 | 0 | 2.39 |
| 016 | Burner air pressure, psia | 124.0 | 126.3 | 132.4 | 133.6 | 131.4 | 121.3 | 129.0 | 128.3 |
| 016 | Standard deviation | 19.3 | 13.5 | 2.9 | 1.9 | 4.6 | 31.2 | 3.5 | 20.1 |
| 050 | Reactor inlet air temperature, °F | 93 | 85 | 78 | 75 | 76 | 70 | 57 | 54 |
| 050 | Standard deviation | 10 | 9 | 9 | 5 | 8 | 5 | 6 | 17 |
| 054 | Reactor grid air differential pressure, psid | 1.79 | 4.85 | 1.75 | 1.51 | 3.88 | 3.19 | 3.63 | 21.77 |
| 054 | Standard deviation | 0.81 | 8.29 | 0.72 | 0.23 | 2.83 | 2.26 | 1.72 | 11.55 |
| 055 | Reactor internal pressure, psia | 64.9 | 71.3 | 66.3 | 73.6 | 72.0 | 54.7 | 72.9 | 68.3 |
| 055 | Standard deviation | 20.4 | 18.3 | 19.8 | 17.2 | 13.2 | 21.7 | 10.3 | 20.0 |
| 099 | Air heater vent temperature, °F | 155 | 107 | 94 | 101 | 102 | 74 | 101 | 101 |
| 099 | Standard deviation | 56 | 24 | 16 | 6 | 14 | 5 | 23 | 16 |
| 131 | Air heater combustor temperature, °F | 202 | 117 | 93 | 100 | 100 | 73 | 95 | 100 |
| 131 | Standard deviation | 109 | 45 | 15 | 6 | 13 | 5 | 18 | 17 |
| 148 | Air heater inlet pressure, psia | 120.2 | 122.4 | 126.5 | 127.5 | 125.8 | 116.6 | 125.8 | 125.4 |
| 148 | Standard deviation | 18.4 | 12.7 | 2.5 | 1.6 | 3.9 | 29.6 | 3.1 | 19.5 |
| 149 | Air heater venturi dif- ferential pressure, psid | 0.75 | 0.62 | 0.47 | 0.49 | 0.58 | 0.53 | 0.55 | 0.54 |
| 149 | Standard deviation | 2.31 | 1.09 | 0.19 | 0.14 | 0.18 | 0.18 | 0.19 | 0.18 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Total airflow rate | 591 | 629 | 625 | 626 | 627 | 664 | 627 | 645 |

| | | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|-------|
| 099 | Standard deviation | 56 | 24 | 16 | 6 | 14 | 5 | 23 | 16 |
| 131 | Air heater combustor temperature, °F | 202 | 117 | 93 | 100 | 100 | 73 | 95 | 100 |
| 131 | Standard deviation | 109 | 45 | 15 | 6 | 13 | 5 | 18 | 17 |
| 148 | Air heater inlet pressure, psia | 120.2 | 122.4 | 126.5 | 127.5 | 125.8 | 116.6 | 125.8 | 125.4 |
| 148 | Standard deviation | 18.4 | 12.7 | 2.5 | 1.6 | 3.9 | 29.6 | 3.1 | 19.5 |
| 149 | Air heater venturi differential pressure, psid | 0.75 | 0.62 | 0.47 | 0.49 | 0.58 | 0.53 | 0.55 | 0.54 |
| 149 | Standard deviation | 2.31 | 1.09 | 0.19 | 0.14 | 0.18 | 0.18 | 0.19 | 0.18 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 591 | 639 | 635 | 626 | 637 | 664 | 627 | 645 |
| C04 | Standard deviation | 139 | 102 | 73 | 74 | 48 | 139 | 85 | 71 |
| C09 | Reactor coal-air ratio | 0.054 | 0.047 | 0.050 | 0.066 | 0.064 | 0.060 | 0.097 | 0.081 |
| C09 | Standard deviation | 0.035 | 0.030 | 0.034 | 0.065 | 0.032 | 0.026 | 0.109 | 0.022 |
| C16 | Reactor grid flow coefficient | 0.664 | 0.669 | 0.625 | 0.725 | 0.473 | 0.345 | 0.511 | 0.207 |
| C16 | Standard deviation | 0.055 | 0.386 | 0.105 | 0.072 | 0.120 | 0.068 | 0.101 | 0.102 |

^bData or results were not obtained.

FOLDOUT FRAME

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TABLE 4. - Continued.

(b) Continued. - Combustor input air system data

| Data chan- nel | Parameter | Test | | | | |
|----------------------|--|-------|-------|-------|-------|-------|
| | | CAS0 | CAS1 | CAS2 | CAS3 | CAS4 |
| 008 | Air venturi pressure differential, psid | 7.57 | 6.29 | 8.59 | 8.31 | 8.00 |
| 008 | Standard deviation | 1.47 | 1.92 | 1.10 | 1.96 | 0.41 |
| 009 | Air line pressure, psid | 132.9 | 132.6 | 128.6 | 128.5 | 128.2 |
| 009 | Standard deviation | 3.4 | 2.9 | 6.8 | 11.4 | 18.0 |
| 010 | Air inlet temperature, °F | 110 | 27 | 110 | 101 | 100 |
| 010 | Standard deviation | 24 | 8 | 16 | 33 | 13 |
| 011 | Fuel air venturi pressure differential, psid | 5.67 | 5.55 | 5.41 | 5.06 | 5.34 |
| 011 | Standard deviation | 0.34 | 0.36 | 0.63 | 1.11 | 0.89 |
| 012 | Fuel air line pressure, psia | 132.7 | 132.1 | 128.2 | 128.5 | 128.1 |
| 012 | Standard deviation | 3.3 | 2.9 | 6.7 | 11.3 | 18.0 |
| 013 | Fuel air inlet temperature, °F | 21 | 17 | 29 | 21 | 41 |
| 013 | Standard deviation | 5 | 5 | 3 | 6 | 6 |
| 015 | Burner air venturi pressure differential, psid | 0.73 | 2.73 | 0.20 | 10.35 | (b) |
| 015 | Standard deviation | 2.96 | 4.70 | 1.44 | 1.23 | (b) |
| 016 | Burner air pressure, psia | 127.4 | 133.2 | 128.9 | 129.0 | 128.6 |
| 016 | Standard deviation | 27.2 | 3.0 | 6.7 | 11.3 | 18.1 |
| 050 | Reactor inlet air temperature, °F | 95 | 39 | 98 | 91 | 101 |
| 050 | Standard deviation | 16 | 29 | 12 | 23 | 9 |
| 054 | Reactor grid air differential pressure, psid | 16.30 | 15.76 | 4.83 | 3.77 | 3.64 |
| 054 | Standard deviation | 3.27 | 5.43 | 0.74 | 0.71 | 0.73 |
| 055 | Reactor internal pressure, psia | 76.7 | 75.5 | 79.4 | 79.3 | 77.5 |
| 055 | Standard deviation | 8.6 | 12.5 | 5.2 | 14.9 | 11.7 |
| 099 | Air heater vent. temperature, °F | 237 | 122 | 232 | 240 | 256 |
| 099 | Standard deviation | 56 | 24 | 35 | 71 | 42 |
| 131 | Air heater combustor temperature, °F | 355 | 110 | 335 | 353 | 371 |
| 131 | Standard deviation | 94 | 19 | 58 | 123 | 68 |
| 148 | Air heater inlet pressure, psia | 129.3 | 129.2 | 126.0 | 126.0 | 125.4 |
| 148 | Standard deviation | 2.9 | 2.8 | 5.8 | 10.8 | 17.5 |
| 149 | Air heater venturi dif- ferential pressure, psid | 0.75 | (b) | 0.83 | 0.86 | 0.66 |
| 149 | Standard deviation | 0.23 | (b) | 0.20 | 1.17 | 0.90 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, | 644 | 655 | 648 | 655 | 632 |

| | | | | | | |
|------|--|-------|-------|-------|-------|-------|
| | temperature, °F | | | | | |
| 099 | Standard deviation | 56 | 24 | 35 | 71 | 42 |
| 131 | Air heater combustor temperature, °F | 355 | 110 | 335 | 353 | 371 |
| 131 | Standard deviation | 94 | 19 | 58 | 123 | 68 |
| 148 | Air heater inlet pressure, psia | 129.3 | 129.2 | 126.0 | 126.0 | 125.4 |
| 148 | Standard deviation | 2.9 | 2.8 | 5.8 | 10.8 | 17.5 |
| 149 | Air heater venturi differential pressure, psid | 0.75 | (b) | 0.83 | 0.86 | 0.66 |
| 149 | Standard deviation | 0.23 | (b) | 0.20 | 1.17 | 0.90 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 644 | 655 | 648 | 655 | 632 |
| C04 | Standard deviation | 64 | 47 | 47 | 68 | 18 |
| C09 | Reactor coal-air ratio | 0.059 | 0.084 | 0.062 | 0.055 | 0.055 |
| C09 | Standard deviation | 0.006 | 0.010 | 0.010 | 0.036 | 0.028 |
| C16 | Reactor grid flow coefficient | 0.296 | 0.212 | 0.576 | 0.468 | 0.501 |
| C16 | Standard deviation | 0.017 | 0.014 | 0.049 | 0.032 | 0.042 |

^bData or results were not obtained.

FOLDED FRAME

2

| | | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|-------|
| 149 | Air heater venturi differential pressure, psid | 0.90 | 0.31 | 0.39 | 3.60 | 3.62 | 0.43 | 0.32 | 0.42 |
| 149 | Standard deviation | | | | | | | | |
| C04A | Combustor airflow rate, lb/hr | 0.20 | 0.02 | 0.04 | 0.48 | 3.22 | 0.03 | 0.05 | 0.03 |
| | | 748 | 252 | 456 | 911 | 914 | 421 | 494 | 301 |
| C04A | Standard deviation | | | | | | | | |
| C04B | Burner airflow rate, lb/hr | 6 | 10 | 8 | 16 | 14 | 3 | 5 | 1 |
| | | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | | | | | | | | |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| | | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | | | | | | | | |
| C04 | Total airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| | | 808 | 322 | 512 | 965 | 974 | 482 | 554 | 360 |
| C04 | Standard deviation | | | | | | | | |
| C09 | Reactor coal-air ratio | 6 | 30 | 14 | 20 | 14 | 3 | 5 | 2 |
| C09 | Standard deviation | 0.066 | 0.112 | 0.092 | 0.068 | 0.065 | 0.090 | 0.038 | 0.049 |
| C16 | Reactor grid flow coefficient | 0.004 | 0.024 | 0.012 | 0.005 | 0.005 | 0.003 | 0.004 | 0.012 |
| | | 0.499 | 0.398 | 0.459 | 0.501 | 0.502 | 0.462 | 0.466 | 0.417 |
| C16 | Standard deviation | 0.005 | 0.006 | 0.008 | 0.004 | 0.004 | 0.008 | 0.008 | 0.014 |

^bData or results were not obtained.

FOLDOUT FRAME 2

C-2

TABLE 4. - Continued.

(b) Continued. - Combustor input air system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M11 | M12 |
| 008 | Air venturi pressure differential, psid | 3.75 | 13.92 | 12.71 | 3.70 | 1.98 | 6.19 | 6.20 | 3.98 | 12.89 |
| 008 | Standard deviation | 0.07 | 0.59 | 0.69 | 0.11 | 0.05 | 0.19 | 0.22 | 0.13 | 0.26 |
| 009 | Air line pressure, psid | 133.5 | 122.1 | 130.4 | 132.3 | 136.5 | 129.8 | 128.6 | 126.1 | 133.9 |
| 009 | Standard deviation | 2.7 | 5.5 | 5.4 | 4.5 | 3.2 | 2.5 | 4.0 | 5.1 | 2.2 |
| 010 | Air inlet temperature, °F | 116 | 93 | 96 | 119 | 92 | 121 | 114 | 111 | 99 |
| 010 | Standard deviation | 6 | 6 | 5 | 6 | 4 | 4 | 4 | 5 | 7 |
| 011 | Fuel air venturi pressure differential, psid | 5.74 | 4.83 | 5.45 | 5.57 | 5.98 | 5.34 | 5.22 | 5.05 | 5.78 |
| 011 | Standard deviation | 0.20 | 0.46 | 0.50 | 0.39 | 0.24 | 0.17 | 0.32 | 0.44 | 0.22 |
| 012 | Fuel air line pressure, psia | 132.5 | 121.3 | 129.4 | 131.3 | 135.4 | 128.9 | 127.6 | 125.2 | 132.9 |
| 012 | Standard deviation | 2.6 | 5.4 | 5.3 | 4.4 | 3.1 | 2.5 | 3.9 | 5.0 | 2.2 |
| 013 | Fuel air inlet temperature, °F | 40 | 37 | 33 | 23 | 18 | 25 | 32 | 26 | 25 |
| 013 | Standard deviation | 5 | 2 | 4 | 3 | 1 | 3 | 3 | 1 | 2 |
| 015 | Burner air venturi pressure differential, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 015 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 016 | Burner air pressure, psia | 133.0 | 121.8 | 130.0 | 131.8 | 135.9 | 129.4 | 128.1 | 125.7 | 133.4 |
| 016 | Standard deviation | 2.7 | 5.4 | 5.4 | 4.4 | 3.2 | 2.5 | 3.9 | 5.0 | 2.2 |
| 050 | Reactor inlet air temperature, °F | 102 | 102 | 102 | 102 | 102 | 101 | 102 | 102 | 102 |
| 050 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 054 | Reactor grid air differential pressure, psid | 2.12 | 5.31 | 5.25 | 2.06 | 1.36 | 2.92 | 3.04 | 2.16 | 5.46 |
| 054 | Standard deviation | 0.15 | 0.08 | 0.09 | 0.13 | 0.15 | 0.11 | 0.26 | 0.24 | 0.09 |
| 055 | Reactor internal pressure, psia | 79.3 | 78.6 | 79.6 | 79.4 | 77.9 | 79.7 | 80.5 | 79.7 | 79.0 |
| 055 | Standard deviation | 0.8 | 3.1 | 0.1 | 0.2 | 1.7 | 0.4 | 0.6 | 0.2 | 1.6 |
| 099 | Air heater vent. temperature, °F | 218 | 289 | 305 | 224 | 192 | 234 | 248 | 237 | 314 |
| 099 | Standard deviation | 6 | 9 | 5 | 6 | 5 | 5 | 2 | 6 | 32 |
| 131 | Air heater combustor temperature, °F | 311 | 439 | 455 | 329 | 268 | 350 | 368 | 350 | 454 |
| 131 | Standard deviation | 11 | 11 | 4 | 7 | 11 | 9 | 3 | 10 | 15 |
| 148 | Air heater inlet pressure, psia | 129.5 | 119.6 | 126.8 | 128.4 | 131.9 | 126.3 | 125.3 | 123.1 | 129.9 |
| 148 | Standard deviation | 2.3 | 4.9 | 4.7 | 3.8 | 2.6 | 2.1 | 3.4 | 4.4 | 1.9 |
| 149 | Air heater venturi dif- ferential pressure, psid | 0.48 | 0.72 | 0.66 | 0.54 | 0.47 | 0.71 | 0.55 | 0.45 | 0.83 |
| 149 | Standard deviation | 0.04 | 0.06 | 0.05 | 0.04 | 0.04 | 0.06 | 0.04 | 0.02 | 0.06 |
| C04A | Combustor airflow rate, lb/hr | 399 | 712 | 708 | 393 | 301 | 497 | 498 | 400 | 722 |
| C04A | Standard deviation | 3 | 11 | 8 | 5 | 1 | 5 | 7 | 3 | 5 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, | 460 | 766 | 767 | 454 | 366 | 556 | 555 | 456 | 785 |

| | | | | | | | | | | |
|------|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C04A | Combustor airflow rate, lb/hr | 399 | 712 | 708 | 393 | 301 | 497 | 498 | 400 | 722 |
| C04A | Standard deviation | 3 | 11 | 8 | 5 | 1 | 5 | 7 | 3 | 5 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 460 | 766 | 767 | 454 | 366 | 556 | 555 | 456 | 785 |
| C04 | Standard deviation | 4 | 12 | 9 | 7 | 3 | 4 | 8 | 7 | 6 |
| C09 | Reactor coal-air ratio | 0.047 | 0.048 | 0.050 | 0.049 | 0.045 | 0.039 | 0.044 | 0.051 | 0.048 |
| C09 | Standard deviation | 0.004 | 0.006 | 0.008 | 0.002 | 0.007 | 0.011 | 0.027 | 0.006 | 0.006 |
| C16 | Reactor grid flow coefficient | 0.440 | 0.496 | 0.492 | 0.440 | 0.421 | 0.465 | 0.456 | 0.437 | 0.494 |
| C16 | Standard deviation | 0.014 | 0.005 | 0.003 | 0.016 | 0.021 | 0.006 | 0.017 | 0.026 | 0.005 |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | |
|------|--|-------|-------|-------|-------|-------|-------|-------|-------|
| 148 | Standard deviation | 6.8 | 4.6 | 1.7 | 4.0 | 2.7 | 2.6 | 2.7 | 2.7 |
| 149 | Air heater venturi differential pressure, psid | 0.62 | 0.70 | 0.57 | 0.46 | 0.38 | (b) | (b) | 0.93 |
| 149 | Standard deviation | 0.16 | 0.08 | 0.77 | 0.03 | 0.05 | (b) | (b) | 0.73 |
| C04A | Combustor airflow rate, lb/hr | 603 | 599 | 586 | 601 | 382 | 597 | 600 | 275 |
| C04A | Standard deviation | 4 | 4 | 38 | 5 | 4 | 3 | 2 | 10 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 659 | 655 | 640 | 653 | 439 | 655 | 658 | 337 |
| C04 | Standard deviation | 6 | 6 | 37 | 8 | 4 | 3 | 3 | 10 |
| C09 | Reactor coal-air ratio | 0.047 | 0.044 | 0.048 | 0.046 | 0.047 | 0.046 | 0.045 | 0.052 |
| C09 | Standard deviation | 0.008 | 0.004 | 0.013 | 0.007 | 0.008 | 0.003 | 0.002 | 0.007 |
| C16 | Reactor grid flow coefficient | 0.478 | 0.473 | 0.470 | 0.474 | 0.427 | 0.477 | 0.480 | 0.393 |
| C16 | Standard deviation | 0.004 | 0.008 | 0.006 | 0.010 | 0.013 | 0.003 | 0.009 | 0.013 |

^bData or results were not obtained.

FOLDOUT FRAME 2

TABLE 4. - Continued.

(b) Continued. - Combustor input air system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|-------|-------|-------|-------|-------|-------|-------|
| | | T6A | T6B | T7A | T7B | T7C | T7D1 | T7D2 |
| 008 | Air venturi pressure differential, psid | 8.73 | 8.55 | 10.61 | 9.91 | 10.25 | 10.90 | 10.88 |
| 008 | Standard deviation | 0.56 | 1.88 | 0.63 | 1.20 | 1.92 | 1.31 | 0.30 |
| 009 | Air line pressure, psid | 125.0 | 126.1 | 126.2 | 131.3 | 126.0 | 128.9 | 129.2 |
| 009 | Standard deviation | 4.0 | 6.8 | 4.0 | 3.2 | 13.4 | 6.2 | 2.5 |
| 010 | Air inlet temperature, °F | 46 | 95 | 97 | 95 | 95 | 95 | 97 |
| 010 | Standard deviation | 8 | 10 | 3 | 6 | 8 | 6 | 3 |
| 011 | Fuel air venturi pressure differential, psid | 5.41 | 4.51 | 5.24 | 5.63 | 5.46 | 5.47 | 5.57 |
| 011 | Standard deviation | 0.40 | 1.01 | 0.40 | 0.36 | 0.67 | 0.58 | 0.24 |
| 012 | Fuel air line pressure, psia | 124.9 | 125.9 | 126.1 | 131.2 | 126.0 | 128.8 | 129.3 |
| 012 | Standard deviation | 3.9 | 6.7 | 4.0 | 3.2 | 13.4 | 6.2 | 2.5 |
| 013 | Fuel air inlet temperature, °F | 40 | 61 | 77 | 62 | 71 | 71 | 70 |
| 013 | Standard deviation | 9 | 8 | 11 | 12 | 13 | 11 | 10 |
| 015 | Burner air venturi pressure differential, psid | (b) | 2.15 | (b) | (b) | 7.44 | 1.29 | (b) |
| 015 | Standard deviation | (b) | 4.77 | (b) | (b) | 4.46 | 3.36 | (b) |
| 016 | Burner air pressure, psia | 125.5 | 126.5 | 126.8 | 131.6 | 126.5 | 129.3 | 129.7 |
| 016 | Standard deviation | 4.0 | 6.8 | 4.0 | 3.1 | 13.5 | 6.2 | 2.5 |
| 050 | Reactor inlet air temperature, °F | 52 | 97 | 103 | 100 | 100 | 100 | 100 |
| 050 | Standard deviation | 7 | 8 | 2 | 5 | 9 | 7 | 1 |
| 054 | Reactor grid air differential pressure, psid | 5.44 | 3.39 | 4.20 | 3.97 | 4.00 | 4.36 | 4.29 |
| 054 | Standard deviation | 0.40 | 0.66 | 0.27 | 0.39 | 0.58 | 0.33 | 0.10 |
| 055 | Reactor internal pressure, psia | 75.1 | 84.0 | 78.9 | 79.9 | 78.1 | 81.2 | 82.1 |
| 055 | Standard deviation | 5.3 | 9.4 | 1.3 | 6.5 | 11.5 | 4.1 | 1.4 |
| 099 | Air heater vent temperature, °F | 110 | 171 | 230 | 229 | 218 | 235 | 235 |
| 099 | Standard deviation | 17 | 45 | 26 | 42 | 43 | 42 | 13 |
| 131 | Air heater combustor temperature, °F | 98 | 319 | 332 | 377 | 311 | 326 | 333 |
| 131 | Standard deviation | 15 | 82 | 38 | 49 | 75 | 70 | 24 |
| 148 | Air heater inlet pressure, psia | 123.4 | 123.8 | 124.1 | 127.8 | 123.5 | 125.9 | 126.3 |
| 148 | Standard deviation | 3.4 | 5.9 | 3.5 | 2.7 | 12.9 | 5.4 | 2.2 |
| 149 | Air heater venturi dif- ferential pressure, psid | 0.13 | 0.82 | 0.26 | 0.44 | 0.37 | 0.32 | 0.39 |
| 149 | Standard deviation | 0.20 | 0.82 | 0.21 | 0.22 | 0.20 | 0.21 | 0.27 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 671 | 648 | 696 | 694 | 697 | 717 | 715 |

| | | 110 | 174 | 230 | 229 | 218 | 235 | 235 |
|------|--|-------|-------|-------|-------|-------|-------|-------|
| 099 | Standard deviation temperature, °F | 17 | 45 | 26 | 42 | 43 | 42 | 13 |
| 131 | Air heater combustor temperature, °F | 98 | 319 | 332 | 377 | 311 | 326 | 333 |
| 131 | Standard deviation | 15 | 82 | 38 | 49 | 75 | 70 | 24 |
| 148 | Air heater inlet pressure, psia | 123.4 | 123.8 | 124.1 | 127.8 | 123.5 | 125.9 | 126.3 |
| 148 | Standard deviation | 3.4 | 5.9 | 3.5 | 2.7 | 12.9 | 5.4 | 2.2 |
| 149 | Air heater venturi dif- ferential pressure, psid | 0.13 | 0.82 | 0.26 | 0.44 | 0.37 | 0.32 | 0.39 |
| 149 | Standard deviation | 0.20 | 0.82 | 0.21 | 0.22 | 0.20 | 0.21 | 0.27 |
| C04A | Combustor airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04A | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 671 | 648 | 696 | 694 | 697 | 717 | 715 |
| C04 | Standard deviation | 15 | 34 | 20 | 41 | 37 | 12 | 6 |
| C09 | Reactor coal-air ratio | 0.054 | 0.048 | 0.046 | 0.044 | 0.043 | 0.046 | 0.047 |
| C09 | Standard deviation | 0.025 | 0.008 | 0.007 | 0.010 | 0.011 | 0.007 | 0.025 |
| C16 | Reactor grid flow coefficient | 0.412 | 0.486 | 0.502 | 0.509 | 0.499 | 0.493 | 0.498 |
| C16 | Standard deviation | 0.009 | 0.028 | 0.006 | 0.008 | 0.035 | 0.024 | 0.006 |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | 270 | 280 | 290 | 300 | 310 | 320 |
|------|--|-------|-------|-------|-------|-------|-------|
| 099 | Standard deviation temperature, °F | 3 | 2 | 27 | 45 | 2 | 1 |
| 131 | Air heater combustor temperature, °F | 362 | 415 | 487 | 350 | 313 | 353 |
| 131 | Standard deviation | 3 | 3 | 4 | 9 | 5 | 1 |
| 148 | Air heater inlet pressure, psia | 132.7 | 130.6 | 128.1 | 132.5 | 132.8 | 132.2 |
| 148 | Standard deviation | 0.9 | 1.7 | 1.8 | 0.7 | 0.6 | 0.7 |
| 149 | Air heater venturi dif- ferential pressure, psid | 0.407 | 0.568 | 1.258 | 0.448 | 0.331 | 0.364 |
| 149 | Standard deviation | 0.012 | 0.009 | 0.166 | 0.170 | 0.009 | 0.008 |
| C04A | Combustor airflow rate, lb/hr | 407 | 588 | 924 | 371 | 315 | 388 |
| C04A | Standard deviation | 4 | 4 | 4 | 3 | 1 | 2 |
| C04B | Burner airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C04B | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Fuel airflow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C04C | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C04 | Total airflow rate, lb/hr | 470 | 649 | 982 | 433 | 376 | 449 |
| C04 | Standard deviation | 5 | 4 | 5 | 3 | 1 | 2 |
| C09 | Reactor coal-air ratio | 0.097 | 0.067 | 0.068 | 0.102 | 0.091 | 0.092 |
| C09 | Standard deviation | 0.002 | 0.003 | 0.006 | 0.003 | 0.006 | 0.008 |
| C16 | Reactor grid flow coefficient | 0.289 | 0.319 | 0.321 | 0.309 | 0.301 | 0.323 |
| C16 | Standard deviation | 0.004 | 0.011 | 0.008 | 0.005 | 0.005 | 0.007 |

^bData or results were not obtained.

FOLDOUT FRAME 2

(c) Combustor temperature and pressure data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | A1A | A2A | A11A | A10A | A9A | A9B | A1B | A10B | A11B |
| 030 | Bed temperature 5 in. from bottom, °F | 1629 | 1636 | 1617 | 1654 | 1693 | 1636 | 1607 | 1598 | 1617 |
| 030 | Standard deviation | 49 | 20 | 27 | 27 | 35 | 21 | 63 | 19 | 15 |
| 031 | Bed temperature 5 in. from bottom, °F | 1602 | 1585 | 1589 | 1639 | 1655 | 1658 | 1653 | 1633 | 1622 |
| 031 | Standard deviation | 30 | 34 | 29 | 23 | 25 | 19 | 47 | 18 | 14 |
| 032 | Bed temperature 15 in. from bottom, °F | 1571 | 1600 | 1580 | 1592 | 1608 | 1586 | 1581 | 1585 | 1585 |
| 032 | Standard deviation | 18 | 23 | 18 | 14 | 14 | 12 | 27 | 9 | 10 |
| 033 | Bed temperature 29 in. from bottom, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 034 | Bed temperature 42 in. from bottom, °F | 1572 | 1602 | 1588 | 1601 | 1614 | 1585 | 1583 | 1591 | 1593 |
| 034 | Standard deviation | 18 | 22 | 17 | 14 | 13 | 10 | 18 | 9 | 10 |
| 035 | Bed temperature 55 in. from bottom, °F | 1553 | 1594 | 1588 | 1600 | 1610 | 1574 | 1566 | 1585 | 1586 |
| 035 | Standard deviation | 17 | 26 | 16 | 14 | 13 | 10 | 36 | 8 | 10 |
| 036 | Bed temperature 67 in. from bottom, °F | (b) | (b) | (b) | (b) | 1517 | 1503 | 1465 | 1489 | 1493 |
| 036 | Standard deviation | (b) | (b) | (b) | (b) | 7 | 35 | 21 | 7 | 11 |
| 037 | Bed temperature 79 in. from bottom, °F | 1545 | 1578 | 1581 | 1596 | 1597 | 1355 | 1420 | 1399 | 1433 |
| 037 | Standard deviation | 16 | 29 | 14 | 16 | 12 | 56 | 20 | 30 | 7 |
| 038 | Bed temperature 96 in. from bottom, °F | 1477 | 1402 | 1504 | 1560 | 1492 | 1251 | 1338 | 1334 | 1365 |
| 038 | Standard deviation | 18 | 48 | 30 | 21 | 13 | 45 | 11 | 18 | 6 |
| 039 | Preexit gas temperature, °F | 1280 | 1233 | 1270 | 1335 | 1344 | 1192 | 1273 | 1278 | 1305 |
| 039 | Standard deviation | 29 | 28 | 11 | 33 | 12 | 35 | 17 | 11 | 6 |
| 028 | Grid surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Grid cap surface temperature, °F | 601 | 539 | 570 | 596 | 583 | 531 | 468 | 845 | 842 |
| 029 | Standard deviation | 33 | 73 | 27 | 29 | 31 | 21 | 33 | 14 | 12 |
| 051 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 3.70 | 5.56 | 3.59 | 3.37 | 2.85 | 1.71 | 1.45 | 1.27 | 1.20 |
| 056 | Standard deviation | 0.22 | 2.56 | 0.26 | 0.32 | 0.21 | 0.17 | 0.18 | 0.16 | 0.20 |
| 167 | Bed sample rod temperature, °F | 1624 | 1644 | 1638 | 1667 | 1706 | 1652 | 1639 | 1652 | 1641 |
| 167 | Standard deviation | 25 | 26 | 23 | 21 | 28 | 14 | 67 | 16 | 13 |
| 168 | Bed sample rod temperature, °F | 1590 | 1608 | 1588 | 1607 | 1633 | 1610 | 1594 | 1619 | 1611 |
| 168 | Standard deviation | 20 | 22 | 17 | 14 | 20 | 12 | 59 | 14 | 8 |
| 169 | Bed sample rod temperature, °F | 1590 | 1592 | 1561 | 1569 | 1591 | 1555 | 1518 | 1550 | 1541 |
| 169 | Standard deviation | 19 | 18 | 17 | 11 | 17 | 11 | 91 | 12 | 8 |
| 170 | Bed sample rod tempera- | 59 | 65 | 66 | 52 | 60 | 86 | 82 | 66 | 62 |

| | | | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 168 | Standard deviation | 20 | 22 | 17 | 14 | 20 | 12 | 59 | 14 | 8 |
| 169 | Bed sample rod temperature, °F | 1590 | 1592 | 1561 | 1569 | 1591 | 1555 | 1518 | 1550 | 1541 |
| 169 | Standard deviation | 19 | 18 | 17 | 11 | 17 | 11 | 91 | 12 | 8 |
| 170 | Bed sample rod temperature, °F | 59 | 65 | 66 | 52 | 60 | 86 | 83 | 66 | 63 |
| 170 | Standard deviation | 0.6 | 2.9 | 4.8 | 3.5 | 3.8 | 1.5 | 4.4 | 1.5 | 0.6 |
| 171 | Bed sample rod temperature, °F | 59 | 65 | 66 | 52 | 60 | 86 | 82 | 66 | 63 |
| 171 | Standard deviation | 0.6 | 2.4 | 4.8 | 3.3 | 4.0 | 1.5 | 4.9 | 1.3 | 0.5 |
| 172 | Bed sample rod temperature, °F | 1583 | 1615 | 1596 | 1609 | 1625 | 1594 | 1585 | 1602 | 1602 |
| 172 | Standard deviation | 20 | 21 | 15 | 10 | 14 | 10 | 28 | 11 | 8 |
| 173 | Bed sample rod temperature, °F | 1532 | 1545 | 1546 | 1550 | 1555 | 86 | 83 | 66 | 63 |
| 173 | Standard deviation | 18 | 38 | 12 | 9 | 12 | 2 | 5 | 1 | 1 |
| 178 | Grid to port 1 bed differential pressure, psid | 0.477 | 0.454 | 0.542 | 0.593 | 1.920 | 0.626 | 0.580 | 0.637 | 0.729 |
| 178 | Standard deviation | 0.114 | 0.233 | 0.085 | 0.208 | 3.183 | 0.250 | 0.099 | 0.161 | 0.186 |
| 179 | Port 1 to port 2 bed differential pressure, psid | 0.713 | 2.368 | 0.684 | 0.640 | 1.739 | 0.702 | 0.678 | 0.645 | 0.706 |
| 179 | Standard deviation | 0.116 | 3.011 | 0.052 | 0.062 | 2.715 | 0.061 | 0.069 | 0.039 | 0.045 |
| 180 | Port 2 to port 3 bed differential pressure, psid | 1.234 | 1.265 | 0.585 | 0.623 | 1.810 | 0.589 | 0.539 | 0.386 | 0.334 |
| 180 | Standard deviation | (b) | 1.033 | 0.133 | 0.115 | 3.109 | 0.142 | 0.111 | 0.030 | 0.042 |
| 181 | Port 3 to port 4 bed differential pressure, psid | 3.135 | 0.855 | 0.654 | 0.578 | 1.974 | 0.015 | 0.017 | 0.011 | 0.007 |
| 182 | Standard deviation | 0.269 | 0.760 | 0.110 | 0.148 | 3.653 | 0.001 | 0.001 | 0.001 | 0.004 |

^bData or results were not obtained.

FOLDOUT FRAME 2

(c) Continued. - Combustor temperature and pressure data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|
| | | A8B | A7B | A6B | A5B | A3B | A16B | A12B | A17B |
| 030 | Bed temperature 5 in. from bottom, °F | 1617 | 1672 | 1546 | 1476 | 1605 | 1582 | 1583 | 1710 |
| 030 | Standard deviation | 15 | 33 | 15 | 18 | 21 | 24 | 19 | 40 |
| 031 | Bed temperature 5 in. from bottom, °F | 1618 | 1642 | 1535 | 1457 | 1588 | 1586 | 1588 | 1712 |
| 031 | Standard deviation | 13 | 46 | 12 | 17 | 17 | 23 | 19 | 28 |
| 032 | Bed temperature 15 in. from bottom, °F | 1584 | 1633 | 1539 | (b) | 1574 | 1582 | 1568 | 1709 |
| 032 | Standard deviation | 10 | 17 | 9 | (b) | 12 | 11 | 11 | 15 |
| 033 | Bed temperature 29 in. from bottom, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 034 | Bed temperature 42 in. from bottom, °F | 1592 | 1523 | 1545 | 1481 | 1581 | 1588 | 1572 | 1715 |
| 034 | Standard deviation | 10 | 59 | 9 | 12 | 12 | 11 | 11 | 14 |
| 035 | Bed temperature 55 in. from bottom, °F | 1581 | 1601 | 1528 | 1460 | 1566 | 1579 | 1532 | 1687 |
| 035 | Standard deviation | 10 | 60 | 11 | 14 | 12 | 11 | 10 | 15 |
| 036 | Bed temperature 67 in. from bottom, °F | 1493 | 1519 | 1459 | 1396 | 1491 | 1520 | 1454 | 1613 |
| 036 | Standard deviation | 11 | 39 | 13 | 13 | 11 | 8 | 11 | 11 |
| 037 | Bed temperature 79 in. from bottom, °F | 1439 | 1462 | 1418 | 1362 | 1440 | 1472 | 1409 | 1558 |
| 037 | Standard deviation | 10 | 37 | 13 | 13 | 11 | 9 | 13 | 6 |
| 038 | Bed temperature 96 in. from bottom, °F | 1374 | 1396 | 1364 | 1313 | 1378 | 1417 | 1350 | 1492 |
| 038 | Standard deviation | 10 | 35 | 13 | 13 | 11 | 8 | 19 | 4 |
| 039 | Preexit gas temperature, °F | 1390 | 1350 | 1302 | 1252 | 1315 | 1350 | 1263 | 1433 |
| 039 | Standard deviation | 197 | 14 | 13 | 11 | 13 | 8 | 19 | 5 |
| 028 | Grid surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Grid cap surface tempera- ture, °F | 874 | 947 | 951 | 924 | 981 | 1004 | 1184 | 1019 |
| 029 | Standard deviation | 17 | 27 | 12 | 13 | 14 | 12 | 14 | 15 |
| 051 | Grid to port 1 bed dif- ferential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Port 1 to port 2 bed dif- ferential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 1.13 | 1.00 | 1.13 | 1.22 | 1.18 | 1.07 | 0.90 | 1.00 |
| 056 | Standard deviation | 0.22 | 0.23 | 0.19 | 0.29 | 0.23 | 0.16 | 0.21 | 0.14 |
| 167 | Bed sample rod tempera- ture, °F | 1631 | 1652 | 1569 | 1502 | 1618 | 1626 | 1595 | 1739 |
| 167 | Standard deviation | 10 | 50 | 16 | 13 | 18 | 17 | 19 | 27 |
| 168 | Bed sample rod tempera- ture, °F | 1599 | 1622 | 1540 | 1474 | 1580 | 1588 | 1570 | 1708 |
| 168 | Standard deviation | 9 | 46 | 13 | 11 | 17 | 15 | 16 | 21 |
| 169 | Bed sample rod tempera- ture, °F | 1528 | 1547 | 1472 | 1422 | 1504 | 1508 | 1495 | 1612 |
| 169 | Standard deviation | 8 | 46 | 12 | 35 | 13 | 12 | 12 | 20 |
| 170 | Bed sample rod tempera- ture, °F | (b) | (b) | (b) | 291 | (b) | (b) | (b) | (b) |

| | | | | | | | | | |
|-----|--|------|------|------|------|------|------|------|------|
| 167 | Bed sample rod temperature, °F | 1631 | 1652 | 1569 | 1502 | 1618 | 1626 | 1595 | 1739 |
| 167 | Standard deviation | 10 | 50 | 16 | 13 | 18 | 17 | 19 | 27 |
| 168 | Bed sample rod temperature, °F | 1599 | 1622 | 1540 | 1474 | 1580 | 1588 | 1570 | 1708 |
| 168 | Standard deviation | 9 | 46 | 13 | 11 | 17 | 15 | 16 | 21 |
| 169 | Bed sample rod temperature, °F | 1528 | 1547 | 1472 | 1422 | 1504 | 1508 | 1495 | 1612 |
| 169 | Standard deviation | 8 | 46 | 12 | 35 | 13 | 12 | 12 | 20 |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | 291 | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | 505 | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | 1599 | 1634 | 1554 | 1248 | 1589 | 1599 | 1579 | 1727 |
| 172 | Standard deviation | 8 | 42 | 13 | 530 | 15 | 13 | 14 | 15 |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | 304 | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | 535 | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | 0.41 | 0.44 | 0.55 | 0.80 | 0.73 | 0.82 | 0.50 | 0.42 |
| 178 | Standard deviation | 0.19 | 0.17 | 0.10 | 0.63 | 0.21 | 0.21 | 0.09 | 0.16 |
| 179 | Port 1 to port 2 bed differential pressure, psid | 0.63 | 0.62 | 0.67 | 0.70 | 0.77 | 0.70 | 0.64 | 0.60 |
| 179 | Standard deviation | 0.05 | 0.06 | 0.06 | 0.12 | 0.08 | 0.06 | 0.05 | 0.05 |
| 180 | Port 2 to port 3 bed differential pressure, psid | 0.29 | 0.30 | 0.21 | 0.27 | 0.20 | 0.18 | 0.04 | 0.19 |
| 180 | Standard deviation | 0.06 | 0.07 | 0.04 | 0.19 | 0.03 | 0.03 | 0.03 | 0.09 |
| 181 | Port 3 to port 4 bed differential pressure, psid | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 |
| 182 | Standard deviation | 0 | 0 | 0 | 0.04 | 0 | 0 | 0 | 0 |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | 1416 | 1454 | 1433 | 1441 | 1435 | 1431 | 1529 |
|--|------|------|------|------|------|------|------|
| 169 Bed sample rod temperature, °F | 15 | 4 | 17 | 3 | 10 | 7 | 49 |
| 170 Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 Bed sample rod temperature, °F | 1519 | 1599 | 1580 | 1591 | 1588 | 1588 | 1712 |
| 172 Standard deviation | 17 | 9 | 18 | 4 | 12 | 11 | 53 |
| 173 Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 Grid to port 1 bed differential pressure, psid | 0.62 | 0.52 | 0.48 | 0.55 | 0.58 | 0.58 | 0.46 |
| 178 Standard deviation | 0.06 | 0.10 | 0.04 | 0.08 | 0.08 | 0.23 | 0.10 |
| 179 Port 1 to port 2 bed differential pressure, psid | 0.12 | 0.06 | 0.03 | 0.04 | 0.02 | 0 | 0.01 |
| 179 Standard deviation | 0.01 | 0.03 | 0.01 | 0.01 | 0.03 | 0 | 0 |
| 180 Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

(c) Continued. - Combustor temperature and pressure data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|
| | | D6 | D7 | D2 | D1 | D10 | D3 | D4 |
| 030 | Bed temperature 5 in. from bottom, °F | 1642 | 1673 | 1721 | 1466 | 1478 | 1857 | 1933 |
| 030 | Standard deviation | 19 | 12 | 18 | 11 | 13 | 13 | 18 |
| 031 | Bed temperature 5 in. from bottom, °F | 1651 | 1665 | 1677 | 1437 | 1461 | 1816 | 1855 |
| 031 | Standard deviation | 17 | 9 | 16 | 7 | 12 | 15 | 27 |
| 032 | Bed temperature 15 in. from bottom, °F | 1656 | 1651 | 1642 | 1460 | 1447 | 1765 | 1577 |
| 032 | Standard deviation | 8 | 6 | 12 | 4 | 4 | 19 | 182 |
| 033 | Bed temperature 29 in. from bottom, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 033 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 034 | Bed temperature 42 in. from bottom, °F | 1653 | 1650 | 1642 | 1463 | 1453 | 1763 | 1681 |
| 034 | Standard deviation | 8 | 6 | 12 | 4 | 3 | 20 | 103 |
| 035 | Bed temperature 55 in. from bottom, °F | 1653 | 1651 | 1642 | 1466 | 1452 | 1763 | 1681 |
| 035 | Standard deviation | 8 | 6 | 12 | 4 | 3 | 20 | 103 |
| 036 | Bed temperature 67 in. from bottom, °F | 1634 | 1589 | 1529 | 1393 | 1344 | 1764 | 1666 |
| 036 | Standard deviation | 8 | 7 | 18 | 4 | 6 | 21 | 115 |
| 037 | Bed temperature 79 in. from bottom, °F | (b) | (b) | 1444 | 1333 | 1271 | 1636 | 1537 |
| 037 | Standard deviation | (b) | (b) | 20 | 3 | 8 | 22 | 123 |
| 038 | Bed temperature 96 in. from bottom, °F | 1467 | 1477 | 1379 | 1282 | 1212 | 1536 | 1454 |
| 038 | Standard deviation | 41 | 6 | 20 | 5 | 11 | 27 | 106 |
| 039 | Preexit gas temperature, °F | 1388 | 1427 | 1338 | 1244 | 1172 | 1483 | 1406 |
| 039 | Standard deviation | 51 | 5 | 20 | 6 | 11 | 29 | 100 |
| 028 | Grid surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Grid cap surface tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Grid to port 1 bed dif- ferential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Port 1 to port 2 bed dif- ferential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 1.35 | 1.33 | 1.49 | 1.77 | 2.02 | 1.83 | 1.78 |
| 056 | Standard deviation | 0.29 | 0.36 | 0.22 | 0.36 | 0.27 | 0.31 | 0.26 |
| 167 | Bed sample rod tempera- ture, °F | 1683 | 1684 | 1058 | 1453 | 1451 | 1829 | 1856 |
| 167 | Standard deviation | 12 | 8 | 31 | 4 | 11 | 21 | 29 |
| 168 | Bed sample rod tempera- ture, °F | 1535 | 1875 | 1020 | 1378 | 1369 | (b) | (b) |
| 168 | Standard deviation | 168 | 33 | 164 | 11 | 19 | (b) | (b) |
| 169 | Bed sample rod tempera- ture, °F | 1305 | 1304 | 1257 | 1240 | 1234 | 1290 | 1389 |
| 169 | Standard deviation | 11 | 6 | 33 | 3 | 3 | 60 | 24 |

| | | | | | | | | |
|-----|--|------|------|------|------|------|------|------|
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 1.35 | 1.33 | 1.49 | 1.77 | 2.02 | 1.83 | 1.78 |
| 056 | Standard deviation | 0.29 | 0.36 | 0.22 | 0.36 | 0.27 | 0.31 | 0.26 |
| 167 | Bed sample rod temperature, F | 1683 | 1684 | 1058 | 1453 | 1451 | 1829 | 1856 |
| 167 | Standard deviation | 12 | 8 | 31 | 4 | 11 | 21 | 29 |
| 168 | Bed sample rod temperature, F | 1535 | 1875 | 1020 | 1378 | 1369 | (b) | (b) |
| 168 | Standard deviation | 168 | 33 | 164 | 11 | 19 | (b) | (b) |
| 169 | Bed sample rod temperature, F | 1305 | 1304 | 1257 | 1240 | 1234 | 1290 | 1389 |
| 169 | Standard deviation | 11 | 6 | 33 | 3 | 3 | 60 | 24 |
| 170 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, F | 1325 | 1433 | (b) | 1241 | 1329 | 1533 | 1437 |
| 172 | Standard deviation | 133 | 32 | (b) | 63 | 41 | 24 | 125 |
| 173 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | 0.32 | 0.27 | (b) | 0.22 | 0.14 | 0.34 | 0.09 |
| 178 | Standard deviation | 0.15 | 0.19 | (b) | 0.14 | 0.06 | 0.18 | 0.04 |
| 179 | Port 1 to port 2 bed differential pressure, psid | 5.52 | 6.78 | (b) | 8.15 | 8.11 | 8.12 | 8.21 |
| 179 | Standard deviation | 0.03 | 0.17 | (b) | 0.08 | 0.03 | 0.05 | 0.02 |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | |
|-----|--|------|------|------|------|------|------|------|------|
| 167 | Standard deviation | 17 | 11 | 15 | 32 | 16 | 33 | 34 | 272 |
| 168 | Bed sample rod temperature, F | 1569 | 1573 | 1580 | 1698 | 1712 | 1735 | 1762 | 1727 |
| 168 | Standard deviation | 17 | 10 | 14 | 30 | 34 | 51 | 60 | 291 |
| 169 | Bed sample rod temperature, F | 1470 | 1472 | 1465 | 1315 | 1349 | 1213 | 1172 | 1253 |
| 169 | Standard deviation | 16 | 8 | 14 | 55 | 30 | 30 | 70 | 180 |
| 170 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, F | 1575 | 1581 | 1584 | 871 | 1629 | 1231 | 1450 | 1306 |
| 172 | Standard deviation | 17 | 9 | 12 | 117 | 27 | 70 | 69 | 91 |
| 173 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | 0.65 | 0.83 | 0.72 | 1.13 | 1.38 | 1.84 | 1.65 | 0.45 |
| 178 | Standard deviation | 0.24 | 0.16 | 0.22 | 0.14 | 0.23 | 0.25 | 0.29 | 0.39 |
| 179 | Port 1 to port 2 bed differential pressure, psid | 0.71 | 0.71 | 0.65 | 0.04 | 0.01 | 0.08 | 8.30 | 0.16 |
| 179 | Standard deviation | 0.07 | 0.04 | 0.04 | 0.05 | 0.01 | 0.09 | 2.85 | 0.09 |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | |
|-----|--|------|------|------|------|------|-----|-----|
| 167 | Standard deviation | 20 | 15 | 28 | 18 | 18 | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | 2367 | 2476 | 1901 | 1796 | (b) | (b) |
| 168 | Standard deviation | (b) | 123 | 135 | 98 | 70 | (b) | (b) |
| 169 | Bed sample rod temperature, °F | 1593 | 1674 | 1664 | 1660 | 1672 | (b) | (b) |
| 169 | Standard deviation | 12 | 9 | 8 | 10 | 19 | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | 1755 | 1788 | 1766 | 1816 | 1823 | (b) | (b) |
| 172 | Standard deviation | 25 | 32 | 16 | 24 | 22 | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | 0.51 | (b) | (b) | 0.13 | (b) | (b) | (b) |
| 178 | Standard deviation | 0.18 | (b) | (b) | 0.23 | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | 0.26 | 0.27 | 0.14 | 0.16 | (b) | (b) |
| 179 | Standard deviation | (b) | 0.01 | 0.01 | 0.04 | 0.01 | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | 0.11 | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | 0.15 | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (a) | 0.07 | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | 0.14 | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME

2

| | | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
|-----|--|------|------|------|------|------|------|-----------|
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 1.56 | 2.00 | 1.64 | 1.85 | 1.75 | 1.97 | 2.06 1.69 |
| 056 | Standard deviation | 0.14 | 0.17 | 0.12 | 0.17 | 0.12 | 0.12 | 0.10 0.13 |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | |
|-----|--|-----|-----|-----|-----|-----|-----|
| | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | (b) | (b) | 0.01 | (b) | (b) | (b) | 0 | 0 | 0 |
|-----|--|------|------|------|------|------|------|------|------|------|
| 052 | Standard deviation | (b) | (b) | 0.01 | (b) | (b) | (b) | 0 | 0 | 0 |
| 056 | Overall bed differential pressure, psid | 2.40 | 2.79 | 2.68 | 2.72 | 2.88 | 3.14 | 2.56 | 2.70 | 2.66 |
| 056 | Standard deviation | 0.15 | 0.14 | 0.12 | 0.30 | 0.25 | 0.16 | 0.06 | 0.11 | 0.14 |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | |
|-----|--|-----|-----|-----|-----|-----|-----|-----|
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | | |
|-----|--|------|------|------|------|------|------|------|------|------|
| 029 | Grid cap surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Grid to port 1 bed differential pressure, psid | 3.27 | 3.20 | 3.29 | 3.54 | 0.30 | 0.91 | 0.85 | 0.75 | 0.63 |
| 051 | Standard deviation | 0.23 | 0.12 | 0.27 | 0.12 | 0.09 | 0.26 | 0.13 | 0.09 | 0.09 |
| 052 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | 1.27 | 1.33 | 1.54 | 1.57 | 1.79 |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | 0.07 | 0.08 | 0.05 | 0.03 | 0.05 |
| 056 | Overall bed differential pressure, psid | 1.84 | 1.81 | 1.83 | 1.93 | 1.93 | 2.01 | 2.09 | 2.18 | 2.16 |
| 056 | Standard deviation | 0.19 | 0.09 | 0.15 | 0.14 | 0.19 | 0.10 | 0.14 | 0.10 | 0.09 |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | |
|-----|--|-----|-----|-----|-----|-----|-----|-----|
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | 0.08 | 0.10 | 0.37 | 0.24 | 0.20 | 0.31 | 0.60 | 0.65 | 0.65 |
|-----|--|------|------|------|------|------|------|------|------|------|
| 056 | Standard deviation | | | | | | | | | |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | |
|-----|--|-----|-----|-----|-----|-----|-----|-----|-----|
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

FOLDOUT FRAME)

TABLE 4. - Continued.

(c) Continued. - Combustor temperature and pressure data

| Data channel | Parameter | Test | | | | | |
|--------------|--|------|------|------|------|------|------|
| | | H19 | H20 | H23 | H24 | H25 | H26 |
| 030 | Bed temperature 5 in. from bottom, °F | 1774 | 1795 | 1819 | 1810 | 1810 | 1793 |
| 030 | Standard deviation | 28 | 19 | 36 | 13 | 16 | 19 |
| 031 | Bed temperature 5 in. from bottom, °F | 1774 | 1798 | 1738 | 1701 | 1718 | 1704 |
| 031 | Standard deviation | 28 | 18 | 33 | 14 | 15 | 14 |
| 032 | Bed temperature 15 in. from bottom, °F | 1804 | 1833 | 1851 | 1834 | 1832 | 1810 |
| 032 | Standard deviation | 30 | 20 | 34 | 14 | 15 | 20 |
| 033 | Bed temperature 29 in. from bottom, °F | 1811 | 1840 | 1859 | 1843 | 1840 | 1818 |
| 033 | Standard deviation | 31 | 20 | 36 | 14 | 15 | 19 |
| 034 | Bed temperature 42 in. from bottom, °F | 1773 | 1802 | 1821 | 1807 | 1803 | 1784 |
| 034 | Standard deviation | 28 | 18 | 31 | 13 | 14 | 17 |
| 035 | Bed temperature 55 in. from bottom, °F | 1803 | 1844 | 1869 | 1849 | 1846 | 1825 |
| 035 | Standard deviation | 30 | 19 | 29 | 15 | 15 | 19 |
| 036 | Bed temperature 67 in. from bottom, °F | 1769 | 1816 | 1843 | 1821 | 1820 | 1801 |
| 036 | Standard deviation | 27 | 17 | 24 | 14 | 14 | 16 |
| 037 | Bed temperature 79 in. from bottom, °F | 1748 | 1799 | 1827 | 1804 | 1804 | 1787 |
| 037 | Standard deviation | 25 | 15 | 19 | 13 | 12 | 13 |
| 038 | Bed temperature 96 in. from bottom, °F | 1712 | 1761 | 1792 | 1772 | 1771 | 1756 |
| 038 | Standard deviation | 20 | 13 | 14 | 12 | 10 | 9 |
| 039 | Preexit gas temperature, °F | 1668 | 1715 | 1743 | 1727 | 1727 | 711 |
| 039 | Standard deviation | 18 | 11 | 14 | 10 | 9 | 7 |
| 028 | Grid surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Grid cap surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 0.70 | 0.89 | 0.88 | 0.93 | 0.76 | 0.72 |
| 056 | Standard deviation | 0.17 | 0.22 | 0.22 | 0.16 | 0.23 | 0.17 |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |

| | | (b) | (b) | (b) | (b) | (b) | (b) |
|-----|--|------|------|------|------|------|------|
| | ferential pressure, psid | | | | | | |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 0.70 | 0.89 | 0.88 | 0.93 | 0.76 | 0.72 |
| 056 | Standard deviation | | | | | | |
| 167 | Bed sample rod temperature, °F | 0.17 | 0.22 | 0.22 | 0.16 | 0.23 | 0.17 |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | | |
|-----|--|------|------|------|------|------|------|------|------|------|
| 056 | Overall bed differential pressure, psid | 0.76 | 0.65 | 0.27 | 0.27 | 0.44 | 0.58 | 0.55 | 0.76 | 0.56 |
| 056 | Standard deviation | 0.11 | 0.18 | 0.05 | 0.11 | 0.02 | 0.07 | 0.08 | 0.29 | 0.08 |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | |
|-----|--|-----|-----|-----|-----|-----|-----|-----|-----|
| 167 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | 0.30 | 0.31 | 0.41 | 0.12 | 0.36 | 0.37 | 0.20 | 0.38 | 0.21 |
|-----|--|------|------|------|------|------|------|------|------|------|
| 056 | Standard deviation | | | | | | | | | |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | |
|-----|--|------|------|------|------|------|------|
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 1.55 | 1.75 | 1.40 | 1.41 | 1.41 | 1.69 |
| 056 | Standard deviation | 0.10 | 0.42 | 0.38 | 0.18 | 0.14 | 0.17 |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | |
|-----|--|-----|-----|-----|-----|-----|-----|-----|
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | |
|-----|--|-----|-----|-----|-----|-----|-----|-----|
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | |
|-----|--|-----|-----|-----|-----|-----|-----|-----|-----|
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | | |
|-----|--|------|------|------|------|------|------|------|------|
| | ferential pressure, psid | | | | | | | | |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 0.76 | 0.85 | 0.85 | 1.00 | 1.26 | 0.79 | 1.01 | 1.32 |
| 056 | Standard deviation | 0.18 | 0.19 | 0.10 | 0.30 | 0.17 | 0.13 | 0.27 | 0.18 |
| 167 | Bed sample rod tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed dif- ferential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed dif- ferential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed dif- ferential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed dif- ferential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

| | | | | | | | | |
|-----|--|------|------|------|------|------|------|------|
| 052 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 1.13 | 1.13 | 2.04 | 1.37 | 0.37 | 1.58 | 2.18 |
| 056 | Standard deviation | 0.26 | 0.27 | 0.45 | 0.44 | 0.24 | 0.47 | 0.32 |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME **2**

TABLE 4. - Continued.

(c) Continued. - Combustor temperature and pressure data

| Data channel | Parameter | Test | | | | | |
|--------------|--|------|------|------|------|------|------|
| | | 19 | 110A | 110B | 111 | 112 | 113 |
| 030 | Bed temperature 5 in. from bottom, °F | 1588 | 1598 | 1559 | 1581 | 1612 | 1776 |
| 030 | Standard deviation | 28 | 17 | 8 | 17 | 34 | 19 |
| 031 | Bed temperature 5 in. from bottom, °F | 1627 | 1624 | 1582 | 1611 | 1636 | 1794 |
| 031 | Standard deviation | 29 | 19 | 9 | 18 | 29 | 30 |
| 032 | Bed temperature 15 in. from bottom, °F | 1628 | 1625 | 1587 | 1613 | 1666 | 1846 |
| 032 | Standard deviation | 28 | 20 | 6 | 15 | 33 | 17 |
| 033 | Bed temperature 29 in. from bottom, °F | 1636 | 1631 | 1592 | 1619 | 1675 | 1859 |
| 033 | Standard deviation | 29 | 20 | 6 | 15 | 34 | 18 |
| 034 | Bed temperature 42 in. from bottom, °F | 1599 | 1574 | 1551 | 1586 | 1637 | 1813 |
| 034 | Standard deviation | 25 | 22 | 7 | 13 | 34 | 13 |
| 035 | Bed temperature 55 in. from bottom, °F | 1604 | 1567 | 1556 | 1620 | 1680 | 1863 |
| 035 | Standard deviation | 23 | 27 | 12 | 10 | 31 | 18 |
| 036 | Bed temperature 67 in. from bottom, °F | 1585 | 1544 | 1530 | 1599 | 1651 | 1826 |
| 036 | Standard deviation | 24 | 23 | 10 | 9 | 29 | 17 |
| 037 | Bed temperature 79 in. from bottom, °F | 1581 | 1534 | 1518 | 1588 | 1631 | 1793 |
| 037 | Standard deviation | 24 | 22 | 8 | 9 | 27 | 14 |
| 038 | Bed temperature 96 in. from bottom, °F | 1574 | 1516 | 1494 | 1558 | 1596 | 1741 |
| 038 | Standard deviation | 26 | 23 | 5 | 10 | 25 | 12 |
| 039 | Preexit gas temperature, °F | 1548 | 1482 | 1454 | 1508 | 1547 | 1692 |
| 039 | Standard deviation | 28 | 22 | 2 | 8 | 26 | 16 |
| 028 | Grid surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Grid cap surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 0.60 | 0.59 | 0.67 | 0.78 | 0.61 | 0.54 |
| 056 | Standard deviation | 0.05 | 0.04 | 0.02 | 0.07 | 0.10 | 0.09 |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |

| | | | | | | | |
|-----|--|------|------|------|------|------|------|
| | ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 0.60 | 0.59 | 0.67 | 0.78 | 0.61 | 0.54 |
| 056 | Standard deviation | 0.05 | 0.04 | 0.02 | 0.07 | 0.10 | 0.09 |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME 2

FOLDOUT FRAME TABLE 4. - Continued.

(c) Concluded. - Combustor temperature and pressure data

| Data chan- nel | Parameter | Test | | | | |
|----------------------|--|------|------|------|------|------|
| | | CAS0 | CAS1 | CAS2 | CAS3 | CAS4 |
| 030 | Bed temperature 5 in. from bottom, °F | 1745 | 1719 | 1773 | 1706 | 1733 |
| 030 | Standard deviation | 117 | 78 | 47 | 183 | 128 |
| 031 | Bed temperature 5 in. from bottom, °F | 1773 | 1767 | 1810 | 1770 | 1836 |
| 031 | Standard deviation | 183 | 103 | 61 | 200 | 119 |
| 032 | Bed temperature 15 in. from bottom, °F | 1773 | 1791 | 1827 | 1779 | 1817 |
| 032 | Standard deviation | 201 | 118 | 66 | 211 | 82 |
| 033 | Bed temperature 29 in. from bottom, °F | 1783 | 1797 | 1832 | 1789 | 1837 |
| 033 | Standard deviation | 204 | 120 | 67 | 198 | 78 |
| 034 | Bed temperature 42 in. from bottom, °F | 1735 | 1754 | 1789 | 1743 | 1792 |
| 034 | Standard deviation | 209 | 127 | 68 | 178 | 75 |
| 035 | Bed temperature 55 in. from bottom, °F | 1764 | 1803 | 1814 | 1762 | 1841 |
| 035 | Standard deviation | 205 | 120 | 75 | 187 | 77 |
| 036 | Bed temperature 67 in. from bottom, °F | 1684 | 1736 | 1728 | 1678 | 1751 |
| 036 | Standard deviation | 208 | 122 | 75 | 171 | 96 |
| 037 | Bed temperature 79 in. from bottom, °F | 1634 | 1647 | 1680 | 1638 | 1665 |
| 037 | Standard deviation | 225 | 140 | 75 | 163 | 102 |
| 038 | Bed temperature 96 in. from bottom, °F | 1570 | 1578 | 1630 | 1591 | 1601 |
| 038 | Standard deviation | 246 | 167 | 87 | 159 | 125 |
| 039 | Preexit gas temperature, °F | 1520 | 1528 | 1586 | 1551 | 1556 |
| 039 | Standard deviation | 227 | 164 | 87 | 154 | 120 |
| 028 | Grid surface temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 029 | Grid cap surface tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 029 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 051 | Grid to port 1 bed dif- ferential pressure, psid | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 052 | Port 1 to port 2 bed dif- ferential pressure, psid | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 056 | Overall bed differential pressure, psid | 1.69 | 2.11 | 1.23 | 0.89 | 1.70 |
| 056 | Standard deviation | 0.35 | 0.34 | 0.31 | 0.69 | 0.35 |
| 167 | Bed sample rod tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) |

| | | 0.35 | 0.34 | 0.31 | 0.69 | 0.35 |
|-----|--|------|------|------|------|------|
| 056 | Standard deviation | | | | | |
| 167 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 167 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 168 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 168 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 169 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 169 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 170 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 170 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 171 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 172 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 172 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 173 | Bed sample rod temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 178 | Grid to port 1 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) |
| 178 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 179 | Port 1 to port 2 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) |
| 179 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 180 | Port 2 to port 3 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 181 | Port 3 to port 4 bed differential pressure, psid | (b) | (b) | (b) | (b) | (b) |
| 182 | Standard deviation | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

FOLDOUT FRAME

2

TABLE 4. - Continued.

