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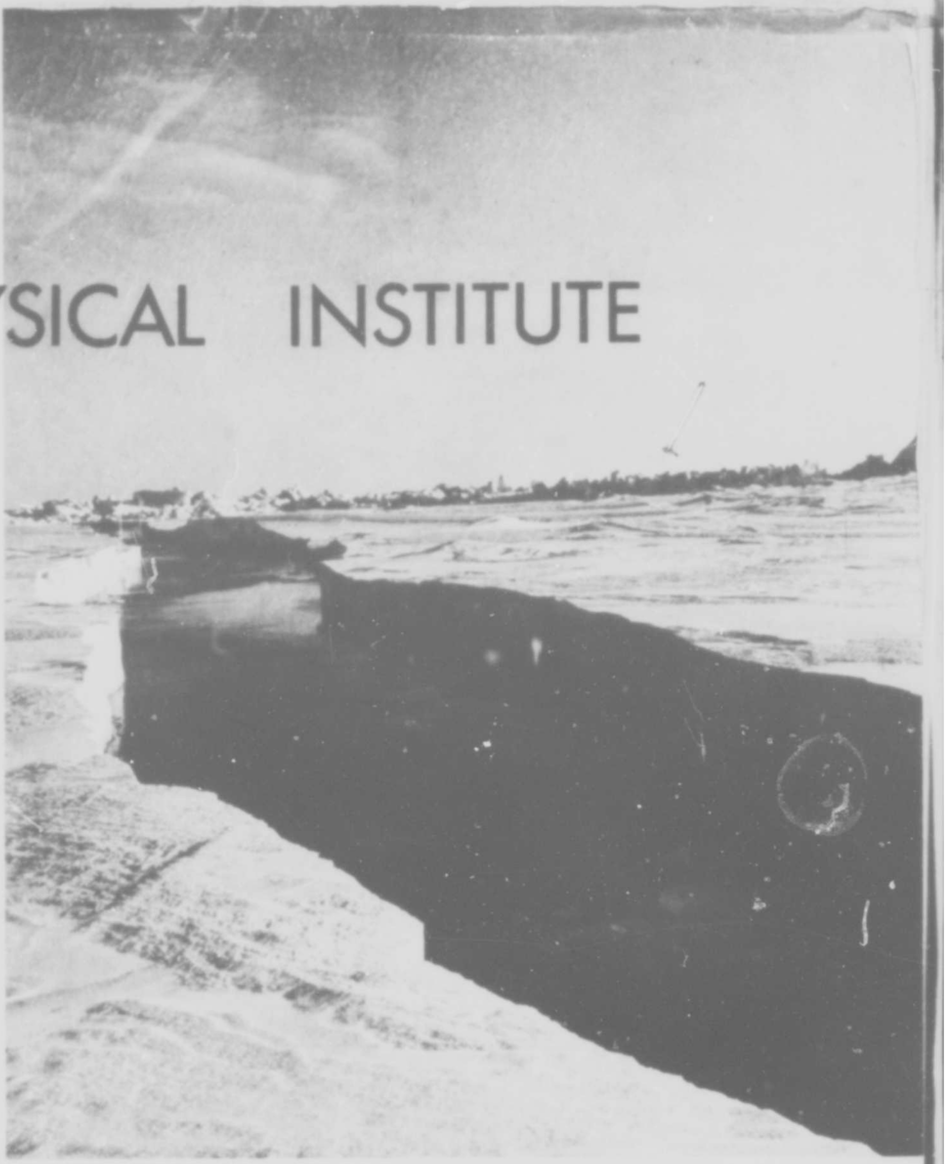

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SEA ICE STRENGTH

by

H. R. PEYTON

December 1966

FINAL REPORT

Supported by Department of the Navy
Office of Naval Research
Contract Nonr-2601(01)
Contract Authority No. NR 307-247/7-6-65

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Authority No: NR 307-247/7-6-65
Name of Contractor: Office of Naval Research
Date of Contract: January 1958 - December 1965
Amount of Contract: $202,348
Contract Number: Nonr-2601(01)
Contract Expiration Date: December 1965
Project Scientist: H. R. Peyton
Geophysical Institute
University of Alaska

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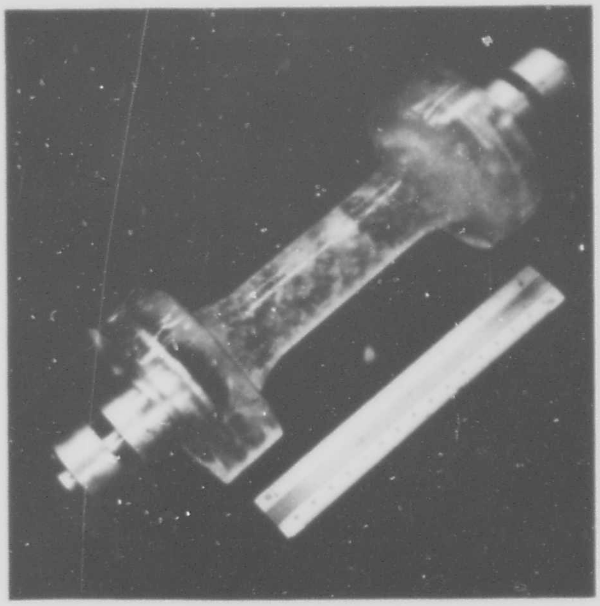
Principal Investigator:

H. R. Peyton

Approved by:
K. B. Mather
K. B. Mather
Director

SEA ICE STRENGTH



This tension test specimen is one of the types used in this research for the determination of the mechanical properties of sea ice.

Application of research findings was made in the design of this offshore oil drilling platform in Cook Inlet, Alaska. It has provisions for 32 wells with 8 through each 14.5 foot diameter leg. Eleven such platforms are in various stages of completion.

Abstract

This report contains the results from a study of the mechanical and structural properties of sea ice; the study commenced in 1958 and was completed in late 1965. Most of the experimental work is based upon stress-strain tests in both direct compression and direct tension. Approximately 3800 of these tests were made.

Those parameters anticipated to have significant effect upon strength were measured: temperature, salinity, rate of loading, crystal size, crystallographic orientation, history of the ice and depth in the ice sheet. All of these are found to be signifificant except that the history factor itself tended to be determined by the other parameters.

The analysis was accomplished primarily by the testing of models by linear multiple regression. The models selected yield good results with multiple correlation coefficients between 0.70 and 0.98 over a range of petrofabric types.

Sea ice is shown to be complex and its description requires five classifications of petrofabric types, each of which exhibit somewhat different characteristics. The load rate proved to be a highly significant parameter in both strength and stiffness in most cases. Ice failing in tension is somewhat less sensitive to load rate than is ice in compression.

The interrelated effects of salinity and temperature were studied using the brine volume concept. This study yielded positive confirmation of the brine volume concept, evidence of solid salt reinforcement, and evidence of failure plane selectivity to bypass strongly reinforced planes. These aspects pertain to both tension and compression failure modes.

Depth in the ice sheet is shown to be a strength factor when related to each of three parameters; rate of loading, brine volume and solid salt reinforcement.

Additional work accomplished in conjunction with construction of large offshore oil drilling platforms had provided significant information concerning oscillatory failure of sea ice in compression and strength reduction at very high load rates. The ice failure force oscillation is an ice property and is not primarily a function of the response of the structure. The amplitude of oscillation is large and at a frequency in the range of most space frame structures. The failing ice may cause forced resonant vibration in structures, and the forces are large enough to resonantly vibrate structure weighing several thousand tons.

Preface

The work accomplished under the Office of Naval Research Arctic Project is covered in Chapters 1-9. Chapter 10 is included as additional work which grew directly from that supported by ONR. This additional work is a practical application of sea ice mechanics to the design and construction of offshore drilling platforms in Cook Inlet, Alaska. At the present time there are eleven such platforms in various stages of design, construction, or operation. A representative structure costs 10 million dollars exclusive of well drilling expenses, contains 2500 tons of steel, and provides conduits for drilling 32 wells.

Acknowledgements

Several individuals have been of considerable assistance in the execution of the work. Mr. Stephen Nathanson spent four year at Barrow, Alaska during the field portion of the work, and his work was instrumental in the development of test procedures and their execution. Mr. Chia Yao Yuan performed many exacting tests at Barrow, and his meticulous attention to detail, even in difficult situations, is reflected in the high quality data acquired. Mr. Philip Johnson was active on the analysis of data and presentation of results during that portion of the project. His diligence, study and ideas are greatly appreciated. Mr. Frank Komin accomplished much of the detailed work in Cook Inlet. The quality and detail of this portion is in great part due to his efforts. Support and encouragement by the U.S. Army Cold Region Research and Engineering Laboratory and the help of Dr. Andrew Assur is greatly appreciated as is that of the Navy Civil Engineering Laboratory and Mr. Earl Moser.

The work was supported by the Geography Branch of the Office of Naval Research and was further supported by the Office of Naval Research through the Arctic Research Laboratory. The support of Dr. Max Brewer, Director, Arctic Research Laboratory is greatfully acknowledged. Partial support was furnished by the State of Alaska. That portion of the work accomplished in Cook Inlet was supported by Shell Oil Company as operator for itself, Standard Oil Company of California and Atlantic-Richfield Oil Company. The support of these companies and the subsequent release of a portion of the results is greatly appreciated.

Without the active support and participation of my wife, Patrica, and children, Linda and Paul, the work would not have been possible. Particular gratitude is expressed for those years in which they lived and worked at Barrow.

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Chapter I

INTRODUCTION

1.1 GENERAL PROPERTIES, A REVIEW

1.1.1 Basic Properities of Ice. Pure ice is a crystaline material, and its properties can be rather well described by the parameters which have been used in the description of most other crystaline materials. The general topic of this research is that of ice strength and a description of strength based on physical properties.

The most important physical property of pure ice in the context of this investigation is that of ice crystal type which occurs at pressures and temperatures within range found in nature on the earth's surface. This type is a simple hexagonal crystal and is one in which the atomic spacing and bond strength vary greatly within the crystal (1).

A useful analog model of the ice crystal is that of a stack of plastic plates between which are sandwiched layers of stiff grease. The hexagonal pattern is in the plane of the plastic sheets and represents the plane of greatest atomic bond strength. The crystal axis perpendicular to the plates is the optic or C-axis.

The stacked plate analogy is particularly useful in visualizing the effects of temperature, rate of load application and direction of load application on deformation and strength.

The temperature effect can be envisioned with the model observed at temperatures of -100°C and +100°C. At the colder temperature, the plastic plates are brittle and exhibit elastic properties. The grease layers also act elastically with little evidence of viscous behavior. At the warmer temperatures, both layers exhibit strong viscous behavior with the grease layers being nearly liquid.

It is seen that temperature influences the amount and rate of deformation due to loading. The rate of load application is also seen to have a strong influence on the amount of deformation that would occur prior to fracture of the crystal. The sensitivity to rate of load application is particularly evident when the load is applied in a manner such that shear stresses force the plastic plates to slide over each other. Very slow rates of loading result in large deformations prior to ailure and afford the opportunity for fracture at small total loads. On the other hand, extremely rapid loading rates result in small deformations,by the time the total stress has reached a large value,and fracture occurs. Generally, the slow loading rates result in relatively viscous deformation and low failure strengths. Rapid loading rates result in relatively elastic deformation and high failures strengths.

The model clearly indicates the strong influence of the direction of load application on deformation and failure strength. The greatest deformation and least strength obviously occurs if the plates slide over each other; deformation along the basal plane of the crystal. Greater strength and less deformation occurs if the force is applied perpendicular to the basal plane or parallel to the basal plane.

The characteristics of single ice crystals as described here in analog form have been studied in some detail by Nakaya (2) and others (3,4). The viscous and elastic properties associated with temperature, load rate, and direction of loading have been partially evaluated by these investigators, and single ice crystals have been shown to be quite anistropic with respect to strength and deformation. Additional work is required, however, for a clear understanding of basic mechanisms.

Polycrystaline ice can be formed to provide a homogeneous mass consisting of a great number of small crystals which are randomly oriented with respect to their c-axes. Such ice behaves isotropically but nevertheless exhibits strong sensitivity to temperature with respect to the relative importance of both viscous and elastic deformation. The most interesting work accomplished in this area has been performed by Jellenick and Brill (5). Their results indicate a great increase in viscous behavior with warm temperatures and a large increase in rate of deformation and total deformation with both increasing temperature and applied load. The values they obtained are not of particular importance here, but it is important to note that they found polycrystaline, pure ice to simultaneously deform viscously and elastically at those temperatures which can reasonably be expected in nature. Such a result is expected for a material near the melting point, and all naturally occuring ice is relatively near the melting point when compared with most other crystaline materials. Considerable research is now being directed toward the understanding of properties of materials at high temperatures, but most of this work tends to be of little value in the study of sea ice.

1.1.2 Physical Properties of Sea Ice. In sea ice, discrete volumes of entrapped brine are found within a matrix of pure ice. The brine is entrapped during the growth process because the growth rate of pure ice exceeds the downward convection rate of enriched brines at the growth face. Numerous investigators have studied this entrapment process and it is very well established that the brines are truly entrapped rather than being incorporated within ice crystals (6). It can be seen that the amount of entrapped brine is a function of the growth velocity. Some details of this process are described in Chapter 6.

The entrapped brines have a profound influence on the physical makeup of sea ice. The most important characteristic is the presence of liquid brine within the sea ice matrix at all temperatures and times. The ice crystal analog model can be expanded to include sea ice by incorporating large bubbles of antifreeze, or brine, in some of the grease layers. It is possible to freeze all of the brine, but with very few exceptions this does not occur in nature. The quantity of liquid brine, the chemical composition of the brine, the chemical composition of sea ice solids, and the internal geometry of sea ice crystals, each exhibit considerable variation with temperature. A complete description of these complex relationships with temperatures and salinity is given in Chapter 6.

The entrapped brines drain out of the pure ice matrix at warm temperatures. This knowledge is ancient as evidenced by the fact that Eskimos have used old sea ice to provide a supply of potable water. The amount of entrapped liquid brine is then also a function of age as well as growth velocity and temperature.

1.1.3 Mechanical Properties of Sea Ice. The addition of antifreeze along some basal planes of the ice crystal analog completes the mechanical property analog for sea ice. The strength and resistance to deformation is substantially reduced along basal planes due to the lack of strength and the low viscosity of the antifreeze.

Several investigators have studied sea ice strength by numerous experimental methods including direct compression, bending, and ring tensile tests. A great many tests have well established the effect of liquid brine on ice strength. The best single work is that of Assur and his development of a brine volume concept based upon results of ring tensile tests. Assur's work is reviewed in detail in Chapter 6.

The ring tensile test has been most extensively used, and these tests have provided the data upon which most detailed analytical work has been based (7). The test consists of machining a right circular cylinder of ice which is then loaded on its sides with the specimen splitting from end to end. The test is quite similar to tension tests performed on portland cement concrete cylinders. It will be noted that deformation measurements of such load tests would be very difficult to achieve, and no provision can be made for careful measurement of direction of load application with respect to crystal orientation. The latter provision is not necessary if the material is found to be homogeneous, but it will be shown in Chapter 3 that sea ice is not homogeneous. For this type of specimen and loading, the rate of load application is not a discrete value throughout the test specimen because the stresses vary both radially and rotationally about the cylinder axis.

The bending tests also measure tensile strength, but they do not yield good results for detailed evaluation of rate of loading, direction of local application and deformation.

Very little detailed work has been accomplished in evaluating compressive strength characteristics (8).

Deformation measurements of sea ice are very limited. Elastic deformation properties, however, have been studied by means of seismic methods which should correspond to extremely high rates of load application (9).

1.2 RESEARCH OBJECTIVES

1.2.1 The Need to Identify Mechanical Properties. The structural analyses of sea ice structures, for example floating ice sheets, require knowledge of two mechanical properties. The first is the deformation characteristics; viscosity and elastic modulus. If the ice is cold and the load rate is large, the structure can be analyzed by assuming ice to behave elastically. If the ice is warm and the rate of loading is slow or the load is constant, the ice can be assumed to behave viscously. Intermediate cases of load rates and temperatures require visco-elastic solutions. In all cases, the stress-deformation-time relationship must be known.

The second required property is the strength. After the structural analysis is accomplished, it is possible to determine how much force can be applied to the structure provided the ice strength is known and predictable. It is noted that the force required to fail the structure is of interest from two aspects. The first is concerned with the load which can be supported by an ice structure. The second is concerned with the load an ice structure may impart to an obstacle in its path.

1.2.2 Parameters which Apparently Govern Mechanical Properties. The more obvious parameters which would be expected to govern the mechanical properties of sea ice include temperature, salinity and rate of load application. The direction of load application relative to that of crystal orientation is also important if the sea ice is not homogeneous, thus the crystallographic characteristics of the ice should be significant. The possibility should be considered that certain factors associated with the chemical composition of sea ice with partially frozen brine.

1.3 EXPERIMENTS

1.3.1 Experimental Design. Measurements of crystal size, shape, and degree of randomness in orientation are required. These measurements are quite effectively made by standard thin section techniques using a universal stage (10). Salinity determination is a well-standardized process.

The mechanical properties are best determined by stress-strain tests in direct compression or direct tension over selected ranges of load rate and temperature. The load rate must be over a large range from zero upward. The zero load rate actually prescribes a creep test at constant load. The temperature range of importance is from the melting temperature to at least -20°C and preferably to -30°C.

Stress-strain tests are desired for representative types of sea ice and for numerous directions of loading if the ice is inhomogeneous or anisotropic.

1.3.2 Expected Experimental Results. Physical property measurements coupled with the stress-strain test measurements should provide data to described deformation and strength in terms of physical properties, rate of loading, and direction of loading. It is anticipated that these descriptions would be complex. Previous work by other investigators has shown the description of strength to be quite complicated even with fewer parameters than are considered here.

1.3.3 Experiments Accomplished. Stress-strain and creep tests in both direct tension and direct compression are developed. The details of experiments are described in Chapter 2. Also described in that chapter are the series of experiments and measurements required to described the physical properties of sea ice.

The experiments were all performed as outlined in the section on experimental design, however, sea ice was found to possess a broad spectrum of crystallographic types and to exhibit more anistotropic behavior than had been anticipated. As the experimental program progressed, the range of experiments accomplished had to be reduced and did not include all of the combinations desired by the experimental design. Additionally, it was found that the mechanical properties varied in some subtle fashion with depth in the ice sheet, and depth then became another parameter of the study. Equipment limitations restricted the desired ranges of loading rate and temperature.

1.4 PREVIEW OF RESULTS

1.4.1 Early Results. The amount of data collected was quiet large, and detailed analysis has not been completed on all of it. Chapter 3 is a report of many results which could be determined without recourse to detailed analysis. These early results are, in large part, plots of raw data which show the very strong dependence of the more important parameters. In that chapter is shown the extremely anisotropic behavior of the deformation and strength of sea ice. Five sea ice classifications were found to be required in order to described the great variability of sea ice types. The ranges of strength and deformation are shown to be enormous even within the somewhat restricted experimental limits which were used.

Later chapters indicate the complexity encountered in developing descriptions of strength and deformation, and this paper does not incorporate an analysis of all the data which were collected, but rather covers a detailed analysis of certain portions of the experimental results.

1.4.2 Load Rate Effect. The parameters of ice type, direction of loading, temperature, and salinity are all shown in Chapter 3 to be significant. Each of these parameters, however, were prescribed to be measured at nearly descrete values by the manner in which the experiments were accomplished. The data could then be sorted on the basis of these parameters. The remaining parameter of most importance, based on evaluation of raw data, is rate of load application. Load rates were not determined at discrete values, but varied over a continous spectrum. This parameter was then the first to be considered in the detailed analysis. Chapter 5 contains the detailed analysis of rate of loading with respect to the other variables, and the results of Chapter 5 show widely varying significance of load rate on strength.

1.4.3 Effect of Brine Volume. The next parameter selected for study was the one interrelated with temperature and salinity which describes the amount of liquid brine, or brine volume, in the system.

Very early,analysis of the brine volume effect proved to be complex, and for this reason, a small portion of the data of particuularly good quality was selected for first analysis. The first analysis is reported in Chapter 6 and is concerned with the compressive strength of one ice type at a single depth in the ice sheet. The analysis is then expanded in Chapter 7 to cover this particular ice type for compressive strengths over the entire depth within which this ice type was found to occur.

The brine volume-strength analysis for both tensile and compresive strengths as well as some analysis of deformation characteristics is further extended in Chapter 8 to cover a second ice type.

1.4.4 Solid Salt Effect. As the brine in sea ice becomes colder, a continual precipitation of solid salts occurs. Analysis of the data indicates the possibility that these deposited solid salts reinforce sea ice in certain directions of compression loading. Such reinforcement was not found in the analysis of tension tests. The analysis of the effects due to solid salts is described in conjuction with the descriptions of brine volume effects because the two effects are intimately interrelated. The first description of solid salt reinforcement is in Chapter 6 and continues through Chapter 9.

1.4.5 Failure Mechanisms. The data revealed the possibility of solid salt reinforcement only in some of the ice types and loading directions. The reason for this apparent inconsistency is pursued in Chapter 9 in which the possibility is considered of a shift in failure plane from a reinforced to a non-reinforced one. The failure plane shift concept is shown to have some merit, but not all questions are satisfactorily resolved.

1.4.6 Additional Considerations. The investigator was afforded the opportunity to do further experimental work beyond that previously described here. Some of the results of this additional work are described in Chapter 10. It is of particular significance that the range in the rate of load application used in Chapters 2 - 9, and which was afforded by the stress-strain apparatus, does not allow accurate evaluation of the load rate effect at very high load rates. Also of significance is a preliminary evaluation of a pulsating ice failure which is found to occur when an ice sheet fails in edge loaded compression.

1.5 CLOSURE

The large amount of experimental data acquired under this project has been only partially analyzed. Those complete portions of the analysis constitute a description of the strength of some types of sea ice in terms of physical properties, rate and direction of loading, and depth within the ice sheet.

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Chapter 2

EXPERIMENTS

2.1 LOCATION

All experimental work by the University of Alaska , supported by the Office of Naval Research Geography Branch, was accomplished at the Arctic Research Laboratory at Barrow, Alaska. Two eight by twelve foot portable food storage refrigeration units were enclosed in an insulated structure and modified for temperature-controlled laboratories. Within these laboratories were installed all ice testing equipment including a three-cell triaxial shear machine which provided adequate loading capabilities within budgetary limitations.

2.2 PETROFABRICS; CRYSTAL SIZE, SHAPE AND ORIENTATION

All measurements of petrofabrics were made by use of polarized light and a large universal stage patterned after the smaller Rigsby Stage (1). Thin sections were prepared from each sample to provide petrofabric profiles which correlated with strength specimens. Additionally, petrofabric profiles were obtained from several locations in the Arctic Ocean and others in the vicinity of Barrow, Alaska.

2.3 MEASUREMENTS OF PARAMETERS

2.3.1 Temperature. Temperature measurements were made with calibrated thermistors located at various locations including several in temperature controlled laboratories with one thermistor at each test cell location and within a few inches of the test specimen.

With all other parameters held constant, the test temperature was varied through the range to be expected in Nature. Distinct temperature points were used to allow easier analysis those most frequently used were -2°, -5°, -10°, and -21°C. Two effects on mechanical properties are expected to result from temperature differences. The first and probably most significant for sea ice is the brine volume or volume of liquid phase contained interstitially in the ice matrix. The second is the effect on the crystalline ice material.

2.3.2 Rate of Loading. The rate at which load is applied to ice affects the maximum strength and the apparent stiffness or apparent modulus of elasticity. With all other parameters held constant, the ice was tested in a series of discrete load rates. These rates varied from 20 psi/min to several thousand psi/min.

2.3.3 Salinity. Chlorinity was determined for each test specimen for most of the testing program. During the first tests a titration technique was used and later a conductivity apparatus was calibrated and used. The conductivity method proved to be accurate and much more rapid than the titration method. Salinity is calculated from chlorinity values, and brine volume is calculated from temperature and salinity values.

2.3.4 Ice Type Classification. The ice type classifications are described in the next chapter. Usually classification of samples was not a difficult problem because the ice proved sufficiently uniform in large enough volumes to obtain several test specimens with very similar petrofabrics.

2.3.5 Crystal Orientation. Where applicable, crystal orientation was prescribed for each test specimen. An example is one ice type with colinear preferred c-axis orientation and foliation perpendicular to the c-axis. The test specimen could then be cut from a sample in any crystalographic orientation. Four orientations were generally used:

a. the specimen oriented vertically in the ice sheet and perpendicular to the c-axis,
b. the specimen oriented horizontally in the ice sheet and at 0° to the c-axis,
c. horizontal and 45° to the c-axis, and
d. horizontal and 90° to the c-axis.

2.3.6 Age and History Factors. When possible, a given type of ice was sampled several times between its formation and summer thaw. One sample of very old polar pack ice which was obtained in the summer of 1962 had a very similar petrofabric to one found in newly formed ice and thus allowed a good examination of long term age effects.

