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EVALUATION OF GLCC GRADE H-327 GRAPHITE LOGS

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1. INTRODUCTION

One task objective in the PSC materials program is the evaluation of various conventional needle-coke and a few nominally isotropic graphites for use in the PSC reactor core. The graphites which have been examined have been obtained from the three principal U. S. vendors and are being evaluated with respect to purity, thermal properties, mechanical properties, and cost. These graphites, which have been evaluated for use as a moderator and structural lattice for fuel elements and as the surrounding neutron-reflecting material, are as follows: Great Lakes Carbon Co. (GLCC) grades H-327 and H-328; Speer Carbon Co. (SCC) grades 9567 and RC4; and Union Carbide and Chemical Corp. (UCC) EGCR grades TS-688 and TS-814.* The results of an evaluation of full-size H-327 graphite logs are reported herein.

* Grade TS-814 is the same as TS-688, but with additional pitch impregnation.

2. EXPERIMENTAL MATERIAL AND TEST PROCEDURES

2.1. TEST MATERIAL

Five 18-in.-diameter logs of GLCC grade H-327 graphite (from GLCC pilot-lot No. 340, produced in 1966 using somewhat relaxed process controls, were sampled for mechanical and thermal/physical properties. A cursory evaluation of three of these five logs is presented in Table 1* (data provided by GLCC).

2.2. SAMPLING PLANS AND TENSILE SPECIMEN CONFIGURATIONS

The sampling plans for these logs are illustrated in Figs. 1 through 3. The samples were extracted as core-drilled rods with either 0.500-in. diameters (for Type III tensile bars) or 1.375-in. diameters (for Types I, II, and IV tensile bars). The A-end slab from log 4 was sampled in accordance with the plan shown in Fig. 1, whereas the mid-length and B-end slabs of log 4 were sampled in accordance with the plan shown in Fig. 2. Samples for thermal/physical tests were taken at various locations on the cored rods, adjacent to the tensile bars.

While the primary objective of this test program was the evaluation of grade H-327 graphite, a secondary objective was determination of the effects of the various tensile-bar configurations illustrated in Fig. 4 and of the test procedures.

The test series for the Type I tensile-bar configuration, a circular-cross-section, pin-ended "dog bone," represents a more conventional type in testing practice. The Type II tensile-bar configuration, a square-cross-section, pin-ended "dog bone," represents the specimen type that GLCC prefers to use for testing. The Type III tensile-bar configuration, a circular-cross-section, glued-end rod, is the type that GGA has used and prefers for testing. The Type IV tensile-bar configuration is identical in final form with Type III, the difference being the method of attaining final dimensions from the initial core-drilled blank. Type I and Type IV blanks were lathe-turned to a cross-sectional diameter of 0.500 in. in the gauge section. Type II blanks were machined using a high-speed pin-router and cam-guided template (Tensilkut unit) to produce a 0.500-in. by 0.500-in. cross section in the gauge section.

* All tables and figures are included at the end of this report.

2.3. TESTING PROCEDURES

The mechanical properties measured were ultimate compressive strength (UCS), ultimate tensile strength (UTS), strain-to-fracture (ϵ_F), tensile modulus of elasticity (E_T), and tensile secant modulus of elasticity (E_S). All of the above parameters, except UCS, were determined from tensile tests. The thermal/physical properties measured were coefficient of thermal expansion (CTE), thermal conductivity (k), and bulk density (ρ). Measurements of CTE, ρ , and UCS were made on a single sample in the above sequence.

Test procedures are described in greater detail in the following subsections.

2.3.1. Measurement of Ultimate Compressive Strength (UCS)

Ultimate compressive strength was determined uniaxially at room temperature by pressing 0.500-in.-diam. by 0.50-in.-long cylinders of each grade and orientation of graphite to be evaluated. An Instron Universal Test Machine (model TTC-M1), geared for a cross-head rate of 0.005 in./min, was used to press the sample cylinders between two platens. UCS was computed from the ratio of the load at fracture (from a record of a Baldwin load-cell output) over the original cross-sectional area of the specimen. (1)

2.3.2. Measurement of Ultimate Tensile Strength (UTS), Strain-to-Fracture (ϵ_F), Tensile Modulus of Elasticity (E_T), and Tensile Secant Modulus of Elasticity (E_S)

Uniaxial tensile tests were performed at room temperature (22°C) with an Instron Universal Test Machine (model TTC-M1), geared for a cross-head rate of 0.005 in./min.* Cylindrical tensile samples, 0.500-in.-diam. by 4.00-in.-length, were attached to 1-in.-diam. stainless-steel shoulders by means of epoxy-cemented butt joints for gripping by the test machine with a universal device at each end of the pull-train. UTS was computed from the ratio of the load at fracture (from a record of a Baldwin load-cell output) over the original cross-sectional area of the specimen. ϵ_F was computed from the ratio of the extension of the specimen to fracture (from a record of a Baldwin B3M extensometer attached to the specimen) over the initial gauge length (1.000 in., as determined by the extensometer). E_T was computed at the point of departure from the initial linearity of the recorded load-extension curve, taking the ratio of the load times the initial gauge length over the extension times the initial cross-sectional area of the specimen. (2) E_S was computed as the slope between the origin and the fracture point on the stress-strain curve.

* One test series from log 8 was tested at 0.020 in./min.

2.3.3. Measurement of Thermal Expansion (CTE)

Linear thermal expansion measurements are made with a vitreous-silica differential dilatometer in which the expansion of the sample is sensed by a linear differential transformer. The output signal of the transformer is amplified and recorded by an X-Y recorder as a function of the sample temperature, which is obtained with a Pt/Pt10Rh thermocouple. The samples were right-circular cylinders 0.500 in. in diameter by 0.5 in. long, and were the same ones used subsequently for measurement of the ultimate compressive strength. The measurements are made from 22° to 1000°C at a programmed heating rate of about 15°C per minute. A correction constant of $0.547 \times 10^{-6}/^{\circ}\text{C}$ is applied for the expansion of the vitreous silica.

The mean coefficient of linear thermal expansion, α_m , is calculated from the expression

$$\alpha_m = \frac{\Delta l}{l_0(t - t_0)} \quad , \quad (1)$$

where

t = final temperature
 t_0 = initial temperature
 l_0 = initial length of specimen
 Δl = change in length in the temperature range $t - t_0$.

2.3.4. Measurement of Thermal Conductivity (k)

The values of thermal conductivity were calculated from thermal diffusivity measurements made on disks 0.5 in. in diameter by 0.045 in. thick by the xenon flash technique originally described by Parker et al. (3) By irradiating the front surface of a sample with a very short pulse of radiant energy and monitoring the temperature history of the rear surface, the thermal diffusivity α can be obtained as follows:

$$\alpha = 0.139l^2/t_{1/2} \quad , \quad (2)$$

where l is the thickness of the specimen and $t_{1/2}$ is the time at which the rear-face temperature excursion reaches half-maximum. The pulse raises the average temperature of the sample only a few degrees above the ambient temperature, which is controlled by a resistance-wound heater. The applicability of Eq. (2) depends on the duration of the heat pulse being negligibly small in comparison with the time required for heat to flow through the material; this condition is not always achieved in practice. Noninstantaneous pulses have the effect of retarding the rear-face transient, and it is necessary to correct for the finite pulse-time effect. This correction was made according to the method given by Larson and Koyama. (4) The thermal conductivity k was obtained from the product of the thermal diffusivity α , density ρ , and specific heat C_p . Densities were measured at 25°C and are assumed to be constant over the temperature range 25° to 800°C.

The specific heat C_p (cal/g/°K) was calculated from the following expression reported by Rossini et al. (5):

$$C_p = 0.103 + (1.165 \times 10^{-3}T) - (8.64 \times 10^{-7}T^2) + (2.32 \times 10^{-10}T^3). \quad (3)$$

2.3.5. Measurement of Density (ρ)

Bulk density for each grade of graphite was determined by weighing tensile bars to tenths of a milligram on an analytical balance and by calculating bar volume from dimensional measurements to tenths of a mil with micrometers. The ratio of the gross weight to the gross volume is the bulk density. (6)

3. RESULTS AND DISCUSSION

3.1. ULTIMATE COMPRESSIVE STRENGTH (UCS)

The results* of UCS measurements on log 3 have been listed in Tables 2(a) through 2(f) by location within the log for both specimen orientations, radial (PR) and axial (PL). Tables 2(a) and 2(b) list UCS values for the regions near the A-end (NRENDA) of log 3, Table 2(a) listing UCS values for the inner-radial region and Table 2(b) listing UCS values for the outer-radial region. Similarly, Tables 2(c) and 2(d) list UCS values for the inner-radial and outer-radial regions, respectively, of the mid-length regions (NRMDLTH) of this log, and Tables 2(e) and 2(f) list UCS values for the inner-radial and outer-radial regions, respectively, near the B-end (NRENDB).

The mean values from these tables are plotted in Figs. 5(a) and 5(b), illustrating both radial and axial trends in UCS values. UCS increases linearly for PL samples, but decreases for PR samples with increasing radial distance from the log axis. The axial PL trend shows little difference between end A and mid-length values, but a slightly higher UCS at end B. The PR trend is converse to this PL trend. All of the UCS values for log 3 have been averaged together in Table 3 to determine an overall mean value ~4700 psi (PL) and ~4215 psi (PR) for this log.

UCS measurements have been listed in Tables 4(a) and 4(b) for the inner-radial and outer-radial regions, respectively, near end A of log 4. Table 5 presents a mean UCS value for end A only, as the balance of log 4 was not tested for UCS.

3.2. ULTIMATE TENSILE STRENGTH (UTS), STRAIN-TO-FRACTURE (ϵ_F), TENSILE MODULUS OF ELASTICITY (E_T), AND TENSILE SECANT MODULUS OF ELASTICITY (E_s)

3.2.1. Type III Tensile Results

The results of tensile tests with the Type III specimen configuration have been compiled into parametric groups of UTS, ϵ_F , E_T , and E_s for each region and specimen orientation tested in logs 3, 4, 6, 7, and 8, as presented in Tables 6 through 35 and in Figs. 6 through 35. In addition,

* Abbreviations used are explained on page 7.

overall or conglomerate parametric values for these five logs have been compiled in Tables 36 through 41 and illustrated in Figs. 36 through 41.

Each of the figures (6 through 41) contains a conglomerate of data points along the stress-strain curve for all specimens in a particular group (six points per specimen). A curve drawn through these data points has been determined by a least-squares fit to a quadratic equation of the form

$$y = A + Bx + Cx^2, \quad (4)$$

where stress is the y coordinate and strain is the x coordinate. Values determined for the coefficients A, B, and C by the computer fit routine have been listed near the top of each figure.

As a convenience to the reader, a summary has been prepared, Table 42, which provides a guide to table numbers (and corresponding figure numbers) for all Type III tensile samples tested at $\sim 22^\circ\text{C}$ and at a 0.005-in./min rate. In the interest of space-saving labels and sample descriptions, the following abbreviations have been adopted for use (in combinations) throughout this report:

NR	=	near
AXL	=	axial
RDL	=	radial
EG	=	edge
MR	=	mid-radius
CL	=	centerline
ENDA	=	end A
MDLTH	=	mid-length
ENDB	=	end B
PL	=	parallel (parallel to log axis)
PR	=	perpendicular (perpendicular to log axis)

A curve of conglomerate UTS values for Type III samples as a function of radial distance from log axis is shown in Fig. 42. The band surrounding the mean value curve describes data scatter as defined by ± 1 sigma limits. A sharp gradient in UTS will be noted between NREG and NRMR regions; this gradient decays rapidly between NRMR and NRCL regions.

In the tables the more significant descriptive information has been underlined, along with values for number of samples tested, the mean value and the standard deviation (sigma) of the samples listed, and the lower and upper limits of the range of values. In cases for which a specimen value deviated from the mean value by ~ 1.75 sigma, or more, a question mark indicates that this value was in question, although the value could not be rejected on any apparent experimental basis. In some cases, the fracture sites of the tensile bars were located within 0.5 inch (one diameter) from a glued end; such specimens have been denoted by an asterisk (*) behind the identification numbers and will be considered in a subsequent section.

A general commentary on the tensile results for Type III samples has been compiled in brief form in Table 43. One additional comment applicable to all five logs can be made here, namely, that scatter in tensile data for the PL samples was considerably greater (by about 1-1/2 to 2X) than for the PR samples. (This can be more readily observed in the figures.)

3.2.2. Effect of Fracture near Glued End on Type III Tensile Results

To determine what effect, if any, the inclusion of results from samples which broke within 0.5 inch (one diameter) from a glued end has on the mean value for the group, all such results were excluded from the two log 8 groups tested. Tables 44(a) and 44(b) list the UTS results with such values excluded. Little effect was noted in the NREG group. If any effect was noted, it was a slight drop in mean UTS resulting from such exclusion. A significant effect was noted in the NRMR group, for which the mean value dropped by ~90 psi as a result of such exclusion. No change in data scatter, represented by the standard deviation, was found in either group. Thus, the inclusion of data from samples breaking near an end certainly does not adversely affect the mean value, nor the standard deviation of the entire group.

3.2.3. Effect of Testing Rate on Type III Tensile Results

The results of a series of log 8 NREG tensile tests conducted with a cross-head rate of 0.020 in./min (the rate preferred by GLCC) have been compiled in Tables 45(a) through 45(d). A comparison with the results at 0.005 in./min (the rate preferred by GGA), shown in Tables 34(a) through 34(d), reveals that a fourfold increase in testing rate reduces the UTS mean value by ~12%. The standard deviations for the two groups were essentially the same, although a shifting to a lower range of data occurred for the higher-rate group. The ϵ_F mean value, however, increases by ~10% when the rate increase is fourfold; this increase is accompanied by a very appreciable drop in standard deviation. This same increase in testing rate causes a very appreciable drop in the tensile moduli of elasticity (~20-25% in E_T and E_S), with attendant ~20-30% reductions in their standard deviations. Since the service requirements for the PSC core are quasi-static, testing at the lower rate is more appropriate.

3.2.4. Effect of Tensile Bar Configuration

The results of tests with Type IV tensile specimens taken from logs 6 and 7 (which differ from the Type III specimens only in the method of fabrication) have been compiled in Tables 46 through 53 and illustrated in Figs. 44 through 51. Comparisons of the above with UTS results for tests with Type III specimens (see Tables 26(a) through 33(a) and Figs. 26 through 33) reveal no consistent improvement (i.e., increasing mean values and decreasing standard deviations). Only one set (log 6, PL/NRMDLTH) out of the eight sets compared showed a marked improvement in UTS mean values for Type IV

over Type III results, and only three sets of the eight showed any reduction in data scatter. Consequently, the preference of Type IV over Type III tensile samples does not seem justifiable, when we take into consideration the additional costs of Type IV specimen fabrication and the waste material produced by the larger sample blanks required for Type IV specimens.

The results of tests with Type I tensile specimens from logs 4, 6, and 7 have been compiled in Tables 54 through 64 and illustrated in Figs. 52 through 62. (The PR specimens from the NRMDLTH and the NRENDDB regions were inadvertently mixed during fabrication; hence, these two groups were compiled and plotted as one mixed group, which, as shown in Fig. 54, appears to be quite homogeneous.) Comparisons of these Type I results with UTS results for tests with Type III specimens (see Tables 20(a), 21(a), and 24(a) through 33(a), and Figs. 20, 21, and 24 through 33) reveal that the Type I configuration of specimens from logs 6 and 7 produces consistently higher UTS results (by 13% to 52%) than the Type III configuration of specimens from the same logs. For log 4 specimens, however, the Type I tensile results are only 2% to 5% higher than the Type III tensile results in two of the sets compared, and are ~4% lower than the Type III results for the remaining set. Moreover, in only four of the eleven sets compared does the Type I configuration yield less data scatter (lower standard deviations) than the Type III configuration. Thus, when the additional fabrication costs and the waste material from the larger sample blanks required for the Type I specimens are considered along with the above UTS results, there is insufficient justification for preferential use of the Type I configuration over the Type III for room-temperature tests.

The results of tests with Type II specimens from logs 6 and 7 have been compiled in Tables 65 through 72 and illustrated in Figs. 63 through 70. Comparisons of these Type II with UTS results for tests with Type III specimens (see Tables 26(a) through 33(a) and Figs. 26 through 33) show that the Type II configuration of specimens from logs 6 and 7 yields consistently higher UTS results (by about 8%*) than does the Type III configuration of specimens from the same logs. Furthermore, in five of the eight sets compared, the standard deviation or data scatter for the Type II configuration was less than that for the Type III, usually significantly less. Again, when we consider the additional fabrication costs and the waste material from the larger sample blanks required for the Type I specimens, as well as the test results, there is little motivation for converting to the Type II configuration as long as the Type III results can be multiplied by a conversion factor to match the Type II results. Such a conversion factor would appear to be about 1.10 on the basis of these comparisons. Recently,

* Weighted-average comparisons of data from the two types of specimens showed that for PL samples Type II results were ~8% higher than Type III, considering logs 6 and 7 only (~6% higher considering all three logs); and that for PR samples Type II results were ~12% higher than Type III, considering logs 6 and 7 only (~5% higher considering all three logs).

GLCC tested a series of log 8 tensile samples using a modified Type II configuration, as shown in Fig. 71. Their specimens utilized 5/8-in. to 3/4-in.-diameter core-drilled blanks, to each end of which were glued over-size blocks of graphite scrap. The cemented unit then was fabricated in a Tensilkut machine to produce the same final Type II configuration as shown in Fig. 4. By this means, smaller sample blanks can be utilized, although the sample fabrication costs remain higher than that for the Type III configuration samples. Preliminary UTS results from this test series are presented in Table 73.⁽⁷⁾ When the results from these glued Type II samples are compared with GGA test results on neighboring samples, as reported in Table 34(a), the GLCC mean UTS is about 9% higher than the GGA mean UTS. This observation is consistent with the results from the GGA test series comparisons.

3.3. BULK DENSITY (ρ)

The mean values of bulk density measurements on logs 3 and 4 have been compiled in Tables 74 and 75 and plotted in Figs. 72 and 73 to show the axial and the radial trends, respectively. The bulk density is reasonably uniform axially, but decreases linearly with radial distance from each log's axis, contrary to expectation. However, when Tables 74 and 75 are examined further, it may be noted that the iron level drops radially in the same manner as ρ . Thus, the iron impurity content strongly influences the ρ measurement and accounts for the radial gradient in ρ that was observed.

3.4. IMPURITY CONTENT

Although chemical composition is not one of the mechanical or thermal properties, it was noted in the preceding section that the bulk density appeared to be strongly influenced by iron content. Spectrochemical semi-quantitative analyses revealed that the only troublesome impurity present beyond acceptable levels was iron, which was subsequently determined quantitatively by the ion-absorption method. The results for single samples per region are given in Tables 74 and 75. Where two values appear, a second sample was analyzed to confirm results on the first. Generally, iron is present near the log centers at very high and unacceptable levels, while within the outer-radial regions iron is well under the specification limit (100 ppm) in log 3 and close about this limit in most of log 4. (For some unknown reason the radial trend in iron is reversed near end A in log 4, as duplicate sampling seems to confirm.) A few samples were taken, also, in logs 6 and 7. The NRCL values of single samples were 33 and 110 ppm Fe in logs 6 and 7, respectively, and NREG values were 2 and 15 ppm Fe in logs 6 and 7, respectively. It appears that processing controls were inadequate for satisfactory purification of most of the logs in this GLCC lot.

3.5. COEFFICIENT OF THERMAL EXPANSION (CTE)⁽⁸⁾

Mean values of CTE for each region in logs 3 and 4 have been compiled in Tables 74 and 75 and illustrated in Figs. 74 and 75*, respectively. A few additional measurements were also made on PL samples at the NRMDLTH location in log 8. The mean CTE values for these were as follows:

$$\begin{aligned}\text{NREG} & \dots 2.40 \times 10^{-6}/^{\circ}\text{C} \\ \text{NRMR} & \dots 2.27 \times 10^{-6}/^{\circ}\text{C} \\ \text{NRCL} & \dots 2.27 \times 10^{-6}/^{\circ}\text{C}\end{aligned}$$

These PL values show a trend of slightly increasing CTE with increasing radial distance from the axis of log 8. This trend was noted in log 4 (NREND), also, but not consistently so in log 3. The PR values for logs 3 and 4 do exhibit a consistent trend of decreasing CTE with increasing radial distance from the log axis. Although axial trends in CTE are small (nearly uniform), there appear to be two such trends in PR values: (1) the NREG values show a slight rise at the NRMDLTH regions, and (2) the NRCL values show a slight dip at the NRMDLTH regions. The PL values show a slight rise at NRMDLTH in log 3 for both the NREG and the NRCL regions.

3.6. THERMAL CONDUCTIVITY (k)⁽⁸⁾

Detailed information on thermal conductivity of PSC core graphites is given in a survey report that contains a compilation of experimental data.⁽⁹⁾ A pertinent portion of Ref. 9 is summarized here for completeness in discussing grade H-327 graphite. Measurements of k were made between room temperature and about 800°C. Several of the results from log 4 samples are shown in Figs. 76 and 77, which are summaries of PL and PR curves, respectively. Nearly all the k-curves obtained from the other H-327 logs evaluated fall within the bands formed by the upper and lower limits of the log 4 data shown in these figures.

* The cross-hatched bands in Fig. 75 indicate the ranges of data scatter at each radial location.

4. SUMMARY AND CONCLUSIONS

A series of tests has been performed to evaluate five logs from pilot-lot 340 of GLCC grade H-327 graphite with regard to mechanical and thermal/physical properties.

The mechanical properties examined included UCS, UTS, ϵ_p , E_T and E_L . The UCS mean PL values ranged from 3678 psi (log 4) to 4698 psi (log 3), and the mean PR values ranged from 3433 psi (log 4) to 4214 psi (log 3). The five-log conglomerate UTS mean PL values (Type III configuration) showed a gradient in the log-radial direction:

NRCL . . . 1173 psi
NRMR . . . 1351 psi
NREG . . . 2218 psi

A similar set of conglomerate PR mean values revealed nearly equal NRCL and NREG values, with a dip at NRMR:

NRCL . . . 1000 psi
NRMR . . . 773 psi
NREG . . . 961 psi

No significant influence on results for Type III samples was found for those samples that broke within one diameter from the end attachment. A fourfold increase in testing rate produced a drop of ~12% in UTS of Type III samples. Four types of tensile-sample configurations were tested; comparative results revealed that the configuration presently preferred by GGA (Type III, glued-end cylinders) was superior to or as good as two of the other configurations for room-temperature testing. However, the test performance of the configuration presently preferred by GLCC (Type II, pin-ended dog-bone shape with square cross section) was superior to that of the Type III configuration; i.e., Type II UTS values were ~8% higher than Type III values, and data scatter with Type II samples was reduced as well.

Based on our presently specified method of sampling logs for UTS, logs 3, 4, and 8 could have been acceptable. Logs 6 and 7 were sampled only at mid-radial locations, but these also could have been acceptable. (Note that the above utilizes mean values for such an assessment and that the indicated data scatter could affect the individual evaluation of each log to the extent that it might not be acceptable.) Re-sampling (if necessary for acceptance) by taking a tensile bar from the center hole of a fuel block will yield a lower average UTS than the original UTS average between outer-slab and control-rod-hole samples. Thus, it is not likely that any log that exhibits an initial UTS average less than 1500 psi will be acceptable upon retesting, unless the initial test procedure was faulty.

The thermal/physical properties examined were CTE, k , and ρ . Values of ρ ranged from 1.772 to 1.845 g/cm³, with a fairly uniform distribution axially. However, a significant radial gradient in ρ was observed; this gradient decreased from NRCL to NREG locations. Such unexpected behavior was attributed to very high iron levels within the central portions of the logs. The PL values for CTE ranged from 1.80×10^{-6} to $2.16 \times 10^{-6}/^{\circ}\text{C}$, with fair uniformity throughout the logs. The PR values for CTE ranged from 3.71×10^{-6} to $4.84 \times 10^{-6}/^{\circ}\text{C}$, with a small gradient in CTE, which decreased from NRCL to NREG locations. Values of k were measured between room temperature and about 800°C. The PL values for k ranged between 0.49 and 0.66 cal/cm-sec-°C at room temperature, and between 0.19 and 0.26 cal/cm-sec-°C at 800°C. The PR values for k ranged between 0.35 and 0.38 cal/cm-sec-°C at room temperature, and between 0.11 and 0.17 cal/cm-sec-°C at about 800°C.

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9. Meyers, C., and K. Koyama, "A Survey of Thermal Conductivity in Unirradiated and in Irradiated Graphites for the PSC Core," USAEC Report GAMD-8707, Gulf General Atomic, July 9, 1968.

Table 1

GREAT LAKES CARBON COMPANY EVALUATION DATA FOR THREE H-327 LOGS
FROM PILOT LOT 340

GGA Log No.	GLCC Code	Tensile Strength (psi)			Chemical Analysis* (ppm)			
		Center	Half Radius	Edge	Ash	Fe	Ti	V
3	Log 12 18x22	1330, 1700	1610	2580, 2480	196 (1272)	19.0 (518)	(64)	(7)
4	Log 10 18x22	1365, 1050	950	2230, 1800	280 (381)	67.2 (79)	(30)	(3)
8	Log 11 18x34	1720	1880	1570	284 (500)	16.4 (88)	(82)	(6)

*Value shown in parentheses is not for same sample (NF analysis).

Note: Morganton sampled according to specifications.

Table 2(a)ATTITUDE IN LOG PL / NREDA (INNER)LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327ULT. COMPRESSIVE STRESS (PSI)THE NUMBER OF SAMPLES 2THE MEAN OF THE SAMPLE 3000.0000000000THE STANDARD DEVIATION IS 141.4213600000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-43-AI-3	<u>3499.9999000000</u>	- .71
C-41-AI-3	<u>3700.0000000000</u>	.71

ATTITUDE IN LOG PK / NREDA (INNER)LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327ULT. COMPRESSIVE STRESS (PSI)THE NUMBER OF SAMPLES 3THE MEAN OF THE SAMPLE 4106.6066000000THE STANDARD DEVIATION IS 120.9683140000

SPECIMEN NO.	VALUE	SIGMAS FROM ME
C-12-AI-3	<u>4000.0000000000</u>	-1.13
C-14-AI-3	<u>4239.9999000000</u>	.36
C-10-AI-3	<u>4290.0000000000</u>	.77

Table 2(b)

ATTITUDE IN LOG PL / NREDA (OUTER)

LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 3

THE MEAN OF THE SAMPLE 5256.6666000000

THE STANDARD DEVIATION IS 513.2575600000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-62-A0-3(S)	<u>4840.0000000000</u>	-0.81
C-32-A0-3	<u>5100.0000000000</u>	-0.31
C-60-A0-3(S)	<u>5830.0000000000</u>	1.12

ATTITUDE IN LOG PR / NREDA (OUTER)

LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 3192.5000000000

THE STANDARD DEVIATION IS 150.6375300000

SPECIMEN NO.	VALUE	SIGMAS FROM ME
C-07-A0-3	<u>3040.0000000000</u>	-1.01
C-05-A0-3	<u>3090.0000000000</u>	-0.68
C-03-A0-3	<u>3290.0000000000</u>	0.65
C-01-A0-3	<u>3349.9999000000</u>	1.05

Table 2(c)

ATTITUDE IN LOG PL / NRMDLTH (INNER)

LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 3

THE MEAN OF THE SAMPLE 3453.3333000000

THE STANDARD DEVIATION IS 258.9079600000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-71-MI-3	<u>3160.0000000000</u>	-1.13
C-42-MI-3(S)	3550.0000000000	.37
C-73-MI-3(S)	<u>3649.9999000000</u>	.76

ATTITUDE IN LOG PR / NRMDLTH (INNER)

LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 5192.5000000000

THE STANDARD DEVIATION IS 192.5919700000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-12-MI-3	<u>4950.0000000000</u>	-1.21
C-16-MI-3	5110.0000000000	-.43
C-14-MI-3	5330.0000000000	.71
C-10-MI-3	<u>5370.0000000000</u>	.92

Table 2(d)ATTITUDE IN LOG PL / NRMDLTH (OUTER)LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327ULT. COMPRESSIVE STRESS (PSI)THE NUMBER OF SAMPLES 3THE MEAN OF THE SAMPLE 5463.3333000000THE STANDARD DEVIATION IS 642.9878100000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-32-MO-3(S)	<u>4670.0000000000</u>	-1.08
C-61-MO-3(S)	<u>5480.0000000000</u>	.18
C-30-MO-3(S)	<u>5940.0000000000</u>	.90

ATTITUDE IN LOG PR / NRMDLTH (OUTER)LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327ULT. COMPRESSIVE STRESS, (PSI)THE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 3585.0000000000THE STANDARD DEVIATION IS 125.0333280000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-03-MO-3	<u>3490.0000000000</u>	-.76
C-05-MO-3	<u>3499.9999000000</u>	-.68
C-07-MO-3	<u>3590.0000000000</u>	.04
C-01-MO-3	<u>3759.9999000000</u>	1.40

Table 2(e)

ATTITUDE IN LOG PL / NREND3 (INNER)

LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 3

THE MEAN OF THE SAMPLE 4400.0000000000

THE STANDARD DEVIATION IS 235.1595200000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-72-BI-3	<u>4159.9999000000</u>	-1.02
C-41-BI-3	<u>4410.0000000000</u>	.04
C-70-BI-3	<u>4630.0000000000</u>	.98

ATTITUDE IN LOG PL / NREND3 (INNER)

LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 3

THE MEAN OF THE SAMPLE 5353.3333000000

THE STANDARD DEVIATION IS 55.0757000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-14-BI-3	<u>5290.0000000000</u>	-1.15
C-10-BI-3	<u>5380.0000000000</u>	.48
C-12-BI-3	<u>5390.0000000000</u>	.67

Table 2(f)

ATTITUDE IN LOG PL / NREND8 (OUTER)

LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 3

THE MEAN OF THE SAMPLE 5750.0000000000

THE STANDARD DEVIATION IS 355.9494300000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-32-B0-3	<u>5380.0000000000</u>	-1.04
C-61-B0-3	<u>5779.9999000000</u>	.08
C-30-B0-3	<u>6090.0000000000</u>	.96

ATTITUDE IN LOG PR / NREND8 (OUTER)

LOG NO. 5 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 4042.5000000000

THE STANDARD DEVIATION IS 408.5237600000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-07-B0-3	<u>3510.0000000000</u>	-1.30
C-05-B0-3	<u>4030.0000000000</u>	-.03
C-01-B0-3	<u>4130.0000000000</u>	.21
C-03-B0-3	<u>4500.0000000000</u>	1.12

Table 3

ATTITUDE IN LOG PL / NREDA - NRMOLTH / NREDA

LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327ULT. COMPRESSIVE STRESS, (PSI)THE NUMBER OF SAMPLES 17THE MEAN OF THE SAMPLE 4698.2352000000THE STANDARD DEVIATION IS 361.1661600000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-71-MI-3	<u>3160.0000000000</u>	-1.60
C-43-AI-3	<u>3499.9999000000</u>	-1.25
C-42-MI-3(S)	<u>3550.0000000000</u>	-1.19
C-73-MI-3(S)	<u>3649.9999000000</u>	-1.09
C-41-AI-3	<u>3700.0000000000</u>	-1.04
C-72-BI-3	<u>4159.9999000000</u>	-.56
C-41-BI-3	<u>4410.0000000000</u>	-.30
C-70-BI-3	<u>4630.0000000000</u>	-.07
C-32-MO-3(S)	<u>4670.0000000000</u>	-.03
C-62-AO-3(S)	<u>4840.0000000000</u>	.15
C-32-AO-3	<u>5100.0000000000</u>	.42
C-32-BO-3	<u>5380.0000000000</u>	.71
C-61-MO-3(S)	<u>5480.0000000000</u>	.81
C-61-BO-3	<u>5779.9999000000</u>	1.13
C-60-AO-3(S)	<u>5830.0000000000</u>	1.18
C-30-MO-3(S)	<u>5940.0000000000</u>	1.29
C-30-BO-3	<u>6090.0000000000</u>	1.45

ATTITUDE IN LOG PR / NREDA, -B, NRMOLTH

LOG NO. 3 (LOT 340) GRAPHITE TYPE DESIGNATION H-327ULT. COMPRESSIVE STRESS, (PSI)THE NUMBER OF SAMPLES 22THE MEAN OF THE SAMPLE 4213.6365000000THE STANDARD DEVIATION IS 325.9654200000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-07-AU-3	<u>3040.0000000000</u>	-1.42
C-05-AU-3	<u>3090.0000000000</u>	-1.36
C-03-AU-3	<u>3290.0000000000</u>	-1.12
C-01-AU-3	<u>3349.9999000000</u>	-1.04
C-03-MU-3	<u>3490.0000000000</u>	-.88
C-05-MU-3	<u>3499.9999000000</u>	-.86
C-07-BU-3	<u>3510.0000000000</u>	-.85
C-07-MO-3	<u>3590.0000000000</u>	-.75
C-01-MU-3	<u>3759.9999000000</u>	-.55
C-05-BU-3	<u>4030.0000000000</u>	-.22
C-12-AI-3	<u>4060.0000000000</u>	-.19
C-01-BU-3	<u>4130.0000000000</u>	-.10
C-14-AI-3	<u>4239.9999000000</u>	.03
C-10-AI-3	<u>4290.0000000000</u>	.09
C-03-BU-3	<u>4500.0000000000</u>	.35
C-12-MI-3	<u>4900.0000000000</u>	.90
C-16-MI-3	<u>5110.0000000000</u>	1.06
C-14-BI-3	<u>5290.0000000000</u>	1.30
C-14-MI-3	<u>5330.0000000000</u>	1.35
C-10-MI-3	<u>5370.0000000000</u>	1.40
C-10-BI-3	<u>5380.0000000000</u>	1.41
C-12-BI-3	<u>5390.0000000000</u>	1.42

Table 4(a)

ATTITUDE IN LOG PL / NREND A (INNER)

LOG NO. 4 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 3

THE MEAN OF THE SAMPLE 3330.0000000000

THE STANDARD DEVIATION IS 921.4662200000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-71-A1-4	<u>2720.0000000000</u>	-.66
C-69-A1-4	<u>2880.0000000000</u>	-.49
C-41-A1-4	<u>4390.0000000000</u>	1.15

ATTITUDE IN LOG DR / NREND A (INNER)

LOG NO. 4 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 3

THE MEAN OF THE SAMPLE 3776.6000000000

THE STANDARD DEVIATION IS 190.3500500000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-14-A1-4	<u>3580.0000000000</u>	-1.03
C-12-A1-4	<u>3790.0000000000</u>	.07
C-16-A1-4	<u>3960.0000000000</u>	.96

Table 4(b)

ATTITUDE IN LOG PL / NRENDA (OUTER)

LOG NO. 4 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 3

THE MEAN OF THE SAMPLE 4026.6667000000

THE STANDARD DEVIATION IS 865.5826700000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-32-A0-4	<u>3030.0000000000</u>	-1.15
C-30-A0-4	<u>4459.9999000000</u>	.50
C-61-A0-4	<u>4590.0000000000</u>	.65

ATTITUDE IN LOG PR / NRENDA (OUTER)

LOG NO. 4 (LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. COMPRESSIVE STRESS (PSI)