(d) Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|------|
| | | A1A | A2A | A11A | A10A | A9A | A9B | A1B | A10B | A11B |
| 026 | Port 6 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Port 4 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Port 1 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Combustor wall surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 040 | Combustor bottom surface temperature, °F | 317 | 273 | 254 | 246 | 279 | 425 | 453 | 518 | 534 |
| 040 | Standard deviation | 54 | 82 | 67 | 63 | 50 | 27 | 9 | 24 | 5 |
| 041 | Combustor bottom deep temperature, °F | 962 | 927 | 944 | 987 | 1042 | 887 | 930 | 1073 | 1080 |
| 041 | Standard deviation | 14 | 25 | 14 | 32 | 18 | 42 | 46 | 14 | 7 |
| 042 | Combustor top shallow temperature, °F | 443 | 452 | 456 | 439 | 460 | 409 | 475 | 544 | 566 |
| 042 | Standard deviation | 13 | 11 | 12 | 6 | 4 | 48 | 4 | 22 | 1 |
| 043 | Combustor top deep temperature, °F | 1312 | 1320 | 1273 | 1275 | 1294 | 1236 | 1282 | 1253 | 1269 |
| 043 | Standard deviation | 15 | 15 | 15 | 8 | 7 | 27 | 9 | 8 | 7 |
| 044 | Port 4 shallow tempera- ture, °F | 899 | 890 | 922 | 951 | 973 | 850 | 1004 | 978 | 1036 |
| 044 | Standard deviation | 15 | 11 | 11 | 13 | 2 | 91 | 13 | 29 | 8 |
| 045 | Port 4 deep temperature °F | 1338 | 1330 | 1356 | 1396 | 1401 | 1235 | 1326 | 1284 | 1325 |
| 045 | Standard deviation | 16 | 13 | 13 | 11 | 5 | 60 | 7 | 21 | 7 |
| 046 | Top cap deep temperature, °F | 797 | 835 | 834 | 863 | 890 | 538 | 807 | 797 | (b) |
| 046 | Standard deviation | 41 | 7 | 5 | 14 | 2 | 53 | 36 | 11 | (b) |
| 047 | Top cap surface tempera- ture, °F | 94 | 88 | 80 | 75 | 80 | 188 | 224 | 207 | 224 |
| 047 | Standard deviation | 0 | 6 | 7 | 1 | 5 | 24 | 6 | 20 | 1 |
| 048 | Top cap surface tempera- ture, °F | 88 | 83 | 78 | 73 | 77 | 130 | 155 | 150 | 155 |
| 048 | Standard deviation | 1 | 7 | 7 | 1 | 5 | 10 | 4 | 9 | 4 |
| 112 | Port 6 insulation tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 156 | Gas exit wall temperature, °F | 356 | 340 | 338 | 351 | 348 | 340 | 361 | 331 | 356 |
| 156 | Standard deviation | 6 | 6 | 4 | 7 | 3 | 25 | 8 | 48 | 1 |
| 171 | Exit pipe wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Port 6 deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|
| | | A8B | A7B | A6B | A5B | A3B | A16B | A12B | A17B |
| 026 | Port 6 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Port 4 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Port 1 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Combustor wall surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 040 | Combustor bottom surface temperature, °F | 534 | 563 | 554 | 537 | 537 | 548 | 621 | 684 |
| 040 | Standard deviation | 3 | 9 | 7 | 5 | 5 | 6 | 29 | 25 |
| 041 | Combustor bottom deep temperature, °F | 1088 | 1120 | 1082 | 1031 | 1097 | 1119 | 1190 | 1269 |
| 041 | Standard deviation | 10 | 50 | 14 | 14 | 10 | 12 | 13 | 23 |
| 042 | Combustor top shallow temperature, °F | 573 | 614 | 646 | 635 | 624 | 646 | 691 | 687 |
| 042 | Standard deviation | 4 | 18 | 3 | 6 | 6 | 5 | 15 | 16 |
| 043 | Combustor top deep temperature, °F | 1277 | 1315 | 1294 | 1230 | 1293 | 1301 | 1319 | 1453 |
| 043 | Standard deviation | 10 | 77 | 15 | 18 | 11 | 5 | 7 | 10 |
| 044 | Port 4 shallow tempera- ture, °F | 1053 | 1054 | 1060 | 1025 | 1031 | 1077 | 1081 | 1148 |
| 044 | Standard deviation | 3 | 10 | 8 | 12 | 14 | 10 | 10 | 5 |
| 045 | Port 4 deep temperature °F | 1336 | 1348 | 1327 | 1268 | 1323 | 1365 | 1324 | 1453 |
| 045 | Standard deviation | 7 | 43 | 17 | 15 | 14 | 7 | 19 | 3 |
| 046 | Top cap deep temperature, °F | 706 | 891 | 793 | (b) | (b) | 895 | 742 | (b) |
| 046 | Standard deviation | 0 | 33 | 119 | (b) | (b) | 42 | 134 | (b) |
| 047 | Top cap surface tempera- ture, °F | 234 | 242 | 236 | 222 | 228 | 234 | 228 | 262 |
| 047 | Standard deviation | 6 | 5 | 4 | 4 | 3 | 3 | 6 | 2 |
| 048 | Top cap surface tempera- ture, °F | 163 | 170 | 158 | 146 | 146 | 152 | 167 | 184 |
| 048 | Standard deviation | 7 | 5 | 5 | 5 | 2 | 5 | 8 | 1 |
| 112 | Port 6 insulation tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 156 | Gas exit wall temperature, °F | 367 | 368 | 353 | 335 | 358 | 370 | 328 | 406 |
| 156 | Standard deviation | 8 | 42 | 7 | 3 | 3 | 2 | 8 | 2 |
| 171 | Exit pipe wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Port 6 deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data channel | Parameter | Test | | | | | | |
|--------------|--|------|------|------|------|------|------|------|
| | | C1 | C3 | C8 | C11 | C12 | C16 | C17 |
| 026 | Port 6 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Port 4-wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Port 1 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Combustor wall surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 040 | Combustor bottom surface temperature, °F | 632 | 653 | 658 | 641 | 659 | 672 | 680 |
| 040 | Standard deviation | 13 | 6 | 3 | 7 | 9 | 2 | 10 |
| 041 | Combustor bottom deep temperature, °F | 1133 | 1185 | 1171 | 1154 | 1179 | 1197 | 1276 |
| 041 | Standard deviation | 12 | 10 | 14 | 6 | 9 | 7 | 44 |
| 042 | Combustor top shallow temperature, °F | 674 | 696 | 708 | 689 | 729 | 766 | 781 |
| 042 | Standard deviation | 11 | 9 | 1 | 8 | 18 | 4 | 11 |
| 043 | Combustor top deep temperature, °F | 1314 | 1308 | 1304 | 1341 | 1496 | 1513 | 1612 |
| 043 | Standard deviation | 58 | 6 | 13 | 60 | 36 | 10 | 52 |
| 044 | Port 4 shallow temperature, °F | 962 | 1038 | 1068 | 1029 | 1070 | 1090 | 1134 |
| 044 | Standard deviation | 27 | 18 | 2 | 23 | 2 | 9 | 24 |
| 045 | Port 4 deep temperature, °F | 1196 | 1280 | 1291 | 1275 | 1303 | 1337 | 1404 |
| 045 | Standard deviation | 18 | 17 | 6 | 18 | 11 | 9 | 38 |
| 046 | Top cap deep temperature, °F | 779 | 852 | 884 | 864 | 886 | 906 | 951 |
| 046 | Standard deviation | 27 | 15 | 3 | 12 | 2 | 11 | 21 |
| 047 | Top cap surface temperature, °F | 186 | 212 | 211 | 195 | 199 | 219 | 232 |
| 047 | Standard deviation | 25 | 3 | 3 | 11 | 6 | 3 | 7 |
| 048 | Top cap surface temperature, °F | 95 | 98 | 100 | 92 | 107 | 110 | 112 |
| 048 | Standard deviation | 2 | 2 | 1 | 5 | 7 | 2 | 3 |
| 112 | Port 6 insulation temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 156 | Gas exit wall temperature, °F | 276 | 345 | 342 | 335 | 321 | 367 | 395 |
| 156 | Standard deviation | 103 | 4 | 1 | 14 | 13 | 5 | 11 |
| 171 | Exit pipe wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Port 6 deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | D6 | D7 | D1 | D1 | D10 | D3 | D4 |
| 026 | Port 6 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Port 4 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Port 1 wall temperature, °F | (b) | (b) | (b) | (b0) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Combustor wall surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 040 | Combustor bottom surface temperature, °F | 543 | 632 | 628 | 602 | 559 | 632 | 626 |
| 040 | Standard deviation | 49 | 18 | 49 | 19 | 13 | 45 | 49 |
| 041 | Combustor bottom deep temperature, °F | 1180 | 1220 | 1189 | 1003 | 866 | 1221 | 1028 |
| 041 | Standard deviation | 29 | 7 | 36 | 14 | 17 | 52 | 185 |
| 042 | Combustor top shallow temperature, °F | 556 | 656 | 552 | 557 | 522 | 601 | 600 |
| 042 | Standard deviation | 108 | 7 | 28 | 14 | 7 | 42 | 37 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 1050 | 1177 | 1034 | 1025 | 977 | 1183 | 1133 |
| 044 | Standard deviation | 135 | 6 | 46 | 15 | 12 | 65 | 83 |
| 045 | Port 4 deep temperature °F | 1413 | 1444 | 1345 | 1260 | 1212 | 1567 | 1479 |
| 045 | Standard deviation | 60 | 4 | 34 | 6 | 8 | 39 | 113 |
| 046 | Top cap deep temperature, °F | 625 | 923 | 851 | 865 | 812 | 920 | 932 |
| 046 | Standard deviation | 232 | 15 | 28 | 12 | 15 | 56 | 47 |
| 047 | Top cap surface tempera- ture, °F | 229 | 242 | 220 | 215 | 197 | 236 | 233 |
| 047 | Standard deviation | 23 | 2 | 8 | 6 | 3 | 11 | 17 |
| 048 | Top cap surface tempera- ture, °F | 239 | 259 | 236 | 237 | 219 | 260 | 253 |
| 048 | Standard deviation | 28 | 3 | 9 | 4 | 3 | 12 | 18 |
| 112 | Port 6 insulation tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 156 | Gas exit wall temperature, °F | 398 | 404 | 31 | 354 | 321 | 423 | 388 |
| 156 | Standard deviation | 11 | 2 | 7 | 3 | 3 | 7 | 36 |
| 171 | Exit pipe wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Port 6 deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|
| | | TB1A | TB1B | TB1C | TB1D | TB1E | TB1F | TB1G | TB1H |
| 026 | Port 6 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Port 4 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Port 1 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Combustor wall surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 040 | Combustor bottom surface temperature, °F | 627 | 628 | 627 | 358 | 359 | 342 | 367 | 603 |
| 040 | Standard deviation | 17 | 12 | 17 | 30 | 13 | 18 | 12 | 118 |
| 041 | Combustor bottom deep temperature, °F | 1148 | 1089 | 1152 | 1005 | 1005 | 979 | 1020 | 1159 |
| 041 | Standard deviation | 12 | 9 | 18 | 33 | 11 | 26 | 26 | 164 |
| 042 | Combustor top shallow temperature, °F | 661 | 721 | 699 | 393 | 497 | 512 | 521 | 545 |
| 042 | Standard deviation | 22 | 3 | 7 | 72 | 41 | 16 | 13 | 103 |
| 043 | Combustor top deep temperature, °F | 1474 | 1493 | 1302 | 1224 | 1289 | 1266 | 1265 | (b) |
| 043 | Standard deviation | 27 | 7 | 7 | 57 | 16 | 36 | 19 | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 1004 | 1076 | 1076 | 1099 | 1154 | 1187 | 1138 | 1044 |
| 044 | Standard deviation | 25 | 9 | 25 | 91 | 62 | 49 | 15 | 245 |
| 045 | Port 4 deep temperature °F | 1277 | 1320 | 1313 | 1428 | 1462 | 1475 | 1431 | 1315 |
| 045 | Standard deviation | 16 | 5 | 19 | 69 | 36 | 54 | 15 | 270 |
| 046 | Top cap deep temperature, °F | 782 | 885 | 894 | 924 | 800 | 1020 | 984 | 831 |
| 046 | Standard deviation | 27 | 14 | 13 | 117 | 35 | 69 | 20 | 211 |
| 047 | Top cap surface tempera- ture, °F | 172 | 206 | 207 | 315 | 366 | 376 | 340 | 250 |
| 047 | Standard deviation | 31 | 21 | 10 | 83 | 26 | 36 | 34 | 57 |
| 048 | Top cap surface tempera- ture, °F | 125 | 135 | 136 | 335 | 394 | 413 | 387 | 264 |
| 048 | Standard deviation | 1 | 4 | 7 | 91 | 27 | 34 | 40 | 60 |
| 112 | Port 6 insulation tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 156 | Gas exit wall temperature, °F | 142 | 171 | 177 | 207 | 230 | 236 | 251 | 244 |
| 156 | Standard deviation | 48 | 32 | 15 | 14 | 16 | 42 | 3 | 59 |
| 171 | Exit pipe wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Port 6 deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | TB2A | TB2B | TB2C | TB2D | TB2E | TB2F | TB2G |
| 026 | Port 6 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Port 4 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Port 1 wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 028 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Combustor wall surface temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 029 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 040 | Combustor bottom surface temperature, °F | 659 | 686 | 646 | 678 | 703 | 432 | 420 |
| 040 | Standard deviation | 157 | 7 | 31 | 12 | 23 | 24 | 8 |
| 041 | Combustor bottom deep temperature, °F | 1050 | 1277 | 1116 | 1329 | 1348 | 1288 | 1139 |
| 041 | Standard deviation | 216 | 27 | 172 | 8 | 24 | 39 | 58 |
| 042 | Combustor top shallow temperature, °F | 680 | 728 | 727 | 628 | 714 | 617 | 693 |
| 042 | Standard deviation | 19 | 5 | 3 | 61 | 21 | 48 | 32 |
| 043 | Combustor top deep temperature, °F | 1371 | 1418 | 1417 | 1312 | 1411 | 1858 | 1886 |
| 043 | Standard deviation | 5 | 6 | 4 | 47 | 32 | 39 | 15 |
| 044 | Port 4 shallow tempera- ture, °F | 1290 | 1349 | 1341 | 1313 | 1321 | 1179 | 1253 |
| 044 | Standard deviation | 7 | 1 | 6 | 50 | 38 | 79 | 45 |
| 045 | Port 4 deep temperature °F | 1642 | 1699 | 1683 | 1678 | 1652 | 1596 | 1636 |
| 045 | Standard deviation | 13 | 5 | 10 | 23 | 36 | 52 | 28 |
| 046 | Top cap deep temperature, °F | 1031 | 1065 | 1058 | 933 | 1002 | 775 | 966 |
| 046 | Standard deviation | 4 | 5 | 7 | 95 | 16 | 90 | 39 |
| 047 | Top cap surface tempera- ture, °F | 296 | 264 | 269 | 99 | 102 | 360 | 360 |
| 047 | Standard deviation | 15 | 27 | 14 | 11 | 5 | 13 | 37 |
| 048 | Top cap surface tempera- ture, °F | 374 | 366 | 364 | 344 | 356 | 129 | 129 |
| 048 | Standard deviation | 5 | 8 | 6 | 13 | 15 | 7 | 1 |
| 112 | Port 6 insulation tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 156 | Gas exit wall temperature, °F | 281 | 276 | 327 | 263 | 266 | 271 | 279 |
| 156 | Standard deviation | 4 | 3 | 16 | 4 | 6 | 9 | 4 |
| 171 | Exit pipe wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Port 6 deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|
| | | E1 | E2 | E3 | E4 | E5 | E6 | E9 | E8 |
| 026 | Port 6 wall temperature, °F | 201 | 205 | 209 | 202 | 197 | 176 | 168 | 167 |
| 026 | Standard deviation | 5 | 5 | 4 | 2 | 3 | 7 | 2 | 9 |
| 027 | Port 4 wall temperature, °F | 210 | 214 | 210 | 226 | 210 | 194 | 202 | 208 |
| 027 | Standard deviation | 4 | 2 | 3 | 8 | 12 | 3 | 4 | 12 |
| 028 | Port 1 wall temperature, °F | 104 | 106 | 104 | 102 | 101 | 99 | 100 | 100 |
| 028 | Standard deviation | 1 | 2 | 1 | 1 | 3 | 1 | 1 | 4 |
| 029 | Combustor wall surface temperature, °F | 1370 | 1293 | 1348 | 1391 | 1342 | 1246 | 1289 | 1244 |
| 029 | Standard deviation | 11 | 9 | 41 | 16 | 7 | 33 | 9 | 38 |
| 040 | Combustor bottom surface temperature, °F | 410 | 345 | 380 | 402 | 392 | 370 | 390 | 378 |
| 040 | Standard deviation | 3 | 12 | 26 | 7 | 4 | 15 | 9 | 19 |
| 041 | Combustor bottom deep temperature, °F | 1233 | 1012 | 1130 | 1283 | 1227 | 1089 | 1202 | 1209 |
| 041 | Standard deviation | 5 | 29 | 172 | 16 | 12 | 26 | 8 | 23 |
| 042 | Combustor top shallow temperature, °F | 936 | 911 | 913 | 953 | 934 | 900 | 877 | 808 |
| 042 | Standard deviation | 9 | 12 | 22 | 4 | 7 | 21 | 11 | 61 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 272 | 272 | 270 | 288 | 268 | 249 | 258 | 259 |
| 044 | Standard deviation | 4 | 2 | 1 | 9 | 11 | 4 | 5 | 17 |
| 045 | Port 4 deep temperature °F | 242 | 243 | 241 | 267 | 245 | 222 | 231 | 234 |
| 045 | Standard deviation | 4 | 2 | 2 | 10 | 13 | 4 | 5 | 15 |
| 046 | Top cap deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 046 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 047 | Top cap surface tempera- ture, °F | 337 | 373 | 356 | 380 | 350 | 297 | 316 | 335 |
| 047 | Standard deviation | 4 | 4 | 5 | 5 | 7 | 15 | 2 | 9 |
| 048 | Top cap surface tempera- ture, °F | 185 | 190 | 192 | 180 | 175 | 156 | 149 | 153 |
| 048 | Standard deviation | 5 | 5 | 4 | 3 | 3 | 6 | 1 | 3 |
| 112 | Port 6 insulation tempera- ture, °F | 292 | 292 | 292 | 293 | 293 | 293 | 293 | 291 |
| 112 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 156 | Gas exit wall temperature, °F | 480 | 548 | 496 | 533 | 501 | 423 | 461 | 481 |
| 156 | Standard deviation | 9 | 4 | 8 | 6 | 6 | 14 | 3 | 14 |
| 171 | Exit pipe wall tempera- ture, °F | 465 | 479 | 434 | 425 | 411 | 368 | 496 | 518 |
| 171 | Standard deviation | 13 | 5 | 40 | 38 | 4 | 3 | 3 | 17 |
| 043 | Port 6 deep temperature, °F | 188 | 192 | 196 | 180 | 172 | 155 | 148 | 155 |
| 043 | Standard deviation | 6 | 6 | 4 | 4 | 4 | 7 | 0 | 4 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data channel | Parameter | Test | | | | | | |
|--------------|--|------|------|------|------|------|------|------|
| | | E19 | E13A | E13B | E14 | E11 | E12 | E15 |
| 026 | Port 6 wall temperature, °F | 167 | 196 | 211 | 212 | 196 | 183 | 185 |
| 026 | Standard deviation | 13 | 5 | 4 | 1 | 4 | 3 | 2 |
| 027 | Port 4 wall temperature, °F | 207 | 215 | 238 | 242 | 212 | 203 | 205 |
| 027 | Standard deviation | 10 | 4 | 6 | 1 | 9 | 2 | 2 |
| 028 | Port 1 wall temperature, °F | 104 | 113 | 116 | 119 | 115 | 109 | 107 |
| 028 | Standard deviation | 4 | 1 | 1 | 1 | 2 | 1 | 1 |
| 029 | Combustor wall surface temperature, °F | 1246 | 1378 | 1422 | 1448 | 1336 | 1311 | 1313 |
| 029 | Standard deviation | 61 | 27 | 2 | 3 | 16 | 10 | 14 |
| 040 | Combustor bottom surface temperature, °F | 359 | 408 | 420 | 428 | 392 | 376 | 385 |
| 040 | Standard deviation | 45 | 4 | 1 | 1 | 9 | 4 | 1 |
| 041 | Combustor bottom deep temperature, °F | 1256 | 1329 | 1322 | 1302 | 1159 | 1128 | 1177 |
| 041 | Standard deviation | 20 | 16 | 15 | 12 | 19 | 17 | 12 |
| 042 | Combustor top shallow temperature, °F | 760 | 904 | 953 | 989 | 957 | 918 | 906 |
| 042 | Standard deviation | 81 | 13 | 11 | 6 | 20 | 7 | 0 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow temperature, °F | 262 | 281 | 308 | 311 | 273 | 259 | 262 |
| 044 | Standard deviation | 18 | 5 | 6 | 1 | 11 | 2 | 2 |
| 045 | Port 4 deep temperature, °F | 233 | 247 | 275 | 279 | 244 | 233 | 236 |
| 045 | Standard deviation | 13 | 4 | 8 | 1 | 10 | 1 | 2 |
| 046 | Top cap deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | 234 |
| 046 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 0 |
| 047 | Top cap surface temperature, °F | 296 | 357 | 372 | 351 | 321 | 289 | 311 |
| 047 | Standard deviation | 39 | 10 | 3 | 3 | 4 | 4 | 5 |
| 048 | Top cap surface temperature, °F | 158 | 177 | 190 | 192 | 175 | 163 | 165 |
| 048 | Standard deviation | 5 | 4 | 3 | 1 | 4 | 3 | 2 |
| 112 | Port 6 insulation temperature, °F | 289 | 288 | 289 | 289 | 289 | 289 | 290 |
| 112 | Standard deviation | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 156 | Gas exit wall temperature, °F | 474 | 567 | 582 | 530 | 498 | 446 | 496 |
| 156 | Standard deviation | 62 | 14 | 2 | 5 | 4 | 3 | 14 |
| 171 | Exit pipe wall temperature, °F | 484 | 446 | 456 | 449 | 439 | 381 | 408 |
| 171 | Standard deviation | 56 | 4 | 8 | 3 | 10 | 5 | 5 |
| 043 | Port 6 deep temperature, °F | 158 | 178 | 192 | 193 | 176 | 164 | 166 |
| 043 | Standard deviation | 6 | 4 | 3 | 1 | 4 | 3 | 1 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|------|
| | | F1 | F2 | F3 | F4 | F6 | F5 | F7 | F8 | F9 |
| 026 | Port 6 wall temperature, °F | 195 | 212 | 202 | 210 | 215 | 213 | 186 | 202 | 205 |
| 026 | Standard deviation | 7 | 1 | 1 | 3 | 0 | 1 | 2 | 2 | 3 |
| 027 | Port 4 wall temperature, °F | 239 | 257 | 242 | 251 | 260 | 252 | 241 | 243 | 247 |
| 027 | Standard deviation | 9 | 2 | 6 | 9 | 2 | 7 | 3 | 5 | 1 |
| 028 | Port 1 wall temperature, °F | 110 | 115 | 114 | 115 | 116 | 113 | 107 | 109 | 106 |
| 028 | Standard deviation | 2 | 1 | 1 | 1 | 0 | 3 | 1 | 2 | 1 |
| 029 | Combustor wall surface temperature, °F | 1373 | 1365 | 1348 | 1411 | 1462 | 1473 | 1291 | 1317 | 1320 |
| 029 | Standard deviation | 39 | 6 | 17 | 13 | 14 | 8 | 13 | 7 | 4 |
| 040 | Combustor bottom surface temperature, °F | 355 | 359 | 324 | 372 | 369 | 323 | 233 | 222 | 276 |
| 040 | Standard deviation | 8 | 2 | 4 | 18 | 11 | 5 | 27 | 27 | 3 |
| 041 | Combustor bottom deep temperature, °F | 1075 | 1086 | 503 | 1237 | 1141 | 1049 | 335 | 425 | 625 |
| 041 | Standard deviation | 31 | 9 | 20 | 47 | 58 | 19 | 84 | 48 | 132 |
| 042 | Combustor top shallow temperature, °F | 920 | 940 | 906 | 945 | 976 | 991 | 774 | 857 | 835 |
| 042 | Standard deviation | 16 | 8 | 8 | 10 | 8 | 2 | 20 | 3 | 11 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 301 | 318 | 301 | 317 | 330 | 326 | 307 | 312 | 314 |
| 044 | Standard deviation | 10 | 3 | 5 | 11 | 2 | 3 | 6 | 7 | 2 |
| 045 | Port 4 deep temperature °F | 274 | 293 | 276 | 289 | 301 | 296 | 276 | 281 | 291 |
| 045 | Standard deviation | 10 | 2 | 5 | 11 | 2 | 3 | 6 | 6 | 2 |
| 046 | Top cap deep temperature, °F | 676 | 742 | 746 | 771 | 816 | 828 | 637 | 753 | 742 |
| 046 | Standard deviation | 45 | 17 | 3 | 19 | 9 | 9 | 30 | 2 | 8 |
| 047 | Top cap surface tempera- ture, °F | 280 | 299 | 258 | 290 | 301 | 281 | 252 | 257 | 267 |
| 047 | Standard deviation | 5 | 5 | 4 | 9 | 1 | 5 | 3 | 3 | 0 |
| 048 | Top cap surface tempera- ture, °F | 176 | 195 | 185 | 191 | 194 | 192 | 173 | 182 | 187 |
| 048 | Standard deviation | 8 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 3 |
| 112 | Port 6 insulation tempera- ture, °F | 286 | 293 | 293 | 291 | 290 | 287 | (b) | (b) | (b) |
| 112 | Standard deviation | 2 | 1 | 1 | 0 | 1 | 0 | (b) | (b) | (b) |
| 156 | Gas exit wall temperature, °F | 426 | 452 | 392 | 453 | 463 | 422 | 384 | 397 | 418 |
| 156 | Standard deviation | 9 | 3 | 9 | 5 | 3 | 6 | 5 | 3 | 1 |
| 171 | Exit pipe wall tempera- ture, °F | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 171 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Port 6 deep temperature, °F | 176 | 196 | 184 | 191 | 194 | 192 | 174 | 182 | 185 |
| 043 | Standard deviation | 8 | 2 | 1 | 2 | 0 | 1 | 1 | 3 | 4 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|
| | | F19 | F16 | F27 | G2 | G3 | G6 | G1 | G5 |
| 026 | Port 6 wall temperature, °F | 214 | 220 | 223 | 194 | 194 | 185 | 159 | 203 |
| 026 | Standard deviation | 1 | 1 | 1 | 2 | 2 | 2 | 5 | 11 |
| 027 | Port 4 wall temperature, °F | 257 | 260 | 265 | 238 | 225 | 224 | 197 | 242 |
| 027 | Standard deviation | 1 | 1 | 2 | 4 | 6 | 7 | 5 | 17 |
| 028 | Port 1 wall temperature, °F | 110 | 112 | 116 | 119 | 114 | 116 | 108 | 122 |
| 028 | Standard deviation | 0 | 2 | 1 | 4 | 1 | 5 | 4 | 4 |
| 029 | Combustor wall surface temperature, °F | 1371 | 1392 | 1445 | 1419 | 1333 | 1361 | 1334 | 1510 |
| 029 | Standard deviation | 8 | 9 | 3 | 15 | 12 | 8 | 42 | 25 |
| 040 | Combustor bottom surface temperature, °F | 192 | 180 | 202 | 281 | 374 | 409 | 420 | 456 |
| 040 | Standard deviation | 27 | 17 | 8 | 20 | 5 | 10 | 26 | 3 |
| 041 | Combustor bottom deep temperature, °F | 166 | 206 | 233 | 468 | 1060 | 1110 | 982 | 1261 |
| 041 | Standard deviation | 16 | 8 | 26 | 330 | 35 | 21 | 14 | 16 |
| 042 | Combustor top shallow temperature, °F | 878 | 886 | 917 | 952 | 889 | 894 | 798 | 975 |
| 042 | Standard deviation | 5 | 4 | 6 | 7 | 15 | 11 | 62 | 27 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 328 | 332 | 341 | 312 | 295 | 294 | 758 | 958 |
| 044 | Standard deviation | 2 | 1 | 2 | 5 | 3 | 8 | 12 | 43 |
| 045 | Port 4 deep temperature °F | 297 | 301 | 311 | 277 | 262 | 259 | 774 | 972 |
| 045 | Standard deviation | 2 | 1 | 3 | 5 | 5 | 7 | 11 | 41 |
| 046 | Top cap deep temperature, °F | 780 | 806 | 846 | 728 | 739 | 740 | 581 | 781 |
| 046 | Standard deviation | 10 | 6 | 6 | 8 | 4 | 5 | 25 | 35 |
| 047 | Top cap surface tempera- ture, °F | 287 | 294 | 311 | 330 | 338 | 328 | 251 | 328 |
| 047 | Standard deviation | 3 | 3 | 1 | 22 | 5 | 5 | 7 | 13 |
| 048 | Top cap surface tempera- ture, °F | 195 | 199 | 203 | 188 | 187 | 176 | 740 | 958 |
| 048 | Standard deviation | 1 | 2 | 1 | 3 | 2 | 2 | 32 | 57 |
| 112 | Port 6 insulation tempera- ture, °F | (b) | (b) | (b) | 292 | 290 | 287 | 287 | 291 |
| 112 | Standard deviation | (b) | (b) | (b) | 1 | 0 | 0 | 0 | 3 |
| 156 | Gas exit wall temperature, °F | 457 | 464 | 480 | 334 | 375 | 343 | 254 | 373 |
| 156 | Standard deviation | 3 | 7 | 5 | 41 | 2 | 3 | 7 | 12 |
| 171 | Exit pipe wall tempera- ture, °F | (a) | (a) | (a) | 1063 | 1142 | 1096 | 882 | 1244 |
| 171 | Standard deviation | (b) | (b) | (b) | 31 | 10 | 11 | 19 | 22 |
| 043 | Port 6 deep temperature, °F | 195 | 200 | 202 | 187 | 187 | 174 | 1021 | 1308 |
| 043 | Standard deviation | 1 | 2 | 1 | 2 | 3 | 3 | 37 | 65 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|------|
| | | G10 | G9 | G13 | G12 | G15A | G15B | G14 | G11 | G7 |
| 026 | Port 6 wall temperature, °F | 217 | 213 | 199 | 191 | 184 | 191 | 171 | 185 | 198 |
| 026 | Standard deviation | 5 | 1 | 2 | 4 | 5 | 4 | 2 | 10 | 4 |
| 027 | Port 4 wall temperature, °F | 256 | 249 | 229 | 218 | 196 | 191 | 200 | 231 | 222 |
| 027 | Standard deviation | 6 | 4 | 4 | 6 | 3 | 4 | 2 | 9 | 7 |
| 028 | Port 1 wall temperature, °F | 126 | 125 | 117 | 116 | 108 | 107 | 111 | 113 | 117 |
| 028 | Standard deviation | 3 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 029 | Combustor wall surface temperature, °F | 1479 | 1469 | 1322 | 1425 | 1389 | 1369 | 1327 | 1432 | 1334 |
| 029 | Standard deviation | 12 | 16 | 9 | 19 | 19 | 15 | 16 | 24 | 25 |
| 040 | Combustor bottom surface temperature, °F | 447 | 467 | 430 | 452 | 440 | 421 | 400 | 418 | 424 |
| 040 | Standard deviation | 4 | 9 | 1 | 7 | 3 | 15 | 14 | 4 | 7 |
| 041 | Combustor bottom deep temperature, °F | 1198 | 1240 | 1116 | 1225 | 1080 | 1120 | 977 | 1126 | 962 |
| 041 | Standard deviation | 11 | 25 | 19 | 12 | 35 | 23 | 52 | 13 | 26 |
| 042 | Combustor top shallow temperature, °F | 996 | 983 | 884 | 899 | 904 | 890 | 860 | 911 | 906 |
| 042 | Standard deviation | 8 | 2 | 2 | 15 | 7 | 10 | 4 | 23 | 22 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 951 | 908 | 820 | 868 | 859 | 831 | 761 | 898 | 818 |
| 044 | Standard deviation | 10 | 12 | 3 | 18 | 8 | 16 | 12 | 41 | 28 |
| 045 | Port 4 deep temperature °F | 945 | 893 | 805 | 859 | 859 | 826 | 750 | 907 | 808 |
| 045 | Standard deviation | 12 | 13 | 3 | 19 | 9 | 16 | 13 | 44 | 28 |
| 046 | Top cap deep temperature, °F | 814 | 777 | 679 | 690 | 707 | 702 | 631 | 723 | 693 |
| 046 | Standard deviation | 4 | 11 | 6 | 17 | 11 | 9 | 4 | 41 | 27 |
| 047 | Top cap surface tempera- ture, °F | 330 | 320 | 247 | 261 | 317 | 306 | 262 | 340 | 283 |
| 047 | Standard deviation | 12 | 13 | 10 | 10 | 7 | 9 | 2 | 15 | 5 |
| 048 | Top cap surface tempera- ture, °F | 1021 | 967 | 850 | 856 | 850 | 854 | 774 | 902 | 871 |
| 048 | Standard deviation | 9 | 17 | 2 | 14 | 14 | 12 | 6 | 61 | 36 |
| 112 | Port 6 insulation tempera- ture, °F | 297 | 297 | 295 | 288 | 289 | 292 | 287 | 288 | 292 |
| 112 | Standard deviation | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 156 | Gas exit wall temperature, °F | 373 | 332 | 276 | 280 | 342 | 330 | 278 | 408 | 297 |
| 156 | Standard deviation | 13 | 10 | 7 | 8 | 5 | 11 | 2 | 15 | 2 |
| 171 | Exit pipe wall tempera- ture, °F | 1201 | 1044 | 1004 | 1033 | 1040 | 1015 | 882 | 1195 | 899 |
| 171 | Standard deviation | 10 | 24 | 26 | 27 | 14 | 17 | 9 | 23 | 17 |
| 043 | Port 6 deep temperature, °F | 1362 | 1306 | 1176 | 1198 | 1190 | 1192 | 1092 | 1249 | 1192 |
| 043 | Standard deviation | 10 | 17 | 3 | 17 | 12 | 13 | 5 | 68 | 41 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|
| | | G8 | G16 | G22 | G23 | G24 | G17 | G18 | G19 |
| 026 | Port 6 wall temperature, °F | 191 | 183 | 200 | 185 | 206 | 205 | 202 | 219 |
| 026 | Standard deviation | 1 | 7 | 2 | 3 | 9 | 1 | 4 | 4 |
| 027 | Port 4 wall temperature, °F | 210 | 218 | 222 | 212 | 226 | 229 | 234 | 237 |
| 027 | Standard deviation | 6 | 6 | 12 | 4 | 3 | 9 | 8 | 4 |
| 028 | Port 1 wall temperature, °F | 113 | 109 | 117 | 117 | 119 | 118 | 119 | 127 |
| 028 | Standard deviation | 1 | 2 | 2 | 0 | 1 | 1 | 2 | 2 |
| 029 | Combustor wall surface temperature, °F | 1307 | 1344 | 1392 | 1385 | 1404 | 1386 | 1435 | 1477 |
| 029 | Standard deviation | 17 | 28 | 10 | 3 | 8 | 37 | 15 | 4 |
| 040 | Combustor bottom surface temperature, °F | 407 | 413 | 459 | 458 | 436 | 441 | 456 | 480 |
| 040 | Standard deviation | 5 | 22 | 3 | 3 | 8 | 5 | 11 | 4 |
| 041 | Combustor bottom deep temperature, °F | 1025 | 1221 | 1092 | 1190 | 1203 | 1191 | 1252 | 1274 |
| 041 | Standard deviation | 34 | 23 | 28 | 12 | 20 | 54 | 19 | 28 |
| 042 | Combustor top shallow temperature, °F | 857 | 833 | 916 | 932 | 933 | 933 | 935 | 977 |
| 042 | Standard deviation | 4 | 29 | 9 | 2 | 3 | 6 | 14 | 8 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 813 | 832 | 844 | 851 | 883 | 873 | 907 | 941 |
| 044 | Standard deviation | 8 | 30 | 20 | 7 | 11 | 24 | 15 | 4 |
| 045 | Port 4 deep temperature °F | 808 | 830 | 837 | 846 | 882 | 868 | 908 | 946 |
| 045 | Standard deviation | 9 | 29 | 22 | 7 | 11 | 26 | 15 | 4 |
| 046 | Top cap deep temperature, °F | 670 | 675 | 701 | 710 | 764 | 754 | 758 | 793 |
| 046 | Standard deviation | 6 | 25 | 10 | 1 | 10 | 23 | 9 | 4 |
| 047 | Top cap surface tempera- ture, °F | 310 | 311 | 297 | 314 | 343 | 327 | 341 | 351 |
| 047 | Standard deviation | 5 | 16 | 4 | 1 | 6 | 13 | 3 | 2 |
| 048 | Top cap surface tempera- ture, °F | 831 | 827 | 867 | 872 | 915 | 923 | 938 | 983 |
| 048 | Standard deviation | 9 | 26 | 12 | 1 | 18 | 17 | 18 | 8 |
| 112 | Port 6 insulation tempera- ture, °F | 293 | 289 | 292 | 296 | 296 | 292 | 291 | 298 |
| 112 | Standard deviation | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 |
| 156 | Gas exit wall temperature, °F | 351 | 350 | 317 | 353 | 390 | 354 | 389 | 399 |
| 156 | Standard deviation | 4 | 18 | 5 | 1 | 5 | 9 | 7 | 3 |
| 171 | Exit pipe wall tempera- ture, °F | 1013 | 1049 | 959 | 1042 | 1132 | 1040 | 1132 | 1145 |
| 171 | Standard deviation | 14 | 21 | 12 | 6 | 14 | 29 | 21 | 9 |
| 043 | Port 6 deep temperature, °F | 1162 | 1163 | 1201 | 1211 | 1261 | 1262 | 1283 | 1332 |
| 043 | Standard deviation | 9 | 31 | 15 | 2 | 19 | 21 | 18 | 6 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | H1 | H2 | H3 | H4 | H5A | H5V | H6 | H7 | H8 |
| 026 | Port 6 wall temperature, °F | 184 | 192 | 203 | 211 | 227 | 229 | 185 | 221 | 226 |
| 026 | Standard deviation | 5 | 2 | 3 | 3 | 2 | 1 | 9 | 2 | 2 |
| 027 | Port 4 wall temperature, °F | 213 | 211 | 212 | 215 | 251 | 255 | 208 | 246 | 247 |
| 027 | Standard deviation | 2 | 1 | 1 | 2 | 5 | 1 | 8 | 1 | 3 |
| 028 | Port 1 wall temperature, °F | 118 | 118 | 120 | 123 | 136 | 138 | 121 | 137 | 145 |
| 028 | Standard deviation | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 3 |
| 029 | Combustor wall surface temperature, °F | 1343 | 1331 | 1322 | 1341 | 1478 | 1467 | 1365 | 1467 | 1503 |
| 029 | Standard deviation | 10 | 4 | 9 | 5 | 13 | 9 | 40 | 10 | 9 |
| 040 | Combustor bottom surface temperature, °F | 325 | 407 | 430 | 443 | 462 | 497 | 437 | 494 | 510 |
| 040 | Standard deviation | 37 | 3 | 3 | 3 | 1 | 6 | 29 | 1 | 5 |
| 041 | Combustor bottom deep temperature, °F | 750 | 1071 | 1199 | 1226 | 1343 | 1471 | 1438 | 1407 | 1435 |
| 041 | Standard deviation | 71 | 22 | 18 | 12 | 7 | 4 | 10 | 3 | 20 |
| 042 | Combustor top shallow temperature, °F | 803 | 804 | 816 | 831 | 894 | 887 | 697 | 891 | 933 |
| 042 | Standard deviation | 4 | 0 | 3 | 5 | 12 | 9 | 56 | 17 | 8 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow temperature, °F | 700 | 712 | 741 | 761 | 852 | 846 | 723 | 837 | 837 |
| 044 | Standard deviation | 4 | 4 | 8 | 3 | 12 | 9 | 53 | 3 | 2 |
| 045 | Port 4 deep temperature, °F | 1377 | 1418 | 1479 | 1505 | 1683 | 1668 | 1567 | 1624 | 1619 |
| 045 | Standard deviation | 10 | 6 | 17 | 7 | 15 | 9 | 55 | 4 | 7 |
| 046 | Top cap deep temperature, °F | 716 | 763 | 806 | 836 | 939 | 1004 | 812 | 963 | 966 |
| 046 | Standard deviation | 5 | 4 | 18 | 4 | 17 | 11 | 45 | 7 | 8 |
| 047 | Top cap surface temperature, °F | 283 | 300 | 285 | 306 | 359 | 382 | 230 | 243 | 246 |
| 047 | Standard deviation | 2 | 8 | 21 | 4 | 8 | 21 | 6 | 7 | 3 |
| 048 | Top cap surface temperature, °F | 773 | 828 | 884 | 925 | 1013 | 1013 | 807 | 991 | 1010 |
| 048 | Standard deviation | 11 | 7 | 15 | 7 | 15 | 9 | 56 | 11 | 2 |
| 112 | Port 6 insulation temperature, °F | 396 | 421 | 449 | 470 | 510 | 514 | 406 | 503 | 515 |
| 112 | Standard deviation | 6 | 3 | 7 | 3 | 7 | 3 | 26 | 6 | 1 |
| 156 | Gas exit wall temperature, °F | 284 | 316 | 321 | 326 | 390 | 415 | 318 | 317 | 295 |
| 156 | Standard deviation | 4 | 3 | 12 | 8 | 6 | 15 | 8 | 9 | 5 |
| 171 | Exit pipe wall temperature, °F | 880 | 1009 | 1018 | 1018 | 1018 | 1018 | 1018 | 1018 | 1018 |
| 171 | Standard deviation | 22 | 5 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| 043 | Port 6 deep temperature, °F | 1316 | 1405 | 1497 | 1529 | 1691 | 1691 | 1572 | 1635 | 1630 |
| 043 | Standard deviation | 3 | 8 | 20 | 6 | 14 | 7 | 44 | 10 | 5 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | H9 | H10 | H11 | H12 | H14 | H13 | H15 | H16 | H18 |
| 026 | Port 6 wall temperature, °F | 219 | 216 | 211 | 201 | 193 | 156 | 194 | 205 | 209 |
| 026 | Standard deviation | 2 | 2 | 6 | 7 | 9 | 10 | 7 | 3 | 5 |
| 027 | Port 4 wall temperature, °F | 215 | 208 | 216 | 195 | 202 | 191 | 216 | 231 | 208 |
| 027 | Standard deviation | 6 | 4 | 4 | 8 | 5 | 10 | 8 | 2 | 6 |
| 028 | Port 1 wall temperature, °F | 143 | 141 | 148 | 161 | 171 | 147 | 161 | 169 | 169 |
| 028 | Standard deviation | 1 | 1 | 11 | 2 | 1 | 9 | 2 | 3 | 2 |
| 029 | Combustor wall surface temperature, °F | 1502 | 1504 | 1521 | 1384 | 1467 | 1268 | 1329 | 1337 | 1432 |
| 029 | Standard deviation | 9 | 6 | 6 | 18 | 12 | 27 | 15 | 7 | 17 |
| 040 | Combustor bottom surface temperature, °F | 504 | 490 | 496 | 474 | 487 | 417 | 462 | 460 | 481 |
| 040 | Standard deviation | 3 | 5 | 7 | 15 | 13 | 14 | 10 | 4 | 12 |
| 041 | Combustor bottom deep temperature, °F | 1367 | 1357 | 1420 | 1108 | 1373 | 1248 | 1313 | 1308 | 1434 |
| 041 | Standard deviation | 12 | 13 | 8 | 12 | 18 | 20 | 20 | 17 | 14 |
| 042 | Combustor top shallow temperature, °F | 941 | 947 | 950 | 909 | 897 | 709 | 801 | 818 | 844 |
| 042 | Standard deviation | 3 | 1 | 3 | 24 | 14 | 32 | 14 | 2 | 16 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow temperature, °F | 818 | 830 | 839 | 747 | 770 | 661 | 752 | 773 | 805 |
| 044 | Standard deviation | 5 | 4 | 2 | 37 | 27 | 37 | 12 | 4 | 14 |
| 045 | Port 4 deep temperature °F | 1620 | 1657 | 1665 | 1451 | 1598 | 1388 | 1505 | 1522 | 1632 |
| 045 | Standard deviation | 11 | 10 | 4 | 36 | 24 | 44 | 18 | 10 | 20 |
| 046 | Top cap deep temperature, °F | 927 | 962 | 967 | 841 | 860 | 663 | 806 | 891 | 931 |
| 046 | Standard deviation | 17 | 10 | 3 | 43 | 21 | 46 | 26 | 16 | 14 |
| 047 | Top cap surface temperature, °F | 227 | 229 | 220 | 176 | 208 | 253 | 295 | 328 | 340 |
| 047 | Standard deviation | 9 | 3 | 5 | 6 | 4 | 17 | 6 | 10 | 2 |
| 048 | Top cap surface temperature, °F | 1003 | 1020 | 1035 | 943 | 924 | 697 | 874 | 934 | 982 |
| 048 | Standard deviation | 3 | 7 | 3 | 45 | 26 | 60 | 27 | 8 | 18 |
| 112 | Port 6 insulation temperature, °F | 508 | 512 | 514 | 478 | 459 | 351 | 440 | 470 | 490 |
| 112 | Standard deviation | 1 | 2 | 3 | 20 | 15 | 29 | 15 | 4 | 7 |
| 156 | Gas exit wall temperature, °F | 278 | 305 | 285 | 218 | 271 | 271 | 325 | 358 | 362 |
| 156 | Standard deviation | 12 | 8 | 2 | 7 | 4 | 24 | 5 | 8 | 3 |
| 171 | Exit pipe wall temperature, °F | 1013 | 1018 | 1018 | 936 | 1018 | 1012 | 1018 | 1018 | 1018 |
| 171 | Standard deviation | 14 | 1 | 1 | 23 | 1 | 14 | 1 | 1 | 1 |
| 043 | Port 6 deep temperature, °F | 1631 | 6174 | 1679 | 1463 | 1602 | 1341 | 1513 | 1553 | 1647 |
| 043 | Standard deviation | 10 | 10 | 4 | 38 | 19 | 54 | 24 | 12 | 19 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | |
|----------------------|---|-------|-------|-------|-------|-------|------|
| | | H19 | H20 | H23 | H24 | H25 | H26 |
| 026 | Port 6 wall temperature, °F | 196 | 195 | 196 | 210 | 205 | 200 |
| 026 | Standard deviation | 1 | 2 | 4 | 2 | 3 | 1 |
| 027 | Port 4 wall temperature, °F | 222 | 213 | 213 | 231 | 228 | 226 |
| 027 | Standard deviation | 5 | 5 | 6 | 5 | 2 | 1 |
| 028 | Port 1 wall temperature, °F | 165 | 157 | 151 | 148 | 140 | 133 |
| 028 | Standard deviation | 5 | 1 | 3 | 2 | 2 | 2 |
| 029 | Combustor wall surface temperature, °F | 1458 | 1477 | 1491 | 1482 | 1472 | 1463 |
| 029 | Standard deviation | 11 | 6 | 8 | 9 | 5 | 3 |
| 040 | Combustor bottom surface temperature, °F | 485 | 471 | 405 | 416 | 420 | 418 |
| 040 | Standard deviation | 8 | 3 | 12 | 4 | 1 | 1 |
| 041 | Combustor bottom deep temperature, °F | 1341 | 1327 | 1012 | 1054 | 1135 | 1167 |
| 041 | Standard deviation | 15 | 14 | 91 | 70 | 9 | 28 |
| 042 | Combustor top shallow temperature, °F | 882 | 886 | 899 | 889 | 876 | 872 |
| 042 | Standard deviation | 2 | 3 | 2 | 4 | 3 | 2 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 827 | 833 | 848 | 855 | 848 | 844 |
| 044 | Standard deviation | 7 | 4 | 5 | 2 | 2 | 3 |
| 045 | Port 4 deep temperature °F | 1631 | 1671 | 1699 | 1686 | 1677 | 1667 |
| 045 | Standard deviation | 14 | 9 | 11 | 11 | 6 | 3 |
| 046 | Top cap deep temperature, °F | 972 | 977 | 1011 | 1020 | 1011 | 1001 |
| 046 | Standard deviation | 7 | 6 | 6 | 2 | 3 | 4 |
| 047 | Top cap surface tempera- ture, °F | 340 | 337 | 340 | 337 | 328 | 315 |
| 047 | Standard deviation | 7 | 1 | 4 | 9 | 7 | 9 |
| 048 | Top cap surface tempera- ture, °F | 1015 | 1026 | 1056 | 1060 | 1052 | 1048 |
| 048 | Standard deviation | 6 | 7 | 5 | 4 | 3 | 3 |
| 112 | Port 6 insulation tempera- ture, °F | 497 | 499 | 511 | 520 | 514 | 510 |
| 112 | Standard deviation | 3 | 2 | 3 | 1 | 3 | 1 |
| 156 | Gas exit wall temperature, °F | 364 | 370 | 376 | 326 | 327 | 334 |
| 156 | Standard deviation | 4 | 2 | 5 | 30 | 12 | 8 |
| 171 | Exit pipe wall tempera- ture, °F | 1018+ | 1018+ | 1018+ | 1018+ | 1018+ | 1018 |
| 171 | Standard deviation | 1 | 1 | 1 | 1 | 1 | 1 |
| 043 | Port 6 deep temperature, °F | 1644 | 1688 | 1720 | 1705 | 1700 | 1688 |
| 043 | Standard deviation | 14 | 10 | 11 | 9 | 6 | 5 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | I1 | I2 | I3 | I4 | I5A | I5B | I6 | I7 | I8 |
| 026 | Port 6 wall temperature, °F | 182 | 212 | 212 | 199 | 195 | 193 | 197 | 198 | 200 |
| 026 | Standard deviation | 18 | 6 | 5 | 7 | 2 | 1 | 2 | 1 | 2 |
| 027 | Port 4 wall temperature, °F | 213 | 239 | 231 | 217 | 203 | 208 | 226 | 237 | 230 |
| 027 | Standard deviation | 14 | 9 | 4 | 9 | 2 | 3 | 9 | 2 | 2 |
| 028 | Port 1 wall temperature, °F | 108 | 114 | 114 | 114 | 112 | 112 | 112 | 114 | 114 |
| 028 | Standard deviation | 4 | 1 | 1 | 1 | 1 | 0 | 3 | 1 | 0 |
| 029 | Combustor wall surface temperature, °F | 1414 | 1463 | 1484 | 1366 | 1345 | 1336 | 1446 | 1480 | 1499 |
| 029 | Standard deviation | 47 | 9 | 5 | 25 | 3 | 5 | 18 | 7 | 11 |
| 040 | Combustor bottom surface temperature, °F | 453 | 472 | 491 | 476 | 459 | 456 | 459 | 466 | 487 |
| 040 | Standard deviation | 27 | 5 | 10 | 15 | 0 | 1 | 15 | 3 | 4 |
| 041 | Combustor bottom deep temperature, °F | 1443 | 1436 | 1488 | 1332 | 1334 | 1312 | 1435 | 1425 | 1460 |
| 041 | Standard deviation | 18 | 15 | 8 | 11 | 12 | 7 | 16 | 11 | 17 |
| 042 | Combustor top shallow temperature, °F | 766 | 864 | 888 | 863 | 824 | 818 | 819 | 878 | 899 |
| 042 | Standard deviation | 55 | 7 | 6 | 21 | 2 | 2 | 31 | 5 | 3 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow temperature, °F | 774 | 855 | 841 | 774 | 734 | 741 | 818 | 857 | 843 |
| 044 | Standard deviation | 62 | 4 | 5 | 35 | 2 | 2 | 28 | 3 | 2 |
| 045 | Port 4 deep temperature °F | 1630 | 1675 | 1650 | 1488 | 1484 | 1488 | 1660 | 1683 | 1653 |
| 045 | Standard deviation | 61 | 9 | 8 | 35 | 6 | 4 | 16 | 7 | 12 |
| 046 | Top cap deep temperature, °F | 834 | 1022 | 995 | 889 | 845 | 857 | 927 | 1034 | 1022 |
| 046 | Standard deviation | 88 | 25 | 11 | 41 | 3 | 3 | 34 | 14 | 2 |
| 047 | Top cap surface temperature, °F | 271 | 303 | 204 | 168 | 171 | 179 | 217 | 246 | 229 |
| 047 | Standard deviation | 35 | 39 | 6 | 7 | 2 | 2 | 13 | 1 | 5 |
| 048 | Top cap surface temperature, °F | 849 | 1031 | 1040 | 969 | 912 | 916 | 972 | 1046 | 1042 |
| 048 | Standard deviation | 98 | 16 | 8 | 37 | 1 | 1 | 37 | 9 | 2 |
| 112 | Port 6 insulation temperature, °F | 419 | 508 | 515 | 484 | 456 | 457 | 477 | 506 | 509 |
| 112 | Standard deviation | 49 | 9 | 6 | 17 | 1 | 1 | 16 | 4 | 2 |
| 156 | Gas exit wall temperature, °F | 327 | 363 | 269 | 234 | 254 | 263 | 285 | 288 | 263 |
| 156 | Standard deviation | 32 | 29 | 4 | 6 | 4 | 1 | 30 | 3 | 7 |
| 171 | Exit pipe wall temperature, °F | 1018+ | 1018+ | 1018+ | 1018+ | 1018+ | 1018+ | 1018+ | 1018+ | 1018+ |
| 171 | Standard deviation | 1 | 1 | 1 | 8 | 1 | 1 | 1 | 1 | 1 |
| 043 | Port 6 deep temperature, °F | 1603 | 1694 | 1661 | 1508 | 1507 | 1511 | 1672 | 1707 | 1670 |
| 043 | Standard deviation | 66 | 13 | 8 | 30 | 6 | 3 | 17 | 9 | 11 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data channel | Parameter | Test | | | | | |
|--------------|--|-------|------|------|------|-------|------|
| | | I9 | I10A | I10B | I11 | I12 | I13 |
| 026 | Port 6 wall temperature, °F | 198 | 197 | 201 | 197 | 175 | 169 |
| 026 | Standard deviation | 3 | 4 | 2 | 6 | 6 | 14 |
| 027 | Port 4 wall temperature, °F | 219 | 210 | 201 | 205 | 192 | 192 |
| 027 | Standard deviation | 12 | 6 | 1 | 4 | 3 | 15 |
| 028 | Port 1 wall temperature, °F | 113 | 116 | 113 | 114 | 105 | 101 |
| 028 | Standard deviation | 1 | 1 | 1 | 2 | 2 | 4 |
| 029 | Combustor wall surface temperature, °F | 1376 | 1336 | 1316 | 1327 | 1307 | 1395 |
| 029 | Standard deviation | 36 | 9 | 5 | 10 | 36 | 43 |
| 040 | Combustor bottom surface temperature, °F | 467 | 455 | 455 | 454 | 405 | 425 |
| 040 | Standard deviation | 15 | 3 | 2 | 2 | 15 | 34 |
| 041 | Combustor bottom deep temperature, °F | 1293 | 1293 | 1267 | 1278 | 1308 | 1412 |
| 041 | Standard deviation | 21 | 8 | 2 | 11 | 34 | 15 |
| 042 | Combustor top shallow temperature, °F | 872 | 828 | 815 | 811 | 749 | 734 |
| 042 | Standard deviation | 22 | 5 | 3 | 2 | 25 | 52 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow temperature, °F | 784 | 727 | 708 | 725 | 707 | 748 |
| 044 | Standard deviation | 38 | 5 | 4 | 11 | 37 | 67 |
| 045 | Port 4 deep temperature, °F | 1498 | 1432 | 1411 | 1468 | 1480 | 1609 |
| 045 | Standard deviation | 44 | 17 | 3 | 15 | 45 | 51 |
| 046 | Top cap deep temperature, °F | 952 | 864 | 817 | 816 | 799 | 810 |
| 046 | Standard deviation | 37 | 22 | 6 | 3 | 25 | 73 |
| 047 | Top cap surface temperature, °F | 213 | 200 | 193 | 194 | 204 | 201 |
| 047 | Standard deviation | 4 | 6 | 3 | 10 | 12 | 10 |
| 048 | Top cap surface temperature, °F | 981 | 907 | 877 | 885 | 851 | 863 |
| 048 | Standard deviation | 39 | 13 | 5 | 9 | 38 | 79 |
| 112 | Port 6 insulation temperature, °F | 489 | 462 | 452 | 450 | 423 | 417 |
| 112 | Standard deviation | 12 | 7 | 3 | 4 | 19 | 39 |
| 156 | Gas exit wall temperature, °F | 246 | 232 | 227 | 238 | 265 | 261 |
| 156 | Standard deviation | 2 | 10 | 1 | 5 | 17 | 10 |
| 171 | Exit pipe wall temperature, °F | 1018+ | 990 | 980 | 1016 | 1018+ | 1005 |
| 171 | Standard deviation | 1 | 13 | 16 | 4 | 1 | 32 |
| 043 | Port 6 deep temperature, °F | 1530 | 1459 | 1430 | 1484 | 1501 | 1615 |
| 043 | Standard deviation | 35 | 20 | 2 | 11 | 33 | 34 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 |
| 026 | Port 6 wall temperature, °F | 170 | 175 | 210 | 198 | 201 | 204 | 197 | 201 | 192 |
| 026 | Standard deviation | 5 | 3 | 2 | 7 | 4 | 2 | 3 | 5 | 3 |
| 027 | Port 4 wall temperature, °F | 189 | 196 | 220 | 199 | 236 | 237 | 227 | 201 | 206 |
| 027 | Standard deviation | 3 | 2 | 1 | 5 | 4 | 2 | 3 | 3 | 5 |
| 028 | Port 1 wall temperature, °F | 121 | 128 | 134 | 134 | 133 | 132 | 130 | 135 | 139 |
| 028 | Standard deviation | 4 | 2 | 1 | 1 | 0 | 1 | 1 | 4 | 2 |
| 029 | Combustor wall surface temperature, °F | 1338 | 1344 | 1419 | 1471 | 1485 | 1481 | 1492 | 1323 | 1368 |
| 029 | Standard deviation | 16 | 3 | 12 | 8 | 8 | 8 | 9 | 15 | 6 |
| 040 | Combustor bottom surface temperature, °F | 381 | 407 | 397 | 428 | 457 | 480 | 501 | 407 | 416 |
| 040 | Standard deviation | 10 | 10 | 3 | 6 | 12 | 2 | 3 | 6 | 1 |
| 041 | Combustor bottom deep temperature, °F | 739 | 1141 | 1224 | 1231 | 1352 | 1387 | 1448 | 1247 | 1237 |
| 041 | Standard deviation | 25 | 32 | 10 | 13 | 21 | 16 | 17 | 19 | 10 |
| 042 | Combustor top shallow temperature, °F | 811 | 844 | 865 | 900 | 922 | 920 | 930 | 811 | 849 |
| 042 | Standard deviation | 26 | 2 | 2 | 11 | 2 | 1 | 4 | 19 | 6 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow temperature, °F | 686 | 716 | 811 | 799 | 865 | 862 | 829 | 727 | 723 |
| 044 | Standard deviation | 17 | 12 | 4 | 6 | 3 | 2 | 8 | 22 | 2 |
| 045 | Port 4 deep temperature, °F | 1395 | 1457 | 1614 | 1600 | 1672 | 1672 | 1600 | 1465 | 1438 |
| 045 | Standard deviation | 24 | 14 | 15 | 11 | 12 | 12 | 12 | 20 | 3 |
| 046 | Top cap deep temperature, °F | 710 | 788 | 944 | 915 | 1014 | 1021 | 925 | 832 | 783 |
| 046 | Standard deviation | 19 | 20 | 10 | 8 | 4 | 1 | 13 | 15 | 3 |
| 047 | Top cap surface temperature, °F | 245 | 273 | 285 | 282 | 332 | 343 | 281 | 244 | 245 |
| 047 | Standard deviation | 4 | 7 | 6 | 12 | 11 | 3 | 4 | 2 | 3 |
| 048 | Top cap surface temperature, °F | 786 | 846 | 989 | 993 | 1051 | 1054 | 1017 | 883 | 871 |
| 048 | Standard deviation | 26 | 19 | 12 | 7 | 5 | 2 | 15 | 17 | 3 |
| 112 | Port 6 insulation temperature, °F | 392 | 413 | 485 | 487 | 502 | 505 | 492 | 445 | 438 |
| 112 | Standard deviation | 13 | 8 | 7 | 6 | 3 | 1 | 7 | 9 | 1 |
| 156 | Gas exit wall temperature, °F | 263 | 310 | 363 | 322 | 390 | 396 | 308 | 316 | 271 |
| 156 | Standard deviation | 4 | 6 | 5 | 6 | 10 | 2 | 3 | 4 | 3 |
| 171 | Exit pipe wall temperature, °F | 717 | 980 | 998 | 867 | 1011 | 1016 | 815 | 803 | 791 |
| 171 | Standard deviation | 154 | 16 | 9 | 20 | 6 | 3 | 16 | 72 | 11 |
| 043 | Port 6 deep temperature, °F | 1352 | 1447 | 1631 | 1601 | 1691 | 1697 | 1607 | 1480 | 1426 |
| 043 | Standard deviation | 25 | 16 | 14 | 12 | 16 | 16 | 13 | 13 | 7 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---|------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | K1 | K3 | K4 | K2 | K7 | K8 | K6 | K5 | K9 |
| 026 | Port 6 wall temperature, °F | 145 | 174 | 203 | 212 | 210 | 206 | 212 | 217 | 215 |
| 026 | Standard deviation | 13 | 10 | 7 | 0 | 1 | 3 | 2 | 3 | 1 |
| 027 | Port 4 wall temperature, °F | 182 | 209 | 233 | 214 | 208 | 218 | 231 | 242 | 240 |
| 027 | Standard deviation | 13 | 11 | 3 | 5 | 2 | 5 | 8 | 6 | 2 |
| 028 | Port 1 wall temperature, °F | 112 | 109 | 114 | 117 | 118 | 117 | 122 | 122 | 125 |
| 028 | Standard deviation | 9 | 4 | 1 | 1 | 0 | 0 | 2 | 2 | 2 |
| 029 | Combustor wall surface temperature, °F | 1220 | 1418 | 1405 | 1347 | 1324 | 1309 | 1426 | 1419 | 1442 |
| 029 | Standard deviation | 56 | 32 | 23 | 12 | 3 | 4 | 33 | 13 | 13 |
| 040 | Combustor bottom surface temperature, °F | 269 | 312 | 321 | 339 | 341 | 327 | 348 | 337 | 353 |
| 040 | Standard deviation | 38 | 19 | 7 | 3 | 2 | 3 | 8 | 7 | 1 |
| 041 | Combustor bottom deep temperature, °F | 647 | 581 | 1040 | 815 | 802 | 1010 | 827 | 1232 | 742 |
| 041 | Standard deviation | 66 | 34 | 129 | 15 | 3 | 27 | 7 | 47 | 59 |
| 042 | Combustor top shallow temperature, °F | 603 | 764 | 803 | 788 | 777 | 752 | 804 | 807 | 829 |
| 042 | Standard deviation | 84 | 44 | 21 | 3 | 3 | 8 | 30 | 25 | 12 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 623 | 780 | 836 | 772 | 732 | 759 | 819 | 855 | 822 |
| 044 | Standard deviation | 61 | 23 | 5 | 23 | 4 | 12 | 27 | 5 | 3 |
| 045 | Port 4 deep temperature °F | 1356 | 1599 | 1649 | 1503 | 1463 | 1528 | 1649 | 1672 | 1607 |
| 045 | Standard deviation | 61 | 31 | 13 | 26 | 5 | 9 | 39 | 8 | 11 |
| 046 | Top cap deep temperature, °F | 575 | 747 | 891 | 854 | 802 | 827 | 868 | 949 | 908 |
| 046 | Standard deviation | 75 | 48 | 24 | 23 | 8 | 12 | 19 | 18 | 6 |
| 047 | Top cap surface tempera- ture, °F | 241 | 346 | 400 | 332 | 309 | 334 | 330 | 393 | 356 |
| 047 | Standard deviation | 29 | 12 | 5 | 13 | 6 | 5 | 2 | 20 | 1 |
| 048 | Top cap surface tempera- ture, °F | 604 | 804 | 953 | 951 | 888 | 901 | 961 | 1031 | 1004 |
| 048 | Standard deviation | 85 | 55 | 31 | 25 | 9 | 11 | 25 | 13 | 5 |
| 112 | Port 6 insulation tempera- ture, °F | 293 | 390 | 457 | 480 | 454 | 449 | 477 | 503 | 505 |
| 112 | Standard deviation | 41 | 28 | 19 | 9 | 4 | 4 | 9 | 10 | 3 |
| 156 | Gas exit wall temperature, °F | 294 | 311 | 404 | 311 | 308 | 350 | 333 | 413 | 335 |
| 156 | Standard deviation | 27 | 12 | 14 | 9 | 1 | 9 | 5 | 12 | 1 |
| 171 | Exit pipe wall tempera- ture, °F | 106 | 1018+ | 1018+ | 1018+ | 1018+ | 1018+ | 1018+ | 1018+ | 1018+ |
| 171 | Standard deviation | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| 043 | Port 6 deep temperature, °F | 1235 | 1467 | 2633 | 3117 | 1434 | 2913 | 2543 | 1264 | 2267 |
| 043 | Standard deviation | 77 | 50 | 618 | 2 | 5 | 540 | 380 | 185 | 104 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|-------|-------|------|-------|-------|-------|-------|
| | | K10 | K12 | K11 | K14 | K13 | K15 | K16 |
| 026 | Port 6 wall temperature, °F | 216 | 215 | 218 | 219 | 211 | 214 | 216 |
| 026 | Standard deviation | 0 | 1 | 4 | 3 | 3 | 1 | 3 |
| 027 | Port 4 wall temperature, °F | 241 | 232 | 236 | 238 | 231 | 234 | 240 |
| 027 | Standard deviation | 1 | 9 | 9 | 4 | 5 | 9 | 7 |
| 028 | Port 1 wall temperature, °F | 130 | 127 | 121 | 118 | 117 | 128 | 127 |
| 028 | Standard deviation | 0 | 2 | 3 | 4 | 4 | 2 | 3 |
| 029 | Combustor wall surface temperature, °F | 1476 | 1358 | 1427 | 1450 | 1363 | 1458 | 1482 |
| 029 | Standard deviation | 2 | 45 | 27 | 14 | 11 | 13 | 2 |
| 040 | Combustor bottom surface temperature, °F | 345 | 323 | 340 | 371 | 358 | 366 | 371 |
| 040 | Standard deviation | 5 | 7 | 9 | 7 | 2 | 1 | 4 |
| 041 | Combustor bottom deep temperature, °F | 598 | 766 | 1300 | 930 | 808 | 831 | 955 |
| 041 | Standard deviation | 42 | 161 | 28 | 22 | 11 | 17 | 6 |
| 042 | Combustor top shallow temperature, °F | 867 | 825 | 784 | 841 | 834 | 844 | 879 |
| 042 | Standard deviation | 3 | 31 | 12 | 16 | 10 | 14 | 5 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 841 | 798 | 845 | 838 | 769 | 814 | 860 |
| 044 | Standard deviation | 1 | 30 | 33 | 9 | 13 | 23 | 6 |
| 045 | Port 4 deep temperature °F | 1645 | 1547 | 1701 | 1630 | 1486 | 1637 | 1694 |
| 045 | Standard deviation | 5 | 42 | 31 | 12 | 14 | 22 | 2 |
| 046 | Top cap deep temperature, °F | 909 | 873 | 914 | 917 | 832 | 843 | 885 |
| 046 | Standard deviation | 2 | 25 | 37 | 16 | 16 | 15 | 5 |
| 047 | Top cap surface tempera- ture, °F | 356 | 343 | 420 | 371 | 316 | 339 | 349 |
| 047 | Standard deviation | 3 | 7 | 19 | 10 | 6 | 2 | 1 |
| 048 | Top cap surface tempera- ture, °F | 1011 | 975 | 1021 | 1040 | 948 | 955 | 1008 |
| 048 | Standard deviation | 1 | 27 | 41 | 17 | 20 | 19 | 8 |
| 112 | Port 6 insulation tempera- ture, °F | 505 | 489 | 499 | 518 | 479 | 482 | 499 |
| 112 | Standard deviation | 1 | 11 | 20 | 9 | 9 | 7 | 3 |
| 156 | Gas exit wall temperature, °F | 342 | 351 | 430 | 343 | 298 | 337 | 346 |
| 156 | Standard deviation | 2 | 5 | 11 | 10 | 2 | 2 | 1 |
| 171 | Exit pipe wall tempera- ture, °F | 1018+ | 1018+ | 990 | 1018+ | 1018+ | 1018+ | 1018+ |
| 171 | Standard deviation | 1 | 1 | 33 | 2 | 1 | 2 | 1 |
| 043 | Port 6 deep temperature, °F | 1789 | 2312 | 381 | 1777 | 2470 | 1691 | 940 |
| 043 | Standard deviation | 60 | 228 | 326 | 200 | 31 | 176 | 56 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter. | Test | | | | |
|----------------------|---|------|------|------|------|------|
| | | CAS0 | CAS1 | CAS2 | CAS3 | CAS4 |
| 026 | Port 6 wall temperature, °F | 179 | 175 | 200 | 195 | 195 |
| 026 | Standard deviation | 37 | 39 | 23 | 29 | 28 |
| 027 | Port 4 wall temperature, °F | 215 | 210 | 228 | 219 | 230 |
| 027 | Standard deviation | 37 | 42 | 17 | 24 | 28 |
| 028 | Port 1 wall temperature, °F | 114 | 110 | 122 | 129 | 128 |
| 028 | Standard deviation | 11 | 13 | 8 | 14 | 15 |
| 029 | Combustor wall surface temperature, °F | 1312 | 1218 | 1461 | 1433 | 1469 |
| 029 | Standard deviation | 157 | 190 | 88 | 195 | 146 |
| 040 | Combustor bottom surface temperature, °F | 252 | 294 | 404 | 493 | 478 |
| 040 | Standard deviation | 64 | 60 | 73 | 69 | 89 |
| 041 | Combustor bottom deep temperature, °F | 582 | 1180 | 1243 | 1168 | 1102 |
| 041 | Standard deviation | 379 | 242 | 79 | 109 | 160 |
| 042 | Combustor top shallow temperature, °F | 673 | 575 | 863 | 859 | 860 |
| 042 | Standard deviation | 148 | 141 | 96 | 171 | 166 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 762 | 709 | 797 | 736 | 777 |
| 044 | Standard deviation | 160 | 194 | 70 | 142 | 131 |
| 045 | Port 4 deep temperature °F | 1566 | 1494 | 1589 | 1501 | 1583 |
| 045 | Standard deviation | 201 | 287 | 91 | 254 | 163 |
| 046 | Top cap deep temperature, °F | 763 | 710 | 852 | 835 | 808 |
| 046 | Standard deviation | 206 | 234 | 119 | 142 | 167 |
| 047 | Top cap surface tempera- ture, °F | 323 | 305 | 351 | 319 | 317 |
| 047 | Standard deviation | 75 | 85 | 44 | 66 | 61 |
| 048 | Top cap surface tempera- ture, °F | 839 | 797 | 936 | 912 | 889 |
| 048 | Standard deviation | 241 | 278 | 136 | 168 | 201 |
| 112 | Port 6 insulation tempera- ture, °F | 394 | 390 | 462 | 432 | 422 |
| 112 | Standard deviation | 104 | 124 | 64 | 87 | 86 |
| 156 | Gas exit wall temperature, °F | 323 | 301 | 329 | 320 | 322 |
| 156 | Standard deviation | 77 | 100 | 53 | 81 | 65 |
| 171 | Exit pipe wall tempera- ture, °F | 439 | 639 | 710 | 737 | 767 |
| 171 | Standard deviation | 144 | 239 | 130 | 226 | 166 |
| 043 | Port 6 deep temperature, °F | 1231 | 1229 | 1368 | 1304 | 1286 |
| 043 | Standard deviation | 241 | 310 | 134 | 201 | 223 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data channel | Parameter | Test | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|
| | | T3A | T3B | T3C | T3D | T3E | T3F | T4 | T5 |
| 026 | Port 6 wall temperature, °F | 175 | 198 | 180 | 201 | 200 | 142 | 186 | 170 |
| 026 | Standard deviation | 44 | 37 | 47 | 18 | 35 | 35 | 27 | 32 |
| 027 | Port 4 wall temperature, °F | 217 | 239 | 220 | 235 | 226 | 175 | 218 | 205 |
| 027 | Standard deviation | 50 | 40 | 51 | 21 | 32 | 40 | 24 | 34 |
| 028 | Port 1 wall temperature, °F | 127 | 130 | 112 | 115 | 121 | 110 | 113 | 108 |
| 028 | Standard deviation | 18 | 14 | 12 | 7 | 10 | 13 | 9 | 7 |
| 029 | Combustor wall surface temperature, °F | 1189 | 1359 | 1265 | 1406 | 1396 | 1096 | 1399 | 1259 |
| 029 | Standard deviation | 331 | 228 | 269 | 105 | 200 | 316 | 129 | 251 |
| 040 | Combustor bottom surface temperature, °F | 377 | 399 | 335 | 383 | 350 | 268 | 375 | 246 |
| 040 | Standard deviation | 126 | 113 | 128 | 54 | 95 | 92 | 45 | 59 |
| 041 | Combustor bottom deep temperature, °F | 1030 | 1038 | 1001 | 1099 | 885 | 684 | 1212 | 977 |
| 041 | Standard deviation | 402 | 380 | 463 | 268 | 354 | 339 | 188 | 387 |
| 042 | Combustor top shallow temperature, °F | 711 | 801 | 602 | 738 | 266 | 593 | 818 | 647 |
| 042 | Standard deviation | 229 | 198 | 236 | 154 | 290 | 234 | 137 | 148 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow temperature, °F | 750 | 869 | 797 | 932 | 911 | 581 | 783 | 695 |
| 044 | Standard deviation | 244 | 191 | 267 | 74 | 190 | 211 | 96 | 182 |
| 045 | Port 4 deep temperature, °F | 743 | 857 | 758 | 883 | 857 | 1281 | 1577 | 1444 |
| 045 | Standard deviation | 238 | 185 | 250 | 73 | 169 | 352 | 124 | 307 |
| 046 | Top cap deep temperature, °F | 574 | 718 | 611 | 738 | 781 | 485 | 804 | 690 |
| 046 | Standard deviation | 210 | 182 | 244 | 61 | 231 | 223 | 178 | 218 |
| 047 | Top cap surface temperature, °F | 273 | 283 | 202 | 201 | 281 | 166 | 297 | 278 |
| 047 | Standard deviation | 70 | 77 | 74 | 41 | 92 | 68 | 58 | 105 |
| 048 | Top cap surface temperature, °F | 688 | 851 | 728 | 908 | 877 | 551 | 883 | 775 |
| 048 | Standard deviation | 270 | 228 | 306 | 92 | 231 | 264 | 187 | 254 |
| 112 | Port 6 insulation temperature, °F | 348 | 420 | 365 | 438 | 428 | 268 | 430 | 380 |
| 112 | Standard deviation | 123 | 106 | 138 | 45 | 106 | 113 | 87 | 112 |
| 156 | Gas exit wall temperature, °F | 284 | 205 | 148 | 180 | 203 | 123 | 240 | 246 |
| 156 | Standard deviation | 83 | 70 | 63 | 42 | 61 | 56 | 92 | 106 |
| 171 | Exit pipe wall temperature, °F | 850 | 398 | 340 | 529 | 495 | 201 | 522 | 490 |
| 171 | Standard deviation | 242 | 208 | 250 | 167 | 206 | 202 | 297 | 267 |
| 043 | Port 6 deep temperature, °F | 976 | 1169 | 1010 | 1244 | 1203 | 1103 | 1537 | 1181 |
| 043 | Standard deviation | 356 | 283 | 398 | 101 | 292 | 377 | 157 | 301 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data channel | Parameter | Test | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|
| | | L1 | L2 | L3 | L4 | L5 | L6 | M1 | M2 |
| 026 | Port 6 wall temperature, °F | 180 | 203 | 204 | 217 | 208 | 203 | 194 | 176 |
| 026 | Standard deviation | 27 | 2 | 3 | 11 | 8 | 3 | 6 | 3 |
| 027 | Port 4 wall temperature, °F | 214 | 230 | 244 | 258 | 240 | 244 | 215 | 191 |
| 027 | Standard deviation | 29 | 7 | 10 | 5 | 18 | 1 | 5 | 2 |
| 028 | Port 1 wall temperature, °F | 129 | 147 | 149 | 154 | 154 | 154 | 130 | 134 |
| 028 | Standard deviation | 14 | 1 | 1 | 3 | 4 | 2 | 4 | 3 |
| 029 | Combustor wall surface temperature, °F | 1323 | 1382 | 1465 | 1501 | 1474 | 1517 | 1374 | 1412 |
| 029 | Standard deviation | 44 | 7 | 22 | 13 | 55 | 8 | 30 | 20 |
| 040 | Combustor bottom surface temperature, °F | 409 | 396 | 409 | 476 | 471 | 469 | 491 | 483 |
| 040 | Standard deviation | 40 | 37 | 33 | 15 | 28 | 3 | 15 | 4 |
| 041 | Combustor bottom deep temperature, °F | 1063 | 826 | 982 | 1215 | 1197 | 1097 | 1174 | 1033 |
| 041 | Standard deviation | 35 | 94 | 62 | 33 | 48 | 10 | 20 | 30 |
| 042 | Combustor top shallow temperature, °F | 716 | 810 | 843 | 911 | 893 | 916 | 778 | 842 |
| 042 | Standard deviation | 80 | 4 | 21 | 17 | 50 | 6 | 42 | 5 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow temperature, °F | 718 | 748 | 808 | 885 | 837 | 853 | 690 | 660 |
| 044 | Standard deviation | 70 | 17 | 31 | 16 | 69 | 4 | 13 | 9 |
| 045 | Port 4 deep temperature, °F | 1471 | 1464 | 1609 | 1712 | 1659 | 1652 | 1362 | 1311 |
| 045 | Standard deviation | 55 | 18 | 24 | 16 | 74 | 19 | 22 | 24 |
| 046 | Top cap deep temperature, °F | 702 | 791 | 853 | 959 | 948 | 944 | 723 | 745 |
| 046 | Standard deviation | 87 | 6 | 26 | 24 | 54 | 5 | 39 | 9 |
| 047 | Top cap surface temperature, °F | 278 | 256 | 301 | 330 | 262 | 300 | 299 | 270 |
| 047 | Standard deviation | 18 | 8 | 13 | 38 | 18 | 2 | 11 | 6 |
| 048 | Top cap surface temperature, °F | 779 | 903 | 950 | 1049 | 1031 | 1050 | 774 | 799 |
| 048 | Standard deviation | 115 | 16 | 31 | 30 | 66 | 6 | 41 | 14 |
| 112 | Port 6 insulation temperature, °F | 377 | 446 | 451 | 476 | 485 | 498 | 402 | 403 |
| 112 | Standard deviation | 59 | 4 | 7 | 19 | 21 | 1 | 19 | 7 |
| 156 | Gas exit wall temperature, °F | 320 | 236 | 330 | 351 | 228 | 286 | 308 | 235 |
| 156 | Standard deviation | 26 | 19 | 17 | 92 | 6 | 2 | 7 | 7 |
| 171 | Exit pipe wall temperature, °F | 818 | 638 | 839 | 995 | 931 | 712 | 660 | 519 |
| 171 | Standard deviation | 50 | 51 | 21 | (b) | 27 | 8 | 11 | 19 |
| 043 | Port 6 deep temperature, °F | 1208 | 1274 | 1354 | 1480 | 1471 | 1474 | 1157 | 1168 |
| 043 | Standard deviation | 103 | 21 | 28 | 29 | 67 | 11 | 43 | 19 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|------|
| | | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M11 | M12 |
| 026 | Port 6 wall temperature, °F | 180 | 203 | 205 | 203 | 193 | 175 | 193 | 202 | 212 |
| 026 | Standard deviation | 6 | 5 | 2 | 3 | 10 | 6 | 3 | 3 | 1 |
| 027 | Port 4 wall temperature, °F | 198 | 225 | 236 | 212 | 198 | 195 | 209 | 226 | 238 |
| 027 | Standard deviation | 2 | 12 | 3 | 9 | 5 | 8 | 4 | 6 | 5 |
| 028 | Port 1 wall temperature, °F | 146 | 148 | 151 | 153 | 147 | 139 | 147 | 154 | 159 |
| 028 | Standard deviation | 3 | 6 | 3 | 1 | 6 | 6 | 1 | 3 | 0 |
| 029 | Combustor wall surface temperature, °F | 1529 | 1551 | 1549 | 1572 | 1446 | 1406 | 1411 | 1547 | 1544 |
| 029 | Standard deviation | 28 | 4 | 5 | 8 | 28 | 8 | 11 | 20 | 7 |
| 040 | Combustor bottom surface temperature, °F | 518 | 541 | 542 | 542 | 497 | 482 | 499 | 528 | 531 |
| 040 | Standard deviation | 20 | 1 | 1 | 1 | 25 | 7 | 3 | 10 | 3 |
| 041 | Combustor bottom deep temperature, °F | 1205 | 1251 | 1247 | 1218 | 987 | 1105 | 1130 | 1189 | 1180 |
| 041 | Standard deviation | 15 | 19 | 13 | 12 | 49 | 13 | 13 | 11 | 5 |
| 042 | Combustor top shallow temperature, °F | 885 | 929 | 933 | 943 | 904 | 865 | 868 | 924 | 952 |
| 042 | Standard deviation | 25 | 3 | 2 | 5 | 26 | 2 | 4 | 23 | 3 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 709 | 817 | 852 | 798 | 704 | 684 | 706 | 771 | 835 |
| 044 | Standard deviation | 32 | 32 | 2 | 23 | 36 | 8 | 6 | 23 | 15 |
| 045 | Port 4 deep temperature °F | 1454 | 1642 | 1665 | 1561 | 1378 | 1380 | 1403 | 1543 | 1653 |
| 045 | Standard deviation | 45 | 31 | 6 | 20 | 48 | 8 | 13 | 25 | 11 |
| 046 | Top cap deep temperature, °F | 787 | 916 | 973 | 924 | 819 | 778 | 792 | 839 | 914 |
| 046 | Standard deviation | 30 | 37 | 5 | 25 | 38 | 2 | 5 | 20 | 20 |
| 047 | Top cap surface tempera- ture, °F | 299 | 325 | 371 | 333 | 288 | 288 | 305 | 316 | 284 |
| 047 | Standard deviation | 8 | 7 | 11 | 11 | 14 | 4 | 3 | 2 | 11 |
| 048 | Top cap surface tempera- ture, °F | 831 | 986 | 1054 | 1002 | 882 | 816 | 837 | 894 | 995 |
| 048 | Standard deviation | 37 | 48 | 6 | 33 | 46 | 5 | 6 | 24 | 33 |
| 112 | Port 6 insulation tempera- ture, °F | 414 | 480 | 507 | 491 | 444 | 407 | 426 | 451 | 487 |
| 112 | Standard deviation | 16 | 19 | 3 | 12 | 23 | 4 | 5 | 10 | 12 |
| 156 | Gas exit wall temperature, °F | 280 | 346 | 380 | 301 | 256 | 292 | 314 | 312 | 302 |
| 156 | Standard deviation | 10 | 15 | 7 | 17 | 12 | 10 | 3 | 4 | 13 |
| 171 | Exit pipe wall tempera- ture, °F | 639 | 883 | 890 | 673 | 562 | 733 | 776 | 777 | 923 |
| 171 | Standard deviation | 31 | 15 | 10 | 8 | 10 | 20 | 17 | 17 | 61 |
| 043 | Port 6 deep temperature, °F | 1234 | 1426 | 1493 | 1418 | 1269 | 1225 | 1240 | 1313 | 1434 |
| 043 | Standard deviation | 44 | 50 | 5 | 31 | 52 | 4 | 7 | 25 | 31 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Continued. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|
| | | N1 | N2 | N5A | N5B | N6 | N55A | N55B | N7 |
| 026 | Port 6 wall temperature, °F | 170 | 200 | 196 | 216 | 211 | 178 | 198 | 192 |
| 026 | Standard deviation | 29 | 3 | 11 | 7 | 8 | 15 | 3 | 3 |
| 027 | Port 4 wall temperature, °F | 200 | 216 | 216 | 233 | 225 | 193 | 203 | 185 |
| 027 | Standard deviation | 29 | 10 | 21 | 8 | 6 | 14 | 5 | 14 |
| 028 | Port 1 wall temperature, °F | 112 | 131 | 123 | 135 | 140 | 116 | 132 | 125 |
| 028 | Standard deviation | 12 | 2 | 6 | 1 | 3 | 8 | 5 | 3 |
| 029 | Combustor wall surface temperature, °F | 1425 | 1522 | 1409 | 1524 | 1535 | 1429 | 1507 | 1529 |
| 029 | Standard deviation | 102 | 6 | 132 | 8 | 8 | 77 | 8 | 15 |
| 040 | Combustor bottom surface temperature, °F | 492 | 541 | 445 | 541 | 538 | 426 | 496 | 478 |
| 040 | Standard deviation | 68 | 3 | 79 | 4 | 6 | 73 | 3 | 10 |
| 041 | Combustor bottom deep temperature, °F | 1296 | 1281 | 1182 | 1274 | 1180 | 1012 | 1061 | 967 |
| 041 | Standard deviation | 62 | 15 | 133 | 6 | 29 | 52 | 22 | 41 |
| 042 | Combustor top shallow temperature, °F | 747 | 892 | 758 | 888 | 911 | 749 | 889 | 900 |
| 042 | Standard deviation | 130 | 5 | 72 | 13 | 3 | 102 | 6 | 3 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 769 | 837 | 720 | 835 | 800 | 728 | 811 | 754 |
| 044 | Standard deviation | 113 | 7 | 102 | 6 | 19 | 93 | 4 | 32 |
| 045 | Port 4 deep temperature °F | 1596 | 1642 | 1510 | 1632 | 1552 | 1542 | 1617 | 1494 |
| 045 | Standard deviation | 109 | 8 | 141 | 7 | 25 | 89 | 9 | 47 |
| 046 | Top cap deep temperature, °F | 760 | 935 | 802 | 910 | 895 | 789 | 907 | 867 |
| 046 | Standard deviation | 166 | 3 | 63 | 8 | 19 | 82 | 5 | 27 |
| 047 | Top cap surface tempera- ture, °F | 309 | 291 | 276 | 287 | 321 | 336 | 359 | 318 |
| 047 | Standard deviation | 41 | 17 | 46 | 13 | 16 | 31 | 1 | 14 |
| 048 | Top cap surface tempera- ture, °F | 843 | 1044 | 865 | 1010 | 983 | 844 | 1001 | 946 |
| 048 | Standard deviation | 196 | 2 | 82 | 15 | 27 | 107 | 7 | 36 |
| 112 | Port 6 insulation tempera- ture, °F | 404 | 502 | 436 | 501 | 490 | 417 | 487 | 468 |
| 112 | Standard deviation | 92 | 2 | 36 | 8 | 14 | 49 | 3 | 12 |
| 156 | Gas exit wall temperature, °F | 312 | 301 | 267 | 298 | 287 | 325 | 344 | 264 |
| 156 | Standard deviation | 50 | 10 | 62 | 10 | 15 | 29 | 1 | 19 |
| 171 | Exit pipe wall tempera- ture, °F | 793 | 824 | 701 | 778 | 629 | 774 | 817 | 575 |
| 171 | Standard deviation | 95 | 9 | 176 | 6 | 13 | 46 | 4 | 19 |
| 043 | Port 6 deep temperature, °F | 1308 | 1474 | 1307 | 1448 | 1394 | 1291 | 1429 | 1344 |
| 043 | Standard deviation | 187 | 3 | 97 | 10 | 29 | 107 | 3 | 42 |

^bData or results were not obtained.

TABLE 4. - Continued.

(d) Concluded. - Combustor wall temperature data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | T6A | T6B | T7A | T7B | T7C | T7D1 | T7D2 |
| 026 | Port 6 wall temperature, °F | 194 | 189 | 221 | 199 | 208 | 212 | 221 |
| 026 | Standard deviation | 27 | 41 | 22 | 19 | 26 | 32 | 9 |
| 027 | Port 4 wall temperature, °F | 231 | 213 | 261 | 225 | 232 | 244 | 259 |
| 027 | Standard deviation | 26 | 38 | 22 | 21 | 28 | 36 | 14 |
| 028 | Port 1 wall temperature, °F | 141 | 119 | 151 | 143 | 136 | 154 | 131 |
| 028 | Standard deviation | 15 | 14 | 10 | 14 | 17 | 25 | 5 |
| 029 | Combustor wall surface temperature, °F | 1513 | 1452 | 1523 | 1505 | 1483 | 1511 | 1548 |
| 029 | Standard deviation | 115 | 176 | 56 | 69 | 120 | 115 | 10 |
| 040 | Combustor bottom surface temperature, °F | 524 | 493 | 498 | 507 | 508 | 521 | 519 |
| 040 | Standard deviation | 68 | 112 | 38 | 41 | 66 | 76 | 4 |
| 041 | Combustor bottom deep temperature, °F | 1286 | 1236 | 1045 | 1109 | 1190 | 1194 | 1185 |
| 041 | Standard deviation | 64 | 177 | 31 | 49 | 100 | 81 | 16 |
| 042 | Combustor top shallow temperature, °F | 872 | 799 | 931 | 891 | 844 | 891 | 938 |
| 042 | Standard deviation | 148 | 184 | 92 | 93 | 123 | 146 | 5 |
| 043 | Combustor top deep temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 043 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 044 | Port 4 shallow tempera- ture, °F | 814 | 774 | 888 | 841 | 818 | 870 | 939 |
| 044 | Standard deviation | 106 | 163 | 69 | 65 | 106 | 125 | 8 |
| 045 | Port 4 deep temperature °F | 1623 | 1586 | 1702 | 1646 | 1602 | 1672 | 1745 |
| 045 | Standard deviation | 115 | 185 | 70 | 78 | 133 | 133 | 10 |
| 046 | Top cap deep temperature, °F | 863 | 821 | 936 | 891 | 876 | 891 | 975 |
| 046 | Standard deviation | 166 | 223 | 113 | 101 | 141 | 159 | 7 |
| 047 | Top cap surface tempera- ture, °F | 289 | 327 | 337 | 347 | 337 | 311 | 328 |
| 047 | Standard deviation | 63 | 66 | 28 | 35 | 51 | 48 | 21 |
| 048 | Top cap surface tempera- ture, °F | 951 | 893 | 1034 | 995 | 968 | 994 | 1082 |
| 048 | Standard deviation | 193 | 258 | 132 | 115 | 163 | 187 | 8 |
| 112 | Port 6 insulation tempera- ture, °F | 460 | 437 | 445 | 445 | 468 | 446 | 424 |
| 112 | Standard deviation | 88 | 121 | 47 | 49 | 76 | 78 | 27 |
| 156 | Gas exit wall temperature, °F | 272 | 305 | 324 | 329 | 300 | 304 | 291 |
| 156 | Standard deviation | 60 | 64 | 31 | 37 | 52 | 57 | 19 |
| 171 | Exit pipe wall tempera- ture, °F | 702 | 695 | 802 | 831 | 690 | 827 | 876 |
| 171 | Standard deviation | 122 | 150 | 93 | 109 | 150 | 128 | 51 |
| 043 | Port 6 deep temperature, °F | 1392 | 1321 | 1413 | 1405 | 1398 | 1408 | 1504 |
| 043 | Standard deviation | 187 | 280 | 118 | 106 | 163 | 183 | 12 |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | A1A | A2A | A11A | A10A | A9A | A9B | A1B | A10B | A11B |
| 049 | Solids discharge pipe temperature, °F | 80 | 83 | 81 | 71 | 66 | 84 | 86 | 73 | 69 |
| 049 | Standard deviation | 7 | 5 | 6 | 4 | 2 | 4 | 3 | 1 | 1 |
| 118 | Solids discharge coolant temperature, °F | 82 | 75 | 71 | 67 | 70 | 107 | 92 | 76 | 74 |
| 118 | Standard deviation | 2 | 8 | 8 | 3 | 6 | 2 | 14 | 7 | 2 |
| 119 | Solids discharge probe coolant temperature, °F | 87 | 79 | 77 | 72 | 75 | 87 | 75 | 65 | 65 |
| 119 | Standard deviation | 1 | 8 | 8 | 1 | 6 | 1 | 10 | 0 | 2 |
| 023 | Solids discharge, lb | 50 | 31 | 23 | (b) | (b) | 3 | 2 | (b) | (b) |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 14.7 | 15.1 | 14.7 | 15.3 | 14.5 | 15.5 | 15.8 | 15.4 | 16.2 |
| 136 | Standard deviation | 0.7 | 0.9 | 0.5 | 1.0 | 0 | 0.9 | 1.2 | 1.0 | 1.3 |
| 137 | Gas sample venturi differential pressure, psid | 0.2 | 0.4 | 0.1 | 0.5 | 0 | 0.6 | 0.8 | 0.6 | 1.1 |
| 137 | Standard deviation | 0.5 | 0.6 | 0.3 | 0.7 | 0 | 0.6 | 0.8 | 0.6 | 0.8 |
| 138 | Gas sample temperature, °F | 71 | 101 | 88 | 108 | 69 | 118 | 142 | 120 | 138 |
| 138 | Standard deviation | 39 | 40 | 26 | 47 | 10 | 37 | 42 | 54 | 39 |
| 025 | Flyash solids, lb | 3.7 | 6.6 | 5.2 | (b) | (b) | 5.5 | (b) | (b) | (b) |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 165 | 221 | 240 | 237 | 200 | 202 | 231 | 191 | 213 |
| 139 | Standard deviation | 19 | 7 | 6 | 8 | 13 | 39 | 20 | 47 | 11 |
| 140 | Hopper coolant temperature, °F | 68 | 71 | 73 | 60 | 62 | 89 | 87 | 74 | 69 |
| 140 | Standard deviation | 1 | 2 | 5 | 2 | 3 | 2 | 2 | 1 | 2 |
| 141 | Flyash collector temperature, °F | 98 | 169 | 198 | 196 | 119 | 147 | 167 | 120 | 143 |
| 141 | Standard deviation | 28 | 23 | 10 | 13 | 24 | 30 | 33 | 40 | 26 |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall temperature, °F | 884 | 883 | 878 | 880 | 899 | 243 | 230 | 221 | 218 |
| 165 | Standard deviation | 15 | 13 | 12 | 9 | 13 | 2 | 23 | 2 | 1 |
| 166 | Collector gas temperature, °F | 1655 | 1643 | 1617 | 1625 | 1650 | (b) | (b) | (b) | (b) |
| 166 | Standard deviation | 22 | 17 | 22 | 15 | 23 | (b) | (b) | (b) | (b) |
| 173 | Collector wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Flyash hopper temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Collector gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Filter wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|
| | | A8B | A7B | A6B | A5B | A3B | A16B | A12B | A17B |
| 049 | Solids discharge pipe temperature, °F | 78 | 83 | 75 | 69 | 67 | 73 | 86 | 89 |
| 049 | Standard deviation | 4 | 3 | 2 | 1 | 1 | 4 | 2 | 1 |
| 118 | Solids discharge coolant temperature, °F | 81 | 89 | 72 | 69 | 71 | 73 | 78 | 76 |
| 118 | Standard deviation | 8 | 11 | 2 | 2 | 1 | 1 | 9 | 2 |
| 119 | Solids discharge probe coolant temperature, °F | 77 | 84 | 69 | 66 | 66 | 67 | 77 | 72 |
| 119 | Standard deviation | 9 | 9 | 1 | 1 | 1 | 1 | 9 | 1 |
| 023 | Solids discharge, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 15.4 | 15.1 | 15.5 | 15.7 | 15.6 | 16.0 | 15.9 | 16.9 |
| 136 | Standard deviation | 0.8 | 0.8 | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 | 1.1 |
| 137 | Gas sample venturi differential pressure, psid | 0.59 | 0.38 | 0.60 | 0.78 | 0.70 | 0.95 | 0.88 | 1.47 |
| 137 | Standard deviation | 0.55 | 0.53 | 0.71 | 0.74 | 0.75 | 0.76 | 0.76 | 0.64 |
| 138 | Gas sample temperature, °F | 123 | 114 | 119 | 118 | 123 | 126 | 132 | 152 |
| 138 | Standard deviation | 25 | 27 | 30 | 27 | 37 | 35 | 28 | 37 |
| 025 | Flyash solids, lb | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 200 | 229 | 220 | 198 | 214 | 219 | 161 | 250 |
| 139 | Standard deviation | 18 | 40 | 18 | 16 | 17 | 14 | 22 | 10 |
| 140 | Hopper coolant temperature, °F | 77 | 86 | 78 | 72 | 68 | 72 | 87 | 90 |
| 140 | Standard deviation | 5 | 2 | 2 | 2 | 1 | 4 | 2 | 2 |
| 141 | Flyash collector temperature, °F | 148 | 159 | 187 | 170 | 172 | 160 | 138 | 195 |
| 141 | Standard deviation | 22 | 37 | 16 | 14 | 21 | 25 | 15 | 17 |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 166 | Collector gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 166 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Collector wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Flyash hopper temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Collector gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Filter wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | C1 | C3 | C8 | C11 | C12 | C16 | C17 |
| 049 | Solids discharge pipe temperature, °F | 59 | 60 | 56 | 51 | 66 | 74 | 76 |
| 049 | Standard deviation | 1 | 1 | 3 | 3 | 3 | 1 | 1 |
| 118 | Solids discharge coolant temperature, °F | 80 | 74 | 73 | 78 | 82 | 97 | 96 |
| 118 | Standard deviation | 5 | 1 | 1 | 3 | 8 | 5 | 2 |
| 119 | Solids discharge probe coolant temperature, °F | 78 | 67 | 68 | 69 | 72 | 83 | 83 |
| 119 | Standard deviation | 6 | 1 | 1 | 1 | 6 | 2 | 2 |
| 023 | Solids discharge, lb | (b) | 4.1 | 4.4 | 4.4 | 7.8 | 6.3 | 5.4 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 34.3 | 48.9 | 42.9 | 49.6 | 33.1 | 43.5 | 48.8 |
| 136 | Standard deviation | 26.3 | 19.4 | 20.9 | 27.4 | 10.5 | 17.9 | 31.1 |
| 137 | Gas sample venturi differ- ential pressure, psid | 0.07 | 0.36 | 0.29 | 0.51 | 0.18 | 0.22 | 0.15 |
| 137 | Standard deviation | 0.05 | 0.31 | 0.34 | 0.40 | 0.08 | 0.14 | 0.09 |
| 138 | Gas sample temperature, °F | 82 | 121 | 108 | 128 | 106 | 116 | 112 |
| 138 | Standard deviation | 37 | 46 | 53 | 66 | 18 | 32 | 28 |
| 025 | Flyash solids, lb | (b) | 2.9 | 3.2 | 5.4 | 3.4 | 5.1 | 1.9 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 120 | 184 | 186 | 185 | 154 | 191 | 217 |
| 139 | Standard deviation | 52 | 27 | 15 | 34 | 13 | 26 | 26 |
| 140 | Hopper coolant tempera- ture, °F | 62 | 60 | 58 | 52 | 63 | 72 | 73 |
| 140 | Standard deviation | 1 | 1 | 2 | 2 | 4 | 2 | 1 |
| 141 | Flyash collector tempera- ture, °F | 95 | 136 | 142 | 133 | 129 | 160 | 172 |
| 141 | Standard deviation | 42 | 41 | 37 | 34 | 18 | 41 | 62 |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 166 | Collector gas tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 166 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Collector wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Flyash hopper tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Collector gas tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Filter wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|------|------|-----|------|------|------|------|
| | | D6 | D7 | D2 | D1 | D10 | D3 | D4 |
| 049 | Solids discharge pipe temperature, °F | 69 | 67 | 75 | 71 | 63 | 70 | 78 |
| 049 | Standard deviation | 4 | 1 | 2 | 2 | 2 | 4 | 1 |
| 118 | Solids discharge coolant temperature, °F | 84 | 76 | 72 | 77 | 78 | 94 | 84 |
| 118 | Standard deviation | 1 | 3 | 10 | 1 | 4 | 4 | 5 |
| 119 | Solids discharge probe coolant temperature, °F | 81 | 75 | 64 | 77 | 78 | 81 | 76 |
| 119 | Standard deviation | 0 | 3 | 17 | 1 | 4 | 1 | 2 |
| 023 | Solids discharge, lb | (b) | (b) | (b) | 0.65 | 0.55 | 5.90 | (b) |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 14.9 | 14.9 | (b) | 16.6 | 15.0 | 15.8 | 14.5 |
| 136 | Standard deviation | 1.2 | 1.9 | (b) | 1.7 | 1.7 | 2.5 | 0.1 |
| 137 | Gas sample venturi differential pressure, psid | 0.36 | 0.63 | (b) | 0.95 | 0.62 | 0.62 | 0 |
| 137 | Standard deviation | 0.45 | 0.47 | (b) | 0.02 | 0.33 | 0.80 | 0 |
| 138 | Gas sample temperature, °F | 102 | 121 | 54 | 134 | 111 | 118 | 98 |
| 138 | Standard deviation | 44 | 50 | 8 | 58 | 39 | 72 | 29 |
| 025 | Flyash solids, lb | 32.5 | 12.4 | 6.8 | 4.6 | 6.4 | 12.5 | (b) |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 156 | 140 | 83 | 182 | 153 | 192 | 151 |
| 139 | Standard deviation | 20 | 19 | 21 | 15 | 11 | 12 | 15 |
| 140 | Hopper coolant temperature, °F | 77 | 73 | 65 | 75 | 67 | 72 | 83 |
| 140 | Standard deviation | 3 | 1 | 2 | 2 | 3 | 6 | 1 |
| 141 | Flyash collector temperature, °F | 146 | 119 | 107 | 144 | 111 | 121 | 110 |
| 141 | Standard deviation | 18 | 32 | 13 | 21 | 12 | 23 | 18 |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 166 | Collector gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 166 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Collector wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Flyash hopper temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Collector gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Filter wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|
| | | TB1A | TB1B | TB1C | TB1D | TB1E | TB1F | TB1G | TB1H |
| 049 | Solids discharge pipe temperature, °F | 73 | 71 | 71 | 70 | 66 | 69 | 77 | 85 |
| 049 | Standard deviation | 2 | 2 | 7 | 2 | 2 | 8 | 7 | 7 |
| 118 | Solids discharge coolant temperature, °F | 93 | 86 | 86 | 92 | 86 | 87 | 94 | 95 |
| 118 | Standard deviation | 1 | 2 | 2 | 6 | 2 | 3 | 4 | 5 |
| 119 | Solids discharge probe coolant temperature, °F | 86 | 84 | 84 | 72 | 69 | 72 | 79 | 83 |
| 119 | Standard deviation | 0 | 1 | 2 | 2 | 1 | 3 | 2 | 2 |
| 023 | Solids discharge, lb | 12.3 | 30.9 | 70.4 | 51.4 | 30.3 | 52.2 | 185 | 139 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 14.4 | 15.2 | 24.5 | 33.5 | 39.3 | 19.1 | 32.0 | 14.6 |
| 136 | Standard deviation | 0.1 | 0.9 | 16.2 | 19.6 | 16.3 | 9.3 | 24.8 | 1.0 |
| 137 | Gas sample venturi differ- ential pressure, psid | 0.03 | 0.55 | 0.09 | 0.11 | 0.31 | 0.17 | 0.12 | 0.09 |
| 137 | Standard deviation | 0 | 0.55 | 0.08 | 0.06 | 0.20 | 0.11 | 0.07 | 0.31 |
| 138 | Gas sample temperature, °F | 71 | 114 | 74 | 80 | 118 | 74 | 88 | 86 |
| 138 | Standard deviation | 2 | 36 | 20 | 30 | 34 | 22 | 36 | 25 |
| 025 | Flyash solids, lb | 1.8 | 17.5 | 40.3 | 10.0 | 0.4 | 11.6 | 56.7 | 54.5 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 131 | 176 | 171 | 140 | 85 | 133 | 189 | 180 |
| 139 | Standard deviation | 41 | 35 | 22 | 22 | 6 | 32 | 25 | 42 |
| 140 | Hopper coolant tempera- ture, °F | 77 | 73 | 74 | 71 | 65 | 68 | 78 | 84 |
| 140 | Standard deviation | 1 | 2 | 6 | 4 | 3 | 7 | 6 | 6 |
| 141 | Flyash collector tempera- ture, °F | 87 | 140 | 130 | 98 | 65 | 94 | 115 | 126 |
| 141 | Standard deviation | 12 | 35 | 25 | 16 | 4 | 22 | 33 | 42 |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 166 | Collector gas tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 166 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Collector wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Flyash hopper tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Collector gas tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Filter wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | TB2A | TB2B | TB2C | TB2D | TB2E | TB2F | TB2G |
| 049 | Solids discharge pipe temperature, °F | 82 | 80 | 82 | 76 | 81 | 83 | 88 |
| 049 | Standard deviation | 5 | 3 | 5 | 4 | 4 | 4 | 3 |
| 118 | Solids discharge coolant temperature, °F | 92 | 92 | 92 | 89 | (b) | 111 | 117 |
| 118 | Standard deviation | 2 | 4 | 3 | 4 | (b) | 3 | 3 |
| 119 | Solids discharge probe coolant temperature, °F | 84 | 89 | 93 | 95 | (b) | 90 | 99 |
| 119 | Standard deviation | 1 | 2 | 4 | 4 | (b) | 5 | 2 |
| 023 | Solids discharge, lb | 82.2 | 96.5 | 28.3 | 35.4 | 32.3 | 8.4 | 19.4 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 13.9 | 14.9 | 15.0 | 16.3 | 13.8 | 14.5 | 14.5 |
| 136 | Standard deviation | 1.6 | 1.2 | 1.0 | 4.2 | 1.5 | 0 | 0 |
| 137 | Gas sample venturi differ- ential pressure, psid | 0.01 | 0.22 | 0.18 | 0.92 | 1.49 | 0.01 | (b) |
| 137 | Standard deviation | 0 | 0.46 | 0.32 | 1.07 | 0 | 0.01 | (b) |
| 138 | Gas sample temperature, °F | 79 | 90 | 81 | 109 | 78 | 79 | 84 |
| 138 | Standard deviation | 6 | 34 | 9 | 55 | 11 | 4 | 3 |
| 025 | Flyash solids, lb | 27.6 | 16.3 | 3.1 | 14.3 | 9.5 | 1.5 | 3.5 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 179 | 168 | 144 | 204 | 169 | 227 | 219 |
| 139 | Standard deviation | 27 | 23 | 10 | 20 | 13 | 5 | 23 |
| 140 | Hopper coolant tempera- ture, °F | 84 | 81 | 86 | 78 | 81 | 86 | 92 |
| 140 | Standard deviation | 5 | 3 | 5 | 4 | 3 | 3 | 2 |
| 141 | Flyash collector tempera- ture, °F | 110 | 111 | 106 | 135 | 111 | 135 | 140 |
| 141 | Standard deviation | 18 | 21 | 18 | 19 | 13 | 6 | 18 |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 166 | Collector gas tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 166 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Collector wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 173 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Flyash hopper tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 174 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Collector gas tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 175 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Filter wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 176 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|
| | | E1 | E2 | E3 | E4 | R5 | E6 | E9 | E8 |
| 049 | Solids discharge pipe temperature, °F | 54 | 62 | 61 | 58 | 51 | 46 | 48 | 54 |
| 049 | Standard deviation | 4 | 2 | 2 | 1 | 2 | 2 | 2 | 2 |
| 118 | Solids discharge coolant temperature, °F | 67 | 68 | 68 | 70 | 69 | 68 | 69 | 66 |
| 118 | Standard deviation | 1 | 0 | 0 | 4 | 1 | 0 | 1 | 0 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 13.9 | 366 | 4.7 | 13.7 | 8.1 | 1.1 | 11.0 | 10.6 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 14.9 | 20.4 | 14.8 | 15.1 | 17.1 | 16.1 | 15.3 | 14.4 |
| 136 | Standard deviation | 0.9 | 7.3 | 1.0 | 1.2 | 4.3 | 2.6 | 1.1 | 0.3 |
| 137 | Gas sample venturi differential pressure, psid | 0.25 | 3.80 | 0.30 | 0.39 | 0.91 | 0.62 | 0.38 | 0.04 |
| 137 | Standard deviation | 0.29 | 0.73 | 0.34 | 0.39 | 1.29 | 0.82 | 0.34 | 0.08 |
| 138 | Gas sample temperature, °F | 94 | 144 | 126 | 108 | 123 | 118 | 102 | 48 |
| 138 | Standard deviation | 21 | 90 | 29 | 20 | 58 | 37 | 25 | 2 |
| 025 | Flyash solids, lb | 7.6 | 14.1 | 5.3 | 20.6 | 4.8 | 5.9 | 2.8 | 5.4 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 194 | 190 | 162 | 135 | 125 | 119 | 136 | 183 |
| 139 | Standard deviation | 19 | 10 | 5 | 12 | 4 | 6 | 5 | 6 |
| 140 | Hopper coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector temperature, °F | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 |
| 141 | Standard deviation | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall temperature, °F | 446 | 460 | 429 | 422 | 407 | 364 | 469 | 492 |
| 165 | Standard deviation | 10 | 4 | 34 | 32 | 3 | 1 | 4 | 16 |
| 166 | Collector gas temperature, °F | 341 | 360 | 348 | 348 | 324 | 287 | 330 | 354 |
| 166 | Standard deviation | 6 | 2 | 10 | 12 | 3 | 8 | 2 | 10 |
| 173 | Collector wall temperature, °F | 93 | 88 | 81 | 69 | 64 | 74 | 79 | 85 |
| 173 | Standard deviation | 1 | 3 | 2 | 3 | 2 | 4 | 4 | 4 |
| 174 | Flyash hopper temperature, °F | 118 | 137 | 104 | 101 | 82 | 85 | 87 | 98 |
| 174 | Standard deviation | 2 | 7 | 8 | 4 | 4 | 4 | 4 | 4 |
| 175 | Collector gas temperature, °F | 1398 | 1405 | 1414 | 1475 | 1375 | 1193 | 1287 | 1309 |
| 175 | Standard deviation | 12 | 5 | 29 | 24 | 11 | 39 | 12 | 37 |
| 176 | Filter wall temperature, °F | 66 | 78 | 78 | 73 | 67 | 66 | 60 | 72 |
| 176 | Standard deviation | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| 180 | Collector differential pressure, psid | 0.01 | (b) | (b) | (b) | (b) | (b) | 0.02 | (b) |
| 180 | Standard deviation | 0 | (b) | (b) | (b) | (b) | (b) | 0 | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | E19 | E13A | E13B | E14 | E11 | E12 | E15 |
| 049 | Solids discharge pipe temperature, °F | 66 | 65 | 67 | 62 | 53 | 50 | 51 |
| 049 | Standard deviation | 3 | 2 | 4 | 1 | 2 | 1 | 0 |
| 118 | Solids discharge coolant temperature, °F | 64 | 64 | 67 | 64 | 64 | 63 | 65 |
| 118 | Standard deviation | 1 | 1 | 6 | 1 | 1 | 1 | 0 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 4.9 | 7.3 | 9.1 | 1.2 | 3.6 | 6.5 | 1.5 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 21.4 | 32.3 | 33.5 | 30.5 | 35.1 | 37.6 | 16.1 |
| 136 | Standard deviation | 7.9 | 8.8 | 8.5 | 13.5 | 9.9 | 10.8 | 3.3 |
| 137 | Gas sample venturi differ- ential pressure, psid | 2.3 | 3.4 | 4.5 | 3.3 | 3.5 | 3.5 | 1.9 |
| 137 | Standard deviation | 1.6 | 0.7 | 1.0 | 1.5 | 0.8 | 0.8 | 0.9 |
| 138 | Gas sample temperature, °F | 124 | 102 | 205 | 121 | 133 | 124 | 69 |
| 138 | Standard deviation | 52 | 22 | 26 | 35 | 38 | 34 | 3 |
| 025 | Flyash solids, lb | 5.9 | 3.8 | 0.5 | 1.4 | 0.8 | 1.4 | 1.0 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 164 | 149 | 151 | 141 | 132 | 133 | 123 |
| 139 | Standard deviation | 26 | 3 | 2 | 4 | 7 | 6 | 4 |
| 140 | Hopper coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector tempera- ture, °F | 339 | 339 | 339 | 339 | 339 | 339 | 339 |
| 141 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall tempera- ture, °F | 462 | 438 | 448 | 437 | 424 | 377 | 401 |
| 165 | Standard deviation | 49 | 4 | 5 | 2 | 7 | 4 | 4 |
| 166 | Collector gas tempera- ture, °F | 1440 | 1625 | 1637 | 1559 | 1424 | 1355 | 1429 |
| 166 | Standard deviation | 35 | 31 | 11 | 12 | 14 | 13 | 28 |
| 173 | Collector wall tempera- ture, °F | 72 | 69 | 70 | 69 | 62 | 61 | 64 |
| 173 | Standard deviation | 2 | 1 | 0 | 1 | 1 | 1 | 1 |
| 174 | Flyash hopper tempera- ture, °F | 69 | 65 | 66 | 65 | 60 | 59 | 62 |
| 174 | Standard deviation | 2 | 0 | 1 | 1 | 1 | 1 | 1 |
| 175 | Collector gas tempera- ture, °F | 1409 | 1603 | 1610 | 1528 | 1398 | 1325 | 1400 |
| 175 | Standard deviation | 41 | 29 | 11 | 9 | 12 | 12 | 28 |
| 176 | Filter wall tempera- ture, °F | 68 | 66 | 68 | 69 | 65 | 63 | 66 |
| 176 | Standard deviation | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 180 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | F1 | F2 | F3 | F4 | F6 | F5 | F7 | F8 | F9 |
| 049 | Solids discharge pipe temperature, °F | 55 | 70 | 68 | 65 | 60 | 56 | 68 | 56 | 64 |
| 049 | Standard deviation | 4 | 3 | 2 | 1 | 2 | 1 | 2 | 2 | 1 |
| 118 | Solids discharge coolant temperature, °F | 68 | 69 | 69 | 67 | 68 | 68 | 67 | 68 | 69 |
| 118 | Standard deviation | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 1.0 | 2.0 | 1.7 | 1.6 | 1.3 | 0.5 | 0.4 | 0.6 | 0.8 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 16.8 | 16.3 | 15.8 | 17.3 | 15.7 | 14.3 | 14.3 | 16.3 | 17.5 |
| 136 | Standard deviation | 1.8 | 2.5 | 1.1 | 2.7 | 1.8 | 0 | 0 | 1.5 | 0.9 |
| 137 | Gas sample venturi differential pressure, psid | 1.4 | 1.7 | 0.8 | 1.7 | 1.3 | 0 | (b) | 1.1 | 1.2 |
| 137 | Standard deviation | 0.1 | 0 | 0 | 0.5 | 0.2 | 0 | (b) | 0.1 | 0.3 |
| 138 | Gas sample temperature, °F | 195 | 161 | 159 | 165 | 156 | 109 | 74 | 134 | 184 |
| 138 | Standard deviation | 47 | 61 | 50 | 75 | 43 | 14 | 2 | 54 | 58 |
| 025 | Flyash solids, lb | 8.2 | 26.4 | 5.2 | 12.3 | 5.7 | 2.0 | 8.4 | 8.1 | 10.8 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 231 | 239 | 237 | 244 | 223 | 182 | 149 | 171 | 178 |
| 139 | Standard deviation | 23 | 34 | 38 | 26 | 31 | 8 | 4 | 27 | 30 |
| 140 | Hopper coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall temperature, °F | 78 | 89 | 88 | 89 | 89 | 82 | 90 | 84 | 93 |
| 165 | Standard deviation | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 0 |
| 166 | Collector gas temperature, °F | 83 | 89 | 88 | 94 | 95 | 87 | 90 | 87 | 94 |
| 166 | Standard deviation | 1 | 2 | 1 | 3 | 2 | 2 | 1 | 2 | 0 |
| 173 | Collector wall temperature, °F | 66 | 79 | 80 | 78 | 74 | 69 | 80 | 68 | 73 |
| 173 | Standard deviation | 3 | 3 | 1 | 0 | 2 | 1 | 2 | 3 | 1 |
| 174 | Flyash hopper temperature, °F | 63 | 76 | 78 | 77 | 73 | 68 | 80 | 70 | 71 |
| 174 | Standard deviation | 3 | 3 | 0 | 0 | 2 | 1 | 2 | 3 | 1 |
| 175 | Collector gas temperature, °F | 65 | 80 | 78 | 77 | 73 | 69 | 78 | 68 | 75 |
| 175 | Standard deviation | 4 | 3 | 1 | 0 | 2 | 1 | 2 | 2 | 1 |
| 176 | Filter wall temperature, °F | 68 | 82 | 83 | 82 | 79 | 74 | 82 | 73 | 73 |
| 176 | Standard deviation | 2 | 3 | 1 | 0 | 1 | 1 | 1 | 2 | 1 |
| 180 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|
| | | F19 | F16 | F27 | G2 | G3 | G6 | G1 | G5 |
| 049 | Solids discharge pipe temperature, °F | 65 | 65 | 64 | 68 | 65 | 58 | 56 | 65 |
| 049 | Standard deviation | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 5 |
| 118 | Solids discharge coolant temperature, °F | 69 | 69 | 67 | 67 | 69 | 67 | 68 | 71 |
| 118 | Standard deviation | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 0.6 | 0.7 | 5.7 | 1.7 | 13.3 | 3.6 | 0.5 | 15.5 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 17.0 | 16.7 | 16.6 | 15.9 | 18.9 | 17.7 | 16.5 | 17.6 |
| 136 | Standard deviation | 2.7 | 2.2 | 1.9 | 2.3 | 5.2 | 3.8 | 2.4 | 4.0 |
| 137 | Gas sample venturi differ- ential pressure, psid | 1.6 | 1.6 | 1.5 | 0.9 | 1.8 | 1.3 | 0.9 | 1.3 |
| 137 | Standard deviation | 0.6 | 0 | 0 | 0.9 | 2.0 | 1.5 | 0.9 | 1.6 |
| 138 | Gas sample temperature, °F | 176 | 180 | 177 | 128 | 178 | 178 | 109 | 159 |
| 138 | Standard deviation | 68 | 52 | 56 | 66 | 99 | 70 | 61 | 92 |
| 025 | Flyash solids, lb | 8.6 | 6.8 | 6.2 | 7.3 | 6.3 | 4.2 | 7.7 | 8.0 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 199 | 209 | 198 | 135 | 159 | 140 | 108 | 184 |
| 139 | Standard deviation | 40 | 39 | 43 | 38 | 41 | 32 | 25 | 51 |
| 140 | Hopper coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall tempera- ture, °F | 101 | 101 | 101 | 272 | 301 | 285 | 253 | 401 |
| 165 | Standard deviation | 1 | 1 | 2 | 32 | 3 | 3 | 5 | 8 |
| 166 | Collector gas tempera- ture, °F | 100 | 103 | 104 | 1419 | 1333 | 1271 | 745 | 1075 |
| 166 | Standard deviation | 1 | 1 | 1 | 34 | 23 | 18 | 25 | 29 |
| 173 | Collector wall tempera- ture, °F | 76 | 76 | 76 | 85 | 87 | 79 | 79 | 86 |
| 173 | Standard deviation | 1 | 1 | 1 | 2 | 1 | 1 | 3 | 3 |
| 174 | Flyash hopper tempera- ture, °F | 75 | 76 | 76 | 94 | 99 | 93 | 88 | 101 |
| 174 | Standard deviation | 1 | 0 | 1 | 7 | 3 | 3 | 4 | 4 |
| 175 | Collector gas tempera- ture, °F | 79 | 80 | 79 | 1372 | 1426 | 1412 | 1214 | 1586 |
| 175 | Standard deviation | 1 | 1 | 1 | 43 | 9 | 13 | 24 | 21 |
| 176 | Filter wall tempera- ture, °F | 79 | 81 | 81 | 86 | 92 | 84 | 73 | 90 |
| 176 | Standard deviation | 1 | 1 | 1 | 4 | 0 | 1 | 1 | 4 |
| 180 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | G10 | G9 | G13 | G12 | G15A | G15B | G14 | G11 | G7 |
| 049 | Solids discharge pipe temperature, °F | 77 | 75 | 72 | 65 | 61 | 66 | 57 | 59 | 67 |
| 049 | Standard deviation | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 1 |
| 118 | Solids discharge coolant temperature, °F | 69 | 69 | 67 | 69 | 68 | 70 | 69 | 70 | 68 |
| 118 | Standard deviation | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 14.5 | 0.5 | 3.5 | 4.5 | 10.3 | 11.1 | 0.5 | 10.0 | 1.8 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 17.8 | 16.0 | 17.3 | 17.1 | 17.7 | 17.2 | 16.3 | 17.0 | 16.0 |
| 136 | Standard deviation | 3.8 | 1.7 | 3.0 | 1.8 | 3.4 | 3.1 | 2.3 | 2.9 | 2.0 |
| 137 | Gas sample venturi differential pressure, psid | 3.1 | 1.4 | 2.5 | 1.2 | 1.4 | 2.5 | 0.8 | 1.1 | 1.0 |
| 137 | Standard deviation | 0 | 0 | 0 | 0.7 | 1.4 | 0.1 | 1.0 | 1.2 | 0.8 |
| 138 | Gas sample temperature, °F | 188 | 167 | 146 | 145 | 156 | 144 | 121 | 160 | 127 |
| 138 | Standard deviation | 75 | 33 | 65 | 38 | 81 | 67 | 49 | 70 | 43 |
| 025 | Flyash solids, lb | 7.0 | 4.2 | 49.5 | 1.5 | 3.3 | 1.4 | 3.2 | 15.1 | 1.6 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 189 | 151 | 149 | 143 | 146 | 136 | 110 | 181 | 115 |
| 139 | Standard deviation | 46 | 30 | 14 | 23 | 31 | 25 | 18 | 35 | 18 |
| 140 | Hopper coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall temperature, °F | 399 | 340 | 306 | 311 | 398 | 388 | 322 | 508 | 357 |
| 165 | Standard deviation | 10 | 6 | 5 | 6 | 6 | 8 | 3 | 20 | 5 |
| 166 | Collector gas temperature, °F | 1069 | 982 | 886 | 949 | 1489 | 1467 | 1328 | 1659 | 1353 |
| 166 | Standard deviation | 7 | 22 | 11 | 15 | 38 | 26 | 19 | 24 | 26 |
| 173 | Collector wall temperature, °F | 94 | 96 | 89 | 88 | 84 | 83 | 76 | 80 | 85 |
| 173 | Standard deviation | 2 | 1 | 1 | 2 | 1 | 1 | 0 | 6 | 1 |
| 174 | Flyash hopper temperature, °F | 107 | 110 | 101 | 98 | 97 | 97 | 91 | 100 | 99 |
| 174 | Standard deviation | 2 | 4 | 2 | 3 | 4 | 4 | 3 | 10 | 3 |
| 175 | Collector gas temperature, °F | 1528 | 1419 | 1315 | 1408 | 1376 | 1350 | 1206 | 1543 | 1232 |
| 175 | Standard deviation | 10 | 22 | 15 | 21 | 29 | 20 | 14 | 26 | 27 |
| 176 | Filter wall temperature, °F | 101 | 99 | 88 | 82 | 88 | 92 | 80 | 90 | 89 |
| 176 | Standard deviation | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 1 |
| 180 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