2.4 SAMPLING

It was determined early in the testing program that small core samples had many disadvantages, therefore, most sampling consisted of sawing out large samples of approximately two cubic feet. The ice varies considerably in many properties with depth; therefore, consistently similar specimens could be obtained only from the same depth. Sampling was performed to allow the preparation of many specimens from the same depth, thus providing minimum petrofabric and salinity differences between individual specimens.

2.5 MECHANICAL PROPERTIES

Four general types of tests were run; compressive stress-strain, tensile stress-strain, compressive creep and tensile creep. These test types were selected because of the large amount of useful information which can be extracted and because of the ease with which such results can be mathematically incorporated into structural analysis calculation procedures. There were 3762 sea ice tests and 305 single crystal tests.

2.5.1 Compression Stress-Strain Tests. The field sample was slabbed to provide sizes which could be handled with a band saw. Specimen blanks approximately 2" x 2" x 3" were prepared. These blanks were turned to cylindrical shape 1.4" in diameter on a metal working lathe and trimmed to 2.6" long. The ends were then trued to parallel smooth surfaces perpendicular to the cylinder axis.

A loading apparatus was devised and constructed to prove axial loading. The specimen was placed in the apparatus, and two dial indicators were set to measure deformation while loading proceeded. The load was measured with a proving ring and time was recorded to allow calculation of load rate. The data indicated on the moving dials were all simultaneously recorded photographically and were later transcribed from film onto computation sheets. Figure 2.1 shows the plotted stress-strain curve for a representative test.

From the stress-strain curve many mechanical properties can be determined:

a. Modulus of elasticity or stiffness (apparent)
b. The maximum stress attained or "maximum strength".
c. The stress at time of rupture or "ultimate strength".
d. The energy required for failure.

In addition to the plotting of the curve, the rate of loading and modulus of elasticity were calculated in a rather crude fashion to allow modest interpretation and analysis in the field. Continual checks were made to insure measurement accuracy of all parameters. During the time of field data acquisition, the interrelationships were plotted and followed to ascertain, in a rough fashion, the effects of the various parameters.

2.5.2 Tension Stress-Strain Tests. The problems encountered in the development of a satisfactory direct tension test for ice were formidable and required extensive work. Suitable equipment and procedures were not productively used until January 1962. Some 900 tension tests were run subsequent to that date and constituted the major effort of the final field season.

Several systems of direct tension equipment and procedure were tried, and each in turn proved to be inadequate but pointed the way to improvement. Following is a brief description of the final design. Many aspects of this design were dictated by local Barrow problems; availability of material, skilled shop personnel and tools for investigator use. Therefore, certain promising avenues could not be pursued and the final product is a compromise.

The device is essentially a pair of aluminum end fixtures between which a test section of sea ice is welded and then pulled in tension to failure. Problems encountered in welding the sea ice to aluminum with distilled water dictated an intermediate thickness of distilled water ice.

The problems of preventing bending and torsional stresses from occurring in the test section demanded three degrees of articulation of the end fixture. This in itself is not difficult to provide when precise deformation measurements are not required, but the combination of end articulation and deformation measurement provided a multitude of difficulties. Figure 2.2 shows a test specimen prior to placement in the testing machine.

The aluminum end fixture is shown in Figure 2.3. The upper view is an exploded view showing the component parts and the lower view shows the assembled fixture.

The complete test set up is shown in Figure 2.4. The test specimen as shown in Figure 2.2 is set on knife edges in the loading frame and subsequently an extensometer with dial indicators was placed in position to measure deformation.

The deformation measurements were made from the ends of brass capped pins which can be seen in Figure 2.3. These pins were carefully greased for their entire length except for the notched end which was incorporated in the weld. Thus the pin was fixed only at the end of the sea ice specimen and transferred sea ice deformation through the test heads to a point where the deformation could be measured.

Several types of deformation measuring devices were evaluated, but the only type which produced acceptable results was the dial indicator. Reasonably precise stress-strain data required deformation measurements of 0.00001 inch. Dial indicators of 0.0001 inch were available and were sufficiently sensitive to allow interpretation of 0.00001 inch movements if extreme care was exercised. This art was developed to a high degree using photographic collimation techniques. Figure 2.5 shows a representative stress-strain curve from tension test #1943. Data acquisition and reduction was quite similar to that for compression tests.

The preparation of tension specimens proved to be difficult and time consuming initially. Considerable improvements were made in procedures such that preparation time was cut from 5 hours to 20 minutes per successful specimen.

2.5.3 Compression and Tension Creep. After the development of reliable stress-strain apparatus, additional equipment was constructed to determine creep behavior in both tension and compression. These tests did not require a testing machine because only constant load was applied to the specimen, thus two tension creep cells and five compression creep cells were operated continuously after their fabrication was completed. The time durations of many of the creep tests were several days; therefore, the number of creep tests is quite small. Figures 2.6 and 2.7 show representative creep curves for compressive and tensile creep, respectively.

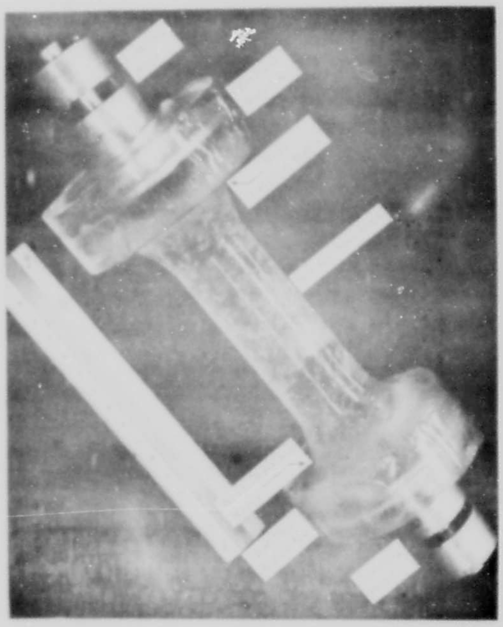
2.6 DATA REDUCTION

2.6.1 Field Calculations. All data acquired were reduced in the field such that stress-strain or creep curves could be plotted. Late in the project, April 1962, the University of Alaska IBM 1620 computer was used to assist in field calculations.

The field calculations were carried to a point of assuring reliable results. This required considerable summarization of data to enable observation of general relationships and patterns of behavior of the numerous parameters.

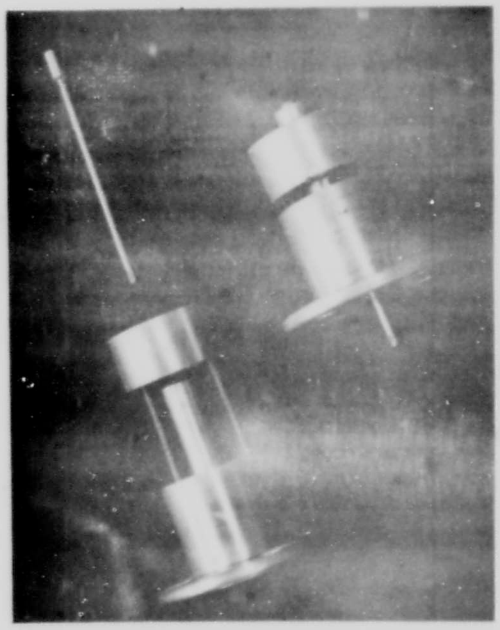
2.6.2 Refined Data Reductions. It was determined during the winter of 1962-1963, after leaving Barrow, that the field data were more sensitive to the rate of loading than had been determined by field calculations. It was further determined that the rate of loading and modulus of elasticity values could then be considerably refined by using a more complex and exacting calculation procedure than would have been reasonable in the field.

Figure 2.1



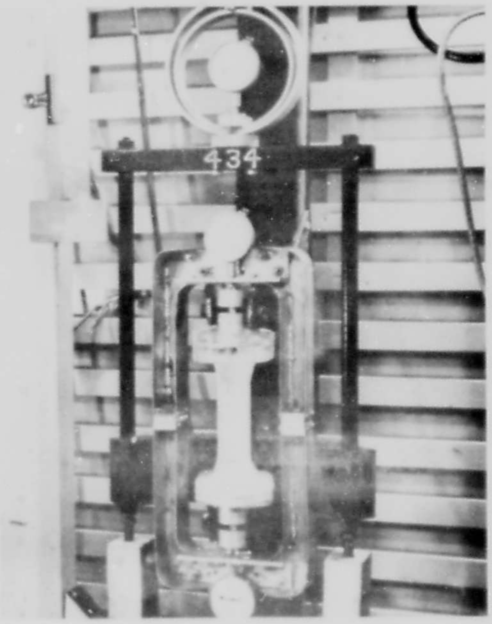
Tension Test Specimen with Loading Heads Attached.

Figure 2.2



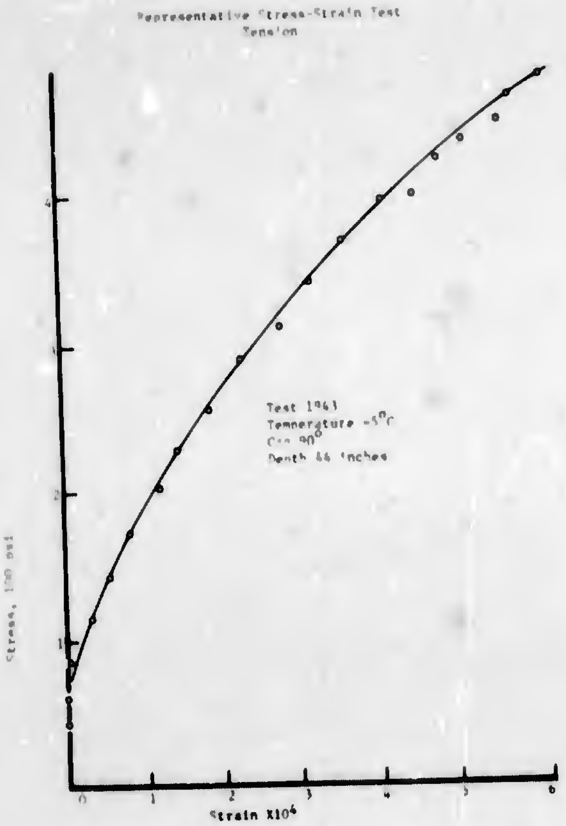
Tension Test Loading Heads.

Figure 2.3



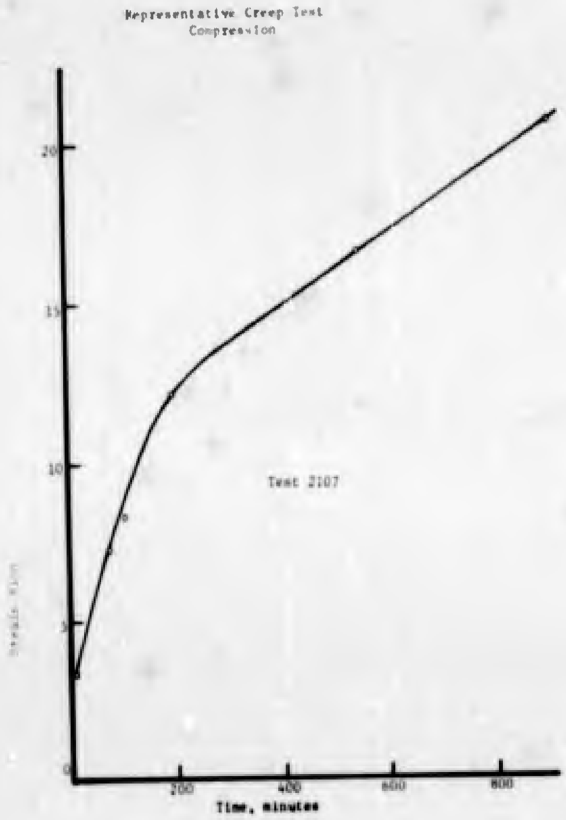
Complete Tension Test Set Up.

Figure 2.4



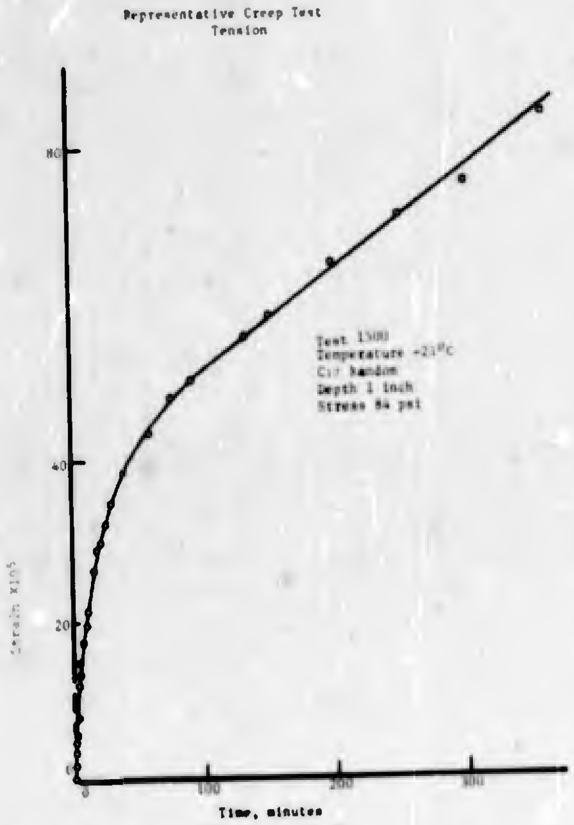
Representative Stress-Strain Test
Tension

Figure 2.5



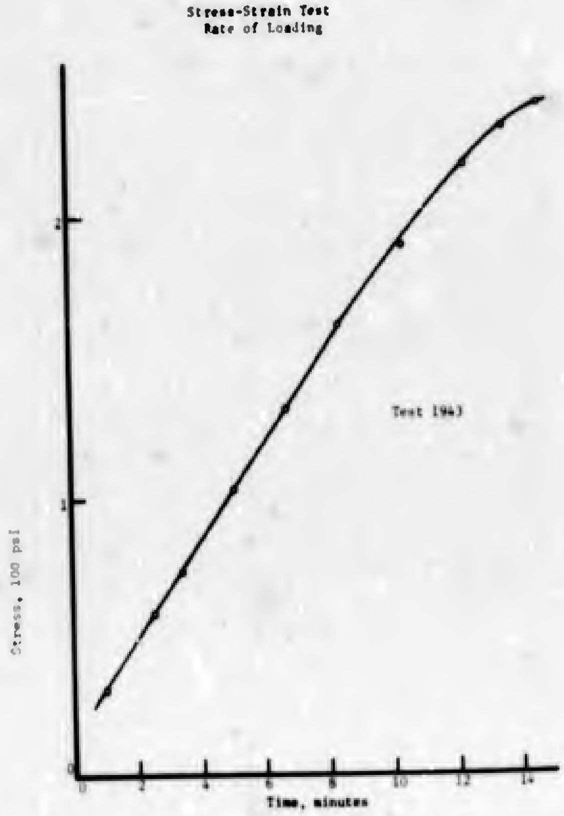
Representative Creep Test
Compression

Figure 2.6



Representative Creep Test
Tension

Figure 2.7



Stress-Strain Test
Rate of Loading

Figure 2.8

The rate of loading calculation necessitated the plotting of stress vs. time for all stress-strain tests and the fitting of a linear curve through the data. The results were much more consistent than those of the crude field calculations. An example is shown in Figure 2.8.

The modulus of elasticity or Young's modulus of ice is actually a misnomer but is used for lack of a better term. Ice is a viscoelastic material, therefore, the slope of the stress-strain curve is time dependent. Nevertheless the apparent stiffness modulus of the material at varying load rates is a most important material property and must be known for structural analysis of ice structures by elastic methods.

For field calculations an arbitrary definition of stiffness was established which allowed adequate monitoring of data as they were acquired. When detailed analysis was initiated, inconsistencies indicated that a more reliable definition of stiffness was needed. This new definition was established and new stiffness calculations were accomplished for all stress-strain tests. The first segment of all stress-strain curves were plotted to large scale as shown in Figure 2.9. The resulting value of modulus of elasticity shows substantial improvement over the field calculations with the new stiffness definition based on a secant modulus from the origin to one third the average ultimate strength of the replicate tests. The number of identical tests was usually five for compression and three for tension.

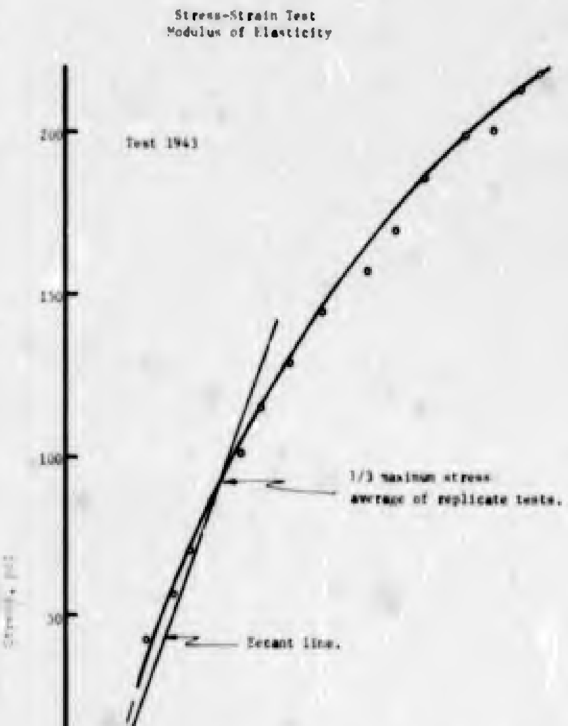


Figure 2.9

REFERENCES

1. Langway, C., Ice fabrics and the universal stage, U. S. Army Snow and Ice and Permafrost Research Establishment, Technical Report 62, 1958.

Chapter 3

EARLY RESULTS

3.1 GENERAL

This chapter contains an outline of gross observations and general trends which are presented prior to discussion of the detailed findings.

3.2 ICE FORMS

Several structures of ice have been found, and each has been tested through portions of the spectra of other parameters.

Most of the ice tested was near-shore, first-year sea ice, obtained a few hundred yards offshore at Barrow, Alaska. One sample of summer polar ice was obtained about 200 miles north of Barrow.

The ice forms are here classified primarily on the basis of crystal structure in terms of size, shape, and orientation, and on the basis of chlorinity.

3.2.1 Classifications.

Fine-grained. This crystal type exhibits random orientation in all directions with a grain size of about 1 mm. The chlorinity tends to be the highest of the ice types with a value around 5 1/2°/oo (parts per thousand). This ice type was found extensively more than 10 inches below the surface only during one of three years' sampling and is generally found near the surface of the ice sheet. During one season it was found in an area that had been exposed to rather heavy winds during the initial formation of ice crystals on the water surface. This fine-grained slush ice had a chlorinity of 6.7 to 7.3°/oo.

Medium-grained. This type has a vertical c-axis with a grain size of about 1 mm by 2 mm by 4 mm long. The medium grain has been found in the top 10 inches of the ice sheet. The chlorinity tends to be around 5°/oo.

Center ice. This type is characterized by a horizontal c-axis having random orientation in the horizontal plane. It is generally found from the surface to a 40-inch depth. The grain size is in the order of 6 mm by 12 mm by 24 mm with the platelets stacked 6 mm thick. The chlorinity tends to be around 3°/oo.

Bottom ice. This structure has been found 20 inches or more below the ice surface and is characterized by a horizontal c-axis and a strongly preferred c-axis in the horizontal plane. The grains are similar in shape to the center ice but increase in size with depth to about 20 mm by 40 mm by 80 mm at a 72-inch depth. The chlorinity varies from about 2°/oo to 0.1°/oo as found with old polar ice from the central Arctic Ocean.

Both fine grained and center ice have been described previously (1, 2). Profiles of ice studied are shown in Figure 3.1.

3.2.2 Bottom Ice.

Considerable interest is cause by the mere presence of bottom ice, its extent and mechanism of formation. The initial discovery of the petrofabric was made in seasonally grown ice in the immediate Barrow vicinity and was sampled by a SIPRE corer. The crystal size was too large to prove colinear, horizontal orientation, so the sampling procedure was changed to large block sampling cut with a chain saw.

The first indication of the extent of bottom ice formation was shown by a 10 foot square sample taken in March of 1962 from the 5 foot thick seasonal ice at Barrow. It was found that the very strongly azimuth preferentiation was uniform and colinear over the entire section. This indicated that the extent of bottom ice was large with respect to ice sheet thickness. If bottom ice is indeed a general feature of Arctic Ocean sea ice, problems can be expected to be encountered due to the anisotropic behavior of the ice sheet since orientation affects strength.

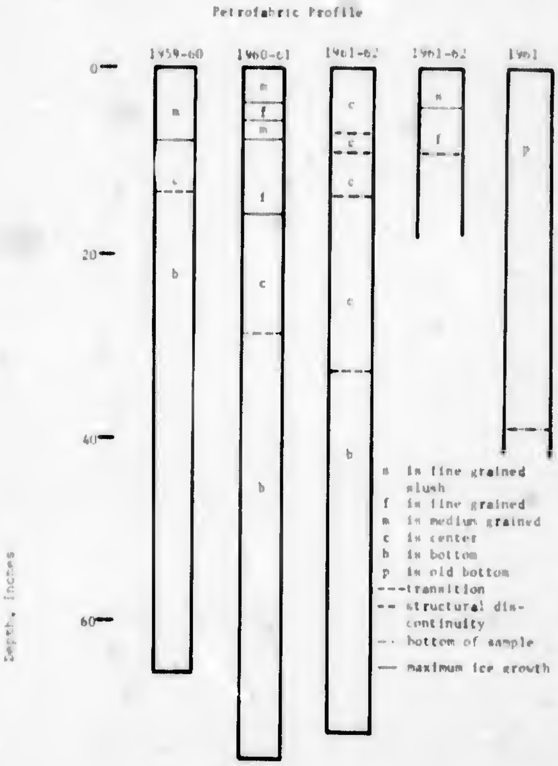
No detailed petrofabric data were taken of this sample, but the colinear orientation was so dramatic that specimens could be cut at any angle to the c-axis by direct visual measurement of angle based on platelet orientation seen in reflected light without magnification. Many of the tests with special load-c-axis orientations for bottom ice were on specimens from this large sample. Results shown in later chapters clearly show the anisotropic behavior due to colinear orientation.

The presence of extensive bottom ice in seasonal ice was determined during a two week field trip in April, 1963. Seven large samples of seasonal ice were obtained from broadly spaced locations in the Beaufort and Chuckchi Seas. These sample locations were between 148°W 74° 0'N and 176°W 72° 30'N. All ice at depths below 36 inches was found to be "bottom ice". Four of approximately 250 thin sections are shown in Figure 3.2, showing the general "bottom ice" petrofabric. These four thin sections are parallel to the plane of the ice sheet and are from two corners of a one foot square sample section from depths of 48 and 59 inches of the same sample, #2. Virtually all crystals in these two sections have their c-axes horizontal ± 2°, i.e. in the plane of the photograph. The arrows indicate the envelope of azimuth directions of the c-axis for all crystals in the section. It can be seen in this case that all crystals are lined up within 40° over a much larger area than that of one thin section. Many individual thin sections have an envelope of azimuth orientation of less than the 25° shown. Figure 3.3 shows histograms of four samples from the following locations:

Sample No.	Location
2	Elson Lagoon, Barrow
5	176°W 72°30'N
7	148°W 74°0'N
8	148°W 74°0'N

Sample 8 was from the middle of a refrozen lead several hundred feet wide and shows the colinear orientation preferentation at the surface.

These data were acquired by removing a single ice block of the full thickness of the floe by use of a long chain saw. The cross sectional shape of the sample was approximately one foot square, and one inch thick horizontal cross sectional slabs were taken at each foot of thickness from the top plus one at two inches below the surface and one at two inches from the bottom. Additionally, a full length vertical profile sample



Petrofabric Profile

Figure 3.1

Bottom Ice Thin Sections. Upper and Lower Pictures from 48 and 59 Inch Depths Respectively.

Figure 3.2

Preferentiation of Bottom Ice C-Axis
All C-Axis Horizontal, Preferentiation in Horizontal Plane

Figure 3.3

slab one inch thick was removed. The slabs were keyed for relative position from the block, covered with polyethylene, packed in insulated boxes and returned to the Barrow laboratory within a few hours.

Four thin sections each four inches square, were prepared from each horizontal slab. One thin section was cut from each corner and was keyed for position relative to the original ice block. The histograms shown in Figure 3.3 results from the four thin sections, and therefore are representative of the complete foot square sample.

Table 3.1 includes the statistical information from the four representative locations. The other samples showed similar results, but the photographic negatives were accidently destroyed before prints could be made.