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 3175.0000000000

THE STANDARD DEVIATION IS 109.9999990000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-01-A0-4	<u>2050.0000000000</u>	-1.32
C-07-A0-4	<u>3150.0000000000</u>	-.23
C-05-A0-4	<u>3250.0000000000</u>	.68
C-03-A0-4	<u>3270.0000000000</u>	.83

Table 5

ATTITUDE IN LOG PL / NREDALOG NO. 4 (LOT 340) GRAPHITE TYPE DESIGNATION H-327ULT. COMPRESSIVE STRESS, (PSI)THE NUMBER OF SAMPLES 6THE MEAN OF THE SAMPLE 3678.3333000000THE STANDARD DEVIATION IS 885.9665000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-71-AI-4	<u>2720.0000000000</u>	-1.08
C-69-AI-4	2880.0000000000	-.90
C-32-A0-4	3030.0000000000	-.73
C-41-AI-4	4390.0000000000	.80
C-30-A0-4	4459.9999000000	.88
C-61-A0-4	<u>4590.0000000000</u>	1.03

ATTITUDE IN LOG PR / NREDALOG NO. 4 (LOT 340) GRAPHITE TYPE DESIGNATION H-327ULT. COMPRESSIVE STRESS, (PSI)THE NUMBER OF SAMPLES 7THE MEAN OF THE SAMPLE 3432.8571000000THE STANDARD DEVIATION IS 348.6504600000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
C-01-A0-4	<u>3030.0000000000</u>	-1.16
C-07-A0-4	3150.0000000000	-.81
C-05-A0-4	3250.0000000000	-.52
C-03-A0-4	3270.0000000000	-.47
C-14-A1-4	3580.0000000000	.42
C-12-A1-4	3790.0000000000	1.02
C-16-A1-4	<u>3960.0000000000</u>	1.51

Table 6(a)

ALLOY: AL 60, PL/AL 60, 60, 60, 60 (TYPE 111)

LOG NO. 3 GRAPHIC TYPE DESIGNATION H-327

STRESS AT FRACTURE

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 1998.585100000

THE STANDARD DEVIATION IS 601.693110000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-32-A0-3	<u>131.201500000</u>	-1.14
T-33-A0-3	<u>187.449500000</u>	-.50
T-31-A0-3	<u>1313.129200000</u>	.59
T-00-A0-3	<u>2022.580900000</u>	1.05

Table 6(b)

ATTITUDE IN LOG PL/AXLE/RECORDING (TYPE III)

LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE .001250000

THE STANDARD DEVIATION IS .0005831523

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-03-AU-3	<u>.000460000</u>	-1.35
T-03-AU-3	<u>.001160000</u>	-.15
T-00-AU-3	<u>.001670000</u>	.72
T-01-AU-3	<u>.001710000</u>	.79

Table 6(c)

ATTITUDE IN LOG PL/AXIALRATIO, AREA (TYPE TII)

LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 20,6342.2000000000

THE STANDARD DEVIATION IS 0.3234.8600000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-03-A0-0	<u>2040131.3000000000</u>	-1.16
T-01-A0-0	2040210.3000000000	-.51
T-00-A0-0	2069690.0000000000	.78
T-03-A0-0	<u>2042136.5000000000</u>	.89

Table 6(d)

ATTITUDE IN LOG PL/AYENREGHREDA (TYPE I.I)

LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327

SECANT MODULUS

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 1683371.4000000000

THE STANDARD DEVIATION IS 527324.6700000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-33-AU-J	<u>1351249.4000000000</u>	-1.63
T-31-AU-J	<u>1352707.1000000000</u>	-1.63
T-60-AU-J	<u>1573395.8000000000</u>	-1.21
T-63-AU-J	<u>2459133.3000000000</u>	1.47

Table 7(a)

ATTITUDE IN LOG PL/AXLNRCLE,NRENDA (TYPE III)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURE

THE NUMBER OF SAMPLES 5
 THE MEAN OF THE SAMPLE 1009.1533200000
 THE STANDARD DEVIATION IS 237.9456500000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-41-AI-3	<u>801.4789700000</u>	-.87
T-43-AI-3	829.3785600000	-.76
T-40-AI-3	883.6559300000	-.53
T-70-AI-3	1222.5090000000	.90
T-72-AI-3	<u>1308.7441000000</u>	1.26

Table 7(b)

ATTITUDE IN LOG PL/AXLNRC LNREDA (TYPE III)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE .0006420000THE STANDARD DEVIATION IS .0002248777

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-41-AI-3	<u>.0003500000</u>	-1.30
T-40-AI-3	<u>.0005000000</u>	-.63
T-43-AI-3	<u>.0006400000</u>	-.01
T-72-AI-3	<u>.0008300000</u>	.84
T-70-AI-3	<u>.0008900000</u>	1.10

Table 7(c)

ATTITUDE IN LOG PL/AXLNRL,NRENDA (TYPE III)

LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 2644386,1000000000THE STANDARD DEVIATION IS 808459,4200000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-43-AI-3	<u>1866011,2000000000</u>	-.96
T-70-AI-3	2043980,1000000000	-.74
T-40-AI-3	2282693,2000000000	-.45
T-41-AI-3	3478389,7000000000	1.03
T-72-AI-3	<u>3550856,2000000000</u>	1.12

Table 7(d)

ATTITUDE IN LOG PL/AXLNRCI,NRENDA (TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1660712.3000000000THE STANDARD DEVIATION IS 396814.6200000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-43-AI-3	<u>1295904.0000000000</u>	-.92
T-70-AI-3	<u>1373605.7000000000</u>	-.72
T-72-AI-3	<u>1576800.1000000000</u>	-.21
T-40-AI-3	<u>1767311.8000000000</u>	.27
T-41-AI-3	<u>2289939.9000000000</u>	1.59

Table 8(a)

ATTITUDE IN LOG PL/AXES OF FRACTURE (TYPE III)

LOG NO. 3GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1623.6473000000THE STANDARD DEVIATION IS 493.4584700000

SPECIMEN NO.	VALUE	SIOMAS FROM MEAN
1-03-40-0	<u>1632.32000000</u>	-.68
1-03-40-0	<u>1642.0361000000</u>	-.57
1-01-40-0	<u>1648.6210000000</u>	-.36
1-02-40-0	<u>1700.2101000000</u>	-.15
1-00-40-0	<u>2602.5054000000</u>	1.75 ?

Table 8(b)

ALTITUDE IN L PL/AXEMREG, GRADITH (TYPE III)

LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE .0010360000

THE STANDARD DEVIATION IS .0003653491

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
I-31-MU-3	<u>.0007400000</u>	-.81
I-63-MU-3	<u>.0003600000</u>	-.54
I-33-MU-3	<u>.0009000000</u>	-.37
I-62-MU-3	<u>.0010400000</u>	.01
I-60-MU-3	<u>.0018500000</u>	1.71

Table 8(c)

ALTITUDE IN LOG PL/ALYMEQUOL/ALYTH (TYPE IAL)

LOG NO. 3

GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE 345223.1000000000

THE STANDARD DEVIATION IS 1256400.9000000000

SPECIMEN NO.

VALUE

SIGMAS FROM MEAN

T-03-40-0	<u>2534721.7000000000</u>	-0.72
T-03-40-0	<u>2657103.3000000000</u>	-0.60
T-02-40-0	<u>2942108.0000000000</u>	-0.38
T-00-40-0	<u>3392335.0000000000</u>	-0.02
T-01-40-0	<u>5579917.1000000000</u>	1.72

Table 8(d)

ATTITUDE IN LOG PL/AXLNKEG/INRMDLTH (TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1695156.5000000000THE STANDARD DEVIATION IS 242551.8100000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-00-M0-0	<u>1612561.5000000000</u>	-.77
T-02-M0-0	<u>1692509.7000000000</u>	-.46
T-33-M0-0	<u>1715429.0000000000</u>	-.38
T-63-M0-0	<u>1772408.6000000000</u>	-.14
T-31-M0-0	<u>2227853.3000000000</u>	1.74 ?

Table 9(a)

ATTITUDE IN LOG PL/AXLRCL, IN MODULI (TYPE III)

LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 703.2174200000THE STANDARD DEVIATION IS 201.0780200000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-40-M1-J	<u>101.9745700000</u>	-1.47
T-70-M1-J	725.3092000000	-.29
T-72-M1-J	801.9145000000	.24
T-41-M1-J	801.9145000000	.24
T-43-M1-J	<u>1029.8930000000</u>	1.28

Table 9(b)

ATTITUDE IN LOG <u>PL/AXLN/CCL/NRMDLTH</u> (TYPE III)		
LOG NO. <u>3</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRAIN AT FRACTURE</u>		
THE NUMBER OF SAMPLES <u>5</u>		
THE MEAN OF THE SAMPLE	<u>.0004740000</u>	
THE STANDARD DEVIATION IS	<u>.0001395708</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM M
T-40-M1-3	<u>.0005000000</u>	-.96
T-43-M1-3	<u>.0004200000</u>	-.39
T-72-M1-3	<u>.0004400000</u>	-.24
T-70-M1-3	<u>.0004600000</u>	-.10
T-41-M1-3	<u>.0007100000</u>	1.69

Table 9(c)

ALTITUDE IN LOG PL/AXLENGTH, IN MILES (TYPE III)

LOG NO. 3

GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE 3499200.6000000000

THE STANDARD DEVIATION IS 2620453.3000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-41-M1-U	<u>17949.6.3000000000</u>	-.65
T-40-M1-U	<u>2175993.6000000000</u>	-.51
T-72-M1-U	<u>2567257.4000000000</u>	-.43
T-43-M1-U	<u>3045591.0000000000</u>	-.17
T-70-M1-U	<u>8115243.0000000000</u>	1.76 ?

Table 9(d)

ATTITUDE IN LOG PL/AXLNKCLNRMOLTH(TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1709514.9000000000THE STANDARD DEVIATION IS 500976.0100000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-41-M1-S	<u>1171711.1000000000</u>	-1.07
T-40-M1-S	1432216.1000000000	-.55
T-70-M1-S	1576933.0000000000	-.26
T-72-M1-S	1890715.6000000000	.36
T-43-M1-S	<u>2475957.2000000000</u>	1.53

Table 10(a)

ATTITUDE IN LOG PL/AXENALG, HENDON (TYPE III)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 2THE MEAN OF THE SAMPLE 2096.0196000000THE STANDARD DEVIATION IS 431.4200000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-63-BU-3	<u>157.4567000000</u>	-1.27
T-33-BU-3	<u>1927.0077000000</u>	-.39
T-62-BU-3	<u>1932.5603000000</u>	-.38
T-00-BU-3	<u>2521.1079000000</u>	.99
T-31-BU-3	<u>2551.5438000000</u>	1.06

Table 10(b)

ALTITUDE IN LOG PL/AXLENKED/INKENDB (TYPE III)

LOG NO. 3 GRAPHITE TYPE DESIGNATION H-727

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE .0012920000

THE STANDARD DEVIATION IS .0002733496

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-03-BU-3	<u>.0009100000</u>	-1.40
T-02-BU-3	.0011500000	-.52
T-33-BU-3	.0013600000	.25
T-00-BU-3	.0014100000	.43
T-31-BU-3	<u>.0016300000</u>	1.24

Table 10(c)

ATTITUDE IN LOG PL/ALLENRES, MPEND3 (TYPE III)

LOG NO. 3GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 4900305.4000000000THE STANDARD DEVIATION IS 4402303.8000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-33-BU-3	<u>3694846.2000000000</u>	-.52
T-62-BU-3	<u>2880511.5000000000</u>	-.48
T-63-BU-3	<u>3004370.7000000000</u>	-.45
T-31-BU-3	<u>3550756.2000000000</u>	-.33
T-60-BU-3	<u>12850717.5000000000</u>	1.78 ?

Table 10(d)

ATTITUDE IN LOG PL/AXLNREG, REND3 (TYPE III)

LOG NO. 3GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1630301.7000000000THE STANDARD DEVIATION IS 143045.3700000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-33-B0-3	<u>1417358.5000000000</u>	-1.49
T-31-B0-3	<u>1565364.3000000000</u>	-.45
T-62-B0-3	<u>1680591.6000000000</u>	.35
T-63-B0-3	<u>1700174.4000000000</u>	.49
T-60-B0-3	<u>1788019.0000000000</u>	1.10

Table 11(a)

ATTITUDE IN LOG PL/A/ENRCL, NKE/00 (TYPE III)

LOG NO. 3GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 6THE MEAN OF THE SAMPLE 1062.456900000THE STANDARD DEVIATION IS 119.203538000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-40-1-3	<u>1133.559300000</u>	-1.50
T-71-31-3	<u>1173.949130000</u>	-.74
T-40-31-3	<u>1129.748200000</u>	-.27
T-39-31-3	<u>1154.028300000</u>	.77
T-42-31-3	<u>1161.637200000</u>	.83
T-39-31-3	<u>1171.782500000</u>	.92

Table 11(b)

ATTITUDE IN LOG PL/AXLNRL,NREND8 (TYPE III)

LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327
SIRAJI AT FRACTURE

THE NUMBER OF SAMPLES 6
 THE MEAN OF THE SAMPLE .0005300000
 THE STANDARD DEVIATION IS .0001288410

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
1-71-B1-3	<u>.0004100000</u>	-.93
1-40-B1-3	.0004600000	-.54
1-69-B1-3	.0004700000	-.47
1-40-B1-3	.0005000000	-.23
1-42-B1-3	.0005700000	.31
1-39-B1-3	<u>.0007700000</u>	1.86 ?

Table 11(c)

ALTITUDE IN LOG PL/AXENRCL, HRENDU (TYPE III)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 266777.500000000THE STANDARD DEVIATION IS 44377.680000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-40-B1-J	<u>2282693.200000000</u>	-1.21
T-40-B1-J	<u>2665142.200000000</u>	-.42
T-69-B1-J	<u>2613015.000000000</u>	-.11
T-39-B1-J	<u>2840684.300000000</u>	-.06
T-42-B1-J	<u>2855366.600000000</u>	-.03
T-71-B1-J	<u>3755762.200000000</u>	1.83 7

Table 11(d)

ATTITUDE IN LOG PL/AXENKCELENDUJ (TYPE III)

LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327

SECOND MODULUS

THE NUMBER OF SAMPLES 6

THE MEAN OF THE SAMPLE 2060085.9000000000

THE STANDARD DEVIATION IS 504235.7100000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-39-B1-J	<u>152,795.5000000000</u>	-1.49
T-40-B1-J	1767311.8000000000	-.82
T-42-B1-J	2037960.1000000000	-.08
T-40-B1-J	2238583.2000000000	.47
T-71-B1-J	2575485.7000000000	.85
T-39-B1-J	<u>2455379.3000000000</u>	1.07

Table 12(a)

ATTITUDE IN LOG PR/RD LN REG. NREND A (TYPE III)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 912.4405500000THE STANDARD DEVIATION IS 31.9762270000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-07-A0-3	<u>887.7033500000</u>	-.77
T-01-A0-3	<u>895.3230400000</u>	-.54
T-03-A0-3	<u>908.0046600000</u>	-.14
T-05-A0-3	<u>958.7311800000</u>	1.45

Table 12(b)

ATTITUDE IN LOG PR/ROLNREG,NRENDA (TYPE III)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE .0020024999THE STANDARD DEVIATION IS .0001523975

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-07-A0-3	<u>.0018100000</u>	-1.26
T-01-A0-3	<u>.0019599999</u>	-.28
T-05-A0-3	<u>.0020800000</u>	.51
T-03-A0-3	<u>.0021599999</u>	1.03

Table 12(c)

ATTITUDE IN LOG PR/ROLNREG,NRENDA (TYPE III)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 818205.2100000000THE STANDARD DEVIATION IS 148813.9300000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-03-A0-3	<u>660981.8900000000</u>	-1.06
T-07-A0-3	<u>763944.3900000000</u>	-.36
T-01-A0-3	<u>833364.2200000000</u>	.10
T-05-A0-3	<u>1014530.3500000000</u>	1.32

Table 12(d)

ATTITUDE IN LOG PR/RD LN REG. NREND (TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 457135.5700000000THE STANDARD DEVIATION IS 28725.4960000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-03-A0-3	<u>420372.5300000000</u>	-1.28
T-01-A0-3	<u>456797.4700000000</u>	-.01
T-05-A0-3	<u>460928.4500000000</u>	.13
T-07-A0-3	<u>490443.8500000000</u>	1.16

Table 13(a)

ATTITUDE IN LOG PR/ROLNRCL,NRENDA (TYPE III)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 3THE MEAN OF THE SAMPLE 1006.5161300000THE STANDARD DEVIATION IS 61.8512900000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-14-AI-3	<u>935.5772000000</u>	-1.15
T-10-AI-3	1034.8209000000	.46
T-12-AI-3	<u>1049.1502000000</u>	.69

Table 13(b)

ATTITUDE IN LOG PR/RDLNRCL,NRENDA (TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 3THE MEAN OF THE SAMPLE .0022533333THE STANDARD DEVIATION IS .0002802380

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-14-AI-3	<u>.0019400000</u>	-1.12
T-12-AI-3	<u>.0023400000</u>	.31
T-10-AI-3	<u>.0024800000</u>	.81

Table 13(c)

ATTITUDE IN LOG PR/RDLNRCL,NREDA (TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 3THE MEAN OF THE SAMPLE 894749.9500000000THE STANDARD DEVIATION IS 44410.8650000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-10-AI-3	<u>865334.6900000000</u>	-.66
T-12-AI-3	<u>873079.2700000000</u>	-.49
T-14-AI-3	<u>945835.9000000000</u>	1.15

Table 13(d)

ATTITUDE IN LOG PR/RDLNRCL,NRENDA (TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 3THE MEAN OF THE SAMPLE 449292.5300000000THE STANDARD DEVIATION IS 32505.0350000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-10-AI-3	<u>417266.5100000000</u>	-.99
T-12-AI-3	<u>448354.8200000000</u>	-.03
T-14-AI-3	<u>482256.2900000000</u>	1.01

Table 14(a)

ATTITUDE IN LOG PR/RDLNREG*NRMDLTH(TYPE III)LOG NO.. 3 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 622.5899200000THE STANDARD DEVIATION IS 56.3591750000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-05-MO-3	<u>557.6793800000</u>	-1.15
T-01-MO-3	<u>593.5002500000</u>	-.52
T-03-MO-3	<u>664.5173800000</u>	.74
T-07-MO-3	<u>674.6626800000</u>	.92

Table 14(b)

ATTITUDE IN LOG PR/R₀LNREG,NRMDLTH(TYPE III)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE .0010500000THE STANDARD DEVIATION IS .0003016621

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-05-MO-3	<u>.0007700000</u>	-.93
T-01-MO-3	<u>.0008600000</u>	-.63
T-03-MO-3	<u>.0011300000</u>	.27
T-07-MO-3	<u>.0014400000</u>	1.29

Table 14(c)

ATTITUDE IN LOG PR/RCLNREG,NRMDLTH(TYPE III)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 1106689.2000000000THE STANDARD DEVIATION IS 564785.3400000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-07-M0-3	<u>626621.6900000000</u>	-.85
T-03-M0-3	<u>800945.0100000000</u>	-.54
T-05-M0-3	<u>1096945.8000000000</u>	-.02
T-01-M0-3	<u>1902244.5000000000</u>	1.41

Table 14(d)

ATTITUDE IN LOG PR/R₀LNREG,NRMDLTH(TYPE III)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 617739.9300000000THE STANDARD DEVIATION IS 115083.9240000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-07-M0-3	<u>468515.7500000000</u>	-1.30
T-03-M0-3	<u>588068.4800000000</u>	-.26
T-01-M0-3	<u>690116.5800000000</u>	.63
T-05-M0-3	<u>724258.9500000000</u>	.93

Table 15(a)

ATTITUDE IN LOG PR/ROLNRCL, NRMDLTH (TYPE I11)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 787.5291900000THE STANDARD DEVIATION IS 103.9068450000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
I-14-M1-J	<u>649.2994200000</u>	-1.33
T-12-M1-J	<u>771.0430700000</u>	-.16
I-16-M1-J	<u>842.0601900000</u>	.52
T-10-M1-J	<u>987.7140600000</u>	.96

Table 15(b)

ATTITUDE IN LOG PR/KOLNRCL/NRMDLTH(TYPE III)

LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE .0013875000

THE STANDARD DEVIATION IS .0003842200

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-14-M1-3	<u>.0010000000</u>	-.90
T-12-M1-3	<u>.0011700000</u>	-.57
T-16-M1-3	<u>.0014300000</u>	.11
T-10-M1-3	<u>.0019100000</u>	1.36

Table 15(c)

' ALTITUDE IN LOG PR/SPENRCL, NRMDLTH(TYPE 111)

LOG NO. 3

GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 876240.1900000000

THE STANDARD DEVIATION IS 118801.9000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-10-M1-3	<u>718171.2300000000</u>	-1.40
T-14-M1-3	887714.0300000000	.10
T-12-M1-3	917908.4200000000	.35
T-16-M1-3	<u>932167.0900000000</u>	.95

Table 15(d)

ATTITUDE IN LOG PROBENRCLNRMUL (TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 584240.6500000000THE STANDARD DEVIATION IS 84639.6060000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-10-M1-J	<u>464771.7600000000</u>	-1.41
T-16-M1-J	580853.2800000000	.05
T-14-M1-J	624326.3800000000	.47
T-12-M1-J	<u>659011.1800000000</u>	.88

Table 16(a)

ATTITUDE IN LOG PR/RTENREG.NREND3 (TYPE III)

LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327

STRESS AT FRACTURE

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 1151.7036000000

THE STANDARD DEVIATION IS 102.4759400000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-03-BU-3	<u>1014.5303500000</u>	-1.34
T-07-BU-3	1132.2883000000	-.19
T-05-BU-3	1227.5817000000	.74
T-01-BU-3	<u>1252.6543000000</u>	.79

Table 16(b)

ATTITUDE IN LOG PR/ROLNREG,INREND3 (TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-327SIRAIN AT FRACTURETHE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE .0023324999

THE STANDARD DEVIATION IS .0007727171

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-03-BU-3	.0012200000	-1.44
T-05-BU-3	.0025500000	.28
T-07-BU-3	.0025500000	.28
T-01-BU-3	.0030099999	.88

Table 16(c)

ALTITUDE IN LOG PR/RODKNREG, NREND04 (TYPE III)

LOG NO. 3

GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 890640.9100000000

THE STANDARD DEVIATION IS 114693.6250000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-07-B0-3	<u>765840.8000000000</u>	-1.08
T-01-B0-3	824305.9200000000	-.58
T-03-B0-3	955866.5800000000	.58
T-05-B0-3	<u>1014530.3600000000</u>	1.08

Table 16(d)

ALTITUDE IN LOG PR/RDLHREG.NREND3 (TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-527SECANT MODULUSTHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 541635.3000000000THE STANDARD DEVIATION IS 195514.1000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-01-B0-3	<u>409519.7200000000</u>	- .68
T-07-B0-3	<u>444034.6500000000</u>	- .50
T-05-B0-3	<u>481404.6000000000</u>	- .31
T-03-B0-3	<u>831532.2600000000</u>	1.48

Table 17(a)

ATTITUDE IN LOG PR/KDELNRCL/RENDU (TYPE III)

LOG NO. 3

GRAPHITE TYPE DESIGNATION H-327

STRESS AT FRACTURE

THE NUMBER OF SAMPLES 3

THE MEAN OF THE SAMPLE 1052.544400000

THE STANDARD DEVIATION IS 34.041107000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-10-B1-S	<u>994.239740000</u>	-1.13
T-12-B1-S	<u>1044.057200000</u>	.34
T-14-B1-S	<u>1059.356100000</u>	.79

Table 17(b)

ATTITUDE IN LOG PR/KOLNRCL/INRND3 (TYPE I11)LOG NO. 3 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 3THE MEAN OF THE SAMPLE .0021999999THE STANDARD DEVIATION IS .0002981610

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-12-B1-S	<u>.0016700000</u>	-1.11
T-10-B1-S	<u>.0022799999</u>	.27
T-14-B1-S	<u>.0024500000</u>	.84

Table 17(c)

ATTITUDE IN LOG PR/ROLINCE, RENDS (TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 3THE MEAN OF THE SAMPLE 960357.5500000000THE STANDARD DEVIATION IS 594579.5200000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-10-B1-3	<u>629706.5100000000</u>	-0.85
T-14-B1-3	<u>868799.4900000000</u>	-0.25
T-12-B1-3	<u>1400504.7000000000</u>	1.10

Table 17(d)

ATTITUDE IN LOG PR/ROENRCL/RENDS (TYPE III)LOG NO. 3GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 3THE MEAN OF THE SAMPLE 475590.5300000000THE STANDARD DEVIATION IS 71669.0360000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-14-B1-3	<u>434362.1100000000</u>	-0.60
T-10-B1-3	<u>436070.0600000000</u>	-0.55
T-12-B1-3	<u>556319.4100000000</u>	1.15

Table 18(a)

ATTITUDE IN LOG PL/AXLNREG,NRENDA (TYPE III)LOG NO. 4GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 7THE MEAN OF THE SAMPLE 1819.0018000000THE STANDARD DEVIATION IS 555.4843500000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A31	<u>926.9191700000</u>	-1.61
T-H327-4-A33	1145.9165000000	-1.21
T-62R-A0-4	1988.4794000000	.31
T-H327-4-A63	1991.0157000000	.31
T-60R-A0-4	2054.4239000000	.42
T-H327-4-A62	2297.9112000000	.86
T-H327-4-A60	<u>2328.3471000000</u>	.92

Table 18(b)

ATTITUDE IN LOG PL/AXLNREG,NRENDA (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 7THE MEAN OF THE SAMPLE .0012857142THE STANDARD DEVIATION IS .0003948779

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A31	<u>.0006800000</u>	-1.53
T-H327-4-A33	.0010400000	-.62
T-62R-A0-4	.0010900000	-.50
T-60R-A0-4	.0012200000	-.17
T-H327-4-A63	.0014800000	.49
T-H327-4-A62	.0016900000	1.02
T-H327-4-A60	<u>.0018000000</u>	1.30

Table 18(c)

ATTITUDE IN LOG PL/AXLNREG,NREDA (TYPE III)

LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327
YOUNG'S MODULUS

THE NUMBER OF SAMPLES 7
 THE MEAN OF THE SAMPLE 2352537.1000000000
 THE STANDARD DEVIATION IS 687079.2100000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A60	<u>1559094.4000000000</u>	-1.15
T-H327-4-A31	1909860.9000000000	-.64
T-H327-4-A33	2037185.0000000000	-.46
T-H327-4-A63	2069108.0000000000	-.41
T-H327-4-A62	2305750.8000000000	-.07
T-60R-A0-4	3128135.2000000000	1.13
T-62R-A0-4	<u>3458626.2000000000</u>	1.61

Table 18(d)

ATTITUDE IN LOG PL/AXLNREG,NRENDA (TYPE III)LOG NO. 4GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 7THE MEAN OF THE SAMPLE 1424532.0000000000THE STANDARD DEVIATION IS 245850.2100000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A33	<u>1101842.8000000000</u>	-1.31
T-H327-4-A60	1293526.1000000000	-.53
T-H327-4-A63	1345280.9000000000	-.32
T-H327-4-A62	1359710.8000000000	-.26
T-H327-4-A31	1363116.4000000000	-.25
T-60R-A0-4	1683954.0000000000	1.06
T-62R-A0-4	<u>1824293.1000000000</u>	1.63

Table 19(a)

ATTITUDE IN LOG PL/AXLNRCL,NRENDA (TYPE III)LOG NO. 4GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 6THE MEAN OF THE SAMPLE 1743.5560000000THE STANDARD DEVIATION IS 885.9188700000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A68	<u>593.5002500000</u>	-1.30
T-H327-4-A70	730.4618500000	-1.14
T-H327-4-A38	1751.9791000000	.01
T-H327-4-A39	2393.6923000000	.73
T-H327-4-A40	2394.2916000000	.73
T-H327-4-A41	<u>2597.4108000000</u>	.96

Table 19(b)

ATTITUDE IN LOG PL/AXLNRCLENBEND (TYPE III)LOG NO. 4GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 6THE MEAN OF THE SAMPLE .0013833333THE STANDARD DEVIATION IS .0005688819

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A68	<u>.0003600000</u>	-1.80 ?
T-H327-4-A70	.0011400000	-.43
T-H327-4-A38	.0014700000	.15
T-H327-4-A39	.0016900000	.54
T-41R-AI-4	.0017000000	.56
T-H327-4-A41	<u>.0019400000</u>	.98

Table 19(c)

ATTITUDE IN LOG PL/AXLNRCL,NREND (TYPE III)LOG NO. 4GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 6THE MEAN OF THE SAMPLE 1562763.2000000000THE STANDARD DEVIATION IS 384088.7000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A70	<u>978297.1200000000</u>	-1.52
T-H327-4-A38	1188357.8000000000	-.97
T-H327-4-A41	1727969.3000000000	.43
T-H327-4-A68	1750064.8000000000	.49
T-41R-AI-4	1796564.1000000000	.61
T-H327-4-A39	<u>1935325.6000000000</u>	.97

Table 19(d)

ATTITUDE IN LOG PL/AXLNRCL,NRENDA (TYPE III)LOG NO. 4GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 6THE MEAN OF THE SAMPLE 1274142.4000000000THE STANDARD DEVIATION IS 343695.2900000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A70	<u>640756.0100000000</u>	-1.84 ?
T-H327-4-A38	1191822.4000000000	-.24
T-H327-4-A41	1338871.6000000000	.19
T-41R-AI-4	1408406.8000000000	.39
T-H327-4-A39	1416386.0000000000	.41
T-H327-4-A68	<u>1648611.8000000000</u>	1.09

Table 20(a)

ATTITUDE IN LOG PL/AXLNRM.RNRMDLTH(TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 1650.0386000000THE STANDARD DEVIATION IS 172.3691500000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-BT-MH-4	<u>1431.1224000000</u>	-1.27
T-AT-MH-4	<u>1643.5391000000</u>	-.04
T-OT-MH-4	<u>1673.9751000000</u>	.14
T-CT-MH-4	<u>1851.5179000000</u>	1.17

Table 20(b)

ATTITUDE IN LOG PL/AXLNRM/NRMDLTH(TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE .0010625000THE STANDARD DEVIATION IS .0001541374

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-BT-MH-4	<u>.0009100000</u>	-.99
T-AT-MH-4	<u>.0009600000</u>	-.66
T-CT-MH-4	<u>.0011400000</u>	.50
T-DT-MH-4	<u>.0012400000</u>	1.15

Table 20(c)

ATTITUDE IN LOG PL/AXLNRM, NRMDLTH (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 3280338.6000000000THE STANDARD DEVIATION IS 1074660.6000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-BT-MH-4	<u>2176083.9000000000</u>	-1.03
T-AT-MH-4	<u>3089705.0000000000</u>	-.18
T-CT-MH-4	<u>3099953.8000000000</u>	-.17
T-DT-MH-4	<u>4755610.9000000000</u>	1.37

Table 20(d)

ATTITUDE IN LOG PL/AXLNRMR,NRMDLTH(TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 1564700.1000000000THE STANDARD DEVIATION IS 154277.0500000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DT-MH-4	<u>1349979.9000000000</u>	-1.39
T-BT-MH-4	<u>1572662.0000000000</u>	.05
T-CT-MH-4	<u>1624138.5000000000</u>	.39
T-AT-MH-4	<u>1712020.0000000000</u>	.95

Table 21(a)

ATTITUDE IN LOG PL/AXLNMR,NRENDB (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1324.4373000000THE STANDARD DEVIATION IS 230.3341100000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB2-BH-4	<u>963.8038400000</u>	-1.57
T-DB1-BH-4	1126.1287000000	-.86
T-EB2-BH-4	1151.4919000000	-.75
T-BB1-BH-4	1191.7531000000	-.58
T-CB2-BH-4	1308.7441000000	-.07
T-AB2-BH-4	1344.2527000000	.09
T-CB1-BH-4	1364.5433000000	.17
T-EB1-BH-4	1496.4322000000	.75
T-AB1-BH-4	1552.2314000000	.99
T-BB2-BH-4	<u>1744.9921000000</u>	1.83

Table 21(b)

ATTITUDE IN LOG PL/AXLNRMR,NREND8 (TYPE III)LOG NO. 4GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE, .0008140000THE STANDARD DEVIATION IS .0002200101

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EB2-BH-4	<u>.0005300000</u>	-1.29
T-DB1-BH-4	.0005600000	-1.15
T-DB2-BH-4	.0005800000	-1.06
T-CB1-BH-4	.0007500000	-.29
T-BB1-BH-4	.0007600000	-.25
T-AB2-BH-4	.0008200000	.03
T-AB1-BH-4	.0009300000	.53
T-EB1-BH-4	.0009600000	.66
T-CB2-BH-4	.0011100000	1.35
T-BB2-BH-4	<u>.0011400000</u>	1.48

Table 21(c)

ATTITUDE IN LOG PL/AXLNMR,NRENDS (TYPE III)LOG NO. 4GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 291433R.1000000000THE STANDARD DEVIATION IS 770180.5400000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EB1-BH-4	<u>1999221.5000000000</u>	-1.19
T-AB2-BH-4	<u>2318926.5000000000</u>	-.77
T-BB1-BH-4	<u>2376715.8000000000</u>	-.70
T-CB2-BH-4	<u>2434872.8000000000</u>	-.62
T-AB1-BH-4	<u>2456231.3000000000</u>	-.59
T-CB1-BH-4	<u>2587052.4000000000</u>	-.42
T-BB2-BH-4	<u>3170407.3000000000</u>	.33
T-EB2-BH-4	<u>3768255.6000000000</u>	1.11
T-DB2-BH-4	<u>3804488.9000000000</u>	1.16
T-DB1-BH-4	<u>4227209.8000000000</u>	1.70

Table 21(d)

ATTITUDE IN LOG PL/AXLNMR•NRENDB (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327
SECANT MODULUSTHE NUMBER OF SAMPLES 10
THE MEAN OF THE SAMPLE 1680971.4000000000
THE STANDARD DEVIATION IS 273697.3700000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-CB2-BH-4	<u>1179048.7000000000</u>	-1.83 ?
T-BB2-BH-4	<u>1530694.9000000000</u>	-.55
T-EB1-BH-4	<u>1558783.6000000000</u>	-.45
T-BB1-BH-4	<u>1568096.3000000000</u>	-.41
T-AB2-BH-4	<u>1639332.5000000000</u>	-.15
T-DB2-BH-4	<u>1661730.7000000000</u>	-.07
T-AB1-BH-4	<u>1669066.0000000000</u>	-.04
T-CB1-BH-4	<u>1819391.0000000000</u>	.51
T-DB1-BH-4	<u>2010944.0000000000</u>	1.21
T-EB2-BH-4	<u>2172626.3000000000</u>	1.80 ?

Table 22(a)

ATTITUDE IN LOG PR/HOLINREG,NREND (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 11THE MEAN OF THE SAMPLE 1033.1012000000THE STANDARD DEVIATION IS 88.5999270000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A-7	<u>837.7140600000</u>	-1.64
T-H327-4-A17	960.0070300000	-.82
T-H327-4-A15	963.8038400000	-.78
T-H327-4-A11	977.6487900000	-.62
T-H327-4-A13	1018.5924900000	-.16
T-15K-A0-4	1024.6756000000	-.10
T-H327-4-A-5	1029.7482000000	-.04
T-H327-4-A-3	1069.5221000000	.41
T-H327-4-A-1	1084.8010000000	.58
T-11K-A0-4	1160.7408000000	1.44
T-13K-A0-4	<u>1186.6602000000</u>	1.73 ?