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TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|
| | | G8 | G16 | G22 | G23 | G24 | G17 | G18 | G19 |
| 049 | Solids discharge pipe temperature, °F | 69 | 62 | 67 | 76 | 75 | 67 | 66 | 79 |
| 049 | Standard deviation | 1 | 1 | 2 | 0 | 2 | 2 | 4 | 2 |
| 118 | Solids discharge coolant temperature, °F | 71 | 68 | 68 | 69 | 70 | 69 | 72 | 70 |
| 118 | Standard deviation | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 16.1 | 11.6 | 0.7 | 2.4 | 14.6 | 7.3 | 18.1 | 10.4 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 17.3 | 18:2 | 16.2 | 18.1 | 17.0 | 17.5 | 16.9 | 17.1 |
| 136 | Standard deviation | 3.7 | 3.8 | 2.0 | 0 | 2.7 | 3.4 | 2.4 | 2.1 |
| 137 | Gas sample venturi differential pressure, psid | 3.2 | 1.5 | 1.0 | 1.4 | 2.1 | 1.5 | 0.8 | 0.8 |
| 137 | Standard deviation | 0.1 | 1.5 | 0.7 | 0 | 0.1 | 1.3 | 0.9 | 0.8 |
| 138 | Gas sample temperature, °F | 149 | 185 | 143 | 199 | 172 | 174 | 128 | 140 |
| 138 | Standard deviation | 63 | 72 | 39 | 15 | 58 | 54 | 33 | 28 |
| 025 | Flyash solids, lb | 3.0 | 2.3 | 3.1 | 0.4 | 6.4 | 3.3 | 7.1 | 4.2 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 140 | 139 | 128 | 135 | 189 | 147 | 164 | 157 |
| 139 | Standard deviation | 21 | 14 | 10 | 3 | 20 | 19 | 17 | 13 |
| 140 | Hopper coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall temperature, °F | 428 | 437 | 382 | 429 | 506 | 447 | 505 | 512 |
| 165 | Standard deviation | 8 | 15 | 9 | 3 | 6 | 13 | 3 | 2 |
| 166 | Collector gas temperature, °F | 1422 | 1503 | 1421 | 1462 | 1571 | 1475 | 1605 | 1630 |
| 166 | Standard deviation | 25 | 30 | 22 | 10 | 18 | 53 | 24 | 18 |
| 173 | Collector wall temperature, °F | 88 | 82 | 85 | 88 | 89 | 90 | 88 | 97 |
| 173 | Standard deviation | 1 | 2 | 1 | 1 | 2 | 3 | 2 | 3 |
| 174 | Flyash hopper temperature, °F | 103 | 96 | 98 | 101 | 102 | 103 | 102 | 109 |
| 174 | Standard deviation | 3 | 5 | 3 | 2 | 3 | 4 | 3 | 4 |
| 175 | Collector gas temperature, °F | 1317 | 1364 | 1282 | 1335 | 1460 | 1369 | 1486 | 1504 |
| 175 | Standard deviation | 21 | 27 | 21 | 6 | 10 | 44 | 17 | 14 |
| 176 | Filter wall temperature, °F | 95 | 86 | 90 | 100 | 102 | 92 | 93 | 104 |
| 176 | Standard deviation | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 4 |
| 180 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 180 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | H1 | H2 | H3 | H4 | H5A | H5B | H6 | H7 | H8 |
| 049 | Solids discharge pipe temperature, °F | 83 | 80 | 78 | 76 | 88 | 92 | 78 | 80 | 87 |
| 049 | Standard deviation | 2 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| 118 | Solids discharge coolant temperature, °F | 71 | 71 | 74 | 76 | 76 | 77 | 74 | 72 | 75 |
| 118 | Standard deviation | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 1.0 | 6.0 | 9.0 | 12.9 | 6.4 | 5.1 | 9.6 | 7.1 | 4.4 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 18.2 | 16.8 | 14.6 | 14.7 | 14.6 | 14.2 | 15.7 | 15.0 | 14.7 |
| 136 | Standard deviation | 2.6 | 1.4 | 0.5 | 0.8 | 0.9 | 0.1 | 2.0 | 1.5 | 0.6 |
| 137 | Gas sample venturi differential pressure, psid | 3.0 | 1.7 | 0.6 | 0.6 | 1.3 | (b) | 2.0 | 1.7 | 0.5 |
| 137 | Standard deviation | 0.4 | 0.2 | 0.1 | 0.5 | (b) | (b) | 0.5 | 0.2 | 0.1 |
| 138 | Gas sample temperature, °F | 199 | 235 | 148 | 140 | 109 | 101 | 134 | 164 | 152 |
| 138 | Standard deviation | 103 | 58 | 40 | 35 | 35 | 2 | 72 | 55 | 32 |
| 025 | Flyash solids, lb | 4.3 | 4.5 | 10.6 | 11.1 | 4.9 | 2.3 | 3.3 | 2.9 | 4.6 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 234 | 189 | 168 | 152 | 152 | 162 | 192 | 179 | 168 |
| 139 | Standard deviation | 10 | 33 | 32 | 23 | 15 | 5 | 29 | 15 | 26 |
| 140 | Hopper coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall temperature, °F | 231 | 240 | 238 | 249 | 285 | 302 | 230 | 232 | 229 |
| 165 | Standard deviation | 4 | 1 | 9 | 3 | 4 | 4 | 5 | 3 | 3 |
| 166 | Collector gas temperature, °F | 1369 | 1468 | 1543 | 1564 | 1741 | 1747 | 1696 | 1685 | 1662 |
| 166 | Standard deviation | 10 | 10 | 21 | 6 | 12 | 4 | 28 | 7 | 10 |
| 173 | Collector wall temperature, °F | 96 | 92 | 88 | 86 | 97 | 105 | 91 | 94 | 100 |
| 173 | Standard deviation | 2 | 1 | 1 | 1 | 3 | 0 | 1 | 1 | 2 |
| 174 | Flyash hopper temperature, °F | 109 | 106 | 102 | 98 | 108 | 115 | 98 | 106 | 110 |
| 174 | Standard deviation | 2 | 3 | 1 | 1 | 3 | 1 | 2 | 2 | 3 |
| 175 | Collector gas temperature, °F | 1161 | 1315 | 1389 | 1386 | 1539 | 1569 | 1508 | 1534 | 1475 |
| 175 | Standard deviation | 15 | 8 | 20 | 8 | 11 | 4 | 34 | 15 | 8 |
| 176 | Filter wall temperature, °F | 98 | 99 | 96 | 95 | 110 | 120 | 100 | 106 | 114 |
| 176 | Standard deviation | 3 | 2 | 1 | 1 | 3 | 1 | 2 | 2 | 4 |
| 180 | Collector differential pressure, psid | 0.6 | 1.0 | 2.1 | 1.5 | 3.0 | 3.2 | 3.1 | 2.4 | 1.2 |
| 180 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.3 | 0.2 | 0.1 |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | H9 | H10 | H11 | H12 | H14 | H13 | H15 | H16 | H18 |
| 049 | Solids discharge pipe temperature, °F | 75 | 72 | 69 | 67 | 70 | 60 | 75 | 83 | 70 |
| 049 | Standard deviation | 3 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 2 |
| 118 | Solids discharge coolant temperature, °F | 75 | 72 | 69 | 67 | 71 | 65 | 67 | 67 | 68 |
| 118 | Standard deviation | 1 | 1 | 1 | 1 | 4 | 3 | 9 | 1 | 1 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 12.9 | 11.2 | 11.5 | 5.9 | 2.2 | 8.3 | 2.2 | 3.9 | 25.3 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 16.3 | 15.8 | 14.5 | 14.4 | 16.0 | 14.9 | 13.6 | 13.4 | 13.7 |
| 136 | Standard deviation | 2.4 | 2.1 | 0.4 | 0.2 | 2.0 | 1.7 | 0.6 | 0.5 | 0.8 |
| 137 | Gas sample venturi differential pressure, psid | 2.4 | 0.7 | 0.2 | 0.1 | 2.1 | 1.6 | 0.4 | 0.3 | 0.7 |
| 137 | Standard deviation | 0.2 | 1.0 | 0.2 | 0.1 | 0.1 | 0.3 | 0.3 | 0.2 | 0.2 |
| 138 | Gas sample temperature, °F | 203 | 195 | 143 | 92 | 149 | 175 | 134 | 126 | 124 |
| 138 | Standard deviation | 90 | 68 | 20 | 14 | 100 | 120 | 26 | 33 | 47 |
| 025 | Flyash solids, lb | 3.5 | 10.4 | 3.9 | 4.6 | 7.0 | 9.6 | 13.7 | 26.9 | 10.4 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 144 | 153 | 149 | 107 | 143 | 163 | 184 | 194 | 153 |
| 139 | Standard deviation | 11 | 15 | 23 | 9 | 25 | 39 | 7 | 65 | 35 |
| 140 | Hopper coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall temperature, °F | 219 | 227 | 218 | 178 | 209 | 208 | 233 | 254 | 260 |
| 165 | Standard deviation | 6 | 4 | 2 | 5 | 3 | 16 | 3 | 8 | 1 |
| 166 | Collector gas temperature, °F | 1665 | 1718 | 1709 | 1458 | 1668 | 1439 | 1560 | 1596 | 1687 |
| 166 | Standard deviation | 11 | 9 | 7 | 22 | 15 | 32 | 18 | 16 | 19 |
| 173 | Collector wall temperature, °F | 90 | 86 | 81 | 78 | 81 | 70 | 83 | 92 | 78 |
| 173 | Standard deviation | 2 | 2 | 1 | 1 | 1 | 3 | 2 | 1 | 4 |
| 174 | Flyash hopper temperature, °F | 103 | 99 | 94 | 89 | 93 | 83 | 95 | 108 | 91 |
| 174 | Standard deviation | 2 | 2 | 2 | 2 | 2 | 5 | 3 | 2 | 4 |
| 175 | Collector gas temperature, °F | 1466 | 1551 | 1530 | 1288 | 1466 | 1286 | 1414 | 1463 | 1519 |
| 175 | Standard deviation | 18 | 15 | 7 | 23 | 18 | 57 | 16 | 13 | 14 |
| 176 | Filter wall temperature, °F | 109 | 107 | 101 | 91 | 100 | 72 | 90 | 103 | 102 |
| 176 | Standard deviation | 3 | 1 | 2 | 2 | 2 | 5 | 3 | 3 | 3 |
| 180 | Collector differential pressure, psid | 1.1 | 2.3 | 1.6 | 0.5 | 1.4 | 1.4 | 1.6 | 2.4 | 2.2 |
| 180 | Standard deviation | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 |

bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | |
|----------------------|---|------|------|------|------|------|------|
| | | H19 | H20 | H23 | H24 | H25 | H26 |
| 049 | Solids discharge pipe temperature, °F | 64 | 62 | 68 | 66 | 56 | 52 |
| 049 | Standard deviation | 1 | 1 | 1 | 3 | 3 | 2 |
| 118 | Solids discharge coolant temperature, °F | 70 | 71 | 71 | 71 | 70 | 70 |
| 118 | Standard deviation | 0 | 2 | 0 | 1 | 0 | 0 |
| 119 | Solids discharge probe coolant temperature, °F | 174 | 174 | 175 | 175 | 175 | 176 |
| 119 | Standard deviation | 0 | 0 | 1 | 0 | 0 | 0 |
| 023 | Solids discharge, lb | 4.3 | 4.3 | 0.9 | 9.6 | 3.9 | 5.3 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 14.8 | 15.1 | 15.1 | 16.0 | 14.9 | 13.2 |
| 136 | Standard deviation | 1.7 | 1.9 | 2.3 | 3.3 | 1.8 | 0 |
| 137 | Gas sample venturi differ- ential pressure, psid | 1.7 | 1.9 | 2.3 | 3.0 | 1.9 | (b) |
| 137 | Standard deviation | 0.2 | 0.2 | 0.2 | 0.9 | 0.2 | (b) |
| 138 | Gas sample temperature, °F | 177 | 195 | 183 | 220 | 206 | 119 |
| 138 | Standard deviation | 90 | 74 | 99 | 79 | 68 | 31 |
| 025 | Flyash solids, lb | 7.2 | 18.7 | 28.9 | 18.1 | 13.2 | 8.6 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 167 | 156 | 125 | 153 | 154 | 138 |
| 139 | Standard deviation | 33 | 36 | 26 | 31 | 24 | 5 |
| 140 | Hopper coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | 1.4 | 1.7 | 1.8 | 1.9 | 1.9 | 1.9 |
| 150 | Standard deviation | 0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| 165 | Collector wall tempera- ture, °F | 262 | 262 | 265 | 260 | 261 | 255 |
| 165 | Standard deviation | 5 | 2 | 3 | 6 | 4 | 3 |
| 166 | Collector gas tempera- ture, °F | 1671 | 1717 | 1742 | 1726 | 1725 | 1711 |
| 166 | Standard deviation | 21 | 12 | 16 | 10 | 9 | 10 |
| 173 | Collector wall tempera- ture, °F | 72 | 72 | 77 | 76 | 72 | 69 |
| 173 | Standard deviation | 2 | 1 | 1 | 1 | 2 | 1 |
| 174 | Flyash hopper tempera- ture, °F | 88 | 90 | 95 | 92 | 92 | 90 |
| 174 | Standard deviation | 2 | 3 | 3 | 1 | 2 | 3 |
| 175 | Collector gas tempera- ture, °F | 1520 | 1557 | 1567 | 1561 | 1558 | 1538 |
| 175 | Standard deviation | 15 | 12 | 9 | 9 | 10 | 7 |
| 176 | Filter wall tempera- ture, °F | 93 | 88 | 91 | 91 | 80 | 73 |
| 176 | Standard deviation | 4 | 1 | 2 | 3 | 3 | 2 |
| 180 | Collector differential pressure, psid | 1.5 | 1.8 | 2.1 | 2.1 | 2.2 | 2.2 |
| 180 | Standard deviation | 0.1 | 0.2 | 0 | 0 | 0.1 | 0.1 |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | I1 | I2 | I3 | I4 | I5A | I5B | I6 | I7 | I8 |
| 049 | Solids discharge pipe temperature, °F | 68 | 69 | 61 | 57 | 56 | 58 | 65 | 60 | 57 |
| 049 | Standard deviation | 2 | 4 | 2 | 1 | 1 | 1 | 1 | 2 | 1 |
| 118 | Solids discharge coolant temperature, °F | 69 | 69 | 68 | 67 | 68 | 68 | 69 | 68 | 67 |
| 118 | Standard deviation | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 119 | Solids discharge probe coolant temperature, °F | 175 | 175 | 177 | 177 | 176 | 176 | 174 | 175 | 176 |
| 119 | Standard deviation | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| 023 | Solids discharge, lb | 8.6 | 10.7 | 7.5 | 7.9 | 2.6 | 4.0 | 6.8 | 7.1 | 5.1 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 14.6 | 15.4 | 14.6 | 14.6 | 14.6 | 14.6 | 16.8 | 16.7 | 18.5 |
| 136 | Standard deviation | 0 | 1.7 | 0 | 0 | 0 | 0.1 | 2.2 | 3.3 | 2.0 |
| 137 | Gas sample venturi differential pressure, psid | 0 | 0.6 | (b) | (b) | (b) | (b) | 2.1 | 2.7 | 2.4 |
| 137 | Standard deviation | 0 | 1.2 | (b) | (b) | (b) | (b) | 0.6 | 1.6 | 0.3 |
| 138 | Gas sample temperature, °F | 61 | 103 | 66 | 56 | 53 | 55 | 149 | 161 | 197 |
| 138 | Standard deviation | 3 | 56 | 4 | 2 | 0 | 2 | 96 | 88 | 65 |
| 025 | Flyash solids, lb | 11.8 | 14.6 | 6.2 | 2.3 | 0.4 | 5.0 | 2.2 | 2.6 | 0.2 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 144 | 148 | 139 | 132 | 138 | 147 | 187 | 197 | 204 |
| 139 | Standard deviation | 11 | 13 | 2 | 3 | 3 | 24 | 59 | 40 | 29 |
| 140 | Hopper coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | 0.07 | 0.09 | 0.05 | 0.05 | 0.05 | 0.07 | 0.08 | 0.09 | 0.08 |
| 150 | Standard deviation | 0 | 0 | 0 | 0.01 | 0 | 0 | 0.01 | 0 | 0.04 |
| 165 | Collector wall temperature, °F | 242 | 264 | 209 | 186 | 193 | 197 | 225 | 237 | 221 |
| 165 | Standard deviation | 19 | 14 | 3 | 6 | 2 | 1 | 8 | 1 | 2 |
| 166 | Collector gas temperature, °F | 1700 | 1737 | 1685 | 1512 | 1548 | 1545 | 1722 | 1748 | 1704 |
| 166 | Standard deviation | 41 | 19 | 10 | 16 | 9 | 7 | 17 | 14 | 15 |
| 173 | Collector wall temperature, °F | 80 | 85 | 75 | 71 | 69 | 69 | 76 | 77 | 76 |
| 173 | Standard deviation | 5 | 4 | 2 | 1 | 1 | 1 | 2 | 1 | 3 |
| 174 | Flyash hopper temperature, °F | 94 | 106 | 89 | 88 | 81 | 84 | 102 | 107 | 99 |
| 174 | Standard deviation | 8 | 6 | 2 | 2 | 0 | 1 | 3 | 4 | 2 |
| 175 | Collector gas temperature, °F | 1534 | 1594 | 1508 | 1342 | 1389 | 1400 | 1549 | 1593 | 1528 |
| 175 | Standard deviation | 49 | 14 | 8 | 21 | 11 | 5 | 12 | 16 | 16 |
| 176 | Filter wall temperature, °F | 83 | 98 | 85 | 75 | 73 | 76 | 88 | 83 | 74 |
| 176 | Standard deviation | 8 | 2 | 3 | 2 | 1 | 1 | 2 | 1 | 0 |
| 180 | Collector differential pressure, psid | 3.0 | 4.7 | 2.1 | 1.2 | 2.2 | 2.5 | 3.3 | 5.2 | 2.7 |
| 180 | Standard deviation | 0.1 | 0.2 | 0 | 0 | 0.1 | 0 | 0.2 | 0.2 | 0.1 |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | |
|----------------------|---|------|------|------|------|------|------|
| | | I9 | I10A | I10B | I11 | I12 | I13 |
| 049 | Solids discharge pipe temperature, °F | 57 | 64 | 67 | 66 | 53 | 58 |
| 049 | Standard deviation | 2 | 2 | 0 | 4 | 1 | 2 |
| 118 | Solids discharge coolant temperature, °F | 67 | 67 | 66 | 68 | 68 | 68 |
| 118 | Standard deviation | 0 | 1 | 0 | 1 | 1 | 1 |
| 119 | Solids discharge probe coolant temperature, °F | 176 | 175 | 173 | 174 | 177 | 176 |
| 119 | Standard deviation | 1 | 0 | 3 | 1 | 0 | 0 |
| 023 | Solids discharge, lb | 5.7 | 6.2 | 2.3 | 7.5 | 9.3 | 7.1 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 15.8 | 14.6 | 16.9 | 15.8 | 14.5 | 15.9 |
| 136 | Standard deviation | 1.4 | 0 | 0.4 | 1.4 | 0 | 2.5 |
| 137 | Gas sample venturi differ- ential pressure, psid | 1.3 | (b) | 1.1 | 1.3 | (b) | 2.7 |
| 137 | Standard deviation | 0.4 | (b) | 0.2 | 0.1 | (b) | 0.7 |
| 138 | Gas sample temperature, °F | 163 | 107 | 199 | 159 | 57 | 104 |
| 138 | Standard deviation | 47 | 24 | 5 | 60 | 4 | 87 |
| 025 | Flyash solids, lb | 0.7 | 0.2 | 0.1 | 4.4 | 3.5 | 6.0 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 169 | 128 | 160 | 157 | 173 | 119 |
| 139 | Standard deviation | 34 | 24 | 7 | 33 | 21 | 9 |
| 140 | Hopper coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | 0.05 | 0.09 | 0.07 | 0.06 | 0.13 | 0.07 |
| 150 | Standard deviation | 0.01 | 0.06 | 0.04 | 0.01 | 0.04 | 0.02 |
| 165 | Collector wall tempera- ture, °F | 205 | 196 | 191 | 199 | 205 | 208 |
| 165 | Standard deviation | 4 | 6 | 1 | 3 | 11 | 10 |
| 166 | Collector gas tempera- ture, °F | 1546 | 1486 | 1460 | 1520 | 1572 | 1727 |
| 166 | Standard deviation | 24 | 23 | 5 | 8 | 29 | 11 |
| 173 | Collector wall tempera- ture, °F | 75 | 78 | 80 | 77 | 67 | 70 |
| 173 | Standard deviation | 1 | 2 | 1 | 5 | 1 | 10 |
| 174 | Flyash hopper tempera- ture, °F | 98 | 96 | 94 | 95 | 91 | 83 |
| 174 | Standard deviation | 3 | 3 | 2 | 3 | 6 | 5 |
| 175 | Collector gas tempera- ture, °F | 1404 | 1332 | 1297 | 1354 | 1418 | 1491 |
| 175 | Standard deviation | 25 | 30 | 5 | 7 | 26 | 20 |
| 176 | Filter wall tempera- ture, °F | 73 | 78 | 81 | 82 | 71 | 75 |
| 176 | Standard deviation | 1 | 1 | 0 | 2 | 1 | 3 |
| 180 | Collector differential pressure, psid | 2.3 | 1.5 | 1.4 | 1.7 | 2.8 | 2.1 |
| 180 | Standard deviation | 0.2 | 0.4 | 0.1 | 0.1 | 0.2 | 0.2 |

b) Data or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 |
| 049 | Solids discharge pipe temperature, °F | 55 | 54 | 65 | 47 | 59 | 61 | 53 | 68 | 66 |
| 049 | Standard deviation | 1 | 1 | 1 | 6 | 2 | 1 | 1 | 2 | 3 |
| 118 | Solids discharge coolant temperature, °F | 67 | 68 | 67 | 68 | 58 | 57 | 57 | 68 | 67 |
| 118 | Standard deviation | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 4 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 2.0 | 0.4 | 1.0 | 1.2 | 0.5 | 0.6 | 1.0 | 1.0 | 1.3 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 14.5 | 15.8 | 15.3 | 14.9 | 16.4 | 15.8 | 14.2 | 13.4 | 13.3 |
| 136 | Standard deviation | 0.8 | 2.0 | 1.7 | 1.1 | 3.1 | 2.1 | 0.5 | 0 | 0 |
| 137 | Gas sample venturi differential pressure, psid | 0.9 | 2.1 | 1.5 | 1.2 | 2.6 | 1.9 | 0.6 | (b) | (b) |
| 137 | Standard deviation | 0.1 | 0.4 | 0.6 | 0 | 1.3 | 0.6 | 0 | (b) | (b) |
| 138 | Gas sample temperature, °F | 89 | 177 | 181 | 164 | 197 | 216 | 141 | 77 | 66 |
| 138 | Standard deviation | 55 | 96 | 75 | 52 | 86 | 86 | 27 | 1 | 2 |
| 025 | Flyash solids, lb | 20.5 | 19.8 | 27.3 | 9.3 | 13.1 | 12.2 | 5.6 | 4.2 | 7.5 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 145 | 192 | 252 | 171 | 259 | 262 | 147 | 203 | 142 |
| 139 | Standard deviation | 17 | 50 | 37 | 20 | 32 | 40 | 33 | 12 | 8 |
| 140 | Hopper coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | 0.36 | 0.99 | 2.72 | 0.81 | 2.87 | 2.66 | 0.61 | 1.41 | 0.35 |
| 150 | Standard deviation | 0.15 | 0.05 | 0.06 | 0.06 | 0.17 | 0.16 | 0.03 | 0.02 | 0.04 |
| 165 | Collector wall temperature, °F | 210 | 233 | 253 | 239 | 277 | 281 | 235 | 229 | 205 |
| 165 | Standard deviation | 5 | 4 | 4 | 5 | 6 | 4 | 3 | 1 | 1 |
| 166 | Collector gas temperature, °F | 1375 | 1483 | 1662 | 1602 | 1716 | 1733 | 1599 | 1513 | 1427 |
| 166 | Standard deviation | 27 | 12 | 24 | 16 | 25 | 23 | 21 | 17 | 7 |
| 173 | Collector wall temperature, °F | 69 | 70 | 86 | 66 | 78 | 81 | 74 | 81 | 81 |
| 173 | Standard deviation | 1 | 1 | 2 | 6 | 3 | 1 | 1 | 3 | 3 |
| 174 | Flyash hopper temperature, °F | 82 | 83 | 130 | 81 | 97 | 94 | 84 | 90 | 86 |
| 174 | Standard deviation | 3 | 1 | 12 | 7 | 1 | 1 | 3 | 4 | 2 |
| 175 | Collector gas temperature, °F | 1191 | 1346 | 1532 | 1435 | 1579 | 1592 | 1422 | 1385 | 1094 |
| 175 | Standard deviation | 30 | 13 | 17 | 12 | 19 | 21 | 10 | 15 | 61 |
| 176 | Filter wall temperature, °F | 78 | 84 | 92 | 82 | 98 | 104 | 88 | 83 | 81 |
| 176 | Standard deviation | 1 | 2 | 0 | 3 | 2 | 1 | 4 | 2 | 0 |
| 180 | Collector differential pressure, psid | 0.77 | 1.65 | 2.89 | 0.92 | 3.18 | 2.87 | 0.62 | 1.69 | 0.60 |
| 180 | Standard deviation | 0.12 | 0.18 | 0.08 | 0.07 | 0.29 | 0.28 | 0.05 | 0.31 | 0.07 |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|
| | | T3A | T3B | T3C | T3D | T3E | T3F | T4 | T5 |
| 049 | Solids discharge pipe temperature, °F | 80 | 79 | 77 | 77 | 74 | 68 | 62 | 60 |
| 049 | Standard deviation | 8 | 6 | 7 | 3 | 6 | 2 | 3 | 5 |
| 118 | Solids discharge coolant temperature, °F | 71 | 75 | 71 | 76 | 75 | 68 | 68 | 66 |
| 118 | Standard deviation | 2 | 3 | 2 | 3 | 4 | 3 | 1 | 0 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 394 | 173 | 95 | 124 | 309 | 7.1 | 11.7 | 14.9 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 15.4 | 15.1 | 14.4 | 15.5 | 14.4 | 14.1 | 14.3 | 16.0 |
| 136 | Standard deviation | 1.9 | 2.1 | 0.1 | 2.1 | 0.1 | 0.1 | 0.4 | 2.1 |
| 137 | Gas sample venturi differential pressure, psid | 1.2 | 1.1 | (b) | 0.9 | 0.2 | (b) | 0.3 | 0.8 |
| 137 | Standard deviation | 0.7 | 0.5 | (b) | 1.2 | 0.1 | (b) | 0.3 | 1.0 |
| 138 | Gas sample temperature, °F | 159 | 128 | 73 | 149 | 71 | 67 | 81 | 134 |
| 138 | Standard deviation | 72 | 59 | 5 | 48 | 5 | 3 | 37 | 78 |
| 025 | Flyash solids, lb | 26.4 | 815 | 28.9 | 44.8 | 114 | 46.5 | 77.6 | 42.9 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 154 | 130 | 136 | 157 | 180 | 87 | 145 | 127 |
| 139 | Standard deviation | 42 | 38 | 55 | 28 | 50 | 25 | 58 | 47 |
| 140 | Hopper coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall temperature, °F | 235 | 237 | 181 | 221 | 247 | 138 | 265 | 253 |
| 165 | Standard deviation | 60 | 80 | 79 | 47 | 75 | 65 | 82 | 109 |
| 166 | Collector gas temperature, °F | 959 | 1207 | 1051 | 1526 | 1433 | 718 | 1463 | 1232 |
| 166 | Standard deviation | 173 | 482 | 627 | 163 | 443 | 614 | 311 | 657 |
| 173 | Collector wall temperature, °F | 93 | 93 | 89 | 88 | 88 | 72 | 77 | 85 |
| 173 | Standard deviation | 9 | 7 | 8 | 5 | 6 | 3 | 5 | 7 |
| 174 | Flyash hopper temperature, °F | 100 | 99 | 94 | 96 | 96 | 76 | 89 | 94 |
| 174 | Standard deviation | 10 | 11 | 13 | 5 | 9 | 3 | 11 | 10 |
| 175 | Collector gas temperature, °F | 1227 | 1182 | 943 | 1431 | 1335 | 586 | 373 | 219 |
| 175 | Standard deviation | 328 | 528 | 630 | 201 | 469 | 540 | 190 | 95 |
| 176 | Filter wall temperature, °F | 95 | 123 | 119 | 139 | 135 | 72 | 89 | 91 |
| 176 | Standard deviation | 11 | 30 | 34 | 16 | 26 | 3 | 12 | 11 |
| 180 | Collector differential pressure, psid | 1.0 | 1.3 | 0.9 | 1.5 | 1.3 | 0.4 | 0.9 | 1.4 |
| 180 | Standard deviation | 0.4 | 0.5 | 0.7 | 0.2 | 0.2 | 0.5 | 0.5 | 0.5 |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|------|
| | | K1 | K3 | K4 | K2 | K7 | K8 | K6 | K5 | K9 |
| 049 | Solids discharge pipe temperature, °F | 60 | 58 | 63 | 66 | 69 | 71 | 69 | 72 | 73 |
| 049 | Standard deviation | 1 | 1 | 3 | 2 | 0 | 1 | 1 | 2 | 1 |
| 118 | Solids discharge coolant temperature, °F | 67 | 66 | 67 | 66 | 67 | 68 | 68 | 68 | 67 |
| 118 | Standard deviation | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 0.6 | 0.4 | 5.4 | 1.3 | 0.9 | 2.3 | 2.2 | 4.5 | 9.9 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 17.8 | 16.1 | 19.5 | 15.8 | 15.5 | 20.6 | 16.9 | 24.2 | 17.5 |
| 136 | Standard deviation | 1.7 | 0.5 | 5.1 | 0.5 | 0.3 | 1.8 | 1.0 | 3.3 | 0.3 |
| 137 | Gas sample venturi differ- ential pressure, psid | 1.8 | 0.9 | 2.4 | 0.7 | 0.5 | 3.0 | 1.3 | 4.7 | 1.7 |
| 137 | Standard deviation | 0.9 | 0.2 | 2.4 | 0.2 | 0.2 | 0.9 | 0.5 | 1.6 | 0.2 |
| 138 | Gas sample temperature, °F | 242 | 185 | 268 | 214 | 232 | 354 | 237 | 365 | 303 |
| 138 | Standard deviation | 72 | 40 | 104 | 42 | 20 | 29 | 26 | 69 | 9 |
| 025 | Flyash solids, lb | 5.6 | 4.4 | 27.6 | 18.9 | 8.9 | 10.4 | 84.2 | 62.9 | 8.3 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 168 | 199 | 231 | 185 | 215 | 234 | 170 | 231 | 182 |
| 139 | Standard deviation | 31 | 14 | 33 | 23 | 26 | 4 | 12 | 23 | 3 |
| 140 | Hopper coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 165 | Collector wall tempera- ture, °F | 219 | 241 | 291 | 242 | 232 | 251 | 249 | 284 | 250 |
| 165 | Standard deviation | 21 | 8 | 5 | 7 | 2 | 3 | 3 | 8 | 1 |
| 166 | Collector gas tempera- ture, °F | 1364 | 1541 | 1662 | 1477 | 1442 | 1533 | 1618 | 1710 | 1601 |
| 166 | Standard deviation | 41 | 35 | 11 | 18 | 5 | 10 | 30 | 12 | 10 |
| 173 | Collector wall tempera- ture, °F | 80 | 81 | 86 | 83 | 86 | 85 | 89 | 106 | 95 |
| 173 | Standard deviation | 12 | 12 | 2 | 7 | 2 | 1 | 9 | 9 | 4 |
| 174 | Flyash hopper tempera- ture, °F | 95 | 94 | 124 | 102 | 100 | 105 | 102 | 178 | 113 |
| 174 | Standard deviation | 9 | 6 | 10 | 4 | 1 | 3 | 5 | 9 | 4 |
| 175 | Collector gas tempera- ture, °F | 123 | 1318 | 1511 | 1296 | 1129 | 1392 | 1421 | 1569 | 1415 |
| 175 | Standard deviation | 2 | 45 | 11 | 24 | 78 | 13 | 31 | 10 | 23 |
| 176 | Filter wall tempera- ture, °F | 77 | 80 | 99 | 97 | 93 | 101 | 100 | 110 | 106 |
| 176 | Standard deviation | 5 | 4 | 5 | 2 | 1 | 3 | 1 | 5 | 1 |
| 180 | Collector differential pressure, psid | 1.0 | 1.1 | 3.3 | 0.7 | 0.8 | 1.9 | 0.9 | 3.6 | 0.7 |
| 180 | Standard deviation | 0.1 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 |

bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | K10 | K12 | K11 | K14 | K13 | K15 | K16 |
| 049 | Solids discharge pipe temperature, °F | 73 | 72 | 73 | 70 | 72 | 72 | 75 |
| 049 | Standard deviation | 0 | 1 | 2 | 1 | 0 | 1 | 1 |
| 118 | Solids discharge coolant temperature, °F | 68 | 68 | 69 | 52 | 54 | 66 | 67 |
| 118 | Standard deviation | 0 | 0 | 1 | 5 | 7 | 1 | 1 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 0.5 | 1.5 | 1.5 | 6.8 | 0.9 | 1.0 | 0.5 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 16.7 | 17.9 | 17.7 | 14.7 | 14.6 | 14.6 | 14.6 |
| 136 | Standard deviation | 0.2 | 1.5 | 8.1 | 0 | 0 | 0 | 0 |
| 137 | Gas sample venturi differ- ential pressure, psid | 1.2 | 1.7 | 1.4 | 0 | 0 | 0 | 0 |
| 137 | Standard deviation | 0.1 | 0.9 | 3.9 | 0 | 0 | 0 | 0 |
| 138 | Gas sample temperature, °F | 279 | 325 | 220 | 92 | 78 | 77 | 78 |
| 138 | Standard deviation | 10 | 73 | 116 | 9 | 0 | 1 | 0 |
| 025 | Flyash solids, lb | 1.6 | 21.9 | 69.5 | 14.9 | 15.1 | 1.0 | 0.4 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 199 | 216 | 202 | 128 | 117 | 120 | 103 |
| 139 | Standard deviation | 3 | 25 | 29 | 7 | 3 | 6 | 6 |
| 140 | Hopper coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | 0.64 | 1.03 | 3.12 | 0.56 | 0.33 | 0.57 | 0.88 |
| 150 | Standard deviation | 0.04 | 0.11 | 0.37 | 0.03 | 0.03 | 0.02 | 0.05 |
| 165 | Collector wall tempera- ture, °F | 255 | 252 | 296 | 253 | 228 | 252 | 257 |
| 165 | Standard deviation | 1 | 4 | 10 | 8 | 1 | 2 | 0 |
| 166 | Collector gas tempera- ture, °F | 1627 | 1541 | 1774 | 1624 | 1470 | 1611 | 1651 |
| 166 | Standard deviation | 6 | 29 | 30 | 16 | 15 | 14 | 6 |
| 173 | Collector wall tempera- ture, °F | 88 | 98 | 114 | 93 | 95 | 92 | 93 |
| 173 | Standard deviation | 1 | 12 | 12 | 8 | 8 | 1 | 1 |
| 174 | Flyash hopper tempera- ture, °F | 105 | 112 | 253 | 116 | 106 | 106 | 102 |
| 174 | Standard deviation | 2 | 10 | 29 | 12 | 3 | 2 | 1 |
| 175 | Collector gas tempera- ture, °F | 1448 | 1397 | 1625 | 1432 | 1282 | 1418 | 1449 |
| 175 | Standard deviation | 9 | 23 | 23 | 17 | 15 | 14 | 9 |
| 176 | Filter wall tempera- ture, °F | 106 | 106 | 119 | 109 | 99 | 103 | 106 |
| 176 | Standard deviation | 1 | 0 | 4 | 4 | 1 | 1 | 0 |
| 180 | Collector differential pressure, psid | 0.8 | 1.4 | 4.3 | 0.7 | 0.4 | 0.7 | 1.0 |
| 180 | Standard deviation | 0.2 | 0.1 | 0.2 | 0.1 | 0 | 0.1 | 0.1 |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | |
|----------------------|---|------|------|------|------|------|
| | | CAS0 | CAS1 | CAS2 | CAS3 | CAS4 |
| 049 | Solids discharge pipe temperature, °F | 60 | 65 | 65 | 58 | 68 |
| 049 | Standard deviation | 5 | 3 | 2 | 6 | 4 |
| 118 | Solids discharge coolant temperature, °F | 59 | 63 | 56 | 60 | 63 |
| 118 | Standard deviation | 2 | 0 | 3 | 2 | 7 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 45.2 | 3.9 | 22.0 | 350 | 2320 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 16.7 | 15.9 | 16.2 | 16.3 | 17.1 |
| 136 | Standard deviation | 2.2 | 3.1 | 2.6 | 1.8 | 2.8 |
| 137 | Gas sample venturi differ- ential pressure, psid | 1.2 | 2.3 | 1.0 | 0.9 | 2.3 |
| 137 | Standard deviation | 1.1 | 0.8 | 1.2 | 0.8 | 0.6 |
| 138 | Gas sample temperature, °F | 175 | 122 | 146 | 166 | 214 |
| 138 | Standard deviation | 84 | 77 | 65 | 74 | 93 |
| 025 | Flyash solids, lb | 51.4 | 137 | 40.8 | 292 | 270 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 127 | 119 | 128 | 165 | 170 |
| 139 | Standard deviation | 37 | 39 | 34 | 65 | 53 |
| 140 | Hopper coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | (b) | 1.3 | 1.4 | 4.5 | 4.1 |
| 150 | Standard deviation | (b) | 0.1 | 0.3 | 1.8 | 1.5 |
| 165 | Collector wall tempera- ture, °F | 296 | 243 | 326 | 318 | 327 |
| 165 | Standard deviation | 95 | 54 | 52 | 79 | 61 |
| 166 | Collector gas tempera- ture, °F | 1442 | 1475 | 1570 | 1493 | 1547 |
| 166 | Standard deviation | 476 | 400 | 235 | 352 | 236 |
| 173 | Collector wall tempera- ture, °F | 91 | 86 | 91 | 83 | 87 |
| 173 | Standard deviation | 5 | 10 | 5 | 6 | 20 |
| 174 | Flyash hopper tempera- ture, °F | 99 | 94 | 98 | 90 | 98 |
| 174 | Standard deviation | 9 | 10 | 5 | 8 | 11 |
| 175 | Collector gas tempera- ture, °F | 1321 | 231 | 324 | 1114 | 1476 |
| 175 | Standard deviation | 366 | 76 | 54 | 626 | 221 |
| 176 | Filter wall tempera- ture, °F | 94 | 104 | 103 | 98 | 106 |
| 176 | Standard deviation | 9 | 17 | 9 | 16 | 20 |
| 180 | Collector differential pressure, psid | 1.62 | 1.27 | 1.69 | 6.45 | 4.85 |
| 180 | Standard deviation | 0.51 | 0.46 | 0.31 | 2.31 | 2.04 |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|
| | | L1 | L2 | L3 | L4 | L5 | L6 | M1 | M2 |
| 049 | Solids discharge pipe temperature, °F | 75 | 79 | 81 | 80 | 74 | 68 | 79 | 59 |
| 049 | Standard deviation | 12 | 4 | 3 | 5 | 6 | 2 | 3 | 2 |
| 118 | Solids discharge coolant temperature, °F | 67 | 65 | 67 | 69 | 67 | 66 | 66 | 66 |
| 118 | Standard deviation | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 18.4 | 48.1 | 26.9 | 42.1 | 32.7 | 2.9 | 16.0 | 10.6 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 19.7 | 15.1 | 15.7 | 20.5 | 22.9 | 18.3 | 16.5 | 15.0 |
| 136 | Standard deviation | 3.8 | 0.6 | 1.4 | 6.2 | 6.0 | 2.5 | 1.1 | 0.7 |
| 137 | Gas sample venturi differ- ential pressure, psid | 3.2 | 0.4 | 0.7 | 5.3 | 5.6 | 1.9 | 1.0 | 0.4 |
| 137 | Standard deviation | 1.4 | 0.2 | 0.6 | 0.3 | 0.7 | 1.2 | 0.6 | 0.4 |
| 138 | Gas sample temperature, °F | 217 | 168 | 161 | 236 | 330 | 238 | 204 | 109 |
| 138 | Standard deviation | 117 | 27 | 38 | 143 | 85 | 39 | 41 | 20 |
| 025 | Flyash solids, lb | 38.3 | 45.2 | 16.2 | 52.6 | 72.2 | 2.8 | 20.4 | 11.2 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 190 | 141 | 191 | 207 | 228 | 178 | 180 | 106 |
| 139 | Standard deviation | 46 | 21 | 49 | 50 | 43 | 8 | 12 | 16 |
| 140 | Hopper coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | 7.6 | 1.9 | 4.2 | 5.6 | 5.7 | 2.6 | 1.7 | 0.9 |
| 150 | Standard deviation | 1.1 | 0.1 | 0.4 | 2.0 | 2.1 | 0 | 0 | 0.2 |
| 165 | Collector wall tempera- ture, °F | 321 | 258 | 339 | 361 | 266 | 304 | 308 | 256 |
| 165 | Standard deviation | 28 | 18 | 15 | 57 | 25 | 2 | 8 | 7 |
| 166 | Collector gas tempera- ture, °F | 1513 | 1428 | 1577 | 1745 | 1716 | 1626 | 1393 | 1318 |
| 166 | Standard deviation | 41 | 13 | 13 | 19 | 41 | 19 | 25 | 26 |
| 173 | Collector wall tempera- ture, °F | 90 | 98 | 93 | 88 | 77 | 73 | 90 | 78 |
| 173 | Standard deviation | 14 | 2 | 9 | 8 | 4 | 2 | 5 | 11 |
| 174 | Flyash hopper tempera- ture, °F | 99 | 111 | 109 | 127 | 116 | 103 | 104 | 88 |
| 174 | Standard deviation | 16 | 2 | 3 | 10 | 19 | 3 | 3 | 4 |
| 175 | Collector gas tempera- ture, °F | 1407 | 1358 | 1491 | 1678 | 1661 | 1571 | 1300 | 1246 |
| 175 | Standard deviation | 51 | 15 | 17 | 29 | 46 | 20 | 34 | 31 |
| 176 | Filter wall tempera- ture, °F | 96 | 94 | 105 | 124 | 91 | 88 | 112 | 84 |
| 176 | Standard deviation | 13 | 3 | 5 | 5 | 16 | 2 | 4 | 3 |
| 180 | Collector differential pressure, psid | 14.7 | 2.1 | 4.8 | 10.9 | 8.3 | 2.2 | 3.7 | 2.9 |
| 180 | Standard deviation | 2.1 | 0.3 | 0.6 | 3.1 | 0.8 | 0.1 | 0.2 | 0.3 |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|--|------|------|------|------|------|------|------|------|------|
| | | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M11 | M12 |
| 049 | Solids discharge pipe temperature, °F | 59 | 63 | 61 | 54 | 55 | 51 | 62 | 63 | 67 |
| 049 | Standard deviation | 2 | 2 | 2 | 2 | 1 | 4 | 2 | 2 | 1 |
| 118 | Solids discharge coolant temperature, °F | 65 | 66 | 66 | 64 | 63 | 60 | 63 | 63 | 64 |
| 118 | Standard deviation | 1 | 0 | 1 | 0 | 0 | 8 | 0 | 0 | 2 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 29.7 | 24.4 | 22.8 | 4.3 | 6.7 | 30.0 | 48.0 | 30.5 | 22.3 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 15.5 | 19.3 | 19.8 | 15.7 | 14.6 | 16.1 | 17.4 | 15.8 | 19.0 |
| 136 | Standard deviation | 1.0 | 3.3 | 3.7 | 0.9 | 0.3 | 1.8 | 2.4 | 1.0 | 4.2 |
| 137 | Gas sample venturi differential pressure, psid | 0.7 | 2.6 | 2.4 | 0.7 | 0.1 | 0.8 | 1.0 | 0.5 | 1.4 |
| 137 | Standard deviation | 0.5 | 0.9 | 1.5 | 0.4 | 0.1 | 1.0 | 0.8 | 0.3 | 1.2 |
| 138 | Gas sample temperature, °F | 156 | 297 | 305 | 165 | 78 | 181 | 229 | 163 | 235 |
| 138 | Standard deviation | 39 | 74 | 72 | 33 | 10 | 109 | 48 | 32 | 81 |
| 025 | Flyash solids, lb | 26.2 | 35.9 | 22.7 | 9.3 | 6.0 | 26.1 | 35.0 | 21.7 | 36.0 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper temperature, °F | 145 | 235 | 226 | 145 | 117 | 156 | 177 | 160 | 231 |
| 139 | Standard deviation | 22 | 42 | 35 | 24 | 20 | 35 | 28 | 28 | 48 |
| 140 | Hopper coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | 1.4 | 4.1 | 4.1 | 1.4 | 0.8 | 2.0 | 7.7 | 8.9 | 6.3 |
| 150 | Standard deviation | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 2.9 | 1.0 | 0.2 |
| 165 | Collector wall temperature, °F | 294 | 346 | 374 | 316 | 275 | 293 | 312 | 321 | 319 |
| 165 | Standard deviation | 11 | 14 | 6 | 16 | 13 | 8 | 3 | 4 | 8 |
| 166 | Collector gas temperature, °F | 1483 | 1684 | 1702 | 1562 | 1374 | 1407 | 1422 | 1533 | 1679 |
| 166 | Standard deviation | 30 | 15 | 9 | 14 | 31 | 12 | 13 | 15 | 12 |
| 173 | Collector wall temperature, °F | 77 | 73 | 68 | 63 | 77 | 62 | 82 | 87 | 85 |
| 173 | Standard deviation | 14 | 4 | 2 | 7 | 1 | 5 | 7 | 12 | 3 |
| 174 | Flyash hopper temperature, °F | 124 | 106 | 108 | 81 | 85 | 74 | 90 | 98 | 150 |
| 174 | Standard deviation | 66 | 10 | 8 | 10 | 4 | 4 | 5 | 4 | 16 |
| 175 | Collector gas temperature, °F | 1393 | 1611 | 1636 | 1486 | 1306 | 1350 | 1368 | 1464 | 1627 |
| 175 | Standard deviation | 34 | 19 | 9 | 18 | 33 | 8 | 9 | 16 | 14 |
| 176 | Filter wall temperature, °F | 92 | 105 | 116 | 96 | 88 | 87 | 102 | 104 | 97 |
| 176 | Standard deviation | 2 | 4 | 2 | 7 | 2 | 2 | 4 | 0 | 4 |
| 180 | Collector differential pressure, psid | 3.5 | 7.8 | 7.7 | 3.6 | 2.6 | 4.5 | 4.3 | 3.4 | 7.0 |
| 180 | Standard deviation | 0.3 | 0.2 | 0.7 | 0.2 | 0.1 | 0.3 | 0.2 | 0.3 | 1.1 |

bData or results were not obtained.

TABLE 4. - Continued.

(e) Continued. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | T6A | T6B | T7A | T7B | T7C | T7D1 | T7D2 |
| 049 | Solids discharge pipe temperature, °F | 66 | 67 | 84 | 65 | 73 | 77 | 73 |
| 049 | Standard deviation | 5 | 5 | 8 | 8 | 10 | 9 | 9 |
| 118 | Solids discharge coolant temperature, °F | 65 | 66 | 73 | 67 | 69 | 71 | 73 |
| 118 | Standard deviation | 3 | 1 | 3 | 1 | 2 | 6 | 2 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 1380 | 154 | 482 | 439 | 518 | 71.7 | 107 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 18.3 | 18.7 | 19.9 | 21.3 | 20.2 | 28.5 | 23.0 |
| 136 | Standard deviation | 1.9 | 2.3 | 2.1 | 2.4 | 3.2 | 4.8 | 5.6 |
| 137 | Gas sample venturi differ- ential pressure, psid | 1.8 | 1.7 | 1.9 | 1.9 | 1.5 | 1.0 | 1.8 |
| 137 | Standard deviation | 0.7 | 0.4 | 0.5 | 0.4 | 0.6 | 0.3 | 1.0 |
| 138 | Gas sample temperature, °F | 209 | 207 | 277 | 287 | 224 | 191 | 250 |
| 138 | Standard deviation | 55 | 52 | 44 | 43 | 49 | 44 | 93 |
| 025 | Flyash solids, lb | 186 | 176 | 494 | 767 | 144 | 91.7 | 80.1 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 191 | 177 | 245 | 256 | 216 | 280 | 283 |
| 139 | Standard deviation | 40 | 33 | 36 | 34 | 42 | 54 | 31 |
| 140 | Hopper coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | 5.3 | 2.4 | 3.8 | 3.5 | 3.5 | 3.7 | 3.8 |
| 150 | Standard deviation | 0.8 | 0.5 | 0.6 | 0.6 | 0.8 | 0.6 | 0.3 |
| 165 | Collector wall tempera- ture, °F | 292 | 313 | 340 | 337 | 315 | 315 | 319 |
| 165 | Standard deviation | 57 | 68 | 31 | 39 | 54 | 58 | 9 |
| 166 | Collector gas tempera- ture, °F | 1630 | 1556 | 1689 | 1642 | 1611 | 1668 | 1742 |
| 166 | Standard deviation | 206 | 352 | 72 | 140 | 255 | 161 | 16 |
| 173 | Collector wall tempera- ture, °F | 76 | 70 | 88 | 66 | 76 | 80 | 78 |
| 173 | Standard deviation | 7 | 4 | 8 | 9 | 10 | 9 | 9 |
| 174 | Flyash hopper tempera- ture, °F | 95 | 90 | 105 | 92 | 95 | 101 | 95 |
| 174 | Standard deviation | 9 | 8 | 8 | 8 | 10 | 11 | 11 |
| 175 | Collector gas tempera- ture, °F | 1567 | 1492 | 1619 | 1582 | 1510 | 1574 | 1657 |
| 175 | Standard deviation | 215 | 371 | 75 | 74 | 290 | 200 | 21 |
| 176 | Filter wall tempera- ture, °F | 92 | 97 | 114 | 101 | 103 | 112 | 111 |
| 176 | Standard deviation | 14 | 9 | 9 | 10 | 11 | 12 | 8 |
| 180 | Collector differential pressure, psid | 5.2 | 3.2 | 5.4 | 5.1 | 4.3 | 5.0 | 5.9 |
| 180 | Standard deviation | 0.9 | 0.6 | 0.7 | 0.6 | 1.0 | 1.0 | 0.6 |

^bData or results were not obtained.

TABLE 4. - Continued.

(e) Concluded. - PFB system solids discharge data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|------|
| | | N1 | N2 | N5A | N5B | N6 | N55A | N55B | N7 |
| 049 | Solids discharge pipe temperature, °F | 59 | 53 | 76 | 74 | 69 | 60 | 55 | 52 |
| 049 | Standard deviation | 3 | 3 | 1 | 1 | 3 | 3 | 1 | 1 |
| 118 | Solids discharge coolant temperature, °F | 68 | 69 | 69 | 68 | 69 | 67 | 69 | 66 |
| 118 | Standard deviation | 0 | 3 | 1 | 1 | 3 | 2 | 3 | 0 |
| 119 | Solids discharge probe coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 023 | Solids discharge, lb | 36.7 | 24.3 | 29.8 | 27.3 | 24.9 | 50.7 | 46.3 | 23.6 |
| 023 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 136 | Gas sample pressure, psia | 21.2 | 20.1 | 20.2 | 22.3 | 18.5 | 20.9 | 19.9 | 16.6 |
| 136 | Standard deviation | 2.0 | 2.8 | 3.7 | 1.2 | 1.3 | 2.8 | 2.5 | 1.3 |
| 137 | Gas sample venturi differ- ential pressure, psid | 1.9 | 1.7 | 1.7 | 1.9 | 0.7 | 2.0 | 1.7 | 0.4 |
| 137 | Standard deviation | 0.4 | 0.4 | 0.8 | 0.3 | 0.1 | 0.3 | 0.1 | 0.2 |
| 138 | Gas sample temperature, °F | 274 | 280 | 252 | 309 | 229 | 298 | 311 | 184 |
| 138 | Standard deviation | 71 | 42 | 89 | 15 | 19 | 74 | 45 | 20 |
| 025 | Flyash solids, lb | 48.8 | 8.9 | 40.3 | 29.4 | 28.8 | 60.2 | 56.6 | 33.8 |
| 025 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 139 | Flyash hopper tempera- ture, °F | 186 | 180 | 169 | 185 | 145 | 187 | 203 | 120 |
| 139 | Standard deviation | 30 | 15 | 38 | 4 | 9 | 29 | 23 | 10 |
| 140 | Hopper coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Flyash collector tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Collector differential pressure, psid | 1.0 | 0.7 | 2.7 | 3.0 | 1.3 | 3.4 | 3.5 | 1.0 |
| 150 | Standard deviation | 0.1 | 0 | 0.9 | 0.2 | 0 | 0.2 | 0.2 | 0.1 |
| 165 | Collector wall tempera- ture, °F | 312 | 310 | 269 | 310 | 303 | 318 | 346 | 286 |
| 165 | Standard deviation | 54 | 7 | 64 | 7 | 12 | 48 | 1 | 19 |
| 166 | Collector gas tempera- ture, °F | 1645 | 1670 | 1540 | 1652 | 1543 | 1600 | 1636 | 1472 |
| 166 | Standard deviation | 68 | 22 | 286 | 9 | 24 | 41 | 12 | 39 |
| 173 | Collector wall tempera- ture, °F | 60 | 53 | 79 | 76 | 70 | 61 | 55 | 52 |
| 173 | Standard deviation | 5 | 4 | 3 | 2 | 2 | 3 | 1 | 1 |
| 174 | Flyash hopper tempera- ture, °F | 85 | 76 | 91 | 93 | 90 | 79 | 76 | 69 |
| 174 | Standard deviation | 6 | 4 | 5 | 3 | 4 | 3 | 4 | 2 |
| 175 | Collector gas tempera- ture, °F | 1572 | 1612 | 1380 | 1544 | 1425 | 1488 | 1567 | 1394 |
| 175 | Standard deviation | 83 | 14 | 371 | 8 | 21 | 85 | 10 | 42 |
| 176 | Filter wall tempera- ture, °F | 88 | 77 | 93 | 95 | 101 | 95 | 102 | 88 |
| 176 | Standard deviation | 10 | 3 | 9 | 3 | 4 | 11 | 1 | 5 |
| 180 | Collector differential pressure, psid | 1.6 | 1.1 | 3.7 | 2.0 | 1.0 | 5.4 | 5.7 | 1.6 |
| 180 | Standard deviation | 0.1 | 0.2 | 0.8 | 0.4 | 0.1 | 0.3 | 0.2 | 0.1 |

bData or results were not obtained.

Table 4. - Continued

(f) Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|------|------|
| | | A1A | A2A | A11A | A10A | A9A | A9B | A1B | A10B | A11B |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 68 | 66 | 64 | 54 | 57 | 81 | 74 | 63 | 62 |
| 077 | Standard deviation | 0 | 6 | 7 | 1 | 5 | 1 | 7 | 1 | 2 |
| 078 | Coolant inlet pressure, psia | 55.7 | 53.0 | 50.0 | 51.2 | 47.9 | 55.4 | 52.9 | 56.1 | 50.9 |
| 078 | Standard deviation | 0.6 | 4.2 | 3.0 | 2.3 | 4.7 | 0.9 | 14.7 | 0.5 | 2.9 |
| 079 | Coolant flow rate, gal/min | 1.95 | 1.73 | 1.75 | 1.67 | 1.68 | 1.07 | 0.86 | 0.76 | 0.91 |
| 079 | Standard deviation | 0.02 | 0.29 | 0.10 | 0.07 | 0.14 | 0.02 | 0.24 | 0 | 0.23 |
| 080 | Coolant outlet pressure, psia | 35.2 | 35.5 | 32.4 | 35.2 | 31.8 | 43.0 | 43.9 | 49.5 | 40.9 |
| 080 | Standard deviation | 0.3 | 2.3 | 1.4 | 2.7 | 2.5 | 0.4 | 11.2 | 0.4 | 7.7 |
| 081 | Outlet 1 coolant tempera- ture, °F | 73 | 68 | 63 | 56 | 59 | 77 | 66 | 57 | 57 |
| 081 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 082 | Outlet 2 coolant tempera- ture, °F | 74 | 68 | 62 | 56 | 59 | 77 | 66 | 57 | 56 |
| 082 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 10 | 0 | 1 |
| 083 | Outlet 3 coolant tempera- ture, °F | 74 | 68 | 63 | 56 | 59 | 77 | 66 | 57 | 56 |
| 083 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 084 | Outlet 4 coolant tempera- ture, °F | 74 | 68 | 62 | 56 | 58 | 77 | 66 | 57 | 56 |
| 084 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 10 | 0 | 1 |
| 085 | Outlet 5 coolant tempera- ture, °F | 119 | 121 | 113 | 109 | 112 | 129 | 130 | 131 | 122 |
| 085 | Standard deviation | 2 | 4 | 6 | 2 | 4 | 1 | 12 | 1 | 13 |
| 086 | Outlet 6 coolant tempera- ture, °F | 74 | 68 | 62 | 56 | 59 | 77 | 66 | 57 | 56 |
| 086 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 087 | Outlet 7 coolant tempera- ture, °F | 74 | 68 | 62 | 56 | 59 | 77 | 66 | 58 | 57 |
| 087 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 088 | Outlet 8 coolant tempera- ture, °F | 115 | 115 | 109 | 103 | 106 | 130 | 130 | 131 | 123 |
| 088 | Standard deviation | 2 | 4 | 7 | 2 | 4 | 1 | 13 | 1 | 14 |
| 089 | Outlet 9 coolant tempera- ture, °F | 74 | 68 | 63 | 56 | 59 | 77 | 66 | 58 | 57 |
| 089 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |

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| | | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|------|
| 087 | Outlet 7 coolant temperature, °F | 74 | 68 | 62 | 56 | 59 | 77 | 66 | 58 | 57 |
| 087 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 088 | Outlet 8 coolant temperature, °F | 115 | 115 | 109 | 103 | 106 | 130 | 130 | 131 | 123 |
| 088 | Standard deviation | 2 | 4 | 7 | 2 | 4 | 1 | 13 | 1 | 14 |
| 089 | Outlet 9 coolant temperature, °F | 74 | 68 | 63 | 56 | 59 | 77 | 66 | 58 | 57 |
| 089 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 090 | Outlet 10 coolant temperature, °F | 74 | 68 | 63 | 56 | 59 | 77 | 66 | 57 | 56 |
| 090 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 091 | Outlet 11 coolant temperature, °F | 74 | 68 | 63 | 56 | 59 | 77 | 66 | 57 | 57 |
| 091 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 092 | Outlet 12 coolant temperature, °F | 74 | 68 | 63 | 56 | 59 | 77 | 66 | 57 | 57 |
| 092 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 093 | Outlet 13 coolant temperature, °F | 74 | 68 | 63 | 56 | 59 | 77 | 66 | 58 | 57 |
| 093 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 094 | Outlet 14 coolant temperature, °F | 119 | 120 | 112 | 108 | 110 | 139 | 135 | 137 | 129 |
| 094 | Standard deviation | 2 | 4 | 7 | 2 | 4 | 1 | 10 | 1 | 15 |
| 095 | Outlet 15 coolant temperature, °F | 74 | 68 | 62 | 56 | 59 | 77 | 66 | 57 | 56 |
| 095 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 096 | Outlet 16 coolant temperature, °F | 74 | 68 | 63 | 56 | 59 | 77 | 66 | 57 | 57 |
| 096 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 26.5 | 23.8 | 24.0 | 22.8 | 23.0 | 20.0 | 16.4 | 14.7 | 17.5 |
| 097 | Standard deviation | 0.2 | 3.5 | 1.3 | 0.8 | 1.7 | 0.3 | 4.5 | 0.1 | 4.3 |
| 098 | Coolant outlet temperature, °F | 85 | 81 | 75 | 69 | 72 | 91 | 83 | 77 | 74 |
| 098 | Standard deviation | 1 | 6 | 8 | 1 | 6 | 0 | 7 | 0 | 3.7 |
| 101 | Coolant flow rate, gal/min | 1.86 | 1.77 | 1.68 | 1.69 | 1.61 | 1.45 | 1.57 | 1.86 | 1.73 |
| 101 | Standard deviation | 0.01 | 0.11 | 0.10 | 0.06 | 0.11 | 0.02 | 0.23 | 0.01 | 0.09 |
| 102 | Coolant outlet pressure, °F | 42.6 | 40.8 | 38.7 | 39.6 | 37.5 | 47.4 | 43.1 | 43.1 | 39.7 |
| 102 | Standard deviation | 0.4 | 3.0 | 2.0 | 1.8 | 3.4 | 0.6 | 12.5 | 0.4 | 1.9 |
| 103 | Outlet 17 coolant temperature, °F | 73 | 68 | 62 | 56 | 58 | 76 | 66 | 57 | 56 |
| 103 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 10 | 0 | 1 |

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^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|------|------|------|------|-----|-----|-----|------|------|
| | | A1A | A2A | A11A | A10A | A9A | A9B | A1B | A10B | A11B |
| 104 | Outlet 18 coolant tempera- ture, °F | (b) | 54 | 46 | 54 | 53 | 68 | 61 | 56 | 55 |
| 104 | Standard deviation | (b) | 9 | 13 | 1 | 6 | 1 | 8 | 0 | 1 |
| 105 | Outlet 19 coolant tempera- ture, °F | 74 | 68 | 62 | 56 | 59 | 77 | 66 | 57 | 56 |
| 105 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 10 | 0 | 1 |
| 106 | Outlet 20 coolant tempera- ture, °F | 74 | 68 | 62 | 56 | 59 | 77 | 66 | 57 | 56 |
| 106 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 10 | 0 | 1 |
| 107 | Outlet 21 coolant tempera- ture, °F | 74 | 68 | 62 | 56 | 58 | 77 | 66 | 57 | 56 |
| 107 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 10 | 0 | 2 |
| 108 | Outlet 22 coolant tempera- ture, °F | 69 | 69 | 68 | 56 | 61 | 84 | 78 | 65 | 63 |
| 108 | Standard deviation | 1 | 4 | 6 | 2 | 5 | 1 | 6 | 1 | 1 |
| 109 | Outlet 23 coolant tempera- ture, °F | 74 | 68 | 62 | 56 | 59 | 77 | 66 | 57 | 56 |
| 109 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 10 | 0 | 1 |
| 110 | Outlet 24 coolant tempera- ture, °F | 74 | 68 | 63 | 56 | 59 | 77 | 66 | 57 | 57 |
| 110 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 9 | 0 | 1 |
| 111 | Outlet 25 coolant tempera- ture, °F | 73 | 68 | 62 | 56 | 59 | 77 | 66 | 57 | 56 |
| 111 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 10 | 0 | 1 |
| 112 | Outlet 26 coolant tempera- ture, °F | 73 | 68 | 63 | 56 | 59 | 77 | 66 | 57 | 57 |
| 112 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 10 | 0 | 1 |
| 113 | Coolant flow rate, gal/min | 11.4 | 10.9 | 10.3 | 10.4 | 9.9 | 8.8 | 9.6 | 11.4 | 10.7 |
| 113 | Standard deviation | 0.1 | 0.7 | 0.6 | 0.4 | 0.7 | 0.1 | 1.4 | 0.1 | 0.5 |
| 114 | Coolant outlet tempera- ture, °F | 74 | 68 | 62 | 56 | 58 | 77 | 66 | 57 | 56 |
| 114 | Standard deviation | 1 | 8 | 9 | 1 | 7 | 0 | 10 | 0 | 1 |
| 115 | Wall coolant top tempera- ture, °F | 86 | 84 | 80 | 73 | 78 | 95 | 104 | 98 | 94 |
| 115 | Standard deviation | 2 | 6 | 8 | 1 | 5 | 4 | 3 | 1 | 2 |
| 116 | Wall coolant middle temperature, °F | 112 | 113 | 110 | 103 | 108 | 89 | 88 | 76 | 70 |
| 116 | Standard deviation | 2 | 5 | 5 | 2 | 3 | 2 | 2 | 1 | 2 |
| 117 | Wall coolant bottom temperature, °F | 81 | 78 | 74 | 66 | 69 | 84 | 75 | 65 | 64 |
| 117 | Standard deviation | 1 | 6 | 8 | 1 | 5 | 1 | 9 | 0 | 2 |
| 120 | Wall coolant total | 86 | 81 | 78 | 72 | 75 | 90 | 79 | 66 | 66 |

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| | | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 115 | Standard deviation | 2 | 6 | 8 | 1 | 5 | 4 | 3 | 1 | 2 |
| 116 | Wall coolant middle temperature, °F | 112 | 113 | 110 | 103 | 108 | 89 | 88 | 76 | 70 |
| 116 | Standard deviation | 2 | 5 | 5 | 2 | 3 | 2 | 2 | 1 | 2 |
| 117 | Wall coolant bottom temperature, °F | 81 | 78 | 74 | 66 | 69 | 84 | 75 | 65 | 64 |
| 117 | Standard deviation | 1 | 6 | 8 | 1 | 5 | 1 | 9 | 0 | 2 |
| 120 | Wall coolant total temperature, °F | 86 | 81 | 78 | 72 | 75 | 90 | 79 | 66 | 66 |
| 120 | Standard deviation | 1 | 7 | 7 | 1 | 5 | 1 | 11 | 2 | 1 |
| 121 | Wall coolant flow rate, gal/min | 8.86 | 8.40 | 7.96 | 8.03 | 7.69 | 6.01 | 6.16 | 7.29 | 6.77 |
| 121 | Standard deviation | 0.09 | 0.51 | 0.46 | 0.29 | 0.55 | 0.09 | 0.93 | 0.04 | 0.31 |
| 140 | Wall coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | 14.1 | 14.6 | 14.7 | 15.2 | 15.1 | 30.3 | 22.7 | 14.7 | 14.6 |
| 145 | Standard deviation | 0 | 0.8 | 0.5 | 0.1 | 0.5 | 0.1 | 8.6 | 0 | 0.1 |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 149890 | 151990 | 150510 | 151700 | 150860 | 142780 | 131400 | 147140 | 148710 |
| C26 | Standard deviation | 4167 | 7061 | 4635 | 3942 | 7434 | 2831 | 2211 | 3475 | 5423 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 54907 | 55497 | 60519 | 64575 | 64356 | 41482 | 40493 | 31189 | 31311 |
| C28 | Standard deviation | 4730 | 6798 | 8037 | 5792 | 9473 | 2806 | 12034 | 7255 | 3436 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 48.6 | 49.2 | 48.4 | 46.8 | 46.8 | 41.5 | 39.2 | 42.9 | 43.2 |
| C30-1 | Standard deviation | 0.7 | 1.3 | 1.0 | 1.3 | 1.8 | 0.2 | 6.1 | 0.3 | 1.4 |
| C58 | Total heat transfer rate, Btu/hr | 337070 | 321920 | 324490 | 342220 | 333920 | 285170 | 276000 | 273840 | 289140 |
| C58 | Standard deviation | 13511 | 20814 | 20144 | 12460 | 32606 | 8832 | 70023 | 5927 | 14227 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 56.5 | 56.4 | 56.5 | 54.0 | 53.5 | 54.1 | 50.5 | 55.7 | 55.9 |
| C30-2 | Standard deviation | 0.9 | 1.6 | 0.5 | 1.7 | 1.3 | 0.7 | 8.5 | 0.4 | 0.7 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 61.2 | 61.3 | 60.5 | 58.3 | 57.9 | 63.0 | 54.6 | 59.5 | 60.7 |
| C30-3 | Standard deviation | 0.7 | 1.8 | 0.5 | 1.4 | 1.4 | 0.7 | 7.1 | 0.2 | 1.1 |

^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|------|
| | | A8B | A7B | A6B | A5B | A3B | A16B | A12B | A17B |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 72 | 76 | 64 | 63 | 61 | 63 | 73 | 68 |
| 077 | Standard deviation | 8 | 7 | 1 | 1 | 1 | 2 | 7 | 1 |
| 078 | Coolant inlet pressure, psia | 68.4 | 52.3 | 39.8 | 50.6 | 51.6 | 46.2 | 48.5 | 34.7 |
| 078 | Standard deviation | 18.8 | 13.0 | 3.2 | 3.8 | 1.2 | 2.4 | 10.3 | 1.4 |
| 079 | Coolant flow rate, gal/min | 1.53 | 1.20 | 1.08 | 1.28 | 1.31 | 1.22 | 1.26 | 1.00 |
| 079 | Standard deviation | 0.29 | 0.20 | 0.06 | 0.07 | 0.02 | 0.04 | 0.19 | 0.03 |
| 080 | Coolant outlet pressure, psia | 42.4 | 36.0 | 26.6 | 32.2 | 32.9 | 29.7 | 30.7 | 23.8 |
| 080 | Standard deviation | 9.9 | 8.9 | 1.6 | 1.9 | 0.6 | 1.1 | 5.4 | 0.7 |
| 081 | Outlet 1 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 081 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Outlet 2 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Outlet 3 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Outlet 4 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant tempera- ture, °F | 110 | 139 | 117 | 107 | 112 | 123 | 133 | 151 |
| 085 | Standard deviation | 3 | 11 | 4 | 2 | 3 | 3 | 6 | 2 |
| 086 | Outlet 6 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant tempera- ture, °F | 109 | 130 | 117 | 104 | 107 | 109 | 118 | 129 |
| 088 | Standard deviation | 3 | 9 | 3 | 2 | 1 | 2 | 4 | 2 |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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| | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant temperature, °F | 109 | 130 | 117 | 104 | 107 | 109 | 118 | 129 |
| 088 | Standard deviation | 3 | 9 | 3 | 2 | 1 | 2 | 4 | 2 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | 114 | 133 | 115 | 103 | 105 | 109 | 118 | 128 |
| 094 | Standard deviation | 2 | 6 | 3 | 2 | 1 | 2 | 4 | 2 |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 29.6 | 22.7 | 20.4 | 24.3 | 24.5 | 22.6 | 23.3 | 18.1 |
| 097 | Standard deviation | 5.6 | 4.1 | 1.2 | 0.6 | 0.4 | 0.8 | 3.3 | 0.6 |
| 098 | Coolant outlet temperature, °F | 80 | 87 | 71 | 68 | 68 | 69 | 80 | 74 |
| 098 | Standard deviation | 8 | 8 | 1 | 1 | 1 | 1 | 9 | 1 |
| 101 | Coolant flow rate, gal/min | 2.00 | 1.50 | 1.34 | 1.61 | 1.62 | 1.50 | 2.13 | 1.21 |
| 101 | Standard deviation | 0.33 | 0.27 | 0.08 | 0.04 | 0.02 | 0.05 | 0.81 | 0.04 |
| 102 | Coolant outlet pressure, °F | 53.9 | 43.3 | 32.5 | 41.1 | 41.3 | 37.2 | 30.4 | 28.8 |
| 102 | Standard deviation | 14.2 | 10.7 | 2.4 | 1.6 | 0.7 | 1.9 | 2.3 | 0.8 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | |
|--------------|-------------------------------------|------|------|-----|------|------|------|------|------|
| | | A8B | A7B | A6B | A5B | A3B | A16B | A12B | A17B |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 12.9 | 10.2 | 9.2 | 11.0 | 11.0 | 10.2 | 14.4 | 8.2 |
| 113 | Standard deviation | 2.5 | 1.8 | 0.6 | 0.3 | 0.2 | 0.3 | 5.4 | 0.2 |
| 114 | Coolant outlet temperature, °F | 70 | 73 | 57 | 58 | 56 | 57 | 68 | 57 |
| 114 | Standard deviation | 10 | 10 | 0 | 1 | 1 | 1 | 11 | 1 |
| 115 | Wall coolant top temperature, °F | 102 | 110 | 104 | 99 | 95 | 99 | 114 | 117 |
| 115 | Standard deviation | 4 | 2 | 2 | 2 | 2 | 5 | 4 | 1 |
| 116 | Wall coolant middle temperature, °F | 78 | 87 | 80 | 74 | 70 | 73 | 88 | 92 |
| 116 | Standard deviation | 5 | 2 | 2 | 2 | 2 | 4 | 3 | 1 |
| 117 | Wall coolant bottom temperature, °F | 76 | 83 | 69 | 67 | 66 | 67 | 79 | 73 |
| 117 | Standard deviation | 8 | 7 | 1 | 1 | 1 | 1 | 8 | 1 |
| 120 | Wall coolant total | 78 | 82 | 67 | 64 | 65 | 67 | 76 | 72 |

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| | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|
| | ture, °F | | | | | | | | |
| 115 | Standard deviation | 4 | 2 | 2 | 2 | 2 | 5 | 4 | 1 |
| 116 | Wall coolant middle temperature, °F | 78 | 87 | 80 | 74 | 70 | 73 | 88 | 92 |
| 116 | Standard deviation | 5 | 2 | 2 | 2 | 2 | 4 | 3 | 1 |
| 117 | Wall coolant bottom temperature, °F | 76 | 83 | 69 | 67 | 66 | 67 | 79 | 73 |
| 117 | Standard deviation | 8 | 7 | 1 | 1 | 1 | 1 | 8 | 1 |
| 120 | Wall coolant total temperature, °F | 78 | 82 | 67 | 64 | 65 | 67 | 76 | 72 |
| 120 | Standard deviation | 8 | 9 | 1 | 1 | 0 | 1 | 8 | 1 |
| 121 | Wall coolant flow rate, gal/min | 8.1 | 6.4 | 5.6 | 6.9 | 6.9 | 6.4 | 6.5 | 5.0 |
| 121 | Standard deviation | 1.5 | 1.2 | 0.4 | 0.2 | 0.1 | 0.2 | 0.9 | 0.2 |
| 140 | Wall coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | 16.2 | 19.6 | 14.7 | 15.2 | 15.1 | 14.8 | 14.9 | 14.3 |
| 145 | Standard deviation | 1.1 | 7.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.7 | 0.1 |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 156970 | 164660 | 150760 | 141960 | 154290 | 149830 | 143330 | 162890 |
| C26 | Standard deviation | 3203 | 8652 | 3603 | 1884 | 4682 | 3629 | 7078 | 4805 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 27617 | 29208 | 30192 | 24573 | 32187 | 33649 | 24997 | 39249 |
| C28 | Standard deviation | 3993 | 3713 | 1001 | 3648 | 4182 | 3964 | 7742 | 1798 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 46.1 | 57.1 | 51.1 | (b) | 55.3 | 60.1 | 61.8 | 64.4 |
| C30-1 | Standard deviation | 1.1 | 4.7 | 0.4 | (b) | 1.6 | 1.3 | 3.8 | 1.9 |
| C58 | Total heat transfer rate, Btu/hr | 288390 | 298190 | 278960 | 248940 | 298900 | 298270 | 216060 | 341890 |
| C58 | Standard deviation | 12423 | 30416 | 7080 | 10155 | 12345 | 12931 | 20625 | 9829 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 58.1 | 64.6 | 65.3 | (b) | 64.3 | 61.0 | 60.2 | 63.5 |
| C30-2 | Standard deviation | 1.3 | 2.4 | 0.6 | (b) | 0.7 | 1.1 | 0.7 | 1.3 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 64.7 | 66.9 | 62.4 | (b) | 61.1 | 60.3 | 59.4 | 61.7 |
| C30-3 | Standard deviation | 1.6 | 2.3 | 0.7 | (b) | 0.5 | 0.9 | 0.9 | 1.1 |

^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|
| | | C1 | C3 | C8 | C11 | C12 | C16 | C17 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 73 | 61 | 61 | 62 | 66 | 77 | 76 |
| 077 | Standard deviation | 6 | 1 | 1 | 1 | 7 | 1 | 1 |
| 078 | Coolant inlet pressure, psia | 59.3 | 46.4 | 44.7 | 47.9 | 50.1 | 59.0 | 50.3 |
| 078 | Standard deviation | 13.8 | 1.1 | 1.6 | 2.2 | 4.6 | 11.9 | 0.4 |
| 079 | Coolant flow rate, gal/min | 2.19 | 1.99 | 1.97 | 2.06 | 2.12 | 2.30 | 2.18 |
| 079 | Standard deviation | 0.43 | 0.03 | 0.05 | 0.06 | 0.12 | 0.32 | 0.01 |
| 080 | Coolant outlet pressure, psia | 40.2 | 30.8 | 29.9 | 31.6 | 32.8 | 38.2 | 31.9 |
| 080 | Standard deviation | 7.8 | 0.6 | 0.9 | 1.2 | 2.6 | 7.0 | 0.1 |
| 081 | Outlet 1 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 081 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Outlet 2 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Outlet 3 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Outlet 4 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant tempera- ture, °F | 116 | 107 | 108 | 108 | 107 | 116 | 124 |
| 085 | Standard deviation | 10 | 1 | 2 | 2 | 5 | 6 | 4 |
| 086 | Outlet 6 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant tempera- ture, °F | 115 | 106 | 107 | 107 | 107 | 115 | 123 |
| 088 | Standard deviation | 9 | 1 | 2 | 2 | 4 | 6 | 4 |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

FOLDOUT FRAME /

| | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant temperature, °F | 115 | 106 | 107 | 107 | 107 | 115 | 123 |
| 088 | Standard deviation | 9 | 1 | 2 | 2 | 4 | 6 | 4 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | 118 | 109 | 109 | 108 | 108 | 116 | 124 |
| 094 | Standard deviation | 9 | 1 | 2 | 2 | 4 | 6 | 4 |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 24.8 | 22.5 | 22.0 | 23.0 | 23.6 | 26.0 | 24.6 |
| 097 | Standard deviation | 4.8 | 0.4 | 0.6 | 0.7 | 1.5 | 3.5 | 0.1 |
| 098 | Coolant outlet temperature, °F | 85 | 74 | 74 | 75 | 77 | 87 | 88 |
| 098 | Standard deviation | 6 | 1 | 1 | 1 | 6 | 2 | 2 |
| 101 | Coolant flow rate, gal/min | 2.2 | 2.0 | 1.9 | 2.0 | 2.0 | 2.3 | 2.1 |
| 101 | Standard deviation | 0.5 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0 |
| 102 | Coolant outlet pressure, °F | 51.2 | 39.0 | 37.6 | 40.2 | 41.8 | 49.0 | 41.5 |
| 102 | Standard deviation | 10.8 | 0.9 | 1.4 | 1.8 | 3.6 | 9.5 | 0.2 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test. | | | | | | |
|--------------|-------------------------------------|-------|------|-----|------|------|------|------|
| | | C1 | C3 | C8 | C11 | C12 | C16 | C17 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 10.9 | 10.2 | 9.9 | 10.4 | 10.7 | 11.7 | 11.1 |
| 113 | Standard deviation | 2.0 | 0.2 | 0.3 | 0.4 | 0.6 | 1.6 | 0 |
| 114 | Coolant outlet temperature, °F | 72 | 60 | 61 | 62 | 65 | 76 | 75 |
| 114 | Standard deviation | 6 | 1 | 1 | 1 | 7 | 1 | 1 |
| 115 | Wall coolant top temperature, °F | 82 | 84 | 82 | 77 | 91 | 97 | 99 |
| 115 | Standard deviation | 3 | 1 | 2 | 2 | 3 | 2 | 1 |
| 116 | Wall coolant middle temperature, °F | 63 | 61 | 59 | 54 | 64 | 73 | 74 |
| 116 | Standard deviation | 1 | 1 | 2 | 2 | 4 | 2 | 1 |
| 117 | Wall coolant bottom temperature, °F | 80 | 71 | 72 | 72 | 76 | 86 | 85 |
| 117 | Standard deviation | 5 | 1 | 1 | 1 | 5 | 2 | 2 |
| 120 | Wall coolant total | 77 | 68 | 68 | 70 | 74 | 86 | 86 |

FOLDOUT FRAME

| | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|
| 115 | Standard deviation | 3 | 1 | 2 | 2 | 3 | 2 | 1 |
| 116 | Wall coolant middle temperature, °F | 63 | 61 | 59 | 54 | 64 | 73 | 74 |
| 116 | Standard deviation | 1 | 1 | 2 | 2 | 4 | 2 | 1 |
| 117 | Wall coolant bottom temperature, °F | 80 | 71 | 72 | 72 | 76 | 86 | 85 |
| 117 | Standard deviation | 5 | 1 | 1 | 1 | 5 | 2 | 2 |
| 120 | Wall coolant total temperature, °F | 77 | 68 | 68 | 70 | 74 | 86 | 86 |
| 120 | Standard deviation | 6 | 0 | 0 | 1 | 7 | 3 | 1 |
| 121 | Wall coolant flow rate, gal/min | 6.8 | 6.1 | 5.9 | 6.3 | 6.5 | 7.0 | 6.7 |
| 121 | Standard deviation | 1.3 | 0.1 | 0.2 | 0.2 | 0.5 | 1.0 | 0 |
| 140 | Wall coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | 20.6 | 15.4 | 15.2 | 15.4 | 15.8 | 17.9 | 14.1 |
| 145 | Standard deviation | 7.3 | 0.1 | 0.1 | 0.1 | 0.6 | 5.7 | 0 |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 138920 | 142340 | 138590 | 140150 | 134850 | 230100 | 154470 |
| C26 | Standard deviation | 3998 | 1604 | 3424 | 1979 | 9330 | 3372 | 6754 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 11675 | 21810 | 19048 | 22853 | 27068 | 32342 | 35584 |
| C28 | Standard deviation | 3473 | 4065 | 3612 | 4783 | 7547 | 7091 | 2771 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 50.8 | 48.6 | 48.7 | 32.7 | 45.9 | 47.5 | 51.6 |
| C30-1 | Standard deviation | 0.9 | 0.3 | 0.7 | 0.3 | 0.7 | 0.5 | 1.3 |
| C58 | Total heat transfer rate, Btu/hr | 229770 | 262780 | 256650 | 258230 | 212650 | 260880 | 328520 |
| C58 | Standard deviation | 26265 | 11133 | 10978 | 14026 | 22624 | 8067 | 8355 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 46.6 | 44.6 | 44.3 | 33.0 | 43.2 | 43.7 | 47.3 |
| C30-2 | Standard deviation | 0.9 | 0.5 | 0.6 | 0.3 | 1.3 | 0.4 | 1.0 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 51.1 | 48.4 | 47.4 | 50.7 | 45.1 | 46.3 | 50.0 |
| C30-3 | Standard deviation | 1.3 | 0.4 | 0.7 | 0.4 | 1.1 | 1.0 | 1.2 |

b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|
| | | D6 | D7 | D2 | D7 | D10 | D3 | D4 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 74 | 68 | 72 | 71 | 74 | 75 | 73 |
| 077 | Standard deviation | 0 | 2 | 1 | 1 | 4 | 1 | 1 |
| 078 | Coolant inlet pressure, psia | 60.7 | 54.6 | 63.1 | 66.1 | 65.9 | 50.5 | 67.2 |
| 078 | Standard deviation | 0.7 | 4.0 | 2.2 | 11.6 | 14.0 | 13.0 | 6.7 |
| 079 | Coolant flow rate, gal/min | 1.6 | 1.8 | 1.9 | 2.1 | 2.0 | 1.8 | 2.1 |
| 079 | Standard deviation | 0.1 | 0.2 | 0.2 | 0.5 | 0.4 | 0.4 | 0.2 |
| 080 | Coolant outlet pressure, psia | 45.9 | 37.0 | 42.5 | 45.4 | 46.1 | 32.9 | 44.8 |
| 080 | Standard deviation | 0.4 | 5.2 | 4.2 | 5.4 | 9.7 | 7.4 | 4.9 |
| 081 | Outlet 1 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 081 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Outlet 2 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Outlet 3 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Outlet 4 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant tempera- ture, °F | 105 | 97 | 99 | 94 | 97 | 107 | 102 |
| 085 | Standard deviation | 0 | 5 | 2 | 4 | 6 | 5 | 3 |
| 086 | Outlet 6 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant tempera- ture, °F | 123 | 115 | 115 | 109 | 113 | 130 | 126 |
| 088 | Standard deviation | 1 | 5 | 2 | 7 | 8 | 9 | 5 |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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| | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant temperature, °F | 123 | 115 | 115 | 109 | 113 | 130 | 126 |
| 088 | Standard deviation | 1 | 5 | 2 | 7 | 8 | 9 | 5 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | 125 | 114 | 114 | 107 | 110 | 123 | 96 |
| 094 | Standard deviation | 1 | 5 | 2 | 7 | 8 | 8 | 12 |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 20.9 | 23.1 | 25.0 | 25.0 | 24.3 | 22.9 | 26.4 |
| 097 | Standard deviation | 0.2 | 1.4 | 1.5 | 4.9 | 4.3 | 3.9 | 2.3 |
| 098 | Coolant outlet temperature, °F | 85 | 79 | 82 | 80 | 82 | 86 | 81 |
| 098 | Standard deviation | 0 | 3 | 1 | 2 | 4 | 2 | 1 |
| 101 | Coolant flow rate, gal/min | 2.0 | 2.1 | 2.3 | 2.3 | 2.2 | 2.1 | 2.4 |
| 101 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.5 | 0.4 | 0.4 | 0.3 |
| 102 | Coolant outlet pressure, °F | 51 | 44 | 45 | 54 | 55 | 40 | 55 |
| 102 | Standard deviation | 1 | 5 | 8 | 8 | 12 | 10 | 5 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | |
|--------------|-------------------------------------|------|------|------|------|------|-----|------|
| | | D6 | D7 | D2 | D7 | D10 | D3 | D4 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 9.5 | 10.4 | 11.2 | 10.9 | 10.6 | 9.9 | 11.6 |
| 113 | Standard deviation | 0.1 | 0.6 | 0.6 | 2.1 | 1.8 | 1.6 | 0.9 |
| 114 | Coolant outlet temperature, °F | 74 | 68 | (b) | 71 | 74 | 75 | 73 |
| 114 | Standard deviation | 0 | 2 | (b) | 1 | 4 | 1 | 1 |
| 115 | Wall coolant top temperature, °F | 92 | 96 | (b) | 102 | 95 | 101 | 109 |
| 115 | Standard deviation | 5 | 3 | (b) | 2 | 7 | 8 | 1 |
| 116 | Wall coolant middle temperature, °F | 78 | 74 | (b) | 78 | 70 | 75 | 85 |
| 116 | Standard deviation | 2 | 1 | (b) | 2 | 3 | 6 | 1 |
| 117 | Wall coolant bottom temperature, °F | 93 | 87 | (b) | 84 | 87 | 94 | 90 |
| 117 | Standard deviation | 2 | 2 | (b) | 2 | 2 | 2 | 2 |

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| | | | | | | | | |
|-------|--|--------|--------|--------|--------|-------|--------|--------|
| 116 | Wall coolant middle temperature, °F | 78 | 74 | (b) | 78 | 70 | 75 | 85 |
| 116 | Standard deviation | 2 | 1 | (b) | 2 | 3 | 6 | 1 |
| 117 | Wall coolant bottom temperature, °F | 93 | 87 | (b) | 84 | 87 | 94 | 90 |
| 117 | Standard deviation | 2 | 3 | (b) | 2 | 5 | 4 | 1 |
| 120 | Wall coolant total temperature, °F | 82 | 76 | 76 | 77 | 78 | 88 | 81 |
| 120 | Standard deviation | 1 | 2 | 4 | 2 | 3 | 3 | 4 |
| 121 | Wall coolant flow rate, gal/min | 4.4 | 4.8 | 5.2 | 5.4 | 5.0 | 4.6 | 5.3 |
| 121 | Standard deviation | 0.1 | 0.3 | 0.3 | 1.1 | 1.0 | 0.7 | 0.4 |
| 140 | Wall coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | 30.3 | 19.4 | (b) | 24.9 | 26.2 | 15.8 | 21.8 |
| 145 | Standard deviation | 0.1 | 6.3 | (b) | 6.4 | 8.1 | 0.8 | 5.5 |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 119180 | 124550 | 121830 | 100790 | 98050 | 128860 | 116150 |
| C26 | Standard deviation | 2693 | 2527 | 2786 | 1498 | 2985 | 2568 | 17487 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 17853 | 20103 | 10689 | 14341 | 8495 | 29351 | 21341 |
| C28 | Standard deviation | 1803 | 2160 | 8348 | 1910 | 2893 | 4579 | 11297 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 28.3 | 29.5 | 28.7 | 29.0 | 28.5 | 28.7 | 31.4 |
| C30-1 | Standard deviation | 1.6 | 1.1 | 2.3 | 1.6 | 1.3 | 1.8 | 2.0 |
| C58 | Total heat transfer rate, Btu/hr | 33387 | 31172 | (b) | 34226 | 20505 | 43910 | 34636 |
| C58 | Standard deviation | 1238 | 880 | (b) | 1324 | 1012 | 4474 | 3836 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 48.5 | 50.5 | 51.2 | 48.4 | 47.9 | 51.4 | 55.8 |
| C30-2 | Standard deviation | 0.4 | 0.5 | 0.6 | 0.3 | 1.8 | 2.9 | 1.6 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 57.7 | 53.7 | 54.2 | 50.4 | 49.7 | 50.4 | 28.8 |
| C30-3 | Standard deviation | 2.4 | 1.2 | 1.2 | 1.5 | 1.1 | 0.8 | 16.6 |

b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|------|
| | | TB1A | TB1B | TB1C | TB1D | TB1E | TB1F | TB1G | TB1H |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 78 | 76 | 77 | 65 | 64 | 67 | 74 | 77 |
| 077 | Standard deviation | 0 | 1 | 2 | 3 | 1 | 4 | 2 | 2 |
| 078 | Coolant inlet pressure, psia | 67.3 | 62.5 | 62.0 | 46.9 | 50.0 | 53.6 | 62.0 | 62.5 |
| 078 | Standard deviation | 0.2 | 2.9 | 2.9 | 5.1 | 2.9 | 7.7 | 6.7 | 4.4 |
| 079 | Coolant flow rate, gal/min | 2.1 | 1.9 | 2.0 | 1.9 | 2.0 | 2.1 | 1.9 | 1.7 |
| 079 | Standard deviation | 0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 |
| 080 | Coolant outlet pressure, psia | 50.5 | 47.5 | 45.5 | 30.1 | 30.7 | 32.7 | 42.6 | 46.9 |
| 080 | Standard deviation | 0.5 | 3.1 | 4.5 | 4.3 | 1.5 | 5.0 | 5.4 | 3.5 |
| 081 | Outlet 1 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 081 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Outlet 2 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Outlet 3 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Outlet 4 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant tempera- ture, °F | 126 | 128 | 129 | 116 | 111 | 113 | 126 | 121 |
| 085 | Standard deviation | 1 | 3 | 6 | 3 | 3 | 3 | 5 | 10 |
| 086 | Outlet 6 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant tempera- ture, °F | 126 | 128 | 128 | 117 | 109 | 110 | 120 | 122 |
| 088 | Standard deviation | 1 | 2 | 3 | 3 | 3 | 3 | 5 | 9 |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

FOLDOUT FRAME /

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| | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|
| | ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | 131 | 129 | 127 | 128 | 118 | 119 | 126 | 128 |
| 094 | Standard deviation | 1 | 3 | 3 | 4 | 3 | 4 | 5 | 11 |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 24.3 | 22.8 | 23.6 | 22.5 | 24.1 | 24.9 | 23.9 | 22.0 |
| 097 | Standard deviation | 0.3 | 1.1 | 2.0 | 1.5 | 1.0 | 2.3 | 2.7 | 1.5 |
| 098 | Coolant outlet temperature, °F | 90 | 89 | 89 | 80 | 77 | 80 | 87 | 89 |
| 098 | Standard deviation | 0 | 1 | 1 | 2 | 1 | 3 | 2 | 2 |
| 101 | Coolant flow rate, gal/min | 2.1 | 1.9 | 1.9 | 2.0 | 2.1 | 2.2 | 2.1 | 2.0 |
| 101 | Standard deviation | 0 | 0.1 | 0.3 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 |
| 102 | Coolant outlet pressure, °F | 57.6 | 51.3 | 51.1 | 37.9 | 39.4 | 42.2 | 51.7 | 52.7 |
| 102 | Standard deviation | 0.1 | 3.9 | 3.9 | 4.5 | 2.4 | 6.5 | 5.6 | 3.8 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | |
|--------------|-------------------------------------|------|------|------|------|------|------|------|------|
| | | TB1A | TB1B | TB1C | TB1D | TB1E | TB1F | TB1G | TB1H |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 10.7 | 11.6 | 11.5 | 10.0 | 10.8 | 11.1 | 10.9 | 9.8 |
| 113 | Standard deviation | 0 | 0.7 | 0.7 | 0.7 | 0.5 | 1.1 | 1.2 | 0.6 |
| 114 | Coolant outlet temperature, °F | 77 | 75 | 77 | 65 | 64 | 67 | 74 | 77 |
| 114 | Standard deviation | 0 | 1 | 2 | 3 | 1 | 4 | 2 | 2 |
| 115 | Wall coolant top temperature, °F | 98 | 102 | 105 | 93 | 91 | 100 | 107 | 105 |
| 115 | Standard deviation | 1 | 2 | 4 | 7 | 3 | 8 | 7 | 9 |
| 116 | Wall coolant middle temperature, °F | 79 | 75 | 76 | 72 | 66 | 70 | 80 | 85 |
| 116 | Standard deviation | 1 | 2 | 5 | 4 | 2 | 7 | 6 | 6 |
| 117 | Wall coolant bottom temperature, °F | 86 | 84 | 86 | 72 | 71 | 75 | 82 | 89 |
| 117 | Standard deviation | 0 | 1 | 2 | 5 | 1 | 3 | 2 | 3 |

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2

| | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|
| 119 | Standard deviation | 1 | 2 | 4 | 7 | 3 | 8 | 7 | 9 |
| 116 | Wall coolant middle temperature, °F | 79 | 75 | 76 | 72 | 66 | 70 | 80 | 85 |
| 116 | Standard deviation | 1 | 2 | 5 | 4 | 2 | 7 | 6 | 6 |
| 117 | Wall coolant bottom temperature, °F | 86 | 84 | 86 | 72 | 71 | 75 | 82 | 89 |
| 117 | Standard deviation | 0 | 1 | 2 | 5 | 1 | 3 | 2 | 3 |
| 120 | Wall coolant total temperature, °F | 85 | 83 | 83 | 80 | 76 | 78 | 84 | 89 |
| 120 | Standard deviation | 0 | 1 | 1 | 3 | 1 | 3 | 2 | 3 |
| 121 | Wall coolant flow rate, gal/min | 6.6 | 7.2 | 7.2 | 5.2 | 5.6 | 5.8 | 5.6 | 4.9 |
| 121 | Standard deviation | 0 | 0.4 | 0.4 | 0.4 | 0.3 | 0.6 | 0.6 | 0.3 |
| 140 | Wall coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | 30.7 | 18.6 | 19.0 | 16.3 | 14.9 | 15.5 | 26.3 | 30.3 |
| 145 | Standard deviation | 0.1 | 7.4 | 7.7 | 4.2 | 0.1 | 3.7 | 7.1 | 3.1 |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 148090 | 143060 | 142010 | 168630 | 158530 | 154150 | 152700 | 133920 |
| C26 | Standard deviation | 5687 | 7047 | 6968 | 5779 | 5615 | 6973 | 7109 | 28696 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 25138 | 23548 | 21094 | 38433 | 32250 | 30397 | 28465 | 28797 |
| C28 | Standard deviation | 1133 | 5470 | 6104 | 8336 | 5335 | 5684 | 6658 | 8538 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 48.0 | 47.8 | 48.0 | 51.0 | 49.5 | 50.8 | 54.3 | 48.8 |
| C30-1 | Standard deviation | 1.2 | 0.8 | 2.8 | 0.9 | 0.7 | 0.8 | 1.5 | 9.7 |
| C58 | Total heat transfer rate, Btu/hr | 244400 | 267450 | 268670 | 344180 | 324280 | 307810 | 313700 | 267830 |
| C58 | Standard deviation | 26001 | 28974 | 22682 | 29721 | 17724 | 30298 | 17494 | 66779 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 61.4 | 61.7 | 60.5 | 48.4 | 45.0 | 44.6 | 45.1 | 5.5 |
| C30-2 | Standard deviation | 1.4 | 1.0 | 1.6 | 1.2 | 1.0 | 0.8 | 1.2 | 0.6 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 66.8 | 62.0 | 59.3 | 60.0 | 55.1 | 55.2 | 52.6 | 59.9 |
| C30-3 | Standard deviation | 1.2 | 1.7 | 1.6 | 1.8 | 0.6 | 1.0 | 1.8 | 6.3 |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | |
|--------------|----------------------------------|------|------|------|------|------|------|------|
| | | TB2A | TB2B | TB2C | TB2D | TB2E | TB2F | TB2G |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 77 | 78 | 79 | 74 | 78 | 76 | 80 |
| 077 | Standard deviation | 1 | 2 | 3 | 2 | 3 | 1 | 1 |
| 078 | Coolant inlet pressure, psia | 65.7 | 65.1 | 62.5 | 66.5 | 62.4 | 59.5 | 66.1 |
| 078 | Standard deviation | 0.6 | 5.9 | 2.0 | 2.8 | 2.7 | 1.1 | 1.0 |
| 079 | Coolant flow rate, gal/min | 2.0 | 0.9 | 0.9 | 0.9 | 0.8 | 1.1 | 1.3 |
| 079 | Standard deviation | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| 080 | Coolant outlet pressure, psia | 48.5 | 58.2 | 56.2 | 60.8 | 56.8 | 45.0 | 49.0 |
| 080 | Standard deviation | 0.5 | 4.6 | 1.9 | 2.6 | 2.9 | 0.6 | 0.4 |
| 081 | Outlet 1 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 081 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Outlet 2 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Outlet 3 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Outlet 4 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant temperature, °F | 132 | 78 | 79 | 74 | 79 | 80 | 83 |
| 085 | Standard deviation | 4 | 2 | 3 | 2 | 3 | 2 | 1 |
| 086 | Outlet 6 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant temperature, °F | 132 | 78 | 79 | 75 | 79 | 81 | 87 |
| 088 | Standard deviation | 9 | 3 | 3 | 2 | 3 | 2 | 1 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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| | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|
| 087 | Outlet 7 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant temperature, °F | 132 | 78 | 79 | 75 | 79 | 81 | 87 |
| 088 | Standard deviation | 9 | 3 | 3 | 2 | 3 | 2 | 1 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | 137 | 78 | 79 | 74 | 79 | 82 | 85 |
| 094 | Standard deviation | 3 | 2 | 3 | 2 | 3 | 2 | 1 |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 22.8 | 12.2 | 11.7 | 12.4 | 12.0 | 8.4 | 9.3 |
| 097 | Standard deviation | 0.3 | 0.9 | 0.4 | 0.4 | 0.4 | 0.2 | 0.1 |
| 098 | Coolant outlet temperature, °F | 91 | 78 | 79 | 75 | 79 | 77 | 81 |
| 098 | Standard deviation | 2 | 3 | 3 | 1 | 3 | 1 | 1 |
| 101 | Coolant flow rate, gal/min | 2.1 | 0.9 | 0.9 | 0.9 | 0.9 | 1.0 | 1.2 |
| 101 | Standard deviation | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| 102 | Coolant outlet pressure, °F | 58.0 | 56.8 | 55.0 | 59.4 | 55.5 | 50.5 | 56.8 |
| 102 | Standard deviation | 0.6 | 4.5 | 1.7 | 2.4 | 2.9 | 3.2 | 0.7 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | |
|--------------|-------------------------------------|------|------|------|------|------|------|------|
| | | TB2A | TB2B | TB2C | TB2D | TB2E | TB2F | TB2G |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 10.7 | 10.5 | 10.2 | 10.5 | 9.9 | 12.2 | 12.7 |
| 113 | Standard deviation | 0.2 | 0.8 | 0.4 | 0.4 | 0.4 | 2.1 | 0.1 |
| 114 | Coolant outlet temperature, °F | 77 | 78 | 79 | 74 | 79 | 78 | 81 |
| 114 | Standard deviation | 1 | 3 | 3 | 3 | 3 | 1 | 1 |
| 115 | Wall coolant top temperature, °F | 113 | 112 | 120 | 109 | (b) | 103 | 124 |
| 115 | Standard deviation | 5 | 4 | 5 | 7 | (b) | 9 | 6 |
| 116 | Wall coolant middle temperature, °F | 86 | 83 | 89 | 81 | (b) | 87 | 96 |
| 116 | Standard deviation | 5 | 3 | 4 | 3 | (b) | 4 | 3 |
| 117 | Wall coolant bottom temperature, °F | 89 | 90 | 91 | 82 | (b) | 103 | 104 |
| 117 | Standard deviation | 2 | 3 | 2 | 3 | (b) | 4 | 2 |
| 120 | Wall coolant total | 86 | 92 | 91 | 91 | 95 | 104 | 107 |

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| | 113 | 112 | 120 | 109 | (b) | 103 | 124 |
|-------|--|--------|--------|--------|--------|--------|---------------|
| 115 | Wall coolant top temperature, °F | | | | | | |
| 115 | Standard deviation | 5 | 4 | 5 | 7 | (b) | 9 6 |
| 116 | Wall coolant middle temperature, °F | 86 | 83 | 89 | 81 | (b) | 87 96 |
| 116 | Standard deviation | 5 | 3 | 4 | 3 | (b) | 4 3 |
| 117 | Wall coolant bottom temperature, °F | 89 | 90 | 91 | 82 | (b) | 103 104 |
| 117 | Standard deviation | 2 | 3 | 2 | 3 | (b) | 4 2 |
| 120 | Wall coolant total temperature, °F | 86 | 92 | 91 | 91 | 95 | 104 107 |
| 120 | Standard deviation | 0 | 3 | 3 | 4 | 4 | 3 3 |
| 121 | Wall coolant flow rate, gal/min | 5.6 | 4.6 | 4.4 | 3.7 | 3.2 | 3.3 3.5 |
| 121 | Standard deviation | 0 | 0.3 | 0.2 | 0.5 | 0.1 | 0 0.1 |
| 140 | Wall coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) (b) |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) (b) |
| 145 | Coolant outlet pressure, psia | 29.7 | 30.1 | 30.1 | 29.9 | 28.3 | 30.2 30.1 |
| 145 | Standard deviation | 0.2 | 1.4 | 1.3 | 0.7 | 3.6 | 0.3 0 |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 165870 | 5531 | 5600 | 4746 | 4423 | 10604 11331 |
| C26 | Standard deviation | 13750 | 2351 | 2276 | 1108 | 1113 | 622 794 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) (b) |
| C28 | Wall heat transfer rate, Btu/hr | 27121 | 31881 | 26979 | 30170 | 27016 | 45344 46897 |
| C28 | Standard deviation | 2675 | 3520 | 2881 | 6356 | 1995 | 4214 3157 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 54.7 | (b) | (b) | (b) | (b) | (b) (b) |
| C30-1 | Standard deviation | 3.3 | (b) | (b) | (b) | (b) | (b) (b) |
| C58 | Total heat transfer rate, Btu/hr | 315560 | 176650 | 163020 | 144460 | 136910 | 176770 179050 |
| C58 | Standard deviation | 8902 | 8692 | 6984 | 24226 | 11545 | 12565 11891 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 44.9 | (b) | (b) | (b) | (b) | (b) (b) |
| C30-2 | Standard deviation | 8.3 | (b) | (b) | (b) | (b) | (b) (b) |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 61.9 | (b) | (b) | (b) | (b) | (b) (b) |
| C30-3 | Standard deviation | 3.4 | (b) | (b) | (b) | (b) | (b) (b) |

b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | |
|--------------|----------------------------------|------|------|------|------|------|------|------|------|
| | | E1 | E2 | E3 | E4 | E5 | E6 | E9 | E8 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 65 | 65 | 66 | 67 | 67 | 67 | 67 | 64 |
| 077 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 078 | Coolant inlet pressure, psia | 70.6 | 67.8 | 70.3 | 70.6 | 71.1 | 72.1 | 66.9 | 57.6 |
| 078 | Standard deviation | 0.1 | 5.9 | 0.1 | 0.2 | 0.2 | 0.3 | 6.8 | 0.2 |
| 079 | Coolant flow rate, gal/min | 2.6 | 2.4 | 2.5 | 2.6 | 2.6 | 2.6 | 2.5 | 2.4 |
| 079 | Standard deviation | 0 | 0.2 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| 080 | Coolant outlet pressure, psia | 25.0 | 26.1 | 25.8 | 23.1 | 22.6 | 23.3 | 24.8 | 27.9 |
| 080 | Standard deviation | 1.0 | 0.4 | 0.1 | 0.8 | 0.4 | 0.1 | 1.5 | 0.4 |
| 081 | Outlet 1 coolant temperature, °F | 120 | 117 | 121 | 119 | 118 | 111 | 120 | 120 |
| 081 | Standard deviation | 1 | 4 | 2 | 2 | 1 | 1 | 4 | 5 |
| 082 | Outlet 2 coolant temperature, °F | 108 | 104 | 109 | 106 | 106 | 101 | 109 | 114 |
| 082 | Standard deviation | 1 | 4 | 2 | 2 | 1 | 1 | 2 | 2 |
| 083 | Outlet 3 coolant temperature, °F | 91 | 93 | 93 | 90 | 90 | 87 | 94 | 96 |
| 083 | Standard deviation | 2 | 3 | 0 | 1 | 1 | 1 | 4 | 2 |
| 084 | Outlet 4 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (L) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant temperature, °F | 110 | 110 | 110 | 107 | 106 | 98 | 107 | 105 |
| 085 | Standard deviation | 2 | 4 | 0 | 2 | 1 | 2 | 4 | 3 |
| 086 | Outlet 6 coolant temperature, °F | 122 | 117 | 119 | 119 | 121 | 116 | 127 | 116 |
| 086 | Standard deviation | 2 | 4 | 1 | 1 | 2 | 1 | 5 | 6 |
| 087 | Outlet 7 coolant temperature, °F | 119 | 120 | 120 | 118 | 118 | 112 | 122 | 118 |
| 087 | Standard deviation | 2 | 5 | 1 | 1 | 1 | 2 | 5 | 4 |
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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| | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|
| 086 | Standard deviation | 2 | 4 | 1 | 1 | 2 | 1 | 5 | 6 |
| 087 | Outlet 7 coolant temperature, °F | 119 | 120 | 120 | 118 | 118 | 112 | 122 | 118 |
| 087 | Standard deviation | 2 | 5 | 1 | 1 | 1 | 2 | 5 | 4 |
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | 2.0 | 2.0 | 2.1 | 2.1 | 2.0 | 2.0 | 1.8 | 2.1 |
| 096 | Standard deviation | 0 | 0.2 | 0 | 0 | 0 | 0 | 0.2 | 0.2 |
| 097 | Coolant flow rate, gal/min | 9.9 | 9.4 | 9.8 | 10.0 | 10.0 | 10.0 | 9.3 | 8.5 |
| 097 | Standard deviation | 0.1 | 0.8 | 0 | 0.1 | 0.1 | 0 | 0.9 | 0.3 |
| 098 | Coolant outlet temperature, °F | 100 | 98 | 100 | 99 | 99 | 96 | 102 | 101 |
| 098 | Standard deviation | 1 | 3 | 0 | 1 | 1 | 1 | 3 | 2 |
| 101 | Coolant flow rate, gal/min | 4.2 | 4.2 | 4.4 | 4.6 | 4.6 | 4.0 | 4.1 | 3.5 |
| 101 | Standard deviation | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0 |
| 102 | Coolant outlet pressure, °F | 41.3 | 38.7 | 37.6 | 34.5 | 33.6 | 41.8 | 34.1 | 32.8 |
| 102 | Standard deviation | 1.0 | 3.3 | 1.4 | 0.8 | 2.0 | 3.3 | 2.2 | 0.2 |
| 103 | Outlet 17 coolant temperature, °F | 115 | 115 | 113 | 113 | 112 | 112 | 116 | 123 |
| 103 | Standard deviation | 0 | 2 | 0 | 1 | 0 | 0 | 3 | 1 |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