Table 3.1

Sea Ice Crystal Orientation

Sample	Depth, inches	Mean angle from arbitrary datum	Maximum spread in orientation angle;	Standard deviation of orientation angle;
2	12	+2.38°	170°	37.0°
	24	-2.18	80	16.4
	36	-1.60	90	14.1
	48	-0.70	30	6.2
	56	-1.37	40	8.6
3	12	-1.39	180	32.2
	24	-3.13	180	23.3
	36	+4.58	180	37.3
	45	+1.69	130	16.2
7	12	-2.69	80	17.3
	24	-0.17	180	26.6
	36	-0.66	130	19.1
	48	-1.31	180	25.4
	56	+3.01	80	15.2
8	2	-4.44	180	42.7
	12	-0.92	180	23.0
	22	0.00	120	9.9

On the basis of these samples, it appears that bottom ice is indeed a general Arctic feature and anisotropic behavior of the gross ice sheet can be expected. This may shed some light on the extreme variability of the ring tensile test and various loading tests in which the petrofabric and crystal orientation are not considered to be parameters.

The "azimuth" of the colinear orientation does not change significantly with depth in the floe; therefore, the mechanism of its formation can not be dependent on a driving force which has geodetically oriented flux lines such as a magnetic field or an ocean current. The floes in the ocean are constantly in rotational motion, but the colinear orientation remains fixed relative to the ice floe, not to the earth.

One hypothesis which agrees with the evidence obtained thus far is based upon the existence of strain fields associated with polygonal cracking of the ice sheet due to thermal shrinkage. Two observations point in this direction. The first is the lack of bottom ice in upper portions of the ice sheet which grew before thermal cracking occurred. The thermally induced strain field is undefined vectorially before cracking occurs. Bottom ice is a general petrofabric feature in those portions of the ice sheet which were formed after thermal cracking and thus after the thermally induced strain field became vectorially defined.

The second observation is the large horizontal extent of the colinearity relative to the transition thickness through which the ice type changes from center ice to bottom ice, i.e. horizontal and random in that plane to horizontal and colinear in that plane. This evidence precludes simple crystal growth selectivity through such thin transition layers.

Other hypotheses include the effect of lateral heat flow due to cracks, but the large volumes and consistent occurrence of bottom ice makes this somewhat suspect. The ice is formed well below the bottom of any crack and also occurs in crack free areas.

Also to be considered is the crystal form in liquids near their freezing points. This is virtually impossible to measure at this time in the field.

Following the first hypothesis, a series of cracks was exposed in Elson Lagoon near Barrow, and samples containing a crack were removed. The median of the azimuths was then determined relative to the crack azimuth by visual inspection of the thin section on the universal stage. This is a crude technique and is subject to fairly high error, but the alternative of determining orientations of individual crystals could not be accomplished in the time available.

The results are shown in Figure 3.4. There the colinear c-axis azimuths can be seen to follow the crack azimuth very well except in areas where many cracks intersect. The statistical results show very high prbability of parallel azimuths of crack and c-axis.

These data do not prove any of the hypotheses, but tend to disprove the lateral heat flow concept because 1) the thermal cracks contained split crystals, thus had been formed after the crystal and 2) the lateral heat flow to an open crack should be very nearly normal to the crack and the confusion in orientation near intersecting cracks should not be as severe as the data show.

3.3 STRENGTH

The strength to be discussed is the maximum strength achieved in unconfined compression and tension.

3.3.1 Rate of Loading. Rate of stress application has been increased from constant load. The actual rates achieved depend on the forms of ice and equipment limitations. The upper limit of loading rates tended to be 3000 pounds per square inch per minute for compression and 100 psi per minute for tension. The constant load tests involved loading by three methods. The first is by direct load of hanging weights, the second by a load amplifying knife edge lever system and the third, by maintaining a constant load by a screw jack through a proving ring. The rates of loading were obtained by the use of a motor driven variable speed transmission which in turn drove a screw jack. The load was measured by proving rings.

3.3.2 Temperature. The temperature effect has been followed through the various ice structures at temperatures which could be expected in the ice. Additional temperature ranges have been studied in some cases, but the generally used temperatures were -2°, -5°, -10° and -20°C. This provided two temperatures above and below that at which sodium sulfate begins to precipitate.

3.3.3 Crystal Orientation. The notation for direction of loading and crystal orientation for all of the data is as follows. σ is the notation for the applied stress vector, Z is the vertical direction and C is the c-axis direction. The notation $\sigma : Z$, $\sigma : C$ gives rather complete information with $\sigma : Z = 90°$ being a specimen orientated horizontally and $\sigma : Z = 0°$ being a vertical specimen. $\sigma : C = 0°$ indicates the load applied parallel to the c-axis and $\sigma : C = 90°$ is perpendicular to the c-axis. The details of notation are shown in Figure 3.5 for the specific case of bottom ice where $C : Z = 90°$.

3.4 GENERAL RESULTS

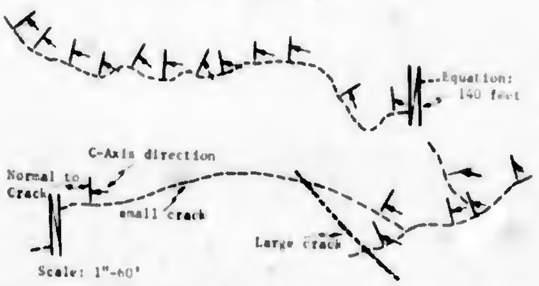
The results shown here are indicative of the general trends which will be discussed in detail in following chapters. Only a small part of the data were used for these preliminary studies but are representative of the total data in a general way.

Compressive strengths are shown in Figure 3.6 for four orientations. Both the grain size and chlorinity change with depth in the ice sheets, and the depth of this particular group of data is noted. The chlorinity at this depth was 2.1⁰/oo. The strength is significantly higher for $\sigma : Z = 0°$, $\sigma : C = 90°$ than for $\sigma : Z = 90°$, $\sigma : C = 90°$.

This relationship has been observed for all bottom ice tested. A composite picture of compressive strength relationships between ice structures is shown in Figure 3.7. These curves represent the closest representations $\sigma : C$ angle possible ($\sigma : Z = 90°$, $\sigma : C = 90°$ or random) for the various ice types and within similar orientations. There is shown a strong chlorinity-strength relationship with the exception of the medium grain and center ice. The curve of pure ice single-crystal strength is the upper limit of the envelope of the single crystal data.

Tension results for summer pack ice are shown in Figure 3.8. As expected, the scatter is proportionally greater than for the compression tests. The effect of variable brine volume has not yet been determined.

The creep rate shown in Figure 3.9 is the minimum slope of a strain-time curve. In general, for creep rates of less than 1 in./in./min X 10^{-5},



Crack Effect on C-Axis Orientation
Sea Ice, Elson Lagoon

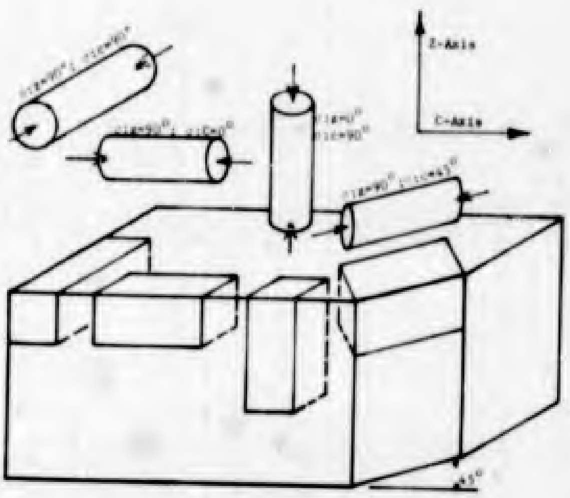
Sample Number	Crack Azimuth[1], Degrees	C-axis Azimuth[1], Degrees	Difference,(α) Degrees
1	75	69	+6
2	62	62	0
3	39	42	-3
4	39	52	-13
5	54	62	-8
6	26	30	-4
7	49	88	-39*
8	15	37	-22
9	26	38	-12
10	31	41	-10
11	76	88	-12
12	17	46	-29
13	25	26	-1
14	50	53	-3
15	0	55	-55
15	94	34	+60
17	11	24	-13
18	1	34	-33
19	7	61	-54

	Ave α	Std Dev
All Tests	12.9	24.1
All Tests except #7	11.5	22.0
All Tests except #7 & 14-19	10.8	9.6

[1] Arbitrary Base

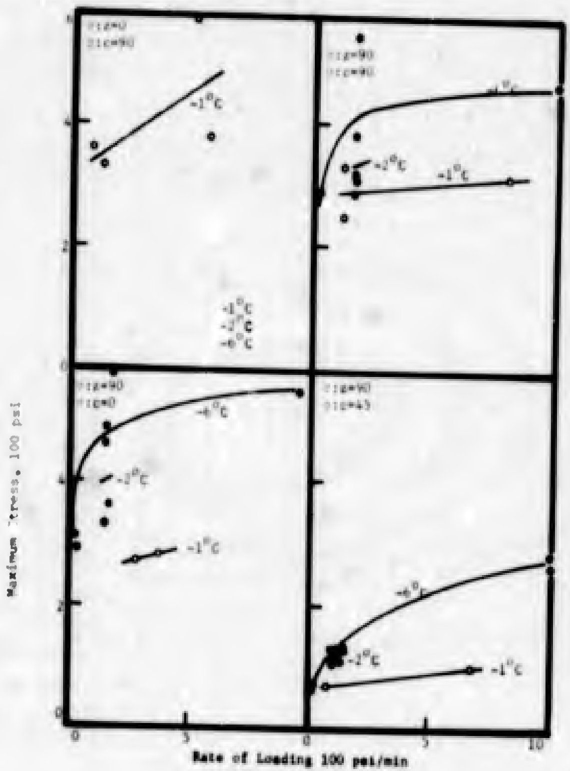
* Poor thin Section

Figure 3.4



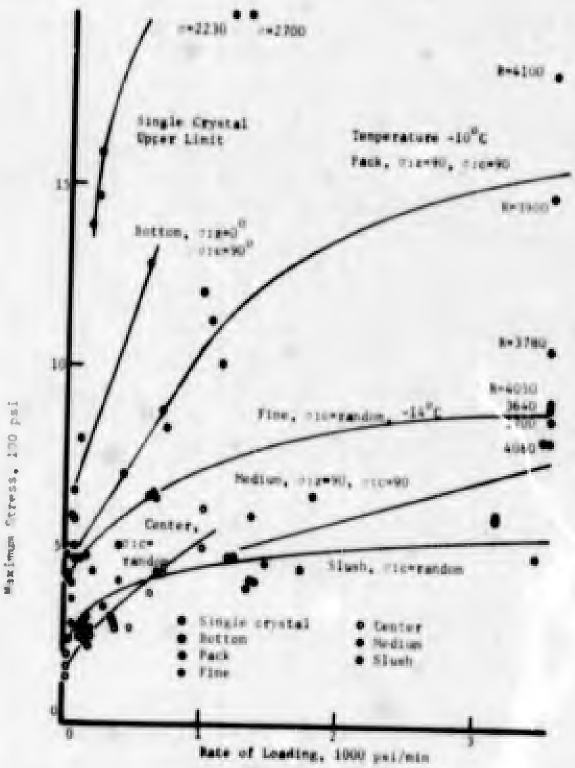
Specimen Orientation Nomenclature

Figure 3.5



Rate of Loading Effect on Strength
New Sea Ice, Compression, 50"-60" Depth

Figure 3.6



Comparative Strength and Load Rate Effects
Compression

Figure 3.7

the rates do not become greater than this minimum with increasing time. For greater creep rates than 1 in./in./min X 10^{-5}, the creep rates reach a minimum and then becomes increasingly greater with increasing time, ending with a disruptive failure. These particular curves are for bottom ice undergoing slow thawing and also at -6°C.

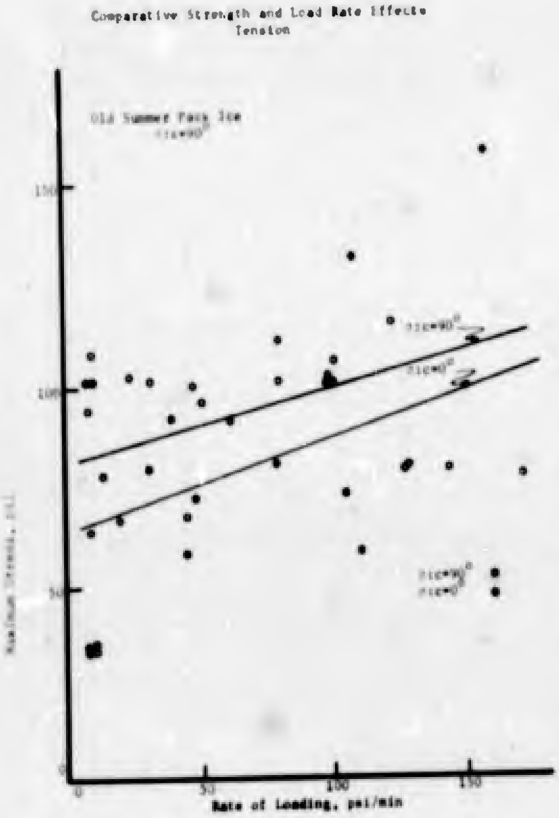


Figure 3.8

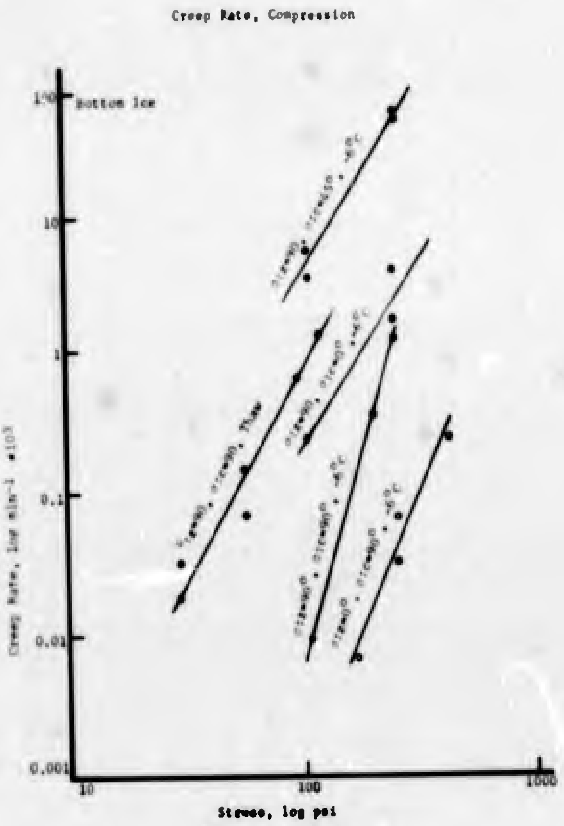


Figure 3.9

Chapter 4

DATA ANALYSIS

4.1 INTRODUCTION

The general form of the equation for the strength of sea ice was assumed to be

$$\sigma = [a][f(x_1)][f(x_2)].....[f(x_n)] \qquad 4.1$$

where any $f(x_i)$ could be established depending upon the physical or chemical mechanism being considered. The specific independent variable x_i was assumed to affect strength according to some reasonable physical law, and a function was selected to describe the mechanism. The function was then statistically tested to check validity.

4.2 EXAMPLE OF BASIC TECHNIQUE

The compression strength depends very critically upon the rate of loading and so this was selected as the first parameter to study. Certain other variables were important, but the data could be sorted to provide groups for which those specific parameters were constant within the group: petrofabric type, crystal orientation, age of ice, and degree of spring time disintegration. Other variables were not sortable in a systematic way because of inter-relationships among them which were probably complex in nature: temperature, salinity, brine volume, and depth in the ice sheet.

A reasonabl -fitting function was selected for load-rate (R), temperature (T), salinity (S), brine volume (V) and depth (D) which yielded the set of equations for n groups of data,

$$\begin{aligned}
\sigma_1 &= [a_1][f_1(R)][f_1(T)][f_1(S)][f_1(V)][f_1(D)] \\
\sigma_2 &= [a_2][f_2(R)][f_2(T)][f_2(S)][f_2(V)][f_2(D)] \qquad 4.2 \\
\sigma_n &= [a_n][f_n(R)][f_n(T)][f_n(S)][f_n(V)][f_n(D)]
\end{aligned}$$

It was reasoned that variability due to all independent parameters except load rate (R) can be reasonably well extracted by linear multiple regression techniques on equations of the form,

$$\ln \sigma = \ln a + \ln [f(R)]^r + \ln [f(T)]^t ... \qquad 4.3$$

yielding a, r, t ... and whereupon the values of the load rate function can be evaluated by

$$\ln [f(R)]^r = \ln \quad - \ln a - \ln [f(T)]^t ... \qquad 4.4$$

The load-rate function then can be studied in detail. When one is satisfied with its evaluation, the variability of strength due to load-rate can be extracted from strength values by

$$\sigma_a = \frac{\sigma}{f(R)} = [a][f(T)][f(S)][f(V)][f(D)] \qquad 4.5$$

where σ_a is now defined Strate.

Each succeeding parameter or group of inter-related parameters then can be studied in turn, and each individual parametric function can be statistically evaluated in relation to the entire equation.

4.3 DISPERSION MEASURED IN NATURAL LOGARITHMS

Many of the calculations are in units of natural logs so the log values are often more readily available than antilogs. Because of the excessive computer cost of conversion from logs to antilogs, it is desireable to have a measure of the relative variation of the actual numbers when performing a statistical analysis of the natural logs. With caution, the standard deviation of the natural logs can be used. The mathematical relationship is as follows:

$\bar{x}$ = average of data

s = standard deviation of data

cv = coefficient of variation of data

$\overline{\ln x}$ = average of logrithms of data

S = standard deviation of logrithms of data

1. Assuming

$$(\bar{x}+s) - (\bar{x}-s) \approx e^{\overline{\ln x}+S} - e^{\overline{\ln x}-S} \qquad 4.6$$

$$2\,s \approx e^{\overline{\ln x}}\, e^{S} - \frac{e^{\overline{\ln x}}}{e^{S}} \qquad 4.7$$

by definition, $s = (cv)\,(\bar{x})$

$$(2)(cv)(\bar{x}) \approx e^{\overline{\ln x}}\,(e^{S} - \frac{1}{e^{S}} \qquad 4.8$$

2. If the data have reasonable dispersion,

$$\bar{x} \approx e^{\overline{\ln x}}$$

$$2\,cv \approx e^{S} - \frac{1}{e^{S}} \qquad 4.9$$

3. Where S is less than 0.20

$$e^{S} \approx 1 + S \quad \text{and} \quad \frac{1}{e^{S}} \approx 1 - S$$

$$2\,cv \approx (1 + S) - (1 - S) \qquad 4.10$$

$$cv \approx S \tag{4.11}$$

A later data review indicates that this relation is very good for values of S up to 0.17. Apparently assumptions I and 2 cause scatter and assumption 3 causes a systematic error at S values higher than .17. The standard deviation of the log values becomes larger than the coefficient of variation of the actual numbers; however, the standard deviation of the log values can be used as a guide to perhaps 0.30 or more. It is possible to calculate and remove the systematic error.

$$e^x = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} \cdots \frac{x^n}{n!} \tag{4.12}$$

$$e^x - e^{-x} = 2x + \frac{2x^3}{3!} + \frac{2x^5}{5!} \cdots \tag{4.13}$$

If x is small, the first two terms are adequate. Equation 4.12 becomes

$$cv \approx S + \frac{S^3}{6} \tag{4.14}$$

and the systematic error is $S^3/6$. The relative errors is $\frac{S^3/6}{S}$ or $S^2/6$. When $S = 0.40$, the relative error is only about three perecent.

4.4 SIMPLE INTERRELATIONSHIPS

Early analysis demonstrated that interrelations exist between rate of loading and other independ variables, particularly temperature. The multiple regressions for determining broad functional relationships was

$$\text{Strength} = A(\text{Depth})^d\ (\text{Salinity})^s\ (\text{Temp})^t\ (\text{Rate} + 50)^r \ldots .$$

This equation will handle most simple interrelationships on the basis of the following:

$$\text{Strength} = A(\text{Depth})^d\ (\text{Temp})^t\ (\text{Rate})^r\ (\text{Temp} \times \text{Rate})^m$$
$$\text{Strength} = A(\text{Depth})^d\ (\text{Temp})^t\ (\text{Rate})^r\ (\text{Temp})^m\ (\text{Rate})^m$$
$$\text{Strength} = A(\text{Depth})^d\ (\text{Temp})^{t+m}\ (\text{Rate})^{r+m}$$

The regression, in solving for A, d,t+m, etc., automatically sorts out the simple interrelationships and assigns variation in the dependent variable in the most simple manner.

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Chapter 5

LOAD RATE EFFECTS

5.1 INTRODUCTION

The data were grouped according to tension, compression, petrofabric, crystal orientation, degree of spring-time disintegration and experimental precision. These groups were then analyzed as outlined in Chapter 4 with respect to rate of loading.

5.2 RATE OF LOADING EFFECT, COMPRESSION

5.2.1 Initial Analysis. The best fitting rate function was determined to be of the form $(\text{Rate} + \text{Constant})^r$, and the constant was found to vary between 25 and 100 psi/min by solving the regression equation

$$\text{Strength}=A(\text{Depth})^d\ (\text{Salinity})^s\ (\text{Temp})^t\ (\text{Rate}+\text{Const})^r \qquad 5.1$$

The rate exponents, r, generally ranged from .15 to .50 and tended to group for ice of the same type and orientation. The fit using this equation tended to be satisfactory for most of the data with multiple regression coefficients up to and beyond .90.

It was then found that the rate constant, Const, and rate exponent, r, were related within petrofabrics and orientation families, but were otherwise variable. See Exhibit 5.1.

Exhibit 5.1 of this report shows, in addition to the r-Const curves, the curves of the multiple regression coeffient, R, versus Const. The rate exponent curves show a fine family relationship but the curves for the multiple regression coefficient fail to show a definite pattern. The best-fitting Const was studied thoroughly, and were found to vary from less than -20 to greater than 100 in a generally random way with an average value being perhaps 10 or 20.

Because Const is rather random, and because the average Const is relatively small, a Const of zero will be used for the time being. Any further study of it is deferred until creep information is considered.

5.2.2 Factors Controlling the Rate Exponent. The combination of ice type-crystal orientation define both the ice used and how it is loaded in strength testing. Basic sorting of the data is, first by crystal type, and secondly, by orientation with each group consisting of a single type and orientation. Since there are frequent references in the balance of this paper to ice of a single type and orientation, this will be abbreviated to singto. Analysis demonstrated that different singto not only had different strengths but they had different rate functions. Study of the center ice demonstrated that rate exponent, r, varied with depth and temperature.

5.2.3 Rate Exponent for a Single Type-Orientation Group(Singto). Once it had been determined that temperature and depth controls r, the ice in each compression singto was sorted into groups with essentially single depths and temperatures. The effect of ice age was ignored but pack ice was kept separate from other ice. The total number of groups, total number of samples represented, the groups used, and samples used for each singto are shown as follows:

Table 5.1

Compression Data Groups

ICE	TOTAL GROUPS	TOTAL SAMPLES	GROUPS USED	SAMPLES USED
Horizontal				
Fine	4	68	4	68
Med 90-90	6	196	5	174
Center	18	611	14	566
Bot 90-00	9	274	8	265
Bot 90-45	8	234	7	221
Bot 90-90	7	232	7	232
Total Horizontal	53	1615	45	1526
Vertical				
Med 00-90	2	32	2	32
Bot 00-90	10	274	8	242
Total Vertical	12	306	10	274

About 93% of the data were used.

Exhibit 5.2 is a listing of the data developed. It shows the identification of each singto, number of samples, average ln(depth), average ln(temp), average ln(salinity), and the fitted rate exponent, r, from a regression of the data. Ignore for the moment the column ln(rotvar x e). The starred data were eliminated because of an atypical rate exponent. Comments on Exhibit 5.2 show the apparent reasons for this atypical behavior. Exhibit 5.3 shows a center ice rate exponent plotted against ln(depth) and ln (temperature).

5.2.4 Developing General Rate Functions. The average rate exponent for the different singto were approximately as shown in Table 5.2.

Table 5.2
Average Rate Exp., Compression

	ICE	AVERAGE RATE EXPONENT
Horizontal	Fine	.14
	Med 90-90	.20
	Center	.22
	Bot 90-00	.20
	Bot 90-45	.40
	Bot 90-90	.25
Vertical	Med 00-00	.20
	Bot 00-90	.17

The fine, medium, and center ice all falls within the same general depth range and the bottom ice is also within a general depth range. It is obvious that the rate exponent is a function of type and orientation as well as depth and temperature. A new variable, Rotvar, for Rate Orientation and Type Variable, was introduced and a rate exponent equation was assumed.

$$r=A(\mathrm{Depth})^{m}\ (\mathrm{Temp})^{n}\ (\mathrm{Rotvar}) \qquad 5.2$$

The center ice was selected as the primary ice from which to work and it was assigned a Rotvar value of 1.00. Each other horizontal singto was compared to the center ice by fitting values of Rotvar. The values are shown in Table 5.3

Table 5.3

Values of Type and Orientation Variable, Compression

ICE	ROTVAR
Fine	.55
Med 90-90	.79
Center	1.00
Bot 90-00	.60
Bot 90-45	1.26
Bot 90-90	.79

When the horizontal data groups were analysed by weighted regression, 45 data groups and 1526 samples yielded the following equation:

$$r_h = .166(\mathrm{Depth})^{.138}\ (\mathrm{Temp})^{.09}\ (\mathrm{Rotvar}) \qquad 5.3$$

where the subscript h represents horizontal specimens, depth is in inches and temperature in °C, r being used in the equation,

$$\mathrm{Strength} = A(\mathrm{Depth})^{d}\ (\mathrm{Salinity})^{s}\ (\mathrm{Temp})^{t}\ (\mathrm{Rate})^{r}$$

This completes the development for the general rate function for horizontal ice which has the statistical description given in Table 5.4.