Table 22(b)

ATTITUDE IN LOG PR/RDLNREG, NRENDA (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 11THE MEAN OF THE SAMPLE .0024527272THE STANDARD DEVIATION IS .0003694344

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A15	<u>.0019500000</u>	-1.36
T-11K-A0-4	.0020599999	-1.06
T-H327-4-A11	.0021299999	-.87
T-H327-4-A13	.0021799999	-.74
T-H327-4-A-7	.0023500000	-.28
T-H327-4-A-1	.0024500000	-.01
T-15K-A0-4	.0024599999	.02
T-H327-4-A-3	.0027199999	.72
T-H327-4-A17	.0027500000	.80
T-13K-A0-4	.0027599999	.83
T-H327-4-A-5	<u>.0031699999</u>	1.94 ?

Table 22(c)

ATTITUDE IN LOG PR/RDLNREG/INREDA (TYPE III)

LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327
YOUNG'S MODULUS

THE NUMBER OF SAMPLES 11
 THE MEAN OF THE SAMPLE 633633.0500000000
 THE STANDARD DEVIATION IS 113801.0870000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-15R-A0-4	<u>489773.2900000000</u>	-1.26
T-H327-4-A-5	507265.1600000000	-1.11
T-H327-4-A17	521742.9600000000	-.98
T-13R-A0-4	575011.8900000000	-.52
T-H327-4-A-3	582052.8600000000	-.45
T-H327-4-A13	602667.2200000000	-.27
T-H327-4-A15	680803.2600000000	.41
T-H327-4-A11	684915.6500000000	.45
T-H327-4-A-1	708566.0700000000	.66
T-H327-4-A-7	780407.9700000000	1.29
T-11R-A0-4	<u>836737.4900000000</u>	1.78 ?

Table 22(d)

ATTITUDE IN LOG PR/RDLNREG,NRENDA (TYPE III)LOG NO. 4GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 11THE MEAN OF THE SAMPLE 428927.7700000000THE STANDARD DEVIATION IS 67967.0470000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-M327-4-A-5	<u>324841.7400000000</u>	-1.53
T-M327-4-A17	349793.4700000000	-1.17
T-M327-4-A-7	377750.6600000000	-.75
T-M327-4-A-3	393206.6600000000	-.53
T-15K-A0-4	416534.8200000000	-.18
T-13K-A0-4	429949.3700000000	.02
T-M327-4-A-1	442775.9100000000	.20
T-M327-4-A11	459063.9400000000	.44
T-M327-4-A13	467244.2700000000	.56
T-M327-4-A15	494258.3700000000	.96
T-11K-A0-4	<u>563466.4100000000</u>	1.98 ?

Table 23(a)

ATTITUDE IN LOG PR/RODNRCL, NREND (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 11THE MEAN OF THE SAMPLE 1006.4521000000THE STANDARD DEVIATION IS 80.9630230000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
F-H327-4-A-4	<u>952.0121300000</u>	-1.66
T-16R-A1-4	1004.3850400000	-.77
T-06R-A1-4	1011.9940200000	-.67
T-02R-A1-4	1013.4995300000	-.65
T-H327-4-A12	1038.9643000000	-.34
T-H327-4-A-6	1044.9662000000	-.27
T-H327-4-A-2	1084.8010000000	.23
F-H327-4-A-8	1090.6201000000	.30
T-H327-4-A14	1135.7306000000	.86
T-14R-A1-4	1156.5640000000	1.11
T-H327-4-A16	<u>1217.4364000000</u>	1.86 ?

Table 23(b)

ATTITUDE IN LOG PR/KDENKCL. MENDI (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 11THE MEAN OF THE SAMPLE .0024290908THE STANDARD DEVIATION IS .0004290327

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-02R-A1-4	.0017200000	-1.65
T-06R-A1-4	.0018300000	-1.28
T-16R-A1-4	.0021200000	-.72
T-H327-4-A-4	.0021500000	-.65
T-14R-A1-4	.0023500000	-.18
T-H327-4-A14	.0024900000	.14
T-H327-4-A12	.0025799999	.35
T-H327-4-A-8	.0027199999	.68
T-H327-4-A-2	.0027800000	.82
T-H327-4-A-6	.0028100000	.89
T-H327-4-A16	<u>.0031199999</u>	1.61

Table 23(c)

ATTITUDE IN LOG PR/KOLNKLINREDA (TYPE III)

LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 11THE MEAN OF THE SAMPLE 615444.5000000000THE STANDARD DEVIATION IS 91897.5440000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A-6	<u>489773.2700000000</u>	-1.37
T-H327-4-A14	516369.8000000000	-1.08
T-H327-4-A-2	531439.5700000000	-.91
T-H327-4-A-4	553562.8800000000	-.67
T-H327-4-A16	566446.1100000000	-.53
T-02R-A1-4	634021.8000000000	.20
T-16R-A1-4	652198.1100000000	.40
T-H327-4-A12	654809.4600000000	.43
T-06R-A1-4	680721.5900000000	.78
T-H327-4-A-8	691725.2500000000	.83
T-14R-A1-4	<u>792601.8500000000</u>	1.93 ?

Table 23(d)

ALTITUDE IN LOG PRZDLENRCLINREDA (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 11THE MEAN OF THE SAMPLE 449002.5200000000THE STANDARD DEVIATION IS 69080.3250000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A-6	<u>371374.1200000000</u>	-1.12
T-H327-4-A-16	<u>390203.9800000000</u>	-.85
T-H327-4-A-2	<u>390216.1900000000</u>	-.85
T-H327-4-A-8	<u>400903.2000000000</u>	-.70
T-H327-4-A-12	<u>402699.3600000000</u>	-.67
T-H327-4-A-4	<u>433494.0200000000</u>	-.22
T-H327-4-A-14	<u>456116.7100000000</u>	.10
T-16R-AI-4	<u>473766.5400000000</u>	.36
T-14R-AI-4	<u>492155.1500000000</u>	.62
T-06R-AI-4	<u>538294.7000000000</u>	1.29
T-02R-AI-4	<u>589243.9200000000</u>	2.03 ?

Table 24(a)

ATTITUDE IN LOG PR/RDLNRMN,NRMDLTH(TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 9THE MEAN OF THE SAMPLE 880.7814100000THE STANDARD DEVIATION IS 149.6354800000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2C-4	<u>540.2374100000</u>	-2.28 ?
T-4C-4	759.3759600000	-.81
T-5C-4	864.8871300000	-.11
T-3C-4*	892.7867000000	.08
T-3G-4*	925.7589400000	.30
T-5G-4	963.8038400000	.55
T-1C-4	976.4854600000	.64
T-1G-4*	984.0944300000	.69
T-2G-4	<u>1019.6030000000</u>	.93

Table 24(b)

ATTITUDE IN LOG PR/RDLNRM, NRMDLTH (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 9THE MEAN OF THE SAMPLE .0021411110THE STANDARD DEVIATION IS .0005261284

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2C-4	<u>.0009000000</u>	-2.36 ?
T-1C-4	.0020000000	-.27
T-4C-4	.0020000000	-.27
T-5G-4	.0022099999	.13
T-5C-4	.0022399999	.19
T-1G-4*	.0023099999	.32
T-3C-4*	.0023300000	.36
T-3G-4*	.0024699999	.63
T-2G-4	<u>.0028100000</u>	1.27

Table 24(c)

ATTITUDE IN LOG PR/RDLNRMR,NRMDLTH(TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 9THE MEAN OF THE SAMPLE 768168.0500000000THE STANDARD DEVIATION IS 193840.1100000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2G-4	<u>538969.2400000000</u>	-1.18
T-3C-4*	<u>570673.3400000000</u>	-1.02
T-3G-4*	628042.6100000000	-.72
T-5C-4	634081.4800000000	-.69
T-5G-4	783090.6200000000	.08
T-1G-4*	821286.4800000000	.27
T-1C-4	873623.3600000000	.54
T-2C-4	936489.5600000000	.87
T-4C-4	<u>1127255.9000000000</u>	1.85 ?

Table 24(d)

ATTITUDE IN LOG PR/RDLNRM, NRMDLTH (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327
SECANT MODULUSTHE NUMBER OF SAMPLES 9
THE MEAN OF THE SAMPLE 426361.0500000000
THE STANDARD DEVIATION IS 76258.5510000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2G-4	<u>362848.0500000000</u>	-.83
T-3G-4*	374801.1900000000	-.68
T-4C-4	379687.9900000000	-.61
T-3C-4*	383170.2600000000	-.57
T-5C-4	386110.3300000000	-.53
T-1G-4*	426014.9200000000	-.00
T-5G-4	436110.3400000000	.13
T-1C-4	488242.7400000000	.81
T-2C-4	<u>600263.7900000000</u>	2.28 ?

Table 25(a)

ATTITUDE IN LOG PR/RDLNRMR,NRENDB (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 842.5674400000THE STANDARD DEVIATION IS 127.7059560000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3L-4	<u>646.7631000000</u>	-1.53
T-1L-4	806.5516300000	-.28
T-4L-4	852.2054900000	.08
T-2L-4	933.3679200000	.71
T-5L-4*	<u>973.9491300000</u>	1.03

Table 25(b)

ATTITUDE IN LOG PR/RDLNRMR,NREND8 (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE .0018740000THE STANDARD DEVIATION IS .0004685403

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3L-4	<u>.0013500000</u>	-1.12
T-1L-4	.0015200000	-.76
T-4L-4	.0017900000	-.18
T-5L-4*	.0022899999	.89
T-2L-4	<u>.0024199999</u>	1.17

Table 25(c)

ATTITUDE IN LOG PR/RDLNRMR,NRENDB (TYPE III)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 912320.4300000000THE STANDARD DEVIATION IS 304636.2300000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3L-4	<u>648172.1600000000</u>	-.87
T-2L-4	<u>688431.3100000000</u>	-.73
T-5L-4*	791333.6900000000	-.40
T-4L-4	1056802.4000000000	.47
T-1L-4	<u>1376862.5000000000</u>	1.52

Table 25(d)

ATTITUDE IN LOG PR/RDLNRMNRENDB (TYPE III)

LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327
SECANT MODULUS

THE NUMBER OF SAMPLES 5
 THE MEAN OF THE SAMPLE 459359.3600000000
 THE STANDARD DEVIATION IS 55531.4330000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2L-4	<u>385689.2300000000</u>	-1.33
T-5L-4*	425305.3000000000	-.61
T-4L-4	476092.4600000000	.30
T-3L-4	479083.7800000000	.36
T-1L-4	<u>530626.0700000000</u>	1.28

Table 26(a)

ATTITUDE IN LOG PL/AXLNKMR,NPMDLTH (TYPE I+I)

LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327

STRESS AT FRACTURE (PSI)

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE 1342.2912000000

THE STANDARD DEVIATION IS 402.9810400000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DT-MH-0	<u>905.4017800000</u>	-.93
T-ET-MH-0	<u>993.1270800000</u>	-.87
T-CT-MH-0	<u>1211.6127000000</u>	-.32
T-BT-MH-0	<u>1730.1418000000</u>	.96
T-AT-MH-0	<u>2010.1420000000</u>	1.16

Table 26(b)

ATTITUDE IN LOG PL/AXLNMMR,NRMDLTH(TYPE III)

LOG NO. 6

GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE .0010140000

THE STANDARD DEVIATION IS .0003932302

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-JT-MH-0	<u>.0004700000</u>	-1.38
F-LT-MH-0	.0007900000	-.57
F-AT-MH-0	.0011200000	.27
T-ET-MH-0	.0012000000	.47
F-BT-MH-0	<u>.0014900000</u>	1.21

Table 26(c)

ATTITUDE IN LOG PL/AXLNKMR,INRMDLTH(TYPE I(I))

LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS (PSI)

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE 1656714.2000000000

THE STANDARD DEVIATION IS 326145.7300000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-BT-MH-0	<u>1403168.7000000000</u>	-1.42
T-CT-MH-0	1783372.8000000000	-.25
T-DT-MH-0	1917523.3000000000	.15
T-AT-MH-0	1917523.4000000000	.15
T-ET-MH-0	<u>2314982.9000000000</u>	1.37

Table 26(d)

ATTITUDE IN LOG PL/AXLNRM NORMDLTH (TYPE III)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUS (PSI)THE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1438979.7000000000THE STANDARD DEVIATION IS 466995.6000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
I-ET-MH-0	<u>827606.4000000000</u>	-1.31
I-BT-MH-0	1161169.0000000000	-1.59
I-CT-MH-0	1533786.9000000000	.20
I-AT-MH-0	1616198.3000000000	.38
I-UT-MH-0	<u>2056237.8000000000</u>	1.32

Table 27(a)

ATTITUDE IN LOG PL/AYLNR/R,NRENOB (TYPE III)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURE (PSI)THE NUMBER OF SAMPLES 11THE MEAN OF THE SAMPLE 1474.3047000000THE STANDARD DEVIATION IS 529.4214700000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EB2-SH-6	<u>507.6315400000</u>	-1.52
T-EB1-SH-6	<u>750.4585500000</u>	-1.37
T-UB2-SH-6	<u>1000.0079000000</u>	-.74
T-AJ2-SH-6	<u>1226.5788000000</u>	-.47
T-AB1-SH-6	<u>1306.6454000000</u>	-.20
T-CB2-SH-6	<u>1397.8236000000</u>	-.14
T-CB1-SH-6	<u>1636.8560000000</u>	.31
T-DB1-SH-6	<u>1817.8001000000</u>	.65
T-BB2-SH-6	<u>1838.7546000000</u>	.69
T-DB1-SH-6	<u>2139.1460000000</u>	1.26
T-DB1R-B,1-6	<u>2295.6689000000</u>	1.55

Table 27(b)

ARTIFACT IN LOG PL/AXLNRM, PREMOD (TYPE III)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 11THE MEAN OF THE SAMPLE .0009890909THE STANDARD DEVIATION IS .0003529151

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EB2-BH-6	.0004000000	-1.44
T-EB1-BH-6	.0005000000	-1.30
T-AB2-BH-6	.0008000000	-.54
T-CB1-BH-6	.0008200000	-.48
T-AB1-BH-6	.0006300000	-.45
T-CB2-BH-6	.0009000000	-.25
T-DB2-BH-6	.0009700000	-.05
T-BB1-BH-6	.0012700000	.80
T-DB2-BH-6	.0015200000	.94
T-DB1-BH-6	.0014200000	1.22
T-DB1R-BH-6	.0015400000	1.56

Table 27(c)

ATTITUDE IN LOG PL/AXLNRM, NREND8 (TYPE III)

LOG NO. 6GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUS (Psi)THE NUMBER OF SAMPLES 11THE MEAN OF THE SAMPLE 1980059.8000000000THE STANDARD DEVIATION IS 472290.8500000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EB2-BH-6	<u>1242105.1000000000</u>	-1.56
T-EB1-BH-6	1478696.6000000000	-1.06
T-DB2-BH-6	1639763.6000000000	-.72
T-DB1R-BH-6	1683041.8000000000	-.63
T-AB1-BH-6	1862052.7000000000	-.25
T-CB2-BH-6	1897804.8000000000	-.17
T-BB2-BH-6	2004340.4000000000	.05
T-DB1-BH-6	2295668.9000000000	.67
T-BB1-BH-6	2313088.0000000000	.72
T-AB2-BH-6	2587719.1000000000	1.29
T-CB1-BH-6	<u>2771397.5000000000</u>	1.68

Table 27(d)

ATTITUDE IN LOG PL/ALNRMR, WREND3 (TYPE III)LOG NO. 6GRAPHITE TYPE DESIGNATION H-327SECANT MODULUS (PSI)THE NUMBER OF SAMPLES 11THE MEAN OF THE SAMPLE 1427344.4000000000THE STANDARD DEVIATION IS 213594.8000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB2-BH-6	<u>1113410.1000000000</u>	-1.80 ?
T-EB2-BH-6	1390499.0000000000	-.50
T-GB2-BH-6	1392995.9000000000	-.49
T-EB1-BH-6	1415921.7000000000	-.38
T-GB1-BH-6	1431338.6000000000	-.31
T-DB1R-BH-6	1490694.1000000000	-.03
T-GB1-BH-6	1506440.9000000000	.04
T-AB2-BH-6	1533223.5000000000	.17
T-CB2-BH-6	1553137.3000000000	.26
T-AB1-BH-6	1640560.7000000000	.70
T-CB1-BH-6	<u>1990106.6000000000</u>	2.34 ?

Table 28(a)

ATTITUDE IN LOG PB/RDLNRM, NRMDLTH (TYPE III)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURE (PSI)THE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 733,6829200000THE STANDARD DEVIATION IS 120,2818750000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3C-MH-6	<u>608,2466400000</u>	-1,04
T-4C-MH-6	<u>618,3680700000</u>	-,96
T-1C-MH-6	<u>737,8845900000</u>	,03
T-2C-MH-6	<u>831,4192500000</u>	,81
T-5C-MH-6	<u>872,4961000000</u>	1,15

Table 28(b)

ATTITUDE IN LOG PR/RDLNRM, NRMDLTH (TYPE III)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE .001481999THE STANDARD DEVIATION IS .0005558057

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-4C-MH-6	<u>.0036800000</u>	-1.44
T-3C-MH-6	.0013000000	-.33
T-1C-MH-6	.0015000000	.03
T-2C-MH-6	.0017500000	.48
T-5C-MH-6	<u>.0021799999</u>	1.26

Table 28(c)

ATTITUDE IN LOG PR/RDLNRM, NRMDLTH (TYPE III)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUS (PSI)THE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 831941.5800000000THE STANDARD DEVIATION IS 227108.3900000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5C-MH-6	<u>596782.5500000000</u>	-1.04
T-1C-MH-6	<u>727491.8600000000</u>	-.46
T-3C-MH-6	<u>727712.8400000000</u>	-.46
T-2C-MH-6	<u>929876.8000000000</u>	.43
T-4C-MH-6	<u>1177843.9000000000</u>	1.52

Table 28(d)

ATTITUDE IN LOG PR/ROLNRMN,NRMDLTH(TYPE III)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUS (PSI)THE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 548898.8300000000THE STANDARD DEVIATION IS 204508.9100000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5C-MH-6	<u>400227.5700000000</u>	-.73
T-3C-MH-6	<u>467882.0400000000</u>	-.40
T-2C-MH-6	<u>475096.7200000000</u>	-.36
T-1C-MH-6	<u>491923.0600000000</u>	-.28
T-4C-MH-6	<u>909364.0100000000</u>	1.76

Table 29(a)

ATTITUDE IN LOG PR/ROLNRMR NRENDB (TYPE III)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURE (psi)THE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 708.4928900000THE STANDARD DEVIATION IS 153.5337500000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5L-BH-6	<u>388.1578700000</u>	-2.09 ?
T-5SP-BH-6	<u>613.1717000000</u>	-.62
T-1G-BH-6	<u>615.8771600000</u>	-.60
T-4L-BH-6	<u>646.9297900000</u>	-.40
T-1L-BH-6	<u>675.5281500000</u>	-.21
T-3G-BH-6	<u>743.0809500000</u>	.23
T-2L-BH-6	<u>807.3683800000</u>	.64
T-2G-BH-6	<u>833.2455700000</u>	.81
T-3L-BH-6	<u>857.4011100000</u>	.97
T-3SP-BH-6	<u>904.1684300000</u>	1.27

Table 29(b)

ATTITUDE IN LOG PR/RDLNRM R-NREND (TYPE III)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE .0013639999THE STANDARD DEVIATION IS .0003792741

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5L-BH-6	<u>.0005900000</u>	-2.04 ?
T-5SP-BH-6	.0010000000	-.96
T-1G-BH-6	.0012000000	-.43
T-3G-BH-6	.0013500000	-.04
T-1L-BH-6	.0013600000	-.01
T-4L-BH-6	.0013800000	.04
T-2L-BH-6	.0014100000	.12
T-3L-BH-6	.0017200000	.94
T-3SP-BH-6	.0018100000	1.18
T-2G-BH-6	<u>.0018200000</u>	1.20

Table 29(c)

ATTITUDE IN LOG PR/ROLNRM, NREND (TYPE III)LOG NO. 6GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUS (PSI)THE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 881700.6000000000THE STANDARD DEVIATION IS 208175.1600000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-4L-BH-6	<u>601018.6400000000</u>	-1.35
T-2G-BH-6	<u>662456.0900000000</u>	-1.05
T-1L-BH-6	<u>727491.8500000000</u>	-.74
T-5L-BH-6	<u>841008.7200000000</u>	-.20
T-3L-BH-6	<u>841317.1200000000</u>	-.19
T-2L-BH-6	<u>879824.5100000000</u>	-.01
T-5SP-BH-6	<u>923799.1900000000</u>	.20
T-3G-BH-6	<u>969989.1400000000</u>	.42
T-3SP-BH-6	<u>1039274.0800000000</u>	.76
T-1G-BH-6	<u>1330827.0000000000</u>	2.16 ?

Table 29(d)

ATTITUDE IN LOG PR/ROLNRM NRENDS (TYPE III)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUS (Psi)THE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 532868.7700000000THE STANDARD DEVIATION IS 64713.2270000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2G-BH-6	<u>457827.2300000000</u>	-1.16
T-4L-BH-6	<u>468789.7000000000</u>	-.99
T-1L-BH-6	<u>496711.8700000000</u>	-.56
T-3L-BH-6	<u>498489.0200000000</u>	-.53
T-3SP-BH-6	<u>499540.5700000000</u>	-.52
T-1G-BH-6	<u>513230.9600000000</u>	-.30
T-3G-BH-6	<u>550430.3400000000</u>	.27
T-2L-BH-6	<u>572601.6800000000</u>	.61
T-5SP-BH-6	<u>613171.7000000000</u>	1.24
T-5L-BH-6	<u>657894.7000000000</u>	1.93 ?

Table 30(a)

ATTITUDE IN LOG PL/AXLNRM, NRMDLTH (TYPE III)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1290.7489000000THE STANDARD DEVIATION IS 262.4446400000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DT-MH-7	<u>937.1051000000</u>	-1.35
T-BT-MH-7	1098.6657000000	-.73
T-ET-MH-7	1375.5034000000	.32
T-AT-MH-7	1513.5651000000	.85
T-CT-MH-7	<u>1528.9053000000</u>	.91

Table 30(b)

ATTITUDE IN LOG PL/AXLNRMH,NRMDLTH(TYPE III)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE .0012180000

THE STANDARD DEVIATION IS .0005104606

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-BT-MH-7	<u>.0006300000</u>	-1.15
T-DT-MH-7	.0007800000	-.86
T-CT-MH-7	.0013900000	.34
T-ET-MH-7	.0014100000	.38
T-AT-MH-7	<u>.0018800000</u>	1.30

Table 30(c)

ATTITUDE IN LOG PL/AXLNMR,NRMDLTH(TYPE III)LOG NO. 7

GRAPHITE TYPE DESIGNATION

H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1777337.9000000000THE STANDARD DEVIATION IS 462996.2200000000

SPECIMEN NO.

VALUE

SIGMAS FROM MEAN

T-AT-MH-7	<u>1314873.2000000000</u>	-1.00
T-ET-MH-7	1453280.8000000000	-.70
T-CT-MH-7	1789688.5000000000	.03
T-DT-MH-7	1818915.2000000000	.09
T-BT-MH-7	<u>2509932.0000000000</u>	1.58

Table 30(d)

ATTITUDE IN LOG PL/AXLNRM•NRMDLTH(TYPE III)LOG NO. 7GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1165176.9000000000THE STANDARD DEVIATION IS 355715.8000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-AT-MH-7	<u>805087.8300000000</u>	-1.01
T-ET-MH-7	<u>975534.3600000000</u>	-.53
T-CT-MH-7	<u>1099931.8000000000</u>	-.18
T-DT-MH-7	<u>1201416.8000000000</u>	.10
T-BT-MH-7	<u>1743913.8000000000</u>	1.63

Table 31(a)

ATTITUDE IN LOG PL/AXLNRMR,NRENR (TYPE III)LOG NO. 7GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1275.5816000000THE STANDARD DEVIATION IS 307.4559200000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DH2-BH-7	<u>948.4523900000</u>	-1.06
T-DB1-BH-7	<u>949.7811200000</u>	-1.06
T-CH1-BH-7	969.0709300000	-1.00
T-BB1-BH-7	1071.3157000000	-.66
T-EB2-BH-7	1170.5410000000	-.34
T-AB2-BH-7	1314.2917000000	.13
T-AB1-BH-7	1463.1763000000	.61
T-BB2-BH-7	1490.5262000000	.70
T-EB1-BH-7	1505.1527000000	.75
T-CB2-BH-7	<u>1873.5086000000</u>	1.94 ?

Table 31(b)

ATTITUDE IN LOG PL/AXLNRM/NREND8 (TYPE III)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE .0010570000THE STANDARD DEVIATION IS .0003886744

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB2-BH-7	.0006400000	-1.07
T-CB1-BH-7	.0006500000	-1.05
T-DB1-BH-7	.0007000000	-.92
T-BB1-BH-7	.0007900000	-.69
T-BB2-BH-7	.0010000000	-.15
T-AB1-BH-7	.0010700000	.03
T-EB2-BH-7	.0012000000	.37
T-EB1-BH-7	.0012300000	.45
T-AB2-BH-7	.0014500000	1.01
T-CB2-BH-7	<u>.0018400000</u>	2.01 ?

Table 31(c)

ATTITUDE IN LOG PL/AXLNRMR,NRENDB (TYPE III)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 2653099.7000000000THE STANDARD DEVIATION IS 1302379.4000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EB2-BH-7	<u>1586857.9000000000</u>	-.82
T-DB1-BH-7	<u>1607150.1000000000</u>	-.80
T-AB2-BH-7	<u>1837414.4000000000</u>	-.63
T-EB1-BH-7	<u>1844815.8000000000</u>	-.62
T-DB2-BH-7	<u>1865486.0000000000</u>	-.60
T-BB1-BH-7	<u>1940789.4000000000</u>	-.55
T-CB2-BH-7	<u>2587719.1000000000</u>	-.05
T-CB1-BH-7	<u>3534605.1000000000</u>	.68
T-AB1-BH-7	<u>4723235.7000000000</u>	1.59
T-BB2-BH-7	<u>5002923.6000000000</u>	1.80 ?

Table 31(d)

ATTITUDE IN LOG PL/AXLNRMR,NREND (TYPE III)LOG NO. 7GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1266751.3000000000THE STANDARD DEVIATION IS 223901.7600000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-AB2-BH-7	<u>906400.0900000000</u>	-1.61
T-EB2-BH-7	<u>975450.8900000000</u>	-1.30
T-CB2-BH-7	<u>1018211.2300000000</u>	-1.11
T-EB1-BH-7	<u>1223701.4000000000</u>	-.19
T-BB1-BH-7	<u>1356095.8000000000</u>	.40
T-DB1-BH-7	<u>1356830.1000000000</u>	.40
T-AB1-BH-7	<u>1367454.5000000000</u>	.45
T-DB2-BH-7	<u>1481956.8000000000</u>	.96
T-BB2-BH-7	<u>1490526.2000000000</u>	1.00
T-CB1-BH-7	<u>1490878.3000000000</u>	1.00

Table 32(a)

ATTITUDE IN LOG PR/RDLNRM, NRMDLTH (TYPE III)LOG NO. 7GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 702.5840400000THE STANDARD DEVIATION IS 89.3739290000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3C-MH-/	<u>592.7827400000</u>	-1.23
T-5C-MH-/	654.6383400000	-.54
T-2C-MH-/	677.5249200000	-.28
T-4C-MH-/	762.6144200000	.90
T-1C-MH-/	<u>805.3598200000</u>	1.15

Table 32(b)

ALTITUDE IN LOG PR/KOLNRM,IRMDLTH(TYPE III)

LOG NO. 7

GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE .0014640000

THE STANDARD DEVIATION IS .0003545843

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3C-MH-7	<u>.0008900000</u>	-1.65
T-2C-MH-7	.0013800000	-.24
T-5C-MH-7	.0016300000	.47
T-4C-MH-7	.0016900000	.64
T-1C-MH-7	<u>.0017400000</u>	.78

Table 32(c)

ALTITUDE IN LOG FR/KDLNRAR,WRMDLTH(TYPE III)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

POUNDS MODULUS

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE 1070964.0000000000

THE STANDARD DEVIATION IS 215902.1000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5C-MH-1	<u>721648.5500000000</u>	-1.62
T-4C-MH-1	1045405.5900000000	-.13
T-2C-MH-1	1107902.4000000000	.17
T-1C-MH-1	1193125.6000000000	.57
T-3C-MH-7	<u>1283658.1000000000</u>	1.01

Table 32(d)

ATTITUDE IN LOG PR/(DLNRRR*NRNDLTH(TYPE III)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

SECANT MODULUS

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE 498426.2700000000

THE STANDARD DEVIATION IS 103239.7460000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5C-Mn-1	<u>401612.6100000000</u>	-.94
T-1C-Mn-1	462850.4700000000	-.34
T-4C-Mn-1	463065.4700000000	-.34
T-2C-Mn-1	490960.1000000000	-.07
T-3C-Mn-1	<u>673616.7500000000</u>	1.70

Table 33(a)

ATTITUDE IN LOG PR/RDLNRM R,NRENDB (TYPE III)LOG NO. 1 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 8THE MEAN OF THE SAMPLE 756.6555800000THE STANDARD DEVIATION IS 140.8420100000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-4G-BH-7	<u>589.5695300000</u>	-1.19
T-2G-BH-7	<u>598.4230900000</u>	-1.12
T-3G-BH-7	<u>675.7816100000</u>	-.57
T-3L-BH-7	<u>735.2864000000</u>	-.15
T-5G-BH-7	<u>786.9257900000</u>	.21
T-1L-BH-7	<u>817.4204700000</u>	.43
T-1G-BH-7	<u>830.9268000000</u>	.53
T-5L-BH-7	<u>1018.9110200000</u>	1.86 ?

Table 33(b)

ATTITUDE IN LOG PR/ROLNRMNREND8 (TYPE III)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327
STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 8
 THE MEAN OF THE SAMPLE .0016337500
 THE STANDARD DEVIATION IS .0003957610

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2G-BH-7	<u>.0011000000</u>	-1.35
T-4G-BH-7	<u>.0013500000</u>	-.72
T-3G-BH-7	<u>.0014000000</u>	-.59
T-1L-BH-7	<u>.0015000000</u>	-.34
T-3L-BH-7	<u>.0016300000</u>	-.01
T-5G-BH-7	<u>.0017400000</u>	.27
T-1G-BH-7	<u>.0020000000</u>	.93
T-5L-BH-7	<u>.0023500000</u>	1.81 1

Table 33(c)

ATTITUDE IN LOG PR/RDLNRMNRENDB (TYPE III)LOG NO, 7GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 8THE MEAN OF THE SAMPLE 924340.5200000000THE STANDARD DEVIATION IS 368432.8900000000

SPECIMEN NO.	VALUE	STGMAS FROM MEAN
T-3L-BH-7	<u>504790.2500000000</u>	-1.14
T-1G-BH-7	584388.0800000000	-.92
T-4G-BH-7	637685.8400000000	-.78
T-5G-BH-7	704184.1500000000	-.60
T-5L-BH-7	989516.5800000000	.18
T-3G-BH-7	1178688.8000000000	.69
T-1L-BH-7	1324170.2000000000	1.09
T-2G-BH-7	<u>1471300.2000000000</u>	1.48

Table 33(d)

ATTITUDE IN LOG PR/RDLNRMN,NRENOB (TYPE III)LOG NO. I GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 8THE MEAN OF THE SAMPLE 470097.7400000000THE STANDARD DEVIATION IS 49768.0340000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-1G-BH-7	<u>415463.4000000000</u>	-1.10
T-5L-BH-7	433579.1600000000	-.73
T-4G-BH-7	436718.1800000000	-.67
T-3L-BH-7	451095.9500000000	-.38
T-5G-BH-7	452256.2000000000	-.36
T-3G-BH-7	482701.1500000000	.25
T-2G-BH-7	544020.9900000000	1.49
T-1L-BH-7	<u>544946.9800000000</u>	1.50

Table 34(a)

ATTITUDE IN LOG PL/AXLNREG NRMDLTH (TYPE III) .005 IPMLOG NO. B GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURE (PSI)THE NUMBER OF SAMPLES 33THE MEAN OF THE SAMPLE 2418.5295000000THE STANDARD DEVIATION IS 191.8019700000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-19-MO-8*	2063.2552000000	-1.85 ?
T-59-MO-8	2090.6610000000	-1.71
T-61-MO-8*	2122.0592000000	-1.55
T-27-MO-8	2128.8583000000	-1.51
T-43-MO-8*	2149.2302000000	-1.40
T-39-MO-8	2154.3231000000	-1.38
T-29-MO-8*	2240.9035000000	-.93
T-15-MO-8	2270.3476000000	-.77
T-45-MO-8	2276.5542000000	-.74
T-33-MO-8*	2363.1345000000	-.29
T-47-MO-8	2368.2275000000	-.26
T-21-MO-8	2382.8424000000	-.19
T-49-MO-8*	2386.0529000000	-.17
T-13-MO-8	2387.9558000000	-.16
T-5-MO-8*	2413.5247000000	-.03
T-31-MO-8	2424.2501000000	.03
T-57-MO-8*	2439.5290000000	.11
T-51-MO-8	2474.8854000000	.29
T-1-MO-8*	2479.9968000000	.32
T-25-MO-8	2482.5536000000	.33
T-35-MO-8*	2482.8192000000	.34
T-23-MO-8*	2485.1102000000	.35
T-9-MO-8	2505.5639000000	.45
T-53-MO-8	2528.6558000000	.57
T-55-MO-8*	2540.4812000000	.67
T-63-MO-8	2540.4812000000	.67
T-65-MO-8	2551.5742000000	.69
T-3-MO-8	2551.5844000000	.69
T-67-MO-8*	2597.4108000000	.93
T-41-MO-8*	2658.5264000000	1.25
T-17-MO-8*	2658.9657000000	1.25
T-11-MO-8*	2776.5738000000	1.87 ?
T-7-MO-8	<u>2822.5943000000</u>	2.11 ?

Table 34(b)

ATTITUDE IN LOG PL/AXLNREG, NRMDLTH(TYPE III) .005 IPMLOG NO. 8 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 33THE MEAN OF THE SAMPLE .0015381817THE STANDARD DEVIATION IS .0002663111

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-59-MO-8	.0010000000	-2.02 ?
T-39-MO-8	.0010100000	-1.98 ?
T-43-MO-8*	.0011800000	-1.34
T-15-MO-8	.0011800000	-1.34
T-47-MO-8	.0012200000	-1.19
T-27-MO-8	.0012600000	-1.04
T-61-MO-8*	.0013100000	-.86
T-19-MO-8*	.0013400000	-.74
T-45-MO-8	.0013500000	-.71
T-21-MO-8	.0013500000	-.71
T-5-MO-8*	.0014100000	-.48
T-3-MO-8	.0014300000	-.41
T-1-MO-8*	.0014500000	-.33
T-13-MO-8	.0015200000	-.07
T-57-MO-8*	.0015200000	-.07
T-23-MO-8*	.0015500000	.04
T-35-MO-8*	.0015600000	.08
T-53-MO-8	.0015800000	.16
T-9-MO-8	.0016100000	.27
T-55-MO-8*	.0016300000	.34
T-49-MO-8*	.0016500000	.42
T-33-MO-8*	.0016500000	.42
T-25-MO-8	.0016700000	.49
T-65-MO-8	.0017000000	.61
T-67-MO-8*	.0017000000	.61
T-29-MO-8*	.0017300000	.72
T-17-MO-8*	.0017600000	.83
T-63-MO-8	.0018100000	1.02
T-51-MO-8	.0018200000	1.06
T-41-MO-8*	.0018400000	1.13
T-11-MO-8*	.0019200000	1.43
T-31-MO-8	.0019700000	1.62
T-7-MO-8	.0020800000	2.03 ?