FOLDDOUT FRAME

| Data channel | Parameter | Test | | | | | | | |
|--------------|-------------------------------------|------|------|------|------|------|------|------|------|
| | | E1 | E2 | E3 | E4 | E5 | E6 | E9 | E8 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 11.8 | 11.8 | 12.5 | 13.1 | 13.3 | 11.7 | 12.2 | 10.5 |
| 113 | Standard deviation | 0.2 | 0.6 | 0.3 | 0.2 | 0.3 | 0.7 | 1.0 | 0 |
| 114 | Coolant outlet temperature, °F | 83 | 83 | 83 | 83 | 83 | 83 | 84 | 84 |
| 114 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 115 | Wall coolant top temperature, °F | 77 | 89 | 88 | 85 | 80 | 76 | 71 | 80 |
| 115 | Standard deviation | 1 | 3 | 2 | 2 | 2 | 3 | 1 | 3 |
| 116 | Wall coolant middle temperature, °F | 62 | 69 | 63 | 63 | 60 | 59 | 61 | 64 |
| 116 | Standard deviation | 3 | 7 | 2 | 6 | 5 | 3 | 3 | 4 |
| 117 | Wall coolant bottom temperature, °F | 83 | 84 | 84 | 84 | 84 | 83 | 86 | 85 |
| 117 | Standard deviation | 1 | 2 | 1 | 0 | 0 | 1 | 2 | 2 |
| 120 | Wall coolant total | 74 | 75 | 75 | 76 | 75 | 74 | 76 | 74 |

FOLDOUT FRAME 2

| | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|
| 115 | Standard deviation | 1 | 3 | 2 | 2 | 2 | 3 | 1 | 3 |
| 116 | Wall coolant middle temperature, °F | 62 | 69 | 63 | 63 | 60 | 59 | 61 | 64 |
| 116 | Standard deviation | 3 | 7 | 2 | 6 | 5 | 3 | 3 | 4 |
| 117 | Wall coolant bottom temperature, °F | 83 | 84 | 84 | 84 | 84 | 83 | 86 | 85 |
| 117 | Standard deviation | 1 | 2 | 1 | 0 | 0 | 1 | 2 | 2 |
| 120 | Wall coolant total temperature, °F | 74 | 75 | 75 | 76 | 75 | 74 | 76 | 74 |
| 120 | Standard deviation | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 |
| 121 | Wall coolant flow rate, gal/min | 4.4 | 4.2 | 4.3 | 4.1 | 4.2 | 4.4 | 4.1 | 3.3 |
| 121 | Standard deviation | 0.1 | 0.4 | 0.1 | 0 | 0 | 0.1 | 0.5 | 0 |
| 140 | Wall coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 140 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 280170 | 256890 | 271550 | 266860 | 266890 | 233990 | 261370 | 261720 |
| C26 | Standard deviation | 6376 | 2892 | 2789 | 7071 | 6866 | 10518 | 5226 | 7153 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 20211 | 19866 | 19076 | 18251 | 16953 | 15740 | 17967 | 16156 |
| C28 | Standard deviation | 2024 | 391 | 1294 | 1084 | 1744 | 590 | 1962 | 1532 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 63.2 | 60.5 | 62.1 | 60.8 | 61.6 | 58.4 | 63.5 | 61.9 |
| C30-1 | Standard deviation | 0.6 | 0.6 | 1.9 | 1.2 | 0.7 | 0.6 | 3.3 | 4.2 |
| C58 | Total heat transfer rate, Btu/hr | 309540 | 309740 | 303210 | 295330 | 295570 | 278070 | 454530 | 305370 |
| C58 | Standard deviation | 6739 | 3078 | 4205 | 6411 | 6903 | 55583 | 54537 | 50816 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 64.0 | 59.5 | 63.4 | 59.7 | 62.4 | 59.4 | 64.9 | 72.3 |
| C30-2 | Standard deviation | 1.1 | 0.6 | 2.7 | 1.7 | 0.7 | 0.9 | 1.3 | 2.4 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 60.2 | 58.8 | 58.4 | 56.3 | 59.6 | 59.6 | 60.8 | 60.7 |
| C30-3 | Standard deviation | 0.9 | 0.3 | 1.9 | 0.7 | 0.9 | 0.8 | 0.7 | 0.6 |

b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|
| | | E19 | E13A | E13B | E14 | E11 | E12 | E15 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 65 | 65 | 65 | 66 | 66 | 66 | 66 |
| 077 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 078 | Coolant inlet pressure, psia | 65.5 | 74.5 | 74.6 | 74.8 | 74.9 | 75.0 | 77.1 |
| 078 | Standard deviation | 7.5 | 0.2 | 0.1 | 0.2 | 0.3 | 0.2 | 0.4 |
| 079 | Coolant flow rate, gal/min | 2.8 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| 079 | Standard deviation | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 080 | Coolant outlet pressure, psia | 26.4 | 26.0 | 26.1 | 26.1 | 26.0 | 26.2 | 26.3 |
| 080 | Standard deviation | 0.7 | 0 | 0 | 0.1 | 0.1 | 0 | 0.2 |
| 081 | Outlet 1 coolant tempera- ture, °F | 117 | 116 | 115 | 116 | 106 | 105 | 103 |
| 081 | Standard deviation | 5 | 1 | 1 | 1 | 1 | 1 | 2 |
| 082 | Outlet 2 coolant tempera- ture, °F | 112 | 111 | 109 | 110 | 101 | 101 | 101 |
| 082 | Standard deviation | 5 | 1 | 1 | 1 | 1 | 1 | 2 |
| 083 | Outlet 3 coolant tempera- ture, °F | 95 | 93 | 93 | 93 | 89 | 83 | 82 |
| 083 | Standard deviation | 4 | 1 | 1 | 1 | 2 | 0 | 2 |
| 084 | Outlet 4 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant tempera- ture, °F | 109 | 106 | 104 | 103 | 102 | 88 | 88 |
| 085 | Standard deviation | 3 | 1 | 1 | 1 | 3 | 1 | 2 |
| 086 | Outlet 6 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant tempera- ture, °F | 121 | 119 | 117 | 118 | 116 | 101 | 99 |
| 087 | Standard deviation | 5 | 1 | 1 | 1 | 5 | 1 | 2 |
| 088 | Outlet 8 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

FOLDOUT FRAME

| | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|
| | ture, °F | | | | | | | |
| 087 | Standard deviation | 5 | 1 | 1 | 1 | 5 | 1 | 2 |
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | 1.6 | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | 0.2 | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 9.4 | 10.5 | 10.5 | 10.5 | 10.0 | 10.5 | 10.6 |
| 097 | Standard deviation | 1.0 | 0 | 0 | 0 | 0.2 | 0 | 0.1 |
| 098 | Coolant outlet temperature, °F | 91 | 90 | 90 | 90 | 86 | 84 | 84 |
| 098 | Standard deviation | 2 | 1 | 0 | 1 | 1 | 0 | 1 |
| 101 | Coolant flow rate, gal/min | 4.0 | 4.6 | 4.7 | 4.6 | 3.8 | 3.6 | 0 |
| 101 | Standard deviation | 0.4 | 0 | 0 | 0 | 0.1 | 0.1 | 0 |
| 102 | Coolant outlet pressure, °F | 34.7 | 33.4 | 33.3 | 33.6 | 44.2 | 47.3 | 49.4 |
| 102 | Standard deviation | 2.7 | 0.2 | 0.1 | 0.3 | 1.3 | 1.2 | 1.4 |
| 103 | Outlet 17 coolant temperature, °F | 119 | 116 | 115 | 115 | 114 | 114 | 115 |
| 103 | Standard deviation | 4 | 1 | 1 | 1 | 0 | 0 | 0 |

b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|
| | | E19 | E13A | E13B | E14 | E11 | E12 | E15 |
| 104 | Outlet 18 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 11.8 | 13.7 | 13.7 | 13.7 | 11.7 | 11.0 | 11.0 |
| 113 | Standard deviation | 1.0 | 0 | 0.1 | 0 | 0.3 | 0.2 | 0.4 |
| 114 | Coolant outlet tempera- ture, °F | 81 | 79 | 79 | 79 | 79 | 79 | 80 |
| 114 | Standard deviation | 2 | 1 | 0 | 1 | 0 | 1 | 1 |
| 115 | Wall coolant top tempera- ture, °F | 80 | 75 | 81 | 82 | 76 | 73 | 78 |
| 115 | Standard deviation | 4 | 3 | 1 | 1 | 1 | 1 | 1 |
| 116 | Wall coolant middle temperature, °F | 75 | 57 | 65 | 64 | 61 | 62 | 67 |
| 116 | Standard deviation | 13 | 2 | 2 | 2 | 1 | 3 | 3 |
| 117 | Wall coolant bottom temperature, °F | 88 | 88 | 91 | 92 | 88 | 86 | 87 |
| 117 | Standard deviation | 2 | 1 | 0 | 1 | 1 | 1 | 1 |
| 120 | Wall coolant total | 71 | 71 | 74 | 74 | 70 | 70 | 71 |

FOLDOUT FRAME 1

| | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|
| 116 | Standard deviation | 13 | 2 | 2 | 2 | 1 | 3 | 3 |
| 117 | Wall coolant bottom temperature, °F | 88 | 88 | 91 | 92 | 88 | 86 | 87 |
| 117 | Standard deviation | 2 | 1 | 0 | 1 | 1 | 1 | 1 |
| 120 | Wall coolant total temperature, °F | 71 | 71 | 74 | 71 | 70 | 70 | 71 |
| 120 | Standard deviation | 1 | 1 | 5 | 1 | 1 | 1 | 1 |
| 121 | Wall coolant flow rate, gal/min | 3.4 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 |
| 121 | Standard deviation | 0.4 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| 140 | Wall coolant outlet pressure, psia | 18.3 | 18.8 | 18.7 | 18.5 | 18.3 | 18.6 | 18.0 |
| 140 | Standard deviation | 1.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 216860 | 227720 | 221600 | 222180 | 180080 | 169190 | 173650 |
| C26 | Standard deviation | 8455 | 6226 | 4335 | 9021 | 4390 | 5941 | 6362 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 10493 | 10553 | 16206 | 10914 | 9039 | 7496 | 9931 |
| C28 | Standard deviation | 2240 | 1140 | 8835 | 2726 | 994 | 1318 | 1039 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 64.8 | 67.7 | 66.2 | 67.1 | 59.9 | 57.6 | 55.8 |
| C30-1 | Standard deviation | 0.9 | 0.8 | 1.4 | 1.2 | 0.9 | 0.8 | 1.6 |
| C58 | Total heat transfer rate, Btu/hr | 273560 | 282680 | 277360 | 268980 | 229070 | 207290 | 213570 |
| C58 | Standard deviation | 61479 | 6705 | 3859 | 7124 | 5322 | 5612 | 5748 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 76.6 | 78.8 | 75.9 | 78.4 | 69.1 | 68.2 | 68.2 |
| C30-2 | Standard deviation | 2.2 | 1.3 | 2.1 | 1.6 | 0.9 | 1.5 | 2.7 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 0.3 | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Standard deviation | 0 | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|----------------------------------|------|------|------|------|------|------|------|------|------|
| | | F1 | F2 | F3 | F4 | F6 | F5 | F7 | F8 | F9 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 67 | 67 | 68 | 66 | 67 | 67 | 66 | 67 | 68 |
| 077 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 078 | Coolant inlet pressure, psia | 74.1 | 73.7 | 73.9 | 73.1 | 72.9 | 77.3 | 72.4 | 73.1 | 74.4 |
| 078 | Standard deviation | 0.4 | 0.4 | 2.3 | 1.9 | 0.4 | 11.8 | 0.3 | 0.4 | 0.5 |
| 079 | Coolant flow rate, gal/min | 3.1 | 3.0 | 3.0 | 3.0 | 3.0 | 3.1 | 3.2 | 3.2 | 3.2 |
| 079 | Standard deviation | 0 | 0 | 0.1 | 0.1 | 0 | 0.3 | 0 | 0 | 0 |
| 080 | Coolant outlet pressure, psia | 26.4 | 26.6 | 28.7 | 27.9 | 27.1 | 28.1 | 27.4 | 26.8 | 26.6 |
| 080 | Standard deviation | 0.3 | 0.1 | 5.0 | 3.7 | 0.1 | 2.6 | 0.2 | 0.1 | 0 |
| 081 | Outlet 1 coolant temperature, °F | 107 | 104 | 108 | 109 | 110 | 105 | 93 | 96 | 98 |
| 081 | Standard deviation | 1 | 0 | 2 | 1 | 1 | 3 | 3 | 1 | 1 |
| 082 | Outlet 2 coolant temperature, °F | 102 | 98 | 100 | 101 | 99 | 92 | 76 | 93 | 92 |
| 082 | Standard deviation | 1 | 0 | 1 | 1 | 4 | 2 | 3 | 0 | 0 |
| 083 | Outlet 3 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Outlet 4 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Outlet 6 coolant temperature, °F | 122 | 115 | 124 | 125 | 119 | 112 | 96 | 107 | 99 |
| 086 | Standard deviation | 10 | 1 | 1 | 1 | 6 | 3 | 4 | 1 | 0 |
| 087 | Outlet 7 coolant temperature, °F | 107 | 104 | 95 | 99 | 102 | 103 | 106 | 103 | 101 |
| 087 | Standard deviation | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 0 | 0 |
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

FOLDFOUT FRAME 1

FOLDDOUT FRAME

2

| | | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|------|
| 087 | Standard deviation | 1 | 1 | 1 | 1 | 4 | 1 | 0 | 0 | |
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 096 | Coolant flow rate, gal/min | 2.2 | 2.3 | 1.9 | 2.0 | 2.6 | 2.8 | 2.6 | 2.4 | |
| 096 | Standard deviation | 0.5 | 0 | 0 | 0 | 0.3 | 0.3 | 0.1 | 0 | |
| 097 | Coolant flow rate, gal/min | 11.5 | 11.6 | 11.8 | 11.8 | 12.2 | 12.5 | 12.6 | 12.6 | 13.6 |
| 097 | Standard deviation | 0.4 | 0.1 | 0.3 | 0.2 | 0.2 | 1.1 | 0.1 | 0.1 | 0 |
| 098 | Coolant outlet temperature, °F | 97 | 94 | 94 | 95 | 96 | 93 | 90 | 96 | 95 |
| 098 | Standard deviation | 1 | 0 | 1 | 1 | 1 | 2 | 2 | 0 | 0 |
| 101 | Coolant flow rate, gal/min | 3.2 | 3.1 | 3.1 | 3.2 | 3.2 | 3.1 | 2.8 | 2.8 | 2.7 |
| 101 | Standard deviation | 0 | 0 | 0.1 | 0.1 | 0.1 | 0.3 | 0 | 0 | 0 |
| 102 | Coolant outlet pressure, °F | 30.0 | 30.6 | 32.2 | 30.7 | 29.8 | 34.0 | 39.9 | 39.5 | 38.6 |
| 102 | Standard deviation | 0.7 | 0.1 | 4.7 | 3.8 | 1.0 | 2.7 | 0.1 | 0.1 | 0.1 |
| 103 | Outlet 17 coolant temperature, °F | 128 | 128 | 126 | 130 | 133 | 131 | 68 | 69 | 70 |
| 103 | Standard deviation | 3 | 1 | 2 | 2 | 1 | 3 | 0 | 0 | 0 |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

FOLDOUT FRAME

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-------------------------------------|------|------|------|------|------|------|-----|-----|-----|
| | | F1 | F2 | F3 | F4 | F6 | F5 | F7 | F8 | F9 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 12.2 | 12.0 | 11.8 | 11.8 | 11.9 | 13.2 | 7.7 | 7.8 | 8.0 |
| 113 | Standard deviation | 0 | 0 | 0.4 | 0.3 | 0.1 | 1.2 | 0 | 0 | 0 |
| 114 | Coolant outlet temperature, °F | 84 | 85 | 84 | 84 | 85 | 84 | 67 | 69 | 69 |
| 114 | Standard deviation | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 115 | Wall coolant top temperature, °F | 77 | 82 | 87 | 88 | 88 | 83 | 91 | 80 | 87 |
| 115 | Standard deviation | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 1 |
| 116 | Wall coolant middle temperature, °F | 66 | 72 | 74 | 74 | 72 | 68 | 81 | 70 | 77 |
| 116 | Standard deviation | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 |
| 117 | Wall coolant bottom temperature, °F | 89 | 91 | 92 | 91 | 93 | 90 | 89 | 90 | 88 |
| 117 | Standard deviation | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 120 | Wall coolant total | 75 | 76 | 79 | 63 | 83 | 113 | 72 | 73 | 74 |

FOLDOUT FRAME 2

| | temperature, °F | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 116 | Standard deviation | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 |
| 117 | Wall coolant bottom temperature, °F | 89 | 91 | 92 | 91 | 93 | 90 | 89 | 90 | 88 |
| 117 | Standard deviation | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 120 | Wall coolant total temperature, °F | 75 | 76 | 79 | 63 | 83 | 113 | 72 | 73 | 74 |
| 120 | Standard deviation | 0 | 0 | 3 | 18 | 10 | 3 | 0 | 0 | 0 |
| 121 | Wall coolant flow rate, gal/min | 4.0 | 4.2 | 3.9 | 4.1 | 4.2 | 4.2 | 3.8 | 3.7 | 4.0 |
| 121 | Standard deviation | 0 | 0.1 | 0.2 | 0.2 | 0.1 | 0.3 | 0.1 | 0 | 0 |
| 140 | Wall coolant outlet pressure, psia | 19.1 | 19.2 | 21.1 | 20.4 | 19.3 | 20.0 | 18.9 | 18.2 | 18.3 |
| 140 | Standard deviation | 0 | 0 | 5.4 | 3.9 | 0 | 1.3 | 0.2 | 0 | 0 |
| 141 | Coolant flow rate, gal/min | 1.2 | 1.3 | 1.7 | 1.6 | 1.5 | 1.4 | 1.3 | 1.4 | 1.5 |
| 141 | Standard deviation | 0 | 0.1 | 0.1 | 0 | 0.1 | 0.2 | 0 | 0 | 0 |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 272060 | 259210 | 251440 | 279740 | 287770 | 272540 | 158860 | 188440 | 192540 |
| C26 | Standard deviation | 9340 | 3935 | 2306 | 2925 | 7222 | 4995 | 12551 | 3264 | 1625 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 15692 | 18488 | 21705 | 24861 | 33321 | 95996 | 12338 | 10526 | 12631 |
| C28 | Standard deviation | 692 | 541 | 4382 | 8807 | 21058 | 11732 | 294 | 225 | 223 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 53.6 | 49.9 | 53.2 | 54.8 | 54.6 | 49.8 | 37.6 | 43.8 | 44.3 |
| C30-1 | Standard deviation | 0.9 | 0.4 | 1.4 | 0.6 | 2.2 | 0.4 | 3.9 | 0.5 | 0.4 |
| C58 | Total heat transfer rate, Btu/hr | 442480 | 493040 | 390900 | 409690 | 545860 | 732460 | 309200 | 325100 | 329310 |
| C58 | Standard deviation | 14366 | 4217 | 12892 | 138580 | 70685 | 49675 | 11590 | 5908 | 2346 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 61.0 | 54.9 | 56.3 | 58.4 | 53.6 | 43.5 | 18.9 | 50.8 | 46.4 |
| C30-2 | Standard deviation | 1.1 | 0.5 | 2.0 | 0.6 | 7.6 | 0.4 | 4.7 | 0.6 | 0.3 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 60.7 | 57.7 | 55.3 | 60.2 | 65.6 | 63.6 | (b) | (b) | (b) |
| C30-3 | Standard deviation | 20 | 0.9 | 1.1 | 0.6 | 3.3 | 0.6 | (b) | (b) | (b) |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | |
|--------------|----------------------------------|------|------|------|------|------|------|------|------|
| | | F19 | F16 | F27 | G2 | G3 | G6 | G1 | G5 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 68 | 67 | 65 | 66 | 67 | 65 | 66 | 67 |
| 077 | Standard deviation | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 |
| 078 | Coolant inlet pressure, psia | 74.6 | 68.5 | 62.4 | 72.0 | 76.7 | 71.2 | 78.9 | 75.1 |
| 078 | Standard deviation | 0.6 | 7.1 | 5.5 | 7.2 | 0.4 | 7.1 | 2.7 | 6.6 |
| 079 | Coolant flow rate, gal/min | 3.2 | 2.9 | 2.6 | (b) | (b) | (b) | (b) | (b) |
| 079 | Standard deviation | 0 | 0.3 | 0.2 | (b) | (b) | (b) | (b) | (b) |
| 080 | Coolant outlet pressure, psia | 27.1 | 27.4 | 28.1 | 22.6 | 23.5 | 32.1 | 24.8 | 25.5 |
| 080 | Standard deviation | 0.2 | 0.2 | 0.1 | 1.5 | 0 | 8.1 | 4.9 | 4.5 |
| 081 | Outlet 1 coolant temperature, °F | 102 | 105 | 107 | 65 | 64 | 60 | 61 | 65 |
| 081 | Standard deviation | 0 | 4 | 3 | 0 | 0 | 2 | 0 | 3 |
| 082 | Outlet 2 coolant temperature, °F | 99 | 101 | 95 | 66 | 65 | 61 | 62 | 66 |
| 082 | Standard deviation | 0 | 4 | 2 | 0 | 0 | 2 | 0 | 3 |
| 083 | Outlet 3 coolant temperature, °F | 107 | 111 | 111 | 66 | 65 | 62 | 62 | 66 |
| 083 | Standard deviation | 1 | 4 | 3 | 0 | 0 | 2 | 0 | 2 |
| 084 | Outlet 4 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Outlet 6 coolant temperature, °F | 105 | 109 | 111 | 67 | 68 | 67 | 68 | 69 |
| 086 | Standard deviation | 1 | 3 | 3 | 0 | 0 | 3 | 0 | 1 |
| 087 | Outlet 7 coolant temperature, °F | 108 | 114 | 118 | 65 | 61 | 58 | 56 | 63 |
| 087 | Standard deviation | 1 | 5 | 4 | 2 | 1 | 1 | 1 | 5 |
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

FOLDOUT FRAME /

| | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|
| 087 | Outlet 7 coolant temperature, °F | 108 | 114 | 118 | 65 | 61 | 58 | 56 | 63 |
| 087 | Standard deviation | 1 | 5 | 4 | 2 | 1 | 1 | 1 | 5 |
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 13.5 | 12.3 | 11.0 | 2.7 | 2.8 | 2.4 | 2.8 | 2.7 |
| 097 | Standard deviation | 0 | 1.2 | 0.9 | 0.2 | 0 | 0.4 | 0.1 | 0.2 |
| 098 | Coolant outlet temperature, °F | 101 | 105 | 105 | 67 | 68 | 67 | 68 | 69 |
| 098 | Standard deviation | 0 | 3 | 3 | 0 | 0 | 3 | 0 | 0 |
| 101 | Coolant flow rate, gal/min | 2.7 | 2.4 | 2.2 | (b) | (b) | (b) | (b) | (b) |
| 101 | Standard deviation | 0 | 0.3 | 0.2 | (b) | (b) | (b) | (b) | (b) |
| 102 | Coolant outlet pressure, °F | 39.2 | 38.2 | 37.5 | 38.5 | 40.4 | 45.2 | 42.0 | 41.6 |
| 102 | Standard deviation | 0.2 | 1.3 | 1.1 | 1.6 | 0 | 5.3 | 4.3 | 4.3 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

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FOLDOUT FRAME
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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | |
|--------------|-------------------------------------|------|-----|-----|-----|-----|-----|-----|-----|
| | | F19 | F16 | F27 | G2 | G3 | G6 | G1 | G5 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 7.9 | 7.3 | 6.6 | 7.6 | 7.9 | 6.6 | 8.3 | 7.9 |
| 113 | Standard deviation | 0 | 0.7 | 0.5 | 0.7 | 0 | 1.3 | 0.2 | 0.6 |
| 114 | Coolant outlet temperature, °F | 69 | 69 | 67 | 67 | 68 | 66 | 67 | 69 |
| 114 | Standard deviation | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 |
| 115 | Wall coolant top temperature, °F | 91 | 92 | 92 | 83 | 84 | 76 | 79 | 86 |
| 115 | Standard deviation | 1 | 0 | 0 | 4 | 3 | 2 | 1 | 3 |
| 116 | Wall coolant middle temperature, °F | 79 | 79 | 82 | 111 | 97 | 69 | 84 | 110 |
| 116 | Standard deviation | 2 | 3 | 6 | 31 | 18 | 6 | 9 | 32 |
| 117 | Wall coolant bottom temperature, °F | 89 | 91 | 93 | 94 | 93 | 98 | 94 | 102 |
| 117 | Standard deviation | 0 | 2 | 1 | 2 | 0 | 5 | 2 | 3 |

FOLDOUT FRAME

| | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|
| 116 | Standard deviation | 2 | 3 | 6 | 31 | 18 | 6 | 9 | 32 |
| 117 | Wall coolant bottom temperature, °F | 89 | 91 | 93 | 94 | 93 | 98 | 94 | 102 |
| 117 | Standard deviation | 0 | 2 | 1 | 2 | 0 | 5 | 2 | 3 |
| 120 | Wall coolant total temperature, °F | 74 | 75 | 74 | 76 | 77 | 77 | 76 | 81 |
| 120 | Standard deviation | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 2 |
| 121 | Wall coolant flow rate, gal/min | 4.1 | 3.9 | 3.3 | 3.9 | 4.2 | 3.5 | 3.9 | 3.8 |
| 121 | Standard deviation | 0.1 | 0.5 | 0.3 | 0.4 | 0.1 | 0.8 | 0.2 | 0.3 |
| 140 | Wall coolant outlet pressure, psia | 18.9 | 20.5 | 22.4 | 18.5 | 19.1 | 29.5 | 20.3 | 21.4 |
| 140 | Standard deviation | 0.2 | 1.6 | 1.0 | 2.3 | 0 | 9.3 | 5.1 | 4.7 |
| 141 | Coolant flow rate, gal/min | 1.5 | 1.4 | 1.2 | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | 0 | 0.1 | 0.1 | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 228550 | 231470 | 224830 | 7843 | 6594 | 6217 | 6353 | 8468 |
| C26 | Standard deviation | 2332 | 2923 | 3336 | 782 | 455 | 1211 | 475 | 1252 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 13563 | 14424 | 14759 | 20460 | 21635 | 20224 | 18503 | 25795 |
| C28 | Standard deviation | 420 | 571 | 565 | 1454 | 444 | 3015 | 1621 | 3534 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 47.5 | 46.5 | 46.7 | (b) | (b) | (b) | (b) | (b) |
| C30-1 | Standard deviation | 0.7 | 1.2 | 1.5 | (b) | (b) | (b) | (b) | (b) |
| C58 | Total heat transfer rate, Btu/hr | 442510 | 452690 | 424510 | 166590 | 219880 | 172620 | 106410 | 258820 |
| C58 | Standard deviation | 31222 | 36514 | 6455 | 11103 | 5832 | 20206 | 1918 | 6935 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 56.2 | 54.8 | 43.8 | (b) | (b) | (b) | (b) | (b) |
| C30-2 | Standard deviation | 0.5 | 1.1 | 1.4 | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|----------------------------------|------|------|------|------|------|------|------|------|------|
| | | G10 | G9 | G13 | G12 | G15A | G15B | G14 | G11 | G7 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 66 | 67 | 66 | 67 | 66 | 67 | 68 | 66 | 66 |
| 077 | Standard deviation | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 078 | Coolant inlet pressure, psia | 74.3 | 77.1 | 78.4 | 77.7 | 71.8 | 77.0 | 77.6 | 81.1 | 77.6 |
| 078 | Standard deviation | 5.4 | 0.6 | 2.6 | 0.4 | 7.3 | 0.3 | 0.5 | 3.1 | 0.5 |
| 079 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 079 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 080 | Coolant outlet pressure, psia | 25.7 | 23.7 | 24.8 | 23.4 | 23.7 | 22.7 | 23.6 | 32.2 | 23.7 |
| 080 | Standard deviation | 4.3 | 0.2 | 4.4 | 0.1 | 0.8 | 0.1 | 0.1 | 7.3 | 0.1 |
| 081 | Outlet 1 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 081 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Outlet 2 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Outlet 3 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Outlet 4 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Outlet 6 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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| | | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|------|
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 2.7 | 2.8 | 2.8 | 2.8 | 2.6 | 2.9 | 2.8 | 2.7 | 2.8 |
| 097 | Standard deviation | 0.3 | 0 | 0.1 | 0 | 0.2 | 0 | 0 | 0.1 | 0 |
| 098 | Coolant outlet temperature, °F | 68 | 69 | 67 | 69 | 67 | 69 | 69 | 67 | 68 |
| 098 | Standard deviation | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 101 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 101 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 102 | Coolant outlet pressure, °F | 41.6 | 40.8 | 41.8 | 40.7 | 39.4 | 40.2 | 40.8 | 47.9 | 40.9 |
| 102 | Standard deviation | 2.4 | 0.1 | 3.8 | 0.1 | 1.4 | 0.1 | 0.1 | 6.2 | 0.1 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-------------------------------------|------|-----|-----|-----|------|------|-----|-----|-----|
| | | G10 | G9 | G13 | G12 | G15A | G15B | G14 | G11 | G7 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 7.9 | 8.3 | 8.3 | 8.3 | 7.6 | 8.2 | 8.2 | 7.8 | 8.2 |
| 113 | Standard deviation | 0.8 | 0 | 0.2 | 0 | 0.7 | 0 | 0 | 0.4 | 0 |
| 114 | Coolant outlet temperature, °F | 68 | 69 | 67 | 68 | 67 | 69 | 69 | 67 | 68 |
| 114 | Standard deviation | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 115 | Wall coolant top temperature, °F | 93 | 99 | 92 | 80 | 82 | 85 | 79 | 82 | 88 |
| 115 | Standard deviation | 1 | 4 | 3 | 1 | 2 | 1 | 1 | 2 | 2 |
| 116 | Wall coolant middle temperature, °F | 121 | 128 | 99 | 81 | 85 | 95 | 109 | 79 | 97 |
| 116 | Standard deviation | 17 | 19 | 28 | 2 | 5 | 9 | 23 | 11 | 20 |
| 117 | Wall coolant bottom temperature, °F | 102 | 103 | 97 | 98 | 95 | 93 | 95 | 96 | 98 |
| 117 | Standard deviation | 3 | 1 | 0 | 1 | 2 | 1 | 1 | 1 | 0 |

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| | Temperature, °F | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|-------|--------|--------|
| 117 | Standard deviation | 3 | 1 | 0 | 1 | 2 | 1 | 1 | 1 | 0 |
| 120 | Wall coolant total temperature, °F | 79 | 79 | 76 | 78 | 77 | 77 | 79 | 78 | 77 |
| 120 | Standard deviation | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| 121 | Wall coolant flow rate, gal/min | 3.9 | 4.0 | 4.0 | 4.0 | 3.7 | 3.9 | 4.1 | 3.8 | 4.1 |
| 121 | Standard deviation | 0.6 | 0.2 | 0.1 | 0 | 0.4 | 0.2 | 0.2 | 0.3 | 0.1 |
| 140 | Wall coolant outlet pressure, psia | 21.7 | 19.2 | 20.3 | 19.1 | 20.0 | 18.4 | 19.2 | 28.0 | 19.4 |
| 140 | Standard deviation | 5.1 | 0.2 | 4.6 | 0 | 1.6 | 0.1 | 0.1 | 7.7 | 0 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 10151 | 9104 | 8486 | 7549 | 6169 | 6814 | 5788 | 6901 | 7580 |
| C26 | Standard deviation | 293 | 586 | 378 | 603 | 536 | 602 | 344 | 584 | 284 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 26091 | 24541 | 21515 | 21679 | 20071 | 19073 | 21429 | 23564 | 21214 |
| C28 | Standard deviation | 3490 | 4109 | 491 | 543 | 1155 | 836 | 4555 | 1948 | 895 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-1 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C58 | Total heat transfer rate, Btu/hr | 247330 | 161340 | 157560 | 153320 | 151720 | 145740 | 97719 | 236190 | 107120 |
| C58 | Standard deviation | 5026 | 5226 | 5280 | 2771 | 10 052 | 8248 | 1435 | 8289 | 3226 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-2 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | |
|--------------|----------------------------------|------|------|------|------|------|------|------|------|
| | | G8 | G16 | G22 | G23 | G24 | G17 | G18 | G19 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 68 | 66 | 66 | 67 | 66 | 67 | 69 | 67 |
| 077 | Standard deviation | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 078 | Coolant inlet pressure, psia | 77.4 | 80.4 | 73.9 | 83.9 | 83.2 | 77.1 | 78.8 | 79.1 |
| 078 | Standard deviation | 0.2 | 3.3 | 6.2 | 0.3 | 2.0 | 0.4 | 2.8 | 8.0 |
| 079 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 079 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 080 | Coolant outlet pressure, psia | 23.8 | 26.9 | 23.1 | 35.1 | 33.4 | 23.7 | 27.2 | 38.8 |
| 080 | Standard deviation | 0.1 | 6.7 | 0.7 | 0.8 | 3.8 | 0.3 | 6.2 | 0.5 |
| 081 | Outlet 1 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 081 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Outlet 2 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Outlet 3 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Outlet 4 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Outlet 6 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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| | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|
| | ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 2.8 | 2.8 | 2.7 | 2.6 | 2.7 | 2.8 | 2.7 | 2.3 |
| 097 | Standard deviation | 0 | 0.1 | 0.2 | 0 | 0 | 0 | 0.1 | 0.3 |
| 098 | Coolant outlet temperature, °F | 69 | 67 | 68 | 68 | 68 | 68 | 70 | 70 |
| 098 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 101 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 102 | Coolant outlet pressure, °F | 40.9 | 44.2 | 39.3 | 50.8 | 49.3 | 40.5 | 44.0 | 53.0 |
| 102 | Standard deviation | 0.1 | 5.7 | 1.2 | 0.5 | 3.4 | 0.2 | 5.4 | 2.5 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | |
|--------------|-------------------------------------|------|-----|-----|-----|-----|-----|-----|-----|
| | | G8 | G16 | G22 | G23 | G24 | G17 | G18 | G19 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 8.2 | 8.2 | 8.0 | 7.9 | 7.9 | 8.3 | 8.1 | 7.1 |
| 113 | Standard deviation | 0 | 0.3 | 0.6 | 0.1 | 0.1 | 0 | 0.3 | 0.8 |
| 114 | Coolant outlet temperature, °F | 69 | 67 | 67 | 68 | 68 | 68 | 70 | 69 |
| 114 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | Wall coolant top temperature, °F | 93 | 85 | 90 | 97 | 100 | 93 | 90 | 99 |
| 115 | Standard deviation | 1 | 1 | 2 | 0 | 2 | 2 | 2 | 4 |
| 116 | Wall coolant middle temperature, °F | 80 | 103 | 111 | 112 | 99 | 128 | 85 | 105 |
| 116 | Standard deviation | 2 | 22 | 15 | 14 | 15 | 28 | 8 | 21 |
| 117 | Wall coolant bottom temperature, °F | 97 | 94 | 99 | 102 | 99 | 98 | 102 | 111 |
| 117 | Standard deviation | 0 | 1 | 2 | 0 | 1 | 0 | 2 | 4 |

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| | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|
| 115 | Standard deviation | 1 | 1 | 2 | 0 | 2 | 2 | 2 | 4 |
| 116 | Wall coolant middle temperature, °F | 80 | 103 | 111 | 112 | 99 | 128 | 85 | 105 |
| 116 | Standard deviation | 2 | 22 | 15 | 14 | 15 | 28 | 8 | 21 |
| 117 | Wall coolant bottom temperature, °F | 97 | 94 | 99 | 102 | 99 | 98 | 102 | 111 |
| 117 | Standard deviation | 0 | 1 | 2 | 0 | 1 | 0 | 2 | 4 |
| 120 | Wall coolant total temperature, °F | 79 | 76 | 77 | 78 | 78 | 78 | 81 | 82 |
| 120 | Standard deviation | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 |
| 121 | Wall coolant flow rate, gal/min | 4.1 | 3.8 | 3.7 | 3.6 | 3.9 | 4.1 | 3.9 | 3.3 |
| 121 | Standard deviation | 0 | 0.1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 |
| 140 | Wall coolant outlet pressure, psia | 19.4 | 22.7 | 19.1 | 30.8 | 29.0 | 19.0 | 23.0 | 35.7 |
| 140 | Standard deviation | 0 | 1.0 | 1.3 | 0.9 | 3.9 | 0.3 | 6.6 | 0.3 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 7131 | 6610 | 7795 | 8338 | 8427 | 7265 | 6783 | 9099 |
| C26 | Standard deviation | 433 | 697 | 560 | 195 | 347 | 550 | 669 | 1127 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 22520 | 19121 | 20431 | 21327 | 24195 | 23794 | 23525 | 23602 |
| C28 | Standard deviation | 1016 | 1444 | 771 | 718 | 1655 | 3874 | 570 | 1082 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-1 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C58 | Total heat transfer rate, Btu/hr | 162250 | 162490 | 116790 | 152670 | 222640 | 159870 | 166280 | 159260 |
| C58 | Standard deviation | 6927 | 7960 | 5903 | 2305 | 2787 | 8687 | 4085 | 3437 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-2 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

b Data or results were not obtained.

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Table 4. - Continued
(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|----------------------------------|------|------|------|------|------|------|------|------|------|
| | | H1 | H2 | H3 | H4 | H5A | H5B | H6 | H7 | H8 |
| 051 | Coolant flow rate, gal/min | 2.2 | 2.3 | 2.3 | 2.2 | 2.3 | 2.3 | 2.3 | 2.2 | 2.2 |
| 051 | Standard deviation | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| 052 | Coolant flow rate, gal/min | 2.5 | 2.5 | 2.5 | 2.4 | 2.6 | 2.5 | 2.5 | 2.5 | 2.5 |
| 052 | Standard deviation | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| 077 | Coolant inlet temperature, °F | 71 | 70 | 72 | 74 | 74 | 75 | 72 | 70 | 73 |
| 077 | Standard deviation | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| 078 | Coolant inlet pressure, psia | 66 | 66 | 66 | 65 | 66 | 66 | 66 | 66 | 66 |
| 078 | Standard deviation | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 079 | Coolant flow rate, gal/min | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.0 |
| 079 | Standard deviation | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| 080 | Coolant outlet pressure, psia | 37.4 | 37.5 | 37.4 | 37.2 | 36.7 | 36.8 | 36.6 | 36.7 | 36.9 |
| 080 | Standard deviation | 0.1 | 0 | 0.1 | 0.6 | 0 | 0 | 0.2 | 0.1 | 0.1 |
| 081 | Outlet 1 coolant temperature, °F | 108 | 112 | 115 | 123 | 131 | 131 | 131 | 131 | 134 |
| 081 | Standard deviation | 0 | 0 | 3 | 2 | 1 | 0 | 2 | 0 | 1 |
| 082 | Outlet 2 coolant temperature, °F | 114 | 116 | 118 | 127 | 134 | 136 | 128 | 133 | 140 |
| 082 | Standard deviation | 1 | 0 | 3 | 3 | 1 | 0 | 3 | 1 | 1 |
| 083 | Outlet 3 coolant temperature, °F | 117 | 122 | 123 | 132 | 140 | 145 | 142 | 141 | 146 |
| 083 | Standard deviation | 1 | 0 | 3 | 3 | 2 | 0 | 2 | 1 | 1 |
| 084 | Outlet 4 coolant temperature, °F | 109 | 111 | 111 | 119 | 125 | 128 | 124 | 124 | 128 |
| 084 | Standard deviation | 1 | 0 | 3 | 3 | 1 | 0 | 3 | 1 | 2 |
| 085 | Outlet 5 coolant temperature, °F | 114 | 116 | 116 | 124 | 130 | 133 | 130 | 128 | 130 |
| 085 | Standard deviation | 1 | 0 | 3 | 3 | 1 | 0 | 1 | 0 | 1 |
| 086 | Outlet 6 coolant temperature, °F | 117 | 122 | 122 | 130 | 135 | 140 | 137 | 135 | 140 |
| 086 | Standard deviation | 1 | 0 | 3 | 3 | 1 | 0 | 1 | 1 | 2 |
| 087 | Outlet 7 coolant temperature, °F | 121 | 124 | 126 | 133 | 139 | 146 | 143 | 141 | 145 |
| 087 | Standard deviation | 1 | 6 | 3 | 3 | 1 | 0 | 1 | 1 | 1 |
| 088 | Outlet 8 coolant temperature, °F | 105 | 108 | 107 | 113 | 120 | 125 | 118 | 118 | 123 |
| 088 | Standard deviation | 1 | 0 | 2 | 2 | 1 | 0 | 3 | 0 | 1 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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| | 121 | 124 | 126 | 133 | 139 | 140 | 143 | 141 | 143 |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|
| 087 | Outlet 7 coolant temperature, °F | | | | | | | | |
| 087 | Standard deviation | 1 | 6 | 3 | 3 | 1 | 0 | 1 | 1 |
| 088 | Outlet 8 coolant temperature, °F | 105 | 108 | 107 | 113 | 120 | 125 | 118 | 118 |
| 088 | Standard deviation | 1 | 0 | 2 | 2 | 1 | 0 | 3 | 0 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 10.0 | 9.9 | 9.9 | 9.7 | 10.1 | 10.0 | 9.9 | 9.9 |
| 097 | Standard deviation | 0 | 0 | 0.3 | 0.4 | 0.1 | 0 | 0.1 | 0 |
| 098 | Coolant outlet temperature, °F | 111 | 114 | 115 | 122 | 128 | 131 | 127 | 127 |
| 098 | Standard deviation | 1 | 0 | 3 | 3 | 1 | 0 | 1 | 1 |
| 101 | Coolant flow rate, gal/min | 2.1 | 2.1 | 2.1 | 2.0 | 2.1 | 2.0 | 2.1 | 2.0 |
| 101 | Standard deviation | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| 102 | Coolant outlet pressure, °F | 15.3 | 14.6 | 14.2 | 14.1 | 16.9 | 18.1 | 14.0 | 14.3 |
| 102 | Standard deviation | 0.5 | 0.2 | 0.1 | 0.1 | 0.7 | 0.2 | 0 | 0.3 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-------------------------------------|------|------|------|------|-----|-----|-----|-----|-----|
| | | H1 | H2 | H3 | H4 | H5A | H5B | H6 | H7 | H8 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 10.0 | 10.0 | 10.0 | 10.0 | 9.0 | 8.4 | 8.3 | 8.2 | 8.3 |
| 113 | Standard deviation | 0 | 0 | 0 | 0.4 | 0.8 | 0 | 0 | 0 | 0 |
| 114 | Coolant outlet temperature, °F | 71 | 71 | 72 | 75 | 75 | 76 | 73 | 71 | 74 |
| 114 | Standard deviation | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| 115 | Wall coolant top temperature, °F | 98 | 98 | 98 | 96 | 105 | 112 | 96 | 98 | 104 |
| 115 | Standard deviation | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 4 |
| 116 | Wall coolant middle temperature, °F | 106 | 102 | 97 | 93 | 119 | 120 | 96 | 109 | 113 |
| 116 | Standard deviation | 8 | 6 | 4 | 9 | 38 | 30 | 25 | 11 | 13 |
| 117 | Wall coolant bottom temperature, °F | 100 | 100 | 103 | 106 | 118 | 122 | 112 | 123 | 129 |
| 117 | Standard deviation | 1 | 0 | 1 | 1 | 2 | 1 | 3 | 0 | 2 |

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| | | Temperature, °F | | | | | | | | |
|-------|--|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|
| 120 | Standard deviation | 1 | 0 | 1 | 2 | 3 | 1 | 1 | 0 | 1 |
| 121 | Wall coolant flow rate, gal/min | 3.6 | 3.6 | 3.6 | 3.4 | 3.2 | 3.3 | 3.2 | 3.2 | 3.2 |
| 121 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.3 | 0 | 0.1 | 0.2 |
| 140 | Wall coolant outlet pressure, psia | 31.4 | 31.6 | 31.4 | 31.3 | 31.2 | 31.2 | 31.1 | 31.2 | 31.3 |
| 140 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 206330 | 224360 | 217600 | 234520 | 278770 | 276300 | 280730 | 284510 | 286350 |
| C26 | Standard deviation | 5688 | 1943 | 9053 | 4207 | 2537 | 1950 | 3897 | 2604 | 8778 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 15977 | 17001 | 17135 | 16955 | 20984 | 19191 | 14056 | 16355 | 17856 |
| C28 | Standard deviation | 172 | 338 | 480 | 980 | 5080 | 3361 | 1217 | 714 | 1648 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 47.4 | 52.5 | 56.7 | 61.7 | 64.8 | 62.6 | 65.9 | 67.4 | 65.5 |
| C30-1 | Standard deviation | 0.5 | 0.6 | 2.2 | 1.0 | 0.5 | 0.2 | 2.5 | 0.6 | 0.9 |
| C58 | Total heat transfer rate, Btu/hr | 303990 | 392390 | 414110 | 410640 | 529010 | 591330 | 558120 | 572610 | 515610 |
| C58 | Standard deviation | 5479 | 6382 | 13700 | 8465 | 2841 | 3463 | 18785 | 7560 | 12347 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 50.8 | 55.2 | 57.3 | 63.2 | 63.8 | 64.4 | 58.8 | 65.2 | 66.8 |
| C30-2 | Standard deviation | 0.8 | 0.5 | 2.4 | 0.7 | 0.3 | 0.2 | 2.7 | 0.6 | 0.9 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 47.3 | 50.7 | 50.7 | 53.8 | 55.5 | 57.3 | 56.6 | 58.7 | 58.5 |
| C30-3 | Standard deviation | 0.7 | 0.1 | 1.6 | 0.8 | 1.0 | 0.2 | 2.2 | 0.6 | 2.2 |
| C30-4 | Heat transfer coefficient 4, Btu/hr ft ² °F | 54.3 | 59.8 | 61.9 | 66.7 | 68.7 | 71.1 | 71.9 | 73.7 | 73.5 |
| C30-4 | Standard deviation | 0.8 | 0.4 | 2.4 | 1.0 | 1.3 | 0.2 | 2.0 | 0.4 | 0.5 |
| C30-5 | Heat transfer coefficient 5, Btu/hr ft ² °F | 56.3 | 61.2 | 62.4 | 65.3 | 68.2 | 69.2 | 69.0 | 68.5 | 66.2 |
| C30-5 | Standard deviation | 0.7 | 0.8 | 1.8 | 0.5 | 0.3 | 0.3 | 1.6 | 0.7 | 0.7 |
| C30-6 | Heat transfer coefficient 6, Btu/hr ft ² °F | 57.6 | 66.0 | 65.6 | 69.2 | 69.9 | 73.3 | 73.7 | 73.4 | 72.5 |
| C30-6 | Standard deviation | 0.9 | 0.4 | 1.9 | 0.8 | 0.4 | 0.4 | 1.1 | 0.5 | 2.6 |
| C30-7 | Heat transfer coefficient 7, Btu/hr ft ² °F | 49.7 | 53.9 | 53.9 | 56.1 | 63.2 | 65.4 | 61.2 | 64.4 | 64.8 |
| C30-7 | Standard deviation | 1.1 | 0.5 | 1.5 | 1.9 | 0.6 | 0.2 | 2.5 | 0.5 | 1.8 |
| C30-8 | Heat transfer coefficient 8, Btu/hr ft ² °F | 68.1 | 73.6 | 76.9 | 80.7 | 84.6 | 88.4 | 89.2 | 90.1 | 88.6 |
| C30-8 | Standard deviation | 0.9 | 1.0 | 2.6 | 0.4 | 0.4 | 0.6 | 1.1 | 0.3 | 0.5 |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|----------------------------------|------|------|------|------|------|------|------|------|------|
| | | H9 | H10 | H11 | H12 | H14 | H13 | H15 | H16 | H18 |
| 051 | Coolant flow rate, gal/min | 2.1 | 2.1 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.2 | 2.1 |
| 051 | Standard deviation | 0 | 0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0 | 0.1 |
| 052 | Coolant flow rate, gal/min | 2.4 | 2.4 | 2.6 | 2.7 | 2.6 | 2.6 | 2.7 | 2.7 | 2.6 |
| 052 | Standard deviation | 0 | 0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0 | 0.1 |
| 077 | Coolant inlet temperature, °F | 73 | 70 | 66 | 66 | 66 | 63 | 60 | 64 | 65 |
| 077 | Standard deviation | 1 | 1 | 1 | 1 | 0 | 3 | 1 | 1 | 0 |
| 078 | Coolant inlet pressure, psia | 66.4 | 66.5 | 66.3 | 64.6 | 66.4 | 66.4 | 66.5 | 66.5 | 66.4 |
| 078 | Standard deviation | 0.1 | 0.2 | 0.2 | 2.8 | 0.1 | 0 | 0.2 | 0.2 | 0.3 |
| 079 | Coolant flow rate, gal/min | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.0 |
| 079 | Standard deviation | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| 080 | Coolant outlet pressure, psia | 37.1 | 37.0 | 31.4 | 32.2 | 34.2 | 31.8 | 29.0 | 26.0 | 32.5 |
| 080 | Standard deviation | 0.1 | 0 | 5.5 | 5.2 | 5.7 | 5.7 | 5.6 | 1.2 | 5.1 |
| 081 | Outlet 1 coolant temperature, °F | 131 | 126 | 123 | 113 | 127 | 133 | 135 | 142 | 151 |
| 081 | Standard deviation | 1 | 1 | 4 | 2 | 3 | 3 | 3 | 5 | 3 |
| 082 | Outlet 2 coolant temperature, °F | 137 | 131 | 126 | 113 | 127 | 113 | 111 | 113 | 118 |
| 082 | Standard deviation | 1 | 1 | 4 | 2 | 4 | 2 | 2 | 3 | 4 |
| 083 | Outlet 3 coolant temperature, °F | 143 | 138 | 133 | 119 | 135 | 123 | 121 | 128 | 141 |
| 083 | Standard deviation | 1 | 1 | 4 | 2 | 4 | 2 | 2 | 5 | 3 |
| 084 | Outlet 4 coolant temperature, °F | 127 | 121 | 116 | 105 | 118 | 108 | 105 | 110 | 120 |
| 084 | Standard deviation | 1 | 1 | 3 | 1 | 3 | 2 | 2 | 4 | 2 |
| 085 | Outlet 5 coolant temperature, °F | 128 | 123 | 117 | 106 | 116 | 110 | 109 | 113 | 121 |
| 085 | Standard deviation | 1 | 1 | 3 | 2 | 3 | 2 | 2 | 3 | 2 |
| 086 | Outlet 6 coolant temperature, °F | 139 | 133 | 129 | 116 | 129 | 118 | 115 | 120 | 133 |
| 086 | Standard deviation | 1 | 1 | 4 | 3 | 4 | 2 | 2 | 4 | 2 |
| 087 | Outlet 7 coolant temperature, °F | 143 | 139 | 133 | 119 | 132 | 122 | 120 | 125 | 137 |
| 087 | Standard deviation | 1 | 1 | 4 | 3 | 4 | 2 | 3 | 4 | 4 |
| 088 | Outlet 8 coolant temperature, °F | 121 | 115 | 111 | 99 | 110 | 87 | 88 | 82 | 74 |
| 088 | Standard deviation | 1 | 1 | 3 | 2 | 3 | 16 | 10 | 1 | 3 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

FOLDDOUT FRAME /

| | | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|------|
| 087 | Outlet 7 coolant temperature, °F | 143 | 139 | 133 | 119 | 132 | 122 | 120 | 125 | 137 |
| 087 | Standard deviation | 1 | 1 | 4 | 3 | 4 | 2 | 3 | 4 | 4 |
| 088 | Outlet 8 coolant temperature, °F | 121 | 115 | 111 | 99 | 110 | 87 | 88 | 82 | 74 |
| 088 | Standard deviation | 1 | 1 | 3 | 2 | 3 | 16 | 10 | 1 | 3 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 9.7 | 9.6 | 10.0 | 9.8 | 9.2 | 9.2 | 9.0 | 9.4 | 9.2 |
| 097 | Standard deviation | 0.1 | 0 | 0.6 | 0.4 | 0.6 | 0.6 | 0.5 | 0.1 | 0.5 |
| 098 | Coolant outlet temperature, °F | 129 | 123 | 119 | 108 | 119 | 110 | 109 | 113 | 122 |
| 098 | Standard deviation | 1 | 1 | 3 | 2 | 3 | 2 | 2 | 3 | 2 |
| 101 | Coolant flow rate, gal/min | 2.0 | 2.0 | 2.2 | 2.2 | 2.2 | 2.1 | 2.2 | 2.3 | 2.1 |
| 101 | Standard deviation | 0 | 0 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| 102 | Coolant outlet pressure, °F | 13.7 | 13.0 | 12.5 | 12.2 | 12.7 | 13.0 | 14.8 | 15.9 | 14.0 |
| 102 | Standard deviation | 0.4 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.5 | 0.2 | 0.4 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-------------------------------------|------|-----|-----|-----|-----|------|-----|-----|-----|
| | | H9 | H10 | H11 | H12 | H14 | H13 | H15 | H16 | H18 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 8.3 | 8.3 | 8.7 | 8.5 | 8.1 | 10.2 | 9.3 | 8.7 | 8.2 |
| 113 | Standard deviation | 0 | 0 | 0.5 | 0.4 | 0.4 | 0.5 | 0.3 | 0.2 | 0.4 |
| 114 | Coolant outlet temperature, °F | 74 | 71 | 67 | 67 | 67 | 63 | 62 | 65 | 66 |
| 114 | Standard deviation | 1 | 1 | 1 | 0 | 0 | 3 | 1 | 1 | 0 |
| 115 | Wall coolant top temperature, °F | 97 | 92 | 90 | 84 | 88 | 72 | 84 | 92 | 89 |
| 115 | Standard deviation | 1 | 2 | 3 | 1 | 1 | 2 | 3 | 2 | 3 |
| 116 | Wall coolant middle temperature, °F | 120 | 104 | 115 | 105 | 98 | 75 | 108 | 108 | 124 |
| 116 | Standard deviation | 18 | 11 | 26 | 16 | 16 | 13 | 42 | 22 | 39 |
| 117 | Wall coolant bottom temperature, °F | 128 | 125 | 133 | 146 | 152 | 133 | 145 | 152 | 150 |
| 117 | Standard deviation | 1 | 1 | 11 | 2 | 2 | 6 | 2 | 2 | 1 |
| 120 | Wall coolant total | 83 | 81 | 78 | 74 | 77 | 70 | 69 | 73 | 74 |

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| | | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 120 | Wall coolant total temperature, °F | 83 | 81 | 78 | 74 | 77 | 70 | 69 | 73 | 74 |
| 120 | Standard deviation | 1 | 1 | 2 | 1 | 4 | 2 | 1 | 2 | 1 |
| 121 | Wall coolant flow rate, gal/min | 3.2 | 3.2 | 3.3 | 3.1 | 2.9 | 3.0 | 3.0 | 3.1 | 2.9 |
| 121 | Standard deviation | 0.1 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 140 | Wall coolant outlet pressure, psia | 31.7 | 31.6 | 25.2 | 25.4 | 27.5 | 26.0 | 22.5 | 19.4 | 26.6 |
| 140 | Standard deviation | 0.2 | 0 | 5.9 | 5.8 | 6.4 | 6.2 | 6.2 | 1.3 | 5.8 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 274270 | 261910 | 266330 | 206800 | 247820 | 220060 | 222850 | 237490 | 266870 |
| C26 | Standard deviation | 3274 | 3487 | 4432 | 3725 | 5739 | 6826 | 6859 | 10929 | 7398 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 16771 | 17518 | 19672 | 12721 | 15976 | 10917 | 12845 | 13616 | 11804 |
| C28 | Standard deviation | 1295 | 951 | 5121 | 1005 | 5342 | 617 | 851 | 2726 | 1119 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 62.2 | 60.0 | 60.6 | 54.4 | 59.5 | 67.8 | 74.4 | 82.4 | 78.9 |
| C30-1 | Standard deviation | 1.0 | 0.4 | 0.7 | 0.8 | 0.7 | 1.6 | 3.7 | 2.5 | 1.4 |
| C58 | Total heat transfer rate, Btu/hr | 489360 | 554210 | 521620 | 335760 | 472250 | 378660 | 395610 | 454310 | 485330 |
| C58 | Standard deviation | 23591 | 6456 | 6003 | 9400 | 5481 | 12315 | 9864 | 14714 | 7586 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 63.8 | 61.2 | 60.6 | 51.9 | 56.9 | 45.7 | 47.0 | 48.7 | 44.7 |
| C30-2 | Standard deviation | 0.7 | 0.5 | 1.1 | 0.8 | 1.0 | 0.6 | 1.7 | 0.9 | 3.8 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 56.8 | 54.2 | 56.7 | 49.6 | 60.8 | 55.4 | 57.2 | 61.1 | 61.8 |
| C30-3 | Standard deviation | 0.7 | 0.5 | 0.6 | 1.0 | 1.2 | 0.8 | 2.7 | 1.4 | 3.1 |
| C30-4 | Heat transfer coefficient 4, Btu/hr ft ² °F | 70.3 | 69.0 | 71.6 | 64.3 | 76.9 | 70.1 | 73.4 | 80.8 | 82.2 |
| C30-4 | Standard deviation | 0.6 | 0.7 | 0.6 | 1.2 | 1.7 | 1.1 | 2.7 | 2.1 | 1.5 |
| C30-5 | Heat transfer coefficient 5, Btu/hr ft ² °F | 62.5 | 60.8 | 59.2 | 52.1 | 55.9 | 57.5 | 60.6 | 63.2 | 61.6 |
| C30-5 | Standard deviation | 0.8 | 0.5 | 0.7 | 0.8 | 0.5 | 1.8 | 1.1 | 1.2 | 0.8 |
| C30-6 | Heat transfer coefficient 6, Btu/hr ft ² °F | 71.3 | 68.6 | 69.0 | 60.5 | 66.3 | 63.6 | 64.2 | 67.4 | 71.1 |
| C30-6 | Standard deviation | 0.8 | 0.7 | 0.5 | 1.3 | 0.8 | 0.8 | 1.5 | 1.4 | 1.0 |
| C30-7 | Heat transfer coefficient 7, Btu/hr ft ² °F | 62.5 | 59.6 | 60.3 | 51.9 | 60.5 | 36.3 | 42.0 | 28.5 | 11.3 |
| C30-7 | Standard deviation | 1.1 | 0.8 | 1.0 | 1.5 | 1.3 | 26.8 | 13.9 | 2.2 | 3.0 |
| C30-8 | Heat transfer coefficient 8, Btu/hr ft ² °F | 86.8 | 85.6 | 85.9 | 78.6 | 86.1 | 85.6 | 88.4 | 92.4 | 93.8 |
| C30-8 | Standard deviation | 0.8 | 0.9 | 1.0 | 1.0 | 1.3 | 1.5 | 1.5 | 2.1 | 1.1 |

FOLDOUT FRAME 2

^b Data or results were not obtained.

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Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|
| | | H19 | H20 | H23 | H24 | H25 | H26 |
| 051 | Coolant flow rate, gal/min | 2.6 | 2.5 | 2.3 | 2.4 | 2.5 | 2.6 |
| 051 | Standard deviation | 0.1 | 0 | 0.1 | 0.1 | 0.1 | 0.1 |
| 052 | Coolant flow rate, gal/min | 3.0 | 2.9 | 2.7 | 2.8 | 2.9 | 3.0 |
| 052 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 077 | Coolant inlet temperature, °F | 67 | 67 | 67 | 67 | 67 | 67 |
| 077 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 |
| 078 | Coolant inlet pressure, psia | 67.9 | 64.5 | 56.2 | 59.3 | 62.8 | 68.5 |
| 078 | Standard deviation | 3.5 | 1.7 | 3.1 | 2.6 | 2.5 | 2.2 |
| 079 | Coolant flow rate, gal/min | 2.2 | 2.2 | 2.0 | 2.1 | 2.2 | 2.4 |
| 079 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 080 | Coolant outlet pressure, psia | 23.3 | 22.6 | 21.3 | 21.8 | 22.1 | 22.8 |
| 080 | Standard deviation | 0.7 | 0.3 | 0.6 | 0.5 | 0.5 | 0.3 |
| 081 | Outlet 1 coolant tempera- ture, °F | 129 | 132 | 131 | 130 | 129 | 126 |
| 081 | Standard deviation | 2 | 1 | 3 | 2 | 2 | 1 |
| 082 | Outlet 2 coolant tempera- ture, °F | 113 | 114 | 117 | 117 | 116 | 113 |
| 082 | Standard deviation | 1 | 1 | 3 | 2 | 1 | 1 |
| 083 | Outlet 3 coolant tempera- ture, °F | 127 | 127 | 128 | 127 | 125 | 122 |
| 083 | Standard deviation | 2 | 2 | 2 | 2 | 2 | 1 |
| 084 | Outlet 4 coolant tempera- ture, °F | 113 | 113 | 115 | 116 | 116 | 113 |
| 084 | Standard deviation | 2 | 2 | 3 | 1 | 1 | 1 |
| 085 | Outlet 5 coolant tempera- ture, °F | 114 | 115 | 117 | 115 | 114 | 111 |
| 085 | Standard deviation | 1 | 1 | 2 | 2 | 1 | 1 |
| 086 | Outlet 6 coolant tempera- ture, °F | 123 | 124 | 127 | 127 | 126 | 123 |
| 086 | Standard deviation | 2 | 1 | 3 | 2 | 1 | 1 |
| 087 | Outlet 7 coolant tempera- ture, °F | 124 | 125 | 127 | 124 | 123 | 120 |
| 087 | Standard deviation | 2 | 1 | 2 | 2 | 2 | 1 |
| 088 | Outlet 8 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |

FOLDDOUT FRAME

| | | 127 | 128 | 127 | 124 | 123 | 120 |
|-----|-----------------------------------|------|------|------|------|------|------|
| 087 | Standard deviation | 2 | 1 | 2 | 2 | 2 | 1 |
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | 1.4 | 1.3 | 1.2 | 1.3 | 1.3 | 1.4 |
| 096 | Standard deviation | 0 | 0 | 0.1 | 0.1 | 0 | 0 |
| 097 | Coolant flow rate, gal/min | 11.7 | 11.5 | 10.5 | 10.9 | 11.4 | 12.2 |
| 097 | Standard deviation | 0.5 | 0.2 | 0.4 | 0.3 | 0.3 | 0.3 |
| 098 | Coolant outlet temperature, °F | 114 | 115 | 117 | 116 | 116 | 112 |
| 098 | Standard deviation | 2 | 1 | 2 | 2 | 1 | 1 |
| 101 | Coolant flow rate, gal/min | 2.6 | 2.5 | 2.2 | 2.3 | 2.5 | 2.7 |
| 101 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 102 | Coolant outlet pressure, °F | 13.3 | 13.2 | 13.9 | 13.7 | 12.7 | 12.4 |
| 102 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.4 | 0.2 | 0.1 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

115
161

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | |
|----------------------|--|------|-----|-----|-----|-----|------|
| | | H19 | H20 | H23 | H24 | H25 | H26 |
| 104 | Outlet 18 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 10.1 | 9.7 | 8.8 | 9.1 | 9.4 | 10.0 |
| 113 | Standard deviation | 0.4 | 0.2 | 0.3 | 0.2 | 0.3 | 0.2 |
| 114 | Coolant outlet tempera- ture, °F | 68 | 68 | 68 | 68 | 68 | 68 |
| 114 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | Wall coolant top tempera- ture, °F | 84 | 76 | 81 | 86 | 82 | 78 |
| 115 | Standard deviation | 4 | 3 | 1 | 2 | 2 | 0 |
| 116 | Wall coolant middle temperature, °F | 100 | 107 | 92 | 69 | 61 | 61 |
| 116 | Standard deviation | 22 | 15 | 24 | 2 | 2 | 1 |
| 117 | Wall coolant bottom temperature, °F | 148 | 141 | 135 | 131 | 124 | 116 |
| 117 | Standard deviation | 4 | 1 | 2 | 2 | 2 | 2 |

FOLDOUT FRAME

| | | | | | | | |
|-------|---|--------|--------|--------|--------|--------|--------|
| 121 | Wall coolant flow rate, gal/min | 3.7 | 3.5 | 3.3 | 3.5 | 3.7 | 4.1 |
| 121 | Standard deviation | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 140 | Wall coolant outlet pressure, psia | 14.6 | 14.4 | 14.0 | 14.2 | 13.9 | 13.8 |
| 140 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat trans- fer rate, Btu/hr | 279180 | 276620 | 263040 | 270480 | 279070 | 279630 |
| C26 | Standard deviation | 6490 | 4899 | 9504 | 3708 | 5262 | 5116 |
| C27 | Heat extractor heat trans- fer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 14845 | 17215 | 17069 | 19333 | 19117 | 19397 |
| C28 | Standard deviation | 3173 | 5847 | 661 | 2407 | 668 | 1038 |
| C30-1 | Heat transfer coeffici- ent 1, Btu/hr ft ² °F | 73.4 | 74.5 | 66.7 | 68.5 | 72.6 | 74.5 |
| C30-1 | Standard deviation | 1.8 | 1.1 | 1.1 | 1.7 | 0.8 | 0.7 |
| C58 | Total heat transfer rate, Btu/hr | 508490 | 517030 | 503790 | 506390 | 518410 | 527850 |
| C58 | Standard deviation | 8057 | 10786 | 13615 | 6038 | 4730 | 7475 |
| C30-2 | Heat transfer coeffici- ent 2, Btu/hr ft ² °F | 51.3 | 51.0 | 48.3 | 51.1 | 53.3 | 54.8 |
| C30-2 | Standard deviation | 1.2 | 0.6 | 1.3 | 1.5 | 0.8 | 0.8 |
| C30-3 | Heat transfer coeffici- ent 3, Btu/hr ft ² °F | 64.7 | 61.1 | 56.1 | 60.7 | 63.5 | 65.3 |
| C30-3 | Standard deviation | 1.4 | 2.4 | 2.1 | 1.5 | 0.9 | 0.7 |
| C30-4 | Heat transfer coeffici- ent 4, Btu/hr ft ² °F | 80.7 | 75.8 | 67.3 | 69.5 | 72.3 | 73.4 |
| C30-4 | Standard deviation | 1.6 | 3.1 | 1.5 | 1.5 | 0.9 | 0.5 |
| C30-5 | Heat transfer coeffici- ent 5, Btu/hr ft ² °F | 65.2 | 63.8 | 59.8 | 60.0 | 61.9 | 62.6 |
| C30-5 | Standard deviation | 0.9 | 1.1 | 0.6 | 0.9 | 0.8 | 0.5 |
| C30-6 | Heat transfer coeffici- ent 6, Btu/hr ft ² °F | 74.1 | 71.8 | 68.4 | 71.0 | 73.2 | 74.1 |
| C30-6 | Standard deviation | 0.8 | 0.8 | 2.1 | 1.4 | 0.7 | 0.8 |
| C30-7 | Heat transfer coeffici- ent 7, Btu/hr ft ² °F | 2.8 | 0.9 | 7.1 | 5.6 | (b) | (b) |
| C30-7 | Standard deviation | 1.4 | 0.8 | 3.4 | 1.8 | (b) | (b) |
| C30-8 | Heat transfer coeffici- ent 8, Btu/hr ft ² °F | 86.8 | 84.6 | 78.9 | 79.0 | 81.3 | 81.4 |
| C30-8 | Standard deviation | 1.2 | 0.9 | 1.4 | 1.2 | 0.8 | 0.5 |

^b Data or results were not obtained.

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12/15/50

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|------|------|
| | | I1 | I2 | I3 | I4 | I5A | I5B | I6 | I7 | I8 |
| 051 | Coolant flow rate, gal/min | 2.2 | 2.3 | 2.2 | 2.3 | 2.3 | 2.3 | 2.5 | 2.7 | 2.7 |
| 051 | Standard deviation | 0 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0 | 0 |
| 052 | Coolant flow rate, gal/min | 2.2 | 2.3 | 2.1 | (b) | (b) | (b) | 2.3 | 2.6 | 2.7 |
| 052 | Standard deviation | 0 | 0.1 | 0 | (b) | (b) | (b) | 0.1 | 0.1 | 0.1 |
| 077 | Coolant inlet temperature, °F | 65 | 65 | 65 | 65 | 65 | 66 | 66 | 65 | 65 |
| 077 | Standard deviation | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 078 | Coolant inlet pressure, psia | 65.6 | 62.0 | 63.2 | 62.5 | 61.0 | 61.1 | 60.8 | 61.6 | 62.0 |
| 078 | Standard deviation | 0.1 | 2.0 | 2.3 | 2.2 | 0.2 | 0.2 | 0.6 | 1.6 | 1.5 |
| 079 | Coolant flow rate, gal/min | 2.3 | 2.4 | 2.3 | 2.4 | 2.4 | 2.4 | 2.6 | 2.7 | 2.8 |
| 079 | Standard deviation | 0 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0.1 | 0 |
| 080 | Coolant outlet pressure, psia | 38.1 | 30.6 | 34.1 | 32.5 | 30.4 | 31.2 | 25.8 | 23.3 | 23.4 |
| 080 | Standard deviation | 0.1 | 4.8 | 5.0 | 5.4 | 0.9 | 0 | 1.9 | 0.4 | 0.2 |
| 081 | Outlet 1 coolant tempera- ture, °F | 115 | 111 | 113 | 106 | 106 | 106 | 112 | 109 | 111 |
| 081 | Standard deviation | 1 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 1 |
| 082 | Outlet 2 coolant tempera- ture, °F | 130 | 124 | 130 | 120 | 119 | 119 | 126 | 121 | 124 |
| 082 | Standard deviation | 1 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 2 |
| 083 | Outlet 3 coolant tempera- ture, °F | 142 | 136 | 142 | 131 | 130 | 129 | 136 | 130 | 133 |
| 083 | Standard deviation | 1 | 4 | 3 | 4 | 1 | 1 | 3 | 1 | 2 |
| 084 | Outlet 4 coolant tempera- ture, °F | 124 | 118 | 122 | 114 | 113 | 112 | 119 | 115 | 118 |
| 084 | Standard deviation | 1 | 3 | 2 | 3 | 1 | 0 | 2 | 1 | 1 |
| 085 | Outlet 5 coolant tempera- ture, °F | 130 | 125 | 127 | 120 | 119 | 119 | 126 | 123 | 124 |
| 085 | Standard deviation | 1 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 1 |
| 086 | Outlet 6 coolant tempera- ture, °F | 139 | 133 | 138 | 129 | 128 | 127 | 136 | 131 | 132 |
| 086 | Standard deviation | 1 | 4 | 3 | 4 | 1 | 1 | 2 | 1 | 2 |
| 087 | Outlet 7 coolant tempera- ture, °F | 139 | 135 | 138 | 130 | 131 | 130 | 136 | 132 | 133 |
| 087 | Standard deviation | 1 | 4 | 2 | 4 | 1 | 1 | 2 | 1 | 2 |
| 088 | Outlet 8 coolant tempera- ture, °F | 118 | 108 | 116 | 108 | 106 | 107 | 92 | 72 | 69 |
| 088 | Standard deviation | 1 | 7 | 3 | 3 | 1 | 0 | 10 | 1 | 0 |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

FOLOUT FRAME /

| | | | | | | | | | | |
|------|-----------------------------------|------|------|------|------|------|------|------|------|------|
| .087 | Standard deviation | 1 | 4 | 2 | 4 | 1 | 1 | 2 | 1 | 2 |
| 088 | Outlet 8 coolant temperature, °F | 118 | 108 | 116 | 108 | 106 | 107 | 92 | 72 | 69 |
| 088 | Standard deviation | 1 | 7 | 3 | 3 | 1 | 0 | 10 | 1 | 0 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | 1.1 | 1.2 | 1.1 | 1.1 | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 |
| 096 | Standard deviation | 0 | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| 097 | Coolant flow rate, gal/min | 9.9 | 10.4 | 9.9 | 9.9 | 10.0 | 9.9 | 10.9 | 11.4 | 11.5 |
| 097 | Standard deviation | 0.1 | 0.5 | 0.4 | 0.6 | 0.1 | 0 | 0.2 | 0.2 | 0.2 |
| 098 | Coolant outlet temperature, °F | 124 | 120 | 123 | 115 | 115 | 114 | 121 | 117 | 119 |
| 098 | Standard deviation | 1 | 3 | 2 | 3 | 1 | 1 | 2 | 1 | 1 |
| 101 | Coolant flow rate, gal/min | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.2 | 2.4 | 2.4 |
| 101 | Standard deviation | 0 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0 | 0.1 |
| 102 | Coolant outlet pressure, °F | 16.2 | 16.3 | 15.4 | 15.0 | 14.7 | 14.9 | 15.7 | 15.4 | 15.1 |
| 102 | Standard deviation | 0.4 | 0.4 | 0.2 | 0.1 | 0 | 0.1 | 0.1 | 0.1 | 0.0 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

b Data or results were not obtained.

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32 (102)

Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-------------------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| | | I1 | I2 | I3 | I4 | I5A | I5B | I6 | I7 | I8 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 8.0 | 8.5 | 8.2 | 8.4 | 8.5 | 8.4 | 9.1 | 9.4 | 9.5 |
| 113 | Standard deviation | 0 | 0.4 | 0.4 | 0.5 | 0.1 | 0 | 0.2 | 0.1 | 0.2 |
| 114 | Coolant outlet temperature, °F | 66 | 67 | 66 | 66 | 66 | 67 | 67 | 66 | 66 |
| 114 | Standard deviation | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 115 | Wall coolant top temperature, °F | 81 | 87 | 78 | 76 | 71 | 72 | 79 | 82 | 82 |
| 115 | Standard deviation | 4 | 5 | 2 | 2 | 0 | 1 | 3 | 1 | 1 |
| 116 | Wall coolant middle temperature, °F | 82 | 102 | 95 | 106 | 78 | 68 | 101 | 80 | 70 |
| 116 | Standard deviation | 24 | 26 | 10 | 33 | 15 | 2 | 19 | 8 | 4 |
| 117 | Wall coolant bottom temperature, °F | 92 | 95 | 96 | 95 | 96 | 97 | 95 | 95 | 94 |
| 117 | Standard deviation | 2 | 2 | 1 | 1 | 0 | 0 | 2 | 1 | 0 |

FOLDDOUT FRAME

| | | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 120 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121 | Wall coolant flow rate, gal/min | 3.7 | 3.9 | 3.7 | 3.9 | 3.7 | 3.7 | 4.0 | 4.3 | 4.4 |
| 121 | Standard deviation | 0.1 | 0.2 | 0.2 | 0.3 | 0.1 | 0 | 0.2 | 0.1 | 0.1 |
| 140 | Wall coolant outlet pressure, psia | 30.6 | 22.4 | 26.4 | 24.5 | 22.2 | 23.1 | 16.6 | 14.4 | 14.1 |
| 140 | Standard deviation | 0.1 | 5.4 | 5.7 | 6.1 | 1.0 | 0 | 1.8 | 0.1 | 0 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 294940 | 286830 | 292040 | 251080 | 252490 | 243840 | 303520 | 298650 | 314320 |
| C26 | Standard deviation | 5606 | 7000 | 4594 | 2731 | 4216 | 2898 | 6825 | 7178 | 5136 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 19813 | 21749 | 20101 | 21280 | 19110 | 18432 | 20395 | 21783 | 21842 |
| C28 | Standard deviation | 1887 | 1431 | 821 | 4428 | 320 | 344 | 1988 | 479 | 469 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 65.8 | 65.4 | 65.5 | 63.1 | 63.4 | 62.6 | 69.8 | 69.6 | 72.5 |
| C30-1 | Standard deviation | 0.6 | 0.6 | 0.5 | 0.7 | 0.4 | 0.5 | 0.6 | 1.2 | 0.2 |
| C58 | Total heat transfer rate, Btu/hr | 578940 | 616340 | 521550 | 418180 | 466410 | 468850 | 583000 | 628350 | 570770 |
| C58 | Standard deviation | 15053 | 20310 | 4485 | 4524 | 3908 | 5370 | 10604 | 11 630 | 4679 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 66.4 | 65.6 | 67.8 | 65.3 | 65.6 | 64.4 | 70.0 | 68.0 | 73.1 |
| C30-2 | Standard deviation | 0.6 | 0.7 | 0.5 | 0.7 | 0.6 | 0.1 | 0.8 | 0.8 | 1.0 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 60.1 | 58.9 | 59.5 | 56.9 | 57.0 | 55.6 | 62.3 | 62.4 | 66.2 |
| C30-3 | Standard deviation | 0.4 | 1.2 | 0.7 | 0.9 | 0.4 | 0.2 | 1.0 | 0.9 | 0.5 |
| C30-4 | Heat transfer coefficient 4, Btu/hr ft ² °F | 75.0 | 75.0 | 75.8 | 72.5 | 72.9 | 72.4 | 78.6 | 76.3 | 80.4 |
| C30-4 | Standard deviation | 0.6 | 0.9 | 0.7 | 1.4 | 0.5 | 0.2 | 0.5 | 1.2 | 0.5 |
| C30-5 | Heat transfer coefficient 5, Btu/hr ft ² °F | 73.2 | 73.9 | 73.4 | 72.9 | 71.5 | 71.4 | 79.4 | 80.7 | 81.6 |
| C30-5 | Standard deviation | 0.8 | 1.0 | 0.4 | 0.6 | 0.5 | 0.5 | 0.9 | 1.0 | 0.7 |
| C30-6 | Heat transfer coefficient 6, Btu/hr ft ² °F | 78.6 | 79.8 | 81.6 | 80.4 | 78.9 | 78.2 | 86.9 | 86.6 | 88.4 |
| C30-6 | Standard deviation | 0.7 | 1.1 | 0.7 | 0.6 | 0.7 | 0.6 | 1.1 | 1.0 | 1.0 |
| C30-7 | Heat transfer coefficient 7, Btu/hr ft ² °F | 61.8 | 52.2 | 60.2 | (b) | (b) | (b) | 31.9 | 8.3 | 4.8 |
| C30-7 | Standard deviation | 1.1 | 6.0 | 1.5 | (b) | (b) | (b) | 11.3 | 1.5 | 0.4 |
| C30-8 | Heat transfer coefficient 8, Btu/hr ft ² °F | 81.7 | 81.9 | 79.6 | (b) | (b) | (b) | 81.8 | 87.4 | 90.5 |
| C30-8 | Standard deviation | 1.2 | 1.2 | 0.7 | (b) | (b) | (b) | 2.3 | 2.2 | 1.3 |

b Data or results were not obtained.

FOLDOUT FRAME

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Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | |
|--------------|----------------------------------|------|------|------|------|------|------|
| | | 19 | 110A | 110B | 111 | 112 | 113 |
| 051 | Coolant flow rate, gal/min | 2.6 | 2.3 | 2.4 | 2.3 | 2.4 | 2.5 |
| 051 | Standard deviation | 0.1 | 0.1 | 0 | 0.1 | 0 | 0.1 |
| 052 | Coolant flow rate, gal/min | 2.6 | 2.2 | 2.3 | 2.2 | (b) | (b) |
| 052 | Standard deviation | 0.1 | 0.1 | 0 | 0 | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 65 | 65 | 64 | 66 | 65 | 66 |
| 077 | Standard deviation | 0 | 1 | 0 | 1 | 0 | 1 |
| 078 | Coolant inlet pressure, psia | 62.0 | 63.8 | 61.1 | 62.0 | 61.2 | 58.4 |
| 078 | Standard deviation | 1.8 | 2.2 | 0.1 | 1.9 | 0.1 | 4.5 |
| 079 | Coolant flow rate, gal/min | 2.7 | 2.3 | 2.5 | 2.4 | 2.5 | 2.6 |
| 079 | Standard deviation | 0.2 | 0.1 | 0 | 0.1 | 0 | 0.1 |
| 080 | Coolant outlet pressure, psia | 25.7 | 37.1 | 30.2 | 32.6 | 28.8 | 25.0 |
| 080 | Standard deviation | 3.3 | 5.5 | 0.1 | 4.7 | 0.8 | 2.4 |
| 081 | Outlet 1 coolant temperature, °F | 106 | 112 | 105 | 108 | 110 | 113 |
| 081 | Standard deviation | 3 | 2 | 0 | 2 | 2 | 2 |
| 082 | Outlet 2 coolant temperature, °F | 116 | 126 | 117 | 121 | 122 | 120 |
| 082 | Standard deviation | 4 | 2 | 1 | 3 | 3 | 5 |
| 083 | Outlet 3 coolant temperature, °F | 125 | 137 | 128 | 132 | 134 | 140 |
| 083 | Standard deviation | 5 | 3 | 0 | 4 | 4 | 4 |
| 084 | Outlet 4 coolant temperature, °F | 112 | 121 | 114 | 117 | 117 | 121 |
| 084 | Standard deviation | 3 | 2 | 0 | 2 | 3 | 3 |
| 085 | Outlet 5 coolant temperature, °F | 118 | 127 | 119 | 122 | 124 | 128 |
| 085 | Standard deviation | 4 | 3 | 0 | 3 | 3 | 4 |
| 086 | Outlet 6 coolant temperature, °F | 124 | 135 | 126 | 130 | 132 | 139 |
| 086 | Standard deviation | 4 | 3 | 1 | 4 | 3 | 4 |
| 087 | Outlet 7 coolant temperature, °F | 126 | 137 | 128 | 132 | 134 | 140 |
| 087 | Standard deviation | 4 | 3 | 1 | 4 | 3 | 4 |
| 088 | Outlet 8 coolant temperature, °F | 80 | 114 | 109 | 111 | 106 | 68 |
| 088 | Standard deviation | 19 | 3 | 0 | 2 | 6 | 3 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |

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| | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|
| 087 | Standard deviation | 4 | 3 | 1 | 4 | 3 | 4 |
| 088 | Outlet 8 coolant temperature, °F | 80 | 114 | 109 | 111 | 106 | 68 |
| 088 | Standard deviation | 19 | 3 | 0 | 2 | 6 | 3 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | 1.2 | 1.0 | 1.1 | 1.1 | 1.1 | 1.1 |
| 096 | Standard deviation | 0.1 | 0.1 | 0 | 0.1 | 0 | 0.1 |
| 097 | Coolant flow rate, gal/min | 11.2 | 9.4 | 10.1 | 9.8 | 10.2 | 10.5 |
| 097 | Standard deviation | 0.7 | 0.6 | 0.1 | 0.5 | 0.1 | 0.5 |
| 098 | Coolant outlet temperature, °F | 113 | 121 | 114 | 117 | 119 | 122 |
| 098 | Standard deviation | 3 | 2 | 0 | 3 | 3 | 3 |
| 101 | Coolant flow rate, gal/min | 2.3 | 2.0 | 2.1 | 2.1 | 2.2 | 2.2 |
| 101 | Standard deviation | 0.1 | 0.1 | 0 | 0.1 | 0 | 0.1 |
| 102 | Coolant outlet pressure, °F | 15.1 | 15.9 | 16.1 | 15.8 | 14.5 | 14.8 |
| 102 | Standard deviation | 0 | 0.3 | 0.1 | 0.5 | 0.1 | 0.1 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | |
|----------------------|--|------|------|------|-----|-----|-----|
| | | 19 | 110A | 110B | 111 | 112 | 113 |
| 104 | Outlet 18 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 9.2 | 7.9 | 8.5 | 8.3 | 8.7 | 8.8 |
| 113 | Standard deviation | 0.5 | 0.5 | 0.1 | 0.4 | 0.1 | 0.4 |
| 114 | Coolant outlet tempera- ture, °F | 66 | 66 | 65 | 67 | 66 | 66 |
| 114 | Standard deviation | 0 | 1 | 0 | 1 | 0 | 0 |
| 115 | Wall coolant top tempera- ture, °F | 81 | 79 | 79 | 78 | 64 | 62 |
| 115 | Standard deviation | 2 | 1 | 1 | 4 | 2 | 2 |
| 116 | Wall coolant middle temperature, °F | 70 | 69 | 89 | 81 | 72 | 81 |
| 116 | Standard deviation | 6 | 3 | 6 | 9 | 7 | 23 |
| 117 | Wall coolant bottom temperature, °F | 94 | 99 | 97 | 99 | 91 | 90 |
| 117 | Standard deviation | 1 | 1 | 0 | 1 | 2 | 3 |

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| | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|
| 120 | Standard deviation | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 |
| 121 | Wall coolant flow rate, gal/min | 4.3 | 3.4 | 3.7 | 3.6 | 3.7 | 3.8 |
| 121 | Standard deviation | 0.3 | 0.3 | 0.1 | 0.2 | 0.1 | 0.1 |
| 140 | Wall coolant outlet pressure, psia | 16.9 | 30.3 | 22.7 | 25.3 | 20.9 | 16.5 |
| 140 | Standard deviation | 4.1 | 6.2 | 0.1 | 5.3 | 0.8 | 1.9 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 267690 | 266960 | 254790 | 255510 | 273250 | 298920 |
| C26 | Standard deviation | 7583 | 3449 | 500 | 3387 | 12 841 | 5411 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 20092 | 16970 | 18256 | 18183 | 16342 | 16527 |
| C28 | Standard deviation | 1162 | 635 | 560 | 929 | 2546 | 2469 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 71.2 | 71.1 | 68.2 | 67.0 | 73.0 | 71.6 |
| C30-1 | Standard deviation | 0.9 | 1.1 | 0.8 | 0.7 | 2.3 | 1.1 |
| C58 | Total heat transfer rate, Btu/hr | 488380 | 450990 | 424180 | 452500 | 511370 | 524700 |
| C58 | Standard deviation | 12767 | 18889 | 1983 | 10626 | 14747 | 9399 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 69.2 | 70.5 | 68.2 | 68.1 | 71.5 | 63.3 |
| C30-2 | Standard deviation | 1.1 | 0.7 | 0.4 | 0.9 | 1.7 | 5.6 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 64.3 | 65.7 | 65.0 | 64.3 | 65.5 | 64.2 |
| C30-3 | Standard deviation | 0.7 | 1.1 | 0.6 | 0.6 | 2.1 | 1.2 |
| C30-4 | Heat transfer coefficient 4, Btu/hr ft ² °F | 78.1 | 79.9 | 78.9 | 78.5 | 82.2 | 81.9 |
| C30-4 | Standard deviation | 1.1 | 0.6 | 0.7 | 0.7 | 2.9 | 1.8 |
| C30-5 | Heat transfer coefficient 5, Btu/hr ft ² °F | 81.7 | 83.5 | 80.6 | 79.4 | 83.1 | 83.0 |
| C30-5 | Standard deviation | 1.5 | 0.5 | 0.3 | 0.7 | 2.0 | 1.5 |
| C30-6 | Heat transfer coefficient 6, Btu/hr ft ² °F | 86.4 | 89.0 | 86.8 | 86.1 | 90.7 | 93.1 |
| C30-6 | Standard deviation | 1.2 | 0.4 | 0.8 | 0.7 | 2.6 | 1.2 |
| C30-7 | Heat transfer coefficient 7, Btu/hr ft ² °F | 19.0 | 63.5 | 62.3 | 59.1 | (b) | (b) |
| C30-7 | Standard deviation | 26.6 | 1.0 | 0.3 | 0.7 | (b) | (b) |
| C30-8 | Heat transfer coefficient 8, Btu/hr ft ² °F | 86.6 | 87.9 | 82.6 | 79.6 | (b) | (b) |
| C30-8 | Standard deviation | 2.4 | 0.6 | 0.2 | 0.7 | (b) | (b) |

^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|------|------|
| | | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 |
| 051 | Coolant flow rate, gal/min | 2.0 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 2.1 | 2.0 |
| 051 | Standard deviation | 0 | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0.2 | 0.1 |
| 052 | Coolant flow rate, gal/min | 2.4 | 2.2 | 2.3 | 2.3 | 2.2 | 2.2 | 2.2 | 2.4 | 2.3 |
| 052 | Standard deviation | 0 | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0.2 | 0.1 |
| 077 | Coolant inlet temperature, °F | 66 | 68 | 66 | 67 | 56 | 55 | 56 | 67 | 66 |
| 077 | Standard deviation | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 5 |
| 078 | Coolant inlet pressure, psia | 61.1 | 62.2 | 60.9 | 60.9 | 48.0 | 47.9 | 47.4 | 63.6 | 59.4 |
| 078 | Standard deviation | 0.2 | 1.8 | 0.2 | 0.2 | 0.6 | 1.0 | 2.3 | 5.8 | 4.4 |
| 079 | Coolant flow rate, gal/min | 2.6 | 2.4 | 2.4 | 2.4 | 2.3 | 2.3 | 2.3 | 2.5 | 2.4 |
| 079 | Standard deviation | 0 | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0.2 | 0.1 |
| 080 | Coolant outlet pressure, psia | 25.1 | 31.4 | 29.4 | 29.4 | 18.3 | 18.2 | 18.1 | 29.7 | 28.1 |
| 080 | Standard deviation | 0.8 | 0.9 | 0.1 | 0 | 0.1 | 0.2 | 0.3 | 3.8 | 5.3 |
| 081 | Outlet 1 coolant tempera- ture, °F | 101 | 106 | 109 | 113 | 103 | 103 | 105 | 107 | 107 |
| 081 | Standard deviation | 1 | 2 | 1 | 1 | 3 | 1 | 1 | 4 | 4 |
| 082 | Outlet 2 coolant tempera- ture, °F | 114 | 117 | 121 | 129 | 112 | 114 | 122 | 119 | 124 |
| 082 | Standard deviation | 2 | 3 | 1 | 1 | 3 | 2 | 2 | 5 | 5 |
| 083 | Outlet 3 coolant tempera- ture, °F | 119 | 126 | 131 | 138 | 127 | 127 | 130 | 129 | 131 |
| 083 | Standard deviation | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 5 | 5 |
| 084 | Outlet 4 coolant tempera- ture, °F | 111 | 114 | 117 | 126 | 112 | 114 | 118 | 116 | 120 |
| 084 | Standard deviation | 2 | 3 | 1 | 1 | 2 | 2 | 2 | 5 | 5 |
| 085 | Outlet 5 coolant tempera- ture, °F | 123 | 129 | 133 | 139 | 129 | 129 | 129 | 122 | 125 |
| 085 | Standard deviation | 1 | 4 | 2 | 2 | 4 | 2 | 3 | 5 | 5 |
| 086 | Outlet 6 coolant tempera- ture, °F | 118 | 123 | 126 | 135 | 126 | 127 | 129 | 124 | 130 |
| 086 | Standard deviation | 2 | 3 | 2 | 1 | 4 | 2 | 3 | 5 | 5 |
| 087 | Outlet 7 coolant tempera- ture, °F | 124 | 131 | 136 | 143 | 132 | 132 | 134 | 128 | 133 |
| 087 | Standard deviation | 2 | 4 | 2 | 2 | 4 | 2 | 3 | 5 | 5 |
| 088 | Outlet 8 coolant tempera- ture, °F | 111 | 116 | 120 | 126 | 119 | 120 | 119 | 116 | 119 |
| 088 | Standard deviation | 1 | 3 | 1 | 1 | 3 | 2 | 2 | 4 | 5 |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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| | 127 | 128 | 130 | 143 | 152 | 152 | 154 | 128 | 155 |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|
| 087 | Standard deviation | 2 | 4 | 2 | 2 | 4 | 2 | 3 | 5 |
| 088 | Outlet 8 coolant temperature, °F | 111 | 116 | 120 | 126 | 119 | 120 | 119 | 116 |
| 088 | Standard deviation | 1 | 3 | 1 | 1 | 3 | 2 | 2 | 4 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | 1.3 | 1.2 | 1.2 | 1.2 | 1.1 | 1.1 | 1.1 | 1.3 |
| 096 | Standard deviation | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0.1 |
| 097 | Coolant flow rate, gal/min | 10.5 | 9.7 | 9.8 | 9.9 | 9.3 | 9.3 | 9.3 | 10.0 |
| 097 | Standard deviation | 0.1 | 0.5 | 0 | 0 | 0.1 | 0.2 | 0.3 | 0.7 |
| 098 | Coolant outlet temperature, °F | 110 | 115 | 118 | 124 | 114 | 114 | 117 | 115 |
| 098 | Standard deviation | 1 | 3 | 1 | 1 | 3 | 2 | 2 | 4 |
| 101 | Coolant flow rate, gal/min | 2.3 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 |
| 101 | Standard deviation | 0 | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 102 | Coolant outlet pressure, °F | 14.5 | 14.5 | 15.6 | 14.0 | 15.0 | 15.1 | 14.5 | 15.8 |
| 102 | Standard deviation | 0.1 | 0 | 0.1 | 0.6 | 0.3 | 0.1 | 0.1 | 0.2 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-------------------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| | | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 8.9 | 8.2 | 8.4 | 8.4 | 8.0 | 8.0 | 8.0 | 8.6 | 8.2 |
| 113 | Standard deviation | 0.1 | 0.4 | 0 | 0 | 0.1 | 0.1 | 0.3 | 0.7 | 0.3 |
| 114 | Coolant outlet temperature, °F | 67 | 68 | 67 | 68 | 58 | 57 | 57 | 68 | 67 |
| 114 | Standard deviation | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 4 |
| 115 | Wall coolant top temperature, °F | 75 | 76 | 88 | 77 | 86 | 89 | 82 | 86 | 80 |
| 115 | Standard deviation | 1 | 0 | 1 | 3 | 2 | 1 | 2 | 1 | 3 |
| 116 | Wall coolant middle temperature, °F | 93 | 90 | 105 | 92 | 82 | 87 | 78 | 98 | 102 |
| 116 | Standard deviation | 20 | 10 | 12 | 15 | 10 | 6 | 6 | 13 | 16 |
| 117 | Wall coolant bottom temperature, °F | 105 | 110 | 113 | 115 | 112 | 112 | 111 | 117 | 121 |
| 117 | Standard deviation | 2 | 2 | 1 | 0 | 0 | 1 | 1 | 4 | 2 |

DUPLICATE FRAME

| | | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 117 | Standard deviation | 2 | 2 | 1 | 0 | 0 | 1 | 1 | 4 | 2 |
| 120 | Wall coolant total temperature, °F | 74 | 76 | 76 | 77 | 68 | 67 | 67 | 75 | 75 |
| 120 | Standard deviation | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 4 |
| 121 | Wall coolant flow rate, gal/min | 3.6 | 3.3 | 3.4 | 3.4 | 3.2 | 3.2 | 3.3 | 3.4 | 3.2 |
| 121 | Standard deviation | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.1 |
| 140 | Wall coolant outlet pressure, psia | 18.5 | 25.6 | 23.4 | 23.4 | 13.2 | 13.3 | 13.2 | 23.4 | 22.3 |
| 140 | Standard deviation | 0.9 | 5.4 | 0.1 | 0 | 0.1 | 0 | 0 | 4.1 | 5.4 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 232490 | 232200 | 263070 | 285590 | 270350 | 278880 | 287400 | 245530 | 254890 |
| C26 | Standard deviation | 8781 | 3076 | 6333 | 6907 | 10737 | 8569 | 3506 | 8435 | 2998 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 14474 | 13927 | 16469 | 16142 | 19202 | 18931 | 18599 | 14777 | 15372 |
| C28 | Standard deviation | 1448 | 613 | 1133 | 1309 | 1162 | 418 | 421 | 854 | 3250 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 56.5 | 59.0 | 65.6 | 65.0 | 64.0 | 65.1 | 65.2 | 64.9 | 62.4 |
| C30-1 | Standard deviation | 1.0 | 0.8 | 1.3 | 0.8 | 1.0 | 0.8 | 0.5 | 1.6 | 0.6 |
| C58 | Total heat transfer rate, Btu/hr | 350000 | 419310 | 614650 | 474620 | 609190 | 623430 | 458050 | 476530 | 375750 |
| C58 | Standard deviation | 14645 | 5123 | 13044 | 9613 | 14413 | 16384 | 5184 | 8133 | 4236 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 61.0 | 60.1 | 64.9 | 68.5 | 59.0 | 61.6 | 67.8 | 66.0 | 68.1 |
| C30-2 | Standard deviation | 1.4 | 0.9 | 1.1 | 0.7 | 1.3 | 0.8 | 0.3 | 1.7 | 0.4 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 59.0 | 57.8 | 61.1 | 65.1 | 60.4 | 62.6 | 64.3 | 56.5 | 55.4 |
| C30-3 | Standard deviation | 1.0 | 1.1 | 0.9 | 0.8 | 0.9 | 0.6 | 0.6 | 2.8 | 0.5 |
| C30-4 | Heat transfer coefficient 4, Btu/hr ft ² °F | 65.8 | 68.0 | 73.1 | 74.5 | 71.6 | 72.7 | 72.7 | 67.5 | 63.1 |
| C30-4 | Standard deviation | 0.9 | 1.0 | 1.1 | 0.9 | 1.2 | 1.1 | 0.6 | 2.8 | 0.6 |
| C30-5 | Heat transfer coefficient 5, Btu/hr ft ² °F | 67.2 | 68.8 | 71.9 | 71.5 | 69.8 | 70.2 | 68.2 | 69.0 | 67.0 |
| C30-5 | Standard deviation | 1.1 | 0.7 | 0.9 | 0.8 | 1.0 | 1.1 | 1.4 | 2.4 | 1.9 |
| C30-6 | Heat transfer coefficient 6, Btu/hr ft ² °F | 57.2 | 57.9 | 60.9 | 63.1 | 63.7 | 64.8 | 64.2 | 68.2 | 68.8 |
| C30-6 | Standard deviation | 0.9 | 0.8 | 1.1 | 0.7 | 1.1 | 0.8 | 0.7 | 2.5 | 1.9 |
| C30-7 | Heat transfer coefficient 7, Btu/hr ft ² °F | 63.5 | 63.8 | 69.4 | 71.0 | 73.7 | 74.6 | 70.2 | 68.3 | 69.0 |
| C30-7 | Standard deviation | 0.7 | 0.7 | 0.9 | 0.7 | 0.9 | 0.8 | 1.2 | 1.8 | 0.6 |
| C30-8 | Heat transfer coefficient 8, Btu/hr ft ² °F | 77.4 | 79.1 | 85.6 | 87.0 | 83.0 | 84.3 | 82.8 | 80.7 | 81.8 |
| C30-8 | Standard deviation | 0.6 | 0.6 | 1.1 | 0.8 | 1.1 | 1.1 | 1.0 | 2.1 | 1.0 |

b Data or results were not obtained.