Table 5.4
Rate Function Statistics, Horizontal Loading, Compression
(Performed on Logarithms of Variables)

Constant Term	-2.79503
R Squared	.84123
R (Multiple correlation coefficient)	.91719
Standard Error	.121

Ind Var	Regr Coef	Std Error	Part Cor Coef	t
Depth	.13766	.00239	.62202	57.584
Temp	.09016	.00361	.26480	24.947
Rotvar	.97850	.01240	.82352	78.869

The same procedure was used with the vertical ice. However, there were only two singto, one of which was a very weak group. It was found that the Rotvar function was not important for the data available and the general rate function for 10 data groups and 274 samples is

$$r_v = .316(\mathrm{Depth})^{-.123}\ (\mathrm{Temp})^{-.096} \qquad 5.4$$

where v indicates vertical specimens, depth is in inches and temperature in °C.

The statistical information is given in Table 5.5

Table 5.5

Rate Function Statistics, Vertical Loading, Compression
(Performed on Logarithsm of Variables)

Constant Term	-1.15012
R Squared	.40271
R	.63459
Standard Error	.108

Ind Var	Regr Coef	Std Error	Part Cor Coef	t
Depth	-.12281	.01085	-.56286	-11.316
Temp	-.09640	.00899	-.53301	-10.716

5.2.5 Testing the General Rate Functions. The general rate functions for compressive strength were tested by the method outlined below to determine how well they fit the data.

1. Dividing the strength by the rate function removes the variation due to rate and only the variation due to other factors remains.
2. STRATE ONE is defined as the strength divided by the best-fitting rate function from equation 5.1.
3. STRATE TWO is defined as the strength divided by the general rate function.
4. The general rate function fit can be determined by comparing the dispersion of STRATE ONE to that of STRATE TWO for each data group. The coefficient of variation was used as the measure of dispersion.
5. If the coefficient of variation for STRATE TWO is not greatly different from that for STRATE ONE for the individual data groups, it can be concluded that the derived general rate function has survived a rather rigorous test.

Exhibit 5.4 lists for each data group the number of observations, the mean, standard deviation, and coefficients of variation for each STRATE ONE and STRATE TWO. The tests for the general rate functions are that (1) the average value of STRATE TWO should be very close to that of STRATE ONE, and that (2) the coefficient of variation of STRATE TWO should also be very close to that of STRATE ONE. All data, including the groups eliminated earlier, were processed.

In examining Exhibit 5.4,which represents horizontal ice, it is seen that 36 of the 53 groups have coefficients of variation for STRATE

TWO smaller than for STRATE ONE. These particularly good fits are in the fine ice, center ice, and bottom 90-90 ice. In the medium 90-90, bottom 90-00 and 90-45 ice, the coefficients of variations for STRATE TWO are usually larger than those for STRATE ONE.

Since coefficient of variation is affected by differences in size of either the standard deviation or the average value, it is considered that a difference in coefficient of variation of about 0.0050 is smallest for which it can be said that the differences should be examined. Using this criterion, the coefficients of variation of STRATE TWO are found to be too large for the following ice groups.

ICE	NUMBER
Fine	0 of 4
Med 90-90	2 of 6
Center	0 of 19
Bot 90-00	2 of 9
Bot 90-45	2 of 8
Bot 90-90	0 of 7

It would seem that the horizontal general rate function fits the fine, center and bottom 90-90 ice very well but there is some question about the other three singto.

The medium 90-90 ice indicates that the rate exponent decreases with increasing depth which is contrary to the general rate function being used for horizontal ice. However, three data groups are of early ice and the fourth is at the melting temperature so the data are not generally good.

The bottom 90-00 groups that do not fit well are small and one is at the melting temperature. The remaining data groups fit quite well for the bottom 90-00 ice. The two bottom 90-90 groups are also small. One is warm and has a very low range of rate. It seems reasonable to conclude that the general rate function for horizontal ice fits the data adequately well.

5.2.6 <u>The Orientation and Type Function of Rate Exp.</u> <u>Rotvar</u> is the orientation and type function of the rate exponent, r, and it is a simple multiplying variable that ranges from .55 to 1.26 in the equations.

$$r = A(\text{Depth})^{d}\ (\text{Temp})^{t}\ (\text{Rotvar})$$

Exhibit 5.5 is a plot of Rotvar versus average STRATE TWO for the different horizontal singto. This plot indicates a good curvilinear relationship between the two groups. A least squares parabolic fit yields the equation

$$\text{Rotvar} = .709 + .443\ (\text{Strate Two}) - .088\ (\text{Strate Two})^{2} \qquad 5.5$$

with a standard deviation of .036. When this equation is differentiated and the derivitive set equal to zero, it yields a maximum Rotvar of 1.27 at a STRATE TWO value of 2.5. These values are very close to those values for 90-45 ice and possibly indicates that 90-45 ice represents a limiting case of the general load rate functions. The physical significance of this point should be pursued. Each STRATE TWO mean contains some error due to experimental variability and additional variability due to undefined functions of temperature, brine volume, depth and perhaps other variables. The different singto, however, have been tested at temperatures and brine volume of roughly the same average values and ranges, so this relationship should not be completely discounted.

Table 5.6 shows the values of Rotvar and STRATE TWO for horizontal singto and indicates an inverse relationship between Rotvar and STRATE TWO. This relationship is probably the result of the number of crystal boundaries and inter-platelet brine planes which are oriented in the plane of maximum principal shear. The greater the number of boundaries and brine planes, the more viscous the bulk properties might be expected to be. One reason for this is the lesser ice area and the higher local shear stress in ice which bridges the brine plane and possibly the crystal boundaries. A second reason is the probable orientation of the bridging ice basal plane, being parallel to the brine plane.

Table 5.6

Values of Strate, Compression

ORIENTATION	ROTVAR	STRATE TWO AVERAGE
Bot 90-45	1.26	2.87
Center	1.00	4.28
Med 90-90	.79	4.95
Bot 90-90	.79	4.90
Bot 90-90	.60	5.47
Fine	.55	5.34

5.2.7 Characteristics of Strate. Strate should have less variation than does strength because the variability due to rate has been removed. Some problems exist in measuring the change in variation.

The calculations were made in logarithms and it is more convenient to use the log values that are available.

If $$\ln(\text{strength}) = i \pm j$$

$$\text{Strength} = e^{i \pm j} = e^{i} e^{\pm j}$$

where i is the average and j is the standard deviation of ln(strength). The value of e^j seems to be the most useful measure of variability of strength.

Table 5.7

Average Rate Function, Compression

ICE	j STRENGTH	j STRATE	CHANGE j	PERCENT CHANGE	AVERAGE F(RATE)
Fine	1.99	1.35	.64	65	1.97
Med 90-90	1.56	1.56	.10	15	3.50
Center	2.03	1.66	.37	36	4.31
Bot 90-00	1.73	1.42	.31	43	3.48
Bot 90-45	2.17	1.39	.78	66	11.9
Bot 90-90	1.84	1.38	.46	55	4.46
Med 00-90	1.53	1.53	.00	00	3.26
Bot 00-90	1.91	1.69	.22	24	2.79
All Comp	2.28	2.68	-.40	-31	4.25

In examining the data contained in Table 5.7 it is seen that all ice except the suspect medium 90-90 ice shows substantially higher values of j for strength than for strate. The bottom 00-90 ice, which is the strongest and least rate sensitive, had the least variation removed. The bottom 90-45 ice, which is the most rate sensitive, had the greatest variation removed.

Since Strate = Strength/(f(Rate))

f(Rate) = Strength/Strate

and a useful comparison may be made by setting

Average f(Rate) = Average Strength/Average Strate.

Table 5.7 lists the average f(Rate) for the different singto. The variation within each singto is reduced, but at the same time, the spread between the different singto is increased as compared to the value for strength. Exhibit 5.6 shows average strength and average strate versus orientation for the bottom ice.

5.3 RATE OF LOADING EFFECT, TENSION

5.3.1 Initial Analysis. For the tensile strength testing, a series of direct tension testing apparatus was developed. An improved model was adopted with test 880 and the final model was adopted with test 1446.2. The data have been classified according to the apparatus used. Data prior to test 880 are classified as "very early" and are not used, data from 880 to 1446.2 are classified as "early" and are used but considered questionable. Data continuing from 1446.2 on are classified as "late" data and are considered to be generally good. The early and late data were kept separated in this analysis.

The tension data fall into four failure types; good test, weld failure, head failure, and no failure. Obviously, in the analysis of maximum strength, only the good tests can be used. For some tests, no rate information is availble and these data cannot be used in an analysis of the effect of rate on strength.

A total of 1054 tests were available and those which were eliminated are shown in Table 5.8.

Table 5.8

Tension Data Eliminated

Type Tests Removed	No. Removed
Very early tests	139
Weld Failure	54
Head Failure	38
No Failure	11
No Rate Information	35

The 777 tests remaining were sorted by ice type, orientation, and early or late. Table 5.9 shows the inventory of tests.

Table 5.9

Inventory of Useable Tests

Ice Type	Ice Orientation	Early	Late	Total
Major Groups				
Fine	90-11(Random)	26	--	26
Medium	90-90	9	12	21
Center	90-11(Random)	32	155	187
Bottom	00-90	--	100	100
Bottom	90-00	23	144	137
Bottom	90-45	11	92	103
Bottom	90-90	26	124	150
Minor Groups				
Bottom	22-90	--	6	6
Bottom	67-90	--	6	6
Bottom	90-22	1	6	7
Bottom	90-67	--	6	5
Bottom	45-90	--	29	29
Total		128	649	777
Total, Major Groups		127	597	724

The minor groups shown are essentially based on strength information at a single depth, temperature, and rate of loading. They cannot be used in determining the rate function. The data remaining for analysis are the 724 tests of the seven major type and orientation groups. In compressive strength, the factors that controlled the rate function had proved to be ice type, ice orientation, depth, and temperature.

The 724 remaining tension tests, which were already sorted by type and orientation were further sorted into groups with limited temperature and ice depth ranges and also with the early data kept separate from the late data. Table 5.10 shows the number of data groups for each single ice type and orientation (singto).

Table 5.10

Tension Data Groups

Singto	Early Groups	Early Data	Late Groups	Late Data	Total Groups	Total Data
Fine	2	26	0	0	2	26
Medium	1	9	1	12	2	21
Center 90-11	2	32	11	155	13	187
Bottom 00-90	0	0	7	100	7	100
Bottom 90-00	1	23	7	114	8	137
Bottom 90-45	1	11	7	92	8	103
Bottom 90-90	1	26	7	124	8	150
Total	8	127	40	597	48	724

The average size of the individual data group is 15 tests. The largest number of tests and largest number of groups are from the center ice.

5.3.2 Factors that Control Rate Exponent. The analysis for the general rate function for tensile strength is quite similar to that used for compressive strength. Some difference arises due to the nature of the tension test and to improved analytical procedure.

Three factors affected the results as compared to those for compression results.

1. Tensile strength proved to be less dependent upon the rate of loading than did compressive strength.
2. Tensile strength data have much more scatter than compressive strength data.
3. The number of tests per group (average of 15) was relatively small.

As a result, the pattern of rate effect on tensile strength was much less clear than the pattern observed in the compressive study.

A few tests with low strength, particularly at high loading rates, were found,and because tension tests are particularly sensitive to flaws, it is possible that these involved flawed specimens. It was decided to eliminate the obviously weak specimens, and 26 tests were eliminated as shown in Table 5.11. Later testing under a different study, as reported in Chapter 10, has shown a strength reduction at very high load rates, much higher than those reported here.

Table 5.11

Weak Data Eliminated

Singto	Initial Data	Eliminated Data
Fine 90-11	26	0
Medium 90-90	21	0
Center 90-11	187	10
Bottom 00-90	100	9
Bottom 90-00	137	2
Bottom 90-45	103	0
Bottom 90-90	150	5
Total	724	26

In no case were more than three tests removed from a group.

Exhibit 5.8 lists the information developed showing identification of the individual groups, the number of tests per group, the averages of the natural logs of strength, depth, temperature and rate, the standard deviation of the natural log of rate, the rate exponent and the Student's t for the rate exponent value.

5.3.3 Rate Exponent for a Single Type and Orientation Group. When the rate exponent values, r, had been obtained for the individual groups, it was necessary to combine them to see if they would fit an equation of the form

$$r = A(\text{Depth})^m (\text{Temperature})^n \qquad 5.6$$

Two problems developed; the first was scatter in rate exponent within the singto due to the small number of tests per group and the scatter inherent in the tension data; the second was the need for weighting the data groups.

No means was found for handling negative values of exponents in a regression analysis and it was necessary to partly ignore the data groups with a negative rate exponent. Forty six groups now remained, three with negative rate exp. values and 672 remaining useable tests.

Weighting of the data was required because:

1. Each data group represented different numbers of observations,
2. The range of rate for the different groups varied greatly, and
3. The significance of the rate exponent value for the different groups, as measured by t-test, varied.

An arbitrary weighting formula was adopted:

$$\text{Weight for the group} = (\text{No. of obs})\ (\text{range})\ (t^{1/2}) \qquad 5.7$$

Obviously, the number of observations is a direct component of a weighting formula. The range is because the data group with the greater range of load rate should give a better indication of the rate function. The range was defined as ln(Rate) plus the standard deviation of ln(Rate). It had been observed that the relationship between the square root of Student's t and significance defined in percentile values is approximately linear in the normal range of t. This is the basis for using $t^{1/2}$ in the weighting formula.

A weighted multiple regression was used to fit a data group with the equation:

$$r = A(\text{Depth})^{a} \ (\text{Temperature})^{b} \ (\text{Rotvar}) \qquad 5.8$$

where Rotvar is a constant for each singto which allows all singto to be grouped as in the analysis of compression data. Table 5.12 shows the results obtained for each singto and the multiple corelation coefficient.

Table 5.12

Rate Exp. for Tension Singto

Singto	Groups	Av r	A	a	b	R
Center	13	.053	.054	-.142	.065	.387
Bottom 00-90	6	.036	.012	.319	-.078	.380
Bottom 90-00	6	.040	large	-1.919	-.448	.886
Bottom 90-45	8	.109	.613	-.382	-.165	.660
Bottom 90-90	8	.048	.554	-.628	-.050	.268

The analysis is continued similar to that for compression.

5.3.4 Developing General Rate Functions. Rotvar (Rate Orientation and Type Variable) again is a multiplying function in the rate exponent. It is designed to be a constant for each singto. Center ice, which has the most data, the largest number of data groups, and the greatest range in depth, was assigned a Rotvar value of 1.00 in the same manner as with the analysis of compression data. All other singto must then have Rotvar fitted so they may be grouped with center ice.

The final fit for the horizontal rate function is

$$r_h = .082(\text{Depth})^{.295} \ (\text{Temperature})^{.064} \ (\text{Rotvar}) \qquad 5.9$$

with the Rotvar values shown in Table 5.13. R, the multiple correlation coefficient, is 0.74.

Table 5.13

Fitting Tension Rotvar

Singto	Rotvar
Medium	4.48
Center	1.00
Bottom 90-00	1.82
Bottom 90-45	4.48
Bottom 90-90	2.12

For the vertical (bottom 00-90) ice, the rate exponent is

$$r_v = .012(\text{Depth})^{.319} (\text{Temperature})^{-.078} \qquad 5.10$$

5.3.5 Testing the General Rate Function. Strate, the strength function with the rate effect removed, is obtained by dividing strength by the rate function. The compression rate analysis had shown that weaker ice had a larger rate function; and therefore, strate for the weaker ice was proportionately smaller than for the stronger ice. As a result, the relative variation for strate was greater than that for strength when all of the data were grouped, even though the rate function had been responsible for much of the variation in the data. It was expected that tension data might show the same phenomena, and statistical analyses were made on the small data groups for a true indication of the result of removing the rate effect.

Exhibit 5.9 shows the sums, raw cross products, averages, standard deviations and coefficients of variation for the individual data groups for both strength and strate. Exhibit 5.10 shows the same information for combinations of data, by singto and larger groupings. Table 5.14 summarizes the information in the Exhibits by showing selected information regarding the coefficients of variation of the groups. The basic test is whether the coefficient of variation for strate is less than that for strength; if so, part of the variation in the strength data is accounted for by the rate function.

Table 5.14

Study of Coefficient of Variation for Strength and Strate

Singto	All Groups	Late Groups	Ratio of Coefficients of Variation Strate/Strength	
	Improved/total	Improved/total	All	Late
Medium	2/2	1/1	1.516	.886*
Center	12/13	11/11	.878	.848
Bottom 90-00	7/8	6/7	1.00	1.01
Bottom 90-45	8/8	7/7	.844	.862
Bottom 90-90	6/8	5/7	.972	.955
All Horiz	35/39	30/33	1.092	1.103
Bottom 00-90	4/7	4/7	1.036	1.036
All Tension	39/46	34/40	1.133	

*one group only

The coefficient of variation for strate is decreased for 35 of the 39 data groups and 30 of the 33 groups of late data. This decrease indicates that the extraction of the rate function dependence has indeed been successful in removing some of the variation in the data.

The ratio of the coefficients of variation of strate to that of strength for a singto and also for a larger group indicates an improvement in the variation in the entire group if the ratio is less than one. The center and bottom 90-45 ice show a relatively large improvement indicating that rate does account for a substantial portion of the variation of these data. The bottom 90-90 shows a smaller improvement and the bottom 90-00 is not affected. The horizontal data, when grouped show that the relative variation is greater in strate than in strength. This result is identical to that discovered in analysis of the compression data. The vertical data also shows an increase in relative variation.

5.4 RATE OF LOADING EFFECT: TENSION AND COMPRESSION COMPARISIONS

It is desireable to examine the average values of strength and strate for the different singto for both tension and compression. The study of the medium ice is limited by the small number of tests, particularly in tension, but the other data should provide good comparative values. Table 5.15 shows the average strength and strate values in compression and tension as well as some comparative results.

Table 5.15

Strength and Strate Values

Singto	Compression			Tension			Comp/Tension	
	Strength	Strate	Ratio	Strength	Strate	Ratio	Strength	Strate
Med 90-90	493	140	3.50	94.4	35.0	2.70	5.22	4.00
Center	313	72	4.31	96.3	74.5	1.29	3.25	0.97
Bot 90-00	822	237	3.48	114.2	92.3	1.24	7.20	2.57
Bot 90-45	210	17	11.9	100.2	56.2	1.78	2.10	0.30
Bot 90-90	600	134	4.46	156.8	120.6	1.30	3.19	1.11
All Horiz	405	90	4.52	116.3	85.7	1.36	3.48	1.05
Bot 00-90	985	354	2.79	261.7	216.8	1.21	3.76	1.63
All Data	465	109	4.25	129.6	98.7	1.31	3.59	1.10

The ratio of strength/strate is also the average function of rate for the singto. It is apparent that the rate function is extremely important in compressive strength with an average value for all horizontal data of about 4.52. In tension, the equivalent value is only 1.36 showing that rate is much less important in tensile strength.

All compressive strengths are much greater than tensile strengths for the same singto. The compressive and tensile strate values, however, are roughly equivalent with a compressive-strate/tensile-strate ratio for all horizontal data of 1.05. The individual singto behave differently however. The weaker, more rate-sensitive, singto (bottom 90-45 and center) is weaker in compressive strate than in tensile strate; the stronger, less rate sensitive singto remain stronger in compressive strate than in tensile strate.

Table 5.16 is a listing in ascending order of compressive rate functions for the various singto, their compressive and tensile average rate functions, and the ratio of compressive to tensile average rate functions.

Table 5.16

Average Rate Functions

	Average f(rate)		Ratio
Singto	Comp.	Tension	Comp/Tens
Bot 00-90	2.79	1.21	1.30
Bot 90-00	3.48	1.24	2.81
Center	4.31	1.29	3.34
Bot 90-90	4.46	1.30	3.43
Bot 90-45	11.9	1.78	6.69
All Horiz	4.52	1.36	3.32

The singto ranking for average tensile rate functions is the same as for compressive rate function, but the compressive rate functions increase more rapidly than do those for tension.

5.5 SUMMARY

5.5.1 Conclusions

1. The strength of sea ice increases as the rate of loading increases, within the load rate range of these experiments.
2. The data studied indicate that general rate functions can be written for both horizontal and vertical strength.
3. The variables that affect the rate function are depth, temperature, orientation and ice types.
4. The rate function included in the equation

   $$\text{Strength}=(\text{Rate}+\text{Constant})^{r}\ ---\ (\text{All other effects})$$

   has been adopted; however, the constant seems rather random. An average value of 10 or 20 psi/minute was found but with wide scatter and no defineable pattern. This constant is important only at low load rates where the effect of creep may enter. Since creep is not being studied at this time, a rate constant of zero is used.
5. The general rate functions are of the form $(\text{Rate})^{r}$, and following are the empirical expressions for r.

Compression

Horizontal

$$r_{ch} = 0.166(\text{Depth})^{0.138}(\text{Temp})^{0.09}(\text{Rotvar})$$

Ice		Rotvar
Fine	90-11(Random)	0.55
Medium	90-90	0.79
Center	90-11(Random)	1.00
Bottom	90-00	0.60
Bottom	90-45	1.26
Bottom	90-90	0.79

Vertical (Bottom 00-90)

$$r_{cv} = 0.316(\text{Depth})^{-.123}(\text{Temp})^{-0.096}$$

Tension

Horizontal

$$r_{th}=0.082(\text{Depth})^{-0.295}(\text{Temp})^{-0.064}(\text{Rotvar})$$

Ice		Rotvar
Medium	90-90	4.48
Center	90-11(Random)	1.00
Bottom	90-00	1.82
Bottom	90-45	4.48
Bottom	90-90	2.12

Vertical(Bottom 00-90)

$$r_{tv}=0.012(\text{Depth})^{0.319}(\text{Temp})^{-0.078}$$

Depth is in inches, temperatures in °C and rate in psi/minute.

7. It is not known why depth and temperature affect the rate function. It is interesting that sign reversal between horizontal and vertical rate functions are opposite for tension and compression.
8. A. For almost all of the small groups of data, the relative variation of strate is less than that for strength.
   B. When all data of a single type and orientation of ice are grouped, the relative variation of strate is less than that for strength only if the ice is fairly rate-sensitive. For ice not rate sensitive, the relative variation of strate is greater than that for strength.
   C. When all data are grouped, the relative variation of strate is greater than that for strength.
9. While the average rate function in compression has a value of about 4.52, the average rate function in tension is approximately 1.35. Compressive strength is several times as sensitive to rate as is tensile strength.
10. The average compressive strength (horizontal only) is about 3.5 times as great as the average compressive strate. However, the average compressive strate is only about 1.05 times as great as the tensile strate. The conclusion is that the gross difference

in compressive and tensile strength is due to the large effect of rate in compression.

11. In examining the individual ice type and orientation groups, it is found that some of the weaker types and orientations are weaker in compressive strate than in tensile strate. The stronger types and orientations maintain a stronger compressive than tensile strate. The effect of ice type and orientation is extremely important in strate.

Later it may be possible to refine the results obtained in this analysis and express them in a less empirical manner. The achievement thus far is the development of general rate functions. The general rate functions for horizontal forces appear to fit the data well with the exception of medium 90-90 ice. Enough sample types, orientations and depths were available to yield results in which confidence can be accepted. The vertically oriented ice data were sharply limited in number of samples, types, and orientations; the results are then much more tentative than for the horizontally oriented ice.

The measurement of variation of strength and strate is not entirely satisfactory. A better measure could be obtained by a statistical analysis of the antilog values. The value of e^J does provide a measure of varability, but this type of measure is questionable as to the precision which it can provide.

Chapter 6

BRINE AND SOLID SALT EFFECTS - CENTER ICE - ONE INCH DEPTH

6.1 INTRODUCTION

6.1.1 Sea Ice Formation. The freezing of sea water is rather complex because the sea water is a dilute solution of several salts. The salts depress the freezing point below the freezing temperature of fresh water, and when freezing begins, pure water ice is formed and the excluded salts become segregated in the liquid brine. Part of the enriched brine drains away from the growth boundary of the ice, but part is trapped in the ice structure and gives sea ice a net salinity. The ice and its entrapped brine cool as the ice sheet thickens. With the lowering of the temperature, the salt in the brine begins to precipitate and is incorporated into the solid ice structure. Sea ice thus has three major phases:

1. Pure water ice.
2. Liquid brine of varying concentration.
3. Solid salts of several types.

Ringer (1) investigated the freezing of sea water and established the order and temperature at which salts precipitate. Nelson and Thompson (4) confirmed Ringer's conclusions. Assur (7) developed a complete phase table at intervals of two degrees over the range 0°C to -54°C for standard sea ice (sea ice with a salinity of 34.325 per mil) showing:

1. Ions in solution
2. Water
3. Solid salt
4. Ice

Assur's table was used for the phase studies in this report.