Table 34(c)

ATTITUDE IN LOG PL/AXLNREG, NRMDLTH(TYPE III) .005 IPMLOG NO. 8 GRAPHITE TYPE DESIGNATION H-327
YOUNG'S MODULUS (PSI)THE NUMBER OF SAMPLES 33THE MEAN OF THE SAMPLE 5154484.6000000000THE STANDARD DEVIATION IS 1214927.6000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-31-MO-8	<u>1742321.2000000000</u>	-1.16
T-51-MO-8	<u>1947960.3000000000</u>	-.99
T-7-MO-8	<u>2077316.9000000000</u>	-.89
T-19-MO-8*	<u>2100144.6000000000</u>	-.87
T-63-MO-8	<u>2169224.7000000000</u>	-.81
T-49-MO-8*	<u>2215438.6000000000</u>	-.77
T-67-MO-8*	<u>2217903.0000000000</u>	-.77
T-41-MO-8*	<u>2228171.0000000000</u>	-.76
T-33-MO-8*	<u>2228171.0000000000</u>	-.76
T-65-MO-8	<u>2316476.4000000000</u>	-.69
T-61-MO-8*	<u>2345109.0000000000</u>	-.67
T-29-MO-8*	<u>2428951.3000000000</u>	-.60
T-57-MO-8*	<u>2606398.5000000000</u>	-.45
T-9-MO-8	<u>2620615.2000000000</u>	-.44
T-13-MO-8	<u>2698736.6000000000</u>	-.38
T-23-MO-8*	<u>2780408.9000000000</u>	-.31
T-43-MO-8*	<u>2829423.5000000000</u>	-.27
T-11-MO-8*	<u>2921940.3000000000</u>	-.19
T-17-MO-8*	<u>2921940.3000000000</u>	-.19
T-45-MO-8	<u>2992115.5000000000</u>	-.13
T-55-MO-8*	<u>3092155.8000000000</u>	-.05
T-25-MO-8	<u>3107371.2000000000</u>	-.04
T-35-MO-8*	<u>3164912.4000000000</u>	.01
T-5-MO-8*	<u>3477109.0000000000</u>	.27
T-27-MO-8	<u>3565073.8000000000</u>	.34
T-3-MO-8	<u>3863454.5000000000</u>	.58
T-53-MO-8	<u>4074369.9000000000</u>	.76
T-1-MO-8*	<u>4090716.5000000000</u>	.77
T-39-MO-8	<u>4583666.2000000000</u>	1.18
T-15-MO-8	<u>4663975.6000000000</u>	1.24
T-59-MO-8	<u>5092962.3000000000</u>	1.60
T-47-MO-8	<u>5602258.7000000000</u>	2.01 ?
T-21-MO-8	<u>7329200.4000000000</u>	3.44 ?

Table 34(d)

ATTITUDE IN LOG PL/AXLNREG,NRMDLTH(TYPE III) .005 IPM

LOG NO. 8 GRAPHITE TYPE DESIGNATION H-327

SECANT MODULUS (PSI)

THE NUMBER OF SAMPLES 33

THE MEAN OF THE SAMPLE 1604607.3000000000

THE STANDARD DEVIATION IS 210871.9100000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-31-MO-8	<u>1230583.8000000000</u>	-1.77 ?
T-29-MO-8*	<u>1295319.9000000000</u>	-1.47
T-7-MO-8	<u>1357016.5000000000</u>	-1.17
T-51-MO-8	<u>1359826.0000000000</u>	-1.16
T-63-MO-8	<u>1406895.7000000000</u>	-.94
T-33-MO-8*	<u>1432202.8000000000</u>	-.82
T-41-MO-8*	<u>1444851.2000000000</u>	-.76
T-49-MO-8*	<u>1446092.7000000000</u>	-.75
T-11-MO-8*	<u>1446132.1000000000</u>	-.75
T-25-MO-8	<u>1486559.0000000000</u>	-.56
T-65-MO-8	<u>1500925.9000000000</u>	-.49
T-17-MO-8*	<u>1510775.9000000000</u>	-.44
T-67-MO-8*	<u>1527888.7000000000</u>	-.36
T-19-MO-8*	<u>1539742.6000000000</u>	-.31
T-9-MO-8	<u>1556250.8000000000</u>	-.23
T-55-MO-8*	<u>1562250.4000000000</u>	-.20
T-13-MO-8	<u>1571023.5000000000</u>	-.16
T-35-MO-8*	<u>1591550.7000000000</u>	-.06
T-53-MO-8	<u>1600415.0000000000</u>	-.02
T-23-MO-8*	<u>1603296.9000000000</u>	-.01
T-57-MO-8*	<u>1604953.3000000000</u>	.00
T-61-MO-8*	<u>1619892.5000000000</u>	.07
T-45-MO-8	<u>1686330.4000000000</u>	.39
T-27-MO-8	<u>1689570.0000000000</u>	.40
T-1-MO-8*	<u>1710342.6000000000</u>	.50
T-5-MO-8*	<u>1711718.2000000000</u>	.51
T-21-MO-8	<u>1765068.4000000000</u>	.76
T-3-MO-8	<u>1784324.8000000000</u>	.85
T-43-MO-8*	<u>1821381.4000000000</u>	1.03
T-15-MO-8	<u>1924023.4000000000</u>	1.51
T-47-MO-8	<u>1941170.1000000000</u>	1.60
T-59-MO-8	<u>2090061.1000000000</u>	2.30 ?
T-39-MO-8	<u>2132993.2000000000</u>	2.51 ?

Table 35(a)

ATTITUDE IN LOG PL/AXL MR NRMDLTH(TYPE III)LOG NO. 8 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURE (PSI)THE NUMBER OF SAMPLES 19THE MEAN OF THE SAMPLE 1287.0696000000THE STANDARD DEVIATION IS 376.1916800000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-114-MI-8	761.3978900000	-1.40
T-118-MI-8	853.0712100000	-1.15
T-130-MI-8	901.4543500000	-1.03
T-128-MI-8	939.6515700000	-.92
T-116-MI-8	967.6628600000	-.85
T-120-MI-8	993.1276800000	-.78
T-124-MI-8	1044.0572000000	-.65
T-122-MI-8	1069.5221000000	-.58
T-126-MI-8	1077.1615000000	-.56
T-132-MI-8	1156.1024000000	-.35
T-134-MI-8	1273.2406000000	-.04
T-112-MI-8	1385.2658000000	.26
T-110-MI-8*	1499.8774000000	.57
T-104-MI-8*	1611.9226000000	.86
T-108-MI-8*	1685.7765000000	1.06
T-100-MI-8*	1687.4205000000	1.06
T-136-MI-8	1710.4308000000	1.13
T-106-MI-8	1914.9539000000	1.67
T-102-MI-8	1922.5933000000	1.69

Table 35(b)

ATTITUDE IN LOG PL/AXL~~LR~~NR NRMDLTH(TYPE III)LOG NO. 8 GRAPHITE TYPE DESIGNATION H-327
STRAIN AT FRACTURETHE NUMBER OF SAMPLES 19
THE MEAN OF THE SAMPLE .0009894736
THE STANDARD DEVIATION IS .0002998050

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-120-MI-8	<u>.0004800000</u>	-1.70
T-122-MI-8	<u>.0005700000</u>	-1.40
T-130-MI-8	<u>.0006900000</u>	-1.00
T-118-MI-8	<u>.0007000000</u>	-.97
T-134-MI-8	<u>.0007000000</u>	-.97
T-116-MI-8	<u>.0007300000</u>	-.87
T-132-MI-8	<u>.0009000000</u>	-.30
T-126-MI-8	<u>.0009000000</u>	-.30
T-124-MI-8	<u>.0009600000</u>	-.10
T-104-MI-8*	<u>.0009800000</u>	-.03
T-112-MI-8	<u>.0010500000</u>	.20
T-108-MI-8*	<u>.0010500000</u>	.20
T-100-MI-8*	<u>.0010600000</u>	.24
T-110-MI-8*	<u>.0011600000</u>	.57
T-114-MI-8	<u>.0012400000</u>	.84
T-136-MI-8	<u>.0013200000</u>	1.10
T-102-MI-8	<u>.0013500000</u>	1.20
T-106-MI-8	<u>.0013900000</u>	1.34
T-128-MI-8	<u>.0015700000</u>	1.94 ?

Table 35(c)

ATTITUDE IN LOG PL/AXLINE: NRMDLTH (TYPE III)LOG NO. 8 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUS (PSI)THE NUMBER OF SAMPLES 19THE MEAN OF THE SAMPLE 2400766.3000000000THE STANDARD DEVIATION IS 671821.7900000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-124-MI-8	<u>1661914.1000000000</u>	-1.10
T-130-MI-8	<u>1668787.7000000000</u>	-1.09
T-118-MI-8	1668694.1000000000	-1.09
T-128-MI-8	1697654.1000000000	-1.05
T-102-MI-8	1721070.0000000000	-1.01
T-114-MI-8	1824978.1000000000	-.86
T-106-MI-8	2090795.0000000000	-.46
T-132-MI-8	2122067.7000000000	-.41
T-136-MI-8	2237110.6000000000	-.24
T-110-MI-8*	2249391.7000000000	-.23
T-104-MI-8*	2540481.2000000000	.22
T-120-MI-8	2546481.3000000000	.22
T-108-MI-8*	2605240.2000000000	.30
T-116-MI-8	2691394.5000000000	.43
T-112-MI-8	2737467.2000000000	.50
T-122-MI-8	2902988.6000000000	.75
T-100-MI-8*	3068037.3000000000	.99
T-134-MI-8	3501411.6000000000	1.64
T-126-MI-8	<u>4074370.0000000000</u>	2.49 ?

Table 35(d)

ATTITUDE IN LOG PL/AXLW/MF,NRMDLTH(TYPE III)LOG NO. 8 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUS (PSI)THE NUMBER OF SAMPLES 19THE MEAN OF THE SAMPLE 1365716.0000000000THE STANDARD DEVIATION IS 369389.8700000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-128-MI-8	<u>598504.1900000000</u>	-2.08 ?
T-114-MI-8	614030.5500000000	-2.03 ?
T-124-MI-8	1067559.6000000000	-.75
T-126-MI-8	1196846.1000000000	-.46
T-118-MI-8	1218673.1000000000	-.40
T-132-MI-8	1284556.3000000000	-.22
T-110-MI-8*	1292997.7000000000	-.20
T-136-MI-8	1295780.9000000000	-.19
T-130-MI-8	1306455.6000000000	-.16
T-112-MI-8	1319319.8000000000	-.13
T-116-MI-8	1325565.5000000000	-.11
T-106-MI-8	1377664.7000000000	.03
T-102-MI-8	1424143.2000000000	.16
T-100-MI-8*	1591906.2000000000	.61
T-108-MI-8*	1605495.7000000000	.65
T-104-MI-8*	1644818.9000000000	.76
T-134-MI-8	1818915.2000000000	1.23
T-122-MI-8	1876354.5000000000	1.38
T-120-MI-8	<u>2069015.9000000000</u>	1.90 ?

Table 36(a)

ATTITUDE IN LOG <u>PL/AXLNREG</u>		(TYPE III)
LOG NO. LOGS <u>34670</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRESS AT FRACTURE (Psi)</u>		
THE NUMBER OF SAMPLES <u>54</u>		
THE MEAN OF THE SAMPLE	<u>2218.2806000000</u>	
THE STANDARD DEVIATION IS	<u>430.2182200000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A31	<u>926.9191700000</u>	-3.00 ?
T-63-A0-3	1131.2013000000	-2.53 ?
T-H327-4-A33	1145.9165000000	-2.49 ?
T-63-M0-3	1488.8232000000	-1.70
T-33-M0-3	1542.0861000000	-1.57
T-63-U0-3	1547.1587000000	-1.56
T-33-A0-3	1567.4493000000	-1.51
T-31-M0-3	1648.6118000000	-1.32
T-62-M0-3	1760.2101000000	-1.06
T-33-U0-3	1927.6077000000	-.68
T-62-U0-3	1932.6803000000	-.66
T-62R-A0-4	1938.4794000000	-.53
T-H327-4-A63	1991.0157000000	-.53
T-60R-A0-4	2054.4239000000	-.38
T-19-M0-U*	2063.2552000000	-.36
T-59-M0-U	2090.6610000000	-.30
T-61-M0-U*	2122.0592000000	-.22
T-27-M0-U	2128.8583000000	-.21
T-43-M0-U*	2149.2302000000	-.16
T-39-M0-U	2154.3231000000	-.15
T-29-M0-U*	2240.9035000000	.05
T-15-M0-U	2270.3476000000	.12
T-45-M0-U	2276.5542000000	.14
T-H327-4-A62	2297.9112000000	.19
T-31-A0-3	2313.1292000000	.22
T-H327-4-A60	2328.3471000000	.26
T-33-M0-U*	2363.1345000000	.34
T-47-M0-U	2368.2275000000	.35
T-21-M0-U	2382.8424000000	.38
T-49-M0-U*	2386.0529000000	.39
T-13-M0-U	2387.9558000000	.39
T-5-M0-U*	2413.5227000000	.45
T-31-M0-U	2424.2501000000	.48
T-57-M0-U*	2439.5290000000	.51
T-51-M0-U	<u>2474.8834000000</u>	.60
T-1-M0-U*	2479.9968000000	.61
T-25-M0-U	2482.5536000000	.61
T-35-M0-U*	2482.8192000000	.61
T-23-M0-U*	2485.1102000000	.62
T-9-M0-U	2505.5639000000	.67
T-60-U0-3	2521.1079000000	.70
T-53-M0-U	2528.6558000000	.72
T-55-M0-U*	2546.4812000000	.76
T-63-M0-U	2546.4912000000	.76
T-31-U0-3	2551.5438000000	.77
T-65-M0-U	2551.5742000000	.77
T-3-M0-U	2551.5844000000	.77
T-67-M0-U*	2597.4108000000	.88
T-60-A0-3	2622.5609000000	.94
T-41-M0-U*	2658.5264000000	1.02
T-17-M0-U*	2658.9657000000	1.02
T-60-M0-U	2688.5054000000	1.09
T-11-M0-U*	2776.5738000000	1.30
T-7-M0-U	2822.5943000000	1.40

Table 36(b)

ATTITUDE IN LOG <u>PL/AXLNREG</u>		(TYPE III)
LOG NO. LOGS <u>34878</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRAIN AT FRACTURE</u>		
THE NUMBER OF SAMPLES	<u>54</u>	
THE MEAN OF THE SAMPLE	<u>.0014148146</u>	
THE STANDARD DEVIATION IS	<u>.0003523117</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-63-A0-3	.0004600000	-2.71 ?
T-H327-4-A31	.0006800000	-2.09 ?
T-31-M0-3	.0007400000	-1.92 ?
T-63-M0-3	.0008400000	-1.63
T-33-M0-3	.0009000000	-1.46
T-63-B0-3	.0009100000	-1.43
T-59-M0-8	.0010000000	-1.18
T-39-M0-8	.0010100000	-1.15
T-62-M0-3	.0010400000	-1.06
T-H327-4-A33	.0010400000	-1.06
T-62R-A0-4	.0010900000	-.92
T-62-B0-3	.0011500000	-.75
T-33-A0-3	.0011600000	-.72
T-43-M0-8*	.0011800000	-.67
T-15-M0-8	.0011800000	-.67
T-47-M0-8	.0012200000	-.55
T-60R-A0-4	.0012200000	-.55
T-27-M0-8	.0012600000	-.44
T-61-M0-8*	.0013100000	-.30
T-19-M0-8*	.0013400000	-.21
T-45-M0-8	.0013500000	-.18
T-21-M0-8	.0013500000	-.18
T-33-B0-3	.0013600000	-.16
T-60-B0-3	.0014100000	-.01
T-5-M0-8*	.0014100000	-.01
T-3-M0-8	.0014300000	.04
T-1-M0-8*	.0014500000	.10
T-H327-4-A63	.0014800000	.19
T-13-M0-8	.0015200000	.30
T-57-M0-8*	.0015200000	.30
T-23-M0-8*	.0015500000	.38
T-35-M0-8*	.0015600000	.41
T-53-M0-8	.0015800000	.47
T-9-M0-8	.0016100000	.55
T-55-M0-8*	.0016300000	.61
T-31-B0-3	.0016300000	.61
T-49-M0-8*	.0016500000	.67
T-33-M0-8*	.0016500000	.67
T-60-M0-3	.0016600000	.70
T-25-M0-8	.0016700000	.72
T-60-A0-3	.0016700000	.72
T-H327-4-A62	.0016900000	.78
T-65-M0-8	.0017000000	.81
T-67-M0-8*	.0017000000	.81
T-31-A0-3	.0017100000	.84
T-29-M0-8*	.0017300000	.89
T-17-M0-8*	.0017600000	.98
T-H327-4-A60	.0018000000	1.09
T-63-M0-8	.0018100000	1.12
T-51-M0-8	.0018200000	1.15
T-41-M0-8*	.0018400000	1.21
T-11-M0-8*	.0019200000	1.43
T-31-M0-8	.0019700000	1.58
T-7-M0-8	.0020800000	1.89 ?

Table 36(c)

ATTITUDE IN LOG <u>PL/AXLNREG</u>		(TYPE III)
LOG NO. LOGS <u>34678</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>YOUNG'S MODULUS</u> (Psi)		
THE NUMBER OF SAMPLES	<u>54</u>	
THE MEAN OF THE SAMPLE	<u>3221640.5000000000</u>	
THE STANDARD DEVIATION IS	<u>1722583.8000000000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A60	<u>1559094.4000000000</u>	-.97
T-31-MO-b	1742329.2000000000	-.86
T-H327-4-A31	1909860.9000000000	-.76
T-51-MO-b	1947960.3000000000	-.74
T-H327-4-A33	2037185.0000000000	-.69
T-33-AO-3	2043151.3000000000	-.68
T-H327-4-A63	2069108.0000000000	-.67
T-7-MO-8	2077316.9000000000	-.66
T-19-MO-b*	2100144.6000000000	-.65
T-63-MO-b	2169224.7000000000	-.61
T-49-MO-b*	2215438.6000000000	-.58
T-67-MO-b*	2217903.0000000000	-.58
T-41-MO-b*	2226171.0000000000	-.58
T-33-MO-b*	2226171.0000000000	-.58
T-H327-4-A62	2305750.8000000000	-.53
T-65-MO-b	2316476.4000000000	-.53
T-61-MO-b*	2345109.0000000000	-.51
T-29-MO-b*	2428951.3000000000	-.46
T-31-AO-3	2490210.8000000000	-.42
T-63-MO-3	2504621.7000000000	-.42
T-57-MO-b*	2606398.5000000000	-.36
T-9-MO-8	2620615.2000000000	-.35
T-33-MO-3	2657103.3000000000	-.33
T-33-MO-3	2694846.2000000000	-.31
T-13-MO-b	2698736.6000000000	-.30
T-23-MO-b*	2780408.9000000000	-.26
T-43-MO-b*	2829423.5000000000	-.23
T-62-BO-3	2880541.5000000000	-.20
T-11-MO-b*	2921940.3000000000	-.17
T-17-MO-b*	2921940.3000000000	-.17
T-62-MO-3	2942138.0000000000	-.16
T-45-MO-b	2992115.5000000000	-.13
T-63-MO-3	3004570.7000000000	-.13
T-55-MO-b*	3092155.9000000000	-.08
T-25-MO-8	<u>3107371.2000000000</u>	-.07
T-60K-AO-4	3128135.2000000000	-.05
T-35-MO-b*	3164912.4000000000	-.03
T-60-AO-3	3369690.0000000000	.09
T-60-MO-3	3392335.8000000000	.10
T-63-AO-3	3442156.5000000000	.13
T-62R-AO-4	3458626.2000000000	.14
T-5-MO-b*	3477109.0000000000	.15
T-31-MO-3	3550856.2000000000	.19
T-27-MO-b	3565073.8000000000	.20
T-3-MO-b	3863454.5000000000	.37
T-53-MO-b	4074359.9000000000	.50
T-1-MO-8*	4090716.5000000000	.50
T-39-MO-b	4583666.2000000000	.79
T-15-MO-b	4665973.6000000000	.84
T-59-MO-b	5092962.3000000000	1.09
T-31-MO-3	5579917.1000000000	1.37
T-47-MO-b	5602258.7000000000	1.38
T-21-MO-b	7329200.4000000000	2.38 ?
T-60-BO-3	<u>12850717.8000000000</u>	5.59 ?

Table 36(d)

ATTITUDE IN LOG <u>PL/AXLNREG</u>		(TYPE III)
LOG NO. LOGS <u>3470</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>SECANT MODULUS (PSI)</u>		
THE NUMBER OF SAMPLES	<u>54</u>	
THE MEAN OF THE SAMPLE	<u>1608046.9000000000</u>	
THE STANDARD DEVIATION IS	<u>253001.3000000000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A33	<u>1101842.0000000000</u>	-2.00 ?
T-31-MO-6	1230583.8000000000	-1.49
T-H327-4-A60	1293526.1000000000	-1.24
T-29-MO-8*	1295319.9000000000	-1.24
T-H327-4-A63	1345280.9000000000	-1.04
T-33-AO-3	1351249.4000000000	-1.02
T-31-AO-3	1352707.1000000000	-1.01
T-7-MO-8	1357016.5000000000	-.99
T-H327-4-A62	1359710.8000000000	-.98
T-51-MO-6	1359826.0000000000	-.98
T-H327-4-A31	1363116.4000000000	-.97
T-63-MO-6	1406895.7000000000	-.80
T-33-BO-3	1417358.5000000000	-.75
T-33-MO-6*	1432202.8000000000	-.70
T-41-MO-6*	1444851.2000000000	-.65
T-49-MO-6*	1446092.7000000000	-.64
T-11-MO-6*	1446132.1000000000	-.64
T-25-MO-6	1486559.0000000000	-.48
T-65-MO-6	1500925.9000000000	-.42
T-17-MO-6*	1510775.9000000000	-.38
T-67-MO-6*	1527886.7000000000	-.32
T-19-MO-6*	1539742.6000000000	-.27
T-9-MO-8	1556250.8000000000	-.20
T-55-MO-6*	1562258.4000000000	-.18
T-31-BO-3	1565364.3000000000	-.17
T-60-AO-3	1570395.8000000000	-.15
T-13-MO-6	1571023.5000000000	-.15
T-35-MO-6*	1591550.7000000000	-.07
T-53-MO-6	1600415.0000000000	-.03
T-23-MO-6*	1603296.9000000000	-.02
T-57-MO-6*	1604953.3000000000	-.01
T-60-MO-3	1619581.6000000000	.05
T-61-MO-6*	1619892.5000000000	.05
T-62-BO-3	1680591.6000000000	.29
T-60R-AO-4	<u>1683954.0000000000</u>	.30
T-45-MO-8	<u>1686336.4000000000</u>	.31
T-27-MO-6	1689570.0000000000	.32
T-62-MO-3	1692509.7000000000	.33
T-63-BO-3	1700174.4000000000	.36
T-1-MO-8*	1710342.6000000000	.40
T-5-MO-8*	1711718.2000000000	.41
T-33-MO-3	1713429.0000000000	.42
T-21-MO-6	1765068.4000000000	.62
T-63-MO-3	1772408.6000000000	.65
T-3-MO-8	1784324.8000000000	.70
T-60-BO-3	1788019.8000000000	.71
T-43-MO-6*	1821381.4000000000	.84
T-62R-AO-4	1824293.1000000000	.85
T-15-MO-6	1924023.4000000000	1.25
T-47-MO-8	1941170.1000000000	1.32
T-59-MO-6	2090661.1000000000	1.91 ?
T-39-MO-6	2132993.2000000000	2.07 ?
T-31-MO-3	2227853.8000000000	2.45 ?
T-63-AO-3	2459133.3000000000	3.36 ?

Table 37(a)

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ATTITUDE III LOG PL/AXLINR:MR

(TYPE III)

LOG NO. LOGS 34670GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURE (PSI)THE NUMBER OF SAMPLES 64THE MEAN OF THE SAMPLE 1350.5872000000THE STANDARD DEVIATION IS 364.7115200000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EBZ-BH-6*	667.6315400000	-1.87 ?
T-EB1-BH-6*	750.4385500000	-1.65
T-114-MI-8	761.3976900000	-1.62
T-110-MI-8	853.0712100000	-1.36
T-130-MI-8	901.4543500000	-1.23
T-DT-MH-7*	937.1051000000	-1.13
T-120-MI-8	939.6515700000	-1.13
T-DBZ-BH-7	948.4523900000	-1.10
T-DB1-BH-7*	949.7011200000	-1.10
T-DBZ-BH-4	963.8038400000	-1.06
T-DT-MH-6	966.4317800000	-1.05
T-110-MI-8	967.6628600000	-1.05
T-CB1-BH-7	969.0709300000	-1.05
T-ET-MH-6	993.1276000000	-.98
T-120-MI-8	993.1276000000	-.98
T-124-MI-8	1044.0572000000	-.84
T-122-MI-8	1069.5221000000	-.77
T-DB1-BH-7	1071.3157000000	-.77
T-120-MI-8	1077.1615000000	-.75
T-DBZ-BH-6*	1080.7079000000	-.74
T-ET-MH-7	1096.6657000000	-.69
T-DB1-BH-4	1120.1287000000	-.62
T-EBZ-BH-4	1151.4319000000	-.55
T-132-MI-8	1156.1024000000	-.53
T-LBZ-BH-7*	1170.5410000000	-.49
T-DB1-BH-4	1191.7531000000	-.44
T-CT-MH-6*	1211.6127000000	-.38
T-ABZ-BH-6	1226.5788000000	-.34
T-134-MI-8	1273.2406000000	-.21
T-CBZ-BH-4	1308.7441000000	-.11
T-ABZ-BH-7*	1314.2917000000	-.10
T-ABZ-BH-4	1344.2527000000	-.02
T-CB1-BH-4	1364.5433000000	.04
T-AB1-BH-6	1366.6454000000	.04
T-ET-MH-7	1375.5034000000	.07
T-112-MI-8	1385.2856000000	.10
T-CBZ-BH-6*	1397.8236000000	.13
T-BT-MH-4	1431.1224000000	.22
T-AB1-BH-7	1463.1763000000	.31
T-DBZ-BH-7	1490.5262000000	.38
T-LB1-BH-4	1496.4322000000	.40
T-110-MI-8*	1499.8774000000	.41
T-LB1-BH-7	1505.1527000000	.42
T-AT-MH-7	1513.5651000000	.45
T-CF-MH-7*	1528.9053000000	.49
T-AB1-BH-4	1552.2314000000	.55
T-104-MI-8*	1611.9226000000	.72
T-CB1-BH-6*	1636.9566000000	.78
T-AT-MH-4	1643.5391000000	.80
T-DT-MH-4	1673.9751000000	.89
T-104-MI-8*	1685.7705000000	.92
T-100-MI-8*	1687.4205000000	.92
T-130-MI-8	1710.4308000000	.99
T-BT-MH-6	1730.1418000000	1.04
T-BB2-BH-4	1744.9921000000	1.08
T-AT-MH-6*	1810.1420000000	1.26
T-AB1-BH-6*	1817.3001000000	1.28
T-BBZ-BH-6	1838.7546000000	1.34
T-CT-MH-4	1851.5179000000	1.37
T-CBZ-BH-7	1873.5086000000	1.43
T-106-MI-8	1914.9539000000	1.55
T-102-MI-8	1922.5933000000	1.57
T-DB1-BH-6*	2139.1460000000	2.16 ?
T-DB1R-BH-6*	2295.6689000000	2.59 ?

Table 37(b)

ATTITUDE IN LOG PL/AXLURER (TYPE III)LOG NO. LOGS 34678 GRAPHITE TYPE DESIGNATION H-327

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STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 64
 THE MEAN OF THE SAMPLE .0009968748
 THE STANDARD DEVIATION IS .0003339559

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-UT-MH-6	.0004700000	-1.58
T-EB2-BH-6*	.0004800000	-1.55
T-120-MI-8	.0004800000	-1.55
T-EB1-BH-6*	.0005300000	-1.40
T-EB2-BH-4	.0005300000	-1.40
T-DB1-BH-4	.0005600000	-1.31
T-122-MI-8	.0005700000	-1.28
T-DB2-BH-4	.0005800000	-1.25
T-UT-MH-7	.0006300000	-1.10
T-DB2-BH-7	.0006400000	-1.07
T-CB1-BH-7	.0006500000	-1.04
T-130-MI-8	.0006900000	-.92
T-118-MI-8	.0007000000	-.89
T-DB1-BH-7*	.0007000000	-.89
T-134-MI-8	.0007000000	-.89
T-116-MI-8	.0007300000	-.80
T-CB1-BH-4	.0007500000	-.74
T-BB1-BH-4	.0007600000	-.71
T-UT-MH-7*	.0007800000	-.65
T-BB1-BH-7	.0007900000	-.62
T-CT-MH-6*	.0007900000	-.62
T-AB2-BH-6	.0008000000	-.59
T-AB2-BH-4	.0008200000	-.53
T-CB1-BH-6*	.0008200000	-.53
T-AB1-BH-6	.0008300000	-.50
T-CB2-BH-6*	.0009000000	-.29
T-132-MI-8	.0009000000	-.29
T-120-MI-8	.0009000000	-.29
T-UT-MH-4	.0009100000	-.26
T-AB1-BH-4	.0009300000	-.20
T-EB1-BH-4	.0009600000	-.11
T-124-MI-8	.0009600000	-.11
T-AT-MH-4	.0009600000	-.11
T-DB2-BH-6*	.0009700000	-.08
T-104-MI-8*	.0009800000	-.05
T-BB2-BH-7	.0010000000	.01
T-112-MI-8	.0010500000	.16
T-108-MI-8*	.0010500000	.16
T-100-MI-8*	.0010600000	.19
T-AB1-BH-7	.0010700000	.22
T-CB2-BH-4	.0011100000	.34
T-AT-MH-6*	.0011200000	.37
T-CT-MH-4	.0011400000	.43
T-BB2-BH-4	.0011400000	.43
T-110-MI-8*	.0011600000	.49
T-ET-MH-6	.0012000000	.61
T-EB2-BH-7*	.0012000000	.61
T-EB1-BH-7	.0012300000	.70
T-114-MI-8	.0012400000	.73
T-UT-MH-4	.0012400000	.73
T-BB1-BH-6*	.0012700000	.82
T-BB2-BH-6	.0013200000	.97
T-136-MI-8	.0013200000	.97
T-102-MI-8	.0013500000	1.06
T-CT-MH-7*	.0013900000	1.13
T-106-MI-8	.0013900000	1.13
T-ET-MH-7	.0014100000	1.24
T-DB1-BH-6*	.0014200000	1.27
T-AB2-BH-7*	.0014500000	1.36
T-BT-MH-6	.0014900000	1.48
T-DB1R-BH-6*	.0015400000	1.63
T-128-MI-8	.0015700000	1.72
T-CB2-BH-7	.0018400000	2.52 ?
T-AT-MH-7	.0018800000	2.64 ?

Table 37(c)

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ATTITUDE IN LOG PL/AXLNMR (TYPE III)LOG NO. LOGS 34578 GRAPHITE TYPE DESIGNATION H-327
YOUNG'S MODULUS (PSI)THE NUMBER OF SAMPLES 64
THE MEAN OF THE SAMPLE 2412680.8000000000
THE STANDARD DEVIATION IS 867289.8000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EB2-BH-6*	1242105.1000000000	-1.35
T-AT-MH-7	1314873.2000000000	-1.27
T-BT-MH-6	1400160.7000000000	-1.17
T-LT-MH-7	1453280.8000000000	-1.11
T-EB1-BH-6*	1478690.6000000000	-1.08
T-EB2-BH-7*	1580857.9000000000	-.95
T-DB1-BH-7*	1607150.1000000000	-.93
T-DB2-BH-6*	1639763.0000000000	-.89
T-124-MI-8	1661914.1000000000	-.87
T-130-MI-8	1666787.7000000000	-.86
T-118-MI-8	1668694.1000000000	-.86
T-DB1R-BH-6*	1683041.8000000000	-.84
T-120-MI-8	1697654.1000000000	-.82
T-102-MI-8	1721070.5000000000	-.80
T-CT-MH-6*	1783372.9000000000	-.73
T-CT-MH-7*	1789686.5000000000	-.72
T-DT-MH-7*	1816915.2000000000	-.68
T-114-MI-8	1824970.1000000000	-.68
T-AB2-BH-7*	1837414.4000000000	-.66
T-EB1-BH-7	1844815.9000000000	-.65
T-AB1-BH-6	1862032.7000000000	-.63
T-DB2-BH-7	1865486.0000000000	-.63
T-CB2-BH-6*	1897804.3000000000	-.59
T-BT-MH-6	1917523.3000000000	-.57
T-AT-MH-6*	1917523.4000000000	-.57
T-BB1-BH-7	1940789.4000000000	-.54
T-EB1-BH-4	1999221.5000000000	-.48
T-BB2-BH-6	2004340.4000000000	-.47
T-106-MI-8	2090795.3000000000	-.37
T-132-MI-8	2122067.7000000000	-.34
T-BT-MH-4	2170083.9000000000	-.27
T-136-MI-6	2237110.6000000000	-.20
T-110-MI-8*	2249391.7000000000	-.19
T-DB1-BH-6*	2295668.9000000000	-.13
T-ET-MH-6	2314982.9000000000	-.11
T-BB1-BH-6*	2318080.0000000000	-.11
T-AB2-BH-4	2318920.5000000000	-.11
T-BB1-BH-4	2376715.8000000000	-.04
T-CB2-BH-4	2434872.8000000000	.03
T-AB1-BH-4	2456231.3000000000	.05
T-BT-MH-7	2509932.0000000000	.11
T-104-MI-6*	2546481.2000000000	.15
T-120-MI-8	2546431.3000000000	.15
T-CB1-BH-4	2587052.4000000000	.20
T-CB2-BH-7	2587719.1000000000	.20
T-AB2-BH-6	2587719.1000000000	.20
T-108-MI-8*	2605246.2000000000	.22
T-116-MI-8	2691994.5000000000	.32
T-112-MI-8	2737467.2000000000	.37
T-CB1-BH-6*	2771397.5000000000	.41
T-122-MI-6	2902988.6000000000	.57
T-100-MI-8*	3066037.3000000000	.76
T-AT-MH-4	3089706.0000000000	.78
T-CT-MH-4	3099953.8000000000	.79
T-BB2-BH-4	3170407.3000000000	.87
T-134-MI-8	3501411.5000000000	1.26
T-CB1-BH-7	3534605.1000000000	1.29
T-EB2-BH-4	3708255.6000000000	1.56
T-DB2-BH-4	3804488.9000000000	1.60
T-126-MI-8	4074370.0000000000	1.92 ?
T-DB1-BH-4	4227209.9000000000	2.09 ?
T-AB1-BH-7	4723235.7000000000	2.66 ?
T-DT-MH-4	4755610.9000000000	2.70 ?
T-BB2-BH-7	5002923.6000000000	2.99 ?