FOI/DOU/FRAM/2

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|------|------|
| | | K1 | K3 | K4 | K2 | K7 | K8 | K6 | K5 | K9 |
| 051 | Coolant flow rate, gal/min | 2.7 | 2.7 | 2.6 | 2.6 | 2.6 | 2.6 | 2.5 | 2.5 | 2.5 |
| 051 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| 052 | Coolant flow rate, gal/min | 2.8 | 2.8 | 2.7 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |
| 052 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| 077 | Coolant inlet temperature, °F | 66 | 65 | 65 | 65 | 66 | 67 | 67 | 66 | 66 |
| 077 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 078 | Coolant inlet pressure, psia | 62.4 | 62.4 | 62.5 | 62.6 | 62.5 | 62.7 | 63.3 | 64.0 | 63.5 |
| 078 | Standard deviation | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.3 | 0.2 | 1.3 | 0.2 |
| 079 | Coolant flow rate, gal/min | 2.3 | 2.5 | 2.4 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| 079 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| 080 | Coolant outlet pressure, psia | 25.6 | 18.5 | 21.5 | 22.2 | 22.4 | 22.5 | 22.5 | 23.7 | 22.7 |
| 080 | Standard deviation | 0.6 | 0.5 | 0.5 | 0.1 | 0.1 | 0.1 | 0.1 | 3.3 | 0.1 |
| 081 | Outlet 1 coolant tempera- ture, °F | 97 | 101 | 101 | 100 | 100 | 101 | 105 | 105 | 103 |
| 081 | Standard deviation | (b) | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| 082 | Outlet 2 coolant tempera- ture, °F | 110 | 116 | 117 | 115 | 115 | 117 | 124 | 124 | 123 |
| 082 | Standard deviation | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 3 | 0 |
| 083 | Outlet 3 coolant tempera- ture, °F | 112 | 124 | 123 | 121 | 121 | 124 | 131 | 132 | 133 |
| 083 | Standard deviation | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 3 | 0 |
| 084 | Outlet 4 coolant tempera- ture, °F | 105 | 117 | 118 | 117 | 117 | 117 | 126 | 126 | 126 |
| 084 | Standard deviation | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 |
| 085 | Outlet 5 coolant tempera- ture, °F | 108 | 111 | 109 | 110 | 110 | 109 | 116 | 112 | 115 |
| 085 | Standard deviation | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 3 | 0 |
| 086 | Outlet 6 coolant tempera- ture, °F | 109 | 122 | 120 | 119 | 119 | 119 | 129 | 127 | 128 |
| 086 | Standard deviation | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 0 |
| 087 | Outlet 7 coolant tempera- ture, °F | 108 | 116 | 117 | 116 | 116 | 116 | 122 | 122 | 121 |
| 087 | Standard deviation | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 3 | 1 |
| 088 | Outlet 8 coolant tempera- ture, °F | 100 | 108 | 109 | 108 | 108 | 108 | 115 | 114 | 114 |
| 088 | Standard deviation | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 2 | 1 |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

OUTLET FRAME /

| | | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|------|
| 087 | Standard deviation | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 3 | 1 |
| 088 | Outlet 8 coolant temperature, °F | 100 | 108 | 109 | 108 | 108 | 108 | 115 | 114 | 114 |
| 088 | Standard deviation | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 2 | 1 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 096 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| 097 | Coolant flow rate, gal/min | 11.2 | 11.3 | 10.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.4 | 10.4 |
| 097 | Standard deviation | 0.1 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0.1 | 0.4 | 0 |
| 098 | Coolant outlet temperature, °F | 103 | 110 | 110 | 109 | 109 | 110 | 116 | 115 | 115 |
| 098 | Standard deviation | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0 |
| 101 | Coolant flow rate, gal/min | 2.4 | 2.3 | 2.2 | 2.2 | 2.2 | 2.1 | 2.2 | 2.1 | 2.1 |
| 101 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| 102 | Coolant outlet pressure, °F | 15.1 | 15.0 | 15.2 | 15.7 | 16.0 | 15.9 | 15.9 | 16.0 | 16.7 |
| 102 | Standard deviation | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0 | 0 | 0.1 | 0.1 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-------------------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| | | K1 | K3 | K4 | K2 | K7 | K8 | K6 | K5 | K9 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 8.6 | 8.5 | 8.1 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| 113 | Standard deviation | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0.3 | 0 |
| 114 | Coolant outlet temperature, °F | 66 | 66 | 66 | 67 | 67 | 68 | 68 | 67 | 67 |
| 114 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 115 | Wall coolant top temperature, °F | 78 | 83 | 93 | 94 | 95 | 98 | 97 | 102 | 100 |
| 115 | Standard deviation | 4 | 3 | 1 | 1 | 1 | 1 | 0 | 2 | 1 |
| 116 | Wall coolant middle temperature, °F | 90 | 79 | 96 | 112 | 115 | 91 | 108 | 116 | 118 |
| 116 | Standard deviation | 21 | 3 | 13 | 17 | 14 | 7 | 19 | 6 | 21 |
| 117 | Wall coolant bottom temperature, °F | 101 | 92 | 95 | 98 | 100 | 99 | 103 | 103 | 106 |
| 117 | Standard deviation | 7 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 120 | Wall coolant total | 73 | 73 | 75 | 75 | 76 | 76 | 77 | 76 | 76 |

FOLDOUT FRAME /

Handwritten notes: "2210" and "161" with a circled "161" and a checkmark.

| | | | | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 117 | Standard deviation | 7 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 120 | Wall coolant total temperature, °F | 73 | 73 | 75 | 75 | 76 | 76 | 77 | 76 | 76 |
| 120 | Standard deviation | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 2 | 1 |
| 121 | Wall coolant flow rate, gal/min | 3.6 | 4.0 | 3.8 | 3.7 | 3.8 | 3.8 | 3.8 | 3.6 | 3.7 |
| 121 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 |
| 140 | Wall coolant outlet pressure, psia | 19.2 | 18.8 | 22.3 | 23.2 | 23.3 | 23.3 | 23.4 | 24.7 | 23.5 |
| 140 | Standard deviation | 0.7 | 0.6 | 0.6 | 0 | 0 | 0 | 0.1 | 3.7 | 0.1 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 209510 | 255900 | 244940 | 233180 | 230140 | 231060 | 261300 | 259480 | 263310 |
| C26 | Standard deviation | 5429 | 1290 | 4529 | 1883 | 1827 | 4025 | 2332 | 5399 | 2541 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 13501 | 16766 | 19043 | 17736 | 18401 | 17281 | 18342 | 18487 | 18799 |
| C28 | Standard deviation | 3549 | 1287 | 674 | 1379 | 2242 | 658 | 2024 | 1680 | 2576 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 44.9 | 52.1 | 51.4 | 50.8 | 50.0 | 51.8 | 50.6 | 53.2 | 50.7 |
| C30-1 | Standard deviation | 0.6 | 0.5 | 0.9 | 0.3 | 0.3 | 0.4 | 0.9 | 1.2 | 0.8 |
| C58 | Total heat transfer rate, Btu/hr | 339150 | 412380 | 602230 | 418750 | 347790 | 472650 | 454070 | 575190 | 446150 |
| C58 | Standard deviation | 6884 | 2911 | 24243 | 5783 | 2980 | 20933 | 9500 | 12913 | 6068 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 49.0 | 56.7 | 57.3 | 56.3 | 55.6 | 58.3 | 59.0 | 60.9 | 59.4 |
| C30-2 | Standard deviation | 0.8 | 1.0 | 1.0 | 0.4 | 0.2 | 0.5 | 0.7 | 1.2 | 0.8 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 54.7 | 63.6 | 63.6 | 63.4 | 63.0 | 63.5 | 66.9 | 68.2 | 65.6 |
| C30-3 | Standard deviation | 0.9 | 0.9 | 0.6 | 0.4 | 0.4 | 0.3 | 0.5 | 1.3 | 1.2 |
| C30-4 | Heat transfer coefficient 4, Btu/hr ft ² °F | 60.4 | 62.4 | 66.2 | 65.6 | 64.3 | 67.8 | 68.4 | 71.5 | 68.8 |
| C30-4 | Standard deviation | 0.9 | 0.4 | 1.2 | 0.4 | 0.3 | 0.5 | 0.8 | 1.1 | 1.6 |
| C30-5 | Heat transfer coefficient 5, Btu/hr ft ² °F | 64.4 | 63.1 | 60.9 | 65.0 | 65.1 | 63.3 | 65.0 | 61.9 | 65.5 |
| C30-5 | Standard deviation | 0.9 | 0.4 | 1.7 | 0.6 | 0.6 | 0.8 | 1.4 | 1.2 | 1.1 |
| C30-6 | Heat transfer coefficient 6, Btu/hr ft ² °F | 62.1 | 74.7 | 72.7 | 73.6 | 73.5 | 74.2 | 77.7 | 78.1 | 78.1 |
| C30-6 | Standard deviation | 0.9 | 0.6 | 1.0 | 0.7 | 0.4 | 0.5 | 1.2 | 0.9 | 1.0 |
| C30-7 | Heat transfer coefficient 7, Btu/hr ft ² °F | 55.2 | 63.8 | 64.2 | 63.4 | 63.1 | 63.0 | 65.7 | 67.0 | 66.4 |
| C30-7 | Standard deviation | 0.5 | 0.7 | 0.9 | 0.6 | 0.3 | 0.4 | 0.9 | 1.0 | 1.1 |
| C30-8 | Heat transfer coefficient 8, Btu/hr ft ² °F | 63.1 | 70.7 | 70.9 | 71.6 | 71.1 | 70.9 | 71.8 | 73.1 | 72.9 |
| C30-8 | Standard deviation | 0.9 | 0.7 | 0.8 | 0.4 | 0.4 | 0.4 | 1.6 | 0.8 | 1.4 |

^b Data or results were not obtained.

FOLDOUT FRAME

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Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|
| | | K10 | K12 | K11 | K14 | K13 | K15 | K16 |
| 051 | Coolant flow rate, gal/min | 2.5 | 2.5 | 2.8 | 2.5 | 2.5 | 2.4 | 2.8 |
| 051 | Standard deviation | 0 | 0 | 0.3 | 0.1 | 0 | 0 | 0.5 |
| 052 | Coolant flow rate, gal/min | 2.6 | 2.6 | 2.9 | 2.6 | 2.6 | 2.5 | 2.9 |
| 052 | Standard deviation | 0 | 0 | 0.3 | 0.1 | 0 | 0 | 0.5 |
| 077 | Coolant inlet temperature, °F | 66 | 67 | 67 | 51 | 52 | 64 | 65 |
| 077 | Standard deviation | 0 | 0 | 1 | 5 | 7 | 0 | 0 |
| 078 | Coolant inlet pressure, psia | 63.6 | 63.6 | 74.5 | 53.0 | 53.7 | 59.2 | 70.3 |
| 078 | Standard deviation | 0.2 | 0.2 | 12.7 | 4.1 | 3.9 | 0.2 | 15.5 |
| 079 | Coolant flow rate, gal/min | 2.3 | 2.3 | 2.5 | 2.2 | 2.2 | 2.1 | 2.4 |
| 079 | Standard deviation | 0 | 0 | 0.2 | 0.1 | 0 | 0 | 0.4 |
| 080 | Coolant outlet pressure, psia | 22.9 | 22.8 | 26.8 | 14.1 | 14.7 | 21.8 | 23.6 |
| 080 | Standard deviation | 0 | 0.1 | 5.7 | 6.5 | 4.5 | 0 | 3.1 |
| 081 | Outlet 1 coolant tempera- ture, °F | 105 | 101 | 105 | 90 | 86 | 105 | 101 |
| 081 | Standard deviation | 0 | 1 | 4 | 8 | 7 | 1 | 5 |
| 082 | Outlet 2 coolant tempera- ture, °F | 124 | 117 | 122 | 111 | 102 | 125 | 120 |
| 082 | Standard deviation | 0 | 1 | 6 | 9 | 7 | 1 | 7 |
| 083 | Outlet 3 coolant tempera- ture, °F | 135 | 126 | 129 | 119 | 110 | 134 | 125 |
| 083 | Standard deviation | 1 | 1 | 8 | 9 | 8 | 1 | 8 |
| 084 | Outlet 4 coolant tempera- ture, °F | 127 | 118 | 122 | 114 | 105 | 128 | 120 |
| 084 | Standard deviation | 0 | 1 | 7 | 9 | 8 | 1 | 7 |
| 085 | Outlet 5 coolant tempera- ture, °F | 117 | 111 | 112 | 101 | 98 | 116 | 109 |
| 085 | Standard deviation | 0 | 1 | 7 | 8 | 8 | 0 | 6 |
| 086 | Outlet 6 coolant tempera- ture, °F | 130 | 121 | 123 | 115 | 108 | 129 | 120 |
| 086 | Standard deviation | 0 | 1 | 7 | 9 | 7 | 0 | 8 |
| 087 | Outlet 7 coolant tempera- ture, °F | 122 | 116 | 120 | 107 | 104 | 122 | 116 |
| 087 | Standard deviation | 0 | 1 | 6 | 8 | 7 | 0 | 7 |
| 088 | Outlet 8 coolant tempera- ture, °F | 114 | 108 | 112 | 101 | 96 | 114 | 108 |
| 088 | Standard deviation | 0 | 1 | 5 | 8 | 7 | 0 | 6 |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

FOLDOUT FRAME /

| | | 122 | 116 | 120 | 107 | 104 | 122 | 116 |
|-----|-----------------------------------|------|------|------|------|------|------|------|
| 087 | Outlet 7 coolant temperature, °F | | | | | | | |
| 087 | Standard deviation | 0 | 1 | 6 | 8 | 7 | 0 | 7 |
| 088 | Outlet 8 coolant temperature, °F | 114 | 108 | 112 | 101 | 96 | 114 | 108 |
| 088 | Standard deviation | 0 | 1 | 5 | 8 | 7 | 0 | 6 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | 1.5 | 1.5 | 1.7 | 1.5 | 1.4 | 1.4 | 1.6 |
| 096 | Standard deviation | 0 | 0 | 0.2 | 0.1 | 0 | 0 | 0.3 |
| 097 | Coolant flow rate, gal/min | 10.4 | 10.4 | 11.4 | 9.7 | 9.8 | 9.5 | 10.9 |
| 097 | Standard deviation | 0 | 0 | 1.1 | 0.5 | 0.1 | 0 | 1.9 |
| 098 | Coolant outlet temperature, °F | 116 | 110 | 113 | 102 | 97 | 116 | 110 |
| 098 | Standard deviation | 0 | 1 | 5 | 8 | 7 | 0 | 6 |
| 101 | Coolant flow rate, gal/min | 2.0 | 2.1 | 2.4 | 2.1 | 2.1 | 2.0 | 2.4 |
| 101 | Standard deviation | 0 | 0 | 0.3 | 0.1 | 0 | 0 | 0.5 |
| 102 | Coolant outlet pressure, °F | 16.6 | 16.3 | 16.5 | 15.8 | 15.9 | 16.4 | 16.6 |
| 102 | Standard deviation | 0.1 | 0.1 | 0.2 | 0.3 | 0.1 | 0 | 0 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

7-10-17
7-17-17

Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | |
|--------------|-------------------------------------|------|-----|-----|-----|-----|-----|-----|
| | | K10 | K12 | K11 | K14 | K13 | K15 | K16 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 8.0 | 8.0 | 8.8 | 7.7 | 7.7 | 7.5 | 8.6 |
| 113 | Standard deviation | 0 | 0 | 0.9 | 0.4 | 0.1 | 0 | 1.5 |
| 114 | Coolant outlet temperature, °F | 68 | 69 | 68 | 53 | 54 | 65 | 67 |
| 114 | Standard deviation | 0 | 0 | 1 | 5 | 7 | 0 | 0 |
| 115 | Wall coolant top temperature, °F | 102 | 101 | 105 | 100 | 97 | 98 | 100 |
| 115 | Standard deviation | 1 | 0 | 1 | 2 | 0 | 0 | 0 |
| 116 | Wall coolant middle temperature, °F | 125 | 121 | 119 | 83 | 76 | 103 | 108 |
| 116 | Standard deviation | 19 | 26 | 23 | 24 | 5 | 11 | 16 |
| 117 | Wall coolant bottom temperature, °F | 109 | 107 | 102 | 98 | 96 | 109 | 106 |
| 117 | Standard deviation | 0 | 1 | 3 | 4 | 4 | 2 | 4 |
| 120 | Wall coolant total | 77 | 78 | 77 | 62 | 62 | 71 | 71 |

FOLDOUT FRAME /

| | Temperature, | | | | | | | |
|-------|--|--------|--------|--------|--------|--------|--------|--------|
| 117 | Standard deviation | 0 | 1 | 3 | 4 | 4 | 2 | 4 |
| 120 | Wall coolant total temperature, °F | 77 | 78 | 77 | 63 | 63 | 75 | 75 |
| 120 | Standard deviation | 1 | 2 | 2 | 5 | 6 | 0 | 1 |
| 121 | Wall coolant flow rate, gal/min | 3.7 | 3.7 | 4.0 | 3.4 | 3.5 | 3.3 | 3.8 |
| 121 | Standard deviation | 0.3 | 0.3 | 0.4 | 0.2 | 0 | 0.1 | 0.7 |
| 140 | Wall coolant outlet pressure, psia | 23.6 | 23.6 | 26.8 | 15.9 | 16.8 | 23.9 | 24.2 |
| 140 | Standard deviation | 0 | 0 | 5.0 | 6.9 | 4.6 | 0 | 2.2 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 264960 | 226730 | 267190 | 253120 | 223860 | 252970 | 245160 |
| C26 | Standard deviation | 2603 | 5339 | 7730 | 4568 | 3607 | 1629 | 4390 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 19654 | 19571 | 19124 | 20236 | 19122 | 17641 | 18320 |
| C28 | Standard deviation | 2988 | 4734 | 1665 | 1965 | 1711 | 486 | 1840 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 51.5 | 50.1 | 53.7 | 49.2 | 46.8 | 48.9 | 47.9 |
| C30-1 | Standard deviation | 0.5 | 0.4 | 1.4 | 1.7 | 0.7 | 0.3 | 0.8 |
| C58 | Total heat transfer rate, Btu/hr | 440720 | 445510 | 638250 | 427750 | 387050 | 424260 | 405250 |
| C58 | Standard deviation | 3173 | 4829 | 26096 | 9945 | 5712 | 4713 | 8722 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 58.8 | 57.0 | 60.7 | 58.6 | 52.7 | 57.0 | 56.7 |
| C30-2 | Standard deviation | 0.4 | 0.4 | 0.7 | 1.6 | 0.7 | 0.2 | 0.6 |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 63.9 | 60.6 | 66.6 | 67.5 | 62.5 | 66.1 | 65.4 |
| C30-3 | Standard deviation | 0.6 | 0.9 | 2.3 | 1.9 | 1.1 | 0.3 | 2.8 |
| C30-4 | Heat transfer coefficient 4, Btu/hr ft ² °F | 68.4 | 66.1 | 69.9 | 68.9 | 65.2 | 68.1 | 67.8 |
| C30-4 | Standard deviation | 0.7 | 0.9 | 2.1 | 2.3 | 1.0 | 0.3 | 2.8 |
| C30-5 | Heat transfer coefficient 5, Btu/hr ft ² °F | 65.1 | 63.1 | 64.9 | 64.3 | 63.9 | 62.9 | 62.3 |
| C30-5 | Standard deviation | 0.7 | 0.6 | 2.7 | 1.6 | 1.3 | 0.6 | 1.3 |
| C30-6 | Heat transfer coefficient 6, Btu/hr ft ² °F | 77.5 | 73.7 | 76.5 | 78.3 | 74.6 | 75.0 | 74.0 |
| C30-6 | Standard deviation | 0.5 | 0.5 | 1.8 | 1.9 | 1.0 | 0.6 | 0.6 |
| C30-7 | Heat transfer coefficient 7, Btu/hr ft ² °F | 65.0 | 62.4 | 66.5 | 66.5 | 62.6 | 64.5 | 62.7 |
| C30-7 | Standard deviation | 0.4 | 0.4 | 1.0 | 1.7 | 0.8 | 0.5 | 0.8 |
| C30-8 | Heat transfer coefficient 8, Btu/hr ft ² °F | 71.5 | 69.6 | 73.0 | 70.5 | 70.2 | 71.4 | 69.4 |
| C30-8 | Standard deviation | 0.3 | 0.5 | 1.3 | 1.5 | 0.9 | 0.5 | 0.7 |

b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | |
|--------------|----------------------------------|------|------|------|------|------|
| | | CAS0 | CAS1 | CAS2 | CAS3 | CAS4 |
| 051 | Coolant flow rate, gal/min | 1.6 | 2.8 | 1.5 | (b) | (b) |
| 051 | Standard deviation | 0 | 0 | 0.1 | (b) | (b) |
| 052 | Coolant flow rate, gal/min | 1.2 | 2.8 | 1.1 | (b) | (b) |
| 052 | Standard deviation | 0 | 0 | 0.1 | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 58 | 62 | 54 | 59 | 62 |
| 077 | Standard deviation | 2 | 0 | 3 | 1 | 7 |
| 078 | Coolant inlet pressure, psia | 61.8 | 61.6 | 66.6 | 61.9 | 62.3 |
| 078 | Standard deviation | 0.6 | 2.4 | 7.2 | 0.5 | 3.4 |
| 079 | Coolant flow rate, gal/min | 1.5 | 2.5 | 1.5 | (b) | (b) |
| 079 | Standard deviation | 0 | 0.1 | 0.1 | (b) | (b) |
| 080 | Coolant outlet pressure, psia | 26.9 | 25.4 | 33.1 | 32.6 | 30.8 |
| 080 | Standard deviation | 3.0 | 2.6 | 5.3 | 0.7 | 2.2 |
| 081 | Outlet 1 coolant temperature, °F | 104 | 93 | 96 | (b) | (b) |
| 081 | Standard deviation | 6 | 5 | 4 | (b) | (b) |
| 082 | Outlet 2 coolant temperature, °F | 103 | 117 | 107 | (b) | (b) |
| 082 | Standard deviation | 6 | 6 | 5 | (b) | (b) |
| 083 | Outlet 3 coolant temperature, °F | 105 | 137 | 110 | (b) | (b) |
| 083 | Standard deviation | 6 | 10 | 4 | (b) | (b) |
| 084 | Outlet 4 coolant temperature, °F | 97 | 126 | 101 | (b) | (b) |
| 084 | Standard deviation | 6 | 8 | 4 | (b) | (b) |
| 085 | Outlet 5 coolant temperature, °F | (b) | 113 | (b) | (b) | (b) |
| 085 | Standard deviation | (b) | 8 | (b) | (b) | (b) |
| 086 | Outlet 6 coolant temperature, °F | (b) | 120 | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | 8 | (b) | (b) | (b) |
| 087 | Outlet 7 coolant temperature, °F | (b) | 117 | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | 8 | (b) | (b) | (b) |
| 088 | Outlet 8 coolant temperature, °F | (b) | 107 | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | 6 | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) |

COOLANT FLOW

| | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|
| 086 | Standard deviation | (b) | 8 | (b) | (b) | (b) |
| 087 | Outlet 7 coolant temperature, °F | (b) | 117 | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | 8 | (b) | (b) | (b) |
| 088 | Outlet 8 coolant temperature, °F | (b) | 107 | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | 6 | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | 1.6 | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | 0 | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 8.3 | 10.7 | 8.0 | 6.2 | 6.5 |
| 097 | Standard deviation | 0.5 | 0.1 | 0.5 | 0.1 | 0.4 |
| 098 | Coolant outlet temperature, °F | 87 | 112 | 88 | 60 | 63 |
| 098 | Standard deviation | 3 | 7 | 4 | 1 | 7 |
| 101 | Coolant flow rate, gal/min | 2.4 | 1.4 | 1.4 | (b) | (b) |
| 101 | Standard deviation | 0 | 0.1 | 0.1 | (b) | (b) |
| 102 | Coolant outlet pressure, °F | 12.5 | 15.4 | 13.9 | 12.6 | 14.0 |
| 102 | Standard deviation | 0.3 | 2.5 | 0.3 | 0.6 | 1.6 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) |

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FOLDDOUT FRAME

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^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | |
|----------------------|--|------|------|------|------|------|
| | | CAS0 | CAS1 | CAS2 | CAS3 | CAS4 |
| 104 | Outlet 18 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant tempera- ture, °F | (a) | (a) | (a) | (a) | (a) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 8.7 | 8.7 | 8.5 | 8.3 | 7.9 |
| 113 | Standard deviation | 0.1 | 0.1 | 0.5 | 0.1 | 0.5 |
| 114 | Coolant outlet tempera- ture, °F | 60 | 63 | 56 | 60 | 63 |
| 114 | Standard deviation | 2 | 0 | 3 | 1 | 7 |
| 115 | Wall coolant top tempera- ture, °F | 92 | 96 | 103 | 94 | 101 |
| 115 | Standard deviation | 10 | 11 | 7 | 13 | 13 |
| 116 | Wall coolant middle temperature, °F | 94 | 105 | 101 | 99 | 103 |
| 116 | Standard deviation | 20 | 27 | 21 | 26 | 20 |
| 117 | Wall coolant bottom temperature, °F | 98 | 95 | 102 | 112 | 107 |
| 117 | Standard deviation | 11 | 9 | 6 | 11 | 13 |
| 120 | Wall coolant total temperature, °F | 60 | 63 | 56 | 60 | 63 |
| 120 | Standard deviation | 2 | 0 | 3 | 2 | 7 |
| 121 | Wall coolant flow rate, | 3.6 | 3.6 | 3.6 | 3.5 | 3.8 |

FOLDOUT FRAME

| | | | | | | |
|-------|--|--------|--------|--------|-------|-------|
| 120 | Wall coolant total temperature, °F | 60 | 63 | 56 | 60 | 63 |
| 120 | Standard deviation | 2 | 0 | 3 | 2 | 7 |
| 121 | Wall coolant flow rate, gal/min | 3.6 | 3.6 | 3.6 | 3.5 | 3.8 |
| 121 | Standard deviation | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 |
| 140 | Wall coolant outlet pressure, psia | 19.1 | 19.3 | 26.8 | 23.1 | 21.2 |
| 140 | Standard deviation | 1.5 | 2.7 | 5.0 | 1.0 | 3.3 |
| 141 | Coolant flow rate, gal/min | 1.5 | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | 0 | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 125120 | 270090 | 140260 | 9004 | 8821 |
| C26 | Standard deviation | 12678 | 36785 | 7128 | 1905 | 2478 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 17218 | 15813 | 21757 | 22856 | 23523 |
| C28 | Standard deviation | 3803 | 4910 | 3444 | 5429 | 5131 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 28.4 | 63.1 | 34.9 | (b) | (b) |
| C30-1 | Standard deviation | 2.1 | 3.0 | 1.6 | (b) | (b) |
| C58 | Total heat transfer rate, Btu/hr | 310480 | 352160 | 206340 | 75331 | 76107 |
| C58 | Standard deviation | 45217 | 46259 | 7105 | 10940 | 10102 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 32.0 | 62.8 | 35.3 | (b) | (b) |
| C30-2 | Standard deviation | 1.4 | 1.9 | 1.5 | (b) | (b) |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 22.2 | 81.0 | 25.5 | (b) | (b) |
| C30-3 | Standard deviation | 1.3 | 3.6 | 0.8 | (b) | (b) |
| C30-4 | Heat transfer coefficient 4, Btu/hr ft ² °F | 41.2 | 89.7 | 44.1 | (b) | (b) |
| C30-4 | Standard deviation | 5.0 | 4.4 | 1.4 | (b) | (b) |
| C30-5 | Heat transfer coefficient 5, Btu/hr ft ² °F | (b) | 76.1 | (b) | (b) | (b) |
| C30-5 | Standard deviation | (b) | 6.9 | (b) | (b) | (b) |
| C30-6 | Heat transfer coefficient 6, Btu/hr ft ² °F | (b) | 81.9 | (b) | (b) | (b) |
| C30-6 | Standard deviation | (b) | 5.7 | (b) | (b) | (b) |
| C30-7 | Heat transfer coefficient 7, Btu/hr ft ² °F | (b) | 66.7 | (b) | (b) | (b) |
| C30-7 | Standard deviation | (b) | 4.8 | (b) | (b) | (b) |
| C30-8 | Heat transfer coefficient 8, Btu/hr ft ² °F | (b) | 77.1 | (b) | (b) | (b) |
| C30-8 | Standard deviation | (b) | 5.4 | (b) | (b) | (b) |

b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | |
|--------------|-----------------------------------|------|------|------|------|------|------|------|------|
| | | T3A | T3B | T3C | T3D | T3E | T3F | T4 | T5 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | 2.7 | 2.8 |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 0.1 | 0.1 |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | 2.4 | 2.8 |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 0.1 | 0.1 |
| 077 | Coolant inlet temperature, °F | 69 | 72 | 69 | 74 | 70 | 67 | 66 | 65 |
| 077 | Standard deviation | 2 | 2 | 2 | 2 | 4 | 2 | 1 | 0 |
| 078 | Coolant inlet pressure, psia | 80.6 | 80.2 | 82.4 | 82.1 | 76.3 | 65.9 | 62.5 | 62.1 |
| 078 | Standard deviation | 9.8 | 4.6 | 0.5 | 0.5 | 7.5 | 7.3 | 1.7 | 3.1 |
| 079 | Coolant flow rate, gal/min | (b) | (b) | (b) | 2.7 | 2.6 | 2.4 | 2.5 | 2.5 |
| 079 | Standard deviation | (b) | (b) | (b) | 0.5 | 0.3 | 0.3 | 0.1 | 0.1 |
| 080 | Coolant outlet pressure, psia | 33.3 | 31.8 | 36.8 | 45.1 | 32.2 | 31.2 | 26.6 | 27.1 |
| 080 | Standard deviation | 3.0 | 0.2 | 13.5 | 0 | 6.6 | 5.6 | 4.1 | 2.1 |
| 081 | Outlet 1 coolant temperature, °F | 74 | 75 | 73 | 92 | 87 | 83 | 107 | 101 |
| 081 | Standard deviation | 5 | 4 | 6 | 5 | 5 | 8 | 7 | 9 |
| 082 | Outlet 2 coolant temperature, °F | 77 | 77 | 76 | 107 | 107 | 102 | 121 | 113 |
| 082 | Standard deviation | 8 | 5 | 11 | 9 | 10 | 16 | 9 | 12 |
| 083 | Outlet 3 coolant temperature, °F | 77 | 77 | 76 | 114 | 111 | 108 | 124 | 123 |
| 083 | Standard deviation | 8 | 5 | 12 | 11 | 10 | 20 | 10 | 16 |
| 084 | Outlet 4 coolant temperature, °F | 75 | 76 | 76 | 123 | 118 | 115 | 114 | 115 |
| 084 | Standard deviation | 5 | 4 | 13 | 13 | 11 | 23 | 8 | 13 |
| 085 | Outlet 5 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | 111 | 109 |
| 085 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 7 | 13 |
| 086 | Outlet 6 coolant temperature, °F | 78 | 77 | 77 | 113 | 111 | 98 | 119 | 116 |
| 086 | Standard deviation | 8 | 5 | 12 | 11 | 10 | 15 | 9 | 14 |
| 087 | Outlet 7 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | 131 | 114 |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 10 | 14 |
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | 117 | 105 |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 8 | 11 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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| | | | | | | | | | |
|-----|-----------------------------------|-----|-----|-----|-----|-----|------|------|------|
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | 117 | 105 |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 8 | 11 |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | 0.1 | 0.1 | 0.9 | 1.2 | 1.0 | 1.1 | 1.3 | 1.6 |
| 096 | Standard deviation | 0.1 | 0.1 | 0.8 | 0 | 0.1 | 0.1 | 0.1 | 0 |
| 097 | Coolant flow rate, gal/min | 2.5 | 2.4 | 2.9 | 6.6 | 6.2 | 5.4 | 10.7 | 10.9 |
| 097 | Standard deviation | 0.4 | 0.1 | 1.1 | 0.1 | 0.7 | 0.6 | 0.4 | 0.2 |
| 098 | Coolant outlet temperature, °F | 71 | 75 | 74 | 108 | 106 | 100 | 113 | 107 |
| 098 | Standard deviation | 2 | 2 | 10 | 9 | 9 | 15 | 8 | 12 |
| 101 | Coolant flow rate, gal/min | 0.1 | 0.1 | 0.4 | 2.7 | 2.5 | 2.4 | 2.2 | 2.2 |
| 101 | Standard deviation | 0 | 0 | 0.7 | 0 | 0.3 | 0.3 | 0.1 | 0.1 |
| 102 | Coolant outlet pressure, °F | (b) | (b) | (b) | (b) | (b) | 12.3 | 15.0 | 15.0 |
| 102 | Standard deviation | (b) | (b) | (b) | (b) | (b) | 0.5 | 0.6 | 1.1 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|-----|-----|-----|-----|-----|-----|-----|
| | | T3A | T3B | T3C | T3D | T3E | T3F | T4 | T5 |
| 104 | Outlet 18 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 9.1 | 9.2 | 9.1 | 9.1 | 9.4 | 9.4 | 8.8 | 8.5 |
| 113 | Standard deviation | 1.0 | 0.5 | 0 | 0.1 | 1.1 | 1.0 | 0.3 | 0.2 |
| 114 | Coolant outlet tempera- ture, °F | 70 | 73 | 70 | 74 | 71 | 68 | 67 | 66 |
| 114 | Standard deviation | 2 | 2 | 2 | 2 | 4 | 2 | 1 | 0 |
| 115 | Wall coolant top tempera- ture, °F | 91 | 91 | 94 | 97 | 93 | 80 | 84 | 88 |
| 115 | Standard deviation | 10 | 8 | 13 | 6 | 10 | 6 | 8 | 8 |
| 116 | Wall coolant middle temperature, °F | 89 | 104 | 94 | 96 | 98 | 81 | 96 | 100 |
| 116 | Standard deviation | 20 | 25 | 22 | 12 | 27 | 14 | 27 | 25 |
| 117 | Wall coolant bottom temperature, °F | 113 | 115 | 90 | 97 | 97 | 93 | 91 | 88 |
| 117 | Standard deviation | 15 | 11 | 7 | 4 | 8 | 8 | 4 | 6 |
| 120 | Wall coolant total temperature, °F | 81 | 86 | 80 | 85 | 85 | 75 | 75 | 73 |
| 120 | Standard deviation | 5 | 4 | 3 | 3 | 4 | 3 | 2 | 2 |
| 121 | Wall coolant flow rate, | 2.3 | 2.3 | 3.3 | 3.0 | 2.6 | 3.3 | 4.1 | 3.9 |

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| | 61 | 80 | 85 | 85 | 75 | 75 | 73 | | |
|-------|---|--------|-------|-------|--------|--------|--------|--------|--------|
| 120 | Standard deviation | 5 | 4 | 3 | 3 | 4 | 2 | 2 | |
| 121 | Wall coolant flow rate, gal/min | 2.3 | 2.3 | 3.3 | 3.0 | 2.6 | 3.3 | 4.1 | 3.9 |
| 121 | Standard deviation | 0.3 | 0.2 | 0.3 | 0.2 | 0.5 | 0.9 | 0.2 | 0.1 |
| 140 | Wall coolant outlet pressure, psia | 29.5 | 30.5 | 30.5 | 30.7 | 27.8 | 27.8 | 21.1 | 20.1 |
| 140 | Standard deviation | 2.6 | 0.3 | 0.2 | 0.1 | 6.9 | 5.8 | 4.6 | 1.9 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | heat exchanger heat trans- fer rate, Btu/hr | 6996 | 7085 | 15345 | 117220 | 113700 | 89541 | 255560 | 231980 |
| C26 | Standard deviation | 2580 | 2052 | 29395 | 30284 | 22969 | 40715 | 36923 | 63043 |
| C27 | Heat extractor heat trans- fer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 13611 | 15927 | 17281 | 17363 | 18337 | 13145 | 18953 | 15020 |
| C28 | Standard deviation | 4135 | 4048 | 5529 | 1979 | 3899 | 5392 | 4647 | 4169 |
| C30-1 | Heat transfer coeffici- ent 1, Btu/hr ft ² °F | (b) | (b) | (b) | 61.6 | 63.1 | 50.9 | 59.9 | 56.3 |
| C30-1 | Standard deviation | (b) | (b) | (b) | 18.3 | 6.8 | 14.7 | 6.4 | 9.7 |
| C58 | Total heat transfer rate, Btu/hr | 126090 | 49378 | 66106 | 163440 | 166590 | 152780 | 347530 | 304610 |
| C58 | Standard deviation | 60425 | 12074 | 37407 | 36374 | 26597 | 57870 | 45169 | 77994 |
| C30-2 | Heat transfer coeffici- ent 2, Btu/hr ft ² °F | (b) | (b) | (b) | 40.7 | 43.4 | 44.9 | 63.6 | 59.1 |
| C30-2 | Standard deviation | (b) | (b) | (b) | 12.3 | 5.2 | 14.2 | 6.8 | 10.1 |
| C30-3 | Heat transfer coeffici- ent 3, Btu/hr ft ² °F | (b) | (b) | (b) | 64.2 | 59.8 | 68.3 | 56.6 | 60.8 |
| C30-3 | Standard deviation | (b) | (b) | (b) | 14.4 | 6.5 | 19.2 | 6.5 | 10.5 |
| C30-4 | Heat transfer coeffici- ent 4, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | 60.0 | 64.5 | 67.3 |
| C30-4 | Standard deviation | (b) | (b) | (b) | (b) | (b) | 17.7 | 7.6 | 12.3 |
| C30-5 | Heat transfer coeffici- ent 5, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | 64.6 | 68.4 |
| C30-5 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 6.4 | 13.4 |
| C30-6 | Heat transfer coeffici- ent 6, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | 71.8 | 74.3 |
| C30-6 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 7.3 | 13.7 |
| C30-7 | Heat transfer coeffici- ent 7, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | 66.4 | 60.8 |
| C30-7 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 5.5 | 11.0 |
| C30-8 | Heat transfer coeffici- ent 8, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | 80.2 | 70.6 |
| C30-8 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | 7.4 | 13.0 |

FOLDOUT FRAME 2

b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|
| | | L1 | L2 | L3 | L4 | L5 | L6 | M1 | M2 |
| 051 | Coolant flow rate, gal/min | 2.9 | 2.5 | 2.9 | 3.0 | 2.6 | 2.9 | (b) | (b) |
| 051 | Standard deviation | 0.3 | 0 | 0.2 | 0 | 0.2 | 0 | (b) | (b) |
| 052 | Coolant flow rate, gal/min | 2.6 | 2.4 | 2.6 | 2.4 | 2.4 | 2.7 | (b) | (b) |
| 052 | Standard deviation | 0.1 | 0 | 0.1 | 0.7 | 0.2 | 0 | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 66 | 64 | 66 | 66 | 65 | 65 | 65 | 65 |
| 077 | Standard deviation | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 078 | Coolant inlet pressure, psia | 70.0 | 62.3 | 73.8 | 75.5 | 67.2 | 75.7 | 75.9 | 70.3 |
| 078 | Standard deviation | 6.3 | 0.3 | 4.5 | 0.2 | 6.0 | 0.2 | 0.2 | 6.6 |
| 079 | Coolant flow rate, gal/min | 3.0 | 2.6 | 3.0 | 3.2 | 2.8 | 3.1 | (b) | (b) |
| 079 | Standard deviation | 0.3 | 0.1 | 0.2 | 0 | 0.2 | 0 | (b) | (b) |
| 080 | Coolant outlet pressure, psia | 25.4 | 27.2 | 27.4 | 26.2 | 28.1 | 25.2 | 22.1 | 24.3 |
| 080 | Standard deviation | 1.7 | 1.2 | 1.3 | 0.2 | 3.0 | 0.1 | 1.3 | 1.1 |
| 081 | Outlet 1 coolant tempera- ture, °F | 106 | 102 | 108 | 110 | 117 | 105 | (b) | (b) |
| 081 | Standard deviation | 5 | 2 | 3 | 1 | 4 | 0 | (b) | (b) |
| 082 | Outlet 2 coolant tempera- ture, °F | 108 | 106 | 110 | 112 | 119 | 105 | (b) | (b) |
| 082 | Standard deviation | 5 | 1 | 3 | 1 | 5 | 0 | (b) | (b) |
| 083 | Outlet 3 coolant tempera- ture, °F | 118 | 115 | 122 | 125 | 133 | 118 | (b) | (b) |
| 083 | Standard deviation | 6 | 2 | 4 | 2 | 6 | 0 | (b) | (b) |
| 084 | Outlet 4 coolant tempera- ture, °F | 100 | 98 | 102 | 103 | 108 | 99 | (b) | (b) |
| 084 | Standard deviation | 4 | 1 | 2 | 1 | 3 | 0 | (b) | (b) |
| 085 | Outlet 5 coolant tempera- ture, °F | 106 | 104 | 107 | 110 | 114 | 104 | (b) | (b) |
| 085 | Standard deviation | 4 | 1 | 3 | 1 | 3 | 0 | (b) | (b) |
| 086 | Outlet 6 coolant tempera- ture, °F | 112 | 112 | 115 | 115 | 123 | 110 | (b) | (b) |
| 086 | Standard deviation | 6 | 1 | 4 | 1 | 5 | 1 | (b) | (b) |
| 087 | Outlet 7 coolant tempera- ture, °F | 110 | 111 | 114 | 115 | 121 | 110 | (b) | (b) |
| 087 | Standard deviation | 5 | 2 | 3 | 1 | 4 | 1 | (b) | (b) |
| 088 | Outlet 8 coolant tempera- ture, °F | 102 | 101 | 104 | 106 | 111 | 101 | (b) | (b) |
| 088 | Standard deviation | 4 | 1 | 3 | 1 | 4 | 0 | (b) | (b) |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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FOLDOUT FRAME 2

| | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|
| 088 | Standard deviation | 4 | 1 | 3 | 1 | 4 | 0 | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | 1.3 | 1.2 | 1.4 | 1.4 | 1.2 | 1.4 | (b) | (b) |
| 096 | Standard deviation | 0.1 | 0 | 0.1 | 0 | 0.1 | 0 | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 12.1 | 10.6 | 12.3 | 12.7 | 11.3 | 12.8 | 5.3 | 4.8 |
| 097 | Standard deviation | 1.1 | 0.2 | 0.8 | 0.1 | 1.1 | 0 | 0.1 | 0.4 |
| 098 | Coolant outlet temperature, °F | 104 | 103 | 107 | 108 | 114 | 103 | 66 | 66 |
| 098 | Standard deviation | 4 | 1 | 3 | 1 | 4 | 0 | 0 | 0 |
| 101 | Coolant flow rate, gal/min | 2.7 | 2.3 | 2.7 | 2.8 | 2.4 | 2.8 | (b) | (b) |
| 101 | Standard deviation | 0.3 | 0.1 | 0.2 | 0 | 0.2 | 0 | (b) | (b) |
| 102 | Coolant outlet pressure, °F | 18.1 | 18.9 | 19.2 | 18.6 | 16.8 | 16.1 | 17.0 | 13.8 |
| 102 | Standard deviation | 1.5 | 0.7 | 0.9 | 1.1 | 0.3 | 0.3 | 0.6 | 0.2 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|-----|-----|------|-----|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 | L6 | M1 | M2 |
| 104 | Outlet 18 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 9.4 | 8.4 | 9.7 | 10.0 | 8.8 | 10.0 | 9.8 | 9.0 |
| 113 | Standard deviation | 0.8 | 0.1 | 0.6 | 0.1 | 0.8 | 0 | 0.1 | 0.8 |
| 114 | Coolant outlet tempera- ture, °F | 67 | 66 | 68 | 67 | 67 | 66 | 66 | 66 |
| 114 | Standard deviation | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 115 | Wall coolant top tempera- ture, °F | 91 | 98 | 109 | 110 | 87 | 96 | 107 | 77 |
| 115 | Standard deviation | 10 | 4 | 3 | 3 | 8 | 3 | 3 | 4 |
| 116 | Wall coolant middle temperature, °F | 100 | 106 | 101 | 93 | 104 | 84 | 103 | 96 |
| 116 | Standard deviation | 24 | 17 | 18 | 6 | 24 | 5 | 19 | 9 |
| 117 | Wall coolant bottom temperature, °F | 117 | 133 | 133 | 136 | 139 | 138 | 114 | 118 |
| 117 | Standard deviation | 11 | 1 | 2 | 3 | 3 | 1 | 3 | 4 |
| 120 | Wall coolant total temperature, °F | 75 | 74 | 76 | 77 | 76 | 74 | 75 | 74 |
| 120 | Standard deviation | 2 | 1 | 1 | 1 | 2 | 0 | 1 | 0 |
| 121 | Wall coolant flow rate | 4.0 | 3.5 | 4.1 | 4.2 | 3.7 | 4.2 | 4.4 | 4.1 |

FOLDOUT FRAME

FOLDOUT FRAME 2

| | 73 | 74 | 76 | 77 | 78 | 74 | 75 | 74 | |
|-------|--|--------|--------|--------|--------|--------|--------|-------|-------|
| 120 | temperature, °F | | | | | | | | |
| 120 | Standard deviation | 2 | 1 | 1 | 1 | 2 | 0 | 1 | 0 |
| 121 | Wall coolant flow rate, gal/min | 4.0 | 3.5 | 4.1 | 4.3 | 3.7 | 4.2 | 4.4 | 4.1 |
| 121 | Standard deviation | 0.5 | 0.1 | 0.3 | 0.1 | 0.4 | 0 | 0.1 | 0.3 |
| 140 | Wall coolant outlet pressure, psia | 16.4 | 19.4 | 18.3 | 16.7 | 19.9 | 15.3 | 17.1 | 20.2 |
| 140 | Standard deviation | 2.9 | 1.4 | 1.9 | 0.1 | 3.8 | 0.1 | 1.4 | 1.8 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 234830 | 210570 | 252930 | 273630 | 275610 | 250940 | 8793 | 5183 |
| C26 | Standard deviation | 9649 | 7782 | 5068 | 7459 | 5015 | 2472 | 961 | 1237 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 17387 | 17315 | 19826 | 23091 | 19015 | 18293 | 21132 | 18358 |
| C28 | Standard deviation | 3614 | 1389 | 2567 | 1778 | 3291 | 315 | 2249 | 1038 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | 67.2 | 54.9 | 65.6 | 73.7 | 75.6 | 65.3 | (b) | (b) |
| C30-1 | Standard deviation | 2.3 | 3.9 | 1.3 | 2.5 | 1.3 | 0.5 | (b) | (b) |
| C58 | Total heat transfer rate, Btu/hr | 313770 | 249580 | 310690 | 390170 | 383350 | 304920 | 68463 | 42273 |
| C58 | Standard deviation | 11167 | 10412 | 8103 | 4993 | 14629 | 3738 | 1973 | 1187 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | 68.4 | 59.1 | 67.7 | 75.7 | 77.9 | 63.5 | (b) | (b) |
| C30-2 | Standard deviation | 2.7 | 2.2 | 1.1 | 2.2 | 1.9 | 0.5 | (b) | (b) |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | 54.5 | 44.7 | 53.0 | 57.7 | 57.2 | 52.0 | (b) | (b) |
| C30-3 | Standard deviation | 1.3 | 2.1 | 0.9 | 0.8 | 1.2 | 0.2 | (b) | (b) |
| C30-4 | Heat transfer coefficient 4, Btu/hr ft ² °F | 75.4 | 61.3 | 74.1 | 83.1 | 82.9 | 74.8 | (b) | (b) |
| C30-4 | Standard deviation | 1.6 | 3.1 | 1.4 | 1.6 | 1.0 | 0.4 | (b) | (b) |
| C30-5 | Heat transfer coefficient 5, Btu/hr ft ² °F | 68.9 | 59.0 | 65.9 | 73.1 | 73.4 | 63.1 | (b) | (b) |
| C30-5 | Standard deviation | 1.6 | 2.3 | 0.8 | 1.2 | 1.0 | 1.0 | (b) | (b) |
| C30-6 | Heat transfer coefficient 6, Btu/hr ft ² °F | 69.1 | 61.3 | 67.6 | 72.2 | 74.8 | 62.9 | (b) | (b) |
| C30-6 | Standard deviation | 2.0 | 1.8 | 0.8 | 1.2 | 1.1 | 0.9 | (b) | (b) |
| C30-7 | Heat transfer coefficient 7, Btu/hr ft ² °F | 52.1 | 49.0 | 51.7 | 50.6 | 59.4 | 50.1 | (b) | (b) |
| C30-7 | Standard deviation | 3.5 | 1.8 | 2.5 | 15.1 | 1.8 | 0.3 | (b) | (b) |
| C30-8 | Heat transfer coefficient 8, Btu/hr ft ² °F | 63.7 | 60.7 | 63.3 | 61.7 | 71.6 | 61.0 | (b) | (b) |
| C30-8 | Standard deviation | 3.8 | 1.4 | 2.6 | 18.4 | 1.9 | 0.3 | (b) | (b) |

b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|------|
| | | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M11 | M12 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 64 | 65 | 64 | 63 | 63 | 59 | 62 | 62 | 62 |
| 077 | Standard deviation | 1 | 0 | 1 | 0 | 0 | 8 | 0 | 0 | 0 |
| 078 | Coolant inlet pressure, psia | 62.7 | 75.6 | 66.5 | 61.9 | 65.7 | 66.6 | 61.2 | 62.0 | 61.9 |
| 078 | Standard deviation | 1.3 | 17.8 | 6.6 | 0.2 | 11.9 | 14.7 | 1.8 | 0.3 | 0.2 |
| 079 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 079 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 080 | Coolant outlet pressure, psia | 27.3 | 26.5 | 25.5 | 26.4 | 26.8 | 25.3 | 26.5 | 26.4 | 26.5 |
| 080 | Standard deviation | 3.3 | 3.0 | 1.1 | 0.1 | 0.9 | 3.5 | 0.2 | 0 | 0 |
| 081 | Outlet 1 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 081 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Outlet 2 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Outlet 3 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Outlet 4 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Outlet 6 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

FOLDOUT FRAME

| | | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|------|
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 098 | Coolant outlet temperature, °F | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 098 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 101 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 101 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 102 | Coolant outlet pressure, °F | 13.9 | 13.2 | 14.1 | 13.5 | 13.8 | 13.3 | 14.8 | 14.9 |
| 102 | Standard deviation | 0.2 | 3.2 | 0.2 | 0.2 | 0.1 | 0.3 | 0.3 | 0.3 |
| 103 | Outlet 17 coolant temperature, °F | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-------------------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| | | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M11 | M12 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 7.9 | 9.3 | 8.5 | 7.9 | 8.2 | 8.4 | 7.7 | 7.9 | 7.9 |
| 113 | Standard deviation | 0.3 | 1.7 | 0.8 | 0 | 1.0 | 1.3 | 0.2 | 0 | 0 |
| 114 | Coolant outlet temperature, °F | 65 | 66 | 65 | 64 | 64 | 60 | 63 | 64 | 63 |
| 114 | Standard deviation | 1 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 0 |
| 115 | Wall coolant top temperature, °F | 89 | 98 | 98 | 85 | 90 | 83 | 101 | 103 | 88 |
| 115 | Standard deviation | 1 | 3 | 2 | 4 | 2 | 6 | 2 | 0 | 4 |
| 116 | Wall coolant middle temperature, °F | 96 | 103 | 120 | 106 | 111 | 89 | 84 | 89 | 110 |
| 116 | Standard deviation | 15 | 17 | 29 | 18 | 15 | 6 | 6 | 12 | 20 |
| 117 | Wall coolant bottom temperature, °F | 132 | 131 | 135 | 138 | 131 | 124 | 133 | 138 | 142 |
| 117 | Standard deviation | 3 | 8 | 4 | 0 | 6 | 7 | 1 | 3 | 0 |
| 120 | Wall coolant total temperature, °F | 76 | 76 | 77 | 76 | 74 | 70 | 74 | 74 | 75 |
| 120 | Standard deviation | 1 | 1 | 2 | 1 | 1 | 7 | 0 | 0 | 1 |
| | | 2.7 | 4.1 | 3.8 | 3.4 | 3.6 | 3.7 | 3.4 | 3.4 | 3.4 |

FOLDOUT FRAME

| | temperature, °F | | | | | | | | | |
|-------|--|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 116 | Standard deviation | 15 | 17 | 29 | 18 | 15 | 6 | 6 | 12 | 20 |
| 117 | Wall coolant bottom temperature, °F | 132 | 131 | 135 | 138 | 131 | 124 | 133 | 138 | 142 |
| 117 | Standard deviation | 3 | 8 | 4 | 0 | 6 | 7 | 1 | 3 | 0 |
| 120 | Wall coolant total temperature, °F | 76 | 76 | 77 | 76 | 74 | 70 | 74 | 74 | 75 |
| 120 | Standard deviation | 1 | 1 | 2 | 1 | 1 | 7 | 0 | 0 | 1 |
| 121 | Wall coolant flow rate, gal/min | 3.5 | 4.1 | 3.8 | 3.4 | 3.6 | 3.7 | 3.4 | 3.4 | 3.4 |
| 121 | Standard deviation | 0.2 | 0.7 | 0.4 | 0.2 | 0.5 | 0.6 | 0.1 | 0.1 | 0.2 |
| 140 | Wall coolant outlet pressure, psia | 24.2 | 22.0 | 21.7 | 23.1 | 23.1 | 21.5 | 23.4 | 23.2 | 23.3 |
| 140 | Standard deviation | 3.5 | 3.2 | 1.8 | 0 | 0.1 | 3.3 | 0.3 | 0 | 0 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 6151 | 7177 | 7193 | 6208 | 6172 | 5848 | 7915 | 8118 | 8657 |
| C26 | Standard deviation | 951 | 839 | 555 | 882 | 626 | 1223 | 820 | 684 | 797 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 19938 | 22433 | 24252 | 20912 | 20687 | 19356 | 19678 | 20536 | 22543 |
| C28 | Standard deviation | 1984 | 1548 | 4984 | 1746 | 2207 | 1958 | 477 | 571 | 2044 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-1 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C58 | Total heat transfer rate, Btu/hr | 54658 | 97004 | 98615 | 54559 | 40338 | 56410 | 63962 | 62490 | 102950 |
| C58 | Standard deviation | 2764 | 3138 | 3653 | 3790 | 2667 | 8455 | 4404 | 1171 | 4895 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-2 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

FOLDOUT FRAME

2

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|
| | | N1 | N2 | N5A | N5B | N6 | N55A | N55B | N7 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 67 | 68 | 68 | 67 | 68 | 65 | 68 | 66 |
| 077 | Standard deviation | 0 | 3 | 0 | 1 | 3 | 1 | 3 | 0 |
| 078 | Coolant inlet pressure, psia | 73.0 | 70.0 | 75.7 | 73.4 | 66.8 | 77.5 | 72.8 | 75.8 |
| 078 | Standard deviation | 5.7 | 6.0 | 0.2 | 8.1 | 4.6 | 5.2 | 3.5 | 0.2 |
| 079 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 079 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 080 | Coolant outlet pressure, psia | 14.6 | 14.5 | 14.5 | 14.4 | 14.3 | 14.0 | 14.0 | 14.1 |
| 080 | Standard deviation | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 |
| 081 | Outlet 1 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 081 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Outlet 2 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Outlet 3 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Outlet 4 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Outlet 6 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

FOLDOUT FRAME 1

FOLDOUT FRAME 2

| | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 097 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 098 | Coolant outlet temperature, °F | 68 | 69 | 69 | 68 | 70 | 66 | 66 |
| 098 | Standard deviation | 0 | 3 | 1 | 1 | 3 | 1 | 3 |
| 101 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 101 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 102 | Coolant outlet pressure, °F | 14.6 | 14.0 | 16.8 | 16.4 | 15.7 | 14.4 | 13.5 |
| 102 | Standard deviation | 0.3 | 0.2 | 0.1 | 0.1 | 0.4 | 0.3 | 0 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data channel | Parameter | Test | | | | | | | |
|--------------|-------------------------------------|------|-----|------|-----|-----|------|------|------|
| | | N1 | N2 | N5A | N5B | N6 | N55A | N55B | N7 |
| 104 | Outlet 18 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 10.4 | 9.0 | 10.6 | 9.5 | 8.9 | 10.3 | 9.5 | 10.7 |
| 113 | Standard deviation | 0.7 | 0.4 | 0.1 | 0.5 | 0.7 | 0.5 | 0.8 | 0.1 |
| 114 | Coolant outlet temperature, °F | 68 | 69 | 69 | 68 | 70 | 66 | 69 | 66 |
| 114 | Standard deviation | 0 | 3 | 1 | 1 | 3 | 1 | 3 | 0 |
| 115 | Wall coolant top temperature, °F | 79 | 79 | 95 | 100 | 98 | 85 | 86 | 80 |
| 115 | Standard deviation | 6 | 1 | 5 | 4 | 2 | 4 | 1 | 1 |
| 116 | Wall coolant middle temperature, °F | 95 | 98 | 101 | 96 | 118 | 95 | 114 | 108 |
| 116 | Standard deviation | 24 | 11 | 17 | 10 | 40 | 23 | 39 | 16 |
| 117 | Wall coolant bottom temperature, °F | 99 | 112 | 104 | 115 | 121 | 104 | 116 | 109 |
| 117 | Standard deviation | 7 | 3 | 6 | 1 | 4 | 6 | 5 | 1 |
| 120 | Wall coolant total temperature, °F | 76 | 79 | 77 | 78 | 81 | 74 | 79 | 75 |
| 120 | Standard deviation | 2 | 3 | 2 | 1 | 3 | 1 | 4 | 0 |

FOLDOUT FRAME

| | | | | | | | | | |
|-------|--|-------|-------|-------|-------|-------|-------|-------|-------|
| 115 | Standard deviation | 6 | 1 | 5 | 4 | 2 | 4 | 1 | 1 |
| 116 | Wall coolant middle temperature, °F | 95 | 98 | 101 | 96 | 118 | 95 | 114 | 108 |
| 116 | Standard deviation | 24 | 11 | 17 | 10 | 40 | 23 | 39 | 16 |
| 117 | Wall coolant bottom temperature, °F | 99 | 112 | 104 | 115 | 121 | 104 | 116 | 109 |
| 117 | Standard deviation | 7 | 3 | 6 | 1 | 4 | 6 | 5 | 1 |
| 120 | Wall coolant total temperature, °F | 76 | 79 | 77 | 78 | 81 | 74 | 79 | 75 |
| 120 | Standard deviation | 2 | 3 | 2 | 1 | 3 | 1 | 4 | 0 |
| 121 | Wall coolant flow rate, gal/min | 4.6 | 3.9 | 4.5 | 4.1 | 3.8 | 4.1 | 3.8 | 4.4 |
| 121 | Standard deviation | 0.3 | 0.2 | 0.1 | 0.3 | 0.4 | 0.2 | 0.3 | 0.2 |
| 140 | Wall coolant outlet pressure, psia | 15.0 | 25.6 | 17.8 | 25.7 | 24.7 | 23.9 | 26.1 | 16.9 |
| 140 | Standard deviation | 1.5 | 6.0 | 0.8 | 6.2 | 6.4 | 6.5 | 5.8 | 0.7 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 8090 | 7692 | 9950 | 11778 | 8798 | 5473 | 4767 | 5111 |
| C26 | Standard deviation | 1395 | 1643 | 1636 | 1681 | 1474 | 1343 | 1872 | 1141 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 20412 | 22055 | 19679 | 23045 | 23602 | 17553 | 20723 | 20216 |
| C28 | Standard deviation | 3672 | 1077 | 2265 | 1450 | 3315 | 2745 | 4369 | 1704 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-1 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C58 | Total heat transfer rate, Btu/hr | 75224 | 72923 | 73981 | 77962 | 55669 | 78158 | 82555 | 47567 |
| C58 | Standard deviation | 6514 | 2537 | 6997 | 1868 | 2343 | 6940 | 3088 | 5298 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-2 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

b Data or results were not obtained.

Table 4. - Continued

(f) Continued. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|
| | | T6A | T6B | T7A | T7B | T7C | T7D1 | T7D2 |
| 051 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 077 | Coolant inlet temperature, °F | 63 | 65 | 70 | 66 | 67 | 67 | 68 |
| 077 | Standard deviation | 3 | 1 | 2 | 1 | 2 | 2 | 2 |
| 078 | Coolant inlet pressure, psia | 64.6 | 77.8 | 79.0 | 75.4 | 76.1 | 75.3 | 77.9 |
| 078 | Standard deviation | 3.8 | 3.2 | 4.8 | 3.5 | 5.7 | 6.6 | 4.3 |
| 079 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 079 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 080 | Coolant outlet pressure, psia | 19.1 | 14.3 | 14.1 | 14.2 | 14.5 | 14.3 | 14.0 |
| 080 | Standard deviation | 1.1 | 0 | 0.1 | 0.4 | 0.1 | 0.1 | 1.2 |
| 081 | Outlet 1 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 081 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Outlet 2 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 082 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Outlet 3 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 083 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Outlet 4 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 084 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Outlet 5 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 085 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Outlet 6 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 086 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Outlet 7 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 087 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Outlet 8 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

FOLDOUT FRAME 1

| | | | | | | | | |
|-----|-----------------------------------|------|------|------|------|------|------|------|
| 088 | Outlet 8 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 088 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Outlet 9 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Outlet 10 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Outlet 11 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Outlet 12 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 092 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Outlet 13 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 093 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Outlet 14 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 094 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Outlet 15 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 095 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Outlet 16 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 096 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 097 | Coolant flow rate, gal/min | 4.8 | 5.2 | 3.9 | 3.4 | 3.3 | 2.7 | 0.6 |
| 097 | Standard deviation | 0.3 | 0.2 | 0.3 | 0.7 | 0.6 | 0.2 | 1.1 |
| 098 | Coolant outlet temperature, °F | 64 | 66 | 71 | 67 | 68 | 69 | 69 |
| 098 | Standard deviation | 3 | 1 | 2 | 1 | 2 | 2 | 2 |
| 101 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 101 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 102 | Coolant outlet pressure, °F | 15.6 | 16.3 | 17.6 | 14.1 | 16.0 | 16.2 | 15.4 |
| 102 | Standard deviation | 0.8 | 0.7 | 1.6 | 1.2 | 1.5 | 1.6 | 1.7 |
| 103 | Outlet 17 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 103 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

Table 4. - Continued

(f) Concluded. Coolant system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|------|-----|-----|------|-----|------|------|
| | | T6A | T6B | T7A | T7B | T7C | T7D1 | T7D2 |
| 104 | Outlet 18 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 104 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Outlet 19 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 105 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Outlet 20 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 106 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Outlet 21 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 107 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Outlet 22 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 108 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Outlet 23 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 109 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Outlet 24 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 110 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Outlet 25 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 111 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Outlet 26 coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 112 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 113 | Coolant flow rate, gal/min | 8.7 | 9.8 | 9.6 | 10.8 | 9.1 | 9.0 | 9.6 |
| 113 | Standard deviation | 0.5 | 0.4 | 0.6 | 0.8 | 0.9 | 0.8 | 0.6 |
| 114 | Coolant outlet tempera- ture, °F | 64 | 66 | 71 | 67 | 68 | 69 | 69 |
| 114 | Standard deviation | 3 | 1 | 2 | 1 | 2 | 2 | 2 |
| 115 | Wall coolant top tempera- ture, °F | 85 | 92 | 113 | 93 | 98 | 107 | 106 |
| 115 | Standard deviation | 14 | 10 | 11 | 9 | 8 | 12 | 8 |
| 116 | Wall coolant middle temperature, °F | 93 | 90 | 110 | 88 | 103 | 112 | 113 |
| 116 | Standard deviation | 16 | 18 | 23 | 20 | 26 | 29 | 28 |
| 117 | Wall coolant bottom temperature, °F | 123 | 98 | 127 | 128 | 115 | 134 | 99 |
| 117 | Standard deviation | 12 | 9 | 7 | 13 | 18 | 27 | 4 |
| 120 | Wall coolant total temperature, °F | 75 | 75 | 83 | 76 | 79 | 80 | 82 |
| 120 | Standard deviation | 3 | 3 | 3 | 2 | 3 | 5 | 3 |
| 121 | Wall coolant flow rate, | 3.7 | 4.7 | 3.8 | 4.1 | 3.9 | 3.7 | 4.5 |

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| | 93 | 90 | 110 | 88 | 103 | 112 | 115 |
|-------|--|-------|-------|-------|-------|--------|-------|
| 110 | Wall coolant middle temperature, °F | | | | | | |
| 116 | Standard deviation | 16 | 18 | 23 | 20 | 26 | 28 |
| 117 | Wall coolant bottom temperature, °F | 123 | 98 | 127 | 128 | 115 | 134 |
| 117 | Standard deviation | 12 | 9 | 7 | 13 | 18 | 4 |
| 120 | Wall coolant total temperature, °F | 75 | 75 | 83 | 76 | 79 | 80 |
| 120 | Standard deviation | 3 | 3 | 3 | 2 | 3 | 5 |
| 121 | Wall coolant flow rate, gal/min | 3.7 | 4.7 | 3.8 | 4.1 | 3.9 | 3.7 |
| 121 | Standard deviation | 0.3 | 0.3 | 0.3 | 0.4 | 0.6 | 0.7 |
| 140 | Wall coolant outlet pressure, psia | 39.5 | 33.3 | 35.9 | 33.6 | 42.2 | 53.7 |
| 140 | Standard deviation | 18.6 | 21.3 | 30.8 | 18.4 | 28.0 | 28.0 |
| 141 | Coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) |
| 141 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Coolant outlet pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C26 | Heat exchanger heat transfer rate, Btu/hr | 7893 | 7456 | 10368 | 6972 | 7745 | 8058 |
| C26 | Standard deviation | 1507 | 2090 | 1684 | 1734 | 2168 | 2004 |
| C27 | Heat extractor heat transfer rate, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) |
| C27 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C28 | Wall heat transfer rate, Btu/hr | 21181 | 22429 | 25839 | 21454 | 22111 | 24121 |
| C28 | Standard deviation | 3419 | 5674 | 3699 | 2724 | 4450 | 9669 |
| C30-1 | Heat transfer coefficient 1, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-1 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C58 | Total heat transfer rate, Btu/hr | 82133 | 73023 | 87891 | 80021 | 76814 | 87369 |
| C58 | Standard deviation | 5389 | 5946 | 7178 | 5602 | 10 668 | 6138 |
| C30-2 | Heat transfer coefficient 2, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-2 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Heat transfer coefficient 3, Btu/hr ft ² °F | (b) | (b) | (b) | (b) | (b) | (b) |
| C30-3 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |

^b Data or results were not obtained.

TABLE 4. - Continued.

(g) Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|-------|-------|-------|-------|------|-------|-------|-------|-------|
| | | A1A | A2A | A11A | A10A | A9A | A9B | A1B | A10B | A11B |
| 122 | Gas cooler 4 coolant temperature, °F | 89 | 84 | 80 | 75 | 78 | 94 | 82 | 67 | 69 |
| 122 | Standard deviation | 1 | 7 | 8 | 1 | 5 | 1 | 13 | 0 | 1 |
| 123 | Gas cooler 3 coolant temperature, °F | 89 | 83 | 80 | 73 | 76 | 93 | 82 | 67 | 69 |
| 123 | Standard deviation | 1 | 7 | 6 | 3 | 6 | 2 | 14 | 1 | 1 |
| 124 | Gas cooler 2 coolant temperature, °F | 85 | 77 | 70 | 67 | 68 | 87 | 76 | 63 | 64 |
| 124 | Standard deviation | 1 | 7 | 7 | 1 | 6 | 1 | 12 | 0 | 1 |
| 125 | Gas cooler 1 coolant temperature, °F | 83 | 78 | 75 | 70 | 73 | 86 | 72 | 64 | 65 |
| 125 | Standard deviation | 1 | 7 | 7 | 1 | 5 | 1 | 9 | 1 | 0 |
| 126 | Gas cooler 4 gas temperature, °F | 614 | 606 | 655 | 685 | 702 | 677 | 701 | 744 | 757 |
| 126 | Standard deviation | 16 | 39 | 11 | 27 | 9 | 20 | 66 | 24 | 6 |
| 127 | Gas cooler 3 gas temperature, °F | 533 | 520 | 569 | 595 | 607 | 594 | 626 | 678 | 688 |
| 127 | Standard deviation | 14 | 35 | 10 | 38 | 20 | 14 | 60 | 27 | 7 |
| 128 | Gas cooler 2 gas temperature, °F | 510 | 447 | 482 | 528 | 544 | 539 | 577 | 609 | 613 |
| 128 | Standard deviation | 18 | 32 | 10 | 24 | 18 | 15 | 62 | 13 | 6 |
| 129 | Gas cooler 1 gas temperature, °F | 587 | 569 | 620 | 649 | 660 | 617 | 518 | 695 | 694 |
| 129 | Standard deviation | 14 | 35 | 16 | 28 | 12 | 11 | 199 | 14 | 8 |
| 130 | Gas cooler total coolant temperature, °F | 70 | 65 | 60 | 53 | 55 | 73 | 64 | 53 | 53 |
| 130 | Standard deviation | 0 | 8 | 9 | 0 | 6 | 0 | 9 | 0 | 0 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 620 | 580 | 616 | 645 | 651 | 623 | 661 | 671 | 650 |
| 132 | Standard deviation | 16 | 28 | 7 | 20 | 8 | 27 | 43 | 46 | 73 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 602 | 552 | 577 | 583 | 592 | 594 | 639 | 660 | 641 |
| 133 | Standard deviation | 14 | 21 | 10 | 40 | 12 | 28 | 42 | 46 | 71 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 598 | 513 | 511 | 552 | 537 | 576 | 620 | 626 | 601 |
| 134 | Standard deviation | 14 | 35 | 12 | 29 | 41 | 26 | 38 | 43 | 78 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 597 | 549 | 592 | 623 | 632 | 581 | 511 | 653 | 627 |
| 135 | Standard deviation | 13 | 26 | 10 | 28 | 11 | 17 | 172 | 41 | 67 |
| 142 | Gas coolant flow rate, gal/min | 12.18 | 11.59 | 10.92 | 10.99 | 9.84 | 11.42 | 13.13 | 14.70 | 13.64 |
| 142 | Standard deviation | 0.11 | 0.72 | 0.66 | 0.38 | 2.52 | 0.17 | 2.40 | 0.06 | 0.65 |
| 143 | Gas cooler coolant outlet temperature, °F | 88 | 82 | 77 | 72 | 75 | 89 | 77 | 65 | 67 |
| 143 | Standard deviation | 1 | 7 | 7 | 1 | 5 | 1 | 11 | 0 | 1 |

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| | | | | | | | | | | |
|-----|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 142 | Standard deviation | 0.11 | 0.72 | 0.66 | 0.38 | 2.52 | 0.17 | 2.40 | 0.06 | 0.65 |
| 143 | Gas cooler coolant outlet temperature, °F | 88 | 82 | 77 | 72 | 75 | 89 | 77 | 65 | 67 |
| 143 | Standard deviation | 1 | 7 | 7 | 1 | 5 | 1 | 11 | 0 | 1 |
| 144 | Exhaust gas temperature, °F | 348 | 301 | 307 | 303 | 332 | 304 | 333 | 332 | 346 |
| 144 | Standard deviation | 13 | 17 | 10 | 11 | 5 | 43 | 56 | 56 | 37 |
| 145 | Exhaust gas exit pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 70 | 55 | 79 | 101 | 87 | 217 | 106 | 196 | 88 |
| 076 | Standard deviation | 24 | 16 | 29 | 38 | 31 | 81 | 4 | 96 | 37 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 89508 | 81672 | 79600 | 90178 | 82551 | 71746 | 71347 | 58939 | 69683 |
| C29 | Standard deviation | 6111 | 10952 | 8733 | 7095 | 21814 | 2920 | 24593 | 2382 | 7979 |
| C37 | Exhaust gas flow rate, lb/hr | 582 | 564 | 565 | 574 | 564 | 573 | 506 | 565 | 569 |
| C37 | Standard deviation | 4 | 24 | 7 | 4 | 12 | 11 | 188 | 7 | 11 |
| C38 | Gas heat transfer, Btu/hr | 42744 | 32753 | 33839 | 35749 | 36148 | 29162 | 32759 | 36538 | 38939 |
| C38 | Standard deviation | 2064 | 3255 | 1356 | 1642 | 731 | 5788 | 12305 | 7883 | 6090 |
| C39 | Gas velocity at grid, ft/sec | 4.10 | 3.66 | 3.88 | 4.28 | 4.05 | 4.08 | 3.63 | 3.93 | 3.93 |
| C39 | Standard deviation | 0.07 | 0.22 | 0.06 | 0.41 | 0.11 | 0.08 | 1.35 | 0.05 | 0.08 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 4.09 | 3.71 | 3.94 | 4.28 | 4.02 | 4.08 | 3.61 | 3.97 | 4.00 |
| C40 | Standard deviation | 0.04 | 0.20 | 0.06 | 0.40 | 0.10 | 0.08 | 1.34 | 0.04 | 0.08 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 1.91 | 1.74 | 1.85 | 2.01 | 1.88 | 1.90 | 1.69 | 1.86 | 1.87 |
| C41 | Standard deviation | 0.02 | 0.09 | 0.03 | 0.19 | 0.05 | 0.04 | 0.62 | 0.02 | 0.04 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.49 | 1.36 | 1.45 | 1.58 | 1.48 | 1.49 | 1.32 | 1.46 | 1.47 |
| C42 | Standard deviation | 0.02 | 0.08 | 0.02 | 0.15 | 0.04 | 0.03 | 0.49 | 0.01 | 0.03 |
| C43 | Gas velocity at 68-inch bed, ft/sec | (b) | (b) | (b) | (b) | (b) | 1.19 | 1.07 | 1.15 | 1.17 |
| C43 | Standard deviation | (b) | (b) | (b) | (b) | (b) | 0.02 | 0.40 | 0.02 | 0.02 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 0.98 | 0.89 | 0.96 | 1.04 | 0.97 | 0.88 | 0.81 | 0.88 | 0.90 |
| C44 | Standard deviation | 0.01 | 0.05 | 0.02 | 0.09 | 0.02 | 0.02 | 0.30 | 0.02 | 0.02 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.77 | 0.66 | 0.75 | 0.83 | 0.75 | 0.67 | 0.63 | 0.69 | 0.70 |
| C45 | Standard deviation | 0.01 | 0.05 | 0.02 | 0.08 | 0.02 | 0.01 | 0.23 | 0.01 | 0.01 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|
| | | A8B | A7B | A6B | A5B | A3B | A16B | A12B | A17B |
| 122 | Gas cooler 4 coolant temperature, °F | 81 | 88 | 74 | 69 | 72 | 73 | 76 | 79 |
| 122 | Standard deviation | 9 | 9 | 3 | 2 | 2 | 1 | 9 | 1 |
| 123 | Gas cooler 3 coolant temperature, °F | 81 | 88 | 74 | 69 | 72 | 74 | 76 | 80 |
| 123 | Standard deviation | 8 | 9 | 3 | 2 | 2 | 2 | 9 | 1 |
| 124 | Gas cooler 2 coolant temperature, °F | 76 | 82 | 68 | 64 | 67 | 68 | 72 | 74 |
| 124 | Standard deviation | 9 | 8 | 3 | 2 | 1 | 1 | 9 | 1 |
| 125 | Gas cooler 1 coolant temperature, °F | 76 | 72 | 57 | 58 | 58 | 60 | 69 | 66 |
| 125 | Standard deviation | 7 | 12 | 4 | 4 | 5 | 5 | 11 | 5 |
| 126 | Gas cooler 4 gas temperature, °F | 759 | 768 | 761 | 710 | 764 | 768 | 630 | 860 |
| 126 | Standard deviation | 9 | 170 | 27 | 20 | 15 | 21 | 30 | 14 |
| 127 | Gas cooler 3 gas temperature, °F | 689 | 702 | 694 | 646 | 696 | 697 | 558 | 779 |
| 127 | Standard deviation | 8 | 149 | 31 | 21 | 17 | 24 | 34 | 15 |
| 128 | Gas cooler 2 gas temperature, °F | 619 | 644 | 634 | 592 | 640 | 648 | 515 | 727 |
| 128 | Standard deviation | 9 | 141 | 26 | 22 | 18 | 25 | 33 | 15 |
| 129 | Gas cooler 1 gas temperature, °F | 682 | 339 | 331 | 399 | 450 | 500 | 400 | 672 |
| 129 | Standard deviation | 19 | 247 | 268 | 265 | 287 | 283 | 262 | 240 |
| 130 | Gas cooler total coolant temperature, °F | 66 | 73 | 53 | 53 | 53 | 53 | 64 | 54 |
| 130 | Standard deviation | 10 | 17 | 0 | 0 | 0 | 0 | 11 | 0 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 571 | 618 | 580 | 526 | 581 | 584 | 412 | 634 |
| 132 | Standard deviation | 16 | 130 | 41 | 35 | 31 | 34 | 55 | 27 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 564 | 602 | 573 | 520 | 575 | 578 | 406 | 627 |
| 133 | Standard deviation | 14 | 128 | 39 | 35 | 29 | 33 | 53 | 27 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 517 | 573 | 538 | 488 | 549 | 568 | 405 | 617 |
| 134 | Standard deviation | 16 | 121 | 38 | 36 | 27 | 29 | 53 | 25 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 514 | 257 | 271 | 299 | 339 | 374 | 323 | 480 |
| 135 | Standard deviation | 34 | 159 | 181 | 162 | 183 | 186 | 183 | 148 |
| 142 | Gas coolant flow rate, gal/min | 16.2 | 12.6 | 11.3 | 13.7 | 13.7 | 12.8 | 13.2 | 10.3 |
| 142 | Standard deviation | 3.0 | 2.2 | 0.7 | 0.4 | 0.4 | 0.4 | 1.9 | 0.3 |
| 143 | Gas cooler coolant outlet temperature, °F | 78 | 82 | 68 | 65 | 67 | 68 | 73 | 74 |
| 143 | Standard deviation | 8 | 9 | 1 | 0 | 1 | 1 | 9 | 1 |

FOLDOUT FRAME /

| | | | | | | | | |
|-----|---------------------------------------|-------|-------|-------|-------|-------|-------|-------------|
| 143 | Standard deviation | 8 | 9 | 1 | 0 | 1 | 9 | 1 |
| 144 | Exhaust gas temperature, F | 319 | 393 | 333 | 304 | 328 | 335 | 225 383 |
| 144 | Standard deviation | 6 | 143 | 29 | 25 | 22 | 24 | 38 20 |
| 145 | Exhaust gas exit pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, F | 90 | 163 | 131 | 80 | 103 | 88 | 132 84 |
| 076 | Standard deviation | 4 | 114 | 8 | 53 | 0 | 63 | 0 0 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 70288 | 63504 | 63061 | 52270 | 74080 | 76893 | 36421 92074 |
| C29 | Standard deviation | 8256 | 8901 | 1173 | 8345 | 5787 | 7705 | 11258 7026 |
| C37 | Exhaust gas flow rate, lb/hr | 560 | 606 | 520 | 494 | 568 | 565 | 325 634 |
| C37 | Standard deviation | 12 | 67 | 3 | 6 | 3 | 9 | 3 7 |
| C38 | Gas heat transfer, Btu/hr | 32052 | 44317 | 33266 | 28532 | 36562 | 36187 | 10160 45217 |
| C38 | Standard deviation | 1121 | 18275 | 3465 | 2793 | 3100 | 4522 | 3337 2390 |
| C39 | Gas velocity at grid, ft/sec | 3.9 | 4.1 | 3.9 | 4.0 | 4.5 | 5.0 | 4.0 4.2 |
| C39 | Standard deviation | 0.1 | 1.7 | 0 | 0 | 0.1 | 0.1 | 0.1 0 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 3.9 | 3.4 | 4.0 | (b) | 4.5 | 5.1 | 4.1 4.3 |
| C40 | Standard deviation | 0.1 | 1.0 | 0 | (b) | 0 | 0.1 | 0.1 0 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 1.8 | 1.9 | 1.9 | 2.0 | 2.1 | 2.4 | 1.9 2.0 |
| C41 | Standard deviation | 0 | 0.7 | 0 | 0 | 0 | 0 | 0 0 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.4 | 1.5 | 1.5 | 1.5 | 1.7 | 1.9 | 1.5 1.6 |
| C42 | Standard deviation | 0 | 0.6 | 0 | 0 | 0 | 0 | 0 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.2 | 1.2 | 1.2 | 1.2 | 1.3 | 1.5 | 1.2 1.3 |
| C43 | Standard deviation | 0 | 0.5 | 0 | 0 | 0 | 0 | 0 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 | 1.2 | 0.9 1.0 |
| C44 | Standard deviation | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.9 | 0.7 0.8 |
| C45 | Standard deviation | 0 | 0.3 | 0 | 0 | 0 | 0 | 0 0 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|
| | | C1 | C3 | C8 | C11 | C12 | C16 | C17 |
| 122 | Gas cooler 4 coolant temperature, °F | 81 | 74 | 74 | 74 | 74 | 88 | 92 |
| 122 | Standard deviation | 7 | 1 | 1 | 1 | 6 | 2 | 2 |
| 123 | Gas cooler 3 coolant temperature, °F | 81 | 73 | 74 | 74 | 73 | 88 | 92 |
| 123 | Standard deviation | 6 | 1 | 1 | 1 | 6 | 2 | 2 |
| 124 | Gas cooler 2 coolant temperature, °F | 78 | 70 | 70 | 70 | 70 | 85 | 88 |
| 124 | Standard deviation | 6 | 1 | 1 | 1 | 6 | 2 | 2 |
| 125 | Gas cooler 1 coolant temperature, °F | 76 | 65 | 66 | 66 | 68 | 80 | 82 |
| 125 | Standard deviation | 9 | 0 | 1 | 1 | 6 | 2 | 1 |
| 126 | Gas cooler 4 gas temperature, °F | 589 | 731 | 719 | 733 | 635 | 772 | 845 |
| 126 | Standard deviation | 217 | 16 | 1 | 13 | 16 | 19 | 32 |
| 127 | Gas cooler 3 gas temperature, °F | 546 | 679 | 670 | 684 | 587 | 719 | 792 |
| 127 | Standard deviation | 201 | 16 | 1 | 13 | 19 | 18 | 31 |
| 128 | Gas cooler 2 gas temperature, °F | 524 | 641 | 631 | 643 | 547 | 680 | 748 |
| 128 | Standard deviation | 191 | 14 | 1 | 9 | 16 | 17 | 29 |
| 129 | Gas cooler 1 gas temperature, °F | 495 | 757 | 759 | 759 | 580 | 769 | 812 |
| 129 | Standard deviation | 198 | 36 | 8 | 17 | 49 | 47 | 78 |
| 130 | Gas cooler total coolant temperature, °F | 72 | 59 | 59 | 59 | 63 | 73 | 73 |
| 130 | Standard deviation | 8 | 1 | 1 | 1 | 7 | 1 | 0 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 541 | 636 | 619 | 654 | 521 | 662 | 681 |
| 132 | Standard deviation | 234 | 19 | 2 | 8 | 21 | 11 | 10 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 527 | 621 | 607 | 643 | 513 | 650 | 669 |
| 133 | Standard deviation | 228 | 19 | 2 | 8 | 21 | 11 | 10 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 523 | 612 | 598 | 636 | 506 | 641 | 652 |
| 134 | Standard deviation | 230 | 18 | 2 | 8 | 22 | 10 | 11 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 447 | 605 | 622 | 650 | 417 | 595 | 573 |
| 135 | Standard deviation | 215 | 51 | 13 | 26 | 69 | 90 | 149 |
| 142 | Gas coolant flow rate, gal/min | 14.0 | 12.7 | 12.4 | 13.0 | 13.4 | 14.6 | 13.9 |
| 142 | Standard deviation | 2.6 | 0.2 | 0.4 | 0.4 | 0.8 | 1.9 | 0.1 |
| 143 | Gas cooler coolant outlet temperature, °F | 79 | 70 | 71 | 71 | 71 | 85 | 88 |

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| gat/mim | | | | | | | | |
|---------|---|-------|-------|-------|-------|-------|-------|-------|
| 142 | Standard deviation | 2.6 | 0.2 | 0.4 | 0.4 | 0.8 | 1.9 | 0.1 |
| 143 | Gas cooler coolant outlet temperature, °F | 79 | 70 | 71 | 71 | 71 | 85 | 88 |
| 143 | Standard deviation | 7 | 1 | 0 | 1 | 6 | 2 | 1 |
| 144 | Exhaust gas temperature, °F | 336 | 332 | 336 | 321 | 241 | 350 | 391 |
| 144 | Standard deviation | 30 | 20 | 6 | 19 | 30 | 13 | 8 |
| 145 | Exhaust gas exit pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 168 | 78 | 74 | 95 | 72 | 86 | 91 |
| 076 | Standard deviation | 128 | 3 | 3 | 45 | 4 | 2 | 1 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 44007 | 58734 | 58442 | 55968 | 35613 | 58526 | 83690 |
| C29 | Standard deviation | 16016 | 6641 | 7986 | 7887 | 9975 | 5410 | 3174 |
| C37 | Exhaust gas flow rate, lb/hr | 588 | 586 | 584 | 597 | 350 | 588 | 688 |
| C37 | Standard deviation | 7 | 4 | 3 | 7 | 10 | 7 | 3 |
| C38 | Gas heat transfer, Btu/hr | 40033 | 39386 | 40071 | 39104 | 14756 | 39143 | 52622 |
| C38 | Standard deviation | 4226 | 2907 | 561 | 2254 | 3064 | 1994 | 1212 |
| C39 | Gas velocity at grid, ft/sec | 4.2 | 4.7 | 4.1 | 4.1 | 4.3 | 5.3 | 4.5 |
| C39 | Standard deviation | 0.5 | 0 | 0.1 | 0 | 0.1 | 0.3 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 4.1 | 4.7 | 4.1 | 4.1 | 4.4 | 5.4 | 4.6 |
| C40 | Standard deviation | 0 | 0 | 0 | 0 | 0.1 | 0.3 | 0.1 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 1.9 | 2.2 | 1.9 | 1.9 | 2.1 | 2.5 | 2.1 |
| C41 | Standard deviation | 0.3 | 0 | 0 | 0 | 0.1 | 0.2 | 0.1 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.5 | 1.7 | 1.4 | 1.5 | 1.6 | 2.0 | 1.6 |
| C42 | Standard deviation | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.2 | 1.3 | 1.2 | 1.2 | 1.3 | 1.6 | 1.3 |
| C43 | Standard deviation | 0.2 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 0.9 | (b) | (b) | (b) | (b) | (b) | (b) |
| C44 | Standard deviation | 0.1 | (b) | (b) | (b) | (b) | (b) | (b) |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.7 | 0.8 | 0.7 | 0.7 | 0.8 | 1.0 | 0.8 |
| C45 | Standard deviation | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|
| | | D6 | D7 | D2 | D1 | D10 | D3 | D4 |
| 122 | Gas cooler 4 coolant temperature, °F | 90 | 84 | (b) | 82 | 81 | 91 | 84 |
| 122 | Standard deviation | 1 | 3 | (b) | 2 | 4 | 3 | 2 |
| 123 | Gas cooler 3 coolant temperature, °F | 88 | 83 | 47 | 82 | 80 | 91 | 83 |
| 123 | Standard deviation | 1 | 3 | 16 | 2 | 4 | 3 | 3 |
| 124 | Gas cooler 2 coolant temperature, °F | 85 | 80 | (b) | 80 | 78 | 88 | 81 |
| 124 | Standard deviation | 1 | 3 | (b) | 2 | 3 | 3 | 2 |
| 125 | Gas cooler 1 coolant temperature, °F | 85 | 80 | (b) | 79 | 78 | 86 | 80 |
| 125 | Standard deviation | 1 | 3 | (b) | 2 | 3 | 3 | 2 |
| 126 | Gas cooler 4 gas temperature, °F | 684 | 706 | 329 | 651 | 609 | 761 | 743 |
| 126 | Standard deviation | 12 | 8 | 10 | 2 | 5 | 8 | 18 |
| 127 | Gas cooler 3 gas temperature, °F | 648 | 660 | 304 | 598 | 553 | 700 | 700 |
| 127 | Standard deviation | 10 | 6 | 7 | 3 | 6 | 10 | 8 |
| 128 | Gas cooler 2 gas temperature, °F | 616 | 618 | 583 | 562 | 516 | 666 | 663 |
| 128 | Standard deviation | 10 | 4 | 10 | 3 | 3 | 10 | 5 |
| 129 | Gas cooler 1 gas temperature, °F | 688 | 699 | 650 | 649 | 604 | 766 | 745 |
| 129 | Standard deviation | 5 | 7 | 57 | 4 | 4 | 6 | 20 |
| 130 | Gas cooler total coolant temperature, °F | 108 | 111 | 67 | 68 | 69 | 70 | 94 |
| 130 | Standard deviation | 9 | 4 | 3 | 1 | 5 | 1 | 18 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 545 | 543 | (b) | 530 | 453 | 619 | 600 |
| 132 | Standard deviation | 38 | 6 | (b) | 4 | 3 | 4 | 31 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 563 | 551 | 603 | 533 | 453 | 618 | 619 |
| 133 | Standard deviation | 37 | 5 | 67 | 5 | 6 | 5 | 17 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 561 | 549 | (b) | 534 | 454 | 625 | 618 |
| 134 | Standard deviation | 36 | 5 | (b) | 4 | 5 | 5 | 21 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 544 | 532 | 255 | 531 | 450 | 627 | 610 |
| 135 | Standard deviation | 41 | 7 | 41 | 2 | 5 | 5 | 27 |
| 142 | Gas coolant flow rate, gal/min | 13.0 | 14.3 | 15.1 | 15.0 | 14.6 | 13.9 | 15.8 |
| 142 | Standard deviation | 0.1 | 0.8 | 0.9 | 2.7 | 2.4 | 2.1 | 1.2 |
| 143 | Gas cooler coolant outlet temperature, °F | 86 | 81 | (b) | 80 | 79 | 88 | 81 |
| 143 | Standard deviation | 1 | 3 | (b) | 2 | 3 | 3 | 2 |

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| | | | | | | | | |
|-----|---|-------|-------|-----|-------|-------|-------|-------|
| 142 | Standard deviation | 0.1 | 0.8 | 0.9 | 2.7 | 2.4 | 2.1 | 1.2 |
| 143 | Gas cooler coolant outlet temperature, °F | 86 | 81 | (b) | 80 | 79 | 88 | 81 |
| 143 | Standard deviation | 1 | 3 | (b) | 2 | 3 | 3 | 2 |
| 144 | Exhaust gas temperature, °F | 300 | 278 | (b) | 305 | 249 | 366 | 326 |
| 144 | Standard deviation | 9 | 6 | (b) | 8 | 11 | 20 | 27 |
| 145 | Exhaust gas exit pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 105 | 85 | 114 | 88 | 78 | 83 | 121 |
| 076 | Standard deviation | 25 | 1 | 31 | 2 | 2 | 6 | 33 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 82282 | 90739 | (b) | 64269 | 35120 | 87620 | 69329 |
| C29 | Standard deviation | 6584 | 6553 | (b) | 4998 | 8957 | 10166 | 20384 |
| C37 | Exhaust gas flow rate, lb/hr | 598 | 607 | 587 | 595 | 452 | 619 | 587 |
| C37 | Standard deviation | 5 | 5 | 6 | 7 | 10 | 10 | 8 |
| C38 | Gas heat transfer, Btu/hr | 33387 | 31172 | (b) | 34226 | 20505 | 43910 | 34636 |
| C38 | Standard deviation | 1238 | 880 | (b) | 1324 | 1012 | 4474 | 3836 |
| C39 | Gas velocity at grid, ft/sec | 7.3 | 5.0 | 3.7 | 3.3 | 2.6 | 4.2 | 4.1 |
| C39 | Standard deviation | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 7.6 | 5.1 | 3.7 | 3.4 | 2.6 | 4.2 | 3.6 |
| C40 | Standard deviation | 0.1 | 0 | 0 | 0 | 0.1 | 0.1 | 0.3 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 3.5 | 2.4 | 1.7 | 1.6 | 1.2 | 1.9 | 1.8 |
| C41 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 2.8 | 1.9 | 1.4 | 1.3 | 1.0 | 1.5 | 1.4 |
| C42 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 2.3 | 1.5 | 1.1 | 1.0 | 0.8 | 1.3 | 1.2 |
| C43 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 |
| C44 | Gas velocity at 80-inch bed, ft/sec | (b) | (b) | 0.8 | 0.8 | 0.6 | 1.0 | 0.9 |
| C44 | Standard deviation | (b) | (b) | 0 | 0 | 0 | 0 | 0.1 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 1.4 | 0.9 | 0.6 | 0.6 | 0.5 | 0.7 | 0.7 |
| C45 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|
| | | TB1A | TB1B | TB1C | TB1D | TB1E | TB1F | TB1G | TB1H |
| 122 | Gas cooler 4 coolant temperature, °F | 84 | 84 | 86 | 80 | 77 | 78 | 87 | 89 |
| 122 | Standard deviation | 1 | 4 | 2 | 1 | 1 | 5 | 2 | 3 |
| 123 | Gas cooler 3 coolant temperature, °F | 82 | 83 | 85 | 79 | 77 | 78 | 87 | 89 |
| 123 | Standard deviation | 2 | 4 | 2 | 2 | 1 | 5 | 2 | 3 |
| 124 | Gas cooler 2 coolant temperature, °F | 81 | 81 | 83 | 76 | 74 | 75 | 83 | 87 |
| 124 | Standard deviation | 1 | 3 | 2 | 2 | 1 | 5 | 2 | 2 |
| 125 | Gas cooler 1 coolant temperature, °F | 81 | 79 | 82 | 73 | 70 | 73 | 81 | 86 |
| 125 | Standard deviation | 1 | 3 | 2 | 2 | 2 | 5 | 2 | 2 |
| 126 | Gas cooler 4 gas temperature, °F | 502 | 653 | 693 | 740 | 785 | 739 | 727 | 686 |
| 126 | Standard deviation | 298 | 198 | 90 | 46 | 24 | 160 | 7 | 214 |
| 127 | Gas cooler 3 gas temperature, °F | 460 | 597 | 629 | 690 | 705 | 669 | 678 | 638 |
| 127 | Standard deviation | 269 | 178 | 82 | 45 | 27 | 142 | 7 | 197 |
| 128 | Gas cooler 2 gas temperature, °F | 438 | 571 | 605 | 650 | 658 | 611 | 632 | 592 |
| 128 | Standard deviation | 253 | 170 | 78 | 40 | 24 | 129 | 7 | 181 |
| 129 | Gas cooler 1 gas temperature, °F | 473 | 624 | 653 | 712 | 690 | 687 | 701 | 660 |
| 129 | Standard deviation | 277 | 187 | 84 | 64 | 52 | 153 | 55 | 205 |
| 130 | Gas cooler total coolant temperature, °F | 79 | 75 | 74 | 64 | 190 | 188 | 97 | 81 |
| 130 | Standard deviation | 7 | 5 | 3 | 4 | 4 | 26 | 17 | 26 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 474 | 569 | 586 | 621 | 616 | 559 | 596 | 569 |
| 132 | Standard deviation | 283 | 169 | 75 | 28 | 26 | 120 | 15 | 178 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 458 | 548 | 567 | 614 | 610 | 551 | 604 | 578 |
| 133 | Standard deviation | 272 | 164 | 73 | 30 | 27 | 118 | 16 | 180 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 457 | 549 | 570 | 603 | 607 | 538 | 598 | 559 |
| 134 | Standard deviation | 271 | 165 | 74 | 27 | 28 | 115 | 15 | 174 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 443 | 546 | 563 | 586 | 477 | 487 | 560 | 546 |
| 135 | Standard deviation | 261 | 163 | 73 | 65 | 80 | 124 | 74 | 173 |
| 142 | Gas coolant flow rate, gal/min | 9.7 | 14.5 | 14.4 | 12.3 | 13.3 | 13.7 | 13.3 | 10.3 |
| 142 | Standard deviation | 5.0 | 0.8 | 0.8 | 0.9 | 0.6 | 1.3 | 1.4 | 2.8 |
| 143 | Gas cooler coolant outlet temperature, °F | 81 | 84 | 86 | 80 | 77 | 79 | 87 | 90 |
| 143 | Standard deviation | 5 | 4 | 2 | 1 | 1 | 5 | 2 | 5 |

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| | gal/min | | | | | | | | |
|-----|---|-------|-------|-------|-------|-------|-------|-------|-------|
| 142 | Standard deviation | 5.0 | 0.8 | 0.8 | 0.9 | 0.6 | 1.3 | 1.4 | 2.8 |
| 143 | Gas cooler coolant outlet temperature, °F | 81 | 84 | 86 | 80 | 77 | 79 | 87 | 90 |
| 143 | Standard deviation | 5 | 4 | 2 | 1 | 1 | 5 | 2 | 5 |
| 144 | Exhaust gas temperature, °F | 346 | 348 | 350 | 354 | 337 | 323 | 351 | 318 |
| 144 | Standard deviation | 33 | 28 | 25 | 35 | 13 | 10 | 9 | 42 |
| 145 | Exhaust gas exit pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 265 | 213 | 915 | 92 | 402 | 379 | 92 | 121 |
| 076 | Standard deviation | 170 | 154 | 2202 | 22 | 53 | 51 | 7 | 77 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 48876 | 68036 | 67651 | 90722 | 88122 | 88008 | 89121 | 79512 |
| C29 | Standard deviation | 2069 | 7590 | 10247 | 14923 | 8591 | 9297 | 8187 | 12371 |
| C37 | Exhaust gas flow rate, lb/hr | 571 | 584 | 572 | 635 | 655 | 643 | 625 | 629 |
| C37 | Standard deviation | 8 | 12 | 9 | 31 | 11 | 14 | 9 | 116 |
| C38 | Gas heat transfer, Btu/hr | 38595 | 39936 | 38821 | 45315 | 43694 | 39748 | 42016 | 35245 |
| C38 | Standard deviation | 4746 | 4214 | 4713 | 7642 | 2462 | 3112 | 2049 | 7722 |
| C39 | Gas velocity at grid, ft/sec | 4.0 | 4.1 | 4.0 | 4.0 | 5.8 | 6.3 | 4.0 | 4.2 |
| C39 | Standard deviation | 0.3 | 0.3 | 0.2 | 0.2 | 0.4 | 0.4 | 0.1 | 1.2 |
| C40 | Gas velocity at 26-inch bed, ft/sec | (b) | (b) | (b) | 4.0 | 5.8 | 6.4 | 3.9 | 4.0 |
| C40 | Standard deviation | (b) | (b) | (b) | 0.2 | 0.4 | 0.4 | 0.1 | 1.0 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 1.9 | 1.9 | 1.9 | 1.9 | 2.7 | 3.0 | 1.8 | 1.9 |
| C41 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0 | 0.5 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.5 | 1.5 | 1.5 | 1.5 | 2.1 | 2.4 | 1.4 | 1.5 |
| C42 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0 | 0.3 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.2 | 1.2 | 1.2 | 0.7 | 1.8 | 1.9 | 1.2 | 1.2 |
| C43 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0 | 0.3 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 0.9 | (b) | 0.9 | (b) | 1.4 | 1.5 | 0.9 | (b) |
| C44 | Standard deviation | 0.1 | (b) | 0 | (b) | 0.1 | 0.1 | 0 | (b) |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.7 | 0.7 | 0.7 | 0.7 | 1.1 | 1.2 | 0.7 | 0.7 |
| C45 | Standard deviation | 0.1 | 0.1 | 0 | 0.1 | 0.1 | 0.1 | 0 | 0.2 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|
| | | TB2A | TB2B | TB2C | TB2D | TB2E | TB2F | TB2G |
| 122 | Gas cooler 4 coolant temperature, °F | 90 | 99 | 99 | 89 | 93 | 88 | 90 |
| 122 | Standard deviation | 1 | 3 | 3 | 3 | 4 | 2 | 1 |
| 123 | Gas cooler 3 coolant temperature, °F | 89 | 100 | 100 | 90 | 94 | 89 | 92 |
| 123 | Standard deviation | 1 | 3 | 3 | 3 | 3 | 2 | 1 |
| 124 | Gas cooler 2 coolant temperature, °F | 87 | 98 | 98 | 92 | 98 | 89 | 92 |
| 124 | Standard deviation | 1 | 3 | 3 | 4 | 4 | 2 | 1 |
| 125 | Gas cooler 1 coolant temperature, °F | 87 | 98 | 96 | 90 | 94 | 88 | 91 |
| 125 | Standard deviation | 1 | 4 | 1 | 3 | 4 | 2 | 1 |
| 126 | Gas cooler 4 gas temperature, °F | 753 | 792 | 769 | 794 | 773 | 784 | 793 |
| 126 | Standard deviation | 7 | 7 | 12 | 11 | 17 | 18 | 10 |
| 127 | Gas cooler 3 gas temperature, °F | 711 | 723 | 699 | 723 | 704 | 717 | 724 |
| 127 | Standard deviation | 4 | 9 | 9 | 11 | 18 | 16 | 10 |
| 128 | Gas cooler 2 gas temperature, °F | 652 | 680 | 656 | 685 | 671 | 703 | 711 |
| 128 | Standard deviation | 5 | 7 | 10 | 11 | 17 | 15 | 8 |
| 129 | Gas cooler 1 gas temperature, °F | 724 | 757 | 738 | 786 | 765 | 794 | 804 |
| 129 | Standard deviation | 11 | 6 | 22 | 14 | 18 | 14 | 8 |
| 130 | Gas cooler total coolant temperature, °F | 115 | 127 | 132 | 100 | 126 | 113 | 119 |
| 130 | Standard deviation | 7 | 7 | 6 | 8 | 3 | 7 | 7 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 537 | 612 | 583 | 618 | 605 | 654 | 634 |
| 132 | Standard deviation | 13 | 9 | 20 | 11 | 15 | 15 | 10 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 568 | 614 | 585 | 613 | 600 | 647 | 628 |
| 133 | Standard deviation | 9 | 9 | 20 | 12 | 16 | 14 | 10 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 556 | 618 | 584 | 623 | 610 | 656 | 640 |
| 134 | Standard deviation | 12 | 10 | 20 | 11 | 16 | 13 | 9 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 537 | 609 | 576 | 630 | 616 | 671 | 650 |
| 135 | Standard deviation | 13 | 8 | 31 | 13 | 15 | 14 | 9 |
| 142 | Gas coolant flow rate, gal/min | 13.9 | 11.6 | 11.2 | 12.6 | 12.2 | 12.3 | 13.8 |
| 142 | Standard deviation | 0.1 | 0.9 | 0.4 | 0.3 | 0.5 | 0.2 | 0.2 |
| 143 | Gas cooler coolant outlet temperature, °F | 90 | 95 | 96 | 86 | 90 | 89 | 92 |

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| | gal/min | | | | | | | |
|-----|--|-------|--------|-------|-------|-------|-------|-------|
| 142 | Standard deviation | 0.1 | 0.9 | 0.4 | 0.3 | 0.5 | 0.2 | 0.2 |
| 143 | Gas cooler coolant outlet temperature, F | 90 | 95 | 96 | 86 | 90 | 89 | 92 |
| 143 | Standard deviation | 1 | 3 | 2 | 3 | 3 | 2 | 1 |
| 144 | Exhaust gas temperature, F | 299 | 341 | 317 | 322 | 322 | 359 | 346 |
| 144 | Standard deviation | 7 | 9 | 10 | 10 | 20 | 4 | 27 |
| 145 | Exhaust gas exit pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 97 | 97 | 101 | 94 | 107 | 108 | 135 |
| 076 | Standard deviation | 5 | 2 | 6 | 4 | 25 | 7 | 44 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 90105 | 100500 | 94863 | 71956 | 69918 | 81239 | 82314 |
| C29 | Standard deviation | 9159 | 5161 | 4221 | 19368 | 9199 | 8904 | 5518 |
| C37 | Exhaust gas flow rate, lb/hr | 575 | 592 | 590 | 610 | 575 | 599 | 591 |
| C37 | Standard deviation | 17 | 14 | 11 | 69 | 7 | 11 | 2 |
| C38 | Gas heat transfer, Btu/hr | 30367 | 37597 | 34022 | 36682 | 34267 | 38846 | 37368 |
| C38 | Standard deviation | 1687 | 1896 | 1155 | 4198 | 2702 | 1557 | 4556 |
| C39 | Gas velocity at grid, ft/sec | 3.9 | 3.9 | 3.8 | 4.1 | 3.8 | 4.0 | 4.0 |
| C39 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.4 | 0.1 | 0 | 0 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 3.9 | 4.1 | 4.1 | 4.2 | 4.1 | 4.1 | 4.1 |
| C40 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.4 | 0 | 0 | 0 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 1.8 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 |
| C41 | Standard deviation | 0.1 | 0 | 0 | 0.2 | 0 | 0 | 0 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.4 | 1.5 | 1.5 | 1.5 | 1.5 | 1.3 | 1.5 |
| C42 | Standard deviation | 0.1 | 0 | 0 | 0.1 | 0 | 0.4 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.2 | 1.3 | 1.3 | 1.3 | 1.2 | 1.2 | 1.2 |
| C43 | Standard deviation | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| C44 | Standard deviation | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| C45 | Standard deviation | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 |

^bData or results were not obtained.