Table 6.1 gives information concerning precipitated salts from Assur's phase table at the three points of -22°, -36° and -54°C. The table shows the individual salts which precipitate in sea ice, the temperatures at which they begin to precipitate, the quantity (in gm/kg of sea water) which has precipitated at the three temperatures and the ratio of individual salts to the total precipitated salts expressed in per cent.

Table 6.1

Quantities of Precipitated Solid Salts at Various Temperatures.

Salt	Precip. Temp.°C	-22°C		-36°C		-54°C	
		gm/kg	%	gm/kg	%	gm/kg	%
$CaCO_3 \cdot 6H_2O$	-2.2	0.243	2.8	0.314	0.6	0.319	0.5
$Na_2SO_4 \cdot 10H_2O$	-8.2	8.171	94.5	8.883	18.8	8.883	14.0
$MgCl_2 \cdot 8H_2O$	-18.0	0.235	2.7	1.579	3.3	2.284	3.6
$NaCl \cdot 2H_2O$	-22.9	0.000	0.0	36.492	77.2	38.034	59.8
KCl	-36.8	0.000	0.0	0.000	0.0	0.725	1.1
$MgCl_2 \cdot 12H_2O$	-43.2	0.000	0.0	0.000	0.0	13.275	20.9
Unk. Salts		0.000	0.0	0.046	0.1	0.061	0.1
Total		8.649		47.314		63.576	

Of the 34.325 grams of ions in one liter of standard sea water at 0°C, 1.040 grams remain in solution at -54°C. The 33.285 grams not remaining in solution are in the 63.576 grams of solid salts shown in Table 1, mostly as hydrates.

The lower surface of sea ice remains at the freezing point of the sea water (-1.8°C) while the upper surface temperature is controlled by the air temperature, wind, and snow cover. Temperatures in the Arctic do not get extremely low and the sea ice normally has a cover of snow; therefore, extremely low sea ice temperatures do not normally occur. Only sodium sulfate and sodium chloride salts seem important in sea ice because the calcium carbonate is present only in trace quantities and $MgCl_2 \cdot 8H_2O$, which begins to precipitate at -18°C, has deposited only small quantities at -22.9°C where large quantities of sodium chloride begin to precipitate. The other salts, such as potassium chloride, may never precipitate in Nature except in isolated instances.

6.1.2 Current Knowledge of General Physical Properties. Weeks (8) describes ice formed, while there was still wave motion, in the top sheet as small crystals with vertical crystallographic axes except that the crystals have been disarranged and tilted by the wave action. The amount of wave action governs the degree of disarrangement. Below the initial ice sheet, the crystals grow downward and change orientation to a horizontal c-axis. The crystals are composed of small platelets normal to the c-axis and the brine and air trapped in the ice is distributed in the individual ice crystals between the platelets of pure ice. During the freezing process, the platelets are first completely separated by layers of brine and form a skeletal layer of 1-2 cm thickness. As the freezing continues, ice bridges begin to connect the platelets and the ice begins to have some strength.

Anderson and Weeks (5) have shown that the cylinders of brine between the ice platelets are either circular or elliptical in horizontal section and often extend vertically entirely through the ice sheet. When sea ice fails in tension or flexure, it breaks primarily along the brine cells parallel to the small platelets because the liquid brine reduces the effective cross-sectional area of the ice and because the brine cell geometry produces stress concentrations. Two geometric models were developed by Weeks and Anderson, one with round brine channels and one with brine channels of constant width. The reduced cross-section and stress concentration were incorporated in equations for strength with the effective cross section reduction expressed in terms of brine volume, the ratio of liquid brine volume to total volume.

Anderson and Weeks also reported that solid salts would exist at temperatures below the eutectic points of the various constituents, but they believed that the solid salts would affect strength only after sodium chloride began to precipitate. They limited their analysis to warm ice but concluded that solid salts would act as binders rather than stress concentrators in very cold sea ice because others reported that the very cold sea ice could have strengths higher than lake ice.

Assur (7) discussed and further developed a description of the properties of sea ice. He developed the geometric model with brine channels with elliptical cross sections. This model is the most useful that has been developed. Figure 6.1 is a block diagram of it showing the vertical brine channels, ice platelets, and bridging ice. The three axes are the crystal axis, brine axis and zenith axis. (Assur used a growth axis pointed down rather than the zenith axis up.)

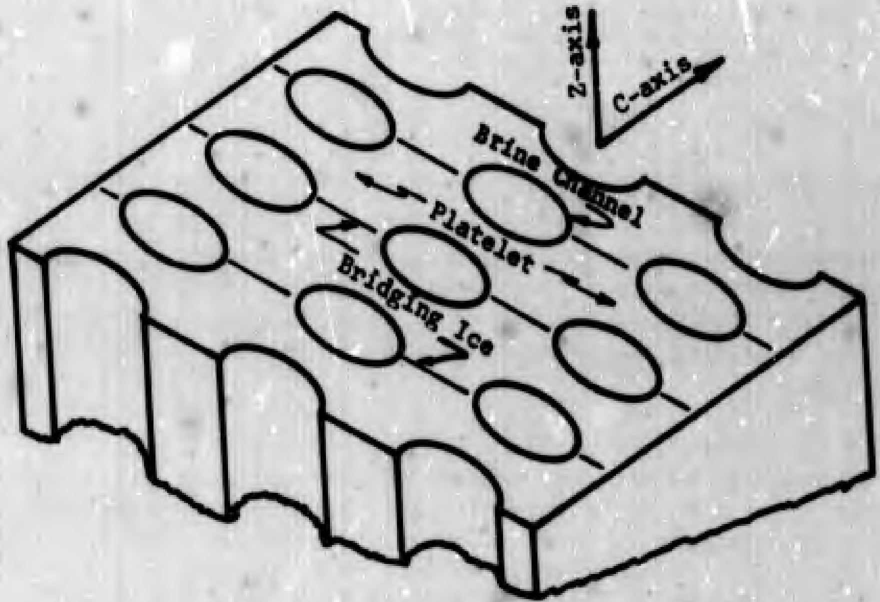

Figure 6.1 Block diagram of Assur's elliptical model.

Figure 6.2 Plan view of elliptical model.

Figure 6.2 is a plan view of Assur's elliptical model.

The geometry of the elliptical model is easily developed. The ratio of the major to minor axis is,

$$\varepsilon = r_b/r_a, \qquad 6.1$$

The cross-sectional area of an ellipse is,

$$F = \pi r_a r_b = \pi r_b^2/\varepsilon \qquad 6.2$$

The relative brine volume in a unit thickness is

$$v = \pi r_b^2/\varepsilon a_o b_o \qquad 6.3$$

The relative brine area in the brine plane (Z-B plane) is

$$F_g = \frac{2r_b}{b_o} = \sqrt{\frac{4a_o b_o \varepsilon v}{\pi b_o^2}} = \sqrt{\frac{4a_o \varepsilon v}{\pi b_o}} \qquad 6.4$$

The strength in the brine plane is

$$\sigma = \sigma_o(1-F_g) = \sigma_o(1-\sqrt{\frac{4a_o \varepsilon v}{\pi b_o}}) \qquad 6.5$$

where σ is the ice strength of the specimen and σ_o is the basic strength of the bridging ice, including stress concentration effects. Equation 6.5 is equivalent to Assur's Equation 22 except that physical values are used instead of dimensionless relationships and that the brine channels are uninterrupted and extend through the model. This strength relationship is intended to be representative for strength in the brine plane in tension, shear, and compression.

Assur studied the ring tensile strength of 327 specimens and found he could show a linear relationship between the average strength of data groups and $v^{1/2}$ for those data without precipitated salts (v = brine volume expressed as a ratio of brine volume to total volume). However, he found the specimens with solid salts were stronger and concluded that the solid salts reinforced the ice. Precipitation of solid sodium sulfate decahydrate caused an abrupt increase in strength of one-third and precipitation of sodium chloride dihydrate caused a rapid, but smooth, increase in strength. Assur hypothesized that when failure occured in the plane of the brine channels, the brine channels acted as stress concentrators but that a relatively thin layer of solid salts was adequte reinforcement to reduce stresses in the pure ice. When strength increased rapidly with precipitation of sodium chloride, the failure in the brine plane probably occured first in the bridging ice rather than in the reinforced brine channels. The strength of cold ice with large quantities of sodium chloride dihydrate was found to be more than twice or perhaps even three times the strength of natural fresh water ice. Assur also commented that it is possible to assume that salt inclusions increase strength by reducing crack propogation.

Weeks (9) studied salt ice (NaCl ice) as simplified ice suitable for laboratory studies. His laboratory-grown ice at the 30.5"depth (13, Fig. 1) appears to have had crystals with the c-axis horizontal but randomly oriented. He found the ring tensile strength of solid salt-free ice between -5° and -21.2°C to be a linear function of $v^{1/2}$ and not affected by the temperature of the pure ice platelets. For ice containing solid sodium chloride (below -21.2°C) the ring tensile strength was independent of both the temperature of the sample and the volume of solid salt present in the ice. Weeks reasoned that if the brine pockets were filled with salt with strength equal to or greater than the ice matrix, the failure would occur in the matrix and the strength measured would be that of the ice in the matrix.

Weeks also found the ratio of stress concentration in salt ice to that in fresh water ice to be about 1.20, implying that roughly the same stress concentration exists in fresh water ice as in salt ice. The salt ice that Weeks produced was fundamentally different from sea ice because it had a single eutectic point of -21.2°C. At that temperature, all of the brine crystallizes and the system goes directly from a brine-ice system to a solid salt-ice system. On the basis of his studies of salt ice, Weeks reexamined Assur's data and hypotheses and suggested that:

1. The strength of very cold sea ice may approach but will not exceed the strength of fresh water ice.
2. The sodium sulfate decahydrate either does not reinforce the sea ice or makes it about 20 per cent stronger. The correct alternative cannot be decided from the data.
3. The crystallization of $NaCl \cdot 2H_2O$ and possibly $Na_2SO_4 . 10H_2O$ might reinforce the brine pockets and create one or two discontinities in sea ice strength at unique temperatures at which critical amounts of reinforcing salt have been deposited.

Brown (10) experimented with in-place cantilever tests of sea ice strength at Wales, Alaska, in 1958 and 1959 and at Thule in 1961. He concluded that his data did not indicate any sudden increase in flexural strength caused by precipitation of sodium sulfate decahydrate. He reasoned that any increase in flexural strength due to the precipitation of salts should be gradual since the salts are coming out of solution gradually as temperature decreases.

Graystone and Langleben (11) experimented with ring tensile tests on sea ice during the winter of 1960. They found from their data from specimens not having solid salts, when adjusted for temperature and sorted into groups with small ranges of $v^{1/2}$, that ring tensile strength was linear with

$v^{1/2}$. They found that their data of specimens with solid sodium sulfate fits this same linear expression and suggests that the solid salts do not have a reinforcing effect, perhaps remaining in suspension rather than being incorporated into the solid structure.

The sea ice described in this report has been classified as in Chapter 4:

1. Fine-grained, at or near the surface, with the crystals having a random orientation in all directions, Chlorinity is high.
2. Medium-grained, at or near the surface, with a vertical c-axis and with larger grains.
3. Center ice, found from at or near the surface to a depth which is usually less than two feet. The c-axis is horizontal but is random in that plane.
4. Bottom ice, found from the lower boundary of the center ice to the bottom of the ice sheet. This type has a horizontal c-axis with the direction preferred.

Pack ice more than one year old has been found to be essentially of the bottom ice type but with greatly reduced salinity.

6.2 BRINE SOLIDIFICATION

6.2.1 Examination of the Strate of Center Ice. Most investigators, using ring tensile tests, have found sea ice strength to be a linear function of $v^{1/2}$ and, except for Assur, have not reported solid salt effects. The analysis herein has shown that temperature has a limited effect on the rate function. Except to account for this dependence, the analysis will proceed on the basis used by others with the primary effects of temperature and salinity controlling brine volume and any secondary effects being identified after the brine volume function has been defined.

The largest single grouping of data of this study consists of compression tests made on center ice in early winter 1961-1962 after the testing equipment and techniques had been perfected but before the ice sheet had frozen deep enough to supply bottom ice. These center ice data proved extremely useful in finding the rate function, so it was also investigated to see the effects of brine volume on Strate, the definition of Strate being strength divided by the load rate function.

Figure 6.3 contains a plot of strate versus $(1-v^{1/2})$ for 148 center ice specimens at a depth, of one inch; 82 of the specimens were ice without solid salts and 66 contained solid sodium sulfate. The specimens were 2.5 inches long, 1.4 inches in diameter, and were tested in direct compression. This plate shows:

1. The center ice exhibits a uniform behavior making it possible to use it for further analysis.
2. The Strate for center ice without solid salts is linear with $(1-v^{1/2})$.
3. Ice with solid salts is much stronger than the Strate-brine volume relationship can explain, so the excess strength must be due to salt reinforcement.

Assur (7) suspected that sodium sulfate reinforced ring tensile specimens. Figure 6.3 shows that sodium sulfate strongly reinforces center ice in compression

The ice crystals of the center ice are small (on the order of one-fourth inch in horizontal dimensions) so that a test specimen with a diameter of 1.4 inches contains a substantial number of crystals in each cross section. If the orientation of the crystals is random enough, the center ice can be a relatively homogenous material at the macro scale. Apparently this is the explanation for the uniform behavior of this ice.

Equations 6.1 to 6.5 were developed for the study of failure in the brine plane. Center ice failure must be mainly in the brine planes of the crystals but with some platelets edge-loaded or loaded from the flat side. It appears that the center ice failure system cannot be identified but perhaps can be considered analogous to failure in the brine plane.

The least squares line on Figure 6.3 is for the ice without solid salts. Its equation is

$$\sigma_a = -34.44 + 191.12\ (1-v^{1/2}) \qquad 6.8$$

where σ_a is Strate. It can be put in the form of equation 6.5 in the following manner:

$$\sigma_a = A + B(1-v^{1/2})$$

$$\sigma_a = A + B - Bv^{1/2}$$

$$\sigma_a = (A + B)\ (1 - \frac{B}{A+B}\ v^{1/2})$$

The basic strength of the "bridging" ice is:

$$\sigma_o = A + B = 156.68 \qquad 6.9$$

A geometric constant for center ice without solid salts is

$$C_c = \frac{B}{A+B} = 1.22 \qquad 6.10$$

The equation for the least squares line rewritten is

$$\sigma_a = 156.68\ (1-1.22v^{1/2}) \qquad 6.11$$

with a standard deviation of 17.94 and correlation coefficient, R, of 0.78.

Exhibit 6.1 is a listing of the data used in this analysis and plotted on Figure 6.3. Exhibit 6.2 explains the code used in Exhibit 6.1.

The reinforcement effect of the solid sodium sulfate makes it necessary to examine these salt deposits geometrically, quantitatively and qualitatively.

Indication of Solid Salt Reinforcement
Center Ice, One Inch Depth

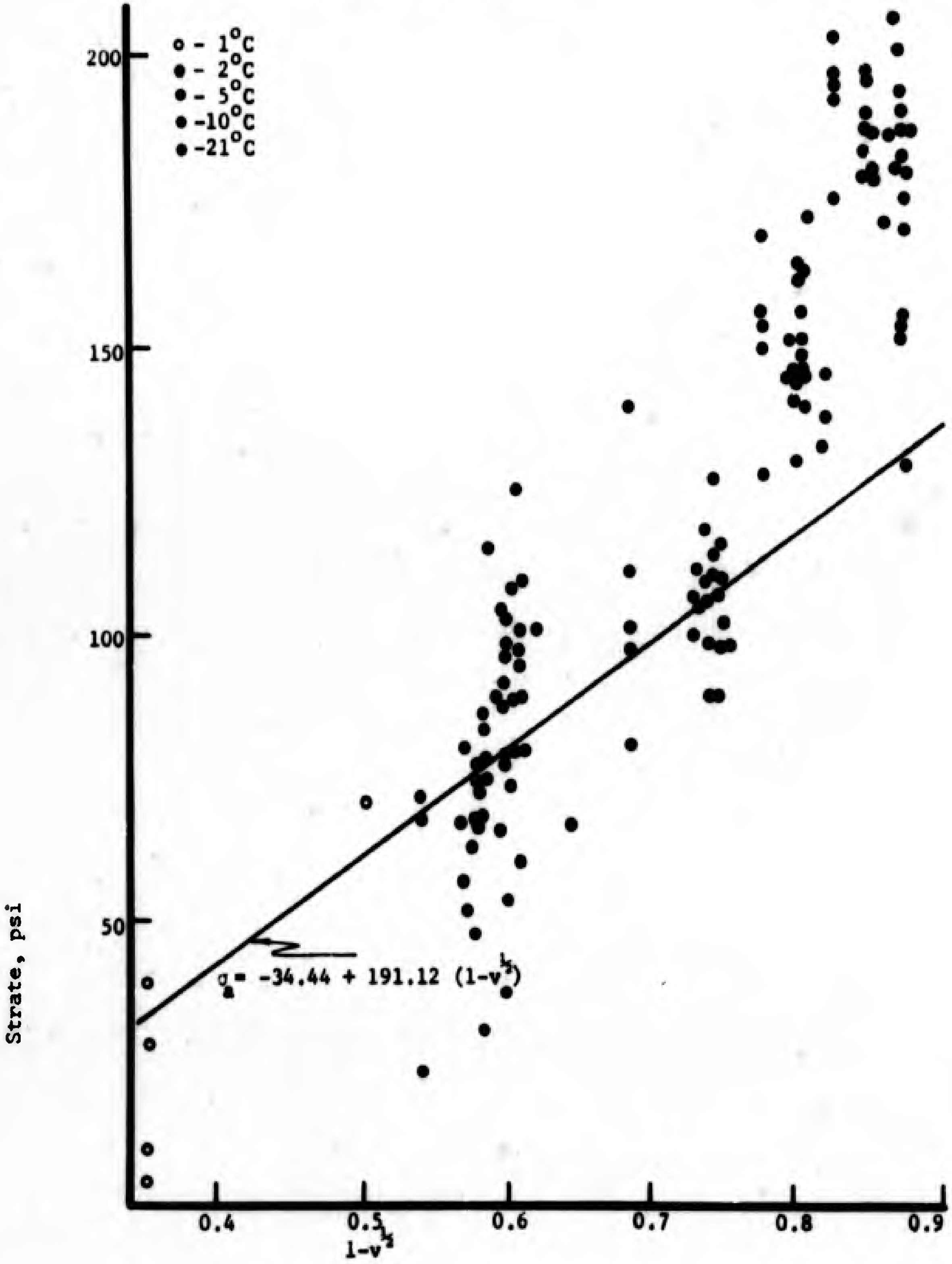

Figure 6.3

Terms and Symbols:

In general, the terms and symbols used in this report are those used by Assur (7) with the necessary additional terms and symbols.

Aice - Ice deposited in association with solid salts.
Saii - Salty ice - the combination of solid salts and aice.
Strate - Ice strength with the rate function removed. psi.

B-axis - Brine axis.
C-axis - crystal axis.
G-axis - Assur's growth axis.
Z-axis - Zenith axis.

F - Average cross sectional area of a brine channel.
F_a - Effective ice area in the brine plane. Relative.
F_c - Salty ice (saii) area in brine plane. Relative.
F_d - Cross sectional area of brine and saii. Relative.
F_e - Saii and brine area in the brine plane. Relative.
F_g - Brine area in the brine plane. Relative.
G - Geometric constant for failure in brine plane.
G_a - Geometric constant for failure in the C-Z plane.
G_c - Geometric constant for failure in the center ice.
S - Relative solid salt volume.
Q - Quality of saii. Ratio of solid salt volume/saii volume.
T - Temperature, °C. Always measured from 0°C down regardless of sign.

a_o - Platelet spacing.
b_o - Brine channel spacing in the brine plane.
d - Delta or incremental value.
r_a - Minor radius of the brine channel.
r_b - Major radius of the brine channel.
r_c - Minor radius of the saii deposit.
r_d - Major radius of the saii deposit.
v - Relative brine volume.
v_a - Relative brine and saii volume.
v_b - Relative saii volume.
v_o - Brine volume at zero strength.
v_s - Relative volume of solid salts.

ϵ - Ratio of brine pocket radii.
ϵ_1 - Ratio of saii pocket radii.
σ - Measured or raw strength. psi.
σ_a - Strate. psi.
σ_c - Calculated strength. psi.
σ_o - Basic strate of bridging ice. psi.
σ_r - Strate reinforcement of saii. psi.
σ_s - Salt reinforcement of strate in saii. psi.
σ_t - Basic strate of ice in the C-Z plane. psi.

6.2.2 Geometric Model for Ice-Salty Ice-Brine System. The geometric models developed in the past (5,7) have been for ice-brine systems. Salt reinforcement makes it necessary to develop a more complete model that includes the solid salts. Assur's phase information, to be developed in more detail in the following sections, indicates that ice is forming at the same time the solid salts are precipitating. The ice that forms in association with solid salts has been called alce (associated ice). The combination of alce and solid salts has been called sall (salty ice).

The brine channel size, at the time the solid sodium sulfate begins to precipitate, is quite small: in the order of 0.03 mm in diameter. The ice obviously forms on the sides of the brine channel walls and the apparent salt reinforcement indicates that the solid salts must also be deposited there. The exact structure and composition of sall is unknown.

The elliptical model shown in Figures 6.1 and 6.2 serves as the basis for further model development. Figure 6.4 shows a plan view of the model with sall deposited on the inner walls of the brine channels.

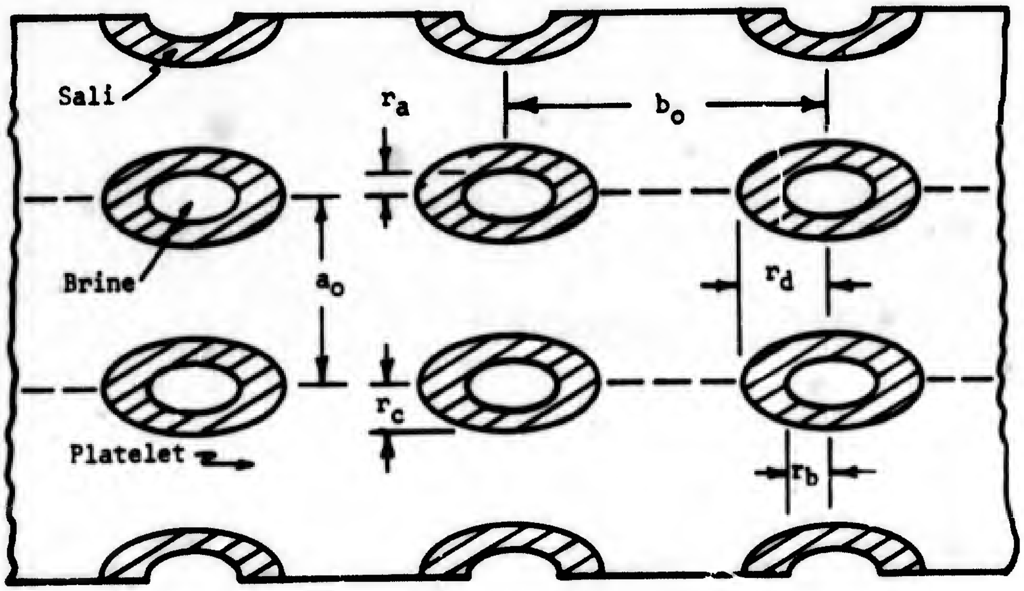

Figure 6.4. Plan view of sea ice model with deposited solid salts.

The radii of the brine channels are still r_a and r_b. Two new radii, r_c and r_d are defined as the outer limits of the sall and correspond to the boundaries of the brine channels at -8.2°C, when sall begins to precipitate.