Table 37(d)

ATTITUDE IN LOG PL/AXLIRMR (TYPE III)

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LOG NO. LOGS 34678 GRAPHITE TYPE DESIGNATION 11-327SECANT MODULUS (PSI)THE NUMBER OF SAMPLES 64THE MEAN OF THE SAMPLE 1424627.9000000000THE STANDARD DEVIATION IS 331761.2000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-128-MI-8	595504.1900000000	-2.49 ?
T-114-MI-8	614030.5500000000	-2.44 ?
T-AT-MH-7	805087.8300000000	-1.87 ?
T-ET-MH-6	827606.4000000000	-1.80 ?
T-AB2-BH-7*	906408.0900000000	-1.56
T-EB2-BH-7*	975450.3900000000	-1.35
T-ET-MH-7	975534.3600000000	-1.35
T-CB2-BH-7	1018211.2300000000	-1.23
T-124-MI-8	1087559.6000000000	-1.02
T-CT-MH-7*	1099931.8000000000	-.98
T-DB2-BH-6*	1113410.1000000000	-.94
T-BT-MH-6	1161169.0000000000	-.79
T-CB2-BH-4	1179048.7000000000	-.74
T-126-MI-8	1196846.1000000000	-.69
T-DT-MH-7*	1201416.8000000000	-.67
T-116-MI-8	1218673.1000000000	-.62
T-EB1-BH-7	1223701.4000000000	-.61
T-132-MI-8	1284558.3000000000	-.42
T-110-MI-8*	1292997.7000000000	-.40
T-136-MI-8	1295780.9000000000	-.39
T-130-MI-8	1306455.6000000000	-.36
T-112-MI-8	1319319.9000000000	-.32
T-116-MI-8	1325565.5000000000	-.30
T-DT-MH-4	1349279.9000000000	-.23
T-BB1-BH-7	1356095.8000000000	-.21
T-DB1-BH-7*	1356330.1000000000	-.20
T-AB1-BH-7	1367454.5000000000	-.17
T-106-MI-8	1377664.7000000000	-.14
T-EB2-BH-6*	1390899.0000000000	-.10
T-BB2-BH-6	1392995.9000000000	-.10
T-EB1-BH-6*	1415921.7000000000	-.03
T-102-MI-8	1424143.2000000000	-.00
T-BB1-BH-6*	1431338.6000000000	.02
T-DB2-BH-7	1481958.8000000000	.17
T-BB2-BH-7	1490526.2000000000	.20
T-DB1-BH-6*	1490694.1000000000	.20
T-CB1-BH-7	1490878.3000000000	.20
T-DB1-BH-6*	1506440.9000000000	.25
T-BB2-BH-4	1530694.9000000000	.32
T-AB2-BH-6	1533223.5000000000	.33
T-CT-MH-6*	1533686.9000000000	.33
T-CB2-BH-6*	1553137.3000000000	.39
T-EB1-BH-4	1558783.6000000000	.40
T-BB1-BH-4	1568096.3000000000	.43
T-BT-MH-4	1572662.0000000000	.45
T-100-MI-8*	1591906.2000000000	.50
T-108-MI-8*	1605495.7000000000	.55
T-AT-MH-6*	1616198.3000000000	.58
T-CT-MH-4	1624138.5000000000	.60
T-AB2-BH-4	1639332.5000000000	.65
T-104-MI-8*	1644818.9000000000	.66
T-AB1-BH-6	1646560.7000000000	.67
T-DB2-BH-4	1661730.7000000000	.71
T-AB1-BH-4	1669068.0000000000	.74
T-AT-MH-4	1712020.0000000000	.87
T-BT-MH-7	1743913.8000000000	.96
T-134-MI-8	1818915.2000000000	1.19
T-CB1-BH-4	1819391.0000000000	1.19
T-122-MI-8	1876354.5000000000	1.36
T-CB1-BH-6*	1996166.6000000000	1.72
T-DB1-BH-4	2010944.0000000000	1.77 ?
T-DT-MH-6	2056237.8000000000	1.90 ?
T-120-MI-8	2069015.9000000000	1.94 ?
T-EB2-BH-4	2172626.3000000000	2.25 ?

Table 38(a)

ATTITUDE IN LOG <u>PL/AXLNRC</u> (TYPE III)		
LOG NO. LOGS <u>34678</u> GRAPHITE TYPE DESIGNATION <u>H-327</u>		
<u>STRESS AT FRACTURE (PSI)</u>		
THE NUMBER OF SAMPLES	<u>22</u>	
THE MEAN OF THE SAMPLE	<u>1172.6359000000</u>	
THE STANDARD DEVIATION IS	<u>589.7496900000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-40-MI-3	<u>486.2745700000</u>	-1.16
T-H327-4-A68	593.5002500000	-.98
T-70-MI-3	725.3892000000	-.76
T-H327-4-A70	730.4618500000	-.75
T-41-AI-3	801.4789700000	-.63
T-43-AI-3	829.3785600000	-.58
T-41-MI-3	831.9146900000	-.58
T-72-MI-3	831.9148900000	-.58
T-40-BI-3	883.6559300000	-.49
T-40-AI-3	883.6559300000	-.49
T-71-BI-3	973.9491300000	-.34
T-40-BI-3	1029.7482000000	-.24
T-43-MI-3	1039.3936000000	-.23
T-69-BI-3	1154.0283000000	-.03
T-42-BI-3	1161.6372000000	-.02
T-39-BI-3	1171.7825000000	-.00
T-70-AI-3	1222.5090000000	.08
T-72-AI-3	1308.7441000000	.23
T-H327-4-A38	1751.9791000000	.98
T-H327-4-A39	2393.6923000000	2.07 ?
T-41R-AI-4	2374.2916000000	2.07 ?
T-H327-4-A41	<u>2597.4108000000</u>	2.42 ?

Table 38(b)

ATTITUDE IN LOG <u>PL/AXLHRL</u>		(TYPE III)
LOG NO. LOGS <u>3467d</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
- <u>STRAIN AT FRACTURE</u>		
THE NUMBER OF SAMPLES	<u>22</u>	
THE MEAN OF THE SAMPLE	<u>.0007754545</u>	
THE STANDARD DEVIATION IS	<u>.0004929670</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
F-40-MI-3	<u>.0003400000</u>	-.88
F-41-AI-3	.0003500000	-.86
F-H327-4-A68	.0003600000	-.84
F-71-BI-3	.0004100000	-.74
F-43-MI-3	.0004200000	-.72
F-72-MI-3	.0004400000	-.68
F-40-BI-3	.0004600000	-.64
F-70-MI-3	.0004600000	-.64
F-69-BI-3	.0004700000	-.62
F-40-BI-3	.0005000000	-.56
F-40-AI-3	.0005000000	-.56
F-42-MI-3	.0005700000	-.42
F-43-AI-3	.0006400000	-.27
F-41-MI-3	.0007100000	-.13
F-39-BI-3	.0007700000	-.01
F-72-AI-3	.0008300000	.11
F-70-AI-3	.0008900000	.23
F-H327-4-A70	.0011400000	.74
F-H327-4-A38	.0014700000	1.41
F-H327-4-A39	.0016900000	1.86 ?
F-41-AI-4	.0017000000	1.88 ?
F-H327-4-A41	<u>.0019400000</u>	2.36 ?

Table 38(c)

ATTITUDE IN LOG <u>PL/AXLNRL</u>		(TYPE III)
LOG NO. LOGS <u>34678</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>YOUNG'S MODULUS</u> (PSI)		
THE NUMBER OF SAMPLES	<u>22</u>	
THE MEAN OF THE SAMPLE	<u>2604598.9000000000</u>	
THE STANDARD DEVIATION IS	<u>1429775.6000000000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A70	<u>978297.1200000000</u>	-1.14 ?
T-H327-4-A38	1188357.3000000000	-.99
T-H327-4-A41	1727969.3000000000	-.61
T-H327-4-A68	1750064.8000000000	-.60
T-41-MI-3	1794938.3000000000	-.57
T-41R-AI-4	1796564.1000000000	-.57
T-43-AI-3	1866011.2000000000	-.52
T-H327-4-A39	1935325.6000000000	-.47
T-70-AI-3	2043980.1000000000	-.39
T-40-MI-3	2173993.6000000000	-.30
T-40-BI-3	2202693.2000000000	-.23
T-40-AI-3	2202693.2000000000	-.23
T-72-MI-3	2367237.4000000000	-.17
T-40-BI-3	2663142.2000000000	.04
T-69-BI-3	2813016.0000000000	.15
T-39-BI-3	2840684.9000000000	.17
T-42-BI-3	2853366.6000000000	.17
T-43-MI-3	3043591.3000000000	.31
T-41-AI-3	3478369.7000000000	.61
T-72-AI-3	3550856.2000000000	.66
T-71-BI-3	3753762.2000000000	.80
T-70-MI-3	<u>8116243.0000000000</u>	3.85 ?

Table 38(d)

ATTITUDE IN LOG <u>PL/AXLNRCI</u>		(TYPE III)
LOG NO. LOGS <u>34678</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>SECANT MODULUS</u> (PSI)		
THE NUMBER OF SAMPLES	<u>22</u>	
THE MEAN OF THE SAMPLE	<u>1676932.1000000000</u>	
THE STANDARD DEVIATION IS	<u>476916.4000000000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A70	<u>640750.0100000000</u>	-2.17 ?
T-41-MI-3	1171711.1000000000	-1.06
T-H327-4-A38	1191822.4000000000	-1.02
T-43-AI-3	1295904.0000000000	-.80
T-H327-4-A41	1338871.6000000000	-.71
T-70-AI-3	1373605.7000000000	-.64
T-41R-AI-4	1408406.8000000000	-.56
T-H327-4-A39	1416386.0000000000	-.55
T-40-MI-3	1432273.1000000000	-.51
T-39-BI-3	1521795.5000000000	-.33
T-72-AI-3	1576800.1000000000	-.21
T-70-MI-3	1576933.0000000000	-.21
T-H327-4-A68	1646611.8000000000	-.06
T-40-BI-3	1767311.8000000000	.19
T-40-AI-3	1767311.8000000000	.19
T-72-MI-3	1890715.6000000000	.45
T-42-BI-3	2037960.1000000000	.76
T-40-BI-3	2238583.2000000000	1.18
T-41-AI-3	2269939.9000000000	1.29
T-71-BI-3	2375485.7000000000	1.46
T-69-BI-3	2455379.3000000000	1.63
T-43-MI-3	<u>2475937.2000000000</u>	1.68

Table 39(a)

ATTITUDE IN LOG <u>PR/RDLNREG</u>		(TYPE III)
LOG NO. LOGS <u>34678</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRESS AT FRACTURE</u>	(PSI)	
THE NUMBER OF SAMPLES	<u>23</u>	
THE MEAN OF THE SAMPLE	<u>961.3604200000</u>	
THE STANDARD DEVIATION IS	<u>189.8399100000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-05-MO-3	<u>557.6793800000</u>	-2.13
T-01-MO-3	593.5002500000	-1.94
T-03-MO-3	664.5173800000	-1.56
T-07-MO-3	674.5626800000	-1.51
T-07-AO-3	867.7033500000	-.39
T-H327-4-A-7	887.7140600000	-.39
T-01-AO-3	895.3230400000	-.35
T-03-AO-3	908.0046600000	-.28
T-05-AO-3	958.7311800000	-.01
T-H327-4-A17	960.0070300000	-.01
T-H327-4-A15	963.5038400000	.01
T-H327-4-A11	977.5487900000	.09
T-03-BO-3	1014.5303500000	.28
T-H327-4-A13	1018.5924900000	.30
T-15R-AO-4	1024.6756000000	.33
T-H327-4-A-5	1029.7482000000	.36
T-H327-4-A-3	1069.5221000000	.57
T-H327-4-A-1	1084.5010000000	.65
T-07-BO-3	1132.2883000000	.90
T-11R-AO-4	1160.7408000000	1.05
T-13R-AO-4	1186.6602000000	1.19
T-05-BO-3	1227.5817000000	1.40
T-01-BO-3	<u>1232.5543000000</u>	1.43

Table 39(b)

ATTITUDE IN LOG <u>PR/ROLNREG</u>		(TYPE III)
LOG NO. LOGS <u>34678</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRAIN AT FRACTURE</u>		
THE NUMBER OF SAMPLES <u>23</u>		
THE MEAN OF THE SAMPLE	<u>.0021095651</u>	
THE STANDARD DEVIATION IS	<u>.0006581480</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-05-MO-3	<u>.0007700000</u>	-2.04 ?
T-01-MO-3	.0006600000	-1.90 ?
T-03-MO-3	.0011300000	-1.49
T-03-B0-3	.0012200000	-1.35
T-07-MO-3	.0014400000	-1.02
T-07-A0-3	.0018100000	-.46
T-H327-4-A15	.0019500000	-.24
T-01-A0-3	.0019599999	-.23
T-11R-A0-4	.0020599999	-.08
T-05-A0-3	.0020800000	-.04
T-H327-4-A11	.0021299999	.03
T-03-A0-3	.0021599999	.08
T-H327-4-A13	.0021799999	.11
T-H327-4-A-7	.0023500000	.37
T-H327-4-A-1	.0024500000	.52
T-15R-A0-4	.0024599999	.53
T-07-B0-3	.0025500000	.67
T-05-B0-3	.0025500000	.67
T-H327-4-A-3	.0027199999	.93
T-H327-4-A17	.0027500000	.97
T-13R-A0-4	.0027599999	.99
T-01-B0-3	.0030099999	1.37
T-H327-4-A-5	<u>.0031699999</u>	1.61

Table 39(c)

ATTITUDE IN LOG PR/RDLNREG (TYPE III)

LOG NO. LOGS 34678 GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS (PSI)

THE NUMBER OF SAMPLES 23

THE MEAN OF THE SAMPLE 792700.1800000000

THE STANDARD DEVIATION IS 294341.2300000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-15R-A0-4	<u>469773.2900000000</u>	-1.03
T-H327-4-A-5	<u>507265.1800000000</u>	-.97
T-H327-4-A17	<u>521742.0600000000</u>	-.92
T-13R-A0-4	<u>575011.0900000000</u>	-.74
T-H327-4-A-3	<u>582052.8600000000</u>	-.72
T-H327-4-A13	<u>602667.2200000000</u>	-.65
T-07-M0-3	<u>626621.6900000000</u>	-.56
T-03-A0-3	<u>660981.0900000000</u>	-.45
T-H327-4-A15	<u>680803.2600000000</u>	-.38
T-H327-4-A11	<u>664915.6500000000</u>	-.37
T-H327-4-A-1	<u>706586.0700000000</u>	-.29
T-07-A0-3	<u>763944.3900000000</u>	-.10
T-07-B0-3	<u>766840.6000000000</u>	-.09
T-H327-4-A-7	<u>780407.4700000000</u>	-.04
T-03-M0-3	<u>800945.0100000000</u>	.03
T-01-B0-3	<u>824305.0200000000</u>	.11
T-01-A0-3	<u>833364.0200000000</u>	.14
T-11R-A0-4	<u>836737.4900000000</u>	.15
T-03-B0-3	<u>956886.5800000000</u>	.56
T-05-A0-3	<u>1014530.3500000000</u>	.75
T-05-B0-3	<u>1014530.3600000000</u>	.75
T-05-M0-3	<u>1096945.0000000000</u>	1.03
T-01-M0-3	<u>1902244.5000000000</u>	3.77 ?

Table 39(d)

ATTITUDE IN LOG <u>PR/RDLNREG</u>		(TYPE III)
LOG NO. LOGS <u>34678</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>SECANT MODULUS</u> (PSI)		
THE NUMBER OF SAMPLES	<u>23</u>	
THE MEAN OF THE SAMPLE	<u>486271.6600000000</u>	
THE STANDARD DEVIATION IS	<u>121364.2700000000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A-5	<u>324841.7400000000</u>	-1.33
T-H327-4-A17	349093.4700000000	-1.13
T-H327-4-A-7	377750.4600000000	-.89
T-H327-4-A-3	393206.6600000000	-.77
T-01-MO-3	409519.7200000000	-.63
T-15R-AO-4	416534.8200000000	-.57
T-03-AO-3	420372.3300000000	-.54
T-13R-AO-4	429949.3700000000	-.46
T-H327-4-A-1	442775.9100000000	-.36
T-07-MO-3	444034.6500000000	-.35
T-01-AO-3	456797.4700000000	-.24
T-H327-4-A11	459083.9400000000	-.22
T-05-AO-3	460928.4500000000	-.21
T-H327-4-A13	467244.2700000000	-.16
T-07-MO-3	468515.7500000000	-.15
T-05-MO-3	481404.6000000000	-.04
T-07-AO-3	490443.8500000000	.03
T-H327-4-A15	494258.3700000000	.07
T-11R-AO-4	563466.4100000000	.64
T-03-MO-3	588068.4800000000	.84
T-01-MO-3	690116.5800000000	1.68
T-05-MO-3	724258.9500000000	1.96 ?
T-03-MO-3	<u>831582.2600000000</u>	2.85 ?

Table 40(a)

ATTITUDE IN LOG <u>PR/RDLNPR</u>		(TYPE III)
LOG NO. LOGS <u>34678</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRESS AT FRACTURE</u>	(PSI)	
THE NUMBER OF SAMPLES	<u>42</u>	
THE MEAN OF THE SAMPLE	<u>772.8422700000</u>	
THE STANDARD DEVIATION IS	<u>147.3514500000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5L-BH-6	<u>389.1578700000</u>	-2.61 ?
T-2C-4	540.2374100000	-1.58
T-4G-BH-7	589.5695300000	-1.24
T-3C-MH-7	592.7827400000	-1.22
T-2G-BH-7	598.4230900000	-1.18
T-3C-MH-6	608.2466400000	-1.12
T-5SP-BH-6	613.1717000000	-1.08
T-1G-BH-6	615.8771600000	-1.07
T-4C-MH-6	618.3680700000	-1.05
T-3L-4	646.7631000000	-.86
T-4L-BH-6	646.9297900000	-.85
T-5C-MH-7	654.6383400000	-.80
T-1L-BH-6	675.5281500000	-.66
T-3G-BH-7*	675.7816100000	-.66
T-2C-MH-7*	677.5249200000	-.65
T-3L-BH-7*	735.2864000000	-.25
T-1C-MH-6	737.8845900000	-.24
T-3G-BH-6*	743.0809500000	-.20
T-4C-4	759.3759600000	-.09
T-4C-MH-7	782.6144200000	.07
T-5G-BH-7*	786.9257900000	.10
T-1C-MH-7	805.3598200000	.22
T-1L-4	806.5516300000	.23
T-2L-BH-6	807.7683800000	.23
T-1L-BH-7*	817.4204700000	.30
T-1G-BH-7*	830.9268000000	.39
T-2C-MH-6*	831.4192500000	.40
T-2G-BH-6	833.2455700000	.41
T-4L-4	852.2054900000	.54
T-3L-BH-6*	857.4011100000	.57
T-5C-4	864.8871300000	.62
T-5C-MH-6*	872.4961000000	.68
T-3C-4*	892.7867000000	.81
T-3SP-BH-6	904.1684300000	.89
T-3G-4*	925.7589400000	1.04
T-2L-4	933.3679200000	1.09
T-5G-4	963.8038400000	1.30
T-5L-4*	973.9491300000	1.36
T-1C-4	976.4854600000	1.38
T-1G-4*	984.0944300000	1.43
T-5L-BH-7*	1018.9110200000	1.67
T-2G-4	<u>1019.1030000000</u>	1.67

Table 40(b)

ATTITUDE IN LOG <u>PR/RDLNRM</u>		(TYPE III)
LOG NO. LOGS <u>34678</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRAIN AT FRACTURE</u>		
THE NUMBER OF SAMPLES	<u>42</u>	
THE MEAN OF THE SAMPLE	<u>.0016085712</u>	
THE STANDARD DEVIATION IS	<u>.0005123716</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5L-BH-0	.0005900000	-2.11 ?
T-4C-MH-0	.0006800000	-1.73 ?
T-3C-MH-7	.0008800000	-1.54
T-2C-4	.0009000000	-1.50
T-5SP-BH-6	.0010000000	-1.30
T-2G-BH-7	.0011000000	-1.11
T-1G-MH-0	.0012000000	-.91
T-3C-MH-6	.0013000000	-.72
T-3G-BH-6*	.0013500000	-.62
T-4G-MH-7	.0013500000	-.62
T-3L-4	.0013500000	-.62
T-1L-BH-0	.0013600000	-.60
T-2C-MH-7*	.0013800000	-.56
T-4L-BH-6	.0013800000	-.56
T-3G-BH-7*	.0014000000	-.52
T-2L-BH-0	.0014100000	-.50
T-1C-MH-0	.0015000000	-.33
T-1L-BH-7*	.0015000000	-.33
T-1L-4	.0015200000	-.29
T-3L-BH-7*	.0016300000	-.08
T-5C-MH-7	.0016300000	-.08
T-4C-MH-7	.0016900000	.04
T-3L-MH-6*	.0017200000	.10
T-5G-BH-7*	.0017400000	.14
T-1C-MH-7	.0017400000	.14
T-2C-MH-0*	.0017500000	.16
T-4L-4	.0017900000	.24
T-3SP-BH-6	.0018100000	.28
T-2G-BH-6	.0018200000	.30
T-1G-BH-7*	.0020000000	.65
T-4C-4	.0020000000	.65
T-1C-4	.0020000000	.65
T-5C-MH-6*	.0021799999	1.00
T-5G-4	.0022099999	1.06
T-5C-4	.0022399999	1.12
T-5L-4*	.0022899999	1.21
T-1G-4*	.0023099999	1.25
T-3C-4*	.0023300000	1.29
T-5L-BH-7*	.0023500000	1.33
T-2L-4	.0024199999	1.47
T-3G-4*	.0024699999	1.56
T-2G-4	.0028100000	2.23 ?

Table 40(c)

ATTITUDE IN LOG PB/RDLNRMR (TYPE III)LOG NO. LOGS 34678 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUS (PSI)THE NUMBER OF SAMPLES 42THE MEAN OF THE SAMPLE 885746.9200000000THE STANDARD DEVIATION IS 258081.0800000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3L-BH-7*	<u>504790.2500000000</u>	-1.48
T-2G-4	538969.2400000000	-1.34
T-3C-4*	570673.3400000000	-1.22
T-1G-BH-7*	534388.0800000000	-1.17
T-5C-MH-6*	596782.5500000000	-1.12
T-4L-BH-6	601018.6400000000	-1.10
T-3G-4*	628042.0100000000	-1.00
T-5C-4	634081.6300000000	-.98
T-4G-BH-7	637685.8400000000	-.96
T-3L-4	648172.1800000000	-.92
T-2G-BH-6	662456.0900000000	-.87
T-2L-4	688431.5100000000	-.76
T-5G-BH-7*	704184.1500000000	-.70
T-5C-MH-7	721648.5500000000	-.64
T-1L-BH-6	727491.8500000000	-.61
T-1C-MH-6	727491.8600000000	-.61
T-3C-MH-6	727712.8400000000	-.61
T-5G-4	733090.6200000000	-.40
T-5L-4*	791333.6900000000	-.37
T-1G-4*	821286.4300000000	-.25
T-5L-BH-6	841008.7200000000	-.17
T-3L-BH-6*	841317.1200000000	-.17
T-1C-4	873623.3600000000	-.05
T-2L-BH-6	879824.5100000000	-.02
T-5SP-BH-6	923799.1900000000	.15
T-2C-MH-6*	929876.8000000000	.17
T-2C-4	936489.5600000000	.20
T-3G-BH-6*	969989.1400000000	.33
T-5L-BH-7*	989516.8300000000	.40
T-3SP-BH-6	1039274.0800000000	.59
T-4C-MH-7	1043485.8900000000	.61
T-4L-4	1056802.4000000000	.66
T-2C-MH-7*	1107902.4000000000	.86
T-4C-4	1127255.7000000000	.94
T-4C-MH-6	1177843.7000000000	1.13
T-3G-BH-7*	1178688.8000000000	1.14
T-1C-MH-7	1193125.6000000000	1.19
T-3C-MH-7	1288658.1000000000	1.56
T-1L-BH-7*	1324170.2000000000	1.70
T-1G-BH-6	1330827.6000000000	1.72
T-1L-4	1376862.5000000000	1.90
T-2G-BH-7	<u>1471300.2000000000</u>	2.27

Table 40(d)

ATTITUDE IN LOG <u>PR/RDLNRM</u>		(TYPE III)
LOG NO. LOGS <u>34678</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>SECANT MODULUS</u>	(PSI)	
THE NUMBER OF SAMPLES	<u>2</u>	
THE MEAN OF THE SAMPLE	<u>487146.1800000000</u>	
THE STANDARD DEVIATION IS	<u>99248.8040000000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2G-4	362348.0500000000	-1.25
T-3G-4*	374801.1900000000	-1.13
T-4C-4	379687.9900000000	-1.08
T-3C-4*	383170.2600000000	-1.05
T-2L-4	385689.2300000000	-1.02
T-5C-4	386110.7300000000	-1.02
T-5C-BH-6*	400227.5700000000	-.88
T-5C-BH-7	401618.6100000000	-.86
T-1G-BH-7*	415463.4000000000	-.72
T-5L-4*	425305.3000000000	-.62
T-1G-4*	426014.9200000000	-.62
T-5L-BH-7*	433579.1600000000	-.54
T-5G-4	436110.7400000000	-.51
T-4G-BH-7	436718.1800000000	-.51
T-3L-BH-7*	451095.9500000000	-.36
T-5G-BH-7*	452256.2000000000	-.35
T-2G-BH-6	457827.2300000000	-.30
T-1C-BH-7	462850.4700000000	-.24
T-4C-BH-7	463085.7000000000	-.24
T-3C-BH-6	467882.2400000000	-.19
T-4L-BH-6	468789.7000000000	-.18
T-2C-BH-6*	475096.7200000000	-.12
T-4L-4	476092.4600000000	-.11
T-3L-4	479083.7800000000	-.08
T-3G-BH-7*	482701.1500000000	-.04
T-1C-4	488242.7400000000	.01
T-2C-BH-7*	490960.1000000000	.04
T-1C-BH-6	491923.0600000000	.05
T-1L-BH-6	496711.8700000000	.10
T-3L-BH-6*	498489.0200000000	.11
T-3SP-BH-6	499540.5700000000	.12
T-1G-BH-6	513230.9600000000	.26
T-1L-4	530626.3700000000	.44
T-2G-BH-7	544020.7900000000	.57
T-1L-BH-7*	544946.9800000000	.58
T-3G-BH-6*	550430.3400000000	.64
T-2L-BH-6	572601.6800000000	.86
T-2C-4	600263.7900000000	1.14
T-5SP-BH-6	613171.7000000000	1.27
T-5L-BH-6	657894.7000000000	1.72
T-3C-BH-7	673616.7500000000	1.88
T-4C-BH-6	<u>909364.8100000000</u>	4.25

Table 41(a)

ATTITUDE IN LOG <u>PR/RDLNRCL</u>		(TYPE III)
LOG NO. LOGS <u>34678</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRESS AT FRACTURE</u>	(PSI)	
THE NUMBER OF SAMPLES	<u>21</u>	
THE MEAN OF THE SAMPLE	<u>999.9176900000</u>	
THE STANDARD DEVIATION IS	<u>130.4537500000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-14-MI-3	<u>649.2994200000</u>	-2.69 ?
T-12-MI-3	771.0430700000	-1.75 ?
T-16-MI-3	842.0601900000	-1.21
T-10-MI-3	887.7140600000	-.86
T-H327-4-A-4	932.0121300000	-.52
T-14-AI-3	935.5772000000	-.49
T-10-BI-3	994.2397400000	-.04
T-16R-AI-4	1004.5850400000	.03
T-06R-AI-4	1011.9940200000	.09
T-02R-AI-4	1013.4995300000	.10
T-10-AI-3	1034.8209000000	.27
T-H327-4-A12	1038.9643000000	.30
T-12-BI-3	1044.0572000000	.34
T-H327-4-A-6	1044.7662000000	.35
T-12-AI-3	1049.1502000000	.38
T-14-BI-3	1059.3361000000	.46
T-H327-4-A-2	1064.8010000000	.65
T-H327-4-A-8	1090.6201000000	.70
T-H327-4-A14	1135.7306000000	1.04
T-14R-AI-4	1156.5646000000	1.20
T-H327-4-A16	<u>1217.4364000000</u>	1.67

Table 41(b)

ATTITUDE IN LOG PR/RDLNRCL (TYPE III)

LOG NO. LOGS 34678 GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 21

THE MEAN OF THE SAMPLE .0021728569

THE STANDARD DEVIATION IS .0005398809

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-14-MI-3	.0010400000	-2.10 ?
T-12-MI-3	.0011700000	-1.86 ?
T-16-MI-3	.0014300000	-1.38
T-02K-AI-4	.0017200000	-.84
T-12-BI-3	.0018700000	-.56
T-06K-AI-4	.0018800000	-.54
T-10-MI-3	.0019100000	-.49
T-14-AI-3	.0019400000	-.43
T-16K-AI-4	.0021200000	-.10
T-H327-4-A-4	.0021500000	-.04
T-10-BI-3	.0022799999	.20
T-12-AI-3	.0023400000	.31
T-14K-AI-4	.0023500000	.33
T-14-BI-3	.0024500000	.51
T-10-AI-3	.0024800000	.57
T-H327-4-A14	.0024900000	.59
T-H327-4-A12	.0025799999	.75
T-H327-4-A-8	.0027199999	1.01
T-H327-4-A-2	.0027800000	1.12
T-H327-4-A-6	.0028100000	1.18
T-H327-4-A16	<u>.0031199999</u>	1.75 ?

Table 41(c)

ATTITUDE IN LOG PR/RDLNKCL (TYPE III)

LOG NO. LOGS 34678 GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS (PSI)

THE NUMBER OF SAMPLES 21

THE MEAN OF THE SAMPLE 755151.0500000000

THE STANDARD DEVIATION IS 213027.8100000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A-6	<u>489773.2700000000</u>	-1.25
T-H327-4-A14	<u>516369.8000000000</u>	-1.12
T-H327-4-A-2	<u>531439.5700000000</u>	-1.05
T-H327-4-A-4	<u>553582.0800000000</u>	-.95
T-H327-4-A16	<u>566446.1100000000</u>	-.89
T-10-BI-3	<u>629708.5100000000</u>	-.59
T-02R-AI-4	<u>634021.8600000000</u>	-.57
T-16R-AI-4	<u>652198.1100000000</u>	-.48
T-H327-4-A12	<u>654809.4600000000</u>	-.47
T-06R-AI-4	<u>686921.5900000000</u>	-.32
T-H327-4-A-8	<u>691725.2500000000</u>	-.30
T-10-MI-3	<u>710171.2300000000</u>	-.21
T-14R-AI-4	<u>792601.8500000000</u>	.18
T-10-AI-3	<u>865334.6900000000</u>	.52
T-14-BI-3	<u>868799.4900000000</u>	.53
T-12-AI-3	<u>873079.2700000000</u>	.55
T-14-MI-3	<u>887714.0800000000</u>	.62
T-12-MI-3	<u>917908.4200000000</u>	.76
T-14-AI-3	<u>945835.9000000000</u>	.90
T-16-MI-3	<u>989167.0900000000</u>	1.10
T-12-BI-3	<u>1400564.7000000000</u>	3.03 ?

Table 41(d)

ATTITUDE IN LOG <u>PR/RSLNRCL</u>		(TYPE III)
LOG NO. LOGS <u>34670</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>SECANT MODULUS</u>	(PSI)	
THE NUMBER OF SAMPLES	<u>21</u>	
THE MEAN OF THE SAMPLE	<u>478601.8700000000</u>	
THE STANDARD DEVIATION IS	<u>83210.0940000000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H327-4-A-6	<u>371874.1200000000</u>	-1.28
T-H327-4-A16	<u>390203.9800000000</u>	-1.06
T-H327-4-A-2	<u>390210.1900000000</u>	-1.06
T-H327-4-A-8	<u>400963.2800000000</u>	-.93
T-H327-4-A12	<u>402699.3600000000</u>	-.91
T-10-AI-3	<u>417266.5100000000</u>	-.74
T-14-BI-3	<u>432382.1100000000</u>	-.56
T-H327-4-A-4	<u>433494.0200000000</u>	-.54
T-10-BI-3	<u>436070.0600000000</u>	-.51
T-12-AI-3	<u>448354.8200000000</u>	-.36
T-H327-4-A14	<u>456116.7100000000</u>	-.27
T-10-MI-3	<u>464771.7600000000</u>	-.17
T-16R-AI-4	<u>473766.5400000000</u>	-.06
T-14-AI-3	<u>482256.2900000000</u>	.04
T-14R-AI-4	<u>492155.1500000000</u>	.16
T-06R-AI-4	<u>538294.7000000000</u>	.72
T-12-BI-3	<u>558319.4100000000</u>	.96
T-16-MI-3	<u>568853.2800000000</u>	1.32
T-02R-AI-4	<u>589243.9200000000</u>	1.33
T-14-MI-3	<u>624326.3800000000</u>	1.75 ?
T-12-MI-3	<u>659011.1800000000</u>	2.17 ?