FOLDOUT FRAME

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TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|-----|-----|-----|-----|-----|-----|-----|
| | | E1 | E2 | E3 | E4 | E5 | E6 | E9 | E8 |
| 122 | Gas cooler 4 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 122 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 123 | Gas cooler 3 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 123 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 124 | Gas cooler 2 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 124 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 125 | Gas cooler 1 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 125 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 126 | Gas cooler 4 gas temperature, °F | 480 | 473 | 426 | 419 | 338 | 274 | 289 | 525 |
| 126 | Standard deviation | 16 | 5 | 47 | 38 | 113 | 114 | 169 | 17 |
| 127 | Gas cooler 3 gas temperature, °F | 464 | 475 | 410 | 422 | 407 | 349 | 477 | 510 |
| 127 | Standard deviation | 15 | 5 | 39 | 37 | 6 | 9 | 13 | 16 |
| 128 | Gas cooler 2 gas temperature, °F | 484 | 487 | 434 | 435 | 423 | 371 | 511 | 540 |
| 128 | Standard deviation | 17 | 5 | 48 | 40 | 7 | 9 | 14 | 18 |
| 129 | Gas cooler 1 gas temperature, °F | 384 | 485 | 430 | 423 | 421 | 375 | 480 | 293 |
| 129 | Standard deviation | 55 | 4 | 48 | 45 | 6 | 7 | 17 | 98 |
| 130 | Gas cooler total coolant temperature, °F | 67 | 76 | 75 | 74 | 67 | 65 | 63 | 73 |
| 130 | Standard deviation | 1 | 2 | 1 | 2 | 2 | 3 | 1 | 3 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 405 | 405 | 348 | 340 | 265 | 206 | 186 | 445 |
| 132 | Standard deviation | 25 | 7 | 35 | 35 | 96 | 93 | 118 | 14 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 402 | 406 | 349 | 342 | 328 | 286 | 351 | 437 |
| 133 | Standard deviation | 24 | 6 | 36 | 35 | 9 | 10 | 20 | 13 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 418 | 421 | 364 | 357 | 345 | 300 | 369 | 465 |
| 134 | Standard deviation | 23 | 6 | 39 | 37 | 10 | 12 | 22 | 14 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 217 | 399 | 328 | 309 | 322 | 278 | 278 | 154 |
| 135 | Standard deviation | 77 | 4 | 31 | 51 | 9 | 7 | 43 | 58 |
| 142 | Gas coolant flow rate, gal/min | 4.6 | 4.3 | 4.5 | 4.7 | 4.7 | 4.7 | 4.3 | 3.5 |
| 142 | Standard deviation | 0.1 | 0.4 | 0 | 0.1 | 0 | 0 | 0.5 | 0 |
| 143 | Gas cooler coolant outlet temperature, °F | 68 | 70 | 70 | 71 | 71 | 70 | 71 | 69 |
| 143 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

FOLDOUT FRAME

| | | | | | | | | | |
|-----|---|------|-------|-------|-------|------|------|------|-------|
| 142 | Standard deviation | 0.1 | 0.4 | 0 | 0.1 | 0 | 0 | 0.5 | 0 |
| 143 | Gas cooler coolant outlet temperature, °F | 68 | 70 | 70 | 71 | 71 | 70 | 71 | 69 |
| 143 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 144 | Exhaust gas temperature, °F | 174 | 260 | 172 | 188 | 187 | 152 | 178 | 186 |
| 144 | Standard deviation | 9 | 13 | 8 | 9 | 14 | 5 | 11 | 25 |
| 145 | Exhaust gas exit pressure, psid | 79.3 | 76.5 | 80.5 | 37.7 | 57.3 | 79.6 | 78.3 | 71.6 |
| 145 | Standard deviation | 1.0 | 0.2 | 0.2 | 5.5 | 0.3 | 0.3 | 0.4 | 1.2 |
| 146 | Exhaust gas flow rate, pph | 4.7 | 4.4 | 4.7 | 1.0 | 9.1 | 4.6 | 4.4 | 10.3 |
| 146 | Standard deviation | 0.3 | 0.1 | 0.6 | 0.5 | 24.2 | 0.2 | 0.2 | 24.0 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 75 | 87 | 86 | 81 | 75 | 73 | 69 | 81 |
| 076 | Standard deviation | 2 | 2 | 2 | 2 | 1 | 2 | 0 | 5 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 7988 | 11003 | 9736 | 10292 | 9407 | 7646 | 8029 | 8294 |
| C29 | Standard deviation | 154 | 465 | 175 | 326 | 275 | 538 | 303 | 337 |
| C37 | Exhaust gas flow rate, lb/hr | 1011 | 835 | 1026 | 241 | 555 | 1040 | 958 | 832 |
| C37 | Standard deviation | 33 | 21 | 59 | 94 | 32 | 19 | 26 | 48 |
| C38 | Gas heat transfer, Btu/hr | 9988 | 31203 | 11365 | 6576 | 8084 | 8300 | (b) | 10186 |
| C38 | Standard deviation | 2294 | 3432 | 2043 | 1465 | 1531 | 3252 | (b) | 5177 |
| C39 | Gas velocity at grid, ft/sec | 3.8 | 5.6 | 2.8 | 6.6 | 4.5 | 2.5 | 3.1 | 3.8 |
| C39 | Standard deviation | 0.5 | 0.1 | 0.1 | 0.5 | 0.1 | 0 | 0 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 6.9 | 5.6 | 6.9 | 6.6 | 4.9 | 6.3 | 6.3 | 5.3 |
| C40 | Standard deviation | 0.2 | 0 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 | 0.5 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 3.1 | 2.6 | 3.1 | 3.1 | 2.3 | 2.9 | 2.9 | 2.4 |
| C41 | Standard deviation | 0.1 | 0 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 2.5 | 2.1 | 2.5 | 2.4 | 1.8 | 2.3 | 2.3 | 1.9 |
| C42 | Standard deviation | 0.1 | 0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 2.1 | 1.7 | 2.0 | 2.0 | 1.5 | 1.9 | 1.9 | 1.6 |
| C43 | Standard deviation | 0.1 | 0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.6 | 1.3 | 1.6 | 1.6 | 1.1 | 1.4 | 1.4 | 1.2 |
| C44 | Standard deviation | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0.1 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 1.2 | 1.1 | 1.3 | 1.3 | 0.9 | 1.1 | 1.1 | 1.0 |
| C45 | Standard deviation | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0.1 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|------|------|------|-----|-----|-----|-----|
| | | E19 | E13A | E13B | E14 | E11 | E12 | E15 |
| 122 | Gas cooler 4 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 122 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 123 | Gas cooler 3 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 123 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 124 | Gas cooler 2 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 124 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 125 | Gas cooler 1 coolant temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 125 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 126 | Gas cooler 4 gas temperature, °F | 320 | 386 | 207 | 343 | 425 | 215 | 398 |
| 126 | Standard deviation | 150 | 96 | 125 | 121 | 8 | 110 | 7 |
| 127 | Gas cooler 3 gas temperature, °F | 489 | 441 | 458 | 446 | 435 | 233 | 405 |
| 127 | Standard deviation | 37 | 12 | 4 | 4 | 8 | 106 | 7 |
| 128 | Gas cooler 2 gas temperature, °F | 524 | 461 | 477 | 461 | 448 | 406 | 419 |
| 128 | Standard deviation | 37 | 7 | 2 | 6 | 8 | 17 | 6 |
| 129 | Gas cooler 1 gas temperature, °F | 498 | 458 | 474 | 459 | 449 | 404 | 418 |
| 129 | Standard deviation | 38 | 7 | 2 | 9 | 7 | 15 | 6 |
| 130 | Gas cooler total coolant temperature, °F | 71 | 70 | 78 | 80 | 72 | 70 | 71 |
| 130 | Standard deviation | 3 | 3 | 1 | 2 | 1 | 1 | 1 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 230 | 307 | 149 | 257 | 310 | 145 | 292 |
| 132 | Standard deviation | 121 | 81 | 106 | 100 | 8 | 78 | 7 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 390 | 362 | 377 | 356 | 341 | 156 | 319 |
| 133 | Standard deviation | 47 | 12 | 5 | 2 | 8 | 90 | 7 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 450 | 391 | 402 | 378 | 363 | 319 | 341 |
| 134 | Standard deviation | 50 | 6 | 3 | 3 | 9 | 17 | 8 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 293 | 313 | 313 | 303 | 296 | 260 | 277 |
| 135 | Standard deviation | 50 | 9 | 7 | 5 | 5 | 12 | 5 |
| 142 | Gas coolant flow rate, gal/min | 4.1 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| 142 | Standard deviation | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 143 | Gas cooler coolant outlet temperature, °F | 74 | 78 | 78 | 78 | 77 | 77 | 76 |
| 143 | Standard deviation | 4 | 1 | 1 | 1 | 0 | 1 | 1 |

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| | | | | | | | |
|-----|---|-------|-------|-------|-------|-------|-------|
| 142 | Standard deviation | 0.4 | 0 | 0 | 0 | 0 | 0 |
| 143 | Gas cooler coolant outlet temperature, °F | 74 | 78 | 78 | 78 | 77 | 76 |
| 143 | Standard deviation | 4 | 1 | 1 | 1 | 0 | 1 |
| 144 | Exhaust gas temperature, °F | 176 | 225 | 221 | 206 | 214 | 168 |
| 144 | Standard deviation | 22 | 2 | 9 | 2 | 8 | 10 |
| 145 | Exhaust gas exit pressure, psid | 79.1 | 77.7 | 75.5 | 74.8 | 72.3 | 62.7 |
| 145 | Standard deviation | 1.0 | 0.6 | 2.2 | 1.6 | 3.5 | 4.7 |
| 146 | Exhaust gas flow rate, pph | 0.7 | 1.0 | 1.0 | 1.0 | 0.9 | 1.0 |
| 146 | Standard deviation | 0.4 | 0 | 0 | 0.1 | 0 | 0 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 120 | 80 | 83 | 84 | 78 | 75 |
| 076 | Standard deviation | 55 | 1 | 1 | 1 | 1 | 0 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 19169 | 29603 | 29578 | 27163 | 27072 | 25074 |
| C29 | Standard deviation | 8411 | 1299 | 2001 | 2164 | 820 | 2246 |
| C37 | Exhaust gas flow rate, lb/hr | 432 | 455 | 440 | 450 | 419 | 394 |
| C37 | Standard deviation | 86 | 7 | 20 | 27 | 19 | 30 |
| C38 | Gas heat transfer, Btu/hr | 5183 | 12121 | 13027 | 7197 | 10509 | 2408 |
| C38 | Standard deviation | 2258 | 592 | 1237 | 903 | 971 | 2077 |
| C39 | Gas velocity at grid, ft/sec | 3.7 | 4.7 | 4.8 | 3.5 | 3.7 | 3.0 |
| C39 | Standard deviation | 0 | 0.1 | 0 | 0 | 0.3 | 0.2 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 3.7 | 4.7 | 4.8 | 3.5 | 3.7 | 3.1 |
| C40 | Standard deviation | 0 | 0.1 | 0 | 0.2 | 0.3 | 0.2 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 1.7 | 2.2 | 2.2 | 1.6 | 1.7 | 1.4 |
| C41 | Standard deviation | 0 | 0.1 | 0 | 0 | 0.1 | 0.1 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.3 | 1.7 | 1.8 | 1.2 | 1.3 | 1.1 |
| C42 | Standard deviation | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.1 | 1.4 | 1.5 | 1.0 | 1.1 | 1.0 |
| C43 | Standard deviation | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 0.8 | 1.1 | 1.1 | 1.0 | 0.9 | 0.7 |
| C44 | Standard deviation | 0 | 0 | 0 | 0 | 0.1 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.6 | 0.9 | 0.9 | 0.6 | 0.7 | 0.5 |
| C45 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0.1 |

FOLDOUT FRAME 2

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|------|
| | | F1 | F2 | F3 | F4 | F6 | F5 | F7 | F8 | F9 |
| 122 | Gas cooler 4 coolant temperature, °F | 88 | 93 | 77 | 79 | 97 | 123 | 79 | 83 | 84 |
| 122 | Standard deviation | 1 | 1 | 5 | 18 | 11 | 2 | 0 | 0 | 1 |
| 123 | Gas cooler 3 coolant temperature, °F | 94 | 101 | 95 | 88 | 105 | 128 | 90 | 89 | 89 |
| 123 | Standard deviation | 1 | 2 | 6 | 17 | 11 | 2 | 1 | 1 | 1 |
| 124 | Gas cooler 2 coolant temperature, °F | 92 | 102 | 92 | 88 | 106 | 127 | 89 | 87 | 88 |
| 124 | Standard deviation | 1 | 2 | 6 | 17 | 12 | 2 | 1 | 1 | 1 |
| 125 | Gas cooler 1 coolant temperature, °F | 84 | 92 | 84 | 78 | 98 | 124 | 86 | 82 | 82 |
| 125 | Standard deviation | 3 | 5 | 2 | 20 | 8 | 2 | 1 | 2 | 3 |
| 126 | Gas cooler 4 gas temperature, °F | 694 | 750 | 306 | 747 | 763 | 678 | 671 | 653 | 671 |
| 126 | Standard deviation | 9 | 10 | 235 | 17 | 14 | 7 | 5 | 8 | 7 |
| 127 | Gas cooler 3 gas temperature, °F | 632 | 692 | 603 | 688 | 707 | 621 | 582 | 621 | 629 |
| 127 | Standard deviation | 7 | 16 | 18 | 17 | 17 | 6 | 7 | 7 | 9 |
| 128 | Gas cooler 2 gas temperature, °F | 594 | 654 | 557 | 646 | 663 | 572 | 553 | 587 | 579 |
| 128 | Standard deviation | 7 | 14 | 24 | 20 | 18 | 8 | 6 | 9 | 8 |
| 129 | Gas cooler 1 gas temperature, °F | 647 | 705 | 577 | 690 | 715 | 681 | 626 | 638 | 628 |
| 129 | Standard deviation | 28 | 35 | 36 | 54 | 53 | 6 | 4 | 24 | 27 |
| 130 | Gas cooler total coolant temperature, °F | 72 | 78 | 84 | 71 | 89 | 114 | 89 | 75 | 75 |
| 130 | Standard deviation | 1 | 2 | 4 | 18 | 8 | 3 | 1 | 1 | 1 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 643 | 673 | 296 | 670 | 633 | 619 | 465 | 482 | 616 |
| 132 | Standard deviation | 11 | 21 | 202 | 19 | 34 | 6 | 1 | 12 | 12 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 623 | 655 | 599 | 654 | 622 | 600 | 501 | 473 | 611 |
| 133 | Standard deviation | 11 | 21 | 27 | 19 | 33 | 5 | 1 | 10 | 11 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 640 | 669 | 608 | 662 | 629 | 609 | 525 | 501 | 628 |
| 134 | Standard deviation | 11 | 23 | 30 | 18 | 35 | 7 | 2 | 12 | 11 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 476 | 502 | 350 | 481 | 452 | 518 | 388 | 362 | 467 |
| 135 | Standard deviation | 17 | 39 | 90 | 81 | 53 | 12 | 4 | 34 | 31 |
| 142 | Gas coolant flow rate, gal/min | 15.4 | 15.3 | 15.1 | 15.2 | 15.2 | 15.8 | 15.3 | 15.5 | 15.7 |
| 142 | Standard deviation | 0 | 0 | 0.5 | 0.3 | 0 | 1.4 | 0 | 0 | 0 |
| 143 | Gas cooler coolant outlet temperature, °F | 84 | 89 | 84 | 76 | 94 | 121 | 81 | 81 | 82 |
| 143 | Standard deviation | 0 | 0 | 2 | 18 | 10 | 21 | 0 | 0 | 0 |

FOLDOUT FRAME /

| | | | | | | | | | | |
|-----|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 142 | Standard deviation | 0 | 0 | 0.5 | 0.3 | 0 | 1.4 | 0 | 0 | 0 |
| 143 | Gas cooler coolant outlet temperature, F | 84 | 89 | 84 | 76 | 94 | 121 | 81 | 81 | 82 |
| 143 | Standard deviation | 0 | 0 | 2 | 18 | 10 | 21 | 0 | 0 | 0 |
| 144 | Exhaust gas temperature, F | 284 | 367 | 221 | 342 | 321 | 286 | 257 | 228 | 270 |
| 144 | Standard deviation | 17 | 9 | 9 | 17 | 7 | 5 | 4 | 17 | 4 |
| 145 | Exhaust gas exit pressure, psid | 72.3 | 78.4 | 72.1 | 80.0 | 79.8 | 76.2 | 79.7 | 59.5 | 39.1 |
| 145 | Standard deviation | 1.0 | 0.2 | 6.5 | 0.6 | 0.2 | 2.1 | 0.1 | 0.2 | 0.1 |
| 146 | Exhaust gas flow rate, pph | 1.6 | 2.8 | 1.6 | 1.7 | 1.8 | 1.8 | (b) | (b) | (b) |
| 146 | Standard deviation | 0.2 | 0.4 | 0 | 0.1 | 0 | 0 | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, F | 75 | 88 | 89 | 89 | 88 | 83 | 95 | 80 | 78 |
| 076 | Standard deviation | 2 | 3 | 1 | 1 | 1 | 1 | 4 | 3 | 1 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 133440 | 166690 | 117710 | 161950 | 208800 | 423860 | 116460 | 110470 | 108380 |
| C29 | Standard deviation | 3404 | 1522 | 13948 | 66495 | 77035 | 46320 | 1840 | 1499 | 462 |
| C37 | Exhaust gas flow rate, lb/hr | 478 | 605 | 518 | 511 | 531 | 528 | 242 | 188 | 117 |
| C37 | Standard deviation | 26 | 33 | 40 | 15 | 4 | 13 | 2 | 4 | 1 |
| C38 | Gas heat transfer, Btu/hr | 26162 | 54306 | 15529 | 42545 | 35080 | 25101 | 25345 | 16125 | 19939 |
| C38 | Standard deviation | 2413 | 2120 | 2115 | 3170 | 1032 | 1464 | 481 | 1895 | 579 |
| C39 | Gas velocity at grid, ft/sec | 4.4 | 5.5 | 3.0 | 4.8 | 4.4 | 3.5 | 3.4 | 4.0 | 6.2 |
| C39 | Standard deviation | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 4.3 | 5.4 | 3.9 | 4.8 | 4.5 | 3.9 | 3.6 | 4.3 | 6.3 |
| C40 | Standard deviation | 0.1 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0.1 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 2.0 | 2.5 | 1.7 | 2.2 | 2.1 | 1.8 | 1.7 | 2.0 | 3.0 |
| C41 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.6 | 2.0 | 1.4 | 1.8 | 1.7 | 1.4 | 1.3 | 1.6 | 2.4 |
| C42 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.3 | 1.6 | 1.1 | 1.5 | 1.4 | 1.2 | 1.1 | 1.3 | 2.0 |
| C43 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.0 | 1.3 | 0.9 | 1.2 | 1.1 | 0.9 | 0.9 | 1.0 | 1.6 |
| C44 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.8 | 1.0 | 0.7 | 0.9 | 0.9 | 0.7 | 0.6 | 0.8 | 1.2 |
| C45 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|
| | | F19 | F16 | F27 | G2 | G3 | G6 | G1 | G5 |
| 122 | Gas cooler 4 coolant temperature, °F | 90 | 91 | 91 | 78 | 81 | 79 | 74 | 84 |
| 122 | Standard deviation | 1 | 3 | 2 | 2 | 0 | 3 | 0 | 1 |
| 123 | Gas cooler 3 coolant temperature, °F | 97 | 100 | 101 | 81 | 85 | 82 | 75 | 88 |
| 123 | Standard deviation | 1 | 4 | 3 | 2 | 0 | 3 | 0 | 2 |
| 124 | Gas cooler 2 coolant temperature, °F | 99 | 103 | 104 | 81 | 87 | 84 | 76 | 90 |
| 124 | Standard deviation | 2 | 6 | 3 | 3 | 0 | 3 | 0 | 2 |
| 125 | Gas cooler 1 coolant temperature, °F | 90 | 91 | 92 | 77 | 82 | 81 | 75 | 86 |
| 125 | Standard deviation | 3 | 2 | 5 | 1 | 0 | 3 | 1 | 2 |
| 126 | Gas cooler 4 gas temperature, °F | 755 | 777 | 803 | 438 | 535 | 502 | 348 | 587 |
| 126 | Standard deviation | 15 | 18 | 9 | 32 | 5 | 8 | 8 | 18 |
| 127 | Gas cooler 3 gas temperature, °F | 712 | 734 | 756 | 427 | 511 | 486 | 355 | 607 |
| 127 | Standard deviation | 16 | 20 | 11 | 24 | 10 | 10 | 7 | 10 |
| 128 | Gas cooler 2 gas temperature, °F | 671 | 690 | 708 | 458 | 529 | 497 | 356 | 633 |
| 128 | Standard deviation | 18 | 20 | 11 | 25 | 5 | 9 | 7 | 10 |
| 129 | Gas cooler 1 gas temperature, °F | 717 | 726 | 735 | 511 | 635 | 587 | 405 | 643 |
| 129 | Standard deviation | 26 | 32 | 39 | 52 | 10 | 7 | 19 | 29 |
| 130 | Gas cooler total coolant temperature, °F | 79 | 81 | 82 | 80 | 79 | 74 | 70 | 73 |
| 130 | Standard deviation | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 2 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 651 | 658 | 685 | 447 | 491 | 442 | 289 | 558 |
| 132 | Standard deviation | 22 | 24 | 17 | 35 | 5 | 8 | 5 | 25 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 649 | 653 | 679 | 455 | 493 | 448 | 314 | 596 |
| 133 | Standard deviation | 21 | 23 | 16 | 28 | 7 | 9 | 6 | 16 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 668 | 672 | 700 | 528 | 557 | 507 | 364 | 672 |
| 134 | Standard deviation | 22 | 23 | 16 | 30 | 4 | 8 | 6 | 18 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 501 | 488 | 499 | 429 | 481 | 431 | 304 | 520 |
| 135 | Standard deviation | 42 | 43 | 49 | 37 | 13 | 6 | 20 | 31 |
| 142 | Gas coolant flow rate, gal/min | 15.6 | 14.4 | 13.1 | 14.0 | 14.7 | 12.5 | 14.6 | 14.0 |
| 142 | Standard deviation | 0 | 1.4 | 1.0 | 1.4 | 0 | 3.2 | 0.3 | 1.1 |
| 143 | Gas cooler coolant outlet temperature, °F | 87 | 88 | 88 | 84 | 89 | 88 | 77 | 93 |
| 143 | Standard deviation | 0 | 2 | 1 | 2 | 0 | 4 | 0 | 2 |

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| | gal/min | | | | | | | | |
|-----|--|--------|--------|--------|--------|--------|--------|-------|--------|
| 142 | Standard deviation | 0 | 1.4 | 1.0 | 1.4 | 0 | 3.2 | 0.3 | 1.1 |
| 143 | Gas cooler coolant outlet temperature, F | 87 | 88 | 88 | 84 | 89 | 88 | 77 | 93 |
| 143 | Standard deviation | 0 | 2 | 1 | 2 | 0 | 4 | 0 | 2 |
| 144 | Exhaust gas temperature, F | 357 | 356 | 360 | 232 | 293 | 238 | 158 | 350 |
| 144 | Standard deviation | 15 | 6 | 10 | 32 | 18 | 18 | 14 | 11 |
| 145 | Exhaust gas exit pressure, psid | 79.7 | 79.7 | 58.8 | 72.6 | 75.0 | 76.6 | 78.6 | 75.1 |
| 145 | Standard deviation | 0.2 | 0.2 | 0.3 | 13.3 | 0.3 | 0.3 | 0.3 | 0.4 |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, F | 80 | 82 | 83 | 124 | 89 | 83 | 96 | 88 |
| 076 | Standard deviation | 1 | 0 | 0 | 45 | 0 | 1 | 20 | 4 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 150420 | 148840 | 149870 | 129150 | 163790 | 135950 | 80115 | 176440 |
| C29 | Standard deviation | 1234 | 1475 | 2478 | 7008 | 2035 | 17495 | 1745 | 3918 |
| C37 | Exhaust gas flow rate, lb/hr | 212 | 212 | 156 | 230 | 218 | 240 | 278 | 202 |
| C37 | Standard deviation | 3 | 1 | 1 | 45 | 5 | 6 | 7 | 3 |
| C38 | Gas heat transfer, Btu/hr | 43660 | 43185 | 40806 | 23590 | 38580 | 19453 | 4102 | 54366 |
| C38 | Standard deviation | 2316 | 1384 | 1471 | 4607 | 3678 | 3140 | 1534 | 2651 |
| C39 | Gas velocity at grid, ft/sec | 4.7 | 4.7 | 5.8 | 4.2 | 5.0 | 4.0 | 2.8 | 5.9 |
| C39 | Standard deviation | 0.1 | 0.1 | 0.1 | 1.2 | 0.1 | 0.1 | 0 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 4.8 | 4.7 | 6.1 | 4.4 | 5.2 | 4.1 | 2.9 | 6.2 |
| C40 | Standard deviation | 0.1 | 0.1 | 0.5 | 1.1 | 0.1 | 0.1 | 0 | 0.1 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 2.2 | 2.2 | 2.9 | 2.0 | 2.4 | 1.9 | 1.3 | 2.9 |
| C41 | Standard deviation | 0 | 0 | 0 | 0.5 | 0 | 0 | 0 | 0 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.8 | 1.8 | 2.3 | 1.6 | 1.9 | 1.5 | 1.0 | 2.3 |
| C42 | Standard deviation | 0 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.5 | 1.5 | 1.9 | 1.3 | 1.6 | 1.2 | 0.8 | 1.2 |
| C43 | Standard deviation | 0 | 0 | 0 | 0.3 | 0 | 0 | 0 | 0.1 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.2 | 1.2 | 1.5 | 1.0 | 1.2 | 0.9 | 0.6 | 1.4 |
| C44 | Standard deviation | 0 | 0 | 0 | 0.3 | 0 | 0 | 0 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.9 | 0.9 | 1.2 | 0.8 | 1.0 | 0.7 | 0.5 | 1.1 |
| C45 | Standard deviation | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 |

^bData or results were not obtained.

FOLDOUT FRAME

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TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|------|
| | | G10 | G9 | G13 | G12 | G15A | G15B | G14 | G11 | G7 |
| 122 | Gas cooler 4 coolant temperature, °F | 82 | 78 | 76 | 78 | 76 | 77 | 75 | 81 | 74 |
| 122 | Standard deviation | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 123 | Gas cooler 3 coolant temperature, °F | 86 | 80 | 79 | 79 | 78 | 79 | 76 | 84 | 75 |
| 123 | Standard deviation | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 124 | Gas cooler 2 coolant temperature, °F | 88 | 80 | 78 | 80 | 78 | 78 | 76 | 84 | 75 |
| 124 | Standard deviation | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 125 | Gas cooler 1 coolant temperature, °F | 83 | 77 | 74 | 76 | 75 | 76 | 75 | 80 | 73 |
| 125 | Standard deviation | 3 | 1 | 0 | 0 | 2 | 0 | 0 | 2 | 1 |
| 126 | Gas cooler 4 gas temperature, °F | 581 | 473 | 462 | 460 | 464 | 424 | 312 | 567 | 326 |
| 126 | Standard deviation | 4 | 21 | 10 | 10 | 43 | 7 | 6 | 15 | 12 |
| 127 | Gas cooler 3 gas temperature, °F | 581 | 462 | 450 | 436 | 459 | 430 | 318 | 570 | 331 |
| 127 | Standard deviation | 9 | 25 | 11 | 7 | 37 | 8 | 5 | 14 | 9 |
| 128 | Gas cooler 2 gas temperature, °F | 601 | 477 | 481 | 479 | 492 | 463 | 348 | 616 | 351 |
| 128 | Standard deviation | 8 | 13 | 8 | 11 | 27 | 7 | 6 | 16 | 7 |
| 129 | Gas cooler 1 gas temperature, °F | 623 | 504 | 555 | 498 | 412 | 426 | 322 | 523 | 328 |
| 129 | Standard deviation | 28 | 32 | 11 | 24 | 131 | 5 | 13 | 40 | 35 |
| 130 | Gas cooler total coolant temperature, °F | 83 | 89 | 74 | 68 | 73 | 77 | 75 | 76 | 82 |
| 130 | Standard deviation | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 566 | 436 | 423 | 424 | 475 | 458 | 331 | 603 | 337 |
| 132 | Standard deviation | 12 | 15 | 6 | 11 | 26 | 9 | 6 | 19 | 6 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 590 | 448 | 429 | 428 | 484 | 467 | 342 | 616 | 350 |
| 133 | Standard deviation | 11 | 15 | 9 | 10 | 28 | 10 | 7 | 17 | 10 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 661 | 514 | 506 | 498 | 527 | 504 | 371 | 653 | 381 |
| 134 | Standard deviation | 7 | 9 | 8 | 10 | 25 | 10 | 7 | 17 | 5 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 524 | 408 | 439 | 383 | 405 | 428 | 323 | 500 | 325 |
| 135 | Standard deviation | 30 | 30 | 7 | 19 | 82 | 6 | 16 | 58 | 25 |
| 142 | Gas coolant flow rate, gal/min | 13.8 | 14.7 | 14.6 | 14.7 | 13.9 | 14.8 | 14.7 | 14.0 | 14.7 |
| 142 | Standard deviation | 1.6 | 0.1 | 0.3 | 0 | 1.3 | 0 | 0 | 0.6 | 0 |
| 143 | Gas cooler coolant outlet temperature, °F | 90 | 83 | 80 | 82 | 81 | 81 | 78 | 88 | 77 |
| 143 | Standard deviation | 3 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |

FOLDOUT FRAME

| | gal/min | | | | | | | | | |
|-----|--|--------|--------|--------|--------|--------|-------|-------|--------|-------|
| 142 | Standard deviation | 1.6 | 0.1 | 0.3 | 0 | 1.3 | 0 | 0 | 0.6 | 0 |
| 143 | Gas cooler coolant outlet temperature, F | 90 | 83 | 80 | 82 | 81 | 81 | 78 | 88 | 77 |
| 143 | Standard deviation | 3 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| 144 | Exhaust gas temperature, F | 354 | 254 | 259 | 236 | 259 | 254 | 176 | 372 | 182 |
| 144 | Standard deviation | 11 | 11 | 17 | 4 | 20 | 16 | 11 | 7 | 8 |
| 145 | Exhaust gas exit pressure, psid | 75.5 | 78.3 | 77.8 | 77.8 | 77.9 | 77.7 | 78.8 | 74.4 | 79.0 |
| 145 | Standard deviation | 0.4 | 0.2 | 0.2 | 0.3 | 0.4 | 0.3 | 0.2 | 0.5 | 0.2 |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | 2.64 | 2.05 | 0.48 | 3.96 | 1.34 |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | 0.86 | 0.78 | 0.17 | 0.06 | 0.26 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, F | 100 | 101 | 91 | 81 | 87 | 114 | 79 | 85 | 86 |
| 076 | Standard deviation | 2 | 1 | 1 | 0 | 1 | 22 | 1 | 3 | 1 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 165060 | 112770 | 106720 | 108730 | 102300 | 98475 | 69651 | 151150 | 74111 |
| C29 | Standard deviation | 3385 | 4181 | 2317 | 2552 | 4880 | 2719 | 1463 | 6160 | 1721 |
| C37 | Exhaust gas flow rate, lb/hr | 203 | 239 | 237 | 244 | 666 | 593 | 383 | 669 | 559 |
| C37 | Standard deviation | 3 | 3 | 6 | 1 | 91 | 90 | 34 | 8 | 46 |
| C38 | Gas heat transfer, Btu/hr | 54129 | 21344 | 25235 | 18469 | 26009 | 22875 | 6132 | 59026 | 10064 |
| C38 | Standard deviation | 2359 | 1443 | 2966 | 631 | 5631 | 5286 | 1465 | 2233 | 1481 |
| C39 | Gas velocity at grid, ft/sec | 5.6 | 3.7 | 3.9 | 3.8 | 3.9 | 3.7 | 2.6 | 5.8 | 2.6 |
| C39 | Standard deviation | 0.1 | 0.1 | 0.1 | 0 | 0.1 | 0.1 | 0 | 0.1 | 0 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 5.9 | 3.9 | 4.0 | 3.9 | 4.6 | 4.2 | 2.7 | 6.0 | 3.6 |
| C40 | Standard deviation | 0.1 | 0.1 | 0.1 | 0 | 0.6 | 0.5 | 0 | 0.1 | 0.3 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 2.7 | 1.8 | 1.9 | 1.8 | 2.1 | 1.9 | 1.2 | 2.8 | 1.6 |
| C41 | Standard deviation | 0 | 0 | 0 | 0 | 0.2 | 0.2 | 0 | 0 | 0.1 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 2.2 | 1.4 | 1.5 | 1.4 | 1.7 | 1.5 | 1.0 | 2.2 | 1.3 |
| C42 | Standard deviation | 0 | 0 | 0 | 0 | 0.2 | 0.2 | 0 | 0 | 0.1 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.8 | 1.1 | 1.2 | 0.8 | 1.4 | 1.3 | 0.8 | 1.8 | 1.1 |
| C43 | Standard deviation | 0 | 0 | 0 | 0.3 | 0.2 | 0.2 | 0 | 0 | 0.1 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.4 | 0.9 | 0.9 | 0.9 | 1.0 | 0.9 | 0.6 | 1.4 | 0.8 |
| C44 | Standard deviation | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0.1 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 1.1 | 0.7 | 0.7 | 0.7 | 0.8 | 0.7 | 0.5 | 1.1 | 0.6 |
| C45 | Standard deviation | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0.1 |

^bData or results were not obtained.

FOLDOUT FRAME

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TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|
| | | G8 | G16 | G22 | G23 | G24 | G17 | G18 | G19 |
| 122 | Gas cooler 4 coolant temperature, °F | 78 | 77 | 75 | 77 | 80 | 78 | 82 | 83 |
| 122 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 123 | Gas cooler 3 coolant temperature, °F | 80 | 79 | 76 | 80 | 84 | 80 | 86 | 87 |
| 123 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 124 | Gas cooler 2 coolant temperature, °F | 79 | 79 | 76 | 79 | 84 | 80 | 85 | 87 |
| 124 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 125 | Gas cooler 1 coolant temperature, °F | 78 | 76 | 74 | 75 | 79 | 77 | 82 | 82 |
| 125 | Standard deviation | 0 | 1 | 0 | 0 | 2 | 0 | 1 | 3 |
| 126 | Gas cooler 4 gas temperature, °F | 456 | 460 | 375 | 450 | 510 | 393 | 465 | 472 |
| 126 | Standard deviation | 9 | 8 | 6 | 2 | 10 | 11 | 14 | 8 |
| 127 | Gas cooler 3 gas temperature, °F | 452 | 459 | 381 | 434 | 503 | 397 | 465 | 471 |
| 127 | Standard deviation | 10 | 8 | 6 | 2 | 5 | 11 | 14 | 7 |
| 128 | Gas cooler 2 gas temperature, °F | 474 | 484 | 398 | 481 | 547 | 431 | 507 | 513 |
| 128 | Standard deviation | 11 | 8 | 4 | 2 | 6 | 11 | 17 | 6 |
| 129 | Gas cooler 1 gas temperature, °F | 479 | 485 | 400 | 407 | 486 | 409 | 447 | 459 |
| 129 | Standard deviation | 8 | 7 | 5 | 6 | 47 | 14 | 24 | 30 |
| 130 | Gas cooler total coolant temperature, °F | 86 | 81 | 85 | 89 | 93 | 89 | 85 | 93 |
| 130 | Standard deviation | 2 | 1 | 1 | 0 | 2 | 2 | 1 | 3 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 449 | 450 | 365 | 464 | 547 | 419 | 398 | 391 |
| 132 | Standard deviation | 12 | 11 | 4 | 3 | 6 | 14 | 21 | 11 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 456 | 459 | 379 | 473 | 560 | 436 | 407 | 398 |
| 133 | Standard deviation | 13 | 10 | 4 | 2 | 10 | 13 | 19 | 8 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 496 | 505 | 424 | 530 | 607 | 480 | 449 | 438 |
| 134 | Standard deviation | 14 | 11 | 3 | 3 | 5 | 14 | 20 | 10 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 445 | 439 | 367 | 370 | 468 | 409 | 334 | 334 |
| 135 | Standard deviation | 9 | 10 | 4 | 7 | 64 | 17 | 35 | 35 |
| 142 | Gas coolant flow rate, gal/min | 14.7 | 14.7 | 14.2 | 14.1 | 14.3 | 14.9 | 14.5 | 12.6 |
| 142 | Standard deviation | 0 | 0.5 | 1.1 | 0.1 | 0.3 | 0.1 | 0.6 | 1.4 |
| 143 | Gas cooler coolant outlet temperature, °F | 82 | 81 | 77 | 81 | 86 | 82 | 88 | 89 |
| 143 | Standard deviation | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 2 |

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| | | | | | | | | | |
|-----|---|--------|--------|-------|--------|--------|--------|--------|--------|
| 142 | Standard deviation | 0 | 0.5 | 1.1 | 0.1 | 0.3 | 0.1 | 0.6 | 1.4 |
| 143 | Gas cooler coolant outlet temperature, °F | 82 | 81 | 77 | 81 | 86 | 82 | 88 | 89 |
| 143 | Standard deviation | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 2 |
| 144 | Exhaust gas temperature, °F | 279 | 276 | 213 | 277 | 365 | 267 | 265 | 258 |
| 144 | Standard deviation | 20 | 12 | 11 | 2 | 2 | 13 | 10 | 5 |
| 145 | Exhaust gas exit pressure, psid | 77.6 | 77.6 | 79.1 | 77.2 | 75.9 | 78.0 | 77.4 | 77.8 |
| 145 | Standard deviation | 0.3 | 0.4 | 0.4 | 0.2 | 1.1 | 0.4 | 0.4 | 0.4 |
| 146 | Exhaust gas flow rate, pph | 3.99 | (b) | (b) | (b) | (b) | (b) | 0.19 | 0.28 |
| 146 | Standard deviation | 0.07 | (b) | (b) | (b) | (b) | (b) | 0.11 | 0.01 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 94 | 117 | 90 | 99 | 103 | 96 | 92 | 95 |
| 076 | Standard deviation | 1 | 28 | 0 | 0 | 1 | 3 | 2 | 2 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 103490 | 110140 | 80363 | 101630 | 142380 | 110970 | 137700 | 135550 |
| C29 | Standard deviation | 3227 | 4981 | 4093 | 1814 | 2098 | 5569 | 2258 | 2263 |
| C37 | Exhaust gas flow rate, lb/hr | 788 | 230 | 257 | 229 | 201 | 234 | 268 | 295 |
| C37 | Standard deviation | 23 | 4 | 5 | 1 | 3 | 5 | 24 | 3 |
| C38 | Gas heat transfer, Btu/hr | 34931 | 27041 | 12029 | 25411 | 53461 | 23791 | 1785 | (b) |
| C38 | Standard deviation | 3335 | 2570 | 1383 | 574 | 891 | 2216 | 215 | (b) |
| C39 | Gas velocity at grid, ft/sec | 3.9 | 4.1 | 2.8 | 3.7 | 5.1 | 3.7 | 4.7 | 4.6 |
| C39 | Standard deviation | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 5.0 | 4.3 | 2.9 | 3.9 | 5.4 | 3.9 | 4.9 | 4.8 |
| C40 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 2.3 | 2.0 | 1.3 | 1.8 | 2.5 | 1.8 | 2.3 | 2.2 |
| C41 | Standard deviation | 0 | 0.1 | 0 | 0 | 0 | 0.1 | 0 | 0 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.8 | 1.6 | 1.1 | 1.4 | 2.0 | 1.4 | 1.8 | 1.8 |
| C42 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.5 | 1.3 | 0.8 | 1.2 | 1.6 | 1.2 | 1.5 | 1.5 |
| C43 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.2 | 1.0 | 0.6 | 0.9 | 1.3 | 0.9 | 1.1 | 1.1 |
| C44 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.9 | 0.8 | 0.5 | 0.7 | 1.0 | 0.7 | 0.9 | 0.9 |
| C45 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|------|
| | | H1 | H2 | H3 | H4 | H5A | H5B | H6 | H7 | H8 |
| 122 | Gas cooler 4 coolant temperature, °F | 71 | 82 | 85 | 86 | 90 | 96 | 89 | 88 | 88 |
| 122 | Standard deviation | 1 | 0 | 2 | 2 | 2 | 0 | 1 | 1 | 1 |
| 123 | Gas cooler 3 coolant temperature, °F | 71 | 83 | 87 | 88 | 93 | 99 | 89 | 91 | 92 |
| 123 | Standard deviation | 1 | 0 | 4 | 1 | 2 | 0 | 1 | 1 | 2 |
| 124 | Gas cooler 2 coolant temperature, °F | 83 | 83 | 86 | 88 | 95 | 101 | 94 | 95 | 94 |
| 124 | Standard deviation | 2 | 0 | 2 | 1 | 2 | 0 | 2 | 1 | 1 |
| 125 | Gas cooler 1 coolant temperature, °F | 79 | 79 | 81 | 84 | 88 | 92 | 87 | 88 | 85 |
| 125 | Standard deviation | 1 | 1 | 2 | 3 | 1 | 0 | 2 | 3 | 3 |
| 126 | Gas cooler 4 gas temperature, °F | 107 | 441 | 473 | 444 | 499 | 536 | 548 | 533 | 490 |
| 126 | Standard deviation | 3 | 11 | 6 | 16 | 11 | 17 | 42 | 15 | 34 |
| 127 | Gas cooler 3 gas temperature, °F | 107 | 484 | 515 | 483 | 594 | 633 | 715 | 679 | 571 |
| 127 | Standard deviation | 3 | 9 | 15 | 27 | 6 | 11 | 45 | 22 | 22 |
| 128 | Gas cooler 2 gas temperature, °F | 462 | 475 | 548 | 516 | 623 | 683 | 720 | 704 | 612 |
| 128 | Standard deviation | 40 | 8 | 25 | 15 | 10 | 2 | 49 | 13 | 19 |
| 129 | Gas cooler 1 gas temperature, °F | 523 | 566 | 567 | 559 | 692 | 793 | 715 | 728 | 607 |
| 129 | Standard deviation | 16 | 18 | 57 | 47 | 28 | 3 | 43 | 49 | 66 |
| 130 | Gas cooler total coolant temperature, °F | 91 | 93 | 92 | 91 | 99 | 103 | 90 | 88 | 96 |
| 130 | Standard deviation | 4 | 1 | 1 | 1 | 3 | 0 | 13 | 4 | 3 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 110 | 509 | 536 | 503 | 629 | 549 | 623 | 616 | 556 |
| 132 | Standard deviation | 4 | 7 | 11 | 27 | 8 | 27 | 59 | 19 | 32 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 102 | 511 | 521 | 488 | 622 | 548 | 644 | 620 | 537 |
| 133 | Standard deviation | 3 | 7 | 7 | 26 | 6 | 29 | 57 | 16 | 23 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 534 | 549 | 594 | 550 | 677 | 624 | 705 | 696 | 614 |
| 134 | Standard deviation | 47 | 6 | 19 | 21 | 15 | 25 | 59 | 13 | 25 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 490 | 497 | 483 | 469 | 644 | 628 | 605 | 634 | 486 |
| 135 | Standard deviation | 22 | 21 | 72 | 63 | 27 | 28 | 75 | 68 | 90 |
| 142 | Gas coolant flow rate, gal/min | 11.6 | 12.1 | 12.1 | 11.7 | 12.0 | 12.0 | 12.1 | 12.0 | 12.0 |
| 142 | Standard deviation | 0.6 | 0 | 0 | 0.6 | 0 | 0 | 0 | 0 | 0 |
| 143 | Gas cooler coolant outlet temperature, °F | 80 | 87 | 90 | 92 | 98 | 105 | 97 | 98 | 96 |
| 143 | Standard deviation | 2 | 0 | 2 | 2 | 1 | 0 | 2 | 1 | 0 |

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| | | | | | | | | | | |
|-----|--|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 142 | Standard deviation | 0.6 | 0 | 0 | 0.6 | 0 | 0 | 0 | 0 | 0 |
| 143 | Gas cooler coolant outlet temperature, F | 80 | 87 | 90 | 92 | 98 | 105 | 97 | 98 | 96 |
| 143 | Standard deviation | 2 | 0 | 2 | 2 | 1 | 0 | 2 | 1 | 0 |
| 144 | Exhaust gas temperature, F | 195 | 264 | 325 | 297 | 394 | 384 | 396 | 399 | 328 |
| 144 | Standard deviation | 17 | 16 | 6 | 20 | 10 | 17 | 16 | 12 | 13 |
| 145 | Exhaust gas exit pressure, psid | 77.1 | 77.5 | 42.8 | 44.6 | 42.0 | 53.1 | 50.4 | 72.1 | 75.7 |
| 145 | Standard deviation | 0.4 | 0.2 | 0.3 | 0.3 | 1.2 | 0.2 | 3.2 | 0.5 | 0.3 |
| 146 | Exhaust gas flow rate, pph | 0.9 | 3.5 | 10.3 | 6.4 | 17.8 | 22.5 | 21.4 | 10.2 | 6.4 |
| 146 | Standard deviation | 0.4 | 1.3 | 1.5 | 1.3 | 4.7 | 0.1 | 1.3 | 1.4 | 0.5 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, F | 112 | 125 | 124 | 138 | 105 | 123 | 159 | 134 | 140 |
| 076 | Standard deviation | 21 | 21 | 24 | 53 | 2 | 3 | 55 | 37 | 55 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 53067 | 100640 | 114040 | 103430 | 147560 | 180780 | 153210 | 166050 | 134840 |
| C29 | Standard deviation | 8231 | 1360 | 4582 | 2660 | 2671 | 2224 | 11415 | 2235 | 2694 |
| C37 | Exhaust gas flow rate, lb/hr | 379 | 687 | 740 | 651 | 775 | 1006 | 950 | 990 | 877 |
| C37 | Standard deviation | 67 | 107 | 34 | 52 | 54 | 8 | 61 | 57 | 30 |
| C38 | Gas heat transfer, Btu/hr | 10513 | 29466 | 42266 | 32488 | 58049 | 72526 | 74074 | 76825 | 50374 |
| C38 | Standard deviation | 2579 | 7057 | 2892 | 5012 | 4610 | 3946 | 5201 | 5020 | 3104 |
| C39 | Gas velocity at grid, ft/sec | 2.7 | 3.9 | 6.3 | 5.5 | 7.7 | 8.3 | 8.4 | 6.4 | 4.9 |
| C39 | Standard deviation | 0 | 0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 2.9 | 4.6 | 7.7 | 6.9 | 8.9 | 9.3 | 9.3 | 7.2 | 6.3 |
| C40 | Standard deviation | 0.2 | 0.6 | 0.4 | 0.6 | 0.3 | 0.1 | 0.1 | 0.3 | 0.2 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 1.3 | 2.1 | 3.6 | 3.2 | 4.1 | 4.3 | 4.3 | 3.3 | 2.9 |
| C41 | Standard deviation | 0.1 | 0.3 | 0.2 | 0.3 | 0.1 | 0 | 0.1 | 0.1 | 0.1 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.0 | 1.6 | 2.8 | 2.5 | 3.3 | 3.4 | 3.4 | 2.6 | 2.3 |
| C42 | Standard deviation | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0 | 0.1 | 0.1 | 0.1 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 0.8 | 1.3 | 2.4 | 2.1 | 2.7 | 2.8 | 2.8 | 2.1 | 1.9 |
| C43 | Standard deviation | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0 | 0 | 0.1 | 0.1 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 0.6 | 1.0 | 1.9 | 1.7 | 2.1 | 2.2 | 2.2 | 1.7 | 1.5 |
| C44 | Standard deviation | 0 | 0.1 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.5 | 0.8 | 1.5 | 1.3 | 1.7 | 1.8 | 1.7 | 1.3 | 1.2 |
| C45 | Standard deviation | 0 | 0.1 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 | 0 |

FOLDOUT FRAME 2

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|------|
| | | H9 | H10 | H11 | H12 | H14 | H13 | H15 | H16 | H18 |
| 122 | Gas cooler 4 coolant temperature, °F | 86 | 87 | 82 | 74 | 79 | 71 | 70 | 77 | 79 |
| 122 | Standard deviation | 2 | 1 | 2 | 0 | 1 | 2 | 1 | 3 | 1 |
| 123 | Gas cooler 3 coolant temperature, °F | 90 | 92 | 86 | 75 | 80 | 72 | 73 | 78 | 80 |
| 123 | Standard deviation | 3 | 1 | 3 | 1 | 1 | 2 | 1 | 2 | 1 |
| 124 | Gas cooler 2 coolant temperature, °F | 92 | 94 | 87 | 75 | 80 | 73 | 74 | 80 | 83 |
| 124 | Standard deviation | 4 | 1 | 2 | 1 | 1 | 2 | 1 | 3 | 1 |
| 125 | Gas cooler 1 coolant temperature, °F | 86 | 86 | 78 | 72 | 76 | 69 | 64 | 75 | 80 |
| 125 | Standard deviation | 3 | 3 | 4 | 1 | 2 | 2 | 2 | 3 | 4 |
| 126 | Gas cooler 4 gas temperature, °F | 480 | 568 | 502 | 374 | 515 | 581 | 599 | 616 | 573 |
| 126 | Standard deviation | 45 | 8 | 22 | 6 | 57 | 15 | 11 | 16 | 16 |
| 127 | Gas cooler 3 gas temperature, °F | 553 | 649 | 568 | 422 | 613 | 572 | 636 | 682 | 670 |
| 127 | Standard deviation | 56 | 8 | 17 | 8 | 18 | 9 | 14 | 27 | 17 |
| 128 | Gas cooler 2 gas temperature, °F | 584 | 691 | 608 | 445 | 654 | 569 | 648 | 679 | 650 |
| 128 | Standard deviation | 60 | 7 | 17 | 8 | 11 | 29 | 11 | 22 | 19 |
| 129 | Gas cooler 1 gas temperature, °F | 658 | 740 | 598 | 519 | 724 | 704 | 402 | 589 | 617 |
| 129 | Standard deviation | 68 | 56 | 87 | 26 | 34 | 35 | 252 | 94 | 40 |
| 130 | Gas cooler total coolant temperature, °F | 90 | 84 | 81 | 77 | 81 | 67 | 79 | 87 | 85 |
| 130 | Standard deviation | 3 | 1 | 1 | 1 | 2 | 2 | 4 | 2 | 2 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 511 | 624 | 542 | 363 | 564 | 590 | 592 | 614 | 569 |
| 132 | Standard deviation | 62 | 12 | 41 | 8 | 13 | 30 | 19 | 30 | 24 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 504 | 601 | 519 | 361 | 561 | 601 | 568 | 609 | 587 |
| 133 | Standard deviation | 60 | 8 | 32 | 7 | 9 | 38 | 16 | 27 | 20 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 577 | 688 | 603 | 415 | 633 | 616 | 612 | 648 | 627 |
| 134 | Standard deviation | 66 | 9 | 28 | 8 | 8 | 25 | 15 | 28 | 22 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 550 | 617 | 449 | 381 | 592 | 573 | 259 | 454 | 494 |
| 135 | Standard deviation | 68 | 74 | 118 | 25 | 13 | 30 | 162 | 124 | 65 |
| 142 | Gas coolant flow rate, gal/min | 11.9 | 11.9 | 12.9 | 12.8 | 12.6 | 12.6 | 12.9 | 13.1 | 12.3 |
| 142 | Standard deviation | 0.1 | 0.2 | 0.7 | 0.6 | 0.8 | 0.7 | 0.7 | 0.2 | 0.7 |
| 143 | Gas cooler coolant outlet temperature, °F | 94 | 95 | 89 | 78 | 85 | 76 | 76 | 84 | 88 |
| 143 | Standard deviation | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 |

FOLDOUT FRAME /

| | | | | | | | | | | |
|-----|---|--------|--------|--------|-------|--------|-------|--------|--------|--------|
| 142 | Standard deviation | 0.1 | 0.2 | 0.7 | 0.6 | 0.8 | 0.7 | 0.7 | 0.2 | 0.7 |
| 143 | Gas cooler coolant outlet temperature, °F | 94 | 95 | 89 | 78 | 85 | 76 | 76 | 84 | 88 |
| 143 | Standard deviation | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 |
| 144 | Exhaust gas temperature, °F | 298 | 385 | 330 | 200 | 335 | 287 | 280 | 327 | 283 |
| 144 | Standard deviation | 28 | 17 | 9 | 8 | 7 | 21 | 12 | 16 | 7 |
| 145 | Exhaust gas exit pressure, psid | 76.1 | 72.8 | 75.0 | 77.9 | 74.4 | 76.8 | 44.3 | 41.7 | 42.8 |
| 145 | Standard deviation | 1.0 | 0.4 | 0.4 | 0.1 | 1.6 | 0.1 | 0.4 | 1.0 | 0.5 |
| 146 | Exhaust gas flow rate, pph | 6.5 | 20.4 | 10.4 | 3.2 | 7.2 | 2.1 | 4.4 | 10.1 | 6.7 |
| 146 | Standard deviation | 1.6 | 5.5 | 1.1 | 1.5 | 1.0 | 0.5 | 0.7 | 0.7 | 1.1 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 194 | 138 | 83 | 79 | 81 | 106 | 83 | 95 | 72 |
| 076 | Standard deviation | 113 | 44 | 6 | 7 | 13 | 32 | 3 | 1 | 4 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 125000 | 153600 | 145980 | 74257 | 122640 | 84990 | 104010 | 132970 | 140730 |
| C29 | Standard deviation | 19105 | 9213 | 1492 | 2498 | 2641 | 9871 | 5847 | 3986 | 1966 |
| C37 | Exhaust gas flow rate, lb/hr | 894 | 1250 | 1067 | 685 | 910 | 541 | 565 | 726 | 656 |
| C37 | Standard deviation | 90 | 98 | 55 | 145 | 65 | 69 | 35 | 31 | 44 |
| C38 | Gas heat transfer, Btu/hr | 45792 | 92281 | 62905 | 17683 | 55206 | 31418 | 26292 | 41750 | 31363 |
| C38 | Standard deviation | 9458 | 12061 | 2166 | 5085 | 5362 | 4043 | 2705 | 1884 | 2162 |
| C39 | Gas velocity at grid, ft/sec | 4.8 | 6.0 | 5.0 | 2.6 | 4.9 | 4.1 | 5.6 | 6.9 | 6.8 |
| C39 | Standard deviation | 0.1 | 0 | 0 | 0 | 0.1 | 0 | 0.1 | 0.1 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 6.5 | 9.0 | 7.8 | 4.5 | 6.7 | 4.3 | 6.1 | 7.7 | 7.6 |
| C40 | Standard deviation | 0.6 | 0.7 | 0.4 | 0.9 | 0.3 | 0 | 0.2 | 0.3 | 0.3 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 3.0 | 4.1 | 3.6 | 2.1 | 3.1 | 2.0 | 2.8 | 3.5 | 3.5 |
| C41 | Standard deviation | 0.3 | 0.3 | 0.2 | 0.4 | 0.2 | 0 | 0.1 | 0.1 | 0.1 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 2.3 | 3.3 | 2.8 | 1.6 | 2.4 | 1.5 | 2.2 | 2.8 | 2.8 |
| C42 | Standard deviation | 0.2 | 0.3 | 0.1 | 0.3 | 0.1 | 0 | 0.1 | 0.1 | 0.1 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.9 | 2.7 | 2.3 | 1.3 | 2.0 | 1.3 | 1.9 | 2.4 | 2.3 |
| C43 | Standard deviation | 0.2 | 0.2 | 0.1 | 0.3 | 0.1 | 0 | 0.1 | 0.1 | 0.1 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.5 | 2.1 | 1.8 | 1.0 | 1.5 | 1.0 | 1.5 | 1.9 | 1.8 |
| C44 | Standard deviation | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0 | 0.1 | 0.1 | 0.1 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 1.2 | 1.7 | 1.5 | 1.0 | 1.2 | 0.8 | 1.2 | 1.5 | 1.4 |
| C45 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0 | 0 | 0.1 | 0.1 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | |
|----------------------|--|------|------|------|------|------|------|
| | | H19 | H20 | H23 | H24 | H25 | H26 |
| 122 | Gas cooler 4 coolant temperature, °F | 79 | 80 | 81 | 81 | 81 | 80 |
| 122 | Standard deviation | 0 | 0 | 1 | 0 | 1 | 0 |
| 123 | Gas cooler 3 coolant temperature, °F | 80 | 82 | 83 | 83 | 83 | 82 |
| 123 | Standard deviation | 0 | 0 | 1 | 1 | 1 | 0 |
| 124 | Gas cooler 2 coolant temperature, °F | 82 | 84 | 87 | 86 | 85 | 85 |
| 124 | Standard deviation | 1 | 1 | 1 | 1 | 1 | 0 |
| 125 | Gas cooler 1 coolant temperature, °F | 78 | 79 | 81 | 81 | 80 | 81 |
| 125 | Standard deviation | 1 | 1 | 1 | 1 | 1 | 0 |
| 126 | Gas cooler 4 gas temperature, °F | 575 | 582 | 586 | 414 | 378 | 445 |
| 126 | Standard deviation | 7 | 14 | 11 | 87 | 20 | 63 |
| 127 | Gas cooler 3 gas temperature, °F | 632 | 644 | 649 | 569 | 550 | 565 |
| 127 | Standard deviation | 19 | 16 | 14 | 40 | 16 | 21 |
| 128 | Gas cooler 2 gas temperature, °F | 646 | 650 | 658 | 615 | 608 | 601 |
| 128 | Standard deviation | 10 | 16 | 10 | 18 | 14 | 6 |
| 129 | Gas cooler 1 gas temperature, °F | 685 | 695 | 715 | 631 | 576 | 644 |
| 129 | Standard deviation | 29 | 24 | 20 | 58 | 27 | 33 |
| 130 | Gas cooler total coolant temperature, °F | 84 | 82 | 84 | 84 | 79 | 74 |
| 130 | Standard deviation | 5 | 8 | 5 | 1 | 2 | 1 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 562 | 567 | 571 | 554 | 548 | 531 |
| 132 | Standard deviation | 13 | 20 | 13 | 6 | 18 | 3 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 569 | 566 | 576 | 561 | 554 | 545 |
| 133 | Standard deviation | 14 | 19 | 10 | 7 | 14 | 5 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 629 | 635 | 648 | 618 | 607 | 596 |
| 134 | Standard deviation | 8 | 19 | 11 | 10 | 13 | 5 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 563 | 576 | 603 | 582 | 542 | 568 |
| 135 | Standard deviation | 39 | 32 | 25 | 30 | 39 | 3 |
| 142 | Gas coolant flow rate, gal/min | 15.1 | 14.8 | 13.4 | 14.0 | 14.6 | 15.4 |
| 142 | Standard deviation | 0.5 | 0.3 | 0.6 | 0.5 | 0.3 | 0.3 |
| 143 | Gas cooler coolant outlet temperature, °F | 86 | 88 | 90 | 89 | 88 | 87 |
| 143 | Standard deviation | 1 | 0 | 1 | 1 | 1 | 0 |
| 144 | Exhaust gas temperature | 211 | 207 | 217 | 217 | 220 | 227 |

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| | | | | | | | |
|-----|---|--------|--------|--------|--------|--------|--------|
| 142 | Standard deviation | 0.5 | 0.3 | 0.6 | 0.5 | 0.3 | 0.3 |
| 143 | Gas cooler coolant outlet temperature, °F | 86 | 88 | 90 | 89 | 88 | 87 |
| 143 | Standard deviation | 1 | 0 | 1 | 1 | 1 | 0 |
| 144 | Exhaust gas temperature, °F | 311 | 307 | 317 | 317 | 330 | 337 |
| 144 | Standard deviation | 16 | 12 | 12 | 11 | 10 | 2 |
| 145 | Exhaust gas exit pressure, psid | 76.1 | 75.7 | 75.7 | 75.9 | 75.5 | 75.6 |
| 145 | Standard deviation | 0.2 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 |
| 146 | Exhaust gas flow rate, pph | 3.9 | 4.2 | 3.8 | 3.9 | 4.2 | 5.5 |
| 146 | Standard deviation | 1.0 | 1.0 | 1.0 | 1.1 | 1.0 | 0.3 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 73 | 87 | 78 | 81 | 74 | 68 |
| 076 | Standard deviation | 1 | 20 | 1 | 2 | 3 | 1 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 144770 | 153180 | 154480 | 149650 | 150940 | 154210 |
| C29 | Standard deviation | 2435 | 2969 | 5757 | 2233 | 2287 | 1737 |
| C37 | Exhaust gas flow rate, lb/hr | 702 | 728 | 691 | 697 | 719 | 818 |
| C37 | Standard deviation | 75 | 79 | 83 | 101 | 75 | 20 |
| C38 | Gas heat transfer, Btu/hr | 40131 | 41149 | 41438 | 42225 | 43831 | 49566 |
| C38 | Standard deviation | 5752 | 4634 | 3502 | 3963 | 4084 | 1481 |
| C39 | Gas velocity at grid, ft/sec | 4.6 | 4.8 | 4.9 | 4.8 | 4.9 | 4.8 |
| C39 | Standard deviation | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 5.1 | 5.4 | 5.3 | 5.3 | 5.3 | 5.7 |
| C40 | Standard deviation | 0.3 | 0.4 | 0.2 | 0.3 | 0.2 | 0.1 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 2.4 | 2.5 | 2.4 | 2.5 | 2.5 | 2.6 |
| C41 | Standard deviation | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 |
| C42 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.5 | 1.7 | 1.6 | 1.6 | 1.6 | 1.8 |
| C43 | Standard deviation | 0.1 | 0.1 | 0 | 0.1 | 0.1 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.2 | 1.3 | 1.3 | 1.3 | 1.3 | 1.4 |
| C44 | Standard deviation | 0.1 | 0.1 | 0 | 0.1 | 0.1 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.1 |
| C45 | Standard deviation | 0.1 | 0.1 | 0 | 0 | 0 | 0 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|------|
| | | I1 | I2 | I3 | I4 | I5A | I5B | I6 | I7 | I8 |
| 122 | Gas cooler 4 coolant temperature, °F | 81 | 85 | 78 | 75 | 77 | 79 | 81 | 83 | 79 |
| 122 | Standard deviation | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 123 | Gas cooler 3 coolant temperature, °F | 83 | 85 | 79 | 76 | 78 | 81 | 83 | 84 | 81 |
| 123 | Standard deviation | 0 | 2 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |
| 124 | Gas cooler 2 coolant temperature, °F | 88 | 93 | 84 | 78 | 82 | 84 | 89 | 92 | 87 |
| 124 | Standard deviation | 1 | 3 | 2 | 1 | 0 | 1 | 1 | 1 | 1 |
| 125 | Gas cooler 1 coolant temperature, °F | 84 | 84 | 81 | 75 | 79 | 77 | 82 | 85 | 80 |
| 125 | Standard deviation | 0 | 7 | 1 | 1 | 1 | 6 | 3 | 4 | 2 |
| 126 | Gas cooler 4 gas temperature, °F | 607 | 619 | 395 | 310 | 373 | 408 | 482 | 615 | 539 |
| 126 | Standard deviation | 15 | 56 | 8 | 5 | 6 | 19 | 59 | 16 | 8 |
| 127 | Gas cooler 3 gas temperature, °F | 713 | 776 | 549 | 403 | 513 | 556 | 647 | 746 | 633 |
| 127 | Standard deviation | 20 | 30 | 8 | 18 | 9 | 24 | 32 | 20 | 3 |
| 128 | Gas cooler 2 gas temperature, °F | 713 | 778 | 572 | 453 | 544 | 581 | 660 | 739 | 623 |
| 128 | Standard deviation | 13 | 16 | 7 | 6 | 7 | 20 | 19 | 14 | 6 |
| 129 | Gas cooler 1 gas temperature, °F | 756 | 729 | 571 | 471 | 553 | 460 | 634 | 755 | 654 |
| 129 | Standard deviation | 18 | 172 | 10 | 7 | 10 | 196 | 24 | 57 | 34 |
| 130 | Gas cooler total coolant temperature, °F | 69 | 77 | 71 | 68 | 65 | 65 | 72 | 77 | 76 |
| 130 | Standard deviation | 4 | 2 | 2 | 2 | 0 | 0 | 2 | 1 | 1 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 620 | 615 | 496 | 405 | 484 | 531 | 597 | 575 | 474 |
| 132 | Standard deviation | 11 | 27 | 23 | 6 | 10 | 36 | 5 | 25 | 17 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 640 | 649 | 523 | 436 | 501 | 542 | 627 | 608 | 489 |
| 133 | Standard deviation | 11 | 28 | 23 | 13 | 12 | 29 | 6 | 20 | 15 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 686 | 695 | 565 | 469 | 546 | 585 | 667 | 659 | 546 |
| 134 | Standard deviation | 10 | 25 | 22 | 10 | 9 | 26 | 4 | 18 | 13 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 651 | 607 | 533 | 447 | 523 | 473 | 583 | 575 | 439 |
| 135 | Standard deviation | 9 | 96 | 23 | 7 | 8 | 125 | 60 | 76 | 63 |
| 142 | Gas coolant flow rate, gal/min | 12.1 | 12.9 | 12.3 | 12.6 | 12.8 | 12.6 | 13.7 | 14.3 | 14.4 |
| 142 | Standard deviation | 0 | 0.7 | 0.6 | 0.8 | 0.2 | 0 | 0.3 | 0.2 | 0.2 |
| 143 | Gas cooler coolant outlet temperature, °F | 92 | 95 | 86 | 80 | 84 | 85 | 89 | 93 | 87 |
| 143 | Standard deviation | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |

FOLDOUT FRAME

| | | | | | | | | | | |
|-----|---|--------|--------|--------|-------|--------|--------|--------|--------|--------|
| 142 | Standard deviation | 0 | 0.7 | 0.6 | 0.8 | 0.2 | 0 | 0.3 | 0.2 | 0.2 |
| 143 | Gas cooler coolant outlet temperature, °F | 92 | 95 | 86 | 80 | 84 | 85 | 89 | 93 | 87 |
| 143 | Standard deviation | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 144 | Exhaust gas temperature, °F | 368 | 404 | 298 | 241 | 306 | 324 | 371 | 394 | 296 |
| 144 | Standard deviation | 9 | 15 | 10 | 4 | 9 | 4 | 9 | 11 | 9 |
| 145 | Exhaust gas exit pressure, psid | 80.4 | 76.5 | 82.0 | 83.1 | 82.1 | 80.9 | 80.1 | 76.8 | 81.4 |
| 145 | Standard deviation | 0.5 | 1.4 | 0.2 | 0.3 | 0.1 | 0.5 | 0.3 | 0.6 | 0.4 |
| 146 | Exhaust gas flow rate, pph | 13.9 | 18.6 | 10.6 | 8.3 | 11.2 | 11.2 | 11.8 | 17.4 | 11.2 |
| 146 | Standard deviation | 0.6 | 0.8 | 0.3 | 0.3 | 0.3 | 0.7 | 1.2 | 2.0 | 0.8 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 94 | 88 | 80 | 72 | 68 | 70 | 89 | 82 | 74 |
| 076 | Standard deviation | 14 | 1 | 3 | 2 | 0 | 1 | 6 | 1 | 1 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 158510 | 189760 | 130960 | 93127 | 118420 | 124030 | 160180 | 193050 | 154550 |
| C29 | Standard deviation | 7958 | 10932 | 1631 | 2358 | 1040 | 4127 | 2257 | 2391 | 1921 |
| C37 | Exhaust gas flow rate, lb/hr | 1093 | 1142 | 1041 | 985 | 1060 | 1037 | 1019 | 1124 | 1062 |
| C37 | Standard deviation | 16 | 17 | 9 | 16 | 10 | 25 | 39 | 41 | 25 |
| C38 | Gas heat transfer, Btu/hr | 75286 | 89132 | 53167 | 35067 | 53876 | 59585 | 71164 | 85652 | 53022 |
| C38 | Standard deviation | 3385 | 5577 | 3132 | 1369 | 3359 | 2258 | 4687 | 6019 | 3059 |
| C39 | Gas velocity at grid, ft/sec | 5.7 | 7.0 | 4.6 | 3.2 | 4.4 | 4.7 | 5.7 | 7.1 | 5.3 |
| C39 | Standard deviation | 0.1 | 0.1 | 0 | 0 | 0.1 | 0 | 0.1 | 0.1 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 7.9 | 8.1 | 7.4 | 6.4 | 7.0 | 6.7 | 7.2 | 7.9 | 7.6 |
| C40 | Standard deviation | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.3 | 0.1 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 3.6 | 3.7 | 3.4 | 3.0 | 3.2 | 3.1 | 3.3 | 3.7 | 3.5 |
| C41 | Standard deviation | 0.1 | 0.1 | 0 | 0.1 | 0 | 0.1 | 0.1 | 0.2 | 0.1 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 2.9 | 3.0 | 2.7 | 2.3 | 2.6 | 2.5 | 2.7 | 2.9 | 2.8 |
| C42 | Standard deviation | 0.1 | 0.1 | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 2.4 | 2.5 | 2.2 | 1.9 | 2.1 | 2.1 | 2.2 | 2.4 | 2.3 |
| C43 | Standard deviation | 0.1 | 0.1 | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.9 | 1.9 | 1.8 | 1.5 | 1.7 | 1.6 | 1.7 | 1.9 | 1.8 |
| C44 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 1.5 | 1.6 | 1.4 | 1.2 | 1.3 | 1.3 | 1.4 | 1.5 | 1.4 |
| C45 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 |

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^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | |
|----------------------|--|------|------|------|------|------|------|
| | | 19 | I10A | I10B | I11 | I12 | I13 |
| 122 | Gas cooler 4 coolant temperature, °F | 78 | 77 | 75 | 78 | 79 | 77 |
| 122 | Standard deviation | 1 | 1 | 0 | 1 | 0 | 1 |
| 123 | Gas cooler 3 coolant temperature, °F | 79 | 78 | 77 | 80 | 81 | 78 |
| 123 | Standard deviation | 2 | 1 | 1 | 1 | 1 | 1 |
| 124 | Gas cooler 2 coolant temperature, °F | 83 | 81 | 79 | 83 | 85 | 81 |
| 124 | Standard deviation | 2 | 2 | 1 | 1 | 1 | 1 |
| 125 | Gas cooler 1 coolant temperature, °F | 77 | 77 | 73 | 77 | 80 | 78 |
| 125 | Standard deviation | 1 | 1 | 0 | 1 | 1 | 1 |
| 126 | Gas cooler 4 gas temperature, °F | 411 | 334 | 306 | 341 | 403 | 325 |
| 126 | Standard deviation | 47 | 26 | 25 | 14 | 21 | 11 |
| 127 | Gas cooler 3 gas temperature, °F | 533 | 435 | 433 | 469 | 561 | 487 |
| 127 | Standard deviation | 32 | 43 | 16 | 7 | 17 | 18 |
| 128 | Gas cooler 2 gas temperature, °F | 565 | 483 | 473 | 507 | 605 | 530 |
| 128 | Standard deviation | 10 | 33 | 18 | 7 | 18 | 21 |
| 129 | Gas cooler 1 gas temperature, °F | 570 | 520 | 451 | 523 | 632 | 534 |
| 129 | Standard deviation | 62 | 31 | 12 | 33 | 17 | 21 |
| 130 | Gas cooler total coolant temperature, °F | 74 | 72 | 73 | 73 | 63 | 96 |
| 130 | Standard deviation | 2 | 1 | 1 | 2 | 5 | 2 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 454 | 442 | 448 | 475 | 604 | 453 |
| 132 | Standard deviation | 52 | 27 | 17 | 14 | 23 | 15 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 473 | 462 | 455 | 483 | 593 | 458 |
| 133 | Standard deviation | 48 | 24 | 16 | 13 | 21 | 20 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 527 | 515 | 507 | 540 | 637 | 512 |
| 134 | Standard deviation | 48 | 28 | 22 | 8 | 15 | 24 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 457 | 500 | 432 | 498 | 614 | 493 |
| 135 | Standard deviation | 25 | 25 | 17 | 40 | 35 | 25 |
| 142 | Gas coolant flow rate, gal/min | 13.9 | 11.7 | 12.7 | 12.4 | 13.1 | 13.3 |
| 142 | Standard deviation | 0.9 | 0.8 | 0 | 0.7 | 0.2 | 0.6 |
| 143 | Gas cooler coolant outlet temperature, °F | 84 | 83 | 80 | 84 | 86 | 83 |
| 143 | Standard deviation | 1 | 1 | 0 | 1 | 1 | 1 |

FOLDOUT FRAME /

FOLDOUT FRAME 2

| | | | | | | | |
|-----|---|--------|--------|-------|--------|--------|--------|
| 142 | Standard deviation | 0.9 | 0.8 | 0 | 0.7 | 0.2 | 0.6 |
| 143 | Gas cooler coolant outlet temperature, °F | 84 | 83 | 80 | 84 | 86 | 83 |
| 143 | Standard deviation | 1 | 1 | 0 | 1 | 1 | 1 |
| 144 | Exhaust gas temperature, °F | 285 | 269 | 235 | 281 | 371 | 310 |
| 144 | Standard deviation | 12 | 18 | 5 | 14 | 11 | 12 |
| 145 | Exhaust gas exit pressure, psid | 82.5 | 83.4 | 83.1 | 82.2 | 72.9 | 76.8 |
| 145 | Standard deviation | 0.4 | 0.9 | 0.3 | 0.5 | 0.8 | 0.9 |
| 146 | Exhaust gas flow rate, pph | 11.5 | 9.7 | 7.5 | 8.7 | 3.7 | 9.8 |
| 146 | Standard deviation | 0.8 | 1.5 | 0.4 | 1.4 | 1.0 | 2.2 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 71 | 73 | 75 | 75 | 119 | 434 |
| 076 | Standard deviation | 1 | 1 | 0 | 2 | 51 | 11 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 127590 | 100630 | 98240 | 111710 | 133800 | 118060 |
| C29 | Standard deviation | 4429 | 9649 | 2115 | 2970 | 4588 | 4056 |
| C37 | Exhaust gas flow rate, lb/hr | 1087 | 1030 | 946 | 969 | 579 | 951 |
| C37 | Standard deviation | 26 | 55 | 24 | 65 | 81 | 77 |
| C38 | Gas heat transfer, Btu/hr | 51580 | 44690 | 32853 | 44519 | 60403 | 57515 |
| C38 | Standard deviation | 4018 | 6655 | 1658 | 6756 | 5292 | 4869 |
| C39 | Gas velocity at grid, ft/sec | 4.6 | 3.6 | 3.4 | 3.9 | 5.2 | 7.1 |
| C39 | Standard deviation | 0.1 | 0.4 | 0 | 0 | 0.1 | 0.3 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 7.0 | 6.6 | 6.0 | 6.2 | 5.5 | 7.5 |
| C40 | Standard deviation | 0.2 | 0.4 | 0.1 | 0.5 | 0.1 | 0.3 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 3.2 | 3.0 | 2.7 | 2.9 | 2.5 | 3.5 |
| C41 | Standard deviation | 0.1 | 0.2 | 0.1 | 0.2 | 0 | 0.1 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 2.6 | 2.4 | 2.2 | 2.3 | 2.0 | 2.8 |
| C42 | Standard deviation | 0.1 | 0.2 | 0.1 | 0.2 | 0 | 0.1 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 2.1 | 2.0 | 1.8 | 1.9 | 1.7 | 2.2 |
| C43 | Standard deviation | 0.1 | 0.1 | 0 | 0.1 | 0 | 0.1 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.7 | 1.5 | 1.4 | 1.5 | 1.3 | 1.8 |
| C44 | Standard deviation | 0 | 0.1 | 0 | 0.1 | 0 | 0.1 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 1.3 | 1.2 | 1.1 | 1.2 | 1.0 | 1.4 |
| C45 | Standard deviation | 0 | 0.1 | 0 | 0.1 | 0 | 0.1 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|-----|-----|-----|-----|-----|-----|-----|
| | | T3A | T3B | T3C | T3D | T3E | T3F | T4 | T5 |
| 122 | Gas cooler 4 coolant temperature, °F | 79 | 224 | 187 | 268 | 262 | 128 | 261 | 265 |
| 122 | Standard deviation | 8 | 101 | 105 | 74 | 98 | 96 | 106 | 114 |
| 123 | Gas cooler 3 coolant temperature, °F | 81 | 222 | 201 | 285 | 240 | 126 | 263 | 265 |
| 123 | Standard deviation | 11 | 105 | 118 | 80 | 86 | 96 | 105 | 114 |
| 124 | Gas cooler 2 coolant temperature, °F | 80 | 247 | 200 | 293 | 277 | 133 | 265 | 265 |
| 124 | Standard deviation | 10 | 112 | 117 | 81 | 99 | 102 | 104 | 114 |
| 125 | Gas cooler 1 coolant temperature, °F | 76 | 232 | 184 | 276 | 269 | 125 | 265 | 264 |
| 125 | Standard deviation | 4 | 111 | 103 | 77 | 97 | 92 | 105 | 114 |
| 126 | Gas cooler 4 gas temperature, °F | 419 | 274 | 240 | 365 | 367 | 85 | 377 | 353 |
| 126 | Standard deviation | 202 | 154 | 156 | 102 | 143 | 32 | 210 | 182 |
| 127 | Gas cooler 3 gas temperature, °F | 368 | 268 | 229 | 348 | 310 | 116 | 378 | 367 |
| 127 | Standard deviation | 160 | 155 | 146 | 95 | 115 | 84 | 212 | 189 |
| 128 | Gas cooler 2 gas temperature, °F | 379 | 306 | 242 | 365 | 368 | 138 | 436 | 375 |
| 128 | Standard deviation | 181 | 158 | 156 | 102 | 141 | 115 | 242 | 194 |
| 129 | Gas cooler 1 gas temperature, °F | 503 | 284 | 251 | 383 | 389 | 130 | 408 | 388 |
| 129 | Standard deviation | 212 | 158 | 165 | 111 | 155 | 105 | 229 | 204 |
| 130 | Gas cooler total coolant temperature, °F | 83 | 90 | 143 | 111 | 91 | 87 | 87 | 88 |
| 130 | Standard deviation | 8 | 5 | 3 | 30 | 6 | 8 | 10 | 8 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 391 | 263 | 236 | 358 | 360 | 144 | 403 | 374 |
| 132 | Standard deviation | 174 | 144 | 153 | 98 | 139 | 119 | 229 | 195 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 390 | 268 | 232 | 351 | 208 | 121 | 362 | 364 |
| 133 | Standard deviation | 160 | 148 | 149 | 96 | 68 | 92 | 218 | 192 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 406 | 302 | 255 | 384 | 380 | 155 | 410 | 377 |
| 134 | Standard deviation | 183 | 153 | 169 | 107 | 148 | 133 | 232 | 197 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 408 | 255 | 222 | 340 | 335 | 145 | 369 | 366 |
| 135 | Standard deviation | 161 | 137 | 140 | 94 | 128 | 118 | 210 | 189 |
| 142 | Gas coolant flow rate, gal/min | 13.2 | (b) | 1.4 | 1.4 | 1.3 | (b) | 0.9 | 0.6 |
| 142 | Standard deviation | 0.5 | (b) | 0.2 | 0.3 | 0.5 | (b) | 0.8 | 0 |
| 143 | Gas cooler coolant outlet temperature, °F | 82 | 78 | 76 | 80 | 78 | 76 | 80 | 71 |
| 143 | Standard deviation | 7 | 3 | 4 | 2 | 4 | 3 | 4 | 6 |
| 144 | Exhaust gas tempera- | 208 | 240 | 255 | 223 | 254 | 246 | 247 | 270 |

FOLDOUT FRAME /

| | | | | | | | | | |
|-----|---|-------|-------|-------|-------|-------|-------|-------|-------|
| 142 | Standard deviation | 0.5 | (b) | 0.2 | 0.3 | 0.5 | (b) | 0.6 | |
| 143 | Gas cooler coolant outlet temperature, °F | 82 | 78 | 76 | 80 | 78 | 76 | 80 | 71 |
| 143 | Standard deviation | 7 | 3 | 4 | 2 | 4 | 3 | 4 | 6 |
| 144 | Exhaust gas temperature, °F | 208 | 240 | 255 | 223 | 254 | 246 | 347 | 270 |
| 144 | Standard deviation | 62 | 60 | 72 | 35 | 41 | 84 | 55 | 50 |
| 145 | Exhaust gas exit pressure, psid | 109.8 | 37.1 | 42.4 | 34.6 | 35.3 | 39.9 | 42.0 | 34.1 |
| 145 | Standard deviation | 16.9 | 14.7 | 17.4 | 8.3 | 10.2 | 16.8 | 18.7 | 10.5 |
| 146 | Exhaust gas flow rate, pph | (b) | 83.8 | 84.1 | 84.6 | 83.2 | 87.1 | (b) | 0.1 |
| 146 | Standard deviation | (b) | 6.2 | 4.2 | 2.4 | 4.2 | 7.2 | (b) | 0 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 156 | 191 | 224 | 139 | 160 | 294 | 224 | 160 |
| 076 | Standard deviation | 71 | 121 | 135 | 75 | 94 | 103 | 173 | 89 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 88280 | 3244 | 5157 | 4697 | 5455 | (b) | 4479 | 581 |
| C29 | Standard deviation | 44229 | 3747 | 2257 | 1108 | 2394 | (b) | 5434 | 1262 |
| C37 | Exhaust gas flow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C37 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C38 | Gas heat transfer, Btu/hr | 18207 | 25371 | 28900 | 23779 | 28380 | 31367 | 46149 | 36480 |
| C38 | Standard deviation | 9169 | 11950 | 13049 | 5949 | 7633 | 14843 | 10637 | 7675 |
| C39 | Gas velocity at grid, ft/sec | 4.8 | 5.0 | 5.2 | 4.6 | 4.9 | 6.1 | 4.6 | 5.1 |
| C39 | Standard deviation | 2.1 | 1.6 | 1.6 | 1.2 | 1.5 | 2.9 | 1.0 | 1.5 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 4.8 | 5.0 | 5.3 | 4.7 | 5.1 | 6.1 | 4.8 | 5.1 |
| C40 | Standard deviation | 1.9 | 1.4 | 1.6 | 1.0 | 1.3 | 2.5 | 0.9 | 1.2 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 2.2 | 2.4 | 2.4 | 2.2 | 2.3 | 2.9 | 2.2 | 2.4 |
| C41 | Standard deviation | 0.8 | 0.6 | 0.7 | 0.4 | 0.6 | 1.1 | 0.4 | 0.5 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.8 | 1.9 | 1.9 | 1.7 | 1.9 | 2.3 | 1.8 | 1.9 |
| C42 | Standard deviation | 0.6 | 0.5 | 0.6 | 0.3 | 0.4 | 0.9 | 0.3 | 0.4 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.5 | 1.5 | 1.6 | 1.4 | 1.6 | 1.9 | 1.4 | 1.5 |
| C43 | Standard deviation | 0.5 | 0.4 | 0.5 | 0.3 | 0.4 | 0.7 | 0.3 | 0.4 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.1 | 1.2 | 1.2 | 1.1 | 1.2 | 1.4 | 1.1 | 1.2 |
| C44 | Standard deviation | 0.4 | 0.3 | 0.4 | 0.2 | 0.3 | 0.5 | 0.2 | 0.3 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.9 | 0.9 | 0.9 | 0.8 | 0.9 | 1.1 | 0.9 | 0.9 |
| C45 | Standard deviation | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.4 | 0.2 | 0.2 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|------|
| | | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 |
| 122 | Gas cooler 4 coolant temperature, °F | 73 | 78 | 92 | 80 | 76 | 76 | 68 | 80 | 72 |
| 122 | Standard deviation | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 5 |
| 123 | Gas cooler 3 coolant temperature, °F | 73 | 79 | 92 | 80 | 79 | 79 | 68 | 80 | 73 |
| 123 | Standard deviation | 1 | 1 | 2 | 1 | 1 | 2 | 0 | 2 | 5 |
| 124 | Gas cooler 2 coolant temperature, °F | 74 | 81 | 109 | 84 | 94 | 91 | 70 | 84 | 73 |
| 124 | Standard deviation | 1 | 1 | 3 | 1 | 3 | 2 | 0 | 2 | 5 |
| 125 | Gas cooler 1 coolant temperature, °F | 73 | 79 | 90 | 79 | 80 | 74 | 65 | 80 | 71 |
| 125 | Standard deviation | 1 | 2 | 9 | 1 | 6 | 3 | 2 | 2 | 5 |
| 126 | Gas cooler 4 gas temperature, °F | 440 | 598 | 568 | 512 | 670 | 676 | 511 | 611 | 566 |
| 126 | Standard deviation | 11 | 30 | 17 | 15 | 16 | 21 | 13 | 16 | 11 |
| 127 | Gas cooler 3 gas temperature, °F | 452 | 637 | 624 | 521 | 729 | 720 | 496 | 643 | 502 |
| 127 | Standard deviation | 14 | 19 | 21 | 14 | 16 | 17 | 18 | 14 | 8 |
| 128 | Gas cooler 2 gas temperature, °F | 403 | 562 | 610 | 543 | 712 | 721 | 527 | 660 | 522 |
| 128 | Standard deviation | 15 | 13 | 16 | 15 | 10 | 16 | 17 | 10 | 13 |
| 129 | Gas cooler 1 gas temperature, °F | 527 | 672 | 637 | 604 | 760 | 773 | 578 | 724 | 655 |
| 129 | Standard deviation | 15 | 25 | 38 | 18 | 63 | 68 | 22 | 15 | 12 |
| 130 | Gas cooler total coolant temperature, °F | 71 | 75 | 48 | 65 | 79 | 82 | 69 | 53 | 70 |
| 130 | Standard deviation | 1 | 2 | 4 | 9 | 5 | 2 | 2 | 6 | 3 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 423 | 598 | 589 | 488 | 661 | 687 | 473 | 588 | 415 |
| 132 | Standard deviation | 11 | 29 | 31 | 17 | 40 | 37 | 15 | 15 | 14 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 420 | 596 | 574 | 484 | 651 | 673 | 451 | 581 | 352 |
| 133 | Standard deviation | 18 | 30 | 25 | 18 | 34 | 29 | 17 | 14 | 25 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 455 | 620 | 651 | 545 | 707 | 738 | 514 | 644 | 419 |
| 134 | Standard deviation | 13 | 32 | 14 | 15 | 30 | 26 | 19 | 13 | 10 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 427 | 562 | 525 | 483 | 611 | 629 | 430 | 616 | 364 |
| 135 | Standard deviation | 17 | 27 | 78 | 28 | 73 | 83 | 36 | 13 | 14 |
| 142 | Gas coolant flow rate, gal/min | 13.3 | 12.2 | 12.5 | 12.4 | 11.9 | 11.9 | 11.7 | 12.9 | 12.3 |
| 142 | Standard deviation | 0.2 | 0.7 | 0 | 0 | 0.1 | 0.2 | 0.4 | 1.0 | 0.4 |
| 143 | Gas cooler coolant outlet temperature, °F | 77 | 85 | 102 | 87 | 90 | 89 | 74 | 87 | 76 |
| 143 | Standard deviation | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 2 | 5 |

FOLDOUT FRAME /

| | | | | | | | | | | |
|-----|---|-------|--------|--------|--------|--------|--------|--------|--------|-------|
| 142 | Standard deviation | 0.2 | 0.7 | 0 | 0 | 0.1 | 0.2 | 0.4 | 1.0 | 0.4 |
| 143 | Gas cooler coolant outlet temperature, °F | 77 | 85 | 102 | 87 | 90 | 89 | 74 | 87 | 76 |
| 143 | Standard deviation | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 2 | 5 |
| 144 | Exhaust gas temperature, °F | 203 | 339 | 407 | 287 | 433 | 466 | 285 | 402 | 297 |
| 144 | Standard deviation | 9 | 9 | 11 | 6 | 19 | 11 | 3 | 15 | 11 |
| 145 | Exhaust gas exit pressure, psid | 78.0 | 75.3 | 70.0 | 76.8 | 69.9 | 69.8 | 77.4 | 74.1 | 77.8 |
| 145 | Standard deviation | 0.9 | 0.3 | 0.7 | 0.3 | 0.9 | 0.9 | 0.3 | 0.6 | 0.2 |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 82 | 78 | 81 | 74 | 92 | 95 | 83 | 105 | 80 |
| 076 | Standard deviation | 7 | 2 | 0 | 2 | 1 | 1 | 4 | 32 | 1 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 69894 | 103330 | 222440 | 120770 | 202730 | 200470 | 105840 | 127130 | 61357 |
| C29 | Standard deviation | 4199 | 4937 | 7894 | 1978 | 7065 | 5681 | 2240 | 3591 | 2728 |
| C37 | Exhaust gas flow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C37 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C38 | Gas heat transfer, Btu/hr | 9694 | 40766 | 81499 | 22808 | 86681 | 95441 | 19536 | 60134 | 18135 |
| C38 | Standard deviation | 1096 | 1780 | 2975 | 1666 | 4964 | 3381 | 895 | 3983 | 1509 |
| C39 | Gas velocity at grid, ft/sec | 2.5 | 4.3 | 6.5 | 3.6 | 6.8 | 6.7 | 3.2 | 4.9 | 2.5 |
| C39 | Standard deviation | 0.1 | 0 | 0.1 | 0.1 | 0.2 | 0.1 | 0 | 0.1 | 0 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 2.6 | 4.5 | 7.0 | 3.7 | 7.1 | 7.2 | 3.2 | 5.1 | 2.5 |
| C40 | Standard deviation | 0.1 | 0 | 0.1 | 0.1 | 0.1 | 0.2 | 0 | 0.1 | 0 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 1.2 | 2.1 | 3.2 | 1.7 | 3.3 | 3.3 | 1.5 | 2.3 | 1.2 |
| C41 | Standard deviation | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 0.9 | 1.6 | 2.6 | 1.3 | 2.6 | 2.7 | 1.2 | 1.9 | 1.0 |
| C42 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 0.7 | 1.3 | 2.1 | 1.1 | 2.2 | 2.2 | 0.9 | 1.5 | 0.7 |
| C43 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 0.6 | 1.0 | 1.7 | 0.9 | 1.7 | 1.7 | 0.7 | 1.2 | 0.6 |
| C44 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.4 | 0.8 | 1.3 | 0.7 | 1.4 | 1.4 | 0.6 | 1.0 | 0.4 |
| C45 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^bData or results were not obtained.