Defining

$$\epsilon_1 = \frac{r_d}{r_c} \qquad 6.12$$

The cross-sectional area of sall and brine in one brine channel,

$$F_d = \pi r_c r_d = \frac{\pi r_d^2}{\varepsilon_1} ; \qquad 6.13$$

The relative volume of sall and brine,

$$v_a = \frac{\pi r_d^2}{\varepsilon_1 a_o b_o} ; \qquad 6.14$$

In the brine plane the total area of brine and sall is

$$F_e = \frac{2r_d}{b_o} = \sqrt{\frac{4\varepsilon_1 a_o}{\pi b_o}} \quad \sqrt{v_a}; \qquad 6.15$$

Thus the area of sall in the brine plane is

$$F_c = F_e - F_g = \sqrt{\frac{4a_o}{\pi b_o}} \left[\sqrt{\varepsilon_1 v_a} - \sqrt{\varepsilon v}. \right] \qquad 6.16$$

If $\varepsilon_1 = \varepsilon$, eq. 6.16 becomes

$$F_c = \sqrt{\frac{4a_o \varepsilon}{\pi b_o}} \left[\sqrt{v_a} - \sqrt{v}. \right] \qquad 6.17$$

The sall is considered to have two strength functions. The first is the strength of the ice and is defined by equation 6.5. The second strength function to be superimposed on the first is due to salt reinforcement.

$$\sigma_r = \sigma_s \sqrt{\frac{4a_o}{\pi b_o}} \left[\sqrt{\varepsilon_1 v_a} - \sqrt{\varepsilon v} \right] \qquad 6.18$$

where σ_r is the salt reinforcement for the specimen and σ_s is the reinforcement strength of the sall. This is a strate function describing sea ice composed of brine, sall and pure water ice.

$$\sigma_a = \sigma_o \left[1 - \sqrt{\frac{4a_o \varepsilon}{\pi b_o}} \sqrt{v} \right] + \sigma_s \left[\sqrt{\frac{4a_o}{\pi b_o}} \left(\sqrt{\varepsilon_1 v_a} - \sqrt{v} \right) \right] \qquad 6.19$$

If the brine channel shape remains constant, σ_a becomes

$$\sigma_a = \sigma_o \left[1 - \sqrt{\frac{4a_o \varepsilon}{\pi b_o}} \sqrt{v} \right] + \sigma_s \left[\sqrt{\frac{4a_o \varepsilon}{\pi b_o}} \left(\sqrt{v_a} - \sqrt{v}. \right) \right] \qquad 6.20$$

Figure 6.5 shows the strength relationship as compared to brine volume. The strength of the ice increases with the brine volume function to a temperature of 8.2°C. At that temperature the solid salts begin to precipitate and reinforce the ice; then the strength follows the steeper curved line which is the sum of ice strength and salt reinforcement.

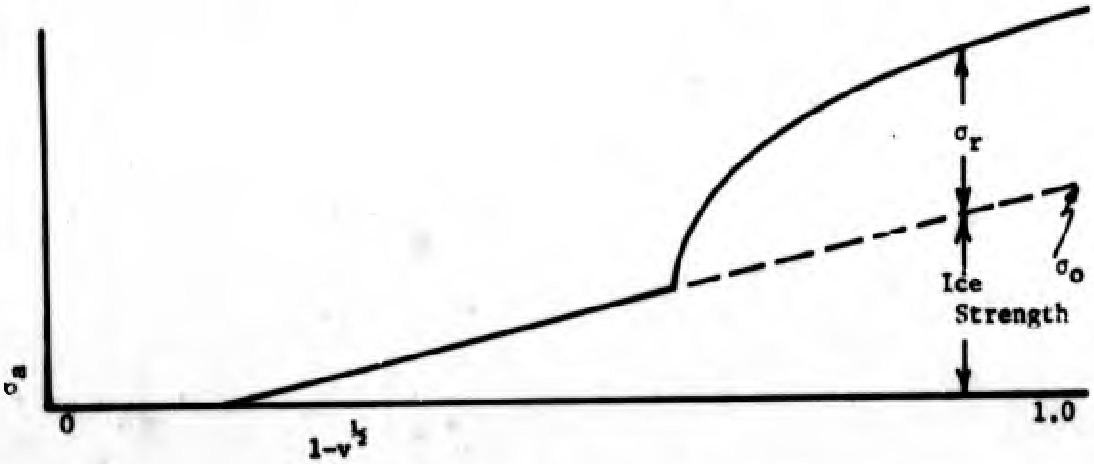

Figure 6.5. Diagram of ice strength and superimposed salt reinforcement.

Defining a geometric factor for ellipses

$$G = \sqrt{\frac{4a_o\varepsilon}{\pi b_o}} \qquad 6.21$$

and a salt area function

$$S = \sqrt{v_a} - \sqrt{v} \qquad 6.22$$

equation 20 becomes

$$\sigma_a = \sigma_o\left[1 - G\sqrt{v}\right] + \sigma_s GS \qquad 6.23$$

If there is no solid salt, S is zero and equation 6.23 becomes equation 6.5. G, the geometric factor, contains three variables, a_o, b_o and ε. If any of these change, G changes and the strength should change. Differentiating equation 6.23,

$$\frac{d\sigma_a}{dG} = -\sigma_o\sqrt{v} + S\,\sigma_s \qquad 6.24$$

It has been reported (13,14) that an increase in platelet thickness reduces the strength of the ice. Equation 6.24 shows that this would be true for an ice-brine system but if salt is present an additional effect occurs which is opposite in sign. The net result depends on several factors.

The strength functions that have been derived are based on the concept of failure in the brine plane. Sea ice may also fail in other planes. Figure 6.6 shows orientation of forces on a block of ice.

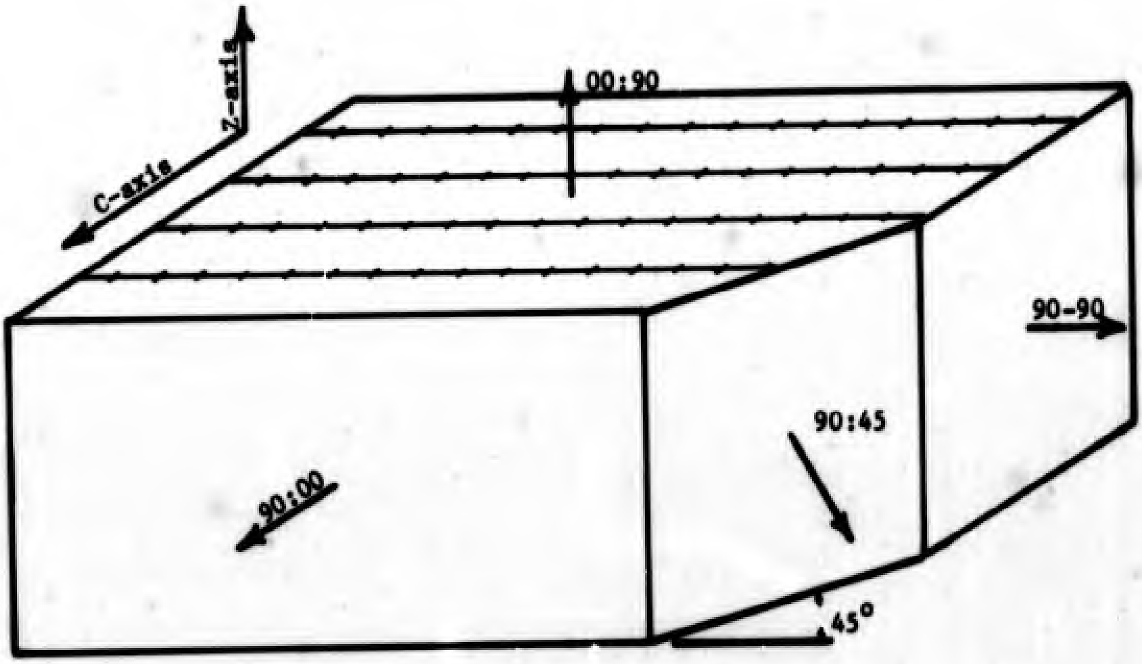

Figure 6.6. Orientation of compressive forces on sea ice.

Tensile forces are shown but compressive forces could be easily shown by reversing the directions of the force vectors. In general, the ice fails across the platelets by crushing, shear, or tension. Ice with 90-45 orientation fails in shear along the brine plane and 90-00 ice in tension tends to fail by tensile separation of the bridging ice in the brine plane. The c-z plane is geometrically representative of cross-platelet failure planes.

The equations for strength in the c-z plane can be developed in a manner similar to that used for brine plane failure. For a brine-ice system

$$\sigma_a = \sigma_t \left[1 - \sqrt{\frac{4b_o}{\pi a_o}} \quad \sqrt{v} \right] \qquad 6.25$$

where σ_t is the transverse strength of the actual ice in the plane of failure. For a brine-sall-ice system

$$\sigma_a = \sigma_t \left[1 - \sqrt{\frac{4b_o}{\pi a_o \varepsilon}} \sqrt{v} \right] + \sigma_s \left[\sqrt{\frac{4b_o}{\pi a_o}} \left(\sqrt{\frac{v_a}{\varepsilon_1}} - \sqrt{\frac{v}{\varepsilon}} \right) \right] \qquad 6.26$$

If ε_1 equals ε this becomes

$$\sigma_a = \sigma_t \left[1 - \sqrt{\frac{4b_o}{\pi a_o \varepsilon}} \sqrt{v} \right] + \sigma_s \left[\sqrt{\frac{4b_o}{\pi a_o \varepsilon}} \left(\sqrt{v_a} - \sqrt{v} \right) \right] \qquad 6.27$$

If a new geometric factor is defined for failure in the c-z plane

$$G_a = \sqrt{\frac{4b_o}{\pi a_o \varepsilon}} \qquad 6.28$$

Equation 6.27 becomes

$$\sigma_a = \sigma_t (1 - G_a \sqrt{v}) + \sigma_s G_a S \qquad 6.29$$

If equation 6.29 is differentiated with respect to G_a

$$\frac{d\sigma_a}{dG_a} = - \sigma_t \sqrt{v} + S\sigma_s \qquad 6.30$$

This differential is similar in form to equation 6.24. However, if G and G_a are examined, it is seen that

$$G = \frac{4}{\pi} \frac{1}{G_a} ,$$

so that changing one of the parameters, such as the platelet thickness, a_o, increases one geometric factor while reducing the other and increases one strength while reducing the other.

Equations 6.25 - 6.30 for cross-platelet failure may be valid in tension and shear. They can not be used universally in compression because the ice platelet when loaded on their edges, exhibit column failure of the platelets at high brine volume values as was seen in failed specimens.

The equations developed for the strength of salt-reinforced ice strength could be extended to include a second form of sall (such as sodium cloride sall) by adding another element similar to the one for sodium sulfate sall.

6.2.3 Sea Ice Phases and Strate of Center Ice. A study of the various aspects of sea ice phases was made using Assur's phase and brine volume results (7) as source information while at the same time an effort was made to relate the phase information to the center ice strength. The study was intended to be as complete as possible, and the final values desired were the relative volumes of the various components of sea ice and the relationships between these components. Calculations were made for two degree temperature increments from zero to -54°C.

Assur's phase information was considered accurate to the second phase and the third phase was carried as a computational convenience. Three significant numbers were used for brine volume calculations. The values generated in this study are estimated to have accuracy of two phases for standard sea ice and three or four for sea ice of 1 o/oo salinity. An average sea ice density of 0.926 gm/cc was used although density varies somewhat with temperature and salinity (3). Molecular weights and most specific gravities were obtained from the Handbook of Chemistry and Physics, 40th Edition, but the effect of temperature on the specific gravities of the various salts is unknown and was not considered.

Assur, in constructing his table, calculated brine volume for sea ice with a salinity of 1 o/oo so that the brine volume for ice of any salinity could be obtained by multiplying the table value by the salinity. This procedure was followed for the various relative volumes.

After the phase information was developed, curves were fitted to the various important relationships deom an expression of the form:

$$Y = A + B\ (X)^N \qquad 6.31$$

by solving first for the best-fitting N and then solving by least squares for A and B.

6.2.4 Quantitative Aspects of Salt Deposits. While values have been generated in the phase studies to -54°C, the data ranges from -1° to -21°C and this study is primarily concerned with that temperature range. All temperatures used are positive in sign while measuring temperatures below 0°C. Table 6.2 shows the important quantitative information obtained from the source data and developed in the phase studies for ice of 1 o/oo salinity to a temperature of -22°C.

Table 6.2

Quantitative Data for 1 o/oo Salinity Sea Ice.

Temp °C	Ions gm/l	v cc/l	v_s cc/l	Δv_s cc/l	Aice cc/l	ΔAice cc/l	Sall cc/l	Δ Sall cc/l	S Rel.
0	.000	1000.00	.000	.000	0.000	0.000	0.000	0.000	.0000
-2	.001	24.00	.000	.000	0.000	0.000	0.000	0.000	.0000
-4	.001	12.40	.000	.000	0.000	0.000	0.000	0.000	.0000
-6	.002	8.60	.001	.000	0.000	0.000	0.000	0.000	.0000
-8	.002	6.67	.001	.000	0.000	0.000	0.000	0.000	.0000
-10	.050	5.35	.075	.074	1.037	1.037	1.113	1.111	.0071
-12	.073	4.82	.112	.036	1.773	.735	1.885	.771	.0124
-14	.083	4.33	.127	.015	2.290	.517	2.418	.532	.0163
-16	.090	3.95	.137	.010	2.687	.396	2.825	.406	.0194
-18	.095	3.65	.145	.007	3.018	.331	3.163	.338	.0221
-20	.099	3.38	.151	.006	3.312	.294	3.464	.300	.0245
-22	.102	3.14	.158	.006	3.566	.254	3.724	.260	.0268

The curves that have been fitted to the cumulative values in Table 6.2 and their standard errors are:

Curve	S. E.	
Salt used = 0.926 - salt shown = $0.109 - 17.98/T^{2.48}$	.001	6.32
$v = 1.03 + 45.80/T$	.07	6.33
$v_s = 0.168 - 26.53/T^{2.46}$	.002	6.34
$\mathrm{Aice} = 6.55 - 32.28/T^{.767}$	.017	6.35
$\mathrm{Sall} = 6.60 - 35.26/T^{.808}$	.009	6.36
$S = 0.082 - 0.180/T^{.381}$	.0001	6.37

The units in the equations are identical with those in Table 6.2. The brine volume data used for curve fitting ranged from -2° to -22°C. All other curves are for the range from -10° to -22°C and can probably be extrapolated to -8.2° and -22.9°. Ions used, v, v_s, aice, and sall for any salinity can be calculated by multiplying by the salinity in o/oo. Values for S for any salinity can be calculated by multiplying the table value by the square root of the salinity in o/oo.

Figures 6.7 through 6.12 show curves of the different quantitative functions versus temperature with both cumulative and incremental values plotted on the same graph. All cumulative curves, except brine volume, show that the incremental rate decreases with the lower temperatures. The incremental values have a minor abreation at -12° because the incremental value used for -10° is for the range from -8.2° to -10° rather than -2.0°C.

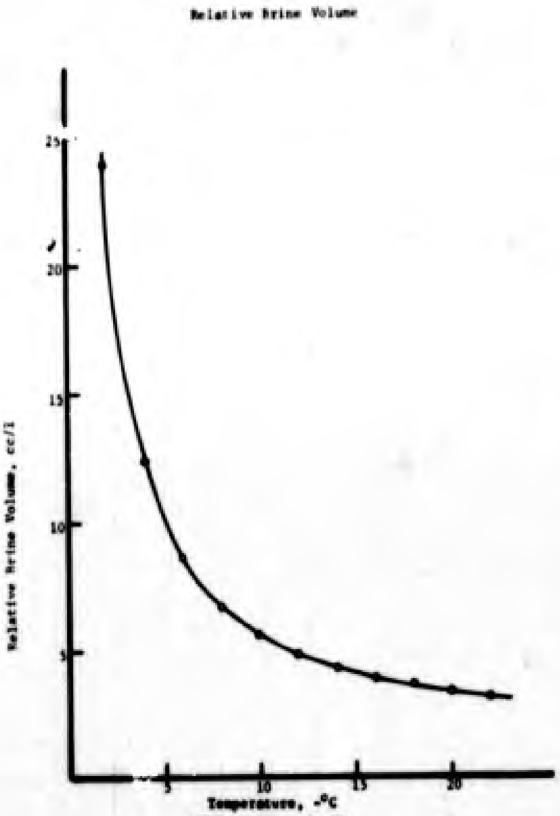

Figure 6.7

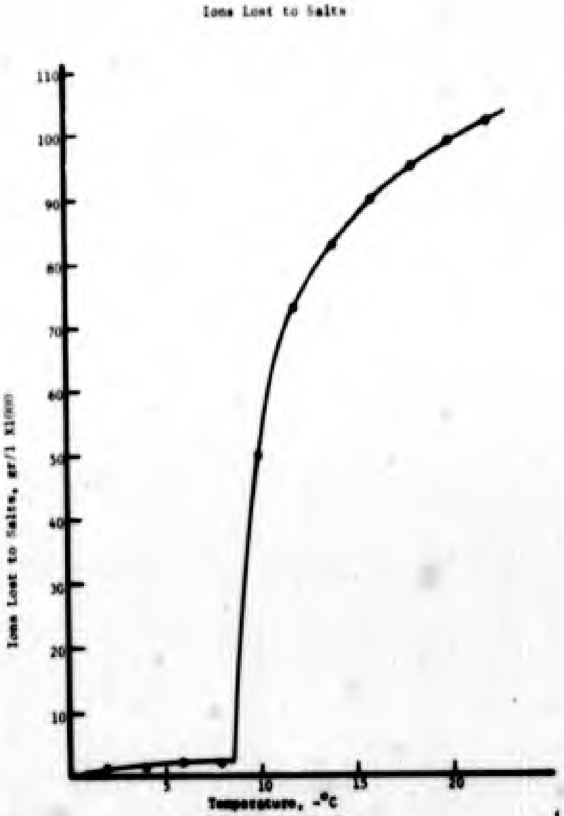

Figure 6.8

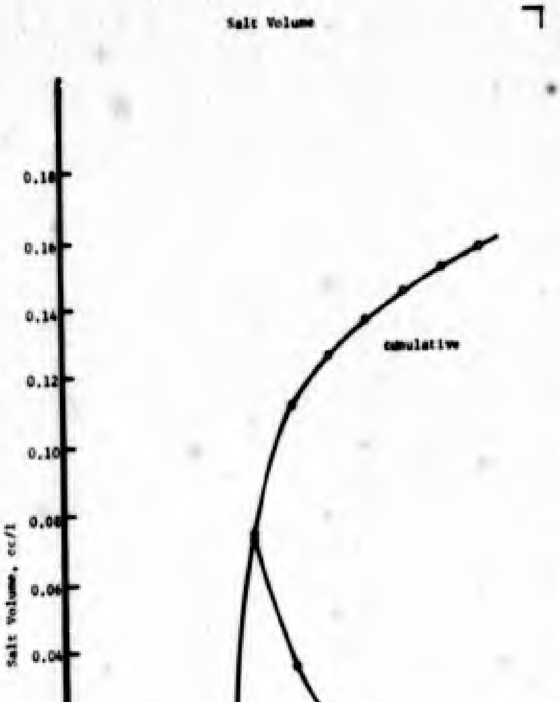

Figure 6.9

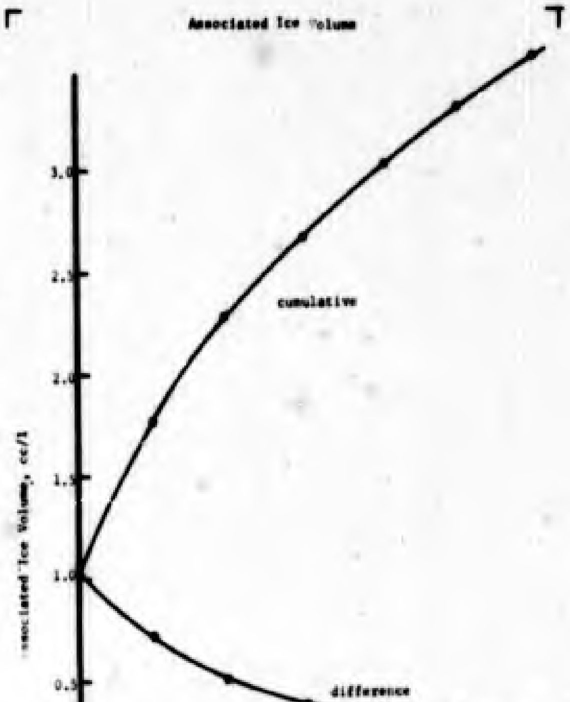

Figure 6.10

Sall area function of sice center ice, σ_r, the salt reinforcement for the center ice being examined, can be determined by using the following relationship derived from equation 6.23:

$$\sigma_r = \sigma_a - \sigma_o (1-G \sqrt{v}) \qquad 6.38$$

σ_r was calculated for each specimen with solid salts and was then plotted against S, the sall area function in the brine plane, in Figure 6.13. This figure shows:

1. σ_r increases with increasing S, and
2. This reinforcement, which must pass through the origin, is not linear with S.

Figure 6.13 shows the Strate of the center ice to be linear with $(1-v^{1/2})$ if no solid salts are present. S is a similar area function, and the salt reinforcement should logically be linear with it. The lack of linearity indicates that there must be one or more additional sall functions affecting salt reinforcement. The factors which may be involved are:

1. Change in shape of the brine channels.
2. Change in the proportion of salts in the sall (quality changes).
3. Change in failure mode or location.

6.2.5 Effect of Brine Channel Shape on Salt Reinforcement. It has been reported (5) that as the brine channels become colder and smaller they tend to become rounder. If the brine channel shape changes, the true equation for σ_r is

$$\sigma_r = \sigma_o G_d\left[\sqrt{v_a \varepsilon_1} - \sqrt{v \quad \varepsilon}\right] \qquad 6.40$$

where G_d is the geometric factor, G, but excluding the shape factor, ε.

Figure 6.13 shows that the change in shape between -1° and -5°C cannot be extreme or the linearity between strate and $(1-v^{1/2})$ would be affected. Some change in shape can be accepted as negligible because changes in the square root of ε are small; thus Strate would not be significantly sensitive to changes in shape.

If the brine channels do change from ellipses to circles, the change would probably be fairly uniform with decreasing brine volume. Table 6.3 shows the relative brine volume of 8 o/oo ice at various temperatures.

Table 6.3

Relative Brine Volume of 8 o/oo Ice at Various Temperatures.