Table 42. Guide to Tables and Corresponding Figures for All Type III Tensile Bars Tested at .005 IPM

GGA Log No.	PL									PR								
	NREND A			NRMDLTH			NREND B			NREND A			NRMDLTH			NREND B		
	NREG	NRMR	NRCL	NREG	NRMR	NRCL	NREG	NRMR	NRCL	NREG	NRMR	NRCL	NREG	NRMR	NRCL	NREG	NRMR	NRCL
3	6		7	8		9	10		11	12		13	14		15	16		17
4	18		19		20			21		22		23		24			25	
6					26			27						28			29	
7					30			31						32			33	
8				34	35													
3,4,6,7,8	36	37	38	36	37	38	36	37	38	39	40	41	39	40	41	39	40	41

Table 43

GENERAL COMMENTARY ON TENSILE RESULTS FOR TYPE III SAMPLES

	Parameter	Parallel	Perpendicular
Log 3	UTS	<p>Slight dip at midlength outer and large dip at inner locations for axial comparison. Approximately 50% drop in UTS from outer to inner locations, suggesting insufficient penetration during impregnation.</p> <p>The values for PL and PR orientation at each inner location are nearly equal. Thus, the log interior is essentially isotropic in UTS.</p>	<p>Sizeable dip at midlength outer and inner locations for axial comparison. Not much difference between outer and inner values at midlength and end B locations. Inner values at end A and midlength locations ~10-15% higher than outer values.</p>
	ϵ_F	<p>Slight dip at midlength outer (and larger decrease at inner) locations for axial comparison. Inner values of ϵ_F ~1/3 to 1/2 the outer values, suggesting insufficient penetration during impregnation.</p> <p>ϵ_F, in this log, is a largely anisotropic parameter (except at midlength outer location). The PR values are primarily 2 to 4 times the PL values. ϵ_F values follow closely the UTS variations.</p>	<p>Sizeable dip (down to ~50% of values at ends) at midlength outer and inner locations for axial comparison. Not much difference between outer and inner values at ends, nor at midlength; nor much difference between corresponding positions for both ends.</p>
Log 4	UTS	<p>At end A both inner and outer values >1500 psi and fairly close together. Data scatter very high, however. At midlength and end B locations, only mid-radius samples were taken, with the midlength sample being >1500 and the end B sample <1500. Much lower scatter in data was found at these locations.</p>	<p>At end A both inner and outer values >1000 psi and nearly equal. Data scatter quite low. UTS values for NRM regions at midlength and end B are nearly the same, but ~15% lower than those at end A.</p>
	ϵ_F	<p>At end A the inner outer values are nearly equal, but with a trend opposite that for UTS. Axially ϵ_F drops continually from end A to midlength to end B.</p>	<p>(The same comments on PL behavior apply to the PR results as well.)</p>
Log 6	UTS	<p>Value at end B is slightly higher than at midlength, both at NRM <1500.</p>	<p>End B and midlength values are nearly equal, both ~725. Data scatter reasonably low.</p>
	ϵ_F	<p>End B and midlength values are nearly equal.</p>	<p>Value at midlength is slightly higher than at end B.</p>
Log 7	UTS	<p>(Essentially the same as for Log 6.)</p>	<p>(Essentially the same as for Log 6.)</p>
	ϵ_F	<p>(Essentially the same as for Log 6.)</p>	<p>(Essentially the same as for Log 6.)</p>
Log 8	UTS	<p>Values, determined for midlength NREG and NRM locations only, are considerably higher than for the other 4 logs: ~2400 at NREG and ~1300 at NRM. Slightly less data scatter, especially for the NREG group.</p>	<p>(No tests on PR samples.)</p>

Table 44(a)

ATTITUDE IN LOG .PL/NRMDLTH, NREG/ TYPE IIILOG NO. 8(LOT 340) GRAPHITE TYPE DESIGNATION H-327

ULT. TENSILE STRESS (PSI)-.005IN/MIN

SAMPLES BREAKING AT 0.5 INCH OR MORE AWAY FROM GLUED ENDTHE NUMBER OF SAMPLES 17THE MEAN OF THE SAMPLE 2409.8235000000THE STANDARD DEVIATION IS 185.9735300000

SPECIMEN NO. (WITHOUT # ONLY)	VALUE	SIGMAS FROM MEAN
T-59-MO-8	<u>2090.9999000000</u>	-1.71
T-27-MO-8	2129.0000000000	-1.51
T-39-MO-8	2154.0000000000	-1.38
T-15-MO-8	2270.0000000000	-.75
T-45-MO-8	2277.0000000000	-.71
T-47-MO-8	2368.0000000000	-.22
T-21-MO-8	2383.0000000000	-.14
T-13-MO-8	2388.0000000000	-.12
T-31-MO-8	2424.0000000000	.08
T-51-MO-8	2474.9999000000	.35
T-25-MO-8	2482.9999000000	.39
T-9-MO-8	2506.0000000000	.52
T-53-MO-8	2546.0000000000	.73
T-63-MO-8	2546.0000000000	.73
T-65-MO-8	2552.0000000000	.76
T-3-MO-8	2552.0000000000	.76
T-7-MO-8	<u>2823.0000000000</u>	2.22 ?

Table 44(b)

ATTITUDE IN LOG .PL/NRMDLTH, NRML TYPE IIILOG NO.8(LOT 340) GRAPHITE TYPE DESIGNATION H-327ULT. TENSILE STRESS (PSI)-.005IN/MIN**SAMPLES BREAKING AT 45 INCH OR MORE AWAY FROM GLUED END**THE NUMBER OF SAMPLES 15THE MEAN OF THE SAMPLE 1197.9333000000THE STANDARD DEVIATION IS 374.0367400000

SPECIMEN NO. (WITHOUT # ONLY)	VALUE	SIGMAS FROM MEAN
T-114-MI-8	<u>761.0000000000</u>	-1.17
T-116-MI-8	853.0000000000	-.92
T-130-MI-8	901.0000000000	-.79
T-128-MI-8	940.0000000000	-.69
T-116-MI-8	968.0000000000	-.61
T-120-MI-8	993.0000000000	-.55
T-124-MI-8	1043.9999000000	-.41
T-122-MI-8	1069.9999000000	-.34
T-126-MI-8	1077.0000000000	-.32
T-132-MI-8	1156.0000000000	-.11
T-134-MI-8	1272.9999000000	.20
T-112-MI-8	1385.0000000000	.50
T-136-MI-8	1710.0000000000	1.37
T-106-MI-8	1914.9999000000	1.92 1
T-102-MI-8	<u>1923.0000000000</u>	1.94 1

Table 45(a)

ATTITUDE IN LOG PL/AXLNREG,NRMDLTH(TYPE III)

LOG NO. 8 GRAPHITE TYPE DESIGNATION H-327
STRESS AT FRACTURE (PSI) (TEST RATE: .0201PM)

THE NUMBER OF SAMPLES 10
 THE MEAN OF THE SAMPLE 2093.6593000000
 THE STANDARD DEVIATION IS 183.9826600000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H/R-E-8	<u>1756.3731000000</u>	-1.83 ?
T-H/R-C-8	1927.8111000000	-.90
T-H/R-D-8	1935.6479000000	-.86
T-H/R-I-8	2042.1735000000	-.28
T-H/R-A-8	2045.2324000000	-.26
T-H/R-G-8*	2172.0827000000	.43
T-H/R-J-8*	2198.0646000000	.57
T-H/R-F-8	2234.4392000000	.77
T-H/R-B-8*	2291.5993000000	1.08
T-H/R-H-8*	<u>2333.1703000000</u>	1.30

Table 45(b)

ATTITUDE IN LOG PL/AXLNREG,NRMDLTH(TYPE III)

LOG NO. 8 GRAPHITE TYPE DESIGNATION H-327
STRAIN AT FRACTURE (TEST RATE: .020 IPM)

THE NUMBER OF SAMPLES 10
 THE MEAN OF THE SAMPLE .0016509999
 THE STANDARD DEVIATION IS .0001615515

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H/R-J-8*	<u>.0014800000</u>	-1.06
T-H/R-I-8	<u>.0015000000</u>	-.93
T-H/R-D-8	<u>.0015000000</u>	-.93
T-H/R-C-8	<u>.0015500000</u>	-.63
T-H/R-F-8	<u>.0015500000</u>	-.63
T-H/R-E-8	<u>.0016200000</u>	-.19
T-H/R-H-8*	<u>.0017300000</u>	.49
T-H/R-G-8*	<u>.0018400000</u>	1.17
T-H/R-A-8	<u>.0018500000</u>	1.23
T-H/R-B-8*	<u>.0018900000</u>	1.48

Table 45(c)

ATTITUDE IN LOG PL/AXLNREG,NRMDLTH(TYPE III)

LOG NO. 8 GRAPHITE TYPE DESIGNATION H-327
 YOUNG'S MODULUS (PSI) (**TEST RATE: .020 IPM**)

THE NUMBER OF SAMPLES 10
 THE MEAN OF THE SAMPLE 2441030.0000000000
 THE STANDARD DEVIATION IS 941195.2300000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H/R-A-8	<u>1304357.3000000000</u>	-1.21
T-H/R-B-8*	1688820.3000000000	-.80
T-H/R-C-8	1870934.7000000000	-.61
T-H/R-I-8	1883684.2000000000	-.59
T-H/R-H-8*	1967197.3000000000	-.50
T-H/R-G-8*	2234439.3000000000	-.22
T-H/R-D-8	2713660.1000000000	.29
T-H/R-F-8	3043588.3000000000	.64
T-H/R-J-8*	3221749.6000000000	.83
T-H/R-E-8	<u>4481869.3000000000</u>	2.17 ?

Table 45(d)

ATTITUDE IN LOG PL/AXLNREG,NRMDLTH(TYPE III)

LOG NO. 8 GRAPHITE TYPE DESIGNATION H-327
SECANT MODULUS (PSI) (TEST RATE: .020 IPM)

THE NUMBER OF SAMPLES 10
 THE MEAN OF THE SAMPLE 1275371.3000000000
 THE STANDARD DEVIATION IS 134992.6800000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-H/R-E-8	<u>1084180.9000000000</u>	-1.42
T-H/R-A-8	1105531.0000000000	-1.26
T-H/R-G-8*	1180479.8000000000	-.70
T-H/R-B-8*	1212486.3000000000	-.47
T-H/R-C-8	1243749.0000000000	-.23
T-H/R-D-8	1290431.9000000000	.11
T-H/R-H-8*	1348653.3000000000	.54
T-H/R-I-8	1361449.0000000000	.64
T-H/R-F-8	1441573.6000000000	1.23
T-H/R-J-8*	<u>1485178.8000000000</u>	1.55

Table 46(a)

ATTITUDE IN LOG PL/AXLNRM, NRMOLTH (TYPE IV)

LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327

STRESS AT FRACTURE (PSI)

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE 1857.285000000

THE STANDARD DEVIATION IS 358.361690000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-CT-MH-0	<u>1464.794300000</u>	-1.21
T-UT-MH-0	<u>1606.682900000</u>	-.70
T-BT-MH-0	<u>1659.306000000</u>	.01
T-ET-MH-0	<u>2071.509400000</u>	.60
T-AT-MH-0	<u>2524.132500000</u>	1.30

Table 46(b)

ATTITUDE IN LOG PL/AXLNMMR, NRMLTH (TYPE IV)

LOG NO: 6 GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE .0014620000

THE STANDARD DEVIATION IS .0002570408

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-BT-MH-0	<u>.0012500000</u>	-.82
T-CT-MH-0	<u>.0012600000</u>	-.79
T-DT-MH-0	<u>.0013400000</u>	-.47
T-ET-MH-0	<u>.0016300000</u>	.65
T-AT-MH-0	<u>.0018300000</u>	1.43

Table 46(c)

ATTITUDE IN LOG PL/AXLNRM, NRMDLTH (TYPE IV)

LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS (PSI)

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE 1551818.1000000000

THE STANDARD DEVIATION IS 171556.0800000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-CT-MH-6	<u>1305861.1000000000</u>	-1.50
T-AT-MH-6	1528369.7000000000	-.19
T-UT-MH-6	1595514.3000000000	.20
T-ET-MH-6	1602000.1000000000	.23
T-BT-MH-6	<u>1779345.3000000000</u>	1.27

Table 46(d)

ATTITUDE IN LOG PL/AXLNRM,NPMDLTH(TYPE IV)

LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUS (PSI)THE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1271626.7000000000THE STANDARD DEVIATION IS 133873.0800000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-CT-MH-0	<u>1130709.1000000000</u>	-1.05
T-JT-MH-6	1199017.1000000000	-.54
T-AT-MH-0	1270017.8000000000	-.01
T-ET-MH-0	1270864.6000000000	-.01
T-BT-MH-6	<u>1487444.8000000000</u>	1.61

Table 47(a)

ATTITUDE IN LOG PL/AXLNRM, NRLEDB (TYPE IV)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURE (PSI)THE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1399.2301000000THE STANDARD DEVIATION IS 330.0576800000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-AB-BH-0	<u>1025.6498000000</u>	-1,13
T-BB-BH-0	1045.8596000000	-1,07
T-EB-BH-0	1076.1744000000	-,98
T-OB-BH-0	1172.1712000000	-,69
T-EBSP-BH-6	1197.4335000000	-,61
T-OBSP-BH-6	1521.7955000000	,37
T-CB-BH-0	1616.7878000000	,66
T-ABSP-BH-0	1653.6845000000	,77
T-OBSP-BH-0	1816.0093000000	1,26
T-CBSP-BH-0	<u>1866.7358000000</u>	1,42

Table 47(b)

ATTITUDE IN LOG PL/AXLNRM, INREND (TYPE IV)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE .0011080000THE STANDARD DEVIATION IS .0002092739

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-BB-BH-0	<u>.0007300000</u>	-1.81 ?
T-AB-BH-0	.0009800000	-.61
T-DBSP-BH-6	.0010100000	-.47
T-0B-BH-0	.0010200000	-.42
T-CB-BH-0	.0010300000	-.37
T-EDSP-BH-6	.0011200000	.06
T-EB-BH-0	.0011600000	.25
T-CBSP-BH-6	.0011900000	.39
T-DBSP-BH-6	.0013600000	1.20
T-ABSP-BH-6	<u>.0014800000</u>	1.78 ?

Table 47(c)

ATTITUDE IN LOG PL/AXLNKMK,NRLNDB (TYPE IV)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUS (PSI)THE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1790197.4000000000THE STANDARD DEVIATION IS 346436.0300000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB-BH-6	<u>1263115.5000000000</u>	-1,52
T-AB-BH-6	1316033.6000000000	-1,36
T-EBSP-BH-6	1515738.6000000000	-,79
T-ABSP-DH-6	1585203.6000000000	-,59
T-DBSP-BH-6	1866871.7000000000	,23
T-EB-BH-6	1894673.3000000000	,30
T-DBSP-BH-6	2002362.5000000000	,61
T-CBSP-BH-6	2075175.6000000000	,82
T-DB-BH-6	2189400.2000000000	1,15
T-CB-BH-6	<u>2189400.2000000000</u>	1,15

Table 47(d)

ATTITUDE IN LOG PL/AXLNRRR,NRENUB (TYPE IV)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327
SECANT MODULUS (Psi)THE NUMBER OF SAMPLES 10
THE MEAN OF THE SAMPLE 1272309.2000000000
THE STANDARD DEVIATION IS 238292.7900000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EB-BH-o	<u>927756.5700000000</u>	-1.45
T-AB-BH-o	1040551.4000000000	-.95
T-EdSP-BH-o	1069137.0000000000	-.85
T-ABSP-BH-o	1117354.3000000000	-.65
T-DB-BH-o	1149187.4000000000	-.52
T-BBSP-BH-o	1335301.0000000000	.26
T-DB-BH-o	1432664.4000000000	.67
T-DBSP-BH-o	1506728.2000000000	.98
T-CBSP-BH-o	1568685.5000000000	1.24
T-CB-BH-o	<u>1569696.9000000000</u>	1.25

Table 48(a)

ATTITUDE IN LOG PR/BDLNRMR,NRMDLTH(TYPE IV)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURE (PSI)THE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 786.2369300000THE STANDARD DEVIATION IS 170.9750700000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3D-MH-6	<u>567.5869100000</u>	-1.28
T-4D-MH-6	636.6203100000	-.88
T-2D-MH-6	891.2684300000	.61
T-1D-MH-6	894.8442400000	.64
T-5D-MH-6	<u>940.8648000000</u>	.90

Table 48(b)

ATTITUDE IN LOG PR/ROLNRMR,NRMOLTH(TYPE IV)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE .0015400000THE STANDARD DEVIATION IS .0004077376

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3D-MH-6	.0010500000	-1.20
T-4D-MH-6	.0011900000	-.86
T-1D-MH-6	.0016200000	.20
T-5D-MH-6	.0018600000	.78
T-2D-MH-6	.0019799999	1.08

Table 48(c)

ATTITUDE IN LOG PR/RDLNRMR,NRMDLTH(TYPE IV)

LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS (PSI)

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE 924704.0500000000

THE STANDARD DEVIATION IS 266044.3900000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3D-MH-6	<u>575257.0200000000</u>	-1.31
T-2D-MH-6	<u>827606.3900000000</u>	-.36
T-4D-MH-6	<u>865803.6300000000</u>	-.22
T-1D-MH-6	<u>1076504.3000000000</u>	.67
T-5D-MH-6	<u>1278348.9000000000</u>	1.33

Table 48(d)

ATTITUDE IN LOG PR/RDLNMR,NRMDLTH(TYPE IV)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327
SECANT MODULUS (PSI)THE NUMBER OF SAMPLES 5
THE MEAN OF THE SAMPLE 516776.7700000000
THE STANDARD DEVIATION IS 41001.5050000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2D-MH-6	<u>450135.5800000000</u>	-1.63
T-5D-MH-6	<u>505841.2900000000</u>	-.27
T-4D-MH-6	<u>534975.0500000000</u>	.84
T-3D-MH-6	<u>540558.9700000000</u>	.68
T-1D-MH-6	<u>552372.9600000000</u>	.67

Table 49(a.)

ATTITUDE IN LOG PR/ROLIGMR,NRENUB (TYPE IV)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURE (PSI)THE NUMBER OF SAMPLES 8THE MEAN OF THE SAMPLE 739.2375100000THE STANDARD DEVIATION IS 190.8642100000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5M-BH-0	<u>478.7384700000</u>	-1.36
T-4H-BH-0	603.3806800000	-.71
T-1M-BH-0	626.4343800000	-.59
T-4M-BH-0	656.9921500000	-.43
T-5H-BH-0	674.9682200000	-.34
T-2M-BH-0	932.0121300000	1.01
T-3H-BH-0	951.0915900000	1.11
T-3M-BH-0	<u>990.2825700000</u>	1.32

Table 49(b)

ATTITUDE IN LOG PR/RDLNRMK, NRENUB (TYPE IV)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 8THE MEAN OF THE SAMPLE .0013625000THE STANDARD DEVIATION IS .0004512443

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5M-BH-6	<u>.0017500000</u>	-1.36
T-4H-BH-6	.0009700000	-.87
T-1M-BH-6	.0011300000	-.62
T-4M-BH-6	.0012700000	-.20
T-5H-BH-6	.0012800000	-.18
T-3M-BH-6	.0016000000	.63
T-3H-BH-6	.0017500000	.86
T-2M-BH-6	<u>.0021500000</u>	1.75 ?

Table 49(c)

ATTITUDE IN LOG PR/ROLNRM, NREND3 (TYPE IV)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUS (PSI)THE NUMBER OF SAMPLES 8THE MEAN OF THE SAMPLE 1573220.5000000000THE STANDARD DEVIATION IS 813693.8600000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2M-BH-6	<u>733386.6100000000</u>	-.79
T-1M-BH-6	737601.4700000000	-.78
T-4M-BH-6	1095945.8000000000	-.34
T-5M-BH-6	1111191.7000000000	-.32
T-4H-BH-6	1227214.9000000000	-.18
T-3H-BH-6	1363572.2000000000	-.01
T-5H-BH-6	1431750.7000000000	.07
T-3M-BH-6	<u>3284100.3000000000</u>	2.35 ?

Table 49(d)

ATTITUDE IN LOG PR/KOLNRMK/INREND3 (TYPE IV)LOG NO. 6GRAPHITE TYPE DESIGNATION H-327SECANT MODULUS (PSI)THE NUMBER OF SAMPLES 8THE MEAN OF THE SAMPLE 556907.9600000000THE STANDARD DEVIATION IS 68219.2500000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2M-BH-6	<u>433494.0200000000</u>	-1.81 ?
T-4M-BH-6	517316.6600000000	-.58
T-5H-BH-6	527318.9200000000	-.43
T-3H-BH-6	543480.9100000000	-.20
T-1M-BH-6	554366.7200000000	-.04
T-3M-BH-6	618926.6100000000	.91
T-4H-BH-6	622041.9500000000	.95
T-5M-BH-6	<u>638317.2600000000</u>	1.19

Table 50(a)

ATTITUDE IN LOG PL/AXLNRM/NRMDLTH(TYPE IV)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1446.3587000000THE STANDARD DEVIATION IS 436.5553000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
I-DTSP-MH-7	<u>731.1883700000</u>	-1.52
I-CTSP-MH-7	811.6242700000	-1.45
I-BTSP-MH-7	1146.4193000000	-.69
T-ATSP-MH-7	1340.6635000000	-.24
T-ETSP-MH-7	1491.3595000000	.10
I-DT-MH-7	1505.6337000000	.14
T-BT-MH-7	1576.3691000000	.30
T-ET-MH-7	1828.9912000000	.88
I-CT-MH-7	1930.0405000000	1.11
I-AT-MH-7	<u>2051.2996000000</u>	1.39

Table 50(b)

ATTITUDE IN LOG PL/AXLNRM/R,NRMDLTH(TYPE IV)LOG NO. 7GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE .0012510000THE STANDARD DEVIATION IS .0003638513

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
I-DTSP-MH-7	<u>.0005400000</u>	-1.95 ?
I-BTSP-MH-7	.0009000000	-.96
I-CTSP-MH-7	.0009200000	-.91
I-UT-MH-7	.0012100000	-.11
I-ATSP-MH-7	.0013400000	.24
I-UT-MH-7	.0013400000	.24
I-ETSP-MH-7	.0014000000	.41
I-CT-MH-7	.0015700000	.88
I-ET-MH-7	.0016200000	1.01
I-AT-MH-7	<u>.0016700000</u>	1.15

Table 50(c)

ATTITUDE IN LOG PL/AXLNRM²•NRMOLTH(TYPE IV)LOG NO. 1 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1522471.5000000000THE STANDARD DEVIATION IS 395052.1000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-CTSP-MH-7	<u>815441.9500000000</u>	-1.71
T-ETSP-MH-7	1214755.6000000000	-.78
T-ATSP-MH-7	1299092.5000000000	-.57
T-ET-MH-7	1421004.9000000000	-.26
T-BT-MH-7	1443560.5000000000	-.20
T-CT-MH-7	1515738.6000000000	-.02
T-DTSP-MH-7	1648611.8000000000	.32
T-DT-MH-7	1665441.2000000000	.36
T-AT-MH-7	1846091.9000000000	.82
T-BTSP-MH-7	<u>2324965.3000000000</u>	2.03 ?

Table 50(d)

ATTITUDE IN LOG PL/AXLNRM, NRMOLTH (TYPE IV)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1167577.1000000000THE STANDARD DEVIATION IS 157743.2500000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-CTSP-MH-7	<u>892224.3000000000</u>	-1.81 ?
T-ATSP-MH-7	1000495.2000000000	-1.06
T-ETSP-MH-7	1065256.8000000000	-.65
T-ET-MH-7	1129006.9000000000	-.24
T-BT-MH-7	1176394.1000000000	.06
T-AT-MH-7	1228323.1000000000	.39
T-CT-MH-7	1229325.2000000000	.39
T-DT-MH-7	1244325.3000000000	.49
T-BTSP-MH-7	1273799.2000000000	.67
T-DTSP-MH-7	<u>1440645.1000000000</u>	1.77 ?

Table 51(a)

ATTITUDE IN LOG <u>PL/AXLURMR, HEND03</u>		(TYPE IV)
LOG NO. <u>7</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRESS AT FRACTURE</u>		
THE NUMBER OF SAMPLES	<u>5</u>	
THE MEAN OF THE SAMPLE	<u>1057.7947000000</u>	
THE STANDARD DEVIATION IS	<u>234.9974400000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-ED-BH-7	<u>1071.9774500000</u>	-1.64
T-UB-BH-7	<u>1029.7482000000</u>	-.12
T-LB-BH-7	<u>1101.4367000000</u>	.19
T-BB-BH-7	<u>1222.6950000000</u>	.70
T-AB-BH-7	<u>1263.1155000000</u>	.87

Table 51(b)

ATTITUDE IN LOG PL/AXLE/IN/REND3 (TYPE IV)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE .0009580000

THE STANDARD DEVIATION IS .0002428374

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EB-BH-7	<u>.0003500000</u>	-1.68
T-CB-BH-7	<u>.0009600000</u>	.01
T-BB-BH-7	<u>.0010100000</u>	.21
T-DB-BH-7	<u>.0010900000</u>	.54
T-AB-BH-7	<u>.0014300000</u>	.91

Table 51(c)

ALTITUDE IN LOG PL/4% DRYER, HENDON (TYPE IV)
 LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327
YOUNG'S MODULUS
 THE NUMBER OF SAMPLES 5
 THE MEAN OF THE SAMPLE 1586991.3000000000
 THE STANDARD DEVIATION IS 267490.8000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB-BH-7	<u>1170631.9000000000</u>	-.82
T-AB-BH-7	<u>1178907.8000000000</u>	-.79
T-CB-BH-7	<u>1263115.5000000000</u>	-.47
T-EB-BH-7	<u>1554603.7000000000</u>	.62
T-BB-BH-7	<u>1777718.1000000000</u>	1.45

Table 51(d)

ATTITUDE IN LOG PL/AXLNRMK/REND3 (TYPE IV)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

SECANT MODULUS

THE NUMBER OF SAMPLES 5

THE MEAN OF THE SAMPLE 1113971.4000000000

THE STANDARD DEVIATION IS 114548.2600000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB-BH-7	<u>94.711.2300000000</u>	-1.52
T-AB-BH-7	<u>1070456.8000000000</u>	-.42
T-CB-BH-7	<u>1147329.9000000000</u>	.25
T-DB-BH-7	<u>1210529.9000000000</u>	.80
T-EB-BH-7	<u>1221777.1000000000</u>	.90

Table 52(a)

ATTITUDE IN LOG PR/RDLNRM, NRMOLTH (TYPE IV)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

STRESS AT FRACTURE

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 696.4969000000

THE STANDARD DEVIATION IS 99.2861800000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-1D-MH-7	<u>573.2096400000</u>	-1.24
T-2D-MH-7	<u>664.5173800000</u>	-.32
T-4D-MH-7	<u>746.6654800000</u>	.53
T-5D-MH-7	<u>799.5951100000</u>	1.04

Table 52(b)

ATTITUDE IN LOG PR/RDLNMR,NRMDLTH (TYPE IV)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE .0015050000THE STANDARD DEVIATION IS .0003856164

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-1D-MH-7	<u>.0011000000</u>	-1.05
T-2D-MH-7	<u>.0012700000</u>	-.61
T-5D-MH-7	<u>.0017200000</u>	.56
T-4D-MH-7	<u>.0019300000</u>	1.10

Table 52(c)

ATTITUDE IN LOG PR/ROLNRMK, NRMDLTH (TYPE IV)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 776841.8700000000

THE STANDARD DEVIATION IS 76294.2990000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-10-MH-7	<u>676353.5700000000</u>	-1.32
T-20-MH-7	<u>762933.8100000000</u>	.07
T-40-MH-7	<u>787094.2000000000</u>	.13
T-50-MH-7	<u>861835.9500000000</u>	1.11

Table 52(d)

ATTITUDE IN LOG PR/ROLINKMR,NRMOLTH (TYPE IV)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

SECANT MODULUS

THE NUMBER OF SAMPLES 4

THE MEAN OF THE SAMPLE 474283.0400000000

THE STANDARD DEVIATION IS 63607.0140000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
F-40-MH-7	<u>337909.5800000000</u>	-1.36
F-50-MH-7	<u>464880.8800000000</u>	-.15
F-10-MH-7	<u>521099.6800000000</u>	.74
F-20-MH-7	<u>523242.0300000000</u>	.77

Table 53(a)

ATTITUDE IN LOG PR/RDLNRM, NRENDB (TYPE IV)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 718.0843900000THE STANDARD DEVIATION IS 110.2801160000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3H-BH-7	<u>593.1538900000</u>	-1.13
T-4H-BH-7	621.3414100000	-.88
T-3M-BH-7	654.5146400000	-.58
T-4M-BH-7	656.9921500000	-.55
T-2H-BH-7	690.3084100000	-.25
T-2M-BH-7	702.8288200000	-.14
T-5M-BH-7	720.3165400000	.02
T-5H-BH-7	774.1302900000	.51
T-1H-BH-7	789.4091800000	.65
T-1M-BH-7	<u>977.8487900000</u>	2.36 ?

Table 53(b)

ATTITUDE IN LOG PR/RDLNRM R,NREND (TYPE IV)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE .0014759999THE STANDARD DEVIATION IS .0003542504

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3H-BH-7	<u>.0009000000</u>	-1.63
T-3M-BH-7	<u>.0011000000</u>	-1.06
T-2M-BH-7	<u>.0013000000</u>	-.50
T-5M-BH-7	<u>.0013000000</u>	-.50
T-1H-BH-7	<u>.0014300000</u>	-.13
T-2H-BH-7	<u>.0014700000</u>	-.02
T-4M-BH-7	<u>.0016500000</u>	.49
T-5H-BH-7	<u>.0017100000</u>	.66
T-4H-BH-7	<u>.0017800000</u>	.86
T-1M-BH-7	<u>.0021200000</u>	1.82 ?

Table 53(c)

ATTITUDE IN LOG PR/RDLNRMR,NRENDB (TYPE IV)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327
YOUNG'S MODULUS

THE NUMBER OF SAMPLES 10

THE MEAN OF THE SAMPLE 691148.0900000000

THE STANDARD DEVIATION IS 376168.9100000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2H-BH-7	<u>-239350.4400000000</u>	-2.47 ?
T-4H-BH-7	<u>509296.2500000000</u>	-.48
T-4M-BH-7	597869.5100000000	-.25
T-1M-BH-7	690014.2700000000	-.00
T-5H-BH-7	692642.9000000000	.00
T-1H-BH-7	804151.9700000000	.30
T-3M-BH-7	818143.3000000000	.34
T-5M-BH-7	895173.8500000000	.54
T-2M-BH-7	1018592.4800000000	.87
T-3H-BH-7	<u>1124947.0000000000</u>	1.15

Table 53(d)

ATTITUDE IN LOG PR/RDLNRMR,NRENDB (TYPE IV)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 503163.4700000000THE STANDARD DEVIATION IS 93881.1060000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-4H-BH-7	<u>349068.2100000000</u>	-1.64
T-4M-BH-7	<u>398177.0600000000</u>	-1.12
T-5H-BH-7	452707.7700000000	-.54
T-1M-BH-7	461249.4300000000	-.45
T-2H-BH-7	469597.5600000000	-.36
T-2M-BH-7	540637.5600000000	.40
T-1H-BH-7	552034.3900000000	.52
T-5M-BH-7	554089.6500000000	.54
T-3M-BH-7	595013.3100000000	.98
T-3H-BH-7	<u>659059.8800000000</u>	1.66

Table 54(a)

ATTITUDE IN LOG <u>PL/AXLNRM, NRMOLTH(TYPE 1)</u>		
LOG NO.	<u>4</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>
<u>SIRESS AT FRACTURE</u>		
THE NUMBER OF SAMPLES	<u>20</u>	
THE MEAN OF THE SAMPLE	<u>1580.8162000000</u>	
THE STANDARD DEVIATION IS	<u>370.4804300000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-ETI-MH-4*	<u>974.1018800000</u>	-1.64
T-ETIV-MH-4	<u>994.2397400000</u>	-1.58
T-AT2II-MH-4*	<u>1071.7468000000</u>	-1.37
T-DTI-MH-4*	<u>1185.1285000000</u>	-1.07
T-ETII-MH-4*	<u>1242.7996000000</u>	-.91
T-AT1II-MH-4*	<u>1344.5421000000</u>	-.64
T-ATI-MH-4*	<u>1364.1647000000</u>	-.58
T-ETSP-MH-4	<u>1465.2140000000</u>	-.31
T-BTI-MH-4*	<u>1485.4238000000</u>	-.26
T-DTII-MH-4	<u>1581.4206000000</u>	.00
T-ATSP-MH-4	<u>1672.3649000000</u>	.25
T-BTII-MH-4*	<u>1717.8371000000</u>	.37
T-DTIV2-MH-4	<u>1753.8947000000</u>	.47
T-BTIV-MH-4*	<u>1858.9313000000</u>	.75
T-CT1-MH-4	<u>1884.5683000000</u>	.82
T-CTII-MH-4	<u>1894.6733000000</u>	.85
T-BTSP-MH-4*	<u>1902.2444000000</u>	.87
T-CTIV-MH-4	<u>1919.9356000000</u>	.92
T-DTIV1-MH-4	<u>2000.7750000000</u>	1.13
T-CTSP-MH-4*	<u>2302.3196000000</u>	1.95 ?

Table 54(b)

ATTITUDE IN LOG PL/AXLNRM, NRMDLTH(TYPE I)

LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 20

THE MEAN OF THE SAMPLE .001233999

THE STANDARD DEVIATION IS .0003830267

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-AT2II-MH-4*	.0005000000	-1.92 ?
T-ETIV-MH-4	.0007000000	-1.39
T-DT1-MH-4*	.0007100000	-1.37
T-ETSP-MH-4	.0008400000	-1.03
T-AT1II-MH-4*	.0009000000	-.87
T-CT1-MH-4*	.0010000000	-.61
T-BT1-MH-4*	.0010200000	-.56
T-AT1-MH-4*	.0010600000	-.45
T-DTIV2-MH-4	.0012000000	-.09
T-ATSP-MH-4*	.0012100000	-.06
T-ET1I-MH-4*	.0013200000	.22
T-CT1V-MH-4*	.0013500000	.30
T-BT1I-MH-4*	.0014200000	.49
T-DT1I-MH-4	.0014600000	.59
T-BT1V-MH-4*	.0015300000	.77
T-BTSP-MH-4*	.0016000000	.96
T-CT1-MH-4	.0016200000	1.01
T-DTIV1-MH-4	.0016600000	1.11
T-CT1I-MH-4	.0017100000	1.24
T-CTSP-MH-4*	.0018700000	1.66 ?

Table 54(c)

ATTITUDE IN LOG <u>PL/AXLNRM,INRMDLTH(TYPE I)</u>		
LOG NO. <u>4</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>YOUNG'S MODULUS</u>		
THE NUMBER OF SAMPLES <u>20</u>		
THE MEAN OF THE SAMPLE <u>2181514.8000000000</u>		
THE STANDARD DEVIATION IS <u>538222.5100000000</u>		
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-ETI-MH-4*	<u>1482884.7000000000</u>	-1.30
T-ETII-MH-4*	1521795.5000000000	-1.23
T-DTII-MH-4	1568263.2000000000	-1.14
T-CTI-MH-4	1712223.2000000000	-.87
T-CTII-MH-4	1751520.1000000000	-.80
T-ATI-MH-4*	1768361.7000000000	-.77
T-BTI-MH-4*	1801312.5000000000	-.71
T-BTIV-MH-4*	1929964.7000000000	-.47
T-DTIV1-MH-4	2020984.8000000000	-.30
T-BTSP-MH-4*	2029060.6000000000	-.28
T-ETIV-MH-4	2231966.7000000000	.09
T-DTI-MH-4*	2277157.6000000000	.18
T-ATSP-MH-4	2288903.8000000000	.20
T-AT1II-MH4*	2468127.9000000000	.53
T-CTSP-MH-4*	2480250.6000000000	.56
T-CTIV-MH-4	2498161.7000000000	.59
T-DTIV2-MH-4	2556697.8000000000	.70
T-AT2II-MH4*	2728985.0000000000	1.02
T-BTI-MH-4*	2863061.8000000000	1.27
T-ETSP-MH-4	<u>3654614.2000000000</u>	2.74 ?