FOLDOUT FRAME

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TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|------|------|
| | | K1 | K3 | K4 | K2 | K7 | K8 | K6 | K5 | K9 |
| 122 | Gas cooler 4 coolant temperature, °F | 75 | 77 | 91 | 75 | 75 | 79 | 78 | 89 | 76 |
| 122 | Standard deviation | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 3 | 0 |
| 123 | Gas cooler 3 coolant temperature, °F | 77 | 75 | 89 | 77 | 74 | 79 | 79 | 92 | 77 |
| 123 | Standard deviation | 2 | 1 | 7 | 1 | 1 | 1 | 1 | 3 | 0 |
| 124 | Gas cooler 2 coolant temperature, °F | 77 | 78 | 99 | 77 | 74 | 78 | 79 | 102 | 79 |
| 124 | Standard deviation | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 6 | 0 |
| 125 | Gas cooler 1 coolant temperature, °F | 74 | 74 | 97 | 73 | 71 | 76 | 77 | 99 | 78 |
| 125 | Standard deviation | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7 | 1 |
| 126 | Gas cooler 4 gas temperature, °F | 421 | 490 | 545 | 499 | 625 | 624 | 534 | 608 | 502 |
| 126 | Standard deviation | 119 | 38 | 10 | 17 | 30 | 12 | 8 | 30 | 15 |
| 127 | Gas cooler 3 gas temperature, °F | 413 | 352 | 583 | 447 | 506 | 594 | 505 | 678 | 510 |
| 127 | Standard deviation | 99 | 68 | 35 | 28 | 12 | 22 | 15 | 29 | 17 |
| 128 | Gas cooler 2 gas temperature, °F | 391 | 471 | 595 | 501 | 588 | 692 | 555 | 654 | 486 |
| 128 | Standard deviation | 99 | 29 | 14 | 17 | 21 | 18 | 8 | 48 | 18 |
| 129 | Gas cooler 1 gas temperature, °F | 517 | 499 | 647 | 564 | 579 | 780 | 652 | 746 | 616 |
| 129 | Standard deviation | 106 | 81 | 13 | 17 | 13 | 41 | 17 | 60 | 9 |
| 130 | Gas cooler total coolant temperature, °F | 68 | 74 | 80 | 84 | 84 | 85 | 85 | 89 | 92 |
| 130 | Standard deviation | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 2 | 0 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 458 | 500 | 554 | 475 | 552 | 537 | 407 | 557 | 483 |
| 132 | Standard deviation | 58 | 32 | 10 | 33 | 28 | 13 | 19 | 24 | 10 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 458 | 365 | 536 | 470 | 495 | 533 | 393 | 563 | 460 |
| 133 | Standard deviation | 63 | 21 | 30 | 41 | 24 | 23 | 23 | 19 | 10 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 486 | 510 | 631 | 508 | 594 | 585 | 440 | 626 | 527 |
| 134 | Standard deviation | 53 | 26 | 11 | 29 | 35 | 15 | 18 | 28 | 9 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 484 | 414 | 590 | 454 | 418 | 563 | 435 | 603 | 538 |
| 135 | Standard deviation | 70 | 45 | 9 | 35 | 60 | 57 | 26 | 41 | 12 |
| 142 | Gas coolant flow rate, gal/min | 12.2 | 12.6 | 12.1 | 11.8 | 11.8 | 11.8 | 11.9 | 11.8 | 11.8 |
| 142 | Standard deviation | 0.1 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0 | 0.4 | 0 |
| 143 | Gas cooler coolant outlet temperature, °F | 78 | 81 | 101 | 79 | 76 | 85 | 84 | 101 | 83 |
| 143 | Standard deviation | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 3 | 0 |

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| | gal/min | | | | | | | | | |
|-----|--|-------|--------|--------|-------|-------|--------|-------|--------|--------|
| 142 | Standard deviation | 0.1 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0 | 0.4 | 0 |
| 143 | Gas cooler coolant outlet temperature, F | 78 | 81 | 101 | 79 | 76 | 85 | 84 | 101 | 83 |
| 143 | Standard deviation | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 3 | 0 |
| 144 | Exhaust gas temperature, F | 192 | 194 | 341 | 227 | 274 | 316 | 222 | 367 | 238 |
| 144 | Standard deviation | 27 | 10 | 19 | 10 | 17 | 11 | 17 | 13 | 15 |
| 145 | Exhaust gas exit pressure, psid | 16.8 | 19.6 | 40.0 | 78.6 | 78.4 | 75.8 | 78.3 | 71.3 | 78.4 |
| 145 | Standard deviation | 0.1 | 0.4 | 25.5 | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | 0.3 |
| 146 | Exhaust gas flow rate, pph | 0.08 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 |
| 146 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 94 | 78 | 75 | 78 | 77 | 80 | 75 | 80 | 80 |
| 076 | Standard deviation | 37 | 12 | 4 | 1 | 0 | 1 | 2 | 3 | 0 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 74789 | 102300 | 215750 | 80501 | 60188 | 108450 | 99784 | 207410 | 104090 |
| C29 | Standard deviation | 5509 | 2136 | 6435 | 6861 | 4457 | 4048 | 7349 | 14256 | 2177 |
| C37 | Exhaust gas flow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C37 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C38 | Gas heat transfer, Btu/hr | 12914 | 10193 | 60485 | 12577 | 17159 | 39864 | 14974 | 67494 | 15920 |
| C38 | Standard deviation | 5071 | 2540 | 4766 | 1100 | 1959 | 2141 | 2069 | 3378 | 675 |
| C39 | Gas velocity at grid, ft/sec | 4.2 | 3.0 | 6.3 | 2.7 | 2.7 | 4.6 | 3.1 | 6.6 | 3.1 |
| C39 | Standard deviation | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 4.2 | 3.2 | 6.6 | 2.8 | 2.7 | 4.7 | 3.2 | 6.8 | 3.2 |
| C40 | Standard deviation | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 1.9 | 1.5 | 3.0 | 1.3 | 1.3 | 2.2 | 1.5 | 3.1 | 1.5 |
| C41 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.6 | 1.2 | 2.4 | 1.0 | 1.0 | 1.8 | 1.2 | 2.5 | 1.2 |
| C42 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.2 | 0.9 | 2.0 | 0.8 | 0.8 | 1.4 | 1.0 | 2.1 | 0.9 |
| C43 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 0.9 | 0.7 | 1.6 | 0.6 | 0.6 | 1.1 | 0.7 | 1.6 | 0.7 |
| C44 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.7 | 0.6 | 1.2 | 0.5 | 0.5 | 0.9 | 0.6 | 1.3 | 0.6 |
| C45 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

FOLDOUT FRAME 2

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|------|------|------|------|------|------|------|
| | | K10 | K12 | K11 | K14 | K13 | K15 | K16 |
| 122 | Gas cooler 4 coolant temperature, °F | 78 | 80 | 89 | 62 | 61 | 75 | 75 |
| 122 | Standard deviation | 0 | 1 | 2 | 6 | 7 | 1 | 1 |
| 123 | Gas cooler 3 coolant temperature, °F | 79 | 81 | 94 | 64 | 63 | 77 | 78 |
| 123 | Standard deviation | 0 | 1 | 3 | 6 | 7 | 0 | 1 |
| 124 | Gas cooler 2 coolant temperature, °F | 81 | 83 | 102 | 65 | 64 | 78 | 78 |
| 124 | Standard deviation | 1 | 1 | 2 | 6 | 7 | 0 | 2 |
| 125 | Gas cooler 1 coolant temperature, °F | 78 | 81 | 105 | 64 | 62 | 76 | 77 |
| 125 | Standard deviation | 1 | 2 | 7 | 6 | 7 | 0 | 2 |
| 126 | Gas cooler 4 gas temperature, °F | 518 | 576 | 585 | 493 | 443 | 516 | 508 |
| 126 | Standard deviation | 9 | 12 | 31 | 15 | 19 | 4 | 5 |
| 127 | Gas cooler 3 gas temperature, °F | 539 | 598 | 658 | 519 | 443 | 521 | 541 |
| 127 | Standard deviation | 8 | 12 | 29 | 14 | 25 | 8 | 6 |
| 128 | Gas cooler 2 gas temperature, °F | 503 | 556 | 627 | 513 | 426 | 520 | 523 |
| 128 | Standard deviation | 9 | 17 | 37 | 9 | 23 | 4 | 2 |
| 129 | Gas cooler 1 gas temperature, °F | 602 | 687 | 713 | 586 | 536 | 611 | 604 |
| 129 | Standard deviation | 10 | 15 | 35 | 10 | 11 | 2 | 1 |
| 130 | Gas cooler total coolant temperature, °F | 91 | 90 | 91 | 91 | 88 | 90 | 93 |
| 130 | Standard deviation | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 499 | 572 | 589 | 454 | 433 | 489 | 476 |
| 132 | Standard deviation | 8 | 14 | 32 | 17 | 17 | 5 | 5 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 488 | 556 | 617 | 465 | 442 | 487 | 488 |
| 133 | Standard deviation | 8 | 17 | 36 | 12 | 17 | 3 | 2 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 548 | 610 | 663 | 510 | 462 | 528 | 529 |
| 134 | Standard deviation | 8 | 15 | 38 | 10 | 13 | 5 | 1 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 503 | 594 | 646 | 499 | 465 | 529 | 526 |
| 135 | Standard deviation | 15 | 20 | 31 | 13 | 15 | 3 | 1 |
| 142 | Gas coolant flow rate, gal/min | 11.8 | 11.9 | 13.1 | 11.3 | 11.2 | 11.0 | 12.7 |
| 142 | Standard deviation | 0 | 0 | 1.3 | 1.0 | 0.2 | 0 | 2.2 |
| 143 | Gas cooler coolant outlet temperature, °F | 85 | 87 | 103 | 70 | 67 | 82 | 83 |
| 143 | Standard deviation | 0 | 1 | 4 | 6 | 7 | 1 | 2 |

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| | | | | | | | | |
|-----|---|--------|--------|--------|--------|-------|--------|--------|
| 142 | Standard deviation | 0 | 0 | 1.3 | 1.0 | 0.2 | 0 | 2.2 |
| 143 | Gas cooler coolant outlet temperature, °F | 85 | 87 | 103 | 70 | 67 | 82 | 83 |
| 143 | Standard deviation | 0 | 1 | 4 | 6 | 7 | 1 | 2 |
| 144 | Exhaust gas temperature, °F | 260 | 323 | 417 | 269 | 234 | 287 | 293 |
| 144 | Standard deviation | 3 | 11 | 28 | 3 | 7 | 3 | 2 |
| 145 | Exhaust gas exit pressure, psid | 77.9 | 76.4 | 70.7 | 78.3 | 78.7 | 78.2 | 57.9 |
| 145 | Standard deviation | 0.3 | 0.3 | 0.7 | 0.2 | 0.1 | 0.2 | 0.2 |
| 146 | Exhaust gas flow rate, pph | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 |
| 146 | Standard deviation | 0 | 0 | 0 | 0.01 | 0 | 0 | 0.01 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 77 | 80 | 89 | 83 | 77 | 82 | 83 |
| 076 | Standard deviation | 1 | 2 | 2 | 4 | 0 | 1 | 0 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 109320 | 117220 | 233820 | 108090 | 81593 | 101960 | 108570 |
| C29 | Standard deviation | 1064 | 4548 | 16437 | 3243 | 4042 | 1658 | 3462 |
| C37 | Exhaust gas flow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C37 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C38 | Gas heat transfer, Btu/hr | 19216 | 36796 | 81222 | 18452 | 12552 | 21607 | 22166 |
| C38 | Standard deviation | 905 | 1492 | 7367 | 886 | 626 | 574 | 343 |
| C39 | Gas velocity at grid, ft/sec | 3.3 | 4.1 | 6.8 | 3.0 | 2.4 | 3.1 | 4.1 |
| C39 | Standard deviation | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 3.4 | 4.3 | 7.0 | 3.1 | 2.5 | 3.2 | 4.3 |
| C40 | Standard deviation | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 1.6 | 2.0 | 3.2 | 1.4 | 1.2 | 1.5 | 2.0 |
| C41 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.2 | 1.6 | 2.6 | 1.1 | 1.0 | 1.2 | 1.6 |
| C42 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.0 | 1.3 | 2.2 | 1.0 | 0.7 | 1.0 | 1.3 |
| C43 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 0.8 | 1.0 | 1.7 | 0.7 | 0.6 | 0.7 | 1.0 |
| C44 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.6 | 0.8 | 1.4 | 0.6 | 0.5 | 0.6 | 0.8 |
| C45 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | |
|----------------------|---|------|------|------|------|------|
| | | CAS0 | CAS1 | CAS2 | CAS3 | CAS4 |
| 122 | Gas cooler 4 coolant temperature, °F | 73 | 298 | 327 | 310 | 328 |
| 122 | Standard deviation | 6 | 95 | 49 | 76 | 49 |
| 123 | Gas cooler 3 coolant temperature, °F | 75 | 298 | 328 | 310 | 328 |
| 123 | Standard deviation | 7 | 95 | 48 | 76 | 49 |
| 124 | Gas cooler 2 coolant temperature, °F | 76 | 298 | 327 | 310 | 328 |
| 124 | Standard deviation | 7 | 95 | 49 | 76 | 49 |
| 125 | Gas cooler 1 coolant temperature, °F | 73 | 298 | 325 | 310 | 328 |
| 125 | Standard deviation | 6 | 96 | 52 | 76 | 48 |
| 126 | Gas cooler 4 gas temperature, °F | 461 | 409 | 445 | 511 | 509 |
| 126 | Standard deviation | 121 | 144 | 75 | 164 | 107 |
| 127 | Gas cooler 3 gas temperature, °F | 472 | 431 | 458 | 524 | 532 |
| 127 | Standard deviation | 122 | 154 | 78 | 165 | 108 |
| 128 | Gas cooler 2 gas temperature, °F | 495 | 433 | 477 | 540 | 540 |
| 128 | Standard deviation | 130 | 154 | 82 | 173 | 113 |
| 129 | Gas cooler 1 gas temperature, °F | 555 | 466 | 485 | 548 | 580 |
| 129 | Standard deviation | 157 | 168 | 95 | 175 | 124 |
| 130 | Gas cooler total coolant temperature, °F | 64 | 69 | 58 | 78 | 84 |
| 130 | Standard deviation | 8 | 11 | 8 | 22 | 21 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 440 | 455 | 432 | 488 | 495 |
| 132 | Standard deviation | 110 | 162 | 70 | 155 | 103 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 452 | 448 | 425 | 478 | 485 |
| 133 | Standard deviation | 113 | 159 | 72 | 154 | 103 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 501 | 466 | 453 | 494 | 509 |
| 134 | Standard deviation | 127 | 167 | 77 | 156 | 106 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 466 | 450 | 410 | 436 | 496 |
| 135 | Standard deviation | 130 | 161 | 84 | 137 | 106 |
| 142 | Gas coolant flow rate, gal/min | 12.1 | (b) | (b) | (b) | 1.2 |
| 142 | Standard deviation | 1.6 | (b) | (b) | (b) | 0.2 |
| 143 | Gas cooler coolant outlet temperature, °F | 80 | 71 | 67 | 60 | 70 |
| 143 | Standard deviation | 3 | 5 | 2 | 4 | 2 |

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| | | | | | | |
|-----|---|--------|-------|-------|-------|-------|
| 142 | Standard deviation | 1.6 | (b) | (b) | (b) | 0.2 |
| 143 | Gas cooler coolant outlet temperature, °F | 80 | 71 | 67 | 60 | 70 |
| 143 | Standard deviation | 3 | 5 | 2 | 4 | 3 |
| 144 | Exhaust gas temperature, °F | 267 | 287 | 266 | 276 | 270 |
| 144 | Standard deviation | 29 | 48 | 29 | 41 | 40 |
| 145 | Exhaust gas exit pressure, psid | 95.4 | 68.2 | 14.5 | 14.6 | 14.3 |
| 145 | Standard deviation | 3.3 | 3.0 | 0.1 | 0.2 | 0.3 |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | 0.15 | 0.66 |
| 146 | Standard deviation | (b) | (b) | (b) | 0.09 | 0 |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 111 | 160 | 115 | 138 | 123 |
| 076 | Standard deviation | 80 | 74 | 58 | 88 | 60 |
| 152 | Exhaust gas exit pressure, psia | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C29 | Coolant heat transfer, Btu/hr | 132750 | (b) | (b) | (b) | (b) |
| C29 | Standard deviation | 17162 | (b) | (b) | (b) | (b) |
| C37 | Exhaust gas flow rate, lb/hr | (b) | (b) | (b) | (b) | (b) |
| C37 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C38 | Gas heat transfer, Btu/hr | 25449 | 42387 | 25391 | 29364 | 27353 |
| C38 | Standard deviation | 7660 | 7710 | 8326 | 9199 | 7233 |
| C39 | Gas velocity at grid, ft/sec | 4.6 | 4.9 | 4.5 | 4.5 | 4.5 |
| C39 | Standard deviation | 1.3 | 1.3 | 1.1 | 1.4 | 0.6 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 4.8 | 4.9 | 4.7 | 4.7 | 4.6 |
| C40 | Standard deviation | 1.2 | 1.0 | 1.0 | 1.3 | 0.6 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 |
| C41 | Standard deviation | 0.5 | 0.5 | 0.4 | 0.6 | 0.3 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 |
| C42 | Standard deviation | 0.4 | 0.4 | 0.4 | 0.5 | 0.2 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.4 | 1.5 | 1.4 | 1.4 | 1.4 |
| C43 | Standard deviation | 0.4 | 0.3 | 0.3 | 0.4 | 0.2 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.1 | 1.1 | 1.1 | 1.1 | 1.0 |
| C44 | Standard deviation | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.8 | 0.9 | 0.8 | 0.8 | 0.8 |
| C45 | Standard deviation | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 |

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2

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|-----|-----|-----|-----|-----|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 | L6 | M1 | M2 |
| 122 | Gas cooler 4 coolant temperature, °F | 338 | 305 | 338 | 338 | 338 | 338 | 338 | 316 |
| 122 | Standard deviation | 0 | 19 | 1 | 0 | 0 | 0 | 0 | 8 |
| 123 | Gas cooler 3 coolant temperature, °F | 338 | 313 | 338 | 338 | 338 | 338 | 338 | 312 |
| 123 | Standard deviation | 0 | 16 | 1 | 0 | 0 | 0 | 0 | 7 |
| 124 | Gas cooler 2 coolant temperature, °F | 338 | 310 | 338 | 338 | 338 | 338 | 338 | 311 |
| 124 | Standard deviation | 0 | 16 | 1 | 0 | 0 | 0 | 0 | 7 |
| 125 | Gas cooler 1 coolant temperature, °F | 338 | 302 | 338 | 338 | 338 | 338 | 338 | 319 |
| 125 | Standard deviation | 0 | 23 | 1 | 0 | 0 | 0 | 0 | 6 |
| 126 | Gas cooler 4 gas temperature, °F | 532 | 360 | 566 | 692 | 560 | 488 | 490 | 359 |
| 126 | Standard deviation | 66 | 22 | 29 | 75 | 32 | 11 | 10 | 17 |
| 127 | Gas cooler 3 gas temperature, °F | 550 | 343 | 576 | 756 | 642 | 516 | 525 | 377 |
| 127 | Standard deviation | 65 | 16 | 29 | 52 | 42 | 15 | 11 | 16 |
| 128 | Gas cooler 2 gas temperature, °F | 560 | 339 | 608 | 782 | 694 | 522 | 539 | 385 |
| 128 | Standard deviation | 69 | 14 | 25 | 38 | 32 | 13 | 12 | 18 |
| 129 | Gas cooler 1 gas temperature, °F | 610 | 402 | 589 | 804 | 704 | 553 | 522 | 398 |
| 129 | Standard deviation | 62 | 31 | 44 | 46 | 34 | 27 | 21 | 17 |
| 130 | Gas cooler total coolant temperature, °F | 68 | 58 | 82 | 78 | 68 | 66 | 99 | 71 |
| 130 | Standard deviation | 13 | 4 | 9 | 9 | 9 | 2 | 11 | 2 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 523 | 353 | 570 | 644 | 587 | 458 | 472 | 303 |
| 132 | Standard deviation | 68 | 34 | 31 | 38 | 27 | 16 | 11 | 19 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 440 | 307 | 496 | 541 | 465 | 392 | 407 | 261 |
| 133 | Standard deviation | 62 | 31 | 26 | 39 | 21 | 16 | 9 | 18 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 534 | 370 | 581 | 662 | 615 | 467 | 479 | 309 |
| 134 | Standard deviation | 73 | 41 | 32 | 36 | 27 | 18 | 10 | 19 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 516 | 341 | 476 | 644 | 603 | 457 | 425 | 310 |
| 135 | Standard deviation | 60 | 35 | 67 | 23 | 32 | 48 | 41 | 17 |
| 142 | Gas coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 142 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 143 | Gas cooler coolant outlet temperature, °F | 74 | 81 | 82 | 83 | 85 | 79 | 73 | 67 |
| 143 | Standard deviation | 9 | 2 | 1 | 1 | 1 | 0 | 1 | 0 |
| 144 | Exhaust gas tempera- | 291 | 167 | 250 | 387 | 355 | 225 | 242 | 145 |

FOLDOUT FRAME /

| | | gal/min | | | | | | | |
|-----|---|---------|------|-------|-------|-------|-------|-------|------|
| 142 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 143 | Gas cooler coolant outlet temperature, °F | 74 | 81 | 82 | 83 | 85 | 79 | 73 | 67 |
| 143 | Standard deviation | 9 | 2 | 1 | 1 | 1 | 0 | 1 | 0 |
| 144 | Exhaust gas temperature, °F | 291 | 167 | 250 | 387 | 355 | 225 | 242 | 145 |
| 144 | Standard deviation | 22 | 18 | 25 | 30 | 33 | 13 | 10 | 9 |
| 145 | Exhaust gas exit pressure, psid | 15.0 | 14.8 | 15.0 | 15.1 | 14.7 | 14.6 | 14.6 | 13.9 |
| 145 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0 | 0.1 | 0 |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | 1.10 | 1.07 | 1.05 | 1.36 | 1.93 | 1.00 | 1.02 | 1.06 |
| 151 | Standard deviation | 0.07 | 0.08 | 0.07 | 0.72 | 1.35 | 0.03 | 0.04 | 0.09 |
| 076 | Exhaust gas cooler gas temperature, °F | 168 | 95 | 121 | 124 | 122 | 77 | 103 | 83 |
| 076 | Standard deviation | 95 | 7 | 31 | 12 | 48 | 1 | 5 | 3 |
| 152 | Exhaust gas exit pressure, psia | 54.9 | 51.4 | 70.6 | 67.2 | 63.9 | 60.9 | 87.5 | 64.5 |
| 152 | Standard deviation | 2.7 | 3.3 | 5.1 | 5.4 | 4.3 | 2.0 | 4.9 | 3.5 |
| C29 | Coolant heat transfer, Btu/hr | 34 | (b) | 270 | 453 | (b) | (b) | 5012 | 1291 |
| C29 | Standard deviation | 22 | (b) | 239 | (b) | (b) | (b) | 508 | 360 |
| C37 | Exhaust gas flow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C37 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C38 | Gas heat transfer, Btu/hr | 40141 | 5803 | 19803 | 71733 | 63853 | 15210 | 20098 | 3265 |
| C38 | Standard deviation | 5828 | 2162 | 3328 | 8535 | 9366 | 1448 | 1659 | 783 |
| C39 | Gas velocity at grid, ft/sec | 5.0 | 2.1 | 3.4 | 6.3 | 6.3 | 3.2 | 3.5 | 2.4 |
| C39 | Standard deviation | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0 | 0.1 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 5.3 | 2.1 | 3.5 | 6.8 | 6.8 | 3.4 | 3.6 | 2.5 |
| C40 | Standard deviation | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0 | 0.1 | 0.1 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 2.5 | 1.0 | 1.6 | 3.1 | 3.1 | 1.6 | 1.6 | 1.1 |
| C41 | Standard deviation | 0.1 | 0.1 | 0 | 0.1 | 0.1 | 0 | 0 | 0.1 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 2.0 | 0.8 | 1.3 | 2.5 | 2.5 | 1.3 | 1.3 | 0.8 |
| C42 | Standard deviation | 0 | 0.1 | 0 | 0.1 | 0.1 | 0 | 0 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.6 | 0.6 | 1.1 | 2.1 | 2.1 | 1.0 | 1.0 | 0.7 |
| C43 | Standard deviation | 0 | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.2 | 0.5 | 0.8 | 1.7 | 1.6 | 0.8 | 0.8 | 0.5 |
| C44 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 1.0 | 0.4 | 0.5 | 1.3 | 1.3 | 0.6 | 0.6 | 0.4 |
| C45 | Standard deviation | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--|------|-----|-----|-----|-----|-----|-----|-----|-----|
| | | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M11 | M12 |
| 122 | Gas cooler 4 coolant temperature, °F | 336 | 338 | 338 | 338 | 308 | 338 | 338 | 338 | 338 |
| 122 | Standard deviation | 5 | 0 | 0 | 0 | 13 | 0 | 1 | 0 | 0 |
| 123 | Gas cooler 3 coolant temperature, °F | 337 | 338 | 338 | 338 | 315 | 338 | 338 | 338 | 338 |
| 123 | Standard deviation | 4 | 0 | 0 | 0 | 12 | 0 | 1 | 0 | 0 |
| 124 | Gas cooler 2 coolant temperature, °F | 337 | 338 | 338 | 338 | 311 | 338 | 338 | 338 | 338 |
| 124 | Standard deviation | 3 | 0 | 0 | 0 | 13 | 0 | 1 | 0 | 0 |
| 125 | Gas cooler 1 coolant temperature, °F | 338 | 338 | 338 | 338 | 318 | 338 | 338 | 338 | 338 |
| 125 | Standard deviation | 0 | 0 | 0 | 0 | 13 | 0 | 1 | 0 | 0 |
| 126 | Gas cooler 4 gas temperature, °F | 459 | 653 | 655 | 480 | 399 | 516 | 550 | 536 | 670 |
| 126 | Standard deviation | 25 | 13 | 7 | 7 | 7 | 14 | 12 | 15 | 37 |
| 127 | Gas cooler 3 gas temperature, °F | 487 | 688 | 695 | 507 | 418 | 528 | 563 | 566 | 682 |
| 127 | Standard deviation | 27 | 12 | 9 | 7 | 9 | 11 | 14 | 19 | 45 |
| 128 | Gas cooler 2 gas temperature, °F | 505 | 716 | 727 | 529 | 437 | 553 | 588 | 586 | 719 |
| 128 | Standard deviation | 28 | 13 | 7 | 8 | 9 | 13 | 14 | 20 | 44 |
| 129 | Gas cooler 1 gas temperature, °F | 499 | 717 | 729 | 524 | 398 | 576 | 600 | 570 | 691 |
| 129 | Standard deviation | 24 | 11 | 14 | 14 | 47 | 56 | 23 | 19 | 70 |
| 130 | Gas cooler total coolant temperature, °F | 83 | 78 | 89 | 85 | 83 | 73 | 87 | 84 | 42 |
| 130 | Standard deviation | 1 | 4 | 3 | 2 | 4 | 5 | 2 | 1 | 10 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 408 | 618 | 624 | 428 | 352 | 443 | 483 | 479 | 640 |
| 132 | Standard deviation | 32 | 19 | 12 | 7 | 13 | 21 | 19 | 18 | 49 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 353 | 519 | 529 | 368 | 302 | 394 | 424 | 423 | 532 |
| 133 | Standard deviation | 27 | 14 | 10 | 7 | 12 | 19 | 11 | 17 | 38 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 421 | 624 | 633 | 435 | 354 | 448 | 485 | 493 | 635 |
| 134 | Standard deviation | 33 | 16 | 11 | 7 | 12 | 22 | 20 | 19 | 44 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 388 | 592 | 612 | 401 | 262 | 441 | 451 | 427 | 522 |
| 135 | Standard deviation | 26 | 16 | 25 | 23 | 74 | 78 | 33 | 25 | 85 |
| 142 | Gas coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 142 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 143 | Gas cooler coolant outlet temperature, °F | 68 | 70 | 69 | 64 | 55 | 58 | 59 | 62 | 63 |
| 143 | Standard deviation | 1 | 1 | 1 | 4 | 1 | 6 | 2 | 0 | 1 |
| | | 193 | 329 | 339 | 204 | 159 | 231 | 274 | 254 | 364 |

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| | | | | | | | | | | |
|-----|---|------|-------|-------|------|------|-------|-------|-------|-------|
| 142 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | |
| 143 | Gas cooler coolant outlet temperature, °F | 68 | 70 | 69 | 64 | 55 | 58 | 59 | 62 | 63 |
| 143 | Standard deviation | 1 | 1 | 1 | 4 | 1 | 6 | 2 | 0 | 1 |
| 144 | Exhaust gas temperature, °F | 193 | 329 | 339 | 204 | 159 | 231 | 274 | 254 | 364 |
| 144 | Standard deviation | 13 | 10 | 17 | 20 | 13 | 15 | 19 | 8 | 27 |
| 145 | Exhaust gas exit pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | 1.07 | 1.06 | 1.10 | 1.02 | 0.99 | 1.07 | 1.07 | 1.05 | 1.06 |
| 151 | Standard deviation | 0.07 | 0.07 | 0.10 | 0.05 | 0.03 | 0.07 | 0.07 | 0.06 | 0.06 |
| 076 | Exhaust gas cooler gas temperature, °F | 84 | 93 | 101 | 87 | 81 | 79 | 92 | 95 | 92 |
| 076 | Standard deviation | 1 | 4 | 1 | 6 | 2 | 1 | 4 | 1 | 1 |
| 152 | Exhaust gas exit pressure, psia | 76.8 | 67.1 | 81.9 | 75.3 | 75.2 | 68.0 | 81.2 | 78.9 | 39.2 |
| 152 | Standard deviation | 0.9 | 4.4 | 4.0 | 3.1 | 2.6 | 3.3 | 2.3 | 1.0 | 7.3 |
| C29 | Coolant heat transfer, Btu/hr | 2293 | 3226 | 3446 | 2089 | (b) | 6422 | (b) | (b) | 1109 |
| C29 | Standard deviation | 701 | 673 | 323 | 955 | (b) | 5784 | (b) | (b) | 710 |
| C37 | Exhaust gas flow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C37 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C38 | Gas heat transfer, Btu/hr | 8849 | 45319 | 46735 | 9671 | 6087 | 15357 | 22087 | 16215 | 52330 |
| C38 | Standard deviation | 1815 | 2790 | 4267 | 2674 | 1155 | 1800 | 2672 | 1404 | 5721 |
| C39 | Gas velocity at grid, ft/sec | 3.2 | 5.3 | 5.2 | 3.1 | 2.4 | 3.4 | 3.4 | 3.1 | 5.3 |
| C39 | Standard deviation | 0.1 | 0.2 | 0.1 | 0 | 0.1 | 0 | 0 | 0.1 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 3.3 | 5.6 | 5.5 | 3.3 | 2.5 | 3.6 | 3.6 | 3.3 | 5.7 |
| C40 | Standard deviation | 0.1 | 0.2 | 0.1 | 0 | 0.1 | 0 | 0.1 | 0.1 | 0.1 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 1.5 | 2.6 | 2.5 | 1.5 | 1.1 | 1.7 | 1.7 | 1.5 | 2.6 |
| C41 | Standard deviation | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.2 | 2.0 | 2.0 | 1.2 | 0.9 | 1.3 | 1.3 | 1.2 | 2.1 |
| C42 | Standard deviation | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 0.9 | 1.7 | 1.7 | 0.9 | 0.7 | 1.0 | 1.0 | 0.9 | 1.7 |
| C43 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 0.7 | 1.3 | 1.3 | 0.7 | 0.5 | 0.8 | 0.8 | 0.7 | 1.3 |
| C44 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.6 | 1.0 | 1.0 | 0.6 | 0.4 | 0.6 | 0.6 | 0.6 | 1.1 |
| C45 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Continued. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--|------|-----|-----|-----|-----|------|------|-----|
| | | N1 | N2 | N5A | N5B | N6 | N55A | N55B | N7 |
| 122 | Gas cooler 4 coolant temperature, °F | 330 | 338 | 313 | 338 | 338 | 336 | 338 | 338 |
| 122 | Standard deviation | 34 | 1 | 68 | 0 | 0 | 8 | 0 | 0 |
| 123 | Gas cooler 3 coolant temperature, °F | 330 | 338 | 311 | 338 | 338 | 334 | 338 | 338 |
| 123 | Standard deviation | 35 | 1 | 68 | 0 | 0 | 13 | 0 | 0 |
| 124 | Gas cooler 2 coolant temperature, °F | 329 | 338 | 312 | 338 | 338 | 334 | 338 | 338 |
| 124 | Standard deviation | 35 | 1 | 67 | 0 | 0 | 13 | 0 | 0 |
| 125 | Gas cooler 1 coolant temperature, °F | 330 | 338 | 314 | 338 | 338 | 335 | 338 | 338 |
| 125 | Standard deviation | 34 | 1 | 61 | 0 | 0 | 10 | 0 | 0 |
| 126 | Gas cooler 4 gas temperature, °F | 548 | 565 | 504 | 562 | 434 | 545 | 571 | 369 |
| 126 | Standard deviation | 73 | 6 | 133 | 5 | 9 | 36 | 3 | 14 |
| 127 | Gas cooler 3 gas temperature, °F | 565 | 570 | 521 | 584 | 452 | 561 | 589 | 369 |
| 127 | Standard deviation | 77 | 6 | 139 | 11 | 11 | 39 | 3 | 18 |
| 128 | Gas cooler 2 gas temperature, °F | 584 | 596 | 541 | 600 | 460 | 590 | 619 | 384 |
| 128 | Standard deviation | 79 | 6 | 141 | 9 | 13 | 38 | 2 | 17 |
| 129 | Gas cooler 1 gas temperature, °F | 611 | 637 | 560 | 633 | 500 | 617 | 646 | 435 |
| 129 | Standard deviation | 82 | 11 | 150 | 7 | 14 | 42 | 4 | 14 |
| 130 | Gas cooler total coolant temperature, °F | 76 | 73 | 86 | 83 | 88 | 79 | 78 | 73 |
| 130 | Standard deviation | 3 | 3 | 3 | 4 | 6 | 2 | 1 | 2 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 522 | 523 | 479 | 529 | 396 | 575 | 606 | 368 |
| 132 | Standard deviation | 70 | 7 | 131 | 10 | 14 | 41 | 3 | 35 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 420 | 416 | 386 | 422 | 328 | 458 | 485 | 294 |
| 133 | Standard deviation | 56 | 6 | 101 | 15 | 10 | 33 | 4 | 30 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 518 | 519 | 476 | 527 | 394 | 564 | 594 | 360 |
| 134 | Standard deviation | 67 | 7 | 130 | 11 | 12 | 37 | 4 | 31 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 516 | 526 | 475 | 543 | 421 | 574 | 599 | 391 |
| 135 | Standard deviation | 73 | 16 | 136 | 12 | 18 | 42 | 3 | 25 |
| 142 | Gas coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 142 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 143 | Gas cooler coolant outlet temperature, °F | 64 | 70 | 75 | 73 | 72 | 69 | 69 | 66 |
| 143 | Standard deviation | 3 | 2 | 1 | 1 | 3 | 1 | 3 | 1 |

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| | | | | | | | | |
|-----|---|-------|-------|-------|-------|------|-------|-------|
| 142 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 143 | Gas cooler coolant outlet temperature, °F | 64 | 70 | 75 | 73 | 72 | 69 | 66 |
| 143 | Standard deviation | 3 | 2 | 1 | 1 | 3 | 1 | 3 |
| 144 | Exhaust gas temperature, °F | 251 | 258 | 251 | 257 | 188 | 262 | 291 |
| 144 | Standard deviation | 35 | 11 | 30 | 9 | 10 | 34 | 14 |
| 145 | Exhaust gas exit pressure, psid | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | 4.68 | 7.24 | 4.02 | (b) | (b) | (b) | 17.34 |
| 151 | Standard deviation | 1.01 | 4.10 | 2.58 | (b) | (b) | (b) | 4.62 |
| 076 | Exhaust gas cooler gas temperature, °F | 90 | 69 | 141 | 91 | 99 | 116 | 97 |
| 076 | Standard deviation | 31 | 2 | 83 | 4 | 2 | 35 | 1 |
| 152 | Exhaust gas exit pressure, psia | 53.8 | 75.0 | 70.3 | 72.1 | 76.3 | 69.8 | 69.3 |
| 152 | Standard deviation | 0.7 | 0.5 | 6.3 | 0.7 | 0.5 | 0.4 | 0.3 |
| C29 | Coolant heat transfer, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C37 | Exhaust gas flow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C37 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C38 | Gas heat transfer, Btu/hr | 24608 | 24530 | 24260 | 26066 | 9577 | 33907 | 40105 |
| C38 | Standard deviation | 4895 | 2735 | 5042 | 1744 | 1413 | 6389 | 2355 |
| C39 | Gas velocity at grid, ft/sec | 5.9 | 4.4 | 4.5 | 4.4 | 3.0 | 4.5 | 4.5 |
| C39 | Standard deviation | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0 | 0 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 6.2 | 4.7 | 4.7 | 4.6 | 3.1 | 4.7 | 4.7 |
| C40 | Standard deviation | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0 | 0 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 2.8 | 2.1 | 2.1 | 2.1 | 1.4 | 2.2 | 2.2 |
| C41 | Standard deviation | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 2.3 | 1.7 | 1.7 | 1.7 | 1.1 | 1.7 | 1.7 |
| C42 | Standard deviation | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.9 | 1.4 | 1.4 | 1.4 | 0.9 | 1.4 | 1.4 |
| C43 | Standard deviation | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.4 | 1.1 | 1.1 | 1.1 | 0.7 | 1.1 | 1.1 |
| C44 | Standard deviation | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.4 | 0.3 | 0.3 | 0.4 | 0.2 | 0.3 | 0.5 |
| C45 | Standard deviation | 0.2 | 0 | 0.1 | 0.2 | 0 | 0.1 | 0.2 |

^bData or results were not obtained.

TABLE 4. - Continued.

(g) Concluded. Combustor gas system data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|--|------|-----|-----|-----|-----|------|------|
| | | T6A | T6B | T7A | T7B | T7C | T7D1 | T7D2 |
| 122 | Gas cooler 4 coolant temperature, °F | 328 | 321 | 336 | 332 | 326 | 330 | 337 |
| 122 | Standard deviation | 50 | 60 | 19 | 36 | 48 | 42 | 11 |
| 123 | Gas cooler 3 coolant temperature, °F | 328 | 321 | 336 | 332 | 326 | 330 | 337 |
| 123 | Standard deviation | 50 | 60 | 19 | 35 | 48 | 42 | 11 |
| 124 | Gas cooler 2 coolant temperature, °F | 328 | 321 | 336 | 332 | 326 | 330 | 337 |
| 124 | Standard deviation | 50 | 59 | 18 | 35 | 48 | 42 | 10 |
| 125 | Gas cooler 1 coolant temperature, °F | 328 | 321 | 336 | 332 | 327 | 331 | 337 |
| 125 | Standard deviation | 48 | 59 | 18 | 33 | 46 | 39 | 11 |
| 126 | Gas cooler 4 gas temperature, °F | 489 | 474 | 556 | 598 | 515 | 527 | 489 |
| 126 | Standard deviation | 86 | 112 | 60 | 79 | 113 | 92 | 44 |
| 127 | Gas cooler 3 gas temperature, °F | 511 | 495 | 499 | 538 | 497 | 474 | 442 |
| 127 | Standard deviation | 92 | 116 | 43 | 74 | 109 | 99 | 33 |
| 128 | Gas cooler 2 gas temperature, °F | 522 | 504 | 567 | 633 | 563 | 571 | 542 |
| 128 | Standard deviation | 94 | 117 | 57 | 85 | 125 | 89 | 39 |
| 129 | Gas cooler 1 gas temperature, °F | 519 | 521 | 577 | 636 | 536 | 498 | 508 |
| 129 | Standard deviation | 90 | 124 | 58 | 82 | 119 | 106 | 88 |
| 130 | Gas cooler total coolant temperature, °F | 61 | 82 | 97 | 82 | 87 | 94 | 95 |
| 130 | Standard deviation | 23 | 8 | 8 | 6 | 6 | 9 | 7 |
| 132 | Gas heat exchanger 4 wall temperature, °F | 526 | 460 | 586 | 614 | 524 | 611 | 619 |
| 132 | Standard deviation | 92 | 110 | 75 | 88 | 123 | 101 | 46 |
| 133 | Gas heat exchanger 3 wall temperature, °F | 439 | 379 | 402 | 382 | 363 | 434 | 418 |
| 133 | Standard deviation | 78 | 89 | 42 | 53 | 88 | 70 | 34 |
| 134 | Gas heat exchanger 2 wall temperature, °F | 526 | 460 | 581 | 587 | 518 | 609 | 621 |
| 134 | Standard deviation | 92 | 109 | 74 | 83 | 118 | 100 | 44 |
| 135 | Gas heat exchanger 1 wall temperature, °F | 479 | 438 | 516 | 539 | 445 | 432 | 502 |
| 135 | Standard deviation | 81 | 105 | 63 | 72 | 103 | 82 | 104 |
| 142 | Gas coolant flow rate, gal/min | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 142 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 143 | Gas cooler coolant outlet temperature, °F | 67 | 70 | 79 | 68 | 73 | 74 | 73 |
| 143 | Standard deviation | 2 | 2 | 4 | 3 | 4 | 4 | 4 |

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| | | | | | | | | |
|-----|---|-------|-------|-------|-------|-------|-------|-------|
| 142 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 143 | Gas cooler coolant outlet temperature, °F | 67 | 70 | 79 | 68 | 73 | 74 | 73 |
| 143 | Standard deviation | 2 | 2 | 4 | 3 | 4 | 4 | 4 |
| 144 | Exhaust gas temperature, °F | 253 | 251 | 295 | 293 | 267 | 319 | 301 |
| 144 | Standard deviation | 31 | 33 | 32 | 25 | 43 | 29 | 27 |
| 145 | Exhaust gas exit pressure, psid | 32.9 | 51.6 | 39.5 | 41.3 | 43.5 | 42.4 | 42.0 |
| 145 | Standard deviation | 11.3 | 9.1 | 9.8 | 14.6 | 11.8 | 8.8 | 4.3 |
| 146 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Exhaust gas flow rate, pph | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 076 | Exhaust gas cooler gas temperature, °F | 102 | 133 | 119 | 121 | 118 | 125 | 115 |
| 076 | Standard deviation | 48 | 77 | 38 | 52 | 50 | 47 | 46 |
| 152 | Exhaust gas exit pressure, psia | (b) | 66.3 | 33.3 | 36.1 | 30.7 | 29.2 | 23.6 |
| 152 | Standard deviation | (b) | 7.8 | 11.1 | 15.6 | 16.4 | 11.5 | 5.4 |
| C29 | Coolant heat transfer, Btu/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C29 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C37 | Exhaust gas flow rate, lb/hr | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C37 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C38 | Gas heat transfer, Btu/hr | 34725 | 25422 | 34631 | 34463 | 30659 | 40162 | 36507 |
| C38 | Standard deviation | 4760 | 5280 | 5941 | 5270 | 7792 | 4900 | 4857 |
| C39 | Gas velocity at grid, ft/sec | 4.9 | 4.2 | 4.8 | 4.8 | 4.8 | 4.9 | 4.8 |
| C39 | Standard deviation | 0.4 | 1.0 | 0.2 | 0.4 | 0.6 | 0.5 | 0.1 |
| C40 | Gas velocity at 26-inch bed, ft/sec | 5.2 | 4.5 | 5.1 | 5.0 | 5.1 | 5.1 | 5.0 |
| C40 | Standard deviation | 0.4 | 0.9 | 0.2 | 0.4 | 0.6 | 0.4 | 0.1 |
| C41 | Gas velocity at 44-inch bed, ft/sec | 2.4 | 2.0 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| C41 | Standard deviation | 0.2 | 0.4 | 0.1 | 0.2 | 0.3 | 0.2 | 0 |
| C42 | Gas velocity at 52-inch bed, ft/sec | 1.9 | 1.7 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 |
| C42 | Standard deviation | 0.1 | 0.3 | 0.1 | 0.2 | 0.2 | 0.1 | 0 |
| C43 | Gas velocity at 68-inch bed, ft/sec | 1.5 | 1.3 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| C43 | Standard deviation | 0.1 | 0.3 | 0.1 | 0.1 | 0.2 | 0.1 | 0 |
| C44 | Gas velocity at 80-inch bed, ft/sec | 1.2 | 1.0 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| C44 | Standard deviation | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0 |
| C45 | Gas velocity at 97-inch bed, ft/sec | 0.9 | 0.3 | 0.9 | 0.9 | 0.9 | 0.9 | 1.0 |
| C45 | Standard deviation | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0 |

^bData or results were not obtained.

TABLE 4. - Continued.

(h) Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-----------------------------------|--------|--------|--------|--------|-------|--------|-------|-------|-------|
| | | A1A | A2A | A11A | A10A | A9A | A9B | A1B | A10B | A11B |
| 027 | Sample gas temperature, °F | 63 | 68 | 70 | 56 | 61 | 87 | 85 | 70 | 66 |
| 027 | Standard deviation | 1 | 2 | 5 | 3 | 3 | 2 | 2 | 1 | 1 |
| 026 | Sample gas pressure, psia | 14.3 | 14.4 | 14.4 | 14.4 | 18.6 | 14.4 | 14.5 | 14.4 | 14.5 |
| 026 | Standard deviation | 0 | 0 | 0.1 | 0 | 16.1 | 0 | 0.1 | 0 | 0.1 |
| 063 | Nitrogen oxides content, ppm | 128 | 157 | 175 | 166 | 76 | 93 | 119 | 164 | 174 |
| 063 | Standard deviation | 13 | 24 | 14 | 14 | 77 | 34 | 9 | 5 | 7 |
| 064 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Carbon monoxide content, ppm | 75 | 28 | 23 | 19 | 21 | 30 | 30 | 28 | 31 |
| 065 | Standard deviation | 94 | 4 | 4 | 3 | 22 | 2 | 2 | 10 | 1 |
| 066 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Hydrocarbon content, ppm | 14 | 8 | 4 | 2 | 17 | 24 | 5 | 4 | 3 |
| 067 | Standard deviation | 12 | 9 | 2 | 1 | 43 | 22 | 1 | 1 | 0 |
| 068 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Carbon dioxide content, ppm | 125600 | 116590 | 109210 | 121720 | 64638 | 89775 | 98305 | 98221 | 98462 |
| 069 | Standard deviation | 2231 | 3722 | 8966 | 4543 | 47379 | 34461 | 5606 | 4907 | 1426 |
| 070 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Sulfur oxide content, ppm | 7.1 | 9.3 | 2.1 | 5.3 | 5.3 | 16.4 | 153.3 | 107.4 | 95.5 |
| 071 | Standard deviation | 3.7 | 10.8 | 2.1 | 7.7 | 4.6 | 12.1 | 79.6 | 42.5 | 10.1 |
| 072 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 66914 | 92995 | 92076 | 85552 | 48977 | 111730 | 84057 | 98533 | 85162 |
| 073 | Standard deviation | 21538 | 14385 | 5419 | 8817 | 38598 | 55152 | 6760 | 39130 | 1434 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 6.5 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 254 | 254 | 263 | 267 | 185 | 270 | 254 | 256 | 225 |
| 075 | Standard deviation | 8 | 36 | 10 | 11 | 70 | 20 | 20 | 25 | 2 |
| 057 | Sample gas pressure, psia | 29.1 | 27.2 | 29.1 | 29.0 | 28.2 | 29.7 | 27.3 | 29.7 | 29.6 |
| 057 | Standard deviation | 0.1 | 4.8 | 0.1 | 0.1 | 2.1 | 0.2 | 5.0 | 0.2 | 0.1 |
| 089 | Sample line differential | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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| | | | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 66914 | 92995 | 92076 | 85552 | 48977 | 111730 | 84057 | 98533 | 85162 |
| 073 | Standard deviation | 21538 | 14385 | 5419 | 8817 | 38598 | 55152 | 6760 | 39130 | 1434 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 6.5 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 254 | 254 | 263 | 267 | 185 | 270 | 254 | 256 | 225 |
| 075 | Standard deviation | 8 | 36 | 10 | 11 | 70 | 20 | 20 | 25 | 2 |
| 057 | Sample gas pressure, psia | 29.1 | 27.2 | 29.1 | 29.0 | 28.2 | 29.7 | 27.3 | 29.7 | 29.6 |
| 057 | Standard deviation | 0.1 | 4.8 | 0.1 | 0.1 | 2.1 | 0.2 | 5.0 | 0.2 | 0.1 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Sample line temperature, °F | 218 | 218 | 218 | 217 | 216 | 216 | 216 | 216 | 216 |
| 146 | Standard deviation | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 |
| 150 | Sample line differential temperature, °F | 146 | 146 | 146 | 146 | 146 | 146 | 144 | 146 | 146 |
| 150 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | 285 | 286 | 290 | 287 | 222 | 292 | 291 | 290 | 288 |
| 159 | Standard deviation | 1 | 5 | 1 | 3 | 46 | 2 | 3 | 2 | 0 |
| C34 | SO _x concentration, ppm | 6.1 | 9.0 | 2.1 | 5.3 | 2.1 | 16.4 | 167.2 | 107.4 | 95.5 |
| C34 | Standard deviation | 3.4 | 11.6 | 2.1 | 7.7 | 0.9 | 12.1 | 75.5 | 42.5 | 10.1 |
| C46 | NO _x concentration, lb/MBtu | 0.203 | 0.840 | 0.317 | 0.405 | 0.133 | 0.183 | 0.219 | 0.288 | 0.311 |
| C46 | Standard deviation | 0.043 | 1.565 | 0.057 | 0.296 | 0.134 | 0.074 | 0.029 | 0.025 | 0.062 |
| C47 | SO _x concentration, lb/MBtu | 0.012 | 0.041 | 0.005 | 0.014 | 0.006 | 0.048 | 0.433 | 0.263 | 0.239 |
| C47 | Standard deviation | 0.006 | 0.041 | 0.005 | 0.017 | 0.006 | 0.042 | 0.213 | 0.109 | 0.058 |
| C49 | Exhaust sulfur, percent of input | 0.42 | 1.44 | 0.18 | 0.50 | 0.22 | 1.67 | 15.08 | 9.16 | 8.30 |
| C49 | Standard deviation | 0.03 | 0.25 | 0.02 | 0.08 | 0.03 | 0.20 | 1.05 | 0.53 | 0.29 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | | |
|--------------|-----------------------------------|-------|--------|-------|-------|--------|--------|--------|--------|
| | | A8B | A7B | A6B | A5B | A3B | A16B | A12B | A17B |
| 027 | Sample gas temperature, °F | 76 | 82 | 74 | 69 | 66 | 71 | 86 | 89 |
| 027 | Standard deviation | 4 | 2 | 2 | 1 | 1 | 6 | 3 | 1 |
| 026 | Sample gas pressure, psia | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 | 14.5 |
| 026 | Standard deviation | 0.1 | 0.1 | 0 | 0.1 | 0.1 | 0 | 0 | 0.1 |
| 063 | Nitrogen oxides content, ppm | 176 | 145 | 172 | 129 | 5 | 116 | 163 | 174 |
| 063 | Standard deviation | 12 | 10 | 7 | 88 | 1 | 64 | 14 | 23 |
| 064 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Carbon monoxide content, ppm | 33 | 26 | 49 | 100 | 44 | 45 | 87 | 21 |
| 065 | Standard deviation | 2 | 6 | 5 | 9 | 2 | 3 | 9 | 3 |
| 066 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Hydrocarbon content, ppm | 2.6 | 2.2 | 3.3 | 6.9 | 3.3 | 2.9 | 10.7 | 7.7 |
| 067 | Standard deviation | 0.2 | 0.8 | 0.2 | 0.8 | 1.9 | 0.2 | 5.7 | 1.7 |
| 068 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Carbon dioxide content, ppm | 98390 | 103110 | 90221 | 91702 | 103350 | 107080 | 130040 | 104320 |
| 069 | Standard deviation | 2466 | 5990 | 2328 | 2729 | 7502 | 6261 | 8316 | 2959 |
| 070 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Sulfur oxide content, ppm | 129 | 149 | 271 | 464 | 384 | 312 | 373 | 72 |
| 071 | Standard deviation | 12 | 70 | 79 | 35 | 38 | 36 | 115 | 34 |
| 072 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 86049 | 82149 | 88774 | 90549 | 84322 | 86612 | 48814 | 81124 |
| 073 | Standard deviation | 3083 | 5662 | 2840 | 4952 | 7664 | 5701 | 8918 | 1847 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 5.0 | 5.0 | 5.0 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, F | 225 | 233 | 233 | 219 | 211 | 270 | 279 | 270 |

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| | | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|-------|-------|
| 073 | Oxygen content, ppm | 86049 | 82149 | 88774 | 90549 | 84322 | 86612 | 48814 | 81124 |
| 073 | Standard deviation | 3083 | 5662 | 2840 | 4952 | 7664 | 5701 | 8918 | 1847 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 5.0 | 5.0 | 5.0 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 225 | 233 | 233 | 219 | 211 | 270 | 279 | 270 |
| 075 | Standard deviation | 3 | 17 | 13 | 2 | 5 | 21 | 8 | 18 |
| 057 | Sample gas pressure, psia | 29.6 | 28.2 | 28.9 | 29.3 | 29.5 | 28.7 | 24.8 | 29.3 |
| 057 | Standard deviation | 0 | 4.1 | 0 | 0.2 | 0.2 | 0.4 | 2.4 | 0.1 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Sample line temperature, °F | 216 | 216 | 215 | 216 | 216 | 217 | 216 | 217 |
| 146 | Standard deviation | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 3 |
| 150 | Sample line differential temperature, °F | 146 | 146 | 146 | 146 | 146 | 146 | 146 | 147 |
| 150 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | 290 | 289 | 285 | 287 | 286 | 288 | 291 | 291 |
| 159 | Standard deviation | 1 | 4 | 5 | 1 | 1 | 3 | 2 | 1 |
| C34 | SO _x concentration, ppm | 129 | 161 | 271 | 464 | 384 | 312 | 291 | 72 |
| C34 | Standard deviation | 12 | 58 | 79 | 35 | 38 | 36 | 125 | 34 |
| C46 | NO _x concentration, lb/MBtu | 0.300 | 0.254 | 0.298 | 0.167 | 0.008 | 0.190 | 0.209 | 0.305 |
| C46 | Standard deviation | 0.043 | 0.049 | 0.062 | 0.156 | 0.002 | 0.108 | 0.045 | 0.045 |
| C47 | SO _x concentration, lb/MBtu | 0.308 | 0.384 | 0.674 | 0.962 | 0.938 | 0.704 | 0.570 | 0.194 |
| C47 | Standard deviation | 0.053 | 0.131 | 0.286 | 0.424 | 0.276 | 0.097 | 0.267 | 0.112 |
| C49 | Exhaust sulfur, percent of input | 10.70 | 13.35 | 23.43 | 33.44 | 32.63 | 24.47 | 19.83 | 6.73 |
| C49 | Standard deviation | 0.26 | 0.65 | 1.41 | 2.09 | 1.36 | 0.48 | 1.32 | 0.55 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---------------------------------------|-------|-------|-------|-------|--------|-------|--------|
| | | C1 | C3 | C8 | C11 | C12 | C16 | C17 |
| 027 | Sample gas temperature, °F | 59 | 58 | 53 | 48 | 62 | 69 | 71 |
| 027 | Standard deviation | 1 | 0 | 2 | 2 | 3 | 1 | 0 |
| 026 | Sample gas pressure, psia | 14.4 | 14.4 | 14.5 | 14.5 | 14.4 | 14.4 | 14.4 |
| 026 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 063 | Nitrogen oxides con- tent, ppm | 187 | 224 | 212 | 174 | 185 | 212 | 149 |
| 063 | Standard deviation | 40 | 11 | 3 | 66 | 64 | 8 | 85 |
| 064 | Nitrogen oxides con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Carbon monoxide con- tent, ppm | 74 | 43 | 39 | 32 | 71 | 59 | 26 |
| 065 | Standard deviation | 18 | 3 | 5 | 11 | 18 | 5 | 8 |
| 066 | Carbon monoxide con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Hydrocarbon content, ppm | 10.2 | 2.5 | 2.2 | 3.3 | 4.7 | 2.9 | 3.5 |
| 067 | Standard deviation | 1.2 | 0.3 | 0.5 | 0.8 | 2.1 | 0.3 | 0.4 |
| 068 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Carbon dioxide content, ppm | 87581 | 99602 | 90137 | 85746 | 115170 | 97547 | 73343 |
| 069 | Standard deviation | 5014 | 4893 | 2402 | 30892 | 28704 | 1919 | 42331 |
| 070 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Sulfur oxide content, ppm | 423 | 404 | 419 | 290 | 252 | 313 | 318 |
| 071 | Standard deviation | 75 | 27 | 19 | 65 | 102 | 16 | 185 |
| 072 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 92511 | 87881 | 97541 | 82499 | 55321 | 90364 | 120280 |
| 073 | Standard deviation | 4430 | 6450 | 3231 | 18989 | 6739 | 3584 | 51804 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.6 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 1.7 | 0 | 0 |
| 075 | Gas analyzer gas tempera- ture, °F | 222 | 232 | 229 | 237 | 256 | 262 | 281 |
| 075 | Standard deviation | 10 | 2 | 2 | 15 | 29 | 4 | 24 |

FOLDDOUT FRAME

| | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|--------|
| 073 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 92511 | 87881 | 97541 | 82499 | 55321 | 90364 | 120280 |
| 073 | Standard deviation | 4430 | 6450 | 3231 | 18989 | 6739 | 3584 | 51804 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.6 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 1.7 | 0 | 0 |
| 075 | Gas analyzer gas temperature, F | 222 | 232 | 229 | 237 | 256 | 262 | 281 |
| 075 | Standard deviation | 10 | 2 | 2 | 15 | 29 | 4 | 24 |
| 057 | Sample gas pressure, psia | 29.1 | 29.2 | 29.2 | 29.3 | 28.8 | 29.0 | 29.2 |
| 057 | Standard deviation | 0 | 0.1 | 0 | 0.1 | 0.2 | 0.4 | 0.2 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Sample line temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Sample line temperature, F | 215 | 217 | 216 | 216 | 218 | 218 | 218 |
| 146 | Standard deviation | 2 | 2 | 2 | 1 | 1 | 2 | 3 |
| 150 | Sample line differential temperature, F | 145 | 145 | 145 | 145 | 146 | 146 | 146 |
| 150 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | 286 | 284 | 284 | 282 | 287 | 289 | 292 |
| 159 | Standard deviation | 0 | 1 | 0 | 2 | 3 | 0 | 2 |
| C34 | SO _x concentration, ppm | 75 | 27 | 19 | 15 | 108 | 16 | 185 |
| C34 | Standard deviation | 4 | 5 | 4 | 4 | 4 | 5 | 5 |
| C46 | NO _x concentration, lb/MBtu | 0.428 | 0.438 | 0.413 | 0.327 | 0.266 | 0.433 | 0.349 |
| C46 | Standard deviation | 0.179 | 0.124 | 0.047 | 0.140 | 0.094 | 0.035 | 0.213 |
| C47 | SO _x concentration, lb/MBtu | 1.352 | 1.101 | 1.149 | 0.693 | 0.509 | 0.892 | 1.046 |
| C47 | Standard deviation | 0.531 | 0.294 | 0.193 | 0.130 | 0.262 | 0.090 | 0.672 |
| C49 | Exhaust sulfur, percent of input | 46.99 | 38.29 | 39.95 | 24.13 | 17.69 | 31.01 | 36.39 |
| C49 | Standard deviation | 2.61 | 1.44 | 0.95 | 0.64 | 1.29 | 0.44 | 3.30 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | |
|--------------|-----------------------------------|-------|-------|-------|--------|--------|--------|-------|
| | | D6 | D7 | D2 | D1 | D10 | D3 | D4 |
| 027 | Sample gas temperature, °F | 72 | 71 | 77 | 72 | 63 | 68 | 80 |
| 027 | Standard deviation | 4 | 0 | 2 | 3 | 2 | 7 | 1 |
| 026 | Sample gas pressure, psia | 14.5 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.5 |
| 026 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 |
| 063 | Nitrogen oxides content, ppm | 94 | 206 | 205 | 240 | 236 | 214 | 238 |
| 063 | Standard deviation | 80 | 40 | 8 | 5 | 6 | 14 | 16 |
| 064 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Carbon monoxide content, ppm | 20 | 21 | 11 | 58 | 62 | 14 | 15 |
| 065 | Standard deviation | 10 | 6 | 4 | 9 | 2 | 5 | 3 |
| 066 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Hydrocarbon content, ppm | 12.0 | 1.3 | 2.4 | 4.8 | 3.5 | 0.6 | 3.4 |
| 067 | Standard deviation | 23.7 | 0.4 | 0.2 | 0.6 | 0.5 | 0.3 | 2.1 |
| 068 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Carbon dioxide content, ppm | 68606 | 89106 | 93394 | 70675 | 79712 | 105510 | 93313 |
| 069 | Standard deviation | 13163 | 4002 | 3785 | 1506 | 2018 | 16529 | 13072 |
| 070 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Sulfur oxide content, ppm | 114 | 288 | 329 | 369 | 360 | 171 | 242 |
| 071 | Standard deviation | 102 | 45 | 19 | 17 | 9 | 48 | 48 |
| 072 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 86424 | 90113 | 77524 | 122980 | 109310 | 80049 | 92872 |
| 073 | Standard deviation | 61907 | 17814 | 4075 | 2767 | 4076 | 8889 | 17073 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, F | 200 | 261 | 297 | 284 | 286 | 309 | 309 |

FOLDOUT FRAME 1

| | | | | | | | | |
|-----|--|-------|-------|-------|--------|--------|-------|-------|
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 86424 | 90113 | 77524 | 122980 | 109310 | 80049 | 92872 |
| 073 | Standard deviation | 61907 | 17814 | 4075 | 2767 | 4076 | 8889 | 17073 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, F | 200 | 261 | 297 | 284 | 286 | 309 | 309 |
| 075 | Standard deviation | 47 | 31 | 2 | 16 | 4 | 17 | 18 |
| 057 | Sample gas pressure, psia | 20.4 | 27.7 | 28.9 | 28.0 | 28.8 | 27.1 | 28.0 |
| 057 | Standard deviation | 6.5 | 3.7 | 0 | 2.2 | 0.1 | 3.8 | 2.2 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Sample line temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Sample line temperature, °F | 214 | 214 | (b) | 215 | 215 | 214 | 214 |
| 146 | Standard deviation | 0 | 0 | (b) | 1 | 1 | 1 | 1 |
| 150 | Sample line differential temperature, F | 145 | 146 | 138 | 146 | 146 | 146 | 146 |
| 150 | Standard deviation | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 157 | Sample port gas temperature, F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | 260 | 261 | 232 | 265 | 265 | 271 | 274 |
| 159 | Standard deviation | 4 | 2 | 50 | 2 | 1 | 2 | 1 |
| C34 | SO _x concentration, ppm | 124 | 286 | 329 | 369 | 360 | 172 | 242 |
| C34 | Standard deviation | 91 | 45 | 19 | 17 | 9 | 50 | 48 |
| C46 | NO _x concentration, lb/MBtu | 0.185 | 0.466 | 0.732 | 0.670 | 0.591 | 0.414 | 0.532 |
| C46 | Standard deviation | 0.137 | 0.085 | 0.362 | 0.076 | 0.074 | 0.139 | 0.124 |
| C47 | SO _x concentration, lb/MBtu | 0.359 | 0.903 | 1.625 | 1.433 | 1.256 | 0.458 | 0.724 |
| C47 | Standard deviation | 0.258 | 0.116 | 0.759 | 0.165 | 0.179 | 0.167 | 0.105 |
| C49 | Exhaust sulfur, percent of input | 12.50 | 31.39 | 56.51 | 49.82 | 43.67 | 15.41 | 25.16 |
| C49 | Standard deviation | 1.27 | 0.57 | 3.73 | 0.81 | 8.80 | 0.82 | 0.52 |

^bData or results were not obtained.

TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | | |
|--------------|-----------------------------------|--------|-------|-------|--------|-------|-------|------|--------|
| | | TB1A | TB1B | TB1C | TB1D | TB1E | TB1F | TB1G | TB1H |
| 027 | Sample gas temperature, °F | 72 | 70 | 71 | 67 | 62 | 65 | 74 | 82 |
| 027 | Standard deviation | 1 | 2 | 7 | 4 | 3 | 7 | 8 | 7 |
| 026 | Sample gas pressure, psia | 14.4 | 14.4 | 14.4 | 14.3 | 14.5 | 14.5 | 14.5 | 14.5 |
| 026 | Standard deviation | 0 | 0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 063 | Nitrogen oxides content, ppm | 170 | 188 | 217 | 102 | 129 | 134 | (b) | (b) |
| 063 | Standard deviation | 6 | 11 | 8 | 20 | 46 | 46 | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Carbon monoxide content, ppm | 52 | 46 | 38 | 21 | 16 | 22 | 9 | 35 |
| 065 | Standard deviation | 6 | 8 | 8 | 11 | 5 | 17 | 6 | 0 |
| 066 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Hydrocarbon content, ppm | 2.6 | 1.8 | 2.0 | 3.3 | 1.4 | 2.5 | 8.3 | 10.0 |
| 067 | Standard deviation | 1.0 | 0.8 | 1.2 | 6.4 | 0.2 | 2.2 | 1.7 | 0 |
| 068 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Carbon dioxide content, ppm | 100860 | 94393 | 91576 | 102760 | 91383 | 91253 | 4937 | (b) |
| 069 | Standard deviation | 5240 | 5272 | 3685 | 6805 | 32385 | 29014 | 4695 | (b) |
| 070 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Sulfur oxide content, ppm | 170 | 330 | 495 | 418 | 505 | 271 | 15 | 1.5 |
| 071 | Standard deviation | 32 | 41 | 75 | 152 | 211 | 166 | 30 | 3.1 |
| 072 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 81058 | 90913 | 89223 | 77813 | 77494 | 75254 | 6850 | 212810 |
| 073 | Standard deviation | 6630 | 5157 | 3065 | 7166 | 27065 | 26233 | 6700 | 352 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 246 | 226 | 253 | 211 | 242 | 222 | 151 | 152 |
| 075 | Standard deviation | 16 | 9 | 7 | 35 | 13 | 49 | 4 | 7 |
| 057 | Sample gas pressure, psia | 29.4 | 29.2 | 29.2 | 26.0 | 28.0 | 23.3 | 15.1 | 15.4 |
| 057 | Standard deviation | 0.1 | 0.1 | 0.1 | 5.6 | 3.0 | 6.7 | 3.6 | 3.4 |
| 089 | Sample line differential | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |

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| | ppm | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|------|--------|
| 070 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Sulfur oxide content, ppm | 170 | 330 | 495 | 418 | 505 | 271 | 15 | 1.5 |
| 071 | Standard deviation | 32 | 41 | 75 | 152 | 211 | 166 | 30 | 3.1 |
| 072 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 81058 | 90913 | 89223 | 77813 | 77494 | 75254 | 6850 | 212810 |
| 073 | Standard deviation | 6630 | 5157 | 3065 | 7166 | 27065 | 26233 | 6700 | 352 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, F | 246 | 226 | 253 | 211 | 242 | 222 | 151 | 152 |
| 075 | Standard deviation | 16 | 9 | 7 | 35 | 13 | 49 | 4 | 7 |
| 057 | Sample gas pressure, psia | 29.4 | 29.2 | 29.2 | 26.0 | 28.0 | 23.3 | 15.1 | 15.4 |
| 057 | Standard deviation | 0.1 | 0.1 | 0.1 | 5.6 | 3.0 | 6.7 | 3.6 | 3.4 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Sample line temperature, °F | 215 | 216 | 215 | 214 | 215 | 216 | 245 | 214 |
| 146 | Standard deviation | 1 | 1 | 1 | 1 | 0 | 2 | 14 | 1 |
| 150 | Sample line differential temperature, °F | 146 | 146 | 146 | 146 | 146 | 146 | 123 | 145 |
| 150 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 1 |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | 283 | 281 | 286 | 277 | 283 | 280 | 269 | 258 |
| 159 | Standard deviation | 1 | 2 | 1 | 5 | 3 | 4 | 5 | 5 |
| C34 | SO _x concentration, ppm | 170 | 330 | 495 | 455 | 500 | 396 | (b) | (b) |
| C34 | Standard deviation | 32 | 41 | 75 | 151 | 64 | 75 | (b) | (b) |
| C46 | NO _x concentration, lb/MBtu | 0.337 | 0.372 | 0.447 | 0.190 | 0.239 | 0.240 | (b) | (b) |
| C46 | Standard deviation | 0.067 | 0.087 | 0.153 | 0.050 | 0.104 | 0.086 | (b) | (b) |
| C47 | SO _x concentration, lb/MBtu | 0.454 | 0.913 | 1.416 | 1.177 | 1.275 | 0.995 | (b) | (b) |
| C47 | Standard deviation | 0.057 | 0.266 | 0.542 | 0.398 | 0.277 | 0.226 | (b) | (b) |
| C49 | Exhaust sulfur, percent of input | 15.80 | 31.75 | 49.25 | 40.92 | 44.33 | 34.59 | (b) | (b) |
| C49 | Standard deviation | 0.28 | 1.31 | 2.67 | 1.96 | 1.37 | 1.11 | (b) | (b) |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| | | TB2A | TB2B | TB2C | TB2D | TB2E | TB2F | TB2G |
| 027 | Sample gas temperature, °F | 80 | 78 | 81 | 74 | 79 | 84 | 88 |
| 027 | Standard deviation | 5 | 3 | 7 | 5 | 3 | 4 | 3 |
| 026 | Sample gas pressure, psia | 14.5 | 14.5 | 14.4 | 15.0 | 14.4 | 14.2 | 14.1 |
| 026 | Standard deviation | 0 | 0.1 | 0.1 | 1.6 | 0 | 0.1 | 0 |
| 063 | Nitrogen oxides con- tent, ppm | 239 | 305 | 266 | 207 | 247 | 190 | 237 |
| 063 | Standard deviation | 21 | 209 | 10 | 31 | 11 | 11 | 31 |
| 064 | Nitrogen oxides con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Carbon monoxide con- tent, ppm | 4 | 10 | 8 | 12 | 7 | 12 | 8 |
| 065 | Standard deviation | 5 | 4 | 4 | 2 | 1 | 1 | 2 |
| 066 | Carbon monoxide con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Hydrocarbon content, ppm | 0.8 | 1.2 | 1.5 | 1.8 | 1.4 | 0.4 | 0.9 |
| 067 | Standard deviation | 0.5 | 0.5 | 0.4 | 0.1 | 0.4 | 0.4 | 0.4 |
| 068 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Carbon dioxide content, ppm | 110590 | 72239 | 71512 | 81760 | 70504 | 79852 | 75866 |
| 069 | Standard deviation | 4381 | 10484 | 1716 | 5983 | 4891 | 3261 | 5147 |
| 070 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Sulfur oxide content, ppm | 330 | 192 | 206 | 252 | 261 | 393 | 355 |
| 071 | Standard deviation | 103 | 69 | 344 | 25 | 176 | 97 | 91 |
| 072 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 66414 | 111520 | 116840 | 111680 | 119970 | 107660 | 110100 |
| 073 | Standard deviation | 9012 | 10780 | 1810 | 2556 | 7506 | 3827 | 4867 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas tempera- ture, °F | 248 | 240 | 236 | 232 | 243 | 243 | 253 |

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| | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
|-----|--|-------|--------|--------|--------|--------|--------|--------|
| 070 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Sulfur oxide content, ppm | 330 | 192 | 206 | 252 | 261 | 393 | 355 |
| 071 | Standard deviation | 103 | 69 | 344 | 25 | 176 | 97 | 91 |
| 072 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 66414 | 111520 | 116840 | 111680 | 119970 | 107660 | 110100 |
| 073 | Standard deviation | 9012 | 10780 | 1810 | 2556 | 7506 | 3827 | 4867 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, F | 248 | 240 | 236 | 232 | 243 | 243 | 253 |
| 075 | Standard deviation | 36 | 15 | 28 | 7 | 14 | 8 | 12 |
| 057 | Sample gas pressure, psia | 26.5 | 29.2 | 29.2 | 29.3 | 29.2 | 28.9 | 29.0 |
| 057 | Standard deviation | 5.3 | 0.6 | 0.9 | 0.5 | 0.5 | 0.5 | 0.1 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 091 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Sample line temperature, °F | 215 | 215 | 216 | 211 | 211 | 215 | 215 |
| 146 | Standard deviation | 4 | 2 | 1 | 4 | 1 | 1 | 0 |
| 150 | Sample line differential temperature, °F | 146 | 146 | 144 | 142 | 142 | 146 | 146 |
| 150 | Standard deviation | 0 | 0 | 1 | 4 | 1 | 0 | 0 |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | 273 | 273 | 287 | 278 | 278 | 284 | 284 |
| 159 | Standard deviation | 4 | 5 | 1 | 3 | 3 | 1 | 1 |
| C34 | SO _x concentration, ppm | 365 | 192 | 224 | 252 | 261 | 393 | 355 |
| C34 | Standard deviation | 56 | 69 | 353 | 25 | 176 | 97 | 91 |
| C46 | NO _x concentration, lb/MBtu | 0.479 | 0.820 | 0.691 | 0.479 | 0.614 | 0.471 | 0.550 |
| C46 | Standard deviation | 0.225 | 0.607 | 0.112 | 0.101 | 0.101 | 0.043 | 0.152 |
| C47 | SO _x concentration, lb/MBtu | 1.022 | 0.760 | 0.820 | 0.823 | 0.903 | 1.353 | 1.149 |
| C47 | Standard deviation | 0.317 | 0.580 | 1.292 | 0.223 | 0.627 | 0.328 | 0.381 |
| C49 | Exhaust sulfur, percent of input | 35.53 | 26.42 | 28.51 | 28.63 | 31.39 | 47.04 | 39.96 |
| C49 | Standard deviation | 1.56 | 2.85 | 6.35 | 1.09 | 3.08 | 1.61 | 1.88 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | E1 | E2 | E3 | E4 | E5 | E6 | E9 | E8 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides con- tent, ppm | 122 | 141 | 11 | 224 | 105 | 151 | 89 | 150 |
| 064 | Standard deviation | 15 | 10 | 5 | 44 | 49 | 22 | 6 | 15 |
| 065 | Carbon monoxide con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide con- tent, ppm | 20 | 20 | 508 | 55 | 19 | 44 | 21 | 36 |
| 066 | Standard deviation | 2 | 3 | 231 | 63 | 9 | 9 | 1 | 6 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | (b) | 98.8 | 37.0 | 18.6 | 24.3 | 35.0 | 52.5 | 57.5 |
| 068 | Standard deviation | (b) | 138.7 | 12.7 | 16.0 | 10.5 | 6.3 | 6.2 | 2.5 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 141940 | 103180 | 171720 | 139750 | 120670 | 127890 | 154140 | 122430 |
| 070 | Standard deviation | 15158 | 1986 | 5374 | 37424 | 49633 | 2735 | 6799 | 37557 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | (b) | (b) | 647 | 279 | 13 | 54 | 101 | 186 |
| 072 | Standard deviation | (b) | (b) | 168 | 875 | 22 | 42 | 27 | 76 |
| 073 | Oxygen content, ppm | 45006 | 92624 | 7996 | 32339 | 47383 | 56169 | 44768 | 55220 |
| 073 | Standard deviation | 13856 | 1671 | 3231 | 10842 | 51609 | 3987 | 7273 | 17339 |
| 074 | SO _x permissive signal | 5.5 | 4.9 | 7.4 | 6.9 | 5.9 | 4.9 | 7.0 | 4.9 |
| 074 | Standard deviation | 1.6 | 0 | 2.5 | 2.4 | 2.0 | 0 | 2.5 | 0 |
| 075 | Gas analyzer gas tempera- ture, F | 161 | 203 | 177 | 203 | 216 | 135 | 205 | 173 |

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| | | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|-------|-------|
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | (b) | (b) | 647 | 279 | 13 | 54 | 101 | 186 |
| 072 | Standard deviation | (b) | (b) | 168 | 875 | 22 | 42 | 27 | 76 |
| 073 | Oxygen content, ppm | 45006 | 92624 | 7996 | 32339 | 47383 | 56169 | 44768 | 55220 |
| 073 | Standard deviation | 13856 | 1671 | 3231 | 10842 | 51609 | 3987 | 7273 | 17339 |
| 074 | SO _x permissive signal | 5.5 | 4.9 | 7.4 | 6.9 | 5.9 | 4.9 | 7.0 | 4.9 |
| 074 | Standard deviation | 1.6 | 0 | 2.5 | 2.4 | 2.0 | 0 | 2.5 | 0 |
| 075 | Gas analyzer gas temperature, °F | 161 | 203 | 177 | 203 | 216 | 135 | 205 | 173 |
| 075 | Standard deviation | 14 | 14 | 10 | 27 | 26 | 16 | 5 | 28 |
| 057 | Sample gas pressure, psia | 30.1 | 28.0 | 29.4 | 26.0 | 29.5 | 23.0 | 30.4 | 27.4 |
| 057 | Standard deviation | 0.5 | 4.4 | 0.3 | 5.6 | 0.2 | 5.8 | 0.1 | 5.6 |
| 089 | Sample line differential temperature, °F | 145 | 145 | 145 | 144 | 144 | 144 | 144 | 145 |
| 089 | Standard deviation | 0.2 | 0.4 | 0.3 | 0.2 | 0.3 | 0.4 | 0.1 | 0.3 |
| 090 | Sample line temperature, °F | 214 | 213 | 214 | 213 | 214 | 214 | 214 | 215 |
| 090 | Standard deviation | 0.2 | 0.3 | 0.6 | 0.3 | 0.5 | 1.0 | 0.4 | 0.6 |
| 091 | Sample line temperature, °F | 61 | 71 | 72 | 67 | 59 | 65 | 55 | 68 |
| 091 | Standard deviation | 2 | 1 | 1 | 3 | 1 | 3 | 1 | 3 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | (b) | (b) | 733 | 5 | 8 | 52 | 111 | 205 |
| C34 | Standard deviation | (b) | (b) | 127 | 1 | 13 | 38 | 31 | 47 |
| C46 | NO _x concentration, 1b/MBtu | 0.301 | 0.259 | 0.045 | 0.275 | 0.174 | 0.702 | 0.243 | 0.308 |
| C46 | Standard deviation | 0.094 | 0.033 | 0.055 | 0.133 | 0.105 | 0.102 | 0.026 | 0.092 |
| C47 | SO _x concentration, 1b/MBtu | (b) | (b) | 2.750 | 0.767 | 0.033 | 0.284 | 0.426 | 0.557 |
| C47 | Standard deviation | (b) | (b) | 0.907 | 1.841 | 0.073 | 0.211 | 0.117 | 0.221 |
| C49 | Exhaust sulfur, percent of input | (b) | (b) | 93.60 | 26.09 | 1.13 | 9.67 | 14.49 | 18.97 |
| C49 | Standard deviation | (b) | (b) | 30.89 | 62.68 | 2.49 | 7.17 | 3.98 | 7.51 |

^bData or results were not obtained.

TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| | | E19 | E13A | E13B | E14 | E11 | E12 | E15 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides con- tent, ppm | 135 | 191 | 203 | 131 | 156 | 162 | 205 |
| 064 | Standard deviation | 8 | 15 | 9 | 6 | 6 | 22 | 28 |
| 065 | Carbon monoxide con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide con- tent, ppm | 18 | 19 | 19 | 13 | 25 | 38 | 34 |
| 066 | Standard deviation | 6 | 1 | 1 | 2 | 3 | 4 | 6 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 27.4 | 9.9 | 9.1 | 7.3 | 5.7 | 4.3 | 4.6 |
| 068 | Standard deviation | 22.1 | 0.7 | 1.8 | 0.8 | 0.6 | 0.9 | 0.4 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 128880 | 130940 | 120950 | 144530 | 115550 | 131820 | 118830 |
| 070 | Standard deviation | 4240 | 1147 | 5260 | 4043 | 8771 | 10147 | 9959 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 206 | 517 | 414 | 505 | 271 | 356 | 101 |
| 072 | Standard deviation | 93 | 8 | 10 | 92 | 94 | 210 | 82 |
| 073 | Oxygen content, ppm | 55629 | 61387 | 71849 | 48637 | 82343 | 63905 | 69187 |
| 073 | Standard deviation | 18551 | 1981 | 7233 | 4349 | 9239 | 8863 | 9207 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 6.8 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 2.4 | 0 | 0 | 0 |
| 075 | Gas analyzer gas tempera- ture, °F | 182 | 185 | 190 | 166 | 225 | 181 | 226 |

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| | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|-------|
| 072 | Standard deviation | 93 | 8 | 10 | 92 | 94 | 210 | 82 |
| 073 | Oxygen content, ppm | 55629 | 61387 | 71849 | 48637 | 82343 | 63905 | 69187 |
| 073 | Standard deviation | 18551 | 1981 | 7233 | 4349 | 9239 | 8863 | 9207 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 6.8 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 2.4 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 182 | 185 | 190 | 166 | 225 | 181 | 226 |
| 075 | Standard deviation | 8 | 8 | 3 | 4 | 1 | 24 | 6 |
| 057 | Sample gas pressure, psia | 29.5 | 29.4 | 27.9 | 29.4 | 29.3 | 29.5 | 29.0 |
| 057 | Standard deviation | 0.1 | 0.1 | 2.9 | 0 | 0.1 | 0.2 | 0.5 |
| 089 | Sample line differential temperature, °F | 145 | 145 | 144 | 144 | 144 | 144 | 144 |
| 089 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 090 | Sample line temperature, °F | 214 | 213 | 213 | 214 | 214 | 214 | 214 |
| 090 | Standard deviation | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 091 | Sample line temperature, °F | 288 | 288 | 289 | 289 | 287 | 287 | 287 |
| 091 | Standard deviation | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 227 | 517 | 414 | 447 | 271 | 288 | 101 |
| C34 | Standard deviation | 72 | 8 | 10 | 46 | 94 | 85 | 82 |
| C46 | NO _x concentration, lb/MBtu | 0.206 | 0.281 | 0.352 | 0.195 | 0.329 | 0.230 | 0.376 |
| C46 | Standard deviation | 0.040 | 0.029 | 0.040 | 0.057 | 0.098 | 0.083 | 0.086 |
| C47 | SO _x concentration, lb/MBtu | 0.478 | 1.059 | 0.999 | 0.932 | 0.833 | 0.591 | 0.230 |
| C47 | Standard deviation | 0.165 | 0.037 | 0.082 | 0.277 | 0.445 | 0.246 | 0.168 |
| C49 | Exhaust sulfur, percent of input | 16.28 | 36.05 | 34.03 | 31.73 | 28.37 | 20.13 | 7.84 |
| C49 | Standard deviation | 5.63 | 1.24 | 2.80 | 9.43 | 15.16 | 8.37 | 5.72 |

^bData or results were not obtained.

TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | F1 | F2 | F3 | F4 | F6 | F5 | F7 | F8 | F9 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides con- tent, ppm | 221 | 211 | 22 | 192 | 192 | 136 | 270 | 338 | 263 |
| 064 | Standard deviation | 28 | 4 | 2 | 30 | 14 | 11 | 17 | 26 | 18 |
| 065 | Carbon monoxide con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide con- tent, ppm | 72 | 26 | 390 | 17 | 14 | 13 | 36 | 15 | 21 |
| 066 | Standard deviation | 106 | 1 | 137 | 5 | 1 | 1 | 39 | 2 | 4 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 2.7 | 3.6 | 15.7 | 2.2 | 1.5 | 0.9 | 1.9 | 1.8 | 1.9 |
| 068 | Standard deviation | 0.2 | 0.3 | 6.7 | 0.6 | 0.2 | 0.1 | 0.2 | 0.7 | 0.4 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 144540 | 109840 | 162542 | 130220 | 138560 | 140190 | 118730 | 114690 | 125130 |
| 070 | Standard deviation | 6768 | 5550 | 3376 | 8565 | 3376 | 6091 | 4964 | 6226 | 2451 |
| 071 | Sulfur oxide content, ppm | 81 | 3 | 775 | 22 | 6 | 6 | 0 | 1 | 28 |
| 071 | Standard deviation | 210 | 3 | 61 | 54 | 4 | 5 | 0 | 2 | 45 |
| 072 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 42856 | 76835 | 20264 | 57534 | 48087 | 45329 | 68549 | 68877 | 56949 |
| 073 | Standard deviation | 7643 | 4709 | 2336 | 4567 | 2265 | 6753 | 3781 | 8914 | 2836 |
| 074 | SO _x permissive signal | 5.5 | 4.9 | 7.6 | 5.7 | 6.8 | 6.3 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 1.6 | 0 | 2.5 | 1.9 | 2.4 | 2.2 | 0 | 0 | 0 |
| 075 | Gas analyzer gas tempera- ture, °F | 213 | 217 | 213 | 217 | 211 | 208 | 193 | 223 | 220 |

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| | | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|-------|-------|
| 071 | Sulfur oxide content, ppm | 61 | 3 | 775 | 22 | 0 | 0 | 1 | 20 |
| 071 | Standard deviation | 210 | 3 | 61 | 54 | 4 | 5 | 0 | 2 |
| 072 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 073 | Oxygen content, ppm | 42856 | 76835 | 20264 | 57534 | 48087 | 45329 | 68549 | 68877 |
| 073 | Standard deviation | 7643 | 4709 | 2336 | 4567 | 2265 | 6753 | 3781 | 8914 |
| 074 | SO _x permissive signal | 5.5 | 4.9 | 7.6 | 5.7 | 6.8 | 6.3 | 4.9 | 4.9 |
| 074 | Standard deviation | 1.6 | 0 | 2.5 | 1.9 | 2.4 | 2.2 | 0 | 0 |
| 075 | Gas analyzer gas temperature, F | 213 | 217 | 213 | 217 | 211 | 208 | 193 | 223 |
| 075 | Standard deviation | 4 | 4 | 8 | 6 | 7 | 7 | 2 | 2 |
| 057 | Sample gas pressure, psia | 25.9 | 22.7 | 26.0 | 25.1 | 26.1 | 26.2 | 27.2 | 26.1 |
| 057 | Standard deviation | 0.1 | 4.3 | 0.1 | 1.7 | 0.1 | 0.1 | 0.1 | 0 |
| 089 | Sample line differential temperature, °F | 146 | 146 | 146 | 146 | 146 | 145 | 131 | 146 |
| 089 | Standard deviation | 1 | 1 | 0 | 0 | 0 | 0 | 6 | 0 |
| 090 | Sample line temperature, F | 214 | 213 | 213 | 214 | 214 | 214 | 213 | 213 |
| 090 | Standard deviation | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 |
| 091 | Sample line temperature, °F | 283 | 285 | 286 | 286 | 285 | 284 | 287 | 284 |
| 091 | Standard deviation | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 6 | 3 | 731 | 6 | 5 | 5 | 0 | 1 |
| C34 | Standard deviation | 0 | 3 | 42 | 4 | 2 | 5 | 0 | 2 |
| C46 | NO _x concentration, lb/MBtu | 0.312 | 0.383 | 0.039 | 0.362 | 0.380 | 0.213 | 0.459 | 0.481 |
| C46 | Standard deviation | 0.064 | 0.035 | 0.011 | 0.191 | 0.232 | 0.023 | 0.028 | 0.107 |
| C47 | SO _x concentration, lb/MBtu | 0.012 | 0.008 | 1.655 | 0.016 | 0.009 | 0.012 | 0.001 | 0.002 |
| C47 | Standard deviation | 0 | 0.009 | 0.073 | 0.012 | 0.003 | 0.011 | 0 | 0.004 |
| C49 | Exhaust sulfur, percent of input | 0.41 | 0.27 | 56.34 | 0.53 | 0.31 | 0.41 | 0.03 | 0.07 |
| C49 | Standard deviation | 0 | 0.30 | 2.49 | 0.41 | 0.09 | 0.39 | 0.01 | 0.14 |

^bData or results were not obtained.

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 (10)

TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | | |
|--------------|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | F19 | F16 | F27 | G2 | G3 | G6 | G1 | G5 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | 205 | 205 | 359 | 232 | 185 | 188 | 201 | 231 |
| 064 | Standard deviation | 19 | 12 | 31 | 10 | 7 | 10 | 9 | 8 |
| 065 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide content, ppm | 12 | 13 | 14 | 10 | 10 | 9 | 22 | 10 |
| 066 | Standard deviation | 2 | 1 | 2 | 0 | 3 | 1 | 1 | 1 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 1.4 | 1.1 | 0.5 | 3.8 | 2.3 | 1.4 | 1.7 | 1.8 |
| 068 | Standard deviation | 0.5 | 0.2 | 0.1 | 0.4 | 0.5 | 0.1 | 0.2 | 0.3 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 113990 | 115120 | 116520 | 70524 | 65023 | 67800 | 69796 | 77121 |
| 070 | Standard deviation | 2483 | 3501 | 1931 | 3044 | 5535 | 3588 | 2331 | 2954 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 1 | 8 | 25 | 5 | 82 | 84 | 18 | 206 |
| 072 | Standard deviation | 0 | 4 | 28 | 5 | 24 | 18 | 37 | 43 |
| 073 | Oxygen content, ppm | 73237 | 71494 | 62366 | 144530 | 144080 | 139170 | 125580 | 119120 |
| 073 | Standard deviation | 1825 | 5472 | 1792 | 3021 | 7809 | 5411 | 2624 | 3461 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 219 | 217 | 219 | 225 | 217 | 212 | 199 | 199 |

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| | | | | | | | | | |
|-----|--|-------|-------|-------|--------|--------|--------|--------|--------|
| 072 | Sulfur oxide content, ppm | 1 | 8 | 25 | 5 | 82 | 84 | 18 | 206 |
| 072 | Standard deviation | 0 | 4 | 28 | 5 | 24 | 18 | 37 | 43 |
| 073 | Oxygen content, ppm | 73237 | 71494 | 62366 | 144530 | 144080 | 139170 | 125580 | 119120 |
| 073 | Standard deviation | 1825 | 5472 | 1792 | 3021 | 7809 | 5411 | 2624 | 3461 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 219 | 217 | 219 | 225 | 217 | 212 | 199 | 199 |
| 075 | Standard deviation | 0 | 1 | 3 | 9 | 3 | 4 | 2 | 2 |
| 057 | Sample gas pressure, psia | 26.2 | 26.1 | 25.0 | 31.3 | 33.4 | 33.5 | 28.6 | 28.7 |
| 057 | Standard deviation | 0 | 0.1 | 2.9 | 5.7 | 0.1 | 0.1 | 0.1 | 0.2 |
| 089 | Sample line differential temperature, °F | 146 | 146 | 146 | 146 | 146 | 146 | 145 | 145 |
| 089 | Standard deviation | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 090 | Sample line temperature, °F | 214 | 214 | 214 | 213 | 213 | 213 | 213 | 214 |
| 090 | Standard deviation | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 091 | Sample line temperature, °F | 285 | 285 | 285 | 266 | 267 | 263 | 248 | 247 |
| 091 | Standard deviation | 0 | 0 | 1 | 4 | 1 | 1 | 1 | 1 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 1 | 8 | 14 | 6 | 82 | 84 | 18 | 206 |
| C34 | Standard deviation | 0 | 4 | 9 | 5 | 24 | 18 | 37 | 43 |
| C46 | NO _x concentration, lb/MBtu | 0.344 | 0.354 | 0.632 | 0.642 | 1.656 | 0.596 | 0.508 | 0.551 |
| C46 | Standard deviation | 0.069 | 0.033 | 0.139 | 0.281 | 2.893 | 0.097 | 0.137 | 0.092 |
| C47 | SO _x concentration, lb/MBtu | 0.001 | 0.020 | 0.067 | 0.019 | 1.120 | 0.363 | 0.072 | 0.691 |
| C47 | Standard deviation | 0.001 | 0.010 | 0.090 | 0.015 | 2.082 | 0.063 | 0.144 | 0.213 |
| C49 | Exhaust sulfur, percent of input | 0.05 | 0.68 | 2.28 | 0.86 | 38.12 | 12.36 | 2.46 | 23.50 |
| C49 | Standard deviation | 0.03 | 0.33 | 3.06 | 0.51 | 70.86 | 2.13 | 4.91 | 7.26 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | G10 | G9 | G13 | G12 | G15A | B15B | G14 | G11 | G7 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides con- tent, ppm | 216 | 197 | 167 | 213 | 201 | 194 | 163 | 194 | 153 |
| 064 | Standard deviation | 6 | 14 | 6 | 9 | 17 | 16 | 8 | 10 | 3 |
| 065 | Carbon monoxide con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide con- tent, ppm | 13 | 9 | 12 | 5 | 10 | 10 | 9 | 17 | 11 |
| 066 | Standard deviation | 1 | 2 | 3 | 1 | 2 | 2 | 2 | 28 | 3 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 3.3 | 1.6 | 1.5 | 0.9 | 1.7 | 1.1 | 0.4 | 1.1 | 1.4 |
| 068 | Standard deviation | 0.4 | 0.5 | 0.7 | 0.7 | 0.2 | 0.3 | 0.1 | 0.1 | 0.4 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 68851 | 68052 | 60930 | 75939 | 70390 | 67748 | 67903 | 72948 | 61277 |
| 070 | Standard deviation | 1670 | 3553 | 2953 | 3780 | 6095 | 4617 | 5062 | 4664 | 2543 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 182 | 140 | 182 | 189 | 150 | 104 | 91 | 96 | 29 |
| 072 | Standard deviation | 25 | 26 | 13 | 36 | 72 | 18 | 10 | 52 | 13 |
| 073 | Oxygen content, ppm | 130740 | 127030 | 138180 | 119310 | 129940 | 132020 | 132770 | 123170 | 140060 |
| 073 | Standard deviation | 1744 | 5828 | 3910 | 4526 | 7448 | 5828 | 5323 | 4162 | 2764 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas tempera- ture, °F | 202 | 211 | 199 | 189 | 180 | 173 | 169 | 178 | 183 |
| 075 | Standard deviation | 5 | 4 | 3 | 3 | 16 | 3 | 1 | 3 | 12 |
| 057 | Sample gas pressure, | 28.5 | 28.6 | 28.7 | 28.6 | 28.7 | 28.6 | 28.7 | 27.7 | 28.6 |

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| | | | | | | | | | | |
|-----|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 182 | 140 | 182 | 189 | 150 | 104 | 91 | 96 | 29 |
| 072 | Standard deviation | 25 | 26 | 13 | 36 | 72 | 18 | 10 | 52 | 13 |
| 073 | Oxygen content, ppm | 130740 | 127030 | 138180 | 119310 | 129940 | 132020 | 132770 | 123170 | 140060 |
| 073 | Standard deviation | 1744 | 5828 | 3910 | 4526 | 7448 | 5828 | 5323 | 4162 | 2764 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 202 | 211 | 199 | 189 | 180 | 173 | 169 | 178 | 183 |
| 075 | Standard deviation | 5 | 4 | 3 | 3 | 16 | 3 | 1 | 3 | 12 |
| 057 | Sample gas pressure, psia | 28.5 | 28.6 | 28.7 | 28.6 | 28.7 | 28.6 | 28.7 | 27.7 | 28.6 |
| 057 | Standard deviation | 0.2 | 0.1 | 0 | 0 | 0 | 0.1 | 0 | 2.2 | 0 |
| 089 | Sample line differential temperature, °F | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| 089 | Standard deviation | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 090 | Sample line temperature, °F | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 |
| 090 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 091 | Sample line temperature, °F | 252 | 256 | 245 | 242 | 248 | 251 | 246 | 248 | 251 |
| 091 | Standard deviation | 2 | 2 | 1 | 1 | 4 | 1 | 0 | 1 | 4 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 182 | 140 | 182 | 189 | 150 | 104 | 91 | 96 | 29 |
| C34 | Standard deviation | 25 | 26 | 13 | 36 | 72 | 18 | 10 | 52 | 13 |
| C46 | NO _x concentration, lb/MBtu | 0.643 | 0.511 | 0.500 | 0.545 | 0.649 | 1.234 | 0.575 | 0.626 | 1.206 |
| C46 | Standard deviation | 0.109 | 0.144 | 0.040 | 0.010 | 0.069 | 0.784 | 0.119 | 0.058 | 1.112 |
| C47 | SO _x concentration, lb/MBtu | 0.760 | 0.514 | 0.762 | 0.672 | 0.657 | 0.873 | 0.445 | 0.415 | 0.369 |
| C47 | Standard deviation | 0.180 | 0.189 | 0.076 | 0.125 | 0.247 | 0.545 | 0.106 | 0.183 | 0.527 |
| C49 | Exhaust sulfur, percent of input | 25.87 | 17.51 | 25.93 | 22.88 | 22.37 | 29.71 | 15.15 | 14.11 | 12.57 |
| C49 | Standard deviation | 6.14 | 6.43 | 2.58 | 4.24 | 8.40 | 18.56 | 3.61 | 6.22 | 17.95 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | | |
|--------------|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | G8 | G16 | G22 | G23 | G24 | G17 | G18 | G19 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | 166 | 191 | 177 | 189 | 185 | 161 | 188 | 194 |
| 064 | Standard deviation | 6 | 9 | 5 | 8 | 8 | 8 | 7 | 5 |
| 065 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide content, ppm | 13 | 8 | 10 | 13 | 8 | 7 | 9 | 12 |
| 066 | Standard deviation | 3 | 1 | 2 | 1 | 2 | 3 | 2 | 1 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 1.7 | 1.1 | 1.6 | 3.4 | 0.9 | (b) | 1.1 | 2.2 |
| 068 | Standard deviation | 0.5 | 0.2 | 0.3 | 0 | 0.3 | (b) | 0.3 | 0.1 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 61602 | 72362 | 67999 | 63998 | 69109 | 63216 | 69060 | 69282 |
| 070 | Standard deviation | 2794 | 4575 | 3011 | 2988 | 3282 | 4760 | 2494 | 2118 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 152 | 245 | 146 | 203 | 204 | 139 | 175 | 180 |
| 072 | Standard deviation | 11 | 44 | 17 | 24 | 33 | 15 | 25 | 40 |
| 073 | Oxygen content, ppm | 137140 | 127300 | 131440 | 138440 | 132810 | 141070 | 135960 | 136480 |
| 073 | Standard deviation | 2528 | 5301 | 3722 | 4533 | 3068 | 5292 | 2849 | 3745 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, F | 202 | 202 | 198 | 202 | 183 | 176 | 185 | 195 |
| 075 | Standard deviation | 1 | 1 | 2 | 4 | 11 | 5 | 7 | 3 |

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|-----|--|--------|--------|--------|--------|--------|--------|--------|--------|
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 152 | 245 | 146 | 203 | 204 | 139 | 175 | 180 |
| 072 | Standard deviation | 11 | 44 | 17 | 24 | 33 | 15 | 25 | 40 |
| 073 | Oxygen content, ppm | 137140 | 127300 | 131440 | 138440 | 132810 | 141070 | 135960 | 136480 |
| 073 | Standard deviation | 2528 | 5301 | 3722 | 4533 | 3068 | 5292 | 2849 | 3745 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 202 | 202 | 198 | 202 | 183 | 176 | 185 | 195 |
| 075 | Standard deviation | 1 | 1 | 2 | 4 | 11 | 5 | 7 | 3 |
| 057 | Sample gas pressure, psia | 28.7 | 28.7 | 28.7 | 28.6 | 28.7 | 28.8 | 28.8 | 28.6 |
| 057 | Standard deviation | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0.1 | 0.1 |
| 089 | Sample line differential temperature, °F | 146 | 146 | 145 | 145 | 145 | 146 | 145 | 145 |
| 089 | Standard deviation | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 090 | Sample line temperature, °F | 213 | 213 | 213 | 213 | 213 | 213 | 214 | 213 |
| 090 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 091 | Sample line temperature, °F | 258 | 255 | 255 | 256 | 252 | 247 | 245 | 250 |
| 091 | Standard deviation | 0 | 0 | 2 | 2 | 2 | 1 | 1 | 2 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 152 | 245 | 146 | 203 | 204 | 139 | 175 | 180 |
| C34 | Standard deviation | 11 | 44 | 17 | 24 | 33 | 15 | 25 | 40 |
| C46 | NO _x concentration, lb/MBtu | 1.928 | 0.631 | 1.643 | 0.627 | 0.628 | 0.640 | 0.521 | 0.636 |
| C46 | Standard deviation | 2.976 | 0.078 | 2.437 | 0.102 | 0.076 | 0.265 | 0.185 | 0.126 |
| C47 | SO _x concentration, lb/MBtu | 2.469 | 1.124 | 1.919 | 0.947 | 0.971 | 0.773 | 0.659 | 0.831 |
| C47 | Standard deviation | 3.814 | 0.248 | 2.977 | 0.218 | 0.073 | 0.333 | 0.230 | 0.274 |
| C49 | Exhaust sulfur, percent of input | 84.02 | 38.25 | 65.32 | 32.23 | 33.07 | 26.31 | 22.45 | 28.27 |
| C49 | Standard deviation | 129.82 | 8.45 | 101.3 | 7.42 | 2.48 | 11.35 | 7.82 | 9.34 |

^bData or results were not obtained.

TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | H1 | H2 | H3 | H4 | H5A | H5B | H6 | H7 | H8 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides con- tent, ppm | 110 | 168 | 144 | 94 | 265 | 260 | 226 | 219 | 193 |
| 064 | Standard deviation | 6 | 6 | 21 | 11 | 14 | 3 | 105 | 5 | 10 |
| 065 | Carbon monoxide con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide con- tent, ppm | 123 | 83 | 229 | 255 | 66 | 35 | 1951 | 23 | 24 |
| 066 | Standard deviation | 45 | 23 | 43 | 35 | 5 | 1 | 3811 | 3 | 2 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 0.6 | 0.9 | 2.5 | 2.3 | 1.1 | 0.9 | 111.3 | 2.0 | 1.7 |
| 068 | Standard deviation | 0.3 | 0.4 | 0.5 | 0.5 | 0.2 | 0.6 | 189.3 | 0.1 | 0.2 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 122980 | 105070 | 112030 | 129630 | 132000 | 116190 | 127740 | 111120 | 128430 |
| 070 | Standard deviation | 3306 | 2413 | 5430 | 5643 | 2261 | 1577 | 19231 | 792 | 3380 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 549 | 435 | 253 | 595 | 1033 | 792 | 1695 | 824 | 925 |
| 072 | Standard deviation | 66 | 22 | 63 | 91 | 89 | 25 | 1433 | 30 | 199 |
| 073 | Oxygen content, ppm | 60805 | 78564 | 77017 | 55758 | 53668 | 74008 | 58346 | 82779 | 61604 |
| 073 | Standard deviation | 2398 | 4213 | 5866 | 5370 | 2028 | 2689 | 28415 | 1261 | 2997 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas tempera- ture, F | 283 | 305 | 266 | 252 | 320 | 255 | 251 | 237 | 246 |
| 075 | Standard deviation | 4 | 3 | 35 | 29 | 1 | 1 | 22 | 1 | 23 |
| | | 29.6 | 29.8 | 29.2 | 29.2 | 28.8 | 29.2 | 28.2 | 29.6 | 29.4 |

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|-----|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 070 | Standard deviation | 3306 | 2413 | 5430 | 5643 | 2261 | 1577 | 19231 | 792 | 3380 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 549 | 435 | 253 | 595 | 1033 | 792 | 1695 | 824 | 925 |
| 072 | Standard deviation | 66 | 22 | 63 | 91 | 89 | 25 | 1433 | 30 | 199 |
| 073 | Oxygen content, ppm | 60805 | 78564 | 77017 | 55758 | 53668 | 74008 | 58346 | 82779 | 61604 |
| 073 | Standard deviation | 2398 | 4213 | 5866 | 5370 | 2028 | 2689 | 28415 | 1261 | 2997 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 283 | 305 | 266 | 252 | 320 | 255 | 251 | 237 | 246 |
| 075 | Standard deviation | 4 | 3 | 35 | 29 | 1 | 1 | 22 | 1 | 23 |
| 057 | Sample gas pressure, psia | 29.6 | 29.8 | 29.2 | 29.2 | 28.8 | 29.2 | 28.2 | 29.6 | 29.4 |
| 057 | Standard deviation | 0 | 0.1 | 0 | 0 | 0.1 | 0.1 | 2.2 | 0.1 | 0.1 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | 95 | 100 | 95 | 94 | 107 | 117 | 94 | 100 | 109 |
| 090 | Standard deviation | 3 | 1 | 0 | 1 | 3 | 1 | 2 | 1 | 4 |
| 091 | Sample line temperature, °F | 258 | 253 | 249 | 250 | 255 | 258 | 252 | 252 | 256 |
| 091 | Standard deviation | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 3 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 549 | 435 | 253 | 601 | 1033 | 792 | 979 | 824 | 925 |
| C34 | Standard deviation | 66 | 22 | 63 | 94 | 89 | 25 | 73 | 30 | 199 |
| C46 | NO _x concentration, lb/MBtu | 0.182 | 0.354 | 0.309 | 0.165 | 0.442 | 0.478 | 0.399 | 0.443 | 0.383 |
| C46 | Standard deviation | 0.011 | 0.063 | 0.074 | 0.014 | 0.022 | 0.011 | 0.198 | 0.060 | 0.052 |
| C47 | SO _x concentration, lb/MBtu | 1.263 | 1.266 | 0.734 | 1.490 | 2.402 | 2.032 | 2.454 | 2.331 | 2.500 |
| C47 | Standard deviation | 0.141 | 0.139 | 0.139 | 0.367 | 0.253 | 0.051 | 0.300 | 0.400 | 0.416 |
| C49 | Exhaust sulfur, percent of input | 42.98 | 43.09 | 24.99 | 50.70 | 81.77 | 69.16 | 83.52 | 79.33 | 85.10 |
| C49 | Standard deviation | 4.79 | 4.73 | 4.74 | 12.48 | 8.63 | 1.73 | 10.20 | 13.63 | 14.16 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | H9 | H10 | H11 | H12 | H14 | H13 | H15 | H16 | H18 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | 209 | 233 | 214 | 139 | 228 | 167 | 171 | 201 | 179 |
| 064 | Standard deviation | 6 | 4 | 6 | 8 | 18 | 17 | 17 | 24 | 11 |
| 065 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide content, ppm | 23 | 19 | 19 | 61 | 21 | 103 | 161 | 123 | 61 |
| 066 | Standard deviation | 4 | 3 | 4 | 11 | 3 | 18 | 17 | 19 | 13 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 1.7 | 1.2 | 0.3 | 0.6 | 0.3 | 7.6 | 8.3 | 5.3 | 0.5 |
| 068 | Standard deviation | 0.1 | 0.3 | 0.2 | 0.2 | 0.1 | 3.3 | 0.3 | 3.1 | 0.2 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 127320 | 115720 | 128900 | 129060 | 125200 | 117900 | 131430 | 117540 | 137580 |
| 070 | Standard deviation | 2759 | 2059 | 3136 | 4211 | 3221 | 8694 | 4363 | 5458 | 4852 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 830 | 603 | 680 | 478 | 528 | 209 | 37 | 13 | 612 |
| 072 | Standard deviation | 107 | 77 | 59 | 135 | 37 | 113 | 14 | 8 | 288 |
| 073 | Oxygen content, ppm | 62919 | 78812 | 62833 | 60565 | 66351 | 75845 | 52417 | 71140 | 50677 |
| 073 | Standard deviation | 4356 | 3206 | 3523 | 5116 | 4220 | 6887 | 4831 | 7456 | 5833 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 319 | 259 | 236 | 212 | 223 | 210 | 225 | 237 | 244 |

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|-----|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 070 | Carbon dioxide content, ppm | 127320 | 115720 | 128900 | 129060 | 125200 | 117900 | 131430 | 117540 | 137580 |
| 070 | Standard deviation | 2759 | 2059 | 3136 | 4211 | 3221 | 8694 | 4363 | 5458 | 4852 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 830 | 603 | 680 | 478 | 528 | 209 | 37 | 13 | 612 |
| 072 | Standard deviation | 107 | 77 | 59 | 135 | 37 | 113 | 14 | 8 | 288 |
| 073 | Oxygen content, ppm | 62919 | 78812 | 62833 | 60565 | 66351 | 75845 | 52417 | 71140 | 50677 |
| 073 | Standard deviation | 4356 | 3206 | 3523 | 5116 | 4220 | 6887 | 4831 | 7456 | 5833 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas tempera- ture, °F | 319 | 259 | 236 | 212 | 223 | 210 | 225 | 237 | 244 |
| 075 | Standard deviation | 1 | 35 | 17 | 19 | 8 | 10 | 20 | 17 | 33 |
| 057 | Sample gas pressure, psia | 29.6 | 29.6 | 29.8 | 30.0 | 29.8 | 29.7 | 28.9 | 28.8 | 29.1 |
| 057 | Standard deviation | 0.1 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0 | 0.1 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | 107 | 103 | 98 | 89 | 95 | 70 | 86 | 99 | 100 |
| 090 | Standard deviation | 3 | 1 | 2 | 3 | 3 | 3 | 4 | 3 | 2 |
| 091 | Sample line temperature, °F | 259 | 257 | 252 | 248 | 247 | 249 | 255 | 259 | 259 |
| 091 | Standard deviation | 0 | 1 | 2 | 1 | 5 | 1 | 2 | 2 | 1 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 830 | 603 | 680 | 464 | 528 | 209 | 30 | 13 | 492 |
| C34 | Standard deviation | 107 | 77 | 59 | 136 | 37 | 113 | 3 | 8 | 118 |
| C46 | NO _x concentration, lb/MBtu | 0.428 | 0.561 | 0.520 | 0.306 | 0.479 | 0.294 | 0.271 | 0.358 | 0.321 |
| C46 | Standard deviation | 0.038 | 0.063 | 0.043 | 0.110 | 0.032 | 0.051 | 0.035 | 0.067 | 0.067 |
| C47 | SO _x concentration, lb/MBtu | 2.351 | 2.040 | 2.300 | 1.545 | 1.549 | 0.495 | 0.066 | 0.031 | 1.308 |
| C47 | Standard deviation | 0.270 | 0.418 | 0.278 | 0.825 | 0.159 | 0.229 | 0.005 | 0.019 | 0.169 |
| C49 | Exhaust sulfur, percent of input | 80.02 | 69.44 | 78.29 | 52.59 | 52.74 | 16.85 | 2.26 | 1.04 | 44.53 |
| C49 | Standard deviation | 9.19 | 14.24 | 9.47 | 28.07 | 5.41 | 7.81 | 0.17 | 0.65 | 5.77 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | |
|--------------|-----------------------------------|--------|--------|--------|--------|--------|--------|
| | | H19 | H20 | H23 | H24 | H25 | H26 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | 139 | 179 | 361 | 194 | 189 | 165 |
| 064 | Standard deviation | 11 | 8 | 20 | 15 | 8 | 9 |
| 065 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide content, ppm | 22 | 24 | 85 | 24 | 22 | 22 |
| 066 | Standard deviation | 4 | 3 | 0 | 2 | 2 | 3 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | (b) | 0.8 | 1.3 | 0.5 | (b) | 0.1 |
| 068 | Standard deviation | (b) | 0.3 | 0.8 | 0.3 | (b) | 0 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 135250 | 134570 | 122570 | 126830 | 128530 | 125770 |
| 070 | Standard deviation | 6189 | 3782 | 13183 | 814 | 3587 | 3818 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 333 | 158 | 12 | 52 | 56 | 92 |
| 072 | Standard deviation | 101 | 70 | 9 | 44 | 41 | 49 |
| 073 | Oxygen content, ppm | 57483 | 55927 | 66127 | 58641 | 55632 | 57931 |
| 073 | Standard deviation | 5295 | 4659 | 15235 | 2356 | 2409 | 3706 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 221 | 223 | 229 | 143 | 177 | 202 |

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| | | 135250 | 134570 | 122570 | 126830 | 128530 | 125770 |
|-----|--|--------|--------|--------|--------|--------|--------|
| 070 | Carbon dioxide content, ppm | | | | | | |
| 070 | Standard deviation | 6189 | 3782 | 13183 | 814 | 3587 | 3818 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 333 | 158 | 12 | 52 | 56 | 92 |
| 072 | Standard deviation | 101 | 70 | 9 | 44 | 41 | 49 |
| 073 | Oxygen content, ppm | 57483 | 55927 | 66127 | 58641 | 55632 | 57931 |
| 073 | Standard deviation | 5295 | 4659 | 15235 | 2356 | 2409 | 3706 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 221 | 223 | 229 | 143 | 177 | 202 |
| 075 | Standard deviation | 5 | 14 | 59 | 29 | 21 | 11 |
| 057 | Sample gas pressure, psia | 29.8 | 29.8 | 26.9 | 24.8 | 28.4 | 30.0 |
| 057 | Standard deviation | 0 | 0 | 5.7 | 7.1 | 3.2 | 0.1 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | 94 | 87 | 90 | 89 | 76 | 70 |
| 090 | Standard deviation | 3 | 1 | 2 | 4 | 3 | 1 |
| 091 | Sample line temperature, °F | 235 | 223 | 221 | 231 | 242 | 234 |
| 091 | Standard deviation | 15 | 1 | 11 | 18 | 3 | 6 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 283 | 148 | 13 | 75 | 56 | 92 |
| C34 | Standard deviation | 60 | 68 | 10 | 37 | 41 | 49 |
| C46 | NO _x concentration, lb/MBtu | 0.249 | 0.317 | 0.575 | 0.281 | 0.308 | 0.309 |
| C46 | Standard deviation | 0.029 | 0.029 | 0.065 | 0.135 | 0.016 | 0.026 |
| C47 | SO _x concentration, lb/MBtu | 0.746 | 0.364 | 0.027 | 0.140 | 0.125 | 0.238 |
| C47 | Standard deviation | 0.197 | 0.181 | 0.021 | 0.106 | 0.089 | 0.129 |
| C49 | Exhaust sulfur, percent of input | 25.38 | 12.39 | 0.92 | 4.78 | 4.26 | 8.10 |
| C49 | Standard deviation | 6.72 | 6.15 | 0.73 | 3.59 | 3.03 | 4.38 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 11 | 12 | 13 | 14 | 15A | 15B | 16 | 17 | 18 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | 152 | 179 | 152 | 103 | 130 | 153 | 169 | 163 | 144 |
| 064 | Standard deviation | 13 | 7 | 6 | 8 | 10 | 5 | 23 | 6 | 8 |
| 065 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide content, ppm | 25 | 17 | 16 | 99 | 76 | 83 | 23 | 15 | 23 |
| 066 | Standard deviation | 6 | 7 | 4 | 22 | 8 | 7 | 7 | 3 | 3 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 0.7 | 1.5 | 1.1 | 1.5 | 0.6 | 1.3 | 0.5 | 1.2 | 1.5 |
| 068 | Standard deviation | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.8 | 0.5 | 0.2 | 0.9 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 129230 | 111510 | 139040 | 134910 | 121680 | 110200 | 131490 | 110940 | 131880 |
| 070 | Standard deviation | 3163 | 2852 | 3008 | 3961 | 4950 | 1972 | 5133 | 4608 | 5402 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 196 | 61 | 277 | 87 | 21 | 6 | 57 | 294 | 567 |
| 072 | Standard deviation | 79 | 52 | 52 | 38 | 14 | 0 | 102 | 91 | 140 |
| 073 | Oxygen content, ppm | 57184 | 79062 | 46901 | 51091 | 67940 | 80942 | 57196 | 77041 | 52281 |
| 073 | Standard deviation | 4462 | 5463 | 3541 | 4178 | 5156 | 1987 | 3742 | 4812 | 4123 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 125 | 118 | 108 | 104 | 106 | 99 | 103 | 128 | 111 |

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| | | | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 070 | Standard deviation | 3163 | 2852 | 3008 | 3961 | 4950 | 1972 | 5133 | 4608 | 5402 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 196 | 61 | 277 | 87 | 21 | 6 | 57 | 294 | 567 |
| 072 | Standard deviation | 79 | 52 | 52 | 38 | 14 | 0 | 102 | 91 | 140 |
| 073 | Oxygen content, ppm | 57184 | 79062 | 46901 | 51091 | 67940 | 80942 | 57196 | 77041 | 52281 |
| 073 | Standard deviation | 4462 | 5463 | 3541 | 4178 | 5156 | 1987 | 3742 | 4812 | 4123 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 125 | 118 | 108 | 104 | 106 | 99 | 103 | 128 | 111 |
| 075 | Standard deviation | 20 | 30 | 2 | 6 | 13 | 4 | 26 | 17 | 7 |
| 057 | Sample gas pressure, psia | 29.6 | 22.2 | 29.7 | 29.6 | 29.7 | 28.0 | 22.8 | 29.7 | 28.9 |
| 057 | Standard deviation | 0 | 7.0 | 0 | 0 | 0.1 | 1.5 | 7.0 | 0 | 1.4 |
| 089 | Sample line differential temperature, °F | 139 | 139 | 147 | 141 | 129 | 143 | 142 | 129 | 145 |
| 089 | Standard deviation | 18 | 21 | 1 | 8 | 15 | 3 | 18 | 21 | 1 |
| 090 | Sample line temperature, °F | 76 | 92 | 83 | 74 | 71 | 73 | 84 | 84 | 76 |
| 090 | Standard deviation | 7 | 2 | 3 | 2 | 0 | 1 | 1 | 1 | 1 |
| 091 | Sample line temperature, °F | 72 | 84 | 71 | 65 | 64 | 66 | 76 | 73 | 64 |
| 091 | Standard deviation | 6 | 3 | 2 | 2 | 0 | 1 | 1 | 2 | 1 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 196 | 84 | 186 | 75 | 21 | 6 | 108 | 294 | 510 |
| C34 | Standard deviation | 79 | 38 | 0 | 37 | 14 | 0 | 125 | 91 | 92 |
| C46 | NO _x concentration, lb/MBtu | 0.348 | 0.329 | 0.364 | 0.314 | 0.371 | 0.397 | 0.322 | 0.328 | 0.313 |
| C46 | Standard deviation | 0.032 | 0.117 | 0.022 | 0.026 | 0.050 | 0.018 | 0.069 | 0.021 | 0.035 |
| C47 | SO _x concentration, lb/MBtu | 0.620 | 0.202 | 0.645 | 0.320 | 0.084 | 0.021 | 0.176 | 0.825 | 1.566 |
| C47 | Standard deviation | 0.230 | 0.149 | 0 | 0.156 | 0.054 | 0.002 | 0.293 | 0.257 | 0.268 |
| C49 | Exhaust sulfur, percent of input | 21.09 | 6.87 | 21.94 | 10.91 | 2.85 | 0.70 | 5.99 | 28.09 | 53.30 |
| C49 | Standard deviation | 7.83 | 5.07 | 0 | 5.31 | 1.84 | 0.06 | 9.98 | 8.73 | 9.11 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data chan- nel | Parameter | Test | | | | | |
|----------------------|---------------------------------------|--------|--------|--------|--------|--------|-----|
| | | I9 | I10A | I10B | I11 | I12 | I13 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides con- tent, ppm | 113 | 89 | 140 | 282 | 283 | (b) |
| 064 | Standard deviation | 6 | 10 | 16 | 51 | 44 | (b) |
| 065 | Carbon monoxide con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide con- tent, ppm | 126 | 179 | 140 | 74 | 30 | 8 |
| 066 | Standard deviation | 33 | 33 | 14 | 13 | 8 | 0 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 1.2 | 1.6 | 1.6 | 1.7 | 2.2 | 1.4 |
| 068 | Standard deviation | 0.2 | 0.5 | 0.3 | 0.5 | 0.4 | 0 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 111450 | 127510 | 121450 | 125570 | 119390 | 420 |
| 070 | Standard deviation | 5345 | 4103 | 7193 | 5695 | 5317 | 0 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 263 | 296 | 55 | 8 | 0 | 2 |
| 072 | Standard deviation | 93 | 121 | 43 | 5 | 0 | 1 |
| 073 | Oxygen content, ppm | 76345 | 55993 | 64526 | 62806 | 73940 | (b) |
| 073 | Standard deviation | 5241 | 5213 | 6250 | 5258 | 5863 | (b) |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas tempera- ture, °F | 104 | 100 | 110 | 108 | 79 | 83 |

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| | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|
| 070 | Standard deviation | 5345 | 4103 | 7193 | 5695 | 5317 | 0 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 263 | 296 | 55 | 8 | 0 | 2 |
| 072 | Standard deviation | 93 | 121 | 43 | 5 | 0 | 1 |
| 073 | Oxygen content, ppm | 76345 | 55993 | 64526 | 62806 | 73940 | (b) |
| 073 | Standard deviation | 5241 | 5213 | 6250 | 5258 | 5863 | (b) |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 104 | 100 | 110 | 108 | 79 | 83 |
| 075 | Standard deviation | 22 | 16 | 19 | 16 | 1 | 2 |
| 057 | Sample gas pressure, psia | 26.9 | 23.7 | 26.0 | 27.7 | 30.0 | 16.3 |
| 057 | Standard deviation | 4.9 | 5.4 | 6.4 | 4.5 | 0.1 | 5.2 |
| 089 | Sample line differential temperature, °F | 143 | 148 | 139 | 144 | (b) | (b) |
| 089 | Standard deviation | 18 | 11 | 11 | 9 | (b) | (b) |
| 090 | Sample line temperature, °F | 71 | 72 | 75 | 78 | 66 | 70 |
| 090 | Standard deviation | 3 | 1 | 1 | 1 | 1 | 3 |
| 091 | Sample line temperature, °F | 60 | 66 | 70 | 71 | 217 | 194 |
| 091 | Standard deviation | 2 | 2 | 1 | 1 | 2 | 4 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 290 | 352 | 52 | 8 | 0 | (b) |
| C34 | Standard deviation | 54 | 29 | 49 | 6 | 0 | (b) |
| C46 | NO _x concentration, lb/MBtu | 0.296 | 0.283 | 0.375 | 0.762 | 0.520 | 0.177 |
| C46 | Standard deviation | 0.025 | 0.065 | 0.053 | 0.105 | 0.093 | 0.206 |
| C47 | SO _x concentration, lb/MBtu | 0.982 | 1.403 | 0.224 | 0.032 | 0.001 | 0.004 |
| C47 | Standard deviation | 0.343 | 0.647 | 0.179 | 0.021 | 0.001 | 0 |
| C49 | Exhaust sulfur, percent of input | 33.41 | 47.76 | 7.63 | 1.09 | 0.03 | 0.12 |
| C49 | Standard deviation | 11.66 | 22.01 | 6.08 | 0.72 | 0.02 | 0.01 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-----------------------------------|--------|--------|-------|--------|--------|--------|--------|--------|--------|
| | | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | 68 | 174 | 200 | 99 | 250 | 262 | 46 | 179 | 47 |
| 064 | Standard deviation | 34 | 10 | 8 | 16 | 14 | 14 | 26 | 8 | 7 |
| 065 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide content, ppm | 121 | 73 | 26 | 57 | 51 | 30 | 111 | 120 | 383 |
| 066 | Standard deviation | 66 | 18 | 5 | 13 | 40 | 4 | 28 | 19 | 528 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 41.2 | 7.1 | 1.5 | 1.6 | 14.5 | 2.2 | 2.2 | 2.3 | 17.0 |
| 068 | Standard deviation | 10.8 | 13.0 | 0.2 | 0.7 | 25.3 | 0.9 | 0.3 | 0.4 | 27.8 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 141330 | 105180 | 97948 | 141890 | 104610 | 107250 | 150960 | 101930 | 144420 |
| 070 | Standard deviation | 10105 | 4445 | 5382 | 6052 | 6920 | 6310 | 4016 | 5422 | 7501 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 342 | 276 | 257 | 1136 | 686 | 1086 | 2376 | 938 | 1220 |
| 072 | Standard deviation | 309 | 26 | 96 | 486 | 87 | 184 | 901 | 115 | 218 |
| 073 | Oxygen content, ppm | 41366 | 82203 | 89561 | 34145 | 80266 | 79934 | 20301 | 82400 | 27374 |
| 073 | Standard deviation | 13437 | 6812 | 7717 | 4148 | 8391 | 7801 | 5159 | 4030 | 4850 |
| 074 | SO _x permissive signal | 6.7 | 5.0 | 5.0 | 7.2 | 5.0 | 5.0 | 7.5 | 5.0 | 7.1 |
| 074 | Standard deviation | 2.4 | 0 | 0 | 2.5 | 0 | 0 | 2.5 | 0 | 2.5 |
| 075 | Gas analyzer gas temperature, °F | 239 | 238 | 236 | 239 | 248 | 259 | 245 | 217 | 234 |

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| | ppm | | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 070 | Standard deviation | 10105 | 4445 | 5382 | 6052 | 6920 | 6310 | 4016 | 5422 | 7501 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 342 | 276 | 257 | 1136 | 686 | 1086 | 2376 | 938 | 1220 |
| 072 | Standard deviation | 309 | 26 | 96 | 486 | 87 | 184 | 901 | 115 | 218 |
| 073 | Oxygen content, ppm | 41366 | 82203 | 89561 | 34145 | 80266 | 79934 | 20301 | 82400 | 27374 |
| 073 | Standard deviation | 13437 | 6812 | 7717 | 4148 | 8391 | 7801 | 5159 | 4030 | 4850 |
| 074 | SO _x permissive signal | 6.7 | 5.0 | 5.0 | 7.2 | 5.0 | 5.0 | 7.5 | 5.0 | 7.1 |
| 074 | Standard deviation | 2.4 | 0 | 0 | 2.5 | 0 | 0 | 2.5 | 0 | 2.5 |
| 075 | Gas analyzer gas temperature, F | 239 | 238 | 236 | 239 | 248 | 259 | 245 | 217 | 234 |
| 075 | Standard deviation | 8 | 1 | 3 | 9 | 6 | 5 | 4 | 35 | 21 |
| 057 | Sample gas pressure, psia | 27.2 | 28.9 | 28.9 | 28.8 | 28.8 | 28.7 | 28.9 | 28.8 | 27.5 |
| 057 | Standard deviation | 4.6 | 0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0 | 3.9 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | 74 | 81 | 91 | 80 | 94 | 100 | 84 | 83 | 79 |
| 090 | Standard deviation | 1 | 2 | 1 | 4 | 2 | 1 | 4 | 2 | 0 |
| 091 | Sample line temperature, °F | 240 | 244 | 240 | 235 | 242 | 242 | 238 | 237 | 240 |
| 091 | Standard deviation | 3 | 1 | 1 | 1 | 4 | 1 | 2 | 1 | 2 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 271 | 276 | 257 | 973 | 686 | 1086 | 1961 | 938 | 1088 |
| C34 | Standard deviation | 276 | 27 | 96 | 287 | 87 | 184 | 601 | 115 | 89 |
| C46 | NO _x concentration, lb/MBtu | 0.080 | 0.302 | 0.382 | 0.126 | 0.496 | 0.457 | 0.053 | 0.313 | 0.052 |
| C46 | Standard deviation | 0.044 | 0.019 | 0.018 | 0.021 | 0.054 | 0.023 | 0.031 | 0.019 | 0.011 |
| C47 | SO _x concentration, lb/MBtu | 0.457 | 0.670 | 0.679 | 1.697 | 1.899 | 2.638 | 3.097 | 2.319 | 1.744 |
| C47 | Standard deviation | 0.523 | 0.089 | 0.244 | 0.457 | 0.318 | 0.410 | 0.949 | 0.284 | 0.157 |
| C49 | Exhaust sulfur, percent of input | 11.19 | 16.39 | 16.60 | 41.51 | 46.47 | 64.54 | 75.76 | 56.73 | 42.66 |
| C49 | Standard deviation | 12.79 | 2.17 | 5.96 | 11.18 | 7.78 | 10.03 | 23.23 | 6.94 | 3.85 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | | | |
|--------------|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | K1 | K3 | K4 | K2 | K7 | K8 | K6 | K5 | K9 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | 178 | 165 | 240 | 95 | 94 | 160 | 63 | 240 | 83 |
| 064 | Standard deviation | 17 | 62 | 39 | 6 | 6 | 5 | 23 | 55 | 31 |
| 065 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide content, ppm | 88 | 54 | 20 | 85 | 91 | 80 | 84 | 18 | 52 |
| 066 | Standard deviation | 33 | 33 | 4 | 20 | 22 | 10 | 23 | 2 | 23 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 2.3 | 3.6 | 0.9 | 1.3 | 1.4 | 1.4 | 0.8 | 2.8 | 1.2 |
| 068 | Standard deviation | 1.1 | 7.8 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 2.6 | 0.5 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 115980 | 155050 | 105440 | 142410 | 138860 | 107780 | 159480 | 104920 | 159930 |
| 070 | Standard deviation | 12020 | 4514 | 5436 | 3187 | 3205 | 3174 | 3114 | 2566 | 3846 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 408 | 1139 | 137 | 583 | 986 | 707 | 3351 | 164 | 1969 |
| 072 | Standard deviation | 208 | 1676 | 83 | 173 | 135 | 44 | 1115 | 165 | 716 |
| 073 | Oxygen content, ppm | 73978 | 30039 | 100500 | 48937 | 52040 | 90788 | 22528 | 95116 | 32726 |
| 073 | Standard deviation | 11813 | 7277 | 8515 | 3939 | 3687 | 4823 | 1762 | 4402 | 4255 |
| 074 | SO _x permissive signal | 4.9 | 7.5 | 4.9 | 6.2 | 5.9 | 5.0 | 7.3 | 4.9 | 7.5 |
| 074 | Standard deviation | 0 | 2.5 | 0 | 2.2 | 1.9 | 0 | 2.9 | 0 | 2.5 |
| 075 | Gas analyzer gas temperature, °F | 229 | 235 | 253 | 230 | 233 | 233 | 229 | 217 | 236 |

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| | | | | | | | | | | |
|-----|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 115980 | 155050 | 105440 | 142410 | 138860 | 107780 | 159480 | 104920 | 159930 |
| 070 | Standard deviation | 12020 | 4514 | 5436 | 3187 | 3205 | 3174 | 3114 | 2566 | 3846 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 408 | 1139 | 137 | 583 | 986 | 707 | 3351 | 164 | 1969 |
| 072 | Standard deviation | 208 | 1676 | 83 | 173 | 135 | 44 | 1115 | 165 | 716 |
| 073 | Oxygen content, ppm | 73978 | 30039 | 100500 | 48937 | 52040 | 90788 | 22528 | 95116 | 32726 |
| 073 | Standard deviation | 11813 | 7277 | 8515 | 3939 | 3687 | 4823 | 1762 | 4402 | 4255 |
| 074 | SO _x permissive signal | 4.9 | 7.5 | 4.9 | 6.2 | 5.9 | 5.0 | 7.3 | 4.9 | 7.5 |
| 074 | Standard deviation | 0 | 2.5 | 0 | 2.2 | 1.9 | 0 | 2.9 | 0 | 2.5 |
| 075 | Gas analyzer gas tempera- ture, °F | 229 | 235 | 253 | 230 | 233 | 233 | 229 | 217 | 236 |
| 075 | Standard deviation | 10 | 6 | 11 | 5 | 2 | 2 | 2 | 47 | 4 |
| 057 | Sample gas pressure, psia | 27.7 | 27.9 | 28.5 | 27.9 | 29.2 | 28.8 | 28.8 | 19.3 | 28.1 |
| 057 | Standard deviation | 4.5 | 3.4 | 0.9 | 4.1 | 0.1 | 0.6 | 1.2 | 6.7 | 4.1 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | 74 | 75 | 93 | 93 | 86 | 95 | 94 | 105 | 102 |
| 090 | Standard deviation | 5 | 4 | 5 | 2 | 2 | 3 | 1 | 5 | 1 |
| 091 | Sample line temperature, °F | 235 | 237 | 242 | 231 | 233 | 235 | 229 | 198 | 219 |
| 091 | Standard deviation | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 27 | 1 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 357 | 453 | 137 | 478 | 941 | 707 | 3133 | 313 | 2078 |
| C34 | Standard deviation | 190 | 392 | 83 | 173 | 132 | 44 | 1009 | 170 | 750 |
| C46 | NO _x concentration, lb/MBtu | 0.342 | 0.201 | 0.468 | 0.126 | 0.126 | 0.290 | 0.075 | 0.228 | 0.086 |
| C46 | Standard deviation | 0.036 | 0.075 | 0.109 | 0.012 | 0.010 | 0.019 | 0.026 | 0.238 | 0.030 |
| C47 | SO _x concentration, lb/MBtu | 0.997 | 0.962 | 0.371 | 0.933 | 1.750 | 1.789 | 5.265 | 0.482 | 3.105 |
| C47 | Standard deviation | 0.497 | 0.783 | 0.234 | 0.318 | 0.224 | 0.146 | 1.861 | 0.462 | 1.147 |
| C49 | Exhaust sulfur, percent of input | 24.39 | 23.54 | 9.07 | 22.82 | 42.82 | 43.77 | 128.8 | 11.79 | 75.97 |
| C49 | Standard deviation | 12.15 | 19.17 | 5.72 | 7.79 | 5.49 | 3.58 | 45.53 | 11.29 | 28.07 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

FOLDOUT FRAME /

| Data channel | Parameter | Test | | | | | | |
|--------------|-----------------------------------|--------|--------|-------|--------|--------|--------|--------|
| | | K10 | K12 | K11 | K14 | K13 | K15 | K16 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | 128 | 201 | 217 | 51 | 149 | 123 | 262 |
| 064 | Standard deviation | 12 | 43 | 12 | 28 | 47 | 38 | 22 |
| 065 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide content, ppm | 37 | 46 | 12 | 55 | 82 | 45 | 43 |
| 066 | Standard deviation | 11 | 16 | 5 | 23 | 14 | 11 | 6 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 3.2 | 2.0 | 3.0 | 1.7 | 3.2 | 1.2 | 1.5 |
| 068 | Standard deviation | 5.0 | 1.4 | 1.5 | 0.2 | 1.1 | 0.4 | 0.5 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 155470 | 108490 | 83078 | 162110 | 148580 | 156370 | 148720 |
| 070 | Standard deviation | 2902 | 1511 | 48038 | 4096 | 5326 | 3145 | 2040 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 1724 | 137 | 105 | 2563 | 54 | 1846 | 387 |
| 072 | Standard deviation | 357 | 85 | 110 | 1279 | 79 | 816 | 155 |
| 073 | Oxygen content, ppm | 30706 | 88914 | 64827 | 23603 | 38782 | 26105 | 31583 |
| 073 | Standard deviation | 2391 | 7141 | 35269 | 4777 | 4495 | 2905 | 1152 |
| 074 | SO _x permissive signal | 7.5 | 5.0 | 5.0 | 7.5 | 7.5 | 7.5 | 7.5 |
| 074 | Standard deviation | 2.5 | 0 | 0 | 2.5 | 2.5 | 2.5 | 2.5 |
| 075 | Gas analyzer gas temperature, °F | 232 | 227 | 228 | 230 | 225 | 231 | 225 |

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| | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|-------|
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 1724 | 137 | 105 | 2563 | 54 | 1846 | 387 |
| 072 | Standard deviation | 357 | 85 | 110 | 1279 | 79 | 816 | 155 |
| 073 | Oxygen content, ppm | 30706 | 88914 | 64827 | 23603 | 38782 | 26105 | 31583 |
| 073 | Standard deviation | 2391 | 7141 | 35269 | 4777 | 4495 | 2905 | 1152 |
| 074 | SO _x permissive signal | 7.5 | 5.0 | 5.0 | 7.5 | 7.5 | 7.5 | 7.5 |
| 074 | Standard deviation | 2.5 | 0 | 0 | 2.5 | 2.5 | 2.5 | 2.5 |
| 075 | Gas analyzer gas temperature, F | 232 | 227 | 228 | 230 | 225 | 231 | 225 |
| 075 | Standard deviation | 2 | 3 | 43 | 3 | 2 | 2 | 4 |
| 057 | Sample gas pressure, psia | 29.4 | 26.4 | 21.3 | 29.6 | 29.4 | 29.3 | 28.9 |
| 057 | Standard deviation | 0.1 | 4.2 | 7.0 | 0.1 | 0.1 | 0.1 | 0.2 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | 102 | 101 | 113 | 105 | 94 | 98 | 100 |
| 090 | Standard deviation | 1 | 0 | 4 | 5 | 1 | 1 | 1 |
| 091 | Sample line temperature, °F | 219 | 216 | 192 | 218 | 220 | 220 | 219 |
| 091 | Standard deviation | 1 | 2 | 19 | 1 | 2 | 1 | 0 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 1580 | 134 | 156 | 2299 | 51 | 1461 | 285 |
| C34 | Standard deviation | 303 | 90 | 81 | 1007 | 74 | 563 | 73 |
| C46 | NO _x concentration, lb/MBtu | 0.159 | 0.349 | 0.267 | 0.060 | 0.197 | 0.165 | 0.364 |
| C46 | Standard deviation | 0.017 | 0.073 | 0.166 | 0.033 | 0.065 | 0.065 | 0.031 |
| C47 | SO _x concentration, lb/MBtu | 2.723 | 0.337 | 0.306 | 3.808 | 0.097 | 2.570 | 0.553 |
| C47 | Standard deviation | 0.514 | 0.206 | 0.284 | 1.664 | 0.141 | 0.901 | 0.142 |
| C49 | Exhaust sulfur, percent of input | 66.63 | 8.25 | 7.50 | 93.16 | 2.37 | 62.87 | 13.54 |
| C49 | Standard deviation | 12.58 | 5.03 | 6.94 | 40.72 | 3.45 | 22.04 | 3.48 |

^bData or results were not obtained.

2411A
 (21)
 (33)

TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|---------------------------------------|--------|--------|--------|-----|-------|-------|--------|--------|
| | | T3A | T3B | T3C | T3D | T3E | T3F | T4 | T5 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides con- tent, ppm | 192 | 226 | 180 | (b) | 237 | (b) | 163 | 133 |
| 064 | Standard deviation | 112 | 72 | 81 | (b) | 83 | (b) | 51 | 21 |
| 065 | Carbon monoxide con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide con- tent, ppm | 10.9 | 11.9 | 18.7 | 1.6 | 12.5 | 10.3 | 29.9 | 20.5 |
| 066 | Standard deviation | 6.1 | 7.2 | 26.8 | 1.5 | 9.9 | 0 | 16.3 | 12.9 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 6.0 | 1.4 | 3.8 | 0.2 | 0.9 | 6.6 | 0.4 | 1.4 |
| 068 | Standard deviation | 3.6 | 1.2 | 6.2 | 0.1 | 0.5 | 14.1 | 0.1 | 1.1 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 76637 | 66273 | 65590 | 210 | 97763 | 2960 | 108410 | 88600 |
| 070 | Standard deviation | 10148 | 29524 | 26932 | 13 | 24341 | 4087 | 47310 | 59748 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 166 | 114 | 168 | 11 | 264 | 9 | 370 | 90 |
| 072 | Standard deviation | 163 | 94 | 174 | 1 | 185 | 1 | 326 | 85 |
| 073 | Oxygen content, ppm | 137020 | 120930 | 127380 | (b) | 95193 | 10548 | 70279 | 110660 |
| 073 | Standard deviation | 40895 | 22111 | 23159 | (b) | 24938 | 10181 | 38696 | 73609 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas tempera- ture, °F | 167 | 198 | 166 | 104 | 213 | 109 | 213 | 163 |

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| | | | | | | | | | |
|-----|--|--------|--------|--------|------|-------|-------|-------|--------|
| 070 | Standard deviation | 10148 | 29524 | 20932 | 13 | 24341 | 4087 | 47310 | 59748 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 166 | 114 | 168 | 11 | 264 | 9 | 370 | 90 |
| 072 | Standard deviation | 163 | 94 | 174 | 1 | 185 | 1 | 326 | 85 |
| 073 | Oxygen content, ppm | 137020 | 120930 | 127380 | (b) | 95193 | 10548 | 70279 | 110660 |
| 073 | Standard deviation | 40895 | 22111 | 23159 | (b) | 24938 | 10181 | 38696 | 73609 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 167 | 198 | 166 | 104 | 213 | 109 | 213 | 163 |
| 075 | Standard deviation | 54 | 21 | 36 | 8 | 30 | 14 | 33 | 60 |
| 057 | Sample gas pressure, psia | 20.0 | 27.7 | 27.9 | 19.2 | 28.0 | 23.2 | 28.0 | 28.3 |
| 057 | Standard deviation | 6.7 | 2.7 | 4.8 | 7.3 | 3.9 | 7.3 | 2.2 | 3.3 |
| 089 | Sample line differential temperature, °F | 144 | 146 | 145 | 142 | 150 | 144 | (b) | 155 |
| 089 | Standard deviation | 1 | 1 | 2 | 3 | 8 | 0 | (b) | 1 |
| 090 | Sample line temperature, °F | 211 | 220 | 218 | 212 | 237 | 213 | 82 | 84 |
| 090 | Standard deviation | 23 | 5 | 6 | 0 | 13 | 1 | 9 | 8 |
| 091 | Sample line temperature, °F | 255 | 259 | 955 | 250 | 260 | 248 | 238 | 82 |
| 091 | Standard deviation | 32 | 5 | 208 | 12 | 4 | 11 | 6 | 12 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 239 | 133 | 185 | (b) | 275 | (b) | 646 | 94 |
| C34 | Standard deviation | 149 | 91 | 93 | (b) | 152 | (b) | 166 | 88 |
| C46 | NO _x concentration, lb/MBtu | 0.467 | 0.863 | 0.601 | (b) | 0.499 | (b) | 0.230 | 0.187 |
| C46 | Standard deviation | 0.392 | 1.127 | 0.381 | (b) | 0.275 | (b) | 0.088 | 0.051 |
| C47 | SO _x concentration, lb/MBtu | 0.703 | 0.613 | 0.789 | (b) | 0.837 | (b) | 1.318 | 0.226 |
| C47 | Standard deviation | 0.691 | 0.482 | 0.549 | (b) | 0.622 | (b) | 0.349 | 0.191 |
| C49 | Exhaust sulfur, percent of input | 23.93 | 20.86 | 26.85 | (b) | 28.49 | (b) | 32.24 | 5.53 |
| C49 | Standard deviation | 23.52 | 16.40 | 18.68 | (b) | 21.16 | (b) | 8.54 | 4.68 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

FOLDOUT FRAME

| Data channel | Parameter | Test | | | | |
|--------------|-----------------------------------|--------|------|--------|--------|--------|
| | | CAS0 | CAS1 | CAS2 | CAS3 | CAS4 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | 198 | (b) | 238 | 166 | 262 |
| 064 | Standard deviation | 133 | (b) | 57 | 132 | 47 |
| 065 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide content, ppm | 15.2 | (b) | 28.8 | 13.3 | 10.8 |
| 066 | Standard deviation | 6.6 | (b) | 40.2 | 16.5 | 16.4 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 16.0 | (b) | 3.5 | 1.8 | 1.0 |
| 068 | Standard deviation | 71.8 | (b) | 6.7 | 2.0 | 0.8 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 64568 | (b) | 92473 | 45592 | 71153 |
| 070 | Standard deviation | 27295 | (b) | 23623 | 37860 | 16033 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 33 | 3 | 128 | 88 | 56 |
| 072 | Standard deviation | 104 | 0 | 148 | 123 | 79 |
| 073 | Oxygen content, ppm | 104420 | (b) | 101980 | 143500 | 135610 |
| 073 | Standard deviation | 38196 | (b) | 26840 | 46239 | 21861 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 4.9 | 5.0 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 233 | 98 | 212 | 231 | 250 |

| | ppm | | | | | |
|-----|--|--------|------|--------|--------|--------|
| 070 | Standard deviation | 27295 | (b) | 23623 | 37860 | 16033 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 33 | 3 | 128 | 88 | 56 |
| 072 | Standard deviation | 104 | 0 | 148 | 123 | 79 |
| 073 | Oxygen content, ppm | 104420 | (b) | 101980 | 143500 | 135610 |
| 073 | Standard deviation | 38196 | (b) | 26840 | 46239 | 21861 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 4.9 | 5.0 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, F | 233 | 98 | 212 | 231 | 250 |
| 075 | Standard deviation | 38 | 13 | 27 | 42 | 29 |
| 057 | Sample gas pressure, psia | 30.9 | 14.4 | 29.0 | 34.4 | 29.6 |
| 057 | Standard deviation | 0.4 | 2.5 | 2.6 | 8.6 | 5.7 |
| 089 | Sample line differential temperature, °F | 131 | 162 | 158 | 111 | (b) |
| 089 | Standard deviation | 2 | 15 | 1 | 23 | (b) |
| 090 | Sample line temperature, F | 87 | 98 | 92 | 87 | 99 |
| 090 | Standard deviation | 9 | 16 | 7 | 12 | 18 |
| 091 | Sample line temperature, F | 194 | 92 | 193 | 153 | 209 |
| 091 | Standard deviation | 27 | 11 | 32 | 54 | 18 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, F | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, F | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | (b) | (b) | (b) | (b) | (b) |
| C34 | Standard deviation | (b) | (b) | (b) | (b) | (b) |
| C46 | NO _x concentration, lb/MBtu | 0.396 | (b) | 0.511 | 0.452 | 0.823 |
| C46 | Standard deviation | 0.267 | (b) | 0.478 | 0.660 | 1.328 |
| C47 | SO _x concentration, lb/MBtu | 0.075 | (b) | 0.436 | 0.441 | 0.315 |
| C47 | Standard deviation | 0.251 | (b) | 0.803 | 0.661 | 0.802 |
| C49 | Exhaust sulfur, percent of input | 2.61 | (b) | 15.17 | 15.34 | 10.95 |
| C49 | Standard deviation | 8.75 | (b) | 27.92 | 22.97 | 27.91 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

FOLDOUT FRAME /

| Data chan- nel | Parameter | Test | | | | | | | |
|----------------------|-----------------------------------|--------|--------|--------|--------|--------|-----|--------|--------|
| | | L1 | L2 | L3 | L4 | L5 | L6 | M1 | M2 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides con- tent, ppm | 121 | 23 | 144 | 203 | 166 | (b) | 128 | 149 |
| 064 | Standard deviation | 16 | 9 | 15 | 11 | 21 | (b) | 11 | 21 |
| 065 | Carbon monoxide con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide con- tent, ppm | 54 | 112 | 31 | 18 | 15 | (b) | 43 | 8 |
| 066 | Standard deviation | 37 | 28 | 5 | 4 | 4 | (b) | 6 | 5 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 5.9 | 1.6 | 1.4 | 1.2 | 0.6 | (b) | 2.7 | 0.9 |
| 068 | Standard deviation | 11.4 | 0.3 | 0.5 | 0 | 0.7 | (b) | 0.2 | 0.2 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 110270 | 154100 | 144980 | 115170 | 110442 | (b) | 64483 | 65970 |
| 070 | Standard deviation | 17446 | 3789 | 3291 | 2129 | 6295 | (b) | 2289 | 9446 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 329 | 1329 | 689 | 378 | 274 | 268 | 158 | 253 |
| 072 | Standard deviation | 173 | 343 | 280 | 85 | 106 | 212 | 93 | 145 |
| 073 | Oxygen content, ppm | 80224 | 22805 | 40869 | 76760 | 82111 | (b) | 136510 | 135880 |
| 073 | Standard deviation | 20962 | 3584 | 3483 | 5106 | 7544 | (b) | 5002 | 12215 |
| 074 | SO _x permissive signal | 4.9 | 7.7 | 7.5 | 4.9 | 4.9 | 7.4 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 2.5 | 2.5 | 0 | 0 | 2.5 | 0 | 0 |
| 075 | Gas analyzer gas tempera- | 228 | 209 | 252 | 204 | 130 | 190 | 252 | 220 |

| | | | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|--------|--------|
| 070 | Standard deviation | 17446 | 3789 | 3291 | 2129 | 6295 | (b) | 2289 | 9446 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 329 | 1329 | 689 | 378 | 274 | 268 | 158 | 253 |
| 072 | Standard deviation | 173 | 343 | 280 | 85 | 106 | 212 | 93 | 145 |
| 073 | Oxygen content, ppm | 80224 | 22805 | 40869 | 76760 | 82111 | (b) | 136510 | 135880 |
| 073 | Standard deviation | 20962 | 3584 | 3483 | 5106 | 7544 | (b) | 5002 | 12215 |
| 074 | SO _x permissive signal | 4.9 | 7.7 | 7.5 | 4.9 | 4.9 | 7.4 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 2.5 | 2.5 | 0 | 0 | 2.5 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 228 | 209 | 252 | 204 | 130 | 190 | 252 | 220 |
| 075 | Standard deviation | 15 | 28 | 9 | 54 | 8 | 8 | 7 | 4 |
| 057 | Sample gas pressure, psia | 26.2 | 26.8 | 26.6 | 22.7 | 22.8 | 19.6 | 26.2 | 26.9 |
| 057 | Standard deviation | 0.3 | 0.2 | 0.1 | 3.7 | 5.0 | 0.1 | 0.3 | 0.1 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | 87 | 91 | 99 | 113 | 92 | 83 | 102 | 80 |
| 090 | Standard deviation | 11 | 2 | 4 | 4 | 17 | 2 | 4 | 3 |
| 091 | Sample line temperature, °F | 213 | 215 | 224 | 221 | 199 | 193 | 163 | 152 |
| 091 | Standard deviation | 6 | 9 | 3 | 8 | 10 | 2 | 4 | 3 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 290 | 1200 | 658 | 408 | 315 | (b) | 158 | 253 |
| C34 | Standard deviation | 135 | 264 | 311 | 68 | 90 | (b) | 93 | 145 |
| C46 | NO _x concentration, lb/MBtu | 0.222 | 0.026 | 0.190 | 0.355 | 0.295 | 0.225 | 0.408 | 0.379 |
| C46 | Standard deviation | 0.031 | 0.011 | 0.031 | 0.035 | 0.030 | 0.019 | 0.080 | 0.073 |
| C47 | SO _x concentration, lb/MBtu | 0.728 | 1.839 | 1.175 | 0.932 | 0.690 | 0.406 | 0.689 | 0.899 |
| C47 | Standard deviation | 0.323 | 0.567 | 0.523 | 0.218 | 0.229 | 0.252 | 0.394 | 0.483 |
| C49 | Exhaust sulfur, percent of input | 17.81 | 44.98 | 28.75 | 22.81 | 16.88 | 9.93 | 16.85 | 22.00 |
| C49 | Standard deviation | 7.90 | 13.88 | 12.78 | 5.34 | 5.60 | 6.18 | 9.63 | 11.82 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M11 | M12 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides con- tent, ppm | 185 | 194 | 192 | 180 | 159 | 159 | 160 | 202 | 201 |
| 064 | Standard deviation | 9 | 6 | 5 | 3 | 11 | 8 | 6 | 8 | 4 |
| 065 | Carbon monoxide con- tent, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide con- tent, ppm | 7.6 | 7.0 | 8.3 | 7.4 | 11.9 | 32.2 | 19.6 | 8.5 | 10.1 |
| 066 | Standard deviation | 0.6 | 0.8 | 1.0 | 0.5 | 3.2 | 20.6 | 5.5 | 0.8 | 2.3 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 0.5 | 0.9 | 1.8 | 0.5 | 0.7 | 8.1 | 1.7 | 1.5 | 1.6 |
| 068 | Standard deviation | 0.2 | 0.2 | 0.7 | 0.1 | 0.1 | 12.4 | 0.4 | 0.3 | 1.0 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 75034 | 75197 | 76385 | 73451 | 64614 | 64278 | 66491 | 76072 | 76083 |
| 070 | Standard deviation | 3527 | 2499 | 3221 | 2725 | 4299 | 5226 | 6581 | 4181 | 2445 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 511 | 536 | 651 | 466 | 319 | 446 | 380 | 400 | 432 |
| 072 | Standard deviation | 123 | 140 | 96 | 93 | 55 | 88 | 101 | 97 | 106 |
| 073 | Oxygen content, ppm | 124090 | 124210 | 124450 | 125900 | 140410 | 141490 | 145060 | 131100 | 124730 |
| 073 | Standard deviation | 3812 | 3575 | 2996 | 6447 | 2590 | 6615 | 10256 | 7179 | 5669 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas tempera- ture, °F | 235 | 254 | 265 | 243 | 235 | 262 | 278 | 264 | 226 |

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| | | 75034 | 75197 | 76369 | 75451 | 64014 | 64278 | 66491 | 70072 | 70083 |
|-----|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 070 | Standard deviation | 3527 | 2499 | 3221 | 2725 | 4299 | 5226 | 6581 | 4181 | 2445 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 511 | 536 | 651 | 466 | 319 | 446 | 380 | 400 | 432 |
| 072 | Standard deviation | 123 | 140 | 96 | 93 | 55 | 88 | 101 | 97 | 106 |
| 073 | Oxygen content, ppm | 124090 | 124210 | 124450 | 125900 | 140410 | 141490 | 145060 | 131100 | 124730 |
| 073 | Standard deviation | 3812 | 3575 | 2996 | 6447 | 2590 | 6615 | 10256 | 7179 | 5669 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, F | 235 | 254 | 265 | 243 | 235 | 262 | 278 | 264 | 226 |
| 075 | Standard deviation | 3 | 10 | 3 | 4 | 10 | 27 | 4 | 3 | 27 |
| 057 | Sample gas pressure, psia | 26.6 | 26.3 | 27.3 | 28.3 | 28.6 | 30.2 | 31.0 | 30.6 | 28.2 |
| 057 | Standard deviation | 0.1 | 3.2 | 0.2 | 0.2 | 0.3 | 1.6 | 0.5 | 1.2 | 1.8 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, F | 86 | 95 | 106 | 90 | 83 | 81 | 95 | 96 | 94 |
| 090 | Standard deviation | 2 | 3 | 3 | 6 | 1 | 2 | 3 | 0 | 1 |
| 091 | Sample line temperature, °F | 160 | 151 | 159 | 149 | 163 | 152 | 151 | 155 | 140 |
| 091 | Standard deviation | 1 | 4 | 3 | 3 | 18 | 16 | 3 | 1 | 3 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 510 | 545 | 651 | 466 | 319 | 446 | 380 | 400 | 432 |
| C34 | Standard deviation | 123 | 144 | 96 | 93 | 55 | 88 | 101 | 97 | 106 |
| 046 | NO _x concentration, lb/MBtu | 0.472 | 0.492 | 0.470 | 0.440 | 0.435 | 0.533 | 0.723 | 0.481 | 0.509 |
| C46 | Standard deviation | 0.044 | 0.071 | 0.059 | 0.025 | 0.067 | 0.152 | 0.908 | 0.062 | 0.055 |
| C47 | SO _x concentration, lb/MBtu | 1.798 | 1.867 | 2.232 | 1.601 | 1.203 | 2.163 | 2.678 | 1.332 | 1.534 |
| C47 | Standard deviation | 0.421 | 0.363 | 0.457 | 0.366 | 0.246 | 0.986 | 4.271 | 0.384 | 0.461 |
| C49 | Exhaust sulfur, percent of input | 43.99 | 45.68 | 54.61 | 39.18 | 29.42 | 52.91 | 65.51 | 32.59 | 37.53 |
| C49 | Standard deviation | 10.31 | 8.87 | 11.17 | 8.95 | 6.03 | 24.13 | 104.5 | 9.40 | 11.28 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Continued. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | | |
|--------------|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | N1 | N2 | N5A | N5B | N6 | N55A | N55B | N7 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | 265 | 235 | 245 | 254 | 234 | 270 | 252 | 238 |
| 064 | Standard deviation | 40 | 13 | 78 | 13 | 16 | 9 | 13 | 19 |
| 065 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide content, ppm | 42.2 | 6.4 | 5.9 | 1.5 | 2.0 | 7.6 | 6.6 | 5.9 |
| 066 | Standard deviation | 49.0 | 2.2 | 4.8 | 0.9 | 1.7 | 1.6 | 0.8 | 1.8 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 2.2 | 0.2 | 4.5 | 0.8 | 0.4 | 0.6 | 0.2 | 0.4 |
| 068 | Standard deviation | 3.2 | 0.1 | 9.4 | 0.1 | 0.2 | 0.2 | 0.1 | 0.4 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 85663 | 73871 | 71327 | 74586 | 72662 | 79226 | 78283 | 64569 |
| 070 | Standard deviation | 18389 | 20638 | 22837 | 3851 | 3924 | 4454 | 3163 | 21644 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 244 | 214 | 225 | 222 | 158 | 273 | 258 | 76 |
| 072 | Standard deviation | 169 | 128 | 110 | 34 | 143 | 55 | 46 | 112 |
| 073 | Oxygen content, ppm | 120370 | 122160 | 129760 | 124570 | 131960 | 122980 | 128200 | 133680 |
| 073 | Standard deviation | 19249 | 36000 | 31117 | 4523 | 6373 | 6069 | 3444 | 8872 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 253 | 241 | 240 | 251 | 241 | 241 | 252 | 227 |

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| | | | | | | | | | |
|-----|--|--------|--------|--------|--------|--------|--------|--------|--------|
| 070 | Standard deviation | 18389 | 20638 | 22837 | 3851 | 3924 | 4454 | 3153 | 21644 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 244 | 214 | 225 | 222 | 158 | 273 | 258 | 76 |
| 072 | Standard deviation | 169 | 128 | 110 | 34 | 143 | 55 | 46 | 112 |
| 073 | Oxygen content, ppm | 120370 | 122160 | 129760 | 124570 | 131960 | 122980 | 128200 | 133680 |
| 073 | Standard deviation | 19249 | 36000 | 31117 | 4523 | 6373 | 6069 | 3444 | 8872 |
| 074 | SO _x permissive signal | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.9 | 4.9 | 4.9 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 253 | 241 | 240 | 251 | 241 | 241 | 252 | 227 |
| 075 | Standard deviation | 21 | 2 | 20 | 4 | 4 | 20 | 1 | 8 |
| 057 | Sample gas pressure, psia | 28.2 | 29.2 | 27.9 | 28.8 | 28.6 | 28.6 | 28.7 | 29.0 |
| 057 | Standard deviation | 0.4 | 0.1 | 3.2 | 0.1 | 0.2 | 0.2 | 0 | 0.1 |
| 089 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 089 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 090 | Sample line temperature, °F | 80 | 69 | 85 | 92 | 93 | 85 | 89 | 79 |
| 090 | Standard deviation | 7 | 2 | 7 | 1 | 2 | 7 | 1 | 3 |
| 091 | Sample line temperature, °F | 214 | 195 | 206 | 199 | 220 | 202 | 219 | 215 |
| 091 | Standard deviation | 15 | 9 | 13 | 6 | 6 | 28 | 1 | 2 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 244 | 198 | 244 | 222 | 158 | 273 | 258 | 83 |
| C34 | Standard deviation | 169 | 46 | 95 | 34 | 143 | 55 | 46 | 115 |
| C46 | NO _x concentration, lb/MBtu | 0.735 | 0.652 | 0.610 | 0.680 | 0.619 | 0.706 | 0.674 | 0.568 |
| C46 | Standard deviation | 0.232 | 0.092 | 0.277 | 0.093 | 0.110 | 0.051 | 0.043 | 0.079 |
| C47 | SO _x concentration, lb/MBtu | 0.954 | 0.765 | 0.854 | 0.828 | 0.544 | 0.999 | 0.966 | 0.272 |
| C47 | Standard deviation | 0.589 | 0.189 | 0.457 | 0.156 | 0.363 | 0.210 | 0.194 | 0.383 |
| C49 | Exhaust sulfur, percent of input | 33.17 | 26.60 | 29.68 | 28.80 | 18.90 | 34.73 | 33.58 | 9.47 |
| C49 | Standard deviation | 20.47 | 6.57 | 15.88 | 5.42 | 12.62 | 7.32 | 6.76 | 13.32 |

^bData or results were not obtained.

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TABLE 4. - Continued.

(h) Concluded. Combustion gas analysis data

| Data channel | Parameter | Test | | | | | | |
|--------------|-----------------------------------|--------|--------|--------|--------|--------|-------|-------|
| | | T6A | T6B | T7A | T7B | T7C | T7D1 | T7D2 |
| 027 | Sample gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 027 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 026 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Nitrogen oxides content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 063 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 064 | Nitrogen oxides content, ppm | 174 | 243 | 266 | 242 | 248 | 209 | (b) |
| 064 | Standard deviation | 39 | 99 | 34 | 31 | 52 | 17 | (b) |
| 065 | Carbon monoxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 065 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 066 | Carbon monoxide content, ppm | 27.0 | 11.4 | 16.0 | 9.7 | 10.6 | 2.8 | 35.3 |
| 066 | Standard deviation | 19.7 | 8.1 | 11.4 | 5.9 | 18.6 | 1.8 | 0 |
| 067 | Hydrocarbon content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 067 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 068 | Hydrocarbon content, ppm | 683 | 6.8 | 1.2 | 28.9 | 1.6 | 0.7 | 8.1 |
| 068 | Standard deviation | 1518 | 9.7 | 1.0 | 59.1 | 3.9 | 0.8 | 10.9 |
| 069 | Carbon dioxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 069 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 070 | Carbon dioxide content, ppm | 52516 | 66274 | 75831 | 73348 | 73028 | 50497 | 10876 |
| 070 | Standard deviation | 37015 | 21966 | 10785 | 9544 | 14846 | 32860 | 0 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 22 | 40 | 231 | 288 | 306 | 292 | 212 |
| 072 | Standard deviation | 27 | 111 | 87 | 115 | 122 | 108 | 103 |
| 073 | Oxygen content, ppm | 108940 | 118090 | 126330 | 129710 | 122460 | 84322 | 39189 |
| 073 | Standard deviation | 36925 | 28716 | 9491 | 10359 | 16031 | 57599 | 64522 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 5.0 | 4.9 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 133 | 246 | 242 | 263 | 260 | 254 | 230 |

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| | | | | | | | | |
|-----|--|--------|--------|--------|--------|--------|-------|-------|
| 070 | Standard deviation | 37015 | 21966 | 10785 | 9544 | 14846 | 32860 | 0 |
| 071 | Sulfur oxide content, ppm | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 071 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 072 | Sulfur oxide content, ppm | 22 | 40 | 231 | 288 | 306 | 292 | 212 |
| 072 | Standard deviation | 27 | 111 | 87 | 115 | 122 | 108 | 103 |
| 073 | Oxygen content, ppm | 108940 | 118090 | 126330 | 129710 | 122460 | 84322 | 39189 |
| 073 | Standard deviation | 36925 | 28716 | 9491 | 10359 | 16031 | 57599 | 64522 |
| 074 | SO _x permissive signal | 4.9 | 4.9 | 5.0 | 4.9 | 5.0 | 5.0 | 5.0 |
| 074 | Standard deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 075 | Gas analyzer gas temperature, °F | 133 | 246 | 242 | 263 | 260 | 254 | 230 |
| 075 | Standard deviation | 42 | 9 | 14 | 17 | 30 | 49 | 31 |
| 057 | Sample gas pressure, psia | 17.2 | 27.9 | 25.7 | 25.5 | 22.8 | 19.5 | 17.8 |
| 057 | Standard deviation | 4.8 | 0.2 | 1.4 | 3.1 | 4.1 | 3.4 | 2.2 |
| 089 | Sample line differential temperature, °F | 159 | (b) | (b) | (b) | 99 | (b) | (b) |
| 089 | Standard deviation | 16 | (b) | (b) | (b) | 53 | (b) | (b) |
| 090 | Sample line temperature, °F | 84 | 91 | 103 | 91 | 95 | 105 | 106 |
| 090 | Standard deviation | 12 | 7 | 8 | 8 | 9 | 11 | 8 |
| 091 | Sample line temperature, °F | 140 | 219 | 214 | 209 | 203 | 200 | 168 |
| 091 | Standard deviation | 39 | 5 | 6 | 10 | 22 | 9 | 13 |
| 146 | Sample line temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample line differential temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample port gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Sample line wall temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 159 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| C34 | SO _x concentration, ppm | 86 | 40 | 234 | 300 | 320 | 323 | 833 |
| C34 | Standard deviation | 47 | 120 | 84 | 102 | 93 | 107 | 0 |
| C46 | NO _x concentration, lb/MBtu | 0.526 | 0.649 | 0.722 | 0.682 | 0.719 | 0.703 | 0.786 |
| C46 | Standard deviation | 0.435 | 0.219 | 0.129 | 0.103 | 0.194 | 0.187 | 0.286 |
| C47 | SO _x concentration, lb/MBtu | 0.081 | 0.151 | 0.868 | 1.168 | 1.289 | 1.176 | 0.836 |
| C47 | Standard deviation | 0.113 | 0.447 | 0.291 | 0.395 | 0.377 | 0.409 | 0.409 |
| C49 | Exhaust sulfur, percent of input | 2.81 | 5.26 | 30.20 | 40.63 | 44.81 | 40.90 | 29.08 |
| C49 | Standard deviation | 3.94 | 15.53 | 10.12 | 13.72 | 13.13 | 14.19 | 14.22 |

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^bData or results were not obtained.

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Table 4. - Continued.

(i) PFB test unit data

| Data chan- nel | Parameter | Test | | | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|------|------|
| | | A1A | A2A | A11A | A10A | A9A | A9B | A1B | A10B | A11B |
| 051 | Sample 1 temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 051 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Sample 2 temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 052 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Sample gas pressure, psia | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Sample rotation, rpm | 5.5 | 5.5 | 5.4 | 5.0 | 5.1 | 5.7 | 5.7 | 5.4 | 5.3 |
| 151 | Standard deviation | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.5 | 0.1 | 0.2 |
| 152 | Sample coolant tempera- ture, °F | 80 | 73 | 67 | 61 | 63 | 77 | 67 | 56 | 57 |
| 152 | Standard deviation | 0 | 7 | 8 | 0 | 6 | 1 | 10 | 1 | 0 |
| 153 | Sample coolant tempera- ture, °F | 56 | 66 | 66 | 53 | 63 | 163 | 208 | 205 | 213 |
| 153 | Standard deviation | 1 | 3 | 5 | 2 | 3 | 20 | 6 | 5 | 2 |
| 154 | Sample coolant tempera- ture, °F | 56 | 66 | 66 | 53 | 63 | 160 | 214 | 217 | 226 |
| 154 | Standard deviation | 1 | 3 | 5 | 2 | 3 | 26 | 8 | 4 | 2 |
| 155 | Sample coolant tempera- ture, °F | 56 | 65 | 66 | 53 | 63 | (b) | (b) | (b) | (b) |
| 155 | Standard deviation | 1 | 3 | 5 | 2 | 3 | (b) | (b) | (b) | (b) |
| 157 | Sample exit gas tempera- ture, °F | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 158 | Sample inlet gas tempera- ture, °F | 1206 | 1155 | 1211 | 1270 | 1286 | 1194 | 1250 | 1245 | 1282 |
| 158 | Standard deviation | 25 | 36 | 10 | 35 | 10 | 36 | 56 | 23 | 7 |

^bData or results were not obtained.

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Table 4. - Continued.

(i) Continued. PFB test unit data

| Data channel | Parameter | Test | | | | | | | |
|--------------|----------------------------------|------|------|------|------|------|------|------|------|
| | | TB1A | TB1B | TB1C | TB1D | TB1E | TB1F | TB1G | TB1H |
| 051 | Sample 1 temperature, °F | (b) | (b) | (b) | 1934 | (b) | (b) | (b) | 156 |
| 051 | Standard deviation | (b) | (b) | (b) | 2341 | (b) | (b) | (b) | 11 |
| 052 | Sample 2 temperature, °F | (b) | (b) | (b) | 1938 | (b) | (b) | (b) | 337 |
| 052 | Standard deviation | (b) | (b) | (b) | 2339 | (b) | (b) | (b) | 704 |
| 150 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Sample rotation, rpm | 22.2 | 29.2 | 27.8 | 28.0 | 28.0 | 26.6 | 27.8 | 27.3 |
| 151 | Standard deviation | 10.2 | 0.6 | 3.0 | 0.1 | 0.1 | 4.9 | 0.2 | 7.1 |
| 152 | Sample coolant temperature, °F | 83 | 86 | 88 | 85 | 82 | 83 | 92 | 94 |
| 152 | Standard deviation | 6 | 5 | 2 | 1 | 1 | 6 | 2 | 6 |
| 153 | Sample coolant temperature, °F | 78 | 80 | 81 | 75 | 72 | 73 | 81 | 83 |
| 153 | Standard deviation | 4 | 3 | 1 | 2 | 1 | 4 | 2 | 3 |
| 154 | Sample coolant temperature, °F | 84 | 88 | 90 | 88 | 86 | 86 | 95 | 95 |
| 154 | Standard deviation | 8 | 5 | 3 | 1 | 1 | 6 | 2 | 7 |
| 155 | Sample coolant temperature, °F | 76 | 78 | 79 | 72 | 70 | 73 | 80 | 223 |
| 155 | Standard deviation | 2 | 2 | 1 | 1 | 1 | 4 | 1 | 43 |
| 157 | Sample exit gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 158 | Sample inlet gas temperature, °F | 838 | 1129 | 1232 | 1341 | 1394 | 1342 | 1254 | 1179 |
| 158 | Standard deviation | 538 | 367 | 168 | 66 | 26 | 306 | 13 | 367 |

^bData or results were not obtained.

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Table 4. - Continued.

(i) Continued. PFB test unit data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---------------------------------------|------|------|------|------|------|------|------|
| | | TB2A | TB2B | TB2C | TB2D | TB2E | TB2F | TB2F |
| 051 | Sample 1 temperature, °F | (b) | 1403 | 1384 | (b) | (b) | 1385 | 1435 |
| 051 | Standard deviation | (b) | 26 | 20 | (b) | (b) | 44 | 15 |
| 052 | Sample 2 temperature, °F | (b) | 8961 | 9223 | (b) | (b) | 1389 | 1434 |
| 052 | Standard deviation | (b) | 2857 | 2458 | (b) | (b) | 42 | 14 |
| 150 | Sample gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 150 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 151 | Sample rotation, rpm | 28.7 | 28.9 | 28.8 | 28.8 | 28.8 | 29.0 | 29.3 |
| 151 | Standard deviation | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 |
| 152 | Sample coolant tempera- ture, °F | 88 | 87 | 89 | 81 | 85 | 87 | 90 |
| 152 | Standard deviation | 1 | 3 | 3 | 3 | 3 | 2 | 1 |
| 153 | Sample coolant tempera- ture, °F | 94 | 95 | 99 | 74 | 83 | 210 | 248 |
| 153 | Standard deviation | 7 | 4 | 5 | 4 | 2 | 21 | 7 |
| 154 | Sample coolant tempera- ture, °F | 89 | 88 | 89 | 83 | 88 | 88 | 91 |
| 154 | Standard deviation | 1 | 3 | 3 | 4 | 3 | 2 | 1 |
| 155 | Sample coolant tempera- ture, °F | 262 | 271 | 274 | 225 | 253 | 252 | 279 |
| 155 | Standard deviation | 5 | 11 | 5 | 21 | 4 | 23 | 6 |
| 157 | Sample exit gas tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 158 | Sample inlet gas tempera- ture, °F | 1454 | 1509 | 1493 | 1473 | 1438 | 1392 | 1438 |
| 158 | Standard deviation | 10 | 5 | 10 | 21 | 24 | 44 | 19 |

^bData or results were not obtained.

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Table 4. - Continued.

(i) Continued. PFB test unit data

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| Data channel | Parameter | Test | | | | | | | |
|--------------|--|------|-----|-----|------|------|-----|------|------|
| | | T3A | T3B | T3C | T3D | T3E | T3F | T4 | T5 |
| 152 | Sample coolant temperature, °F | 92 | 80 | 81 | 82 | 79 | 74 | 70 | 77 |
| 152 | Standard deviation | 13 | 5 | 7 | 4 | 5 | 1 | 3 | 5 |
| 153 | Sample coolant temperature, °F | 84 | 81 | 81 | 84 | 81 | 70 | 71 | 76 |
| 153 | Standard deviation | 8 | 6 | 10 | 3 | 7 | 1 | 6 | 5 |
| 154 | Sample coolant temperature, °F | 83 | 81 | 81 | 83 | 80 | 70 | 71 | 75 |
| 154 | Standard deviation | 8 | 6 | 10 | 3 | 7 | 1 | 6 | 5 |
| 155 | Sample coolant temperature, °F | 83 | 81 | 80 | 83 | 80 | 70 | 71 | 75 |
| 155 | Standard deviation | 8 | 6 | 10 | 3 | 7 | 1 | 6 | 5 |
| 157 | Sample exit gas temperature, °F | 132 | 142 | 111 | 103 | 148 | 89 | 65 | 67 |
| 157 | Standard deviation | 22 | 23 | 20 | 15 | 42 | 10 | 4 | 7 |
| 158 | Sample inlet gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 158 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Turbine stator gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Turbine exit gas pressure, psia | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 146 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 119 | Turbine inlet gas wall temperature, °F | (b) | (b) | (b) | (b) | 726 | 331 | 762 | 179 |
| 119 | Standard deviation | (b) | (b) | (b) | (b) | 291 | 324 | 409 | 1 |
| 155 | Turbine exit gas temperature, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 155 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 158 | Sample 1 temperature, °F | 72 | 70 | 69 | 72 | 69 | 57 | 61 | 65 |
| 158 | Standard deviation | 9 | 7 | 11 | 4 | 8 | 2 | 6 | 5 |
| 159 | Sample 2 temperature, °F | 70 | 68 | 68 | 71 | 67 | 55 | 59 | 63 |
| 159 | Standard deviation | 9 | 7 | 11 | 4 | 8 | 2 | 6 | 5 |
| 167 | Turbine inlet gas temperature, °F | 69 | 907 | 685 | 1112 | 1049 | 419 | 1071 | 1019 |
| 167 | Standard deviation | 0 | 541 | 566 | 354 | 462 | 493 | 581 | 615 |
| 168 | Turbine inlet gas temperature, °F | 109 | 877 | 681 | 1102 | 1043 | 413 | 1049 | 992 |
| 168 | Standard deviation | 9.1 | 521 | 562 | 354 | 460 | 482 | 580 | 600 |

| | | | | | | | | | |
|-----|---|------|------|------|------|------|------|------|------|
| 158 | Sample 1 temperature, °F | 72 | 70 | 69 | 72 | 69 | 57 | 61 | 65 |
| 158 | Standard deviation | 9 | 7 | 11 | 4 | 8 | 2 | 6 | 5 |
| 159 | Sample 2 temperature, °F | 70 | 68 | 68 | 71 | 67 | 55 | 59 | 63 |
| 159 | Standard deviation | 9 | 7 | 11 | 4 | 8 | 2 | 6 | 5 |
| 167 | Turbine inlet gas tem- perature, °F | 69 | 907 | 685 | 1112 | 1049 | 419 | 1071 | 1019 |
| 167 | Standard deviation | 0 | 541 | 566 | 354 | 462 | 493 | 581 | 615 |
| 168 | Turbine inlet gas tem- perature, °F | 109 | 877 | 681 | 1102 | 1043 | 413 | 1049 | 992 |
| 168 | Standard deviation | 9.1 | 521 | 562 | 354 | 460 | 482 | 580 | 600 |
| 169 | Turbine body wall tem- perature, °F | 128 | 182 | 197 | 230 | 218 | 156 | 188 | 112 |
| 169 | Standard deviation | 5.1 | 26 | 45 | 28 | 35 | 19 | 24 | 6 |
| 170 | Turbine blade tempera- ture, °F | 1150 | 1192 | 1153 | 1223 | 1242 | 1119 | 1297 | 1042 |
| 170 | Standard deviation | 115 | 99 | 149 | 69 | 144 | 125 | 58 | 61 |
| 172 | Turbine coolant exit temperature, °F | 84 | 82 | 78 | 82 | 78 | 73 | 75 | 79 |
| 172 | Standard deviation | 7.6 | 4.5 | 4.8 | 2.8 | 4.8 | 2.4 | 4.4 | 4.9 |
| 177 | Turbine inlet gas pres- sure, psia | 14.2 | 69.6 | 65.1 | 70.6 | 69.6 | 53.6 | 70.1 | 65.8 |
| 177 | Standard deviation | 0.2 | 17.1 | 18.9 | 16.3 | 12.1 | 20.7 | 9.8 | 18.5 |
| 178 | Turbine inside pressure, psia | 13.5 | 55.0 | 52.4 | 53.1 | 52.4 | 49.3 | 39.4 | 46.4 |
| 178 | Standard deviation | 0.8 | 11.6 | 14.4 | 9.5 | 7.6 | 16.1 | 22.5 | 9.5 |
| 179 | Turbine exit gas pres- sure, psia | 13.6 | 44.4 | 48.3 | 40.6 | 42.3 | 45.9 | 48.4 | 40.6 |
| 179 | Standard deviation | 0.5 | 13.1 | 16.4 | 8.6 | 8.9 | 15.9 | 17.7 | 9.8 |
| 181 | Turbine case pressure, psia | 14.6 | 25.6 | 41.4 | 41.5 | 5.1 | 4.9 | 5.5 | 5.1 |
| 181 | Standard deviation | 0.2 | 13.3 | 0.1 | 0.3 | 0.5 | 0.7 | 0.6 | 0.5 |
| 182 | Turbine oil flow, gpm | 0.04 | 0.31 | 0.26 | 0.38 | 0.39 | 0.20 | 0.48 | 0.45 |
| 182 | Standard deviation | 0.05 | 0.12 | 0.14 | 0.08 | 0.13 | 0.12 | 0.16 | 0.17 |
| 183 | Turbine bearing 1 tem- perature, °F | 123 | 147 | 130 | 162 | 156 | 104 | 208 | 160 |
| 183 | Standard deviation | 11 | 39 | 43 | 25 | 33 | 31 | 70 | 57 |
| 184 | Turbine bearing 2 tem- perature, °F | 122 | 151 | 132 | 167 | 162 | 111 | 167 | 141 |
| 184 | Standard deviation | 12 | 41 | 45 | 27 | 36 | 41 | 48 | 45 |
| 185 | Turbine bearing tempera- ture, °F | 135 | 162 | 138 | 178 | 168 | 116 | 148 | 143 |
| 185 | Standard deviation | 11 | 51 | 54 | 32 | 42 | 53 | 47 | 51 |
| 186 | Turbine bearing tempera- ture, °F | 109 | 152 | 131 | 164 | 152 | 106 | 149 | 146 |
| 186 | Standard deviation | 14 | 43 | 46 | 27 | 33 | 38 | 46 | 51 |

^bData or results were not obtained.

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Table 4. - Continued.

(i) Continued. PFB test unit data

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| Data channel | Parameter | Test | | | | | | | |
|--------------|---|-------|-------|-------|-------|-------|-------|-------|-------|
| | | T3A | T3B | T3C | T3D | T3E | T3F | T4 | T5 |
| 187 | Turbine journal bearing temperature, °F | 72 | 185 | 161 | 202 | 189 | 121 | 126 | 120 |
| 187 | Standard deviation | 24 | 61 | 60 | 40 | 50 | 56 | 33 | 33 |
| 188 | Turbine journal bearing temperature, °F | 69 | 176 | 149 | 196 | 187 | 106 | 123 | 119 |
| 188 | Standard deviation | 0 | 59 | 63 | 38 | 51 | 43 | 31 | 32 |
| 189 | Turbine oil exit temperature, °F | 88 | 150 | 130 | 166 | 162 | 103 | 139 | 129 |
| 189 | Standard deviation | 8 | 43 | 46 | 27 | 38 | 37 | 38 | 39 |
| 190 | Turbine oil in temperature, °F | 89 | 87 | 83 | 91 | 89 | 76 | 84 | 84 |
| 190 | Standard deviation | 9 | 6 | 7 | 4 | 6 | 4 | 7 | 6 |
| 191 | Turbine brake air temperature, °F | 88 | 84 | 82 | 80 | 82 | 70 | 61 | 55 |
| 191 | Standard deviation | 8 | 8 | 9 | 8 | 11 | 4 | 12 | 16 |
| 192 | Turbine brake air pressure, psia | 14.0 | 124.2 | 127.1 | 127.8 | 126.5 | 124.8 | 125.6 | 127.6 |
| 192 | Standard deviation | 0 | 7.1 | 3.0 | 2.2 | 4.6 | 6.7 | 5.0 | 5.0 |
| 193 | Turbine brake air pressure differential, psid | (b) | 1.73 | 1.11 | 1.82 | 1.42 | 0.68 | 2.45 | 2.16 |
| 193 | Standard deviation | (b) | 1.23 | 0.92 | 0.83 | 0.74 | 0.78 | 1.73 | 1.37 |
| 194 | Turbine housing gas pressure differential, psid | (b) | 15.9 | 14.8 | 17.0 | 14.9 | 15.3 | 16.1 | 16.6 |
| 194 | Standard deviation | (b) | 4.8 | 5.0 | 2.3 | 3.4 | 5.0 | 6.2 | 3.1 |
| 195 | Turbine rotation 1, rpm | (b) | 28129 | 20985 | 34284 | 32092 | 12071 | 24511 | 26114 |
| 195 | Standard deviation | (b) | 16914 | 18558 | 12674 | 15019 | 15267 | 17002 | 17000 |
| 196 | Turbine rotation 2, rpm | (b) | 27633 | 20635 | 33688 | 31476 | 11836 | 25014 | 27043 |
| 196 | Standard deviation | (b) | 16622 | 18256 | 12472 | 14753 | 14991 | 17329 | 17575 |
| 197 | Turbine acceleration value | (b) | 0.022 | 0.015 | 0.017 | 0.012 | 0.006 | 0.011 | 0.009 |
| 197 | Standard deviation | (b) | 0.007 | 0.007 | 0.006 | 0.005 | 0.006 | 0.004 | 0.003 |
| 198 | Turbine acceleration value | 0.007 | 0.081 | 0.098 | 0.097 | 0.048 | 0.007 | 0.015 | 0.046 |
| 198 | Standard deviation | 0.009 | 0.006 | 0.007 | 0.007 | 0.037 | 0.007 | 0.007 | 0.026 |
| 199 | Turbine purge gas temperature, °F | 161 | 93 | 88 | 93 | 96 | 74 | 96 | 77 |
| 199 | Standard deviation | 15 | 11 | 13 | 5 | 12 | 5 | 18 | 11 |

^bData or results were not obtained.

Table 4. - Continued.

(i) Continued. PFB test unit data

| Data chan- nel | Parameter | Test | | | | | | |
|----------------------|---|------|------|------|------|------|------|------|
| | | T6A | T6B | T7A | T7B | T7C | T7D1 | T7D2 |
| 152 | Sample coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 152 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 153 | Sample coolant tempera- ture, °F | 68 | 77 | 92 | 75 | 80 | 90 | 89 |
| 153 | Standard deviation | 12 | 5 | 8 | 7 | 8 | 10 | 9 |
| 154 | Sample coolant tempera- ture, °F | 68 | 76 | 91 | 75 | 80 | 89 | 88 |
| 154 | Standard deviation | 12 | 5 | 8 | 8 | 8 | 10 | 9 |
| 155 | Sample coolant tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 155 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 157 | Sample exit gas tempera- ture, °F | 76 | 67 | 85 | 64 | 72 | 78 | 76 |
| 157 | Standard deviation | 4 | 5 | 8 | 9 | 10 | 11 | 10 |
| 158 | Sample inlet gas tempera- ture, °F | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 158 | Standard deviation | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 145 | Turbine stator gas pressure, psia | 32.9 | 51.6 | 39.5 | 41.4 | 43.5 | 42.4 | 42.0 |
| 145 | Standard deviation | 11.3 | 9.1 | 9.8 | 14.6 | 11.8 | 8.8 | 4.3 |
| 146 | Turbine exit gas pres- sure, psia | 22.5 | 54.8 | 27.4 | 30.8 | 28.3 | 26.8 | 24.4 |
| 146 | Standard deviation | 8.4 | 7.1 | 9.1 | 12.8 | 12.0 | 9.2 | 3.8 |
| 119 | Turbine inlet gas wall temperature, °F | 825 | 823 | 878 | 839 | 830 | 872 | 888 |
| 119 | Standard deviation | 149 | 208 | 75 | 107 | 164 | 140 | 30 |
| 155 | Turbine exit gas tempera- ture, °F | 1091 | 591 | 1078 | 1045 | 1037 | 1060 | 1107 |
| 155 | Standard deviation | 347 | 617 | 83 | 131 | 203 | 161 | 31 |
| 158 | Sample 1 temperature, °F | 57 | 65 | 87 | 65 | 71 | 81 | 79 |
| 158 | Standard deviation | 13 | 6 | 10 | 10 | 10 | 12 | 15 |
| 159 | Sample 2 temperature, °F | 55 | 63 | 85 | 62 | 68 | 79 | 77 |
| 159 | Standard deviation | 13 | 6 | 10 | 10 | 10 | 12 | 13 |
| 167 | Turbine inlet gas tem- perature, °F | 1378 | 1314 | 1412 | 1363 | 1263 | 1289 | 1352 |
| 167 | Standard deviation | 243 | 325 | 118 | 181 | 263 | 193 | 46 |
| 168 | Turbine inlet gas tem- perature, °F | 1323 | 1279 | 1395 | 1358 | 1095 | 1351 | 1443 |
| 168 | Standard deviation | 234 | 321 | 120 | 181 | 223 | 198 | 59 |
| 169 | Turbine body wall tem- | 101 | 87 | 61 | 98 | 96 | 63 | 73 |

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| | | | | | | | | |
|-----|--------------------------------------|------|------|------|------|------|------|------|
| 158 | Sample 1 temperature, °F | 57 | 65 | 87 | 65 | 71 | 81 | 79 |
| 158 | Standard deviation | 13 | 6 | 10 | 10 | 10 | 12 | 15 |
| 159 | Sample 2 temperature, °F | 55 | 63 | 85 | 62 | 68 | 79 | 77 |
| 159 | Standard deviation | 13 | 6 | 10 | 10 | 10 | 12 | 13 |
| 167 | Turbine inlet gas temperature, °F | 1378 | 1314 | 1412 | 1363 | 1263 | 1289 | 1352 |
| 167 | Standard deviation | 243 | 325 | 118 | 181 | 263 | 193 | 46 |
| 168 | Turbine inlet gas temperature, °F | 1323 | 1279 | 1395 | 1358 | 1095 | 1351 | 1443 |
| 168 | Standard deviation | 234 | 321 | 120 | 181 | 223 | 198 | 59 |
| 169 | Turbine body wall temperature, °F | 101 | 87 | 61 | 98 | 96 | 63 | 73 |
| 169 | Standard deviation | 10 | 16 | 32 | 10 | 13 | 29 | 26 |
| 170 | Turbine blade temperature, °F | (b) | 1198 | 1299 | 1230 | 1235 | 1312 | 1250 |
| 170 | Standard deviation | (b) | 74 | 63 | 69 | 86 | 58 | 93 |
| 172 | Turbine coolant exit temperature, °F | 73 | 75 | 81 | 73 | 79 | 77 | 75 |
| 172 | Standard deviation | 3 | 3 | 3 | 2 | 3 | 3 | 2 |
| 177 | Turbine inlet gas pressure, psia | 66.8 | 78.8 | 69.2 | 70.7 | 68.9 | 71.5 | 70.8 |
| 177 | Standard deviation | 4.7 | 8.4 | 2.4 | 6.4 | 9.8 | 3.9 | 1.6 |
| 178 | Turbine inside pressure, psia | 40.5 | 71.5 | 44.7 | 47.4 | 40.5 | 44.1 | 40.4 |
| 178 | Standard deviation | 12.1 | 7.5 | 10.1 | 11.4 | 12.4 | 6.9 | 3.9 |
| 179 | Turbine exit gas pressure, psia | 37.0 | 62.2 | 38.6 | 42.8 | 40.0 | 39.2 | 36.5 |
| 179 | Standard deviation | 8.5 | 9.8 | 9.8 | 12.6 | 14.3 | 9.7 | 4.2 |
| 181 | Turbine case pressure, psia | 5.6 | 5.4 | 31.2 | 31.8 | 31.9 | 29.0 | 30.8 |
| 181 | Standard deviation | 0.3 | 0.6 | 4.0 | 3.9 | 4.6 | 3.4 | 1.5 |
| 182 | Turbine oil flow, gpm | 0.56 | 0.49 | 0.58 | 0.51 | 0.51 | 0.56 | 0.59 |
| 182 | Standard deviation | 0.07 | 0.07 | 0.06 | 0.07 | 0.09 | 0.07 | 0.02 |
| 183 | Turbine bearing 1 temperature, °F | 195 | 187 | 202 | 210 | 194 | 220 | 229 |
| 183 | Standard deviation | 27 | 34 | 23 | 25 | 33 | 31 | 21 |
| 184 | Turbine bearing 2 temperature, °F | 163 | 157 | 165 | 160 | 157 | 165 | 173 |
| 184 | Standard deviation | 16 | 42 | 14 | 15 | 23 | 16 | 3.7 |
| 185 | Turbine bearing temperature, °F | 173 | 131 | 181 | 166 | 164 | 178 | 185 |
| 185 | Standard deviation | 22 | 16 | 21 | 26 | 33 | 23 | 7 |
| 186 | Turbine bearing temperature, °F | 173 | 131 | 185 | 172 | 172 | 187 | 194 |
| 186 | Standard deviation | 22 | 15 | 22 | 26 | 33 | 24 | 7 |

^bData or results were not obtained.

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Table 4. - Continued.

(i) Concluded. PFB test unit data

| Data channel | Parameter | Test | | | | | | |
|--------------|---|-------|-------|-------|-------|-------|-------|-------|
| | | T6A | T6B | T7A | T7B | T7C | T7D1 | T7D2 |
| 187 | Turbine journal bearing temperature, °F | 142 | 113 | 151 | 141 | 136 | 145 | 148 |
| 187 | Standard deviation | 15 | 11 | 16 | 18 | 21 | 15 | 5 |
| 188 | Turbine journal bearing temperature, °F | 138 | 112 | 147 | 138 | 135 | 144 | 147 |
| 188 | Standard deviation | 14 | 10 | 15 | 17 | 20 | 15 | 5 |
| 189 | Turbine oil exit temperature, °F | 151 | 126 | 158 | 151 | 147 | 158 | 163 |
| 189 | Standard deviation | 17 | 16 | 16 | 19 | 24 | 18 | 4 |
| 190 | Turbine oil in temperature, °F | 85 | 83 | 93 | 87 | 88 | 91 | 91 |
| 190 | Standard deviation | 3 | 3 | 4 | 4 | 5 | 5 | 2 |
| 191 | Turbine brake air temperature, °F | 47 | 66 | 81 | 67 | 70 | 71 | 77 |
| 191 | Standard deviation | 10 | 8 | 11 | 11 | 18 | 14 | 9 |
| 192 | Turbine brake air pressure, psia | 119.9 | 121.7 | 121.7 | 126.5 | 130.8 | 122.4 | 124.5 |
| 192 | Standard deviation | 4.1 | 6.7 | 4.1 | 3.3 | 13.8 | 5.9 | 2.6 |
| 193 | Turbine brake air pressure differential, psid | 5.5 | 3.0 | 4.6 | 4.2 | 5.8 | 5.6 | 6.0 |
| 193 | Standard deviation | 1.5 | 1.1 | 1.2 | 1.2 | 1.7 | 1.1 | 0.8 |
| 194 | Turbine housing gas pressure differential, psid | 17.5 | 10.1 | 21.3 | 21.1 | 21.8 | 21.3 | 21.6 |
| 194 | Standard deviation | 3.0 | 2.9 | 0.6 | 0.8 | 1.0 | 0.6 | 0.3 |
| 195 | Turbine rotation 1, rpm | 37532 | 14027 | 2995 | 1542 | 30632 | 35535 | 37928 |
| 195 | Standard deviation | 8287 | 4084 | 4403 | 136 | 11610 | 8143 | 3070 |
| 196 | Turbine rotation 2, rpm | 37873 | 13487 | 35404 | 32050 | 31818 | 36726 | 38464 |
| 196 | Standard deviation | 9568 | 4367 | 8219 | 10896 | 12012 | 8276 | 3078 |
| 197 | Turbine acceleration value | 0.009 | 0.002 | 0.017 | 0.007 | 0.012 | 0.011 | 0.012 |
| 197 | Standard deviation | 0.002 | 0.002 | 0.009 | 0.005 | 0.006 | 0.003 | 0.002 |
| 198 | Turbine acceleration value | 0.012 | 0.002 | 0.024 | 0.015 | 0.024 | 0.025 | 0.028 |
| 198 | Standard deviation | 0.003 | 0.001 | 0.010 | 0.008 | 0.013 | 0.007 | 0.004 |
| 199 | Turbine purge gas temperature, °F | 88 | 141 | 145 | 149 | 138 | 158 | 132 |
| 199 | Standard deviation | 8 | 22 | 14 | 15 | 18 | 19 | 17 |