Temperature, °C	v
-1.	.402
-2.	.192
-5.	.082
-8.2	.052
-10.	.044
-15.	.033
-21.	.026

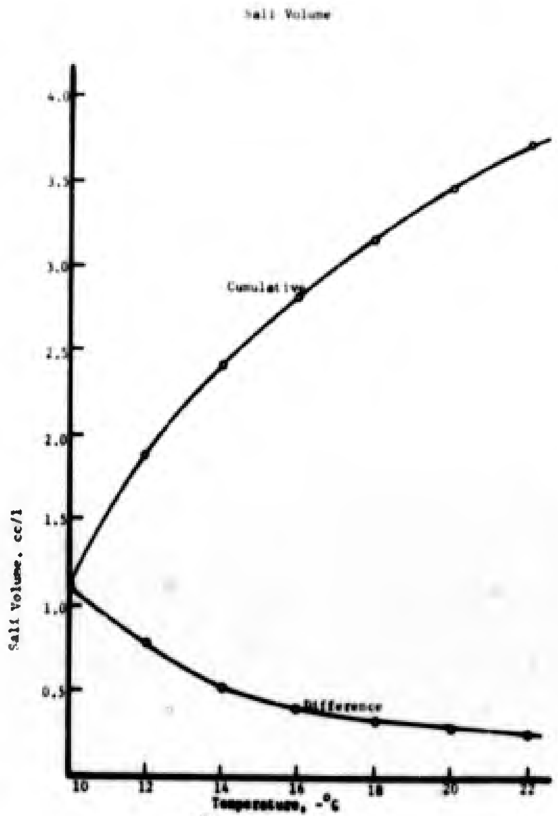

Figure 6.11

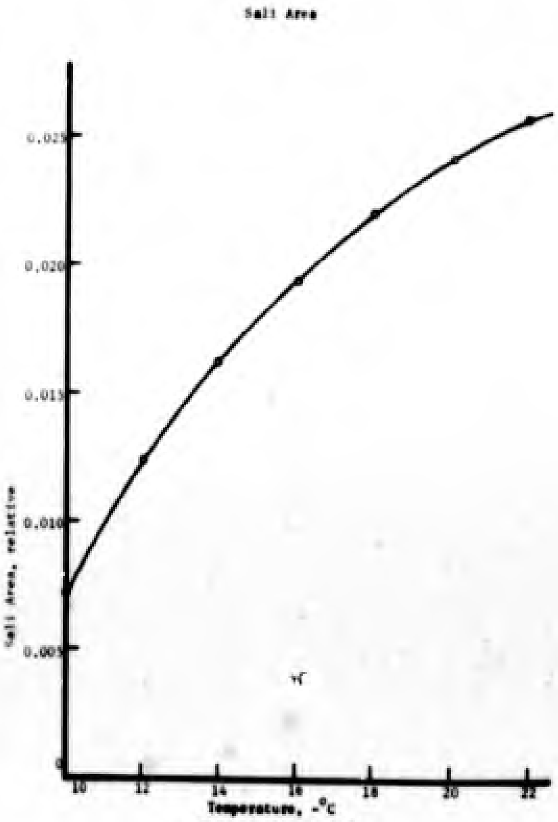

Figure 6.12

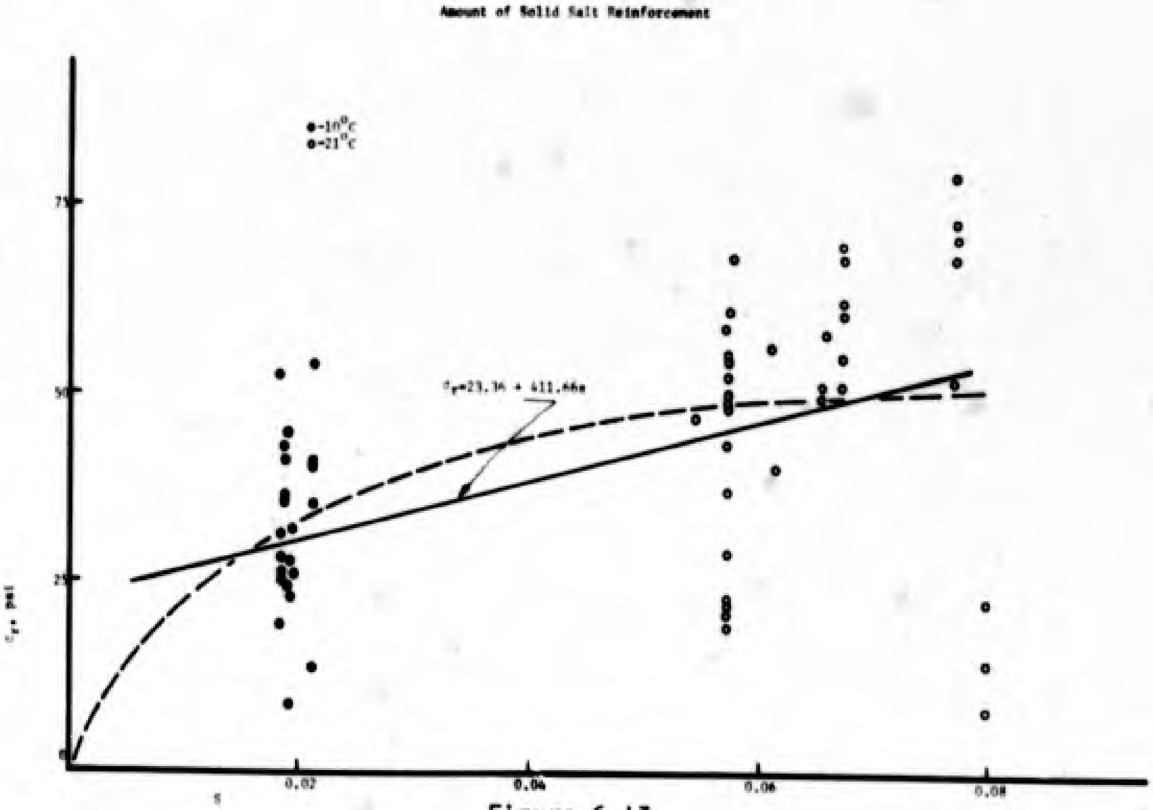

Figure 6.13

Most of the brine volume change occurs at warm temperatures, and the change between -10° and -21° is so small that any gross change in brine channel shape between the two temperatures is highly improbable. The brine channels probably do change shape as the brine volume becomes small but this alone cannot explain the curvilinear relationship between σ_r and S.

6.2.6 Qualitative Aspects of Sali. The two qualitative aspects of sali are:

1. The salt or salts contained in the sali, and
2. The quality or relative amounts of salt at any radius within an annular ring of sali.

The salts precipitated in sea ice were identified by the freezing of sea water in a closed system with subsequent examination the salts which precipitated in the bottom of the container (4). It has not been conclusively decided that the same salts precipitate inside the brine channels nor that they are incorporated in the sali.

The quality or amount of salts in the sali can be measured in several ways:

1. Weight of salts/weight of sali.
2. Volume of salts/volume of sali.
3. Moles of ions lost from the brine/moles of water lost from the brine.

The volume ratio appears best because the model employs volumes, and salt reinforcement is apparently a physical phenomenon which depends on volumes. This approach allows analysis of effective strengths over effective cross sectional areas of the failure plane. Specific weights for the salts have been used in these phase studies with the assumptions that any thermal volume changes are small and that any error in specific weight is constant.

Table 6.4 shows some of the qualitative aspects of sodium sulfate sali. Q, the quality function, is the ratio of salt volume to sali volume.

Table 6.4

Qualitative Aspects of Sodium Sulfate Deposits.

Temp	Cum. Q	ΔQ	ΔSalts/H_2O (moles)	Sali/Brine (volumes)
-8°	.000	.000	.0000	0.000
-10	.068	.066	.0053	0.201
-12	.059	.046	.0042	0.391
-14	.052	.029	.0027	0.558
-16	.048	.025	.0022	0.715
-18	.045	.021	.0019	0.866
-20	.043	.021	.0021	1.024
-22	.042	.024	.0024	1.186

Curve	S. E.	
$Q = 0.034 + 2.707/T^{1.90}$	.00043	6.40
$Q = 0.145 - 0.237\ S^{.229}$	.00075	6.41
Δ moles Salts/H_2O = $0.00176 + 30.60/T^{3.86}$	.00032	6.42
Sall/Brine = $-0.892 + 0.174\ T^{.80}$	.0074	6.43

Table 6.6 shows the ratio of moles of salts to H_2O to be very small; in the order of 0.2 to 0.5 per cent. Q, the ratio, salt volume/sall volume, is in the order of five per cent. Furthermore, Q begins at 0.084 (extrapolating equation 6.41 to a temperature of -8.2°C) when sodium sulfate precipitation begins and then continuously decrease with lowering temperature. The incremental values of Q show a minimum around -19° and a moderate increase at lower temperatures due to the precipitation of a small quantity of $MgCl_2.8H_2O$.

Equation 6.42, the relationship between Q and S, shows that quality drops continuously with increasing S for constant salinity. This is important to consider in evaluating the sketched, non-linear curve in Figure 6.13.

Figure 6.14 indicates Q as a function of temperature, Figure 6.15 indicates the relationship between Q and S for 1 o/oo sea ice, and Figure 6.16 indicates the molecular ratio of salts to water. Table 6.4 and Figure 6.17 indicate the ratio of sall volume to brine volume.

The sall quality factor meets the requirement of a parameter necessary to explain the curvilinear relationship between σ_r and S in Figure 6.13. If the solid salt reinforces the sall, it is reasonable to expect some direct relationship between the amount of salt and the amount of reinforcement. The sall quality for sodium sulfate sall begins at 0.084 and drops fairly rapidly to a value of about 0.021. This loss in quality may explain the declining incremental salt reinforcement with decreasing temperature.

6.2.7 A Combined Sall Function. If sall reinforcement depends on both S (the sall geometric function) and Q (the sall quality function) a combined sall function must be used. The simplest form is found by expressing $_s$ in terms of Q.

$$\sigma_s = KQ^e \qquad 6.44$$

K is a constant, e is a fitting exponent, and Q is the cumulative quality function. The equation for salt reinforcement is

$$\sigma_r = GS\sigma_s = GSKQ^e. \qquad 6.45$$

Since σ_r is determined from experimental data and G and S are either known

Figure 6.14

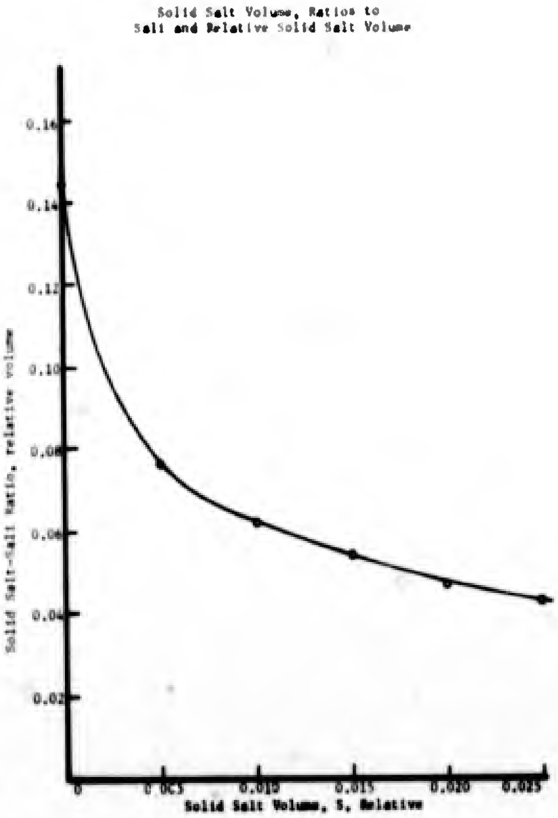

Figure 6.15

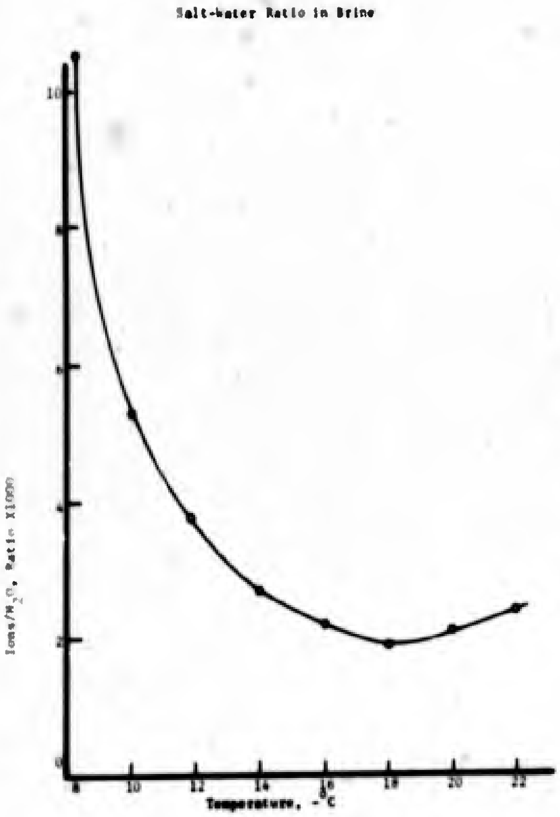

Figure 6.16

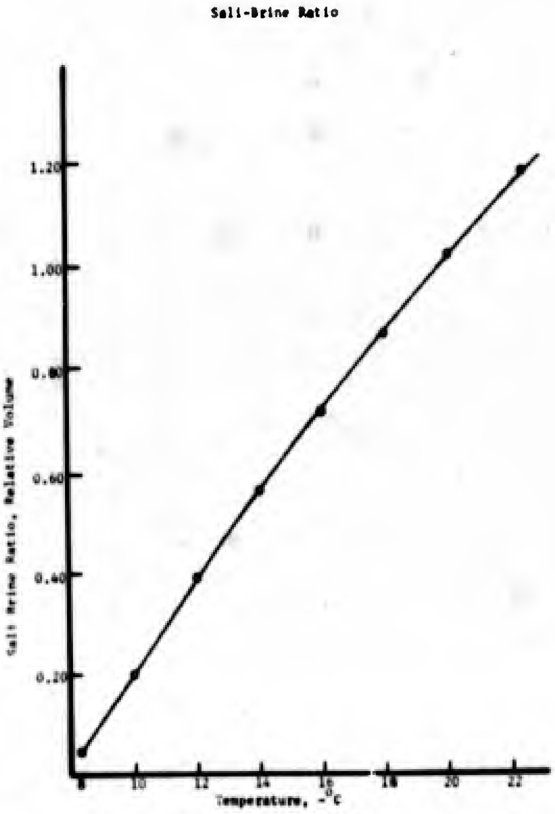

Figure 6.17

or can be calculated, the equation can be altered to

$$\frac{\sigma r}{GS} = KQ^{e} \qquad 6.46$$

For the data under study, Q and σ_r/GS were calculated for each experimental test. The mean values obtained for -10° and -21° were

Temp	Q	σ_r/GS
-	0.0	0.0
-10.	0.0680	1200.
-21.	0.0423	650

The equation fitted to these points is

$$\sigma_s = 39,400\ Q^{1.3}. \qquad 6.47$$

The salt reinforcement function then becomes

$$\sigma_r = 39,400\ GSQ^{1.3}, \qquad 6.48$$

and the overall fitting equation for the data being examined is

$$\sigma = \mathrm{Rate}^{r}[156.68(1-1.22v^{1/2}) + 39,400\ (1.22)\ S\ Q^{1.3}] \qquad 6.49$$

Figure 6.18 shows calculated strength versus measured strength using equation 6.49. The least squares line has the equation

$$\sigma_c = 22.69 + .98\ \sigma$$

with a standard deviation of 73.18 and correlation coefficient of 0.973. This fit is highly satisfactory although it might be possible to rework the constants and find a slightly better fit. Further refinement is not justified because the overall function is as precise as the data.

Equation 6.23 using the combined salt function for salt reinforcement is

$$\sigma = \mathrm{Rate}^{r}\ [\sigma_o(1-Gv^{1/2}) + KGSQ^{1.3}] \qquad 6.50$$

The variables such as v, S and Q in this equation are combinations of the original independent variables measured for each test specimen. Assuming,

1. a_o is a function of depth in a generalized growth rate expression.
2. b_o is a constant controlled by ice formation parameters.
3. ϵ is controlled by temperature,

the independent variables and their importances can be evaluated. Table 6.5 shows the independent variables and the elements in equation 6.51 to which they contribute. If the element appears twice in the equation, a double score is shown. An indication of the range of the variable is also given.

Plot of Calculated Strength versus Measured Strength

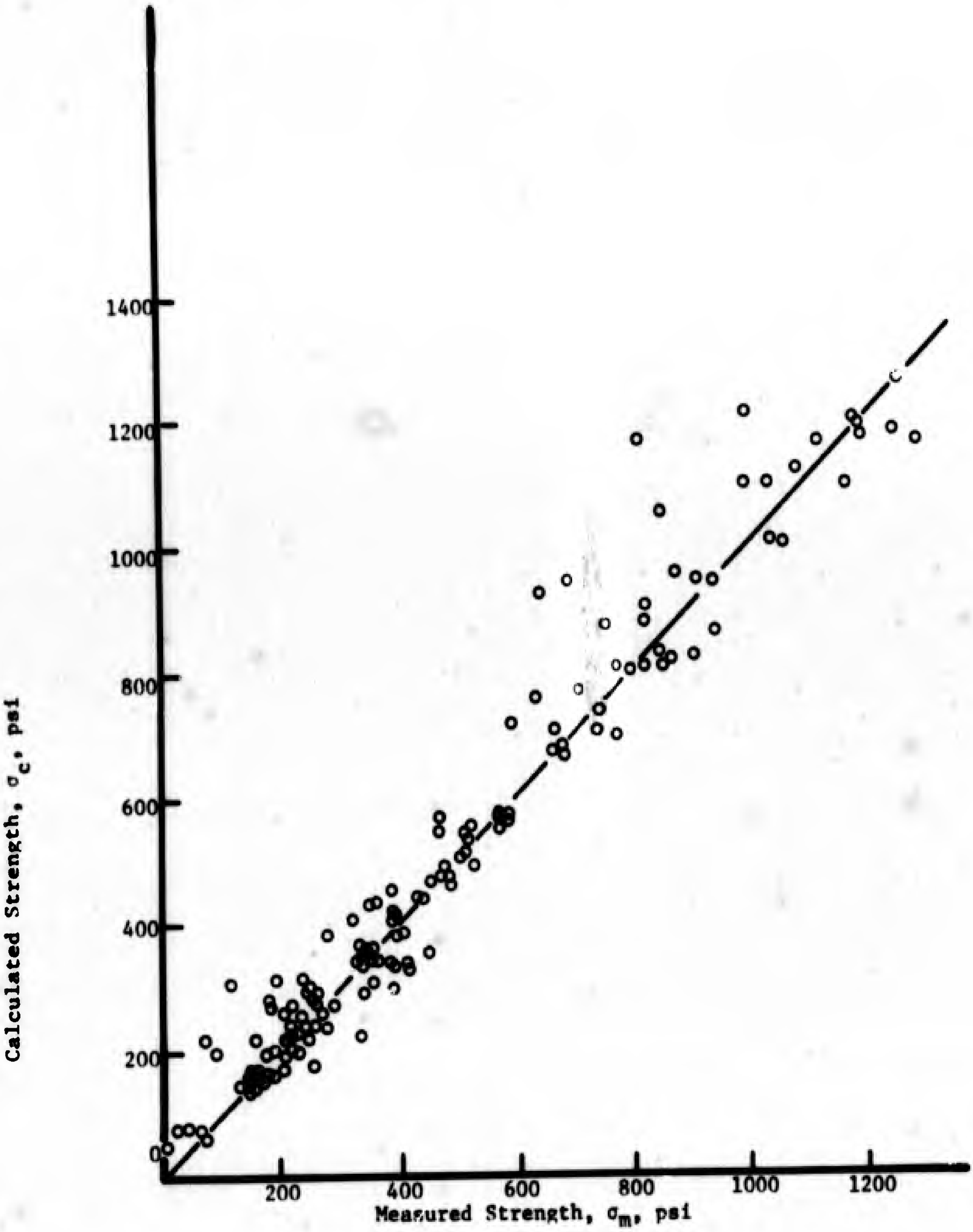

Figure 6.18

Table 6.5

Variables Used in the General Strength Equation.

	Rate	G	v	S	Q	Total	Range
Rate	x					1	Great
Depth	x	xx				3	Great
Temperature	x	xx	x	x	x	6	Medium
Salinity			x	x		2	Small

Temperature is seen to be involved in all elements in equation 6.51, depth in three, salinity in two and rate in one. The range in rate is the greatest and that of salinity the smallest. In order of descending importance, these variables rank in the order:

Rate
Temperature
Depth
Salinity

Some concept of the value for σ_s, the salt reinforcement effect for sodium sulfate, can be obtained from equation 6.48. Table 6.6 shows values of σ_s and the ratio σ_s/σ_o for the ice under study. σ_s represents the bulk sali strength at the unique temperatures shown.

Table 6.6

Representative Values for
Sodium Sulfate Reinforcement

Temp °C	Q	σ_s (psi)	σ_s/σ_o
-8.2	0.084 (max)	1575	10.
-12.0	0.059	980	6.2
-22.0	0.042(min)	640	4.1

The salt reinforcement in the center ice is extremely important as shown in Table 6.6 and Figure 6.3.

The combined function for salt reinforcement developed in this section is plausible and convenient. It was developed as one possible explanation of the data and is based entirely on parameters which have been developed by the application of phase information to the center ice under study. However, Figure 6.13 defines the curve of salt reinforcement only by data at two points other than the origin. The continuous curve which has been assumed has not been proved, and the combined function for salt reinforcement presented here is only a suggested function which fits the data very well and which is based upon a reasonable physical model.

6.3 FAILURE TYPES

The failure type was recorded during testing as a piece of available information which may later be of value. Exhibit 6.1 lists the failure type for each test and Exhibit 6.2 explains their coding. Some simplifications were made in the classifications for this analysis:

1. "Bulge" failure was considered to be plastic failure, and
2. "Tensile" and "shear" failures were lumped together because those failures initially classified as "tensile" failure were later found to actually be shear failures.

Figure 6.19 indicates that failure type is apparently controlled by loading rate and temperature with a change in pattern when solid salt begins to deposit. The solid salts have two effects:

1. The plastic failure type ceases, and
2. The upper limit of the failures without visible deformation abruptly jumps to a higher load rate.

Loading rate, temperature, and solid salts seem to govern the failure pattern. These parameters also govern strength.

6.4 REEVALUATION OF PUBLISHED DATA

6.4.1 Assur's Ring Tensile Data. Assur (7) used 327 ring tensile tests from various sources in an effort to define the tensile strength of sea ice. The tests are grouped into narrow ranges of salinity and further subdivided into narrow ranges of brine volume. Strength values were adjusted to a common temperature of -10°C to remove any temperature effect. Group averages with about nine tests per group were used for strength and brine volume data points. He found that strength at constant temperature was linear with the square root of salinity and therefore with the square root of brine volume. Precipitation of solid salts at low temperatures affected tensile strength and Assur interpreted the data as indicating a relatively thin layer of sodium sulfate which abruptly increased strength by one-third with no further reinforcement effect. Solid sodium chloride also produced a rapid increase in strength.

Assur's work is extremely important because he was the first to report the influence of solid salts on the strength of ice. His work has been the basis for further study of solid salts and their effects.

Weeks (9) studied salt ice (NaCl ice) and found that tensile strength was linear with $v^{1/2}$ and continuous. He re-evaluated Assur's data and, considering only the ice without solid sodium chloride, showed the plot of strength is linear with $v^{1/2}$. He fitted two lines to the data, one to the data without solid salts and the other to that data plus that with solid sodium sulfate. He was unable to determine the correct curve but concluded that sodium sulfate probably did not reinforce the ice.

Assur's results have been reworked in this study because it is the only large group of sea ice tension data available with enough information to be treated in the same manner as the compression center ice data of the study. The information available for the individual groups is:

1. Number of tests in the group.
2. Average temperature.
3. Average salinity.
4. Average square root of brine volume.
5. Average strength.

Type, orientation, rate of loading and depth are not published.

The relationship between strength and $(1-v^{1/2})$ for the without solid salts data is:

$$\text{Strength} = 19.73(1-2.37v^{1/2})\ \text{kg/cm}^2. \qquad 6.51$$

σ_o from equation 6.51 is 280.6 psi. Three groups with solid sodium sulfate fall below the least squares line for salt-free ice and were discarded. They were also discarded by Weeks. The brine volume effect was removed using equation 6.39 and the salt reinforcement was found for all ice with solid salts as shown in Figure 20. Figure 6.21 shows the relationship between σ_r and S, the salt area function, for the remaining sodium sulfate ice. The equation for the least squares fit is

$$\sigma_v = 0.31 + 35.97\ S\ \ \text{kg/cm}^2. \qquad 6.52$$

The sodium sulfate reinforcement is less than that found for the center ice in compression, but it is still almost twice the basic ice strength. Figure 6.22 shows the effect of both the retained sodium sulfate ice and the sodium chloride ice, and the sodium chloride reinforcement is obviously large.

This analysis of Assur's data shows that the functions developed for analysis of compression data for center ice can be used to demonstrate both sodium sulfate and sodium chloride reinforcement in the tensile strength of sea ice. Assur's data do not contradict the findings of analysis herein of compression data, but rather they show an excellent and only available, picture of possible sodium chloride reinforcement.

6.4.2 Graystone and Langleben. Graystone and Langleben (11) also report ring tensile data which appear to show sodium sulfate reinforcement. The information published is not adequate to be reworked in the manner that Assur's results were reworked, but the inference of salt reinforcement exists.

6.5 CONCLUSIONS

The main conclusions reached in this study of salt deposits are the following:

1. Center ice behaves in a consistent manner making it suitable for analysis.
2. The strength of the center ice in compression is linear with $(1-v^{1/2})$ but the slope of the curve changes abruptly with the initial precipitation of sodium sulfate.
3. Precipitation of solid sodium sulfate may result in strong reinforcement.
4. Sodium sulfate is precipitated in association with the formation of a large amount of new ice. This combination of solid salt and associated ice (called sali) is four to ten times as strong as salt-free ice. The reinforcement can be tentatively explained in terms of the area of sali in the failure plane and the relative volume of solid salts in the sali.
5. The mechanism by which solid salts may reinforce ice is not known. Two possibilities are that the salt crystals destroy the alignment of planes of weakness or that they inhibit crack propogation.
6. Little is known about solid salts in sea ice. This subject requires more study.
7. The primary parameters affecting the strength of sea ice in compression are:
    A. Ice type and orientation
    B. Rate of loading
    C. Brine volume
    D. Sali volume and quality
    E. Plate thickness
    F. Brine channel shape.

    Some of these parameters can be expressed in simpler variables such as temperature and salinity.
8. The strength function of sea ice is probably continuous. Discontinuities are not evident in the data.
9. An examination of the published data of others suggests sodium sulfate reinforcement and sodium chloride reinforcement is also apparent in Assur's results.