Table 54(d)

ATTITUDE IN LOG <u>PL/AXLNMR,NRMDLTH(TYPE I)</u>		
LOG NO. <u>4</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>SECANT MODULUS</u>		
THE NUMBER OF SAMPLES <u>20</u>		
THE MEAN OF THE SAMPLE	<u>1340029.3000000000</u>	
THE STANDARD DEVIATION IS	<u>282500.4600000000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-ET1I-MH-4*	<u>941514.9100000000</u>	-1.41
T-ETI-MH-4*	974101.8900000000	-1.30
T-DT1I-MH-4	1083164.7000000000	-.91
T-CT1I-MH-4	1107996.0000000000	-.82
T-CTI-MH-4	1163313.8000000000	-.63
T-BTSP-MH-4*	1188902.7000000000	-.53
T-DT1V1-MH-4	1205286.1000000000	-.48
T-BT1I-MH-4*	1209744.4000000000	-.46
T-BT1V-MH-4*	1214987.8000000000	-.44
T-CTSP-MH-4*	1231186.9000000000	-.39
T-AT1-MH-4*	1286947.9000000000	-.19
T-ATSP-MH-4	1382119.7000000000	.15
T-ETIV-MH-4	1420342.5000000000	.28
T-CT1V-MH-4	1422174.5000000000	.29
T-BT1-MH-4*	1456297.9000000000	.41
T-DT1V2-MH-4	1461578.9000000000	.43
T-AT1I-MH4*	1493935.6000000000	.54
T-DT1-MH-4*	1669195.0000000000	1.17
T-ETSP-MH-4	1744302.4000000000	1.43
T-AT2I-MH4*	<u>2143493.6000000000</u>	2.84 ?

Table 55(a)

ATTITUDE IN LOG <u>PL/AXLNRM/NREND (TYPE I)</u>		
LOG NO. <u>4</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRESS AT FRACTURE</u>		
THE NUMBER OF SAMPLES <u>20</u>		
THE MEAN OF THE SAMPLE	<u>1356.8487000000</u>	
THE STANDARD DEVIATION IS	<u>159.3902300000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-CBSP-BH-4	<u>1030.2470000000</u>	-2.04 ?
T-DBSP-BH-4*	<u>1066.0695000000</u>	-1.82 ?
T-CBIV-BH-4*	1131.7515000000	-1.41
T-DBI-BH-4*	1237.8532000000	-.75
T-EBIV-BH-4*	1283.3253000000	-.46
T-EBSP-BH-4	1293.4303000000	-.40
T-DBIV-BH-4*	1293.5261000000	-.40
T-CBII-BH-4*	1318.9894000000	-.24
T-ABI-BH-4*	1345.0954000000	-.07
T-CBI-BH-4*	1384.8334000000	.18
T-DBII-BH-4	1389.4270000000	.20
T-EBII-BH-4	1389.9065000000	.21
T-EBI-BH-4	1412.7335000000	.35
T-BBIV-BH-4*	1429.1995000000	.45
T-ABII-BH-4*	1432.3726000000	.47
T-BBI-BH-4*	1434.5992000000	.49
T-BBSP-BH-4*	1465.2140000000	.68
T-BBII-BH-4*	1576.3681000000	1.38
T-AB2II-BH-4*	1597.8853000000	1.51
T-ABSP-BH-4*	1623.2485000000	1.67

Table 55(b)

ATTITUDE IN LOG <u>PL/AXLNRM</u> <u>NREND</u> (TYPE I)		
LOG NO. <u>4</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRAIN AT FRACTURE</u>		
THE NUMBER OF SAMPLES <u>20</u>		
THE MEAN OF THE SAMPLE	<u>.0010804999</u>	
THE STANDARD DEVIATION IS	<u>.0002854816</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DBSP-BH-4*	.0006100000	-1.65
T-EBI-BH-4	.0007600000	-1.12
T-CBSP-BH-4	.0008000000	-.98
T-BBIV-BH-4*	.0008500000	-.81
T-BBI-BH-4*	.0008500000	-.81
T-DBI-BH-4*	.0008600000	-.77
T-ABI-BH-4*	.0009500000	-.46
T-CBIV-BH-4*	.0009500000	-.46
T-EBSP-BH-4	.0009700000	-.39
T-CBII-BH-4*	.0010000000	-.28
T-DBIV-BH-4*	.0010600000	-.07
T-AB1II-BH4*	.0010600000	-.07
T-EBIV-BH-4*	.0011300000	.17
T-BBII-BH-4*	.0012100000	.45
T-AB2II-BH4*	.0012200000	.49
T-CBI-BH-4*	.0012300000	.52
T-ABSP-BH-4*	.0013800000	1.05
T-BBSP-BH-4*	.0014000000	1.12
T-DBII-BH-4	<u>.0015800000</u>	1.75 ?
T-EBII-BH-4	<u>.0017400000</u>	2.31 ?

Table 55(c)

ATTITUDE IN LOG PL/AXLNRM/NRENDN (TYPE I)LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 20THE MEAN OF THE SAMPLE 2150190.1000000000THE STANDARD DEVIATION IS 568511.0500000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EBIV-BH-4*	<u>1174627.4000000000</u>	-1.72 ?
I-DBII-BH-4	1230164.6000000000	-1.62
I-BBSP-BH-4*	1297960.1000000000	-1.50
T-DBIV-BH-4*	1547158.7000000000	-1.06
I-ABSP-BH-4*	1712020.0000000000	-.77
I-CBSP-BH-4	1980210.4000000000	-.30
I-EBII-BH-4	2029060.7000000000	-.21
T-ABIII-BH-4*	2053580.8000000000	-.17
I-DBI-BH-4*	2105192.5000000000	-.09
I-BBII-BH-4*	2147296.4000000000	-.01
I-AB2II-BH-4*	2169967.7000000000	.03
I-CBIV-BH-4*	2204710.6000000000	.10
I-ABI-BH-4*	2310276.3000000000	.28
T-DBSP-BH-4*	2374657.2000000000	.39
T-CBI-BH-4*	2409509.5000000000	.46
T-EBSP-BH-4	2572162.5000000000	.74
T-CBII-BH-4*	2592686.7000000000	.78
T-EBI-BH-4	2705414.3000000000	.98
T-BBIV-BH-4*	<u>3187182.0000000000</u>	1.82 ?
T-BBI-BH-4*	<u>3199892.6000000000</u>	1.85 ?

Table 55(d)

ATTITUDE IN LOG PL/AXLNMRNRENDH (TYPE I)LOG NO. 4GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 20THE MEAN OF THE SAMPLE 1315517.2000000000THE STANDARD DEVIATION IS 273797.2700000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EB11-BH-4	<u>798796.2600000000</u>	-1.89 ?
T-DB11-BH-4	879334.2300000000	-1.59
T-BBSP-BH-4*	1040561.4300000000	-.98
T-CB11-BH-4*	1125881.2000000000	-.69
T-EB1V-BH-4*	1135686.1000000000	-.66
T-ABSP-BH-4*	1175267.9000000000	-.51
T-CB1V-BH-4*	1191317.3000000000	-.45
T-DB1V-BH-4*	1220307.7000000000	-.35
T-CBSP-BH-4	1288633.8000000000	-.10
T-BB11-BH-4*	1302783.6000000000	-.05
T-AB211-BH4*	1309742.0000000000	-.02
T-CB11-BH-4*	1318889.4000000000	.01
T-EBSP-BH-4	1333433.2000000000	.07
T-AB111-BH4*	1351294.9000000000	.13
T-AB1-BH-4*	1415889.9000000000	.37
T-DB1-BH-4*	1439364.2000000000	.45
T-DB1V-BH-4*	1681411.2000000000	1.34
T-BB1-BH-4*	1688116.7000000000	1.36
T-DBSP-BH-4*	1747654.9000000000	1.58
T-EB1-BH-4	<u>1858859.8000000000</u>	1.98 ?

Table 56(a)

ATTITUDE IN LOG PR/RJLNRMH (TYPE I)
 LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327
STRESS AT FRACTURE
 THE NUMBER OF SAMPLES 13
 THE MEAN OF THE SAMPLE 902.7308100000
 THE STANDARD DEVIATION IS 116.4773880000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-C-4	756.8788600000	-1.25
T-D-4	800.1504400000	-.88
T-M-4	801.4789700000	-.87
T-I-4	814.1606100000	-.76
T-B-4	815.2476100000	-.75
T-A-4	848.8136300000	-.46
T-F-4	872.4961000000	-.26
T-J-4	898.9078800000	-.03
T-E-4	932.3143600000	.25
T-H-4	951.0915900000	.42
T-K-4	1052.5752000000	1.29
T-L-4	1070.3295000000	1.44
T-G-4	<u>1121.0560000000</u>	1.87 ?

Table 56(b)

ATTITUDE IN LOG PR/KOLNRM (TYPE I)

LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 13

THE MEAN OF THE SAMPLE .0023030768

THE STANDARD DEVIATION IS .0005829148

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-C-4*	.0013500000	-1.64
T-I-4	.0014700000	-1.43
T-H-4	.0019100000	-.67
T-A-4*	.0020000000	-.52
T-U-4	.0020499999	-.43
T-B-4*	.0020800000	-.38
T-K-4	.0022300000	-.13
T-F-4*	.0023800000	.13
T-E-4*	.0025099999	.35
T-J-4	.0026700000	.63
T-M-4	.0029399999	1.09
T-L-4	.0031699999	1.49
T-G-4*	.0031800000	1.50

Table 56(c)

ATTITUDE IN LOG PR/RDLNRM (TYPE 1)

LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS

THE NUMBER OF SAMPLES 13

THE MEAN OF THE SAMPLE 787109.7700000000

THE STANDARD DEVIATION IS 260293.6300000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-F-4	431175.4000000000	-1.37
T-M-4	489773.2700000000	-1.14
T-J-4	531439.5600000000	-.98
T-L-4	552355.4200000000	-.90
T-E-4	716063.2700000000	-.27
T-G-4	741387.5800000000	-.18
T-D-4	780020.8600000000	-.03
T-C-4	845849.7300000000	.23
T-K-4	904255.3100000000	.45
T-H-4	937455.8900000000	.58
T-B-4	943573.6300000000	.60
T-I-4	958167.5500000000	.66
T-A-4	<u>1400909.9000000000</u>	2.36 ?

Table 56(d)

ATTITUDE IN LOG PR/RULNRMR (TYPE I)

LOG NO. 4 GRAPHITE TYPE DESIGNATION H-327

SECANT MODULUS

THE NUMBER OF SAMPLES 13

THE MEAN OF THE SAMPLE 409894.2700000000

THE STANDARD DEVIATION IS 87564.1680000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-M-4	272611.8900000000	-1.57
T-J-4	336669.6200000000	-.84
T-L-4	337643.3800000000	-.82
T-G-4	352533.3400000000	-.65
T-F-4	366595.0000000000	-.49
T-E-4	371439.9900000000	-.44
T-D-4	390317.2900000000	-.22
T-B-4	391945.9700000000	-.20
T-A-4	424406.8200000000	.17
T-K-4	472006.8300000000	.71
T-H-4	497953.7100000000	1.01
T-I-4	553850.7600000000	1.64
T-C-4	<u>560651.0100000000</u>	1.72 ?

Table 57(a)

ATTITUDE IN LOG PL/AXLNRM/NRDLTH(TYPE I)

LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327

STRESS AT FRACTURE

THE NUMBER OF SAMPLES 10

THE MEAN OF THE SAMPLE 1524.4967000000

THE STANDARD DEVIATION IS 455.2333300000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-UT1I-MH-6*	<u>712.3971500000</u>	-1.78 ?
T-CF1I-MH-6*	1050.0389000000	-1.04
T-ET1I-MH-6*	1082.2545000000	-.97
T-BT1I-MH-6*	1415.2698000000	-.24
T-ET1I-MH-6	1629.7480000000	.23
T-CT2I-MH-6	1716.3283000000	.42
T-UT2I-MH-6*	1718.2454000000	.43
T-AT2I-MH-6*	1744.9921000000	.48
T-BT2I-MH-6	2041.7423000000	1.14
T-AT1I-MH-6*	2133.9513000000	1.34

Table 57(b)

ATTITUDE IN LOG PL/AXLNRMNRNMDLTH(TYPE I)LOG NO. 0 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE .0011919999THE STANDARD DEVIATION IS .0003470767

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
F-UT1I-MH-6*	<u>.0005300000</u>	-1.91 ?
F-CT1I-MH-6*	<u>.0007200000</u>	-1.36
F-ET1I-MH-6*	<u>.0010500000</u>	-.41
F-BT1I-MH-6*	<u>.0011200000</u>	-.21
F-ET1-MH-6	<u>.0012400000</u>	.14
F-CT2I-MH-6	<u>.0013200000</u>	.37
F-AT2I-MH-6*	<u>.0013500000</u>	.46
F-AT1I-MH-6*	<u>.0014600000</u>	.77
F-BT2I-MH-6	<u>.0015200000</u>	.95
F-UT2I-MH-6*	<u>.0016100000</u>	1.20

Table 57(c)

ATTITUDE IN LOG PL/AXLNRM/NRMOLTH(TYPE I)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1819439.5000000000THE STANDARD DEVIATION IS 306935.7900000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-ET1I-MH-6*	1367460.4000000000	-1.47
T-DT2I-MH-6*	1552631.5000000000	-.97
T-CF1I-MH-6*	1567910.5000000000	-.82
T-BT2I-MH-6	1567910.5000000000	-.82
T-DT1I-MH-6*	1705205.9000000000	-.37
T-AT2I-MH-6*	1916335.1000000000	.32
T-CT2I-MH-6	2011720.1000000000	.63
T-ET1I-MH-6	2083484.6000000000	.86
T-AT1I-MH-6*	2139044.3000000000	1.04
T-BF1I-MH-6*	2282693.2000000000	1.51

Table 57(d)

ATTITUDE IN LOG PL/AXLNRMN,NRMDLTH(TYPE I)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1287612.8000000000THE STANDARD DEVIATION IS 142112.9600000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
I-ET11-MH-6*	<u>1033718.5900000000</u>	-1.81 ?
I-D121-MH-6*	<u>1067233.2000000000</u>	-1.55
I-UT11-MH-6*	<u>1263633.7000000000</u>	-.17
I-A121-MH-6*	<u>1292586.8000000000</u>	.03
I-CT21-MH-6	<u>1300248.7000000000</u>	.09
I-ET1-MH-6	<u>1314312.9000000000</u>	.19
I-UT21-MH-6	<u>1343251.5000000000</u>	.39
I-DT11-MH-6*	<u>1344145.5000000000</u>	.40
I-CT11-MH-6*	<u>1450387.4000000000</u>	1.20
T-A111-MH-6*	<u>1461610.4000000000</u>	1.22

Table 58(a)

ATTITUDE IN LOG PL/AXIUMBRINREDDP (TYPE I)

LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLLS 5THE MEAN OF THE SAMPLE 1660.0072000000THE STANDARD DEVIATION IS 434.8192400000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-ABI-BH-6*	1202.2185000000	-1.05
T-EBI-BH-6*	1232.4969000000	-.98
T-BBI-BH-6	1714.5563000000	.13
T-DBI-BH-6*	1936.2553000000	.75
T-CBI-BH-6*	2164.5090000000	1.16

Table 58(b)

ATTITUDE IN LOG PL/AXLNRMRENREDB (TYPE I)

LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE .0014640000THE STANDARD DEVIATION IS .0003285270

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-AB1-BH-6*	.0011400000	-.99
T-EB1-BH-6*	.0012600000	-.62
T-BB1-BH-6	.0013300000	-.41
T-DB1-BH-6*	.0016400000	.54
T-CB1-BH-6*	.0019500000	1.48

Table 58(c)

ATTITUDE IN LOG PL/AXLNRM/RNREND (TYPE I)LOG NO. 2 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 2001171.4000000000THE STANDARD DEVIATION IS 553960.2400000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EBI-BH-6*	1156240.1000000000	-1.53
T-ABI-BH-6*	1902244.3000000000	-.18
T-BDI-BH-6	1944516.5000000000	-.10
T-DBI-BH-6*	2495551.6000000000	.89
T-CBI-BH-6*	2507304.5000000000	.91

Table 58(d)

ATTITUDE IN LOG PL/AXLNRMH,NRENDP (TYPE I)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1128605.1000000000THE STANDARD DEVIATION IS 123529.5190000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EBI-BH-6*	978172.1700000000	-1.22
T-ABI-BH-6*	1054577.5000000000	-.60
T-CBI-BH-6*	1110004.6000000000	-.15
T-DBI-BH-6*	1211131.3000000000	.67
T-BBI-BH-6	1239140.1000000000	1.30

Table 59(a)

ATTITUDE IN LOG PR/RDLNRMR,NRMDLTH(TYPE I)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 9THE MEAN OF THE SAMPLE 876.8947600000THE STANDARD DEVIATION IS 168.2269000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3AI-MH-6*	<u>545.6659000000</u>	-1.97 ?
T-3EI-MH-6	700.0259400000	-1.05
T-4EI-MH-6*	783.1316100000	-.56
T-2EI-MH-6*	894.2857800000	.10
T-1AI-MH-6	948.5858800000	.43
T-1EI-MH-6*	949.8375000000	.43
T-2AI-MH-6*	1004.6473600000	.76
T-5AI-MH-6*	1012.5134400000	.81
T-5EI-MH-6*	1053.3594000000	1.05

Table 59(b)

ATTITUDE IN LOG PR/RDLNRMN,NRMDLTH(TYPE I)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 9THE MEAN OF THE SAMPLE .0021999999THE STANDARD DEVIATION IS .0003281768

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-4EI-MH-6*	.0017200000	-1.46
T-3EI-MH-6	.0017800000	-1.28
T-3AI-MH-6*	.0019000000	-.91
T-2EI-MH-6*	.0021299999	-.21
T-2AI-MH-6*	.0023300000	.40
T-1EI-MH-6*	.0023999999	.61
T-1AI-MH-6	.0024500000	.76
T-5AI-MH-6*	.0025099999	.94
T-5EI-MH-6*	.0025799999	1.16

Table 59(c)

ATTITUDE IN LOG PR/RDLNRM, NRMDLTH(TYPE I)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 9THE MEAN OF THE SAMPLE 670710.5200000000THE STANDARD DEVIATION IS 182182.2200000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3AI-MH-6*	<u>329508.4000000000</u>	-1.87 ?
T-3EI-MH-6	573430.2000000000	-.53
T-1AI-MH-6	596782.5400000000	-.41
T-5AI-MH-6*	634909.4300000000	-.20
T-1EI-MH-6*	679061.6600000000	.05
T-2EI-MH-6*	707344.7000000000	.20
T-5EI-MH-6*	715875.3900000000	.25
T-2AI-MH-6*	788990.0900000000	.65
T-4EI-MH-6*	<u>1010492.4300000000</u>	1.87 ?

Table 59(d)

ATTITUDE IN LOG PR/ROLNRMR,NRMDLTH(TYPE 1)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327
SECANT MODULUSTHE NUMBER OF SAMPLES 9
THE MEAN OF THE SAMPLE 397935.6000000000
THE STANDARD DEVIATION IS 46663.8840000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3AI-MH-6*	<u>287192.5800000000</u>	-2.37 ?
T-1AI-MH-6	387177.9100000000	-.23
T-3EI-MH-6	393273.0000000000	-.10
T-1EI-MH-6*	395765.6200000000	-.05
T-5AI-MH-6*	403391.8200000000	.12
T-5EI-MH-6*	408278.8800000000	.22
T-2EI-MH-6*	419852.4800000000	.47
T-2AI-MH-6*	431179.1300000000	.71
T-4EI-MH-6*	455309.8900000000	1.23

Table 60(a)

ATTITUDE IN LOG PR/RDLNRMN+NRNDB (TYPE I)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 891.9481900000THE STANDARD DEVIATION IS 172.8819300000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5J1-BH-6*	694.7135300000	-1.14
T-1J1-BH-6*	824.3059100000	-.39
T-2J1-BH-6*	949.8628700000	.33
T-3J1-BH-6*	1098.9104000000	1.20

Table 60(h)

ATTITUDE IN LOG PR/ROLNRMH, NREMOB (TYPE I)

LOG NO. 2 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE .0025725000THE STANDARD DEVIATION IS .0008176949

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5J1-BH-6*	.0016000000	-1.19
T-2J1-BH-6*	.0023800000	-.24
T-1J1-BH-6*	.0027400000	.20
T-3J1-BH-6*	.0035699999	1.22

Table 60(c)

ATTITUDE IN LOG PR/ROLNRMN,NRENDN (TYPE I)LOG NO. 0GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 4THE MEAN OF THE SAMPLE 569669.2200000000THE STANDARD DEVIATION IS 80313.2550000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-1J1-BH-6*	472281.3700000000	-1.21
T-3J1-BH-6*	563543.8500000000	-.08
T-2J1-BH-6*	574143.4200000000	.06
T-5J1-BH-6*	668708.2200000000	1.23

Table 60(d)

ATTITUDE IN LOG PR/RDLNRMR,NREND8 (TYPE I)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUS

THE NUMBER OF SAMPLES 4
 THE MEAN OF THE SAMPLE 360489.4100000000
 THE STANDARD DEVIATION IS 66472.3640000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-1JI-BH-6*	300841.5700000000	-.90
T-3JI-BH-6*	307818.0600000000	-.79
T-2JI-BH-6*	399102.0500000000	.58
T-5JI-BH-6*	434195.9600000000	1.11

Table 61(a)

ATTITUDE IN LOG PL/AXLNRM, NRMULTH (TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1705.101000000THE STANDARD DEVIATION IS 300.7998200000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DTI-MH-7	1206.4787000000	-1.66
T-BTI-MH-7	1701.0494000000	-.01
T-ATI-MH-7*	1798.2550000000	.31
T-CTI-MH-7*	1808.0016000000	.34
T-ETI-MH-7*	2011.7202000000	1.02

Table 61(b)

ATTITUDE IN LOG PL/AXLNRM, NRMULTH(TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE .0014820000THE STANDARD DEVIATION IS .0001922758

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DT1-MH-7	.0012200000	-1.36
T-CT1-MH-7*	.0014100000	-.37
T-AT1-MH-7*	.0015100000	.15
T-BT1-MH-7	.0015200000	.20
T-ET1-MH-7*	.0017500000	1.39

Table 61(c)

ATTITUDE IN LOG PL/AXLNRM, NRMDLTH (TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 2004918.7000000000THE STANDARD DEVIATION IS 789201.3900000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DT1-MH-7	1369053.9000000000	-.81
T-BT1-MH-7	1467971.5000000000	-.68
T-CT1-MH-7*	1782536.8000000000	-.28
T-ET1-MH-7*	2079626.2000000000	.09
T-AT1-MH-7*	3325405.0000000000	1.67

Table 61(d)

ATTITUDE IN LOG PL/AXLNRM/NRMDLTH(TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1146150.2000000000THE STANDARD DEVIATION IS 107233.4600000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DT1-MH-7	988916.9900000000	-1.47
T-BT1-MH-7	1119111.5000000000	-.25
T-ET1-MH-7*	1149554.3000000000	.03
T-AT1-MH-7*	1190897.4000000000	.42
T-CT1-MH-7*	1282270.6000000000	1.27

Table 62(a)

ATTITUDE IN LOG PL/AXLNRMNRENDB (TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 9THE MEAN OF THE SAMPLE 1602.6922000000THE STANDARD DEVIATION IS 200.4062100000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB1-BH-7*	1374.6886000000	-1.14
T-CB11-BH-7*	1389.9066000000	-1.06
T-DB11-BH-7*	1471.0689000000	-.66
T-EB11-BH-7*	1476.9591000000	-.63
T-AB11-BH-7*	1562.9824000000	-.20
T-CB12-BH-7*	1652.1551000000	.25
T-AB12-BH-7	1760.2101000000	.79
T-EB12-BH-7*	1765.2828000000	.81
T-BB12-BH-7	<u>1970.9764000000</u>	1.84 ?

Table 62(b)

ATTITUDE IN LOG PL/AXLHRMR,NRENOB (TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 9THE MEAN OF THE SAMPLE .0014744444THE STANDARD DEVIATION IS .0002667522

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-BB11-BH-7*	.0011500000	-1.21
T-CBI1-BH-7*	.0012000000	-1.02
T-AB12-BH-7	.0012500000	-.84
T-EB11-BH-7*	.0013600000	-.43
T-DB1-BH-7*	.0014500000	-.09
T-CBI2-BH-7*	.0014900000	.06
T-BB12-BH-7	.0016400000	.62
T-EB12-BH-7*	.0018500000	1.40
T-AB11-BH-7*	.0018800000	1.51

Table 62(c)

ATTITUDE IN LOG PL/AXLNRMN,NRENDB (TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 9THE MEAN OF THE SAMPLE 1923258.8000000000THE STANDARD DEVIATION IS 633151.4000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB1-BH-7*	1268162.9000000000	-1.03
T-EB11-BH-7*	1375099.8000000000	-.87
T-EB12-BH-7*	1498738.0000000000	-.67
T-CB11-BH-7*	1690583.9000000000	-.37
T-AB11-BH-7*	1834928.1000000000	-.14
T-CB12-BH-7*	1970460.2000000000	.07
T-BB11-BH-7*	2029060.7000000000	.17
T-BB12-BH-7	2268083.2000000000	.55
T-AB12-BH-7	<u>3373313.4000000000</u>	2.29 ?

Table 62(d)

ATTITUDE IN LOG PL/AXLNRMH,NREND8 (TYPE 1)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327SILICANT MODULUSTHE NUMBER OF SAMPLES 9THE MEAN OF THE SAMPLE 1108433.2000000000THE STANDARD DEVIATION IS 179224.6800000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-AB11-BH-7*	831373.6000000000	-1.55
T-DB1-BH-7*	948061.1200000000	-.89
T-EB12-BH-7*	954206.9300000000	-.86
T-EB11-BH-7*	1085999.3000000000	-.13
T-CB12-BH-7*	1108828.9000000000	.00
T-CB11-BH-7*	1158255.4000000000	.28
T-BB12-BH-7	1201814.9000000000	.52
T-BB11-BH-7*	1279190.4000000000	.95
T-AB12-BH-7	1408168.1000000000	1.67

Table 63(a)

ATTITUDE IN LOG PR/RDLNRM, NRMDLTH(TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 7THE MEAN OF THE SAMPLE 872.572000000THE STANDARD DEVIATION IS 94.996638000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-1E1-MH-7*	<u>677.364010000</u>	-2.05 ?
T-1A1-MH-7*	<u>846.959060000</u>	-.27
T-4A1-MH-7*	<u>866.497250000</u>	-.06
T-3A1-MH-7	<u>889.233200000</u>	.18
T-2E1-MH-7*	<u>933.367920000</u>	.64
T-4E1-MH-7*	<u>937.105100000</u>	.68
T-3E1-MH-7	<u>957.476940000</u>	.89

Table 63(b)

ATTITUDE IN LOG PR/RDLNRMR,NRMDLTH(TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 7THE MEAN OF THE SAMPLE .0024757142THE STANDARD DEVIATION IS .0003984912

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-1E1-MH-7*	<u>.0017200000</u>	-1.90 ?
T-1A1-MH-7*	<u>.0022799999</u>	-.49
T-3A1-MH-7	<u>.0024100000</u>	-.16
T-2E1-MH-7*	<u>.0025600000</u>	.21
T-4E1-MH-7*	<u>.0026199999</u>	.36
T-3E1-MH-7	<u>.0028599999</u>	.96
T-4A1-MH-7*	<u>.0028800000</u>	1.01

Table 63(c)

ATTITUDE IN LOG PR/RDLNRMR,NRMDLTH(TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 7THE MEAN OF THE SAMPLE 647123.7400000000THE STANDARD DEVIATION IS 96274.3300000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-4AI-MH-7*	505246.2100000000	-1.47
T-1EI-MH-7*	532446.0800000000	-1.19
T-3AI-MH-7	639978.5300000000	-.07
T-1AI-MH-7*	662085.1300000000	.16
T-3EI-MH-7	713014.7400000000	.68
T-4EI-MH-7*	716197.8500000000	.72
T-2EI-MH-7*	760897.7700000000	1.18

Table 63(d)

ATTITUDE IN LOG PR/ROLNRM, NRMDLTH (TYPE I)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

SECANT MODULUS

THE NUMBER OF SAMPLES 7

THE MEAN OF THE SAMPLE 356026.570000000

THE STANDARD DEVIATION IS 30012.294000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-4AI-MH-7*	<u>300867.100000000</u>	-1.84 ?
T-3EI-MH-7	<u>334782.150000000</u>	-.71
T-4EI-MH-7*	<u>357673.700000000</u>	.05
T-2EI-MH-7*	<u>364596.840000000</u>	.29
T-3AI-MH-7	<u>368976.480000000</u>	.43
T-1AI-MH-7*	<u>371473.540000000</u>	.51
T-1EI-MH-7*	<u>393816.280000000</u>	1.26

Table 64(a)

ATTITUDE IN LOG PR/ROLNKM, NREND (TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 874.224600000THE STANDARD DEVIATION IS 170.573670000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2J1-BH-7*	666.275450000	-1.22
T-4J1-BH-7	727.180740000	-.86
T-3J1-BH-7	928.081310000	.32
T-1J1-BH-7	984.328660000	.65
T-5J1-BH-7*	1065.256800000	1.12

Table 64(b)

ATTITUDE IN LOG PR/RDLNRMR,NREND8 (TYPE I)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE .0026399999THE STANDARD DEVIATION IS .0006446317

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2JI-BH-7*	.0018500000	-1.23
T-4JI-BH-7	.0024800000	-.25
T-1JI-BH-7	.0025399999	-.16
T-3JI-BH-7	.0026899999	.08
T-5JI-BH-7*	.0036399999	1.55

Table 64(c)

ATTITUDE IN LOG PR/RDLNRM,INREDB (TYPE 1)LOG NO. 7GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS

THE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 580999.4400000000THE STANDARD DEVIATION IS 133010.5200000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3JI-BH-7	511339.5700000000	-.52
T-4JI-BH-7	515820.2600000000	-.49
T-5JI-BH-7*	519946.8000000000	-.46
T-2JI-BH-7*	539747.3200000000	-.31
T-1JI-BH-7	<u>818143.3100000000</u>	1.78 ?

Table 64(d)

ATTITUDE IN LOG PR/ROLNRMR,NREND8 (TYPE J)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327
SECANT MODULUSTHE NUMBER OF SAMPLES 5
THE MEAN OF THE SAMPLE 335712.5000000000
THE STANDARD DEVIATION IS 41918.5710000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5J1-BH-7*	292652.9900000000	-1.03
T-4J1-BH-7	293218.0400000000	-1.01
T-3J1-BH-7	345011.6400000000	.22
T-2J1-BH-7*	360148.8900000000	.58
T-1J1-BH-7	387530.9800000000	1.24

Table 65(a)

ATTITUDE IN LOG PL/AXLNKMR NRMDLTH (TYPE II)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1375.1712000000THE STANDARD DEVIATION IS 373.4694100000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-ET1-MH-6	<u>813.5147900000</u>	-1.48
T-DT-MH-6	<u>976.1904900000</u>	-1.05
T-ET2-MH-6	1064.7538000000	-.92
T-CT1-MH-6	1079.5758000000	-.78
T-UT-MH-6	1354.6852000000	-.11
T-BT-MH-6	1459.2445000000	.22
T-AT-MH-6	1665.0781000000	.77
T-CT2-MH-6	1702.8973000000	.87
T-BT-MH-6	1727.2113000000	.93
T-AT-MH-6	<u>1928.7587000000</u>	1.46

Table 65(b)

ATTITUDE IN LOG PL/AXLNRM, NRMOLTH (TYPE II)LOG NO. 6GRAPHITE TYPE DESIGNATION H-327SIRAIN AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE .0010170000THE STANDARD DEVIATION IS .0003089067

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-ET1-MH-6	<u>.0004700000</u>	-1.77
T-CT1-MH-6	.0007200000	-.96
T-ET2-MH-6	.0007500000	-.86
T-DT-MH-6	.0009800000	-.12
T-AT-MH-6	.0009900000	-.09
T-BT-MH-6	.0010800000	.20
T-A1-MH-6	.0011300000	.37
T-BT-MH-6	.0012600000	.79
T-CT2-MH-6	.0012600000	.79
T-DT-MH-6	<u>.0015300000</u>	1.66

Table 65(c)

ATTITUDE IN LOG PL/AXLNRM,NRMOLTH(TYPE II)LOG NO. 6GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1701475.8000000000THE STANDARD DEVIATION IS 443967.7200000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DT-MH-0	<u>1149425.3000000000</u>	-1.24
T-DT-MH-0	1181198.0000000000	-1.17
T-BT-MH-0	1393750.3000000000	-.68
T-ET2-MH-0	1443965.4000000000	-.58
T-CT1-MH-6	1540574.3000000000	-.36
T-CT2-MH-6	1600467.4000000000	-.23
T-ET1-MH-6	1964528.4000000000	.59
T-AT-MH-0	2082451.3000000000	.86
T-AT-MH-0	2262177.8000000000	1.26
T-BT-MH-0	<u>2391219.3000000000</u>	1.55

Table 65(d)

ATTITUDE IN LOG PL/AXLNRM, NRMDLTH (TYPE II)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 1401566.7000000000THE STANDARD DEVIATION IS 304628.5800000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-D1-MH-6	<u>872343.2700000000</u>	-1.74 ?
F-D1-MH-6	990112.7400000000	-1.33
T-B1-MH-6	1158130.5000000000	-.80
F-CT2-MH-6	1351505.8000000000	-.16
F-ET2-MH-6	1419674.3000000000	.06
T-CT1-MH-6	1499410.8000000000	.32
T-B1-MH-6	1594269.7000000000	.65
T-A1-MH-6	1681897.1000000000	.92
T-AT-MH-6	1706866.1000000000	1.00
T-ET1-MH-6	<u>1730456.9000000000</u>	1.08

Table 66(a)

ATTITUDE IN LOG PL/AXLNRMR,NRENDB (TYPE II)LOG NO. 6GRAPHITE TYPE DESIGNATION H-827STRESS AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 1677.1241000000THE STANDARD DEVIATION IS 316.7814200000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-EB-BH-6	<u>1272.9944000000</u>	-1.28
T-AB-BH-6	1402.7745000000	-.87
T-BB-BH-6	1829.1493000000	.48
T-CB-BH-6	1916.6362000000	.76
T-DB-BH-6	<u>1964.0661000000</u>	.91

Table 66(c)

ATTITUDE IN LOG PL/AXLNRM, WRENDB (TYPE II)

LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327
YOUNG'S MODULUS

THE NUMBER OF SAMPLES 5
 THE MEAN OF THE SAMPLE 1621512.4000000000
 THE STANDARD DEVIATION IS 308109.8900000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
F-BB-BH-6	<u>1596876.4000000000</u>	<u>-.73</u>
T-DB-BH-6	<u>1613196.0000000000</u>	<u>-.58</u>
T-CB-BH-6	<u>1664080.1000000000</u>	<u>-.51</u>
T-EB-BH-6	<u>1908369.1000000000</u>	<u>.28</u>
T-AB-BH-6	<u>2325040.7000000000</u>	<u>1.63</u>

Table 66(d)

ATTITUDE IN LOG PL/AXLNRM •NREND (TYPE II)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327SECANT MODULUS

THE NUMBER OF SAMPLES 5
 THE MEAN OF THE SAMPLE 1484754.6000000000
 THE STANDARD DEVIATION IS 119121.4980000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB-BH-6	<u>1318165.1000000000</u>	-1.40
T-BB-BH-6	<u>1407037.9000000000</u>	-.65
T-AB-BH-6	<u>1541510.4000000000</u>	.48
T-CB-BH-6	<u>1545674.4000000000</u>	.51
T-EB-BH-6	<u>1611385.3000000000</u>	1.06

Table 67(a)

ATTITUDE IN LOG PR/ROLNRMB,NRMDLTH(TYPE II)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURE (PSI)THE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 776.3636500000THE STANDARD DEVIATION IS 168.0998700000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-4F-MH-6	<u>536.9641200000</u>	-1.42
T-3F-MH-6	571.9849100000	-1.22
T-4B-MH-6	674.7180200000	-.60
T-2F-MH-6	682.7165000000	-.56
T-3B-MH-6	712.0030500000	-.38
T-2B-MH-6	782.2486100000	.04
T-1B-MH-6	886.5450100000	.67
T-1F-MH-6	914.5296000000	.82
T-5B-MH-6	987.9518100000	1.26
T-5F-MH-6	<u>1011.9750500000</u>	1.40

Table 67(b)

ATTITUDE IN LOG PR/ROLNR4R,NRMOLTH(TYPE II)LOG NO. 6GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE .0017319999THE STANDARD DEVIATION IS .0004366997

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
I-3F-MH-6	<u>.0010700000</u>	-1.52
T-4F-MH-6	.0013400000	-.90
I-2F-MH-6	.0013700000	-.83
I-4B-MH-6	.0015200000	-.49
I-1B-MH-6	.0016800000	-.12
I-2B-MH-6	.0016900000	-.10
I-3B-MH-6	.0018000000	.16
T-1F-MH-6	.0021500000	.96
T-5F-MH-6	.0023300000	1.37
T-5B-MH-6	<u>.0023700000</u>	1.46

Table 67(c)

ATTITUDE IN LOG PR/KOLNMR NRMULTH (TYPE II)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327
YOUNG'S MODULUS (PSI)THE NUMBER OF SAMPLES 10
THE MEAN OF THE SAMPLE 720617.4000000000
THE STANDARD DEVIATION IS 118838.1720000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
I-3B-MH-6	<u>551940.3500000000</u>	-1.42
I-4B-MH-6	603025.0400000000	-.99
I-5B-MH-6	634115.4100000000	-.73
I-3F-MH-6	640520.6200000000	-.67
I-5F-MH-6	681464.6900000000	-.33
I-2B-MH-6	710436.8800000000	-.09
I-1F-MH-6	786387.5900000000	.57
I-2F-MH-6	838423.7700000000	.99
I-4F-MH-6	860339.5900000000	1.18
I-1B-MH-6	<u>897520.2000000000</u>	1.49

Table 67(d)

ATTITUDE IN LOG PR/ROLNRM, NRMULTH (TYPE II)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327
SECANT MODULUS (PSI)THE NUMBER OF SAMPLES 10
THE MEAN OF THE SAMPLE 454137.7400000000
THE STANDARD DEVIATION IS 50648.4560000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3B-MH-6	<u>395557.2500000000</u>	-1.16
T-4F-MH-6	400719.4900000000	-1.05
T-5B-MH-6	416857.3000000000	-.74
T-1F-MH-6	425362.6100000000	-.57
T-5F-MH-6	434324.0600000000	-.39
T-4B-MH-6	443893.4400000000	-.20
T-2B-MH-6	462869.0000000000	.17
T-2F-MH-6	498333.2200000000	.87
T-1B-MH-6	528895.8400000000	1.48
T-3F-MH-6	<u>534565.1400000000</u>	1.59

Table 68(a)

ATTITUDE IN LOG PR/ROLNRM, NREND (TYPE II)LOG NO. 6 GRAPHITE TYPE DESIGNATION H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 795.4905500000THE STANDARD DEVIATION IS 139.5700900000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-4K-BH-6	<u>647.0978100000</u>	-1.06
T-5K-BH-6	<u>685.1161100000</u>	-.93
T-1K-BH-6	<u>841.5737500000</u>	.33
T-3K-BH-6	<u>842.1664000000</u>	.33
T-2K-BH-6	<u>981.4987600000</u>	1.33

Table 68(b)

ATTITUDE IN LOG PR/ROLNRM R.NREND (TYPE II)LOG NO. 6GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE .0019899999THE STANDARD DEVIATION IS .0005154124

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-4K-BH-6	<u>.0014800000</u>	-.99
T-3K-BH-6	.0017300000	-.50
T-5K-BH-6	.0017900000	-.39
T-1K-BH-6	.0021399999	.29
T-2K-BH-6	<u>.0028100000</u>	1.59

Table 68(c)

ATTITUDE IN LOG PR/RLNRMR,NRENOB (TYPE II)LOG NO. 6GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 639158.4400000000THE STANDARD DEVIATION IS 103319.0920000000

SPECIMEN NO.	VALUE	SIOMAS FROM MEAN
T-5K-BH-6	<u>563339.4600000000</u>	-.73
T-3K-BH-6	<u>595234.3600000000</u>	-.43
T-4K-BH-6	<u>597720.8600000000</u>	-.40
T-2K-BH-6	<u>618963.1700000000</u>	-.20
T-1K-BH-6	<u>820534.3960000000</u>	1.76

Table 68(d)

ATTITUDE IN LOG PR/RDLNRMH NREND8 (TYPE II)LOG NO. 6GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 407629.8800000000THE STANDARD DEVIATION IS 54896.7160000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2K-BH-6	<u>349287.8200000000</u>	-1.06
T-5K-BH-6	371573.2500000000	-.66
T-1K-BH-6	393258.7600000000	-.26
T-4K-BH-6	437228.2500000000	.54
T-3K-BH-6	<u>486801.3900000000</u>	1.44

Table 69(a)

ATTITUDE IN LOG <u>PL/AXLNRM</u> • <u>NRMQLTH</u>		(TYPE II)
LOG NO. <u>7</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>STRESS AT FRACTURE</u>		
THE NUMBER OF SAMPLES	<u>8</u>	
THE MEAN OF THE SAMPLE	<u>1351.6358000000</u>	
THE STANDARD DEVIATION IS	<u>293.8052800000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-BT-MH-7	<u>1025.8368000000</u>	-1.11
T-DT-MH-7	1028.1124000000	-1.10
T-ET1-MH-7	1132.9681000000	-.74
T-ET2-MH-7	1202.5336000000	-.51
T-AT2-MH-7	1471.4630000000	.41
T-BT-MH-7	1524.7283000000	.59
T-CT-MH-7	1621.9101000000	.92
T-AT1-MH-7	<u>1805.5341000000</u>	1.54

Table 69(b)

ATTITUDE IN LOG PL/AXLNRMR,NRMDLTH (TYPE II)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 8

THE MEAN OF THE SAMPLE .0011075000

THE STANDARD DEVIATION IS .0001517281

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-ET2-MH-7	<u>.0007900000</u>	-2.09 ?
T-BT-MH-7	<u>.0010100000</u>	-.64
T-ET1-MH-7	<u>.0010900000</u>	-.12
T-DT-MH-7	<u>.0011000000</u>	-.05
T-AT2-MH-7	<u>.0011900000</u>	.54
T-AT1-MH-7	<u>.0012000000</u>	.61
T-BT-MH-7	<u>.0012400000</u>	.87
T-CT-MH-7	<u>.0012400000</u>	.87

Table 69(c)

ATTITUDE IN LOG <u>PL/AXLNRM</u> NRMDLTH		(TYPE II)
LOG NO. <u>7</u>	GRAPHITE TYPE DESIGNATION <u>H-327</u>	
<u>YOUNG'S MODULUS</u>		
THE NUMBER OF SAMPLES	<u>8</u>	
THE MEAN OF THE SAMPLE	<u>1409494.2000000000</u>	
THE STANDARD DEVIATION IS	<u>228266.6700000000</u>	
SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-ET1-MH-7	<u>1099206.7000000000</u>	-1.36
T-BT-MH-7	1148654.4000000000	-1.14
T-DT-MH-7	1191864.2000000000	-.95
T-BT-MH-7	1473612.4000000000	.28
T-AT2-MH-7	1500161.8000000000	.40
T-CT-MH-7	1560318.6000000000	.66
T-ET2-MH-7	1625910.6000000000	.95
T-AT1-MH-7	<u>1676225.2000000000</u>	1.17

Table 69(d)

ATTITUDE IN LOG PL/AXLNMR,NRMDLTH (TYPE II)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

SECANT MODULUS

THE NUMBER OF SAMPLES 8

THE MEAN OF THE SAMPLE 1223836.1000000000

THE STANDARD DEVIATION IS 219120.7900000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DT-MH-7	<u>934647.6800000000</u>	-1.32
T-BT-MH-7	1015680.0000000000	-.95
T-ET1-MH-7	1039420.3200000000	-.84
I-BT-MH-7	1229619.6000000000	.03
T-AT2-MH-7	1236523.5000000000	.06
T-CT-MH-7	1307992.0000000000	.38
T-AT1-MH-7	1504611.7000000000	1.28
T-ET2-MH-7	<u>1522194.4000000000</u>	1.36

Table 70(a)

ATTITUDE IN LOG PL/AXLNRMR,NREND (TYPE II)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

STRESS AT FRACTURE (PSI)

THE NUMBER OF SAMPLES 6

THE MEAN OF THE SAMPLE 1597.895800000

THE STANDARD DEVIATION IS 141.284850000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB1-BH-7	<u>1384.986600000</u>	-1.51
T-AB-BH-7	1475.840400000	-.86
T-EB-BH-7	1592.741900000	-.04
T-CB-BH-7	1693.837000000	.68
T-DB2-BH-7	1703.604500000	.75
T-DB-BH-7	<u>1736.364700000</u>	.98

Table 70(b)

ATTITUDE IN LOG PL/AXLNRM/NBEND (TYPE II)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

STRAIN AT FRACTURE

THE NUMBER OF SAMPLES 6

THE MEAN OF THE SAMPLE .0011900000

THE STANDARD DEVIATION IS .0002132604

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB1-BH-7	<u>.0009300000</u>	-1.22
T-CB-BH-7	<u>.0011100000</u>	-.38
T-EB-BH-7	<u>.0011100000</u>	-.38
T-AB-BH-7	<u>.0011200000</u>	-.33
T-BB-BH-7	<u>.0013300000</u>	.66
T-DB2-BH-7	<u>.0015400000</u>	1.64

Table 70(c)

ATTITUDE IN LOG PL/AXLNRMR,NREND8 (TYPE II)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

YOUNG'S MODULUS (PSI)

THE NUMBER OF SAMPLES 6

THE MEAN OF THE SAMPLE 1789406.1000000000

THE STANDARD DEVIATION IS 239134.9700000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-AB-BH-7	<u>1518007.3000000000</u>	-1.13
T-BB-BH-7	1601418.5000000000	-.79
T-DB2-BH-7	1694005.1000000000	-.40
T-EB-BH-7	1765850.9000000000	-.10
T-DB1-BH-7	2074413.3000000000	1.19
T-CB-BH-7	<u>2082741.6000000000</u>	1.23

Table 70(d)

ATTITUDE IN LOG PL/AXLNRMN,NREND (TYPE II)

LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327

SECANT MODULUS (P81)

THE NUMBER OF SAMPLES 6

THE MEAN OF THE SAMPLE 1363267.2000000000

THE STANDARD DEVIATION IS 154237.9000000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-DB2-BH-7	<u>1106236.7000000000</u>	-1.67
T-BB-BH-7	<u>1305537.3000000000</u>	-.37
T-AB-BH-7	<u>1317714.7000000000</u>	-.30
T-EB-BH-7	<u>1434902.6000000000</u>	.46
T-DB1-BH-7	<u>1489232.9000000000</u>	.82
T-CB-BH-7	<u>1525979.2000000000</u>	1.05

Table 71(a)

ATTITUDE IN LOG PR/RDLNRMR,NRMDLTH(TYPE II)LOG NO. 7

GRAPHITE TYPE DESIGNATION

H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 819.1017400000THE STANDARD DEVIATION IS 63.5373190000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3B-MH-7	<u>728.7213400000</u>	-1.42
T-4F-MH-7	<u>741.7315800000</u>	-1.22
T-2F-MH-7	<u>771.0681900000</u>	-.76
T-1B-MH-7	<u>792.4673100000</u>	-.42
T-3F-BH-7	<u>810.8909300000</u>	-.13
T-5F-MH-7	<u>832.5817100000</u>	.21
T-4B-MH-7	<u>836.1629800000</u>	.27
T-1F-MH-7	<u>866.2508700000</u>	.74
T-5B-MH-7	<u>878.6985500000</u>	.94
T-2B-MH-7	<u>932.4442000000</u>	1.78 ?

Table 71(b)

ATTITUDE IN LOG PR/RDLNRMR,NRMDLTH(TYPE II)LOG NO. 7GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE .0021539999THE STANDARD DEVIATION IS .0003059847

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-3B-MH-7	<u>.0016900000</u>	-1.52
T-4F-MH-7	<u>.0017700000</u>	-1.25
T-2F-MH-7	<u>.0018800000</u>	-.90
T-3F-BH-7	<u>.0020000000</u>	-.50
T-5B-MH-7	<u>.0022200000</u>	.22
T-1F-MH-7	<u>.0022300000</u>	.25
T-4B-MH-7	<u>.0023300000</u>	.58
T-5F-MH-7	<u>.0023500000</u>	.64
T-1B-MH-7	<u>.0024599999</u>	1.00
T-2B-MH-7	<u>.0026099999</u>	1.49

Table 71(c)

ATTITUDE IN LOG PR/RDLNRM, NRMDLTH(TYPE II)LOG NO. 7GRAPHITE TYPE DESIGNATION H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 656427.7900000000THE STANDARD DEVIATION IS 92643.3180000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5F-MH-7	<u>535668.3600000000</u>	-1.30
T-4B-MH-7	550635.5200000000	-1.14
T-4F-MH-7	598342.9700000000	-.63
T-3B-MH-7	613401.7900000000	-.46
T-2B-MH-7	648144.4800000000	-.09
T-1F-MH-7	662393.5400000000	.06
T-2F-MH-7	675901.2900000000	.21
T-3F-BH-7	692904.6600000000	.39
T-5B-MH-7	734770.0700000000	.85
T- 1B -MH-7	<u>852115.4100000000</u>	2.11 ?

Table 71(d)

ATTITUDE IN LOG PR/RDLNRM, NRMDLTH (TYPE II)LOG NO. 7GRAPHITE TYPE DESIGNATION H-327SECANT MODULUSTHE NUMBER OF SAMPLES 10THE MEAN OF THE SAMPLE 384266.2700000000THE STANDARD DEVIATION IS 34664.0270000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-1B-MH-7	<u>322141.1900000000</u>	-1.79 ?
T-5F-MH-7	354290.0800000000	-.86
T-2B-MH-7	357258.3100000000	-.78
T-4B-MH-7	358868.2300000000	-.73
T-1F-MH-7	388453.3000000000	.12
T-5B-MH-7	395810.1600000000	.33
T-3F-BH-7	405445.4700000000	.61
T-2F-MH-7	410142.6500000000	.75
T-4F-MH-7	419057.3900000000	1.00
T-3B-MH-7	<u>431196.0600000000</u>	1.35

Table 72(a)

ATTITUDE IN LOG PR/RDLNRM, NRENDB (TYPE II),LOG NO. 7

GRAPHITE TYPE DESIGNATION

H-327STRESS AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 859.8401100000THE STANDARD DEVIATION IS 162.0167400000

SPECIMEN NO.

VALUE

SIGMAS FROM MEAN

T-2K-BH-7	<u>642.1873500000</u>	-1.34
T-4K-BH-7	780.7155300000	-.49
T-3K-BH-7	853.1530500000	-.04
T-5K-BH-7	960.2194900000	.62
T-1K-BH-7	<u>1062.9252000000</u>	1.25

Table 72(b)

ATTITUDE IN LOG PR/ROLNRMR,NRENDB (TYPE II)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327STRAIN AT FRACTURETHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE .0020559999THE STANDARD DEVIATION IS .0005297452

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-2K-BH-7	<u>.0013500000</u>	-1.33
T-3K-BH-7	.0016400000	-.79
T-5K-BH-7	.0023000000	.46
T-4K-BH-7	.0024400000	.72
T-1K-BH-7	<u>.0025500000</u>	.93

Table 72(c)

ATTITUDE IN LOG PR/RDLNRMN.NREND (TYPE II)LOG NO. 7

GRAPHITE TYPE DESIGNATION

H-327YOUNG'S MODULUSTHE NUMBER OF SAMPLES 5THE MEAN OF THE SAMPLE 841338.3400000000THE STANDARD DEVIATION IS 141333.0500000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-5K-BH-7	<u>692799.0700000000</u>	-1.05
T-2K-BH-7	779353.6000000000	-.44
T-1K-BH-7	826719.5700000000	-.10
T-3K-BH-7	834671.0600000000	-.05
T-4K-BH-7	<u>1073148.5000000000</u>	1.64

Table 72(d)

ATTITUDE IN LOG PR/RDLNMR,NREND (TYPE II)LOG NO. 7 GRAPHITE TYPE DESIGNATION H-327
SECANT MODULUSTHE NUMBER OF SAMPLES 5
THE MEAN OF THE SAMPLE 430039.0200000000
THE STANDARD DEVIATION IS 75273.3660000000

SPECIMEN NO.	VALUE	SIGMAS FROM MEAN
T-4K-BH-7	<u>319965.3800000000</u>	-1.46
T-1K-BH-7	<u>416833.4000000000</u>	-.18
T-5K-BH-7	<u>417486.7300000000</u>	-.17
T-2K-BH-7	<u>475694.3400000000</u>	.61
T-3K-BH-7	<u>520215.2800000000</u>	1.20

Table 73
 GLCC TENSILE TEST DATA,^(a) USING MODIFIED TYPE II
 CONFIGURATION (PL/AXLNRML, NREG)

No. of Samples: 9

Mean Value: 2630 psi

Standard Deviation: 135 psi

<u>Sample No.</u>	<u>UTS (psi)</u>
T-8-MO-8	2550
T-12-MO-8	2800
T-16-MO-8	2720
T-20-MO-8	2760
T-24-MO-8	2780
T-28-MO-8	2620
T-32-MO-8	2420
T-36-MO-8	2470
T-40-MO-8	2580

(a) Room-temperature tests using a cross-head rate of
 0.005 in./min.

Table 74
LOG NO. 3

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NRENDA		NRMDLTH		NRENDB	
OUTER		INNER		C_L	
NRCL, I		NRCL, I		NREG, 0	
(PR) CTE = 3.71	$+0.19 \times 10^{-6}/^{\circ}\text{C}$ -0.07	(PR) CTE = 4.03	$+0.14 \times 10^{-6}/^{\circ}\text{C}$ -0.10	(PR) CTE = 3.78	$+0.16 \times 10^{-6}/^{\circ}\text{C}$ -0.26
(PL) CTE = 2.04	$+0.22 \times 10^{-6}/^{\circ}\text{C}$ -0.14	(PL) CTE = 2.16	$+0.32 \times 10^{-6}/^{\circ}\text{C}$ -0.22	(PL) CTE = 1.95	$+0.03 \times 10^{-6}/^{\circ}\text{C}$ -0.03
(PR) CTE = 4.84	$+0.05 \times 10^{-6}/^{\circ}\text{C}$ -0.09	(PR) CTE = 4.52	$+0.19 \times 10^{-6}/^{\circ}\text{C}$ -0.25	(PR) CTE = 4.69	$+0.05 \times 10^{-6}/^{\circ}\text{C}$ -0.06
(PL) CTE = 2.08	$+0.02 \times 10^{-6}/^{\circ}\text{C}$ -0.03	(PL) CTE = 2.16	$+0.51 \times 10^{-6}/^{\circ}\text{C}$ -0.38	(PL) CTE = 2.12	$+0.34 \times 10^{-6}/^{\circ}\text{C}$ -0.25
Fe: 620 ppm BDN: 1.820 g/cm ³		Fe: 720 ppm BDN: 1.833 g/cm ³		Fe: 1400 ppm BDN: 1.843 g/cm ³	
Fe: 21 ppm BDN: 1.794 g/cm ³		Fe: { 17.0 0.7 } ppm BDN: 1.778 g/cm ³		Fe: 1.0 ppm BDN: 1.804 g/cm ³	

Table 75
LOG NO. 4

NRENDA	NRMDLTH	NRENDB
OUTER	INNER	C _L NRCL, I NREG, 0
(PR) CTE = 3.93 $\begin{matrix} +0.18 \\ -0.13 \end{matrix} \times 10^{-6}/^{\circ}\text{C}$ (PL) CTE = 1.83 $\begin{matrix} +0.11 \\ -0.09 \end{matrix} \times 10^{-6}/^{\circ}\text{C}$	(PR) CTE = 3.71 $\begin{matrix} +0.15 \\ -0.18 \end{matrix} \times 10^{-6}/^{\circ}\text{C}$ (PL) CTE = $\begin{matrix} +0.15 \\ -0.15 \end{matrix} \times 10^{-6}/^{\circ}\text{C}$	(PR) CTE = 3.96 $\begin{matrix} +0.12 \\ -0.15 \end{matrix} \times 10^{-6}/^{\circ}\text{C}$ (PL) CTE = $\begin{matrix} +0.12 \\ -0.15 \end{matrix} \times 10^{-6}/^{\circ}\text{C}$
Fe: $\begin{Bmatrix} 21 \\ 33 \end{Bmatrix}$ ppm BDN: 1.845 g/cm ³	Fe: $\begin{Bmatrix} 1,760 \\ 1,400 \end{Bmatrix}$ ppm BDN: 1.777 g/cm ³	Fe: $\begin{Bmatrix} 4,390 \\ 620 \end{Bmatrix}$ ppm BDN: 1.775 g/cm ³
Fe: $\begin{Bmatrix} 1,300 \\ 2,750 \end{Bmatrix}$ ppm BDN: 1.796 g/cm ³	Fe: $\begin{Bmatrix} 100 \\ 150 \end{Bmatrix}$ ppm BDN: 1.772 g/cm ³	Fe: $\begin{Bmatrix} 150 \\ 90 \end{Bmatrix}$ ppm BDN: 1.775 g/cm ³

Fig. 1(a). Sampling plan for H-327 Log 3 and Log 4 (end A only); radial Type III samples indicated in three slabs

Fig. 1(b). Sampling plan for H-327 Log 3 and Log 4 (end A only); axial Type III samples indicated for each slab shown in Fig. 1(a)

Fig. 2(a). Sampling plan for H-327 Logs 6 and 7 (and Log 4, except end A); radial samples Types II, III, and IV indicated in two slabs

Fig. 2(b). Sampling plan for H-327 Logs 6 and 7 (and Log 4, except end A); axial samples Types II, III, and IV indicated for each slab shown in Fig. 2(a)

Fig. 3. Sampling plan for H-327 Log 8; axial Type III samples indicated in single mid-length slab

Fig. 4. Various tensile bar configurations under evaluation and comparison

Fig. 5(a). H-327 graphite (Log 3) ultimate compressive strength ($\text{psi} \times 10^{-3}$); axial trends

Fig. 5(b). H-327 graphite (Log 3) ultimate compressive strength ($\text{psi} \times 10^{-3}$); radial trends

ENGINEERING STRESS TENSILE TEST CURVE FITS
H-327 LOG 3 PL/AXLNREG, NREDA
A = -9.390+07 B = 1.409+06 C = 3.467+02

Figure 6

ENGINEERING STRESS

TENSILE TEST CURVE FITS

H-327 LOG 3 PL/AXLNRCL, NREDA

A = -1.138+08 B = 1.213+06 C = 2.838+02

Figure 7

ENGINEERING STRESS TENSILE TEST CURVE FITS
H-327 LOG 3 PL/AXLNREG, NRMDLTH
A = -9.098+07 B = 1.544+06 C = 3.550+02

Figure 8

TENSILE TEST CURVE FITS

ENGINEERING STRESS

H-327 LOG 3 PL/AXLNRCL, NRMDLTH

A = -2.200+09

B = 2.080+00

C = 3.072+01

Figure 9

ENGINEERING STRESS

TENSILE TEST CURVE FITS

H-327 LOG 3 PL/AXLNREG, NREND8

A = -5.202+07

B = 1.382+06

C = 4.390+02

Figure 10

ENGINEERING STRESS

TENSILE TEST CURVE FITS

H-327 LOG 3 PL/AXLNRCL, NREND B

A = -1.519+09

B = 2.531+06

C = 1.471+02

Figure 11

ENGINEERING STRESS

TENSILE TEST CURVE FITS

H-327 LOG 3 PR/RDLNREG, NREDA

A = -1.127+08 B = 6.467+05 C = 6.740+01

Figure 12

TENSILE TEST CURVE FITS

ENGINEERING STRESS

H-327 LOG 3 PR/RDLNRCL, NREDA

A = -9.341+07 B = 6.255+05 C = 7.398+01

Figure 13

ENGINEERING STRESS

TENSILE TEST CURVE FITS

H-327 LOG 3 PR/RDLNREG, NRMDLTH
A = -2.216+08 B = 7.141+05 C = 1.030+02

Figure 14

ENGINEERING STRESS

TENSILE TEST CURVE FITS

H-327 LOG 3 PR/RDLNRCL, NRMDLTH

A = -1.905+03 B = 0.042+05 C = 4.517+01

Figure 15

ENGINEERING STRESS TENSILE TEST CURVE FITS
H-327 LOG 3 PR/ROLNREG, NREND B
A = -1.518+03 B = 7.702+05 C = 7.347+01

Figure 16

ENGINEERING STRESS TENSILE TEST CURVE FITS
H-327 LOG 3 PR/RDLNRCL, NREND8
A = -1.022+08 B = 0.351+05 C = 1.087+02

Figure 17

TENSILE TEST CURVE FITS
ENGINEERING STRESS

H-327 LOG 4 PL/AXLNREG, NREDA
A = -2.311+08 B = 1.636+06 C = 1.569+02

Figure 18

ENGINEERING STRESS T E N S I L E T E S T C U R V E F I T S

H-327 LOG 4 PL/AXLNRCL, NREDA

A = 1.062+08 B = 1.085+06 C = 1.366+02

Figure 19

ENGINEERING STRESS

TENSILE TEST CURVE FITS

H-327 LOG 4 PL/AXLNRMR, NRMDLTH
A = -4.697+08 B = 1.852+06 C = 2.075+02

Figure 20

ENGINEERING STRESS

TENSILE TEST CURVE FITS

H-327 LOG 4 PL/AXLNRMR, NRENOB

A = -6.305+08

B = 1.978+06

C = 1.504+02

Figure 21

ENGINEERING STRESS

TENSILE TEST CURVE FITS

H-327 LOG 4 PR/RDLNREG,
A = -1.089+08 B = 6.873+05 C = -4.325+00
NREDA

Figure 22

TENSILE TEST CURVE FITS

ENGINEERING STRESS

H-327 LOG 4 PR/RDLNRCL, NREDA
 A = -0.753+07 B = 0.407+05 C = 1.422+01

Figure 23

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

H-327 LOG 4 PR/RDLNRMR,
NRMDLTH

A = -8.340+07

B = 5.687+05

C = 5.976+01

Figure 24

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

H-327 LOG 4 PR/RDLNRMR,
NREND B

A = -1.024+08 B = 6.228+05 C = 5.062+01

Figure 25

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PL/AXLNRM, NRMDLTH

A = -5.070+08

B = 1.731+06

C = 1.613+02

Figure 26

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PL/AXLNRM, NREND B

A = -9.989+07

B = 1.501+06

C = 1.542+02

Figure 27

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PR / RDLNRMR,
NRMDLTH

A = -7.035+07

B = 4.610+05

C = 1.956+02

Figure 28

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PR/RDLNRM, NREND

A = -7.497+07 B = 5.483+05 C = 1.161+02

Figure 29

ENGINEERING STRESS
H-327

TENSILE TEST CURVE FITS
LOG 7 PL/AXLNRMR, NRMDLTH

A = -3.263+08 B = 1.320+06 C = 2.014+02

Figure 30

ENGINEERING STRESS TENSILE TEST CURVE FITS
H-327 LOG 7 PL/AXLNRMR, NREND B
A = -2.511+08 b = 1.259+06 C = 2.553+02

Figure 31

TENSILE TEST CURVE FITS

ENGINEERING STRESS

H-327

LOG 7

PR/RDLNRMR, NRMDLTH

A = -1.142+00

B = 5.574+05

C = 1.341+02

Figure 32

ENGINEERING STRESS TENSILE TEST CURVE FITS

H-327 LOG 7 PR/RDLNRMR, NREND B
 A = -5.174+07 B = 4.833+05 C = 1.241+02

Figure 33

ENGINEERING STRESS

LOG 8, H-327, PL/AXLNREG,

A = -3.862+08

B = 1.995+06

C = 2.427+02

NRMDLTH, .005 IPM

Figure 34

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 8, H-327, PL/AXLNRMR, NRMDLTH

A = -6.970+06

B = 1.959+06

C = 8.434+01

Figure 35

ENGINEERING STRESS TENSILE TEST CURVE FITS)

 $A = -2.894+08$ $B = 1.800+06$ $C = 2.719+02$

Figure 36

ENGINEERING STRESS TENSILE TEST CURVE FITS)

LOGS 3,4,6,7,8

PL/AXLNRMR

A = -7.105+09

B = 3.832+06

C = 4.233-06

Figure 37

ENGINEERING STRESS
LOGS 3,4,6,7,8

TENSILE TEST CURVE FITS)

PL/AXLNRCL

A = 0.000

B = -0.000

C = -0.000

Figure 38

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

LOGS 3,4,6,7,8

PR/RDLNREG

A = 5.454+09

B = 3.829+05

C = -0.000

Figure 39

ENGINEERING STRESS TENSILE TEST CURVE FITS)
LOGS 3,4,6,7,8 PR/RDLNRMR
A = 8.556+09

Figure 40

ENGINEERING STRESS TENSILE TEST CURVE FITS)

LOGS 3,4,6,7,8 PR/RDLNRCL

A = -5.650+09 B = 3.477+06 C = 1.202-05

Figure 41

Fig. 42. Summary of UTS values (PL) in five 18-in.-diameter logs of H-327 graphite (lot 340); all tensile tests were performed at room temperature on GGA Type III glued-end cylindrical samples using a 0.005 in./min crosshead rate

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

LOG 8, H-327, PL/AXLNREG, NRMDLTH
(TEST RATE: .020 IPM)

A = -2.652+08

B = 1.620+06

C = 1.205+02

Figure 43

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PL/AXLNRM, NRMDLTH

A = -3.592+07

B = 1.210+06

C = 1.944+02

Figure 44

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PL/AXLNRM, NREND B
 $A = -5.474 \times 10^7$ $B = 1.086 \times 10^6$ $C = 2.591 \times 10^2$

Figure 45

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PR/RDLNRMR,
NRMDLTH

A = -6.434+07 B = 5.406+05 C = 1.248+02

Figure 46

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PR/RDLNRM, NREND
 B = 5.741+05 C = 1.324+02

A = -8.031+07

ENGINEERING STRESS
(PSI)

Figure 47

ENGINEERING STRESS TENSILE TEST CURVE FITS
H-327 LOG 7 PL/AXLNRMR, NRMDLTH
A = 1.080+08 B = 0.751+05 C = 3.322+02

Figure 48

TENSILE TEST CURVE FITS
ENGINEERING STRESS
H-327 LOG 7 PL/AXLNRMR, NREND B
 $A = -3.522+03$ $B = 1.383+06$ $C = 5.655+01$

Figure 49

ENGINEERING STRESS TENSILE TEST CURVE FITS
H-327 LOG 7 PR/RDLNRMR, NRMDLTH
A = -1.330+08 B = 6.120+05 C = 9.506+01

Figure 50

TENSILE TEST CURVE FITS

ENGINEERING STRESS

H-327 LOG 7 PR/RDLNRMR, NREND B

A = -6.483+07 B = 4.679+05 C = 1.644+02

Figure 51

ENGINEERING STRESS TENSILE TEST CURVE FITS)

H-327 LOG 4 PL/AXLNRMR, NRMDLTH
 A = -1.335+08 B = 1.241+06 C = 2.622+02

Figure 52

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

A = -5.748+08

B = 1.777+06

C = 9.468+01

H-327

LOG 4

PL/AXLNRMR,
NRENOB

Figure 53

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

H-327 LOG 4 PR/RDLNRMR,
 A = -8.265+07 B = 5.499+05 C = 7.749+01
 (NRMDLTH, NREND B)

Figure 54

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

H-327 LOG 6 PL/AXLNRMR, NRMDLTH

A = -1.247+06

B = 1.370+06

C = 1.193+02

Figure 55

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

H-327 LOG 6 PL/AXLNRMR, NREND B

 $A = -1.666+07$ $B = 1.063+06$ $C = 2.042+02$

Figure 56

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

H-327 LOG 6 PR/RDLNRMR, NRMDLTH

A = -8.900+06

B = 3.889+05

C = 9.015+01

Figure 57

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

H-327 LOG 6 PR/RDLNRMR,
NREND B

A = -5.017+07

B = 4.593+05

C = 5.845+01

Figure 58

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

H-327 LOG 7 PL/AXLNRMR,
NRMDLTH

A = -9.752+06 B = 1.066+06 C = 1.740+02

Figure 59

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

$$A = -3.715 + 08$$

H-327
B = 1.588+06

$$B = 1.588 + 06$$

LOG 7

C = 6.498+01

PL/AXLNRMR,
NREND B

Figure 60

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

H-327 LOG 7 PR/RDLNRMR,
NRMDLTH

A = -6.189+07 B = 4.896+05 C = 4.864+01

Figure 61

ENGINEERING STRESS

TENSILE TEST CURVE FITS)

H-327 LOG 7 PR/RDLNRMR,
 A = -4.880+07 B = 4.537+05 C = 4.855+01 NREND B

Figure 62

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PL/AXLNRMR, NRMDLTH

A = -6.909+08

B = 2.051+06

C = -9.074-01

Figure 63

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PL/AXLNRMR, NREND B

A = -1.405+00

B = 1.418+00

C = 2.267+02

Figure 64

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PR/RDLNRMR,
NRMOLTH

A = -4.728+07 B = 4.953+05 C = 8.750+01

Figure 65

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 6, H-327, PR/RDLNRMR, NRENOB

A = -7.001+07

B = 5.504+05

C = 3.766+01

Figure 66

T E N S I L E T E S T C U R V E F I T S

ENGINEERING STRESS

H-327 LOG 7 PL/AXLNRM, NRMDLTH

A = 2.850+08 B = 6.314+05 C = 3.492+02

Figure 67

ENGINEERING STRESS

TENSILE TEST CURVE FITS

LOG 7, H-327, PL/AXLNRM, NREND

A = -4.876+08

B = 1.808+06

C = 1.251+02

Figure 68

ENGINEERING STRESS

TENSILE TEST CURVE FITS

H-327 LOG 7 PR/RDLNRMR, NRMDLTH

A = -9.656+07 B = 5.699+05 C = 4.711+01

Figure 69

ENGINEERING STRESS

TENSILE TEST CURVE FITS

H-327 LOG 7 PR/RDLNRMR, NREND B

A = -1.176+08

B = 6.401+05

C = 5.646+01

Figure 70

Fig. 71. Configuration of GLCC modified Type II specimen

Fig. 72. H-327 graphite (Logs 3 and 4) bulk density (g/cm^3); axial trends

Fig. 74. H-327 graphite (Log 3) coefficient of thermal expansion ($\times 10^6$ in./in./ $^{\circ}\text{C}$); axial trends

Fig. 76. Thermal conductivity of H-327 graphite, Log 4, near End A; PL samples No. 32, 41, 60, 61, 69, and 71

Fig. 77. Thermal conductivity of H-327 graphite, Log 4, near End A; PR samples No. 1, 3, 5, 7, 12, 14, and 16