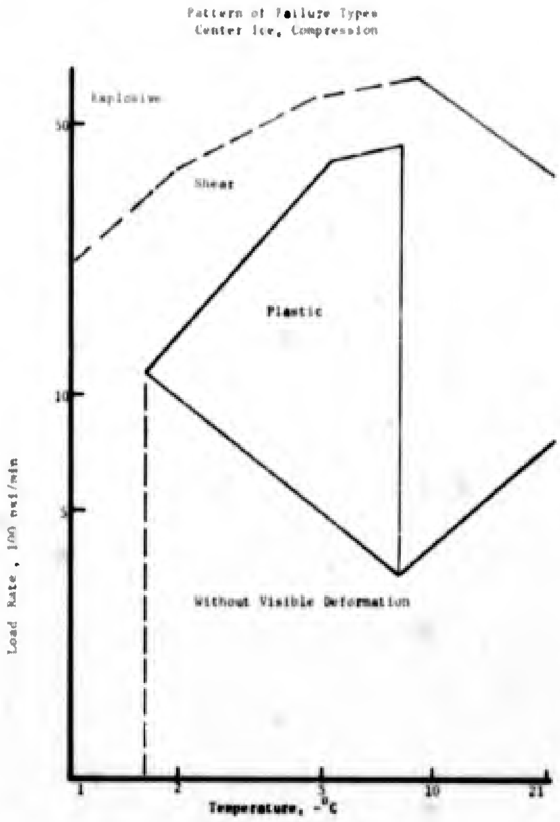

Figure 6.19

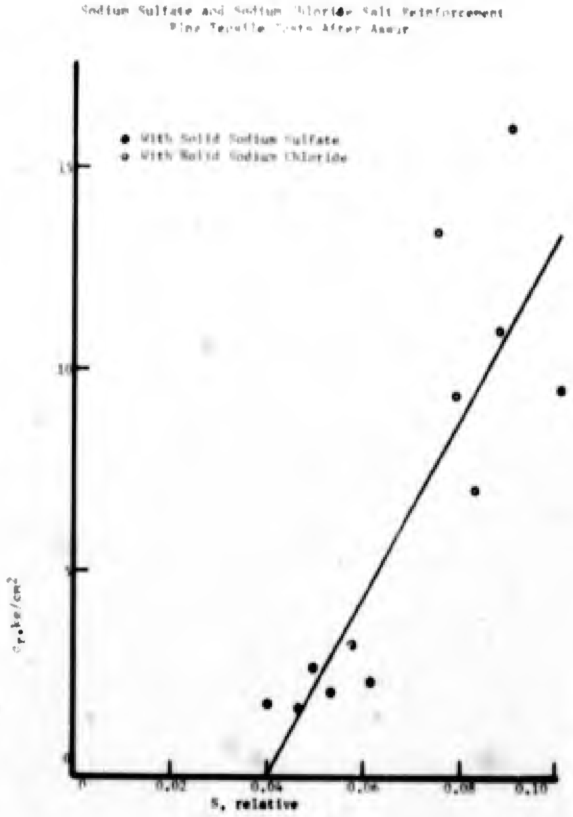

Figure 6.20

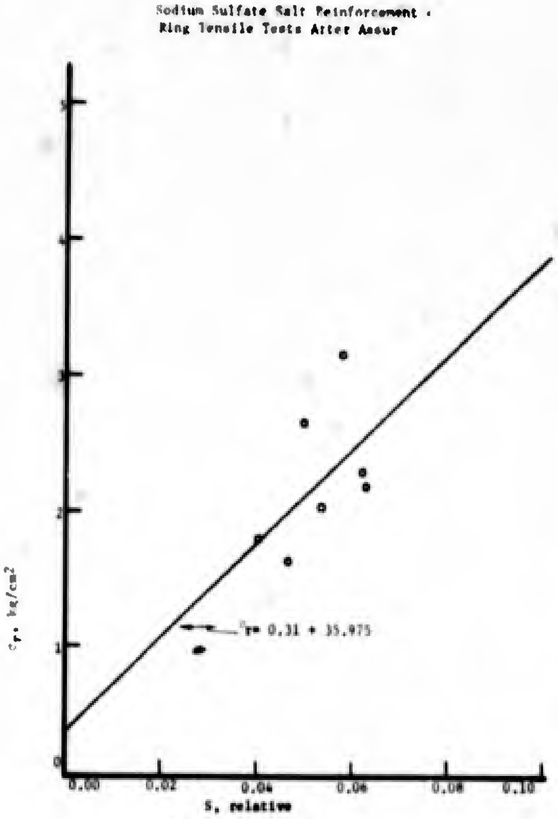

Figure 6.21

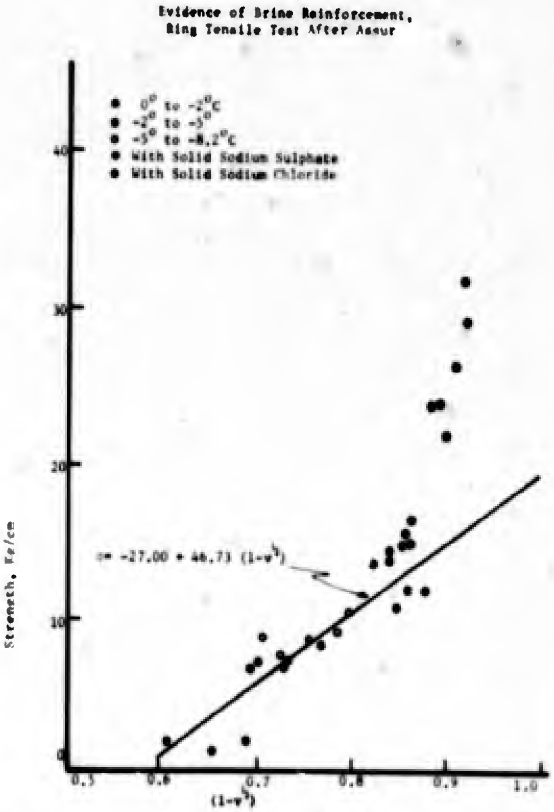

Figure 6.22

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Chapter 7

GENERAL FUNCTION FOR COMPRESSIVE STRENGTH OF CENTER ICE AT ALL DEPTHS

7.1 INTRODUCTION

A general function for the compressive strength of center ice of varying depth is of the form

Strength = f(rate) [f(brine volume + salt reinforcement)]

and fits the data available with a correlation coefficient greater than 0.93. The strength of this ice of a single type and orientation can be expressed in terms of four primary variables; rate, temperature, depth and salinity.

The rate function was obtained in Chapter 5, and its value increases with rate, depth, and negative temperature.

The brine volume-strength function is controlled by depth, geometry of the brine channels, and brine volume. If the ice is very warm, strength is controlled by brine volume. When the ice is colder, strength is controlled by both brine volume and depth. The equations which have been developed do not explain the effect of depth on the brine volume function. Several questions have been raised which cannot be answered by the center ice data because of the limited range of depth within which the center ice petrofabric was found to occur.

Center ice shows salt reinforcement from solid sodium sulfate decahydrate at all depths, and the salt reinforcement is proportional to the amount of salty ice in the failure plane and the quality of the salty ice. For some unknown reason, the salt reinforcement decreases with depth, but the reinforcement is a significant portion of the strength of colder ice. The strength of the salty ice fraction is several times the strength of ice without salt.

It is possible to use the functions developed in this chapter to integrate the compressive strength of sheets of center ice if the ice is warmer than -22.9°C, the mode of failure is the same as for the test specimens,and the thickness, rate of loading, salinity and thermal regime are known. The strength of a 40-inch thick sheet varies from 6.2 to 37.9 kips per horizontal inch of sheet depending on loading rate and thermal regime. The average horizontal compression strength through the 40-inch thickness is 155 to 950 psi.

7. 2 CENTER ICE DATA, COMPRESSION

The center ice compression data is the largest single group which was obtained. This ice has proved to be the best group of data for initial analysis because of the high quality of data, quite uniform ice behavior, and because the bottom ice can be considered a special case of center ice with the crystal axes aligned. Results of analysis on center ice have been shown to be good in Chapter 6, in which the strength of center ice at a depth of 1" was described.

Table 7.1 is an inventory of the numbers of tests by depth and temperature of all center ice tests. There were 598 tests remaining after 13 tests at 4 inches and -10°C were discarded because they were abnormally weak.

Table 7.1

Inventory of Center Compression Tests

	DEPTH, INCHES								
Temp,-°C	1	4	7	11	17	18-21	25-29	32-36	Total
1	6	10	7	4				7	34
2	50	73	4		24			6	157
5	25	16	4	14	22				81
6								5	5
10	32	48	34	17	27	11	11		180
14,14.3						18	6		24
20,21	42	62	3	—	23	—	—	—	130
Total	155	209	52	35	96	29	17	18	611

7.3 A GENERAL STRENGTH FUNCTION FOR 1 INCH CENTER ICE

An overall equation for compressive strength was developed for one inch center ice as follows:

$$\text{Strength} = f(\text{rate})[f(\text{brine volume} + \text{salt reinforcement})] \qquad 7.1$$

$$\text{Strate} = \frac{\text{Strength}}{f(\text{rate})} = f(\text{brine volume} + \text{salt reinforcement}) \qquad 7.2$$

where,

$$f(\text{rate})_{\text{cent. ice}} = \text{Rate}^{(.166\ \text{Depth}^{.138}\ \text{Temp}^{.09})} \qquad 7.3$$

$$f(\text{brine volume}) = \sigma_o(1 - G\ v^{1/2}) \qquad 7.4$$

$$\text{Salt reinforcement} = G\ S\ K\ Q^e \qquad 7.5$$

where

σ_o = the basic strength of the ice
G = a geometric factor
v = relative brine volume
S = relative area of salty ice in the brine plane
K = a fitting constant
Q = quality of salty ice = ratio of solid salts/salty ice
σ = strength

σ_a = strate
σ_r = salt reinforcement
σ_s = reinforcement value of the salty ice (unit reinforcement)
σ_m = measured strength
σ_c = calculated strength
Fra = function of rate
Fbv = function of brine volume
e = a fitting exponent

The general equation of interest in this analysis is

$$\text{Strate} = \sigma_o (1 - G v^{1/2}) + G S K Q^e$$

Q, S and v have been calculated directly from Assur's phase information. In the study of 1" ice, values were obtained for σ_o and G while studying the brine volume function, and values were obtained for K and e while studying salt reinforcement. The objective of this chapter, assuming this general equation to be suitable, is to find more general values of σ_o, G, K and e as functions of depth.

7.4 THE BRINE FUNCTION, LIQUID AND SOLID

7.4.1 General. In Chapter 6, a linear relationship was observed between the strate of center ice and $(1-v^{1/2})$ in the warmer ice before solid salt precipitation. All 1", 4" and 7" depth specimens have tests at -1, -2, and -5°C, and these three temperatures are adequate to show linearity. The deeper depth test groups do not have three temperatures in the non-solid salt temperature range, and linearity cannot be proved for these depths but is assumed to be true because of the behavior of tests from 1", 4" and 7" depths.

Average values of strate and $(1-v^{1/2})$ were calculated for each single-temperature, single-depth group of tests. Table 7.2 is a listing of these values and Figure 7.1 shows the values with only the main depths and temperatures being considered.

Table 7.2

Average Strate and $(1-v^{1/2})$
$(1-v^{1/2})$/Strate

	Depth				
Temp	1"	4"	7"	11"	17"
-1°	.3792/28.4	.4167/32.1	.4338/40.4	.5049/39.8	
-2°	.5933/79.2	.6363/58.7	.5436/43.5		.6664/49.4
-5°	.7321/106.0	.7527/72.5	.7843/49.8	.7772/39.2	.7848/48.9
-10°	.7962/150.2	.8203/85.7	.8347/86.6	.8081/90.9	.8481/52.2
-21°	.8580/178.9	.8713/110.3	.8791/85.7		.8778/74.0

These test groups retain all variability not explained by the general rate function and include any errors; sampling, experimental or analytical. With this in mind, the broad picture outlined in Figure 6.1 exhibits the following qualities in a general sense.

1. For constant depth, the slope of the line decreases as the depth increases.
2. The constant depth curves all appear to originate in the same general region where strate is between 30 and 40 and $(1-v^{1/2})$ is between .35 and .50
3. Salt reinforcement is apparent for all depths.
4. The function, $(1-v^{1/2})$, increases with increasing depth for the same temperature, thus salinity decreases with depth.
5. There is no indication that the relationship between strate and $(1-v^{1/2})$ is not linear in the temperature range without solid salts.
6. The slope of the lines of constant temperature vary. The line for -1° ice is positive and shows strate increasing with increasing depth and increasing $(1-v^{1/2})$. At colder temperatures, the slopes become strongly negative, thus suggesting that brine volume controls strate in warm ice but that depth controls at colder temperatures.

Figure 7.2 shows strate versus depth for the -2°, -5°, -10° and -21° ice. The -2° and -5° lines show a curvilinear relationship between strate and depth with the 17 inch ice apparently being abnormally strong. The -10° line shows a strate-depth relationship apparently to exist but it is not simple and smooth, and the 17 inch ice appears to be abnormally weak and does not show salt reinforcement at -10° as it does at other depths. The -21° line is smooth with the 17" ice again showing less brine reinforcement than might be expected.

A set of fitting functions can be determined for the non-solid salt (salt free) ice temperature range. Some idealization will be required because of anomalous data, but the final results will show this to be reasonable.

Anchor points; brine volume versus depth, -1°C: Figure 7.3 shows average strate versus average $(1-v^{1/2})$ for the ice without salt reinforcement. These values indicate that it is possible to describe the family of lines by first defining an anchor point at a temperature of -1° in terms of brine volume and strate at -1° and then describing the slope of the line in terms of depth.

The first need is to determine a salinity function in terms of depth. Table 7.3 shows the average salinities for the data at each depth for the center ice.

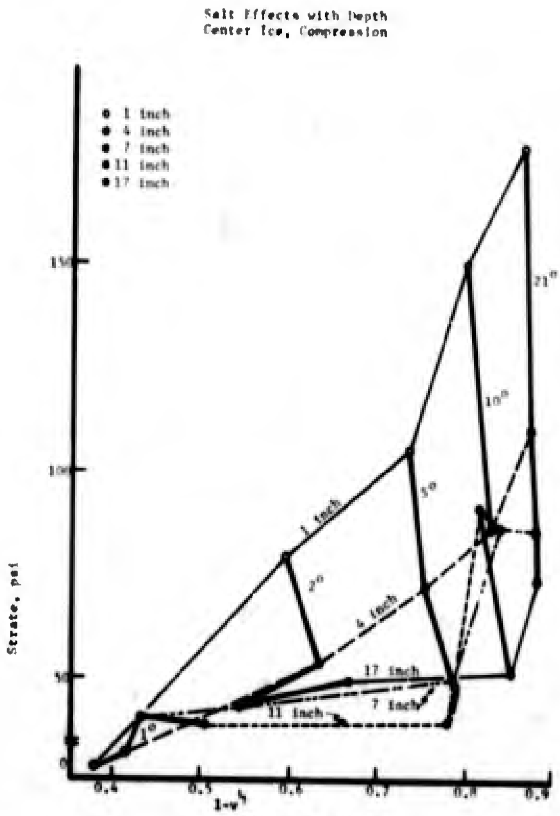


Figure 7.1

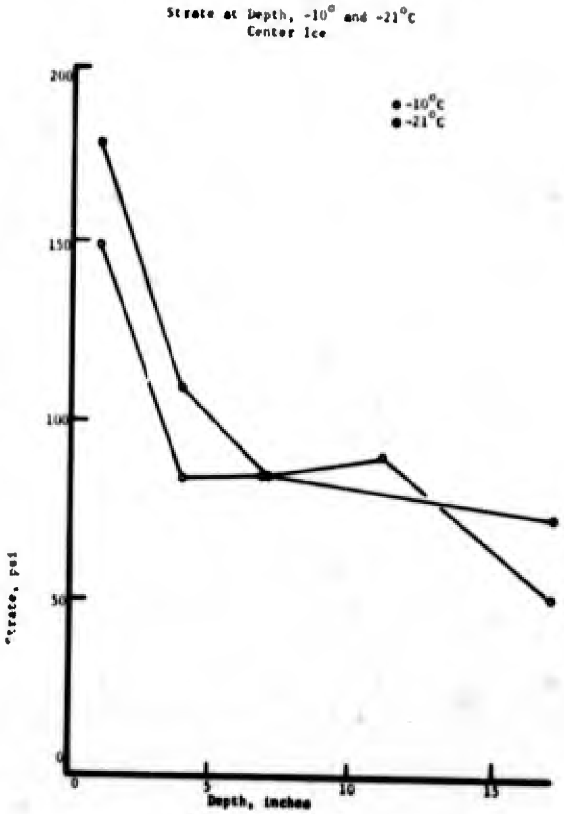


Figure 7.2A

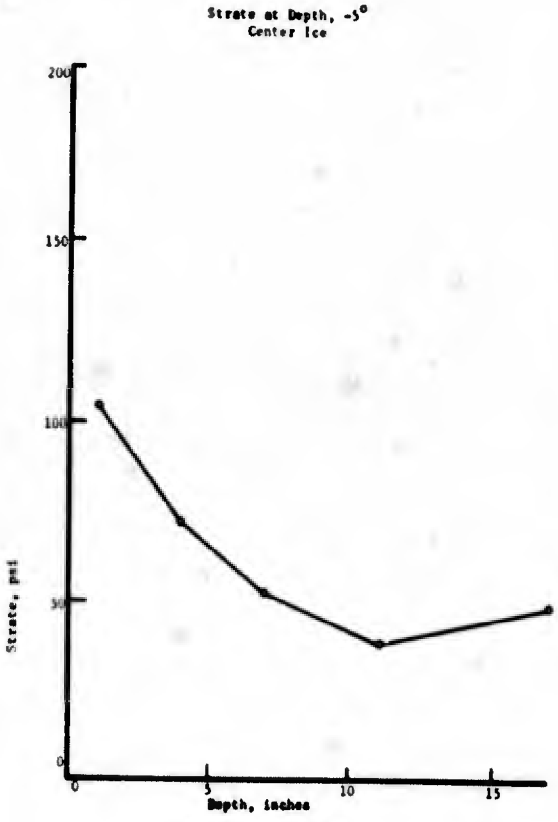


Figure 7.2B

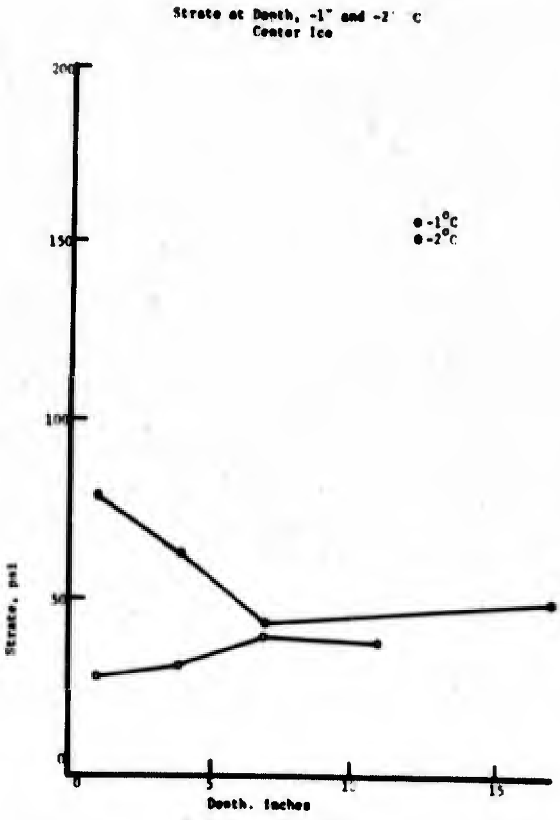


Figure 7.2C

Table 7.3

Average Salinity at Different Depths

Depth	Average Salinity o/oo
1"	7.25
4"	5.80
7"	5.40
11"	5.94
17"	4.59

The salinity, except for the 11" depth, fits a line:

$$\text{Salinity} = 7.25 - 0.95 \ln(\text{Depth}) \qquad 7.6$$

Analysis in Chapter 6 indicated a brine-volume function for sea ice with a salinity of 1 o/oo.

$$\text{Brine Volume} = 1.03 + 45.80/T \qquad 7.7$$

Brine volume can be found for any salinity by multiplying the results of equation 7.7 by the salinity in o/oo. Table 7.4 shows the values of brine volume and $(1-v^{1/2})$ for various depths based on salinity from equation 7.6 for -1°C.

Table 7.4

Idealized Brine Volume and $(1-v^{1/2})$, -1°C.

Depth	Brine Volume, v	$1-v^{1/2}$
1"	.339	.4173
2	.308	.4444
3	.290	.4608
4	.278	.4728
6	.260	.4902
9	.241	.5083
13	.226	.5252
19	.209	.5433
28	.191	.5626
42	.173	.5837

This depth - $(1-v^{1/2})$ relationship can be fitted to the following equation:

$$(1-v^{1/2})_{-1^\circ} = .177 + .243 \, \text{Depth}^{.138} \qquad 7.8$$

The equation of the least squares line for strate is

$$\text{strate}_{-1^\circ} = -1.75 + 84.9 \, (1-v^{1/2}). \qquad 7.9$$

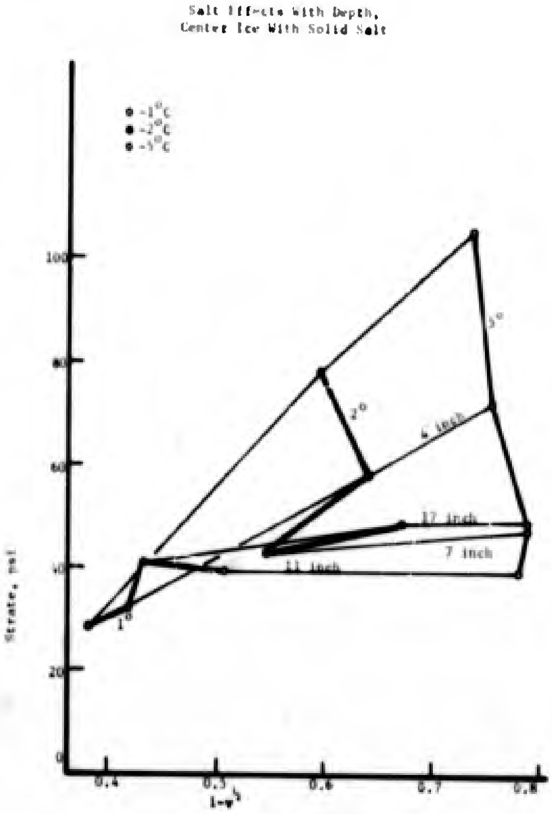

Salt Effects With Depth,
Center Ice With Solid Salt

Figure 7.3

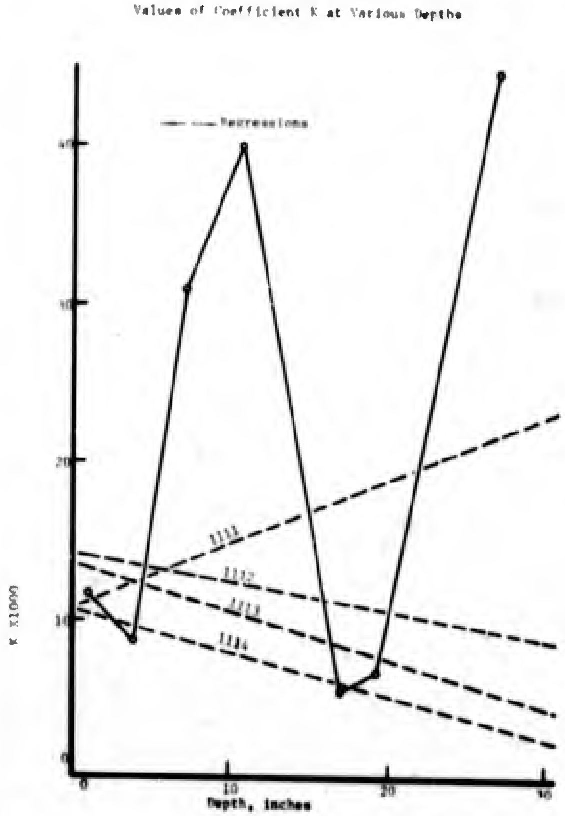

Values of Coefficient K at Various Depths

Figure 7.4

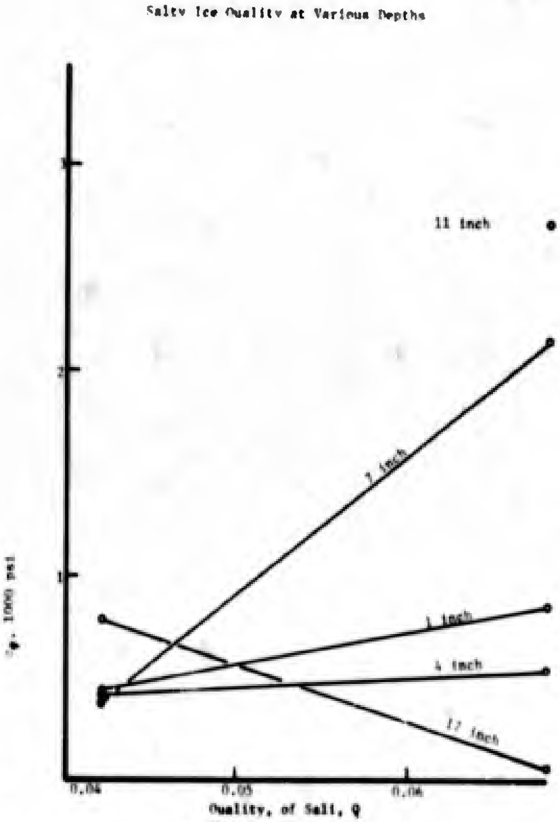

Salty Ice Quality at Various Depths

Figure 7.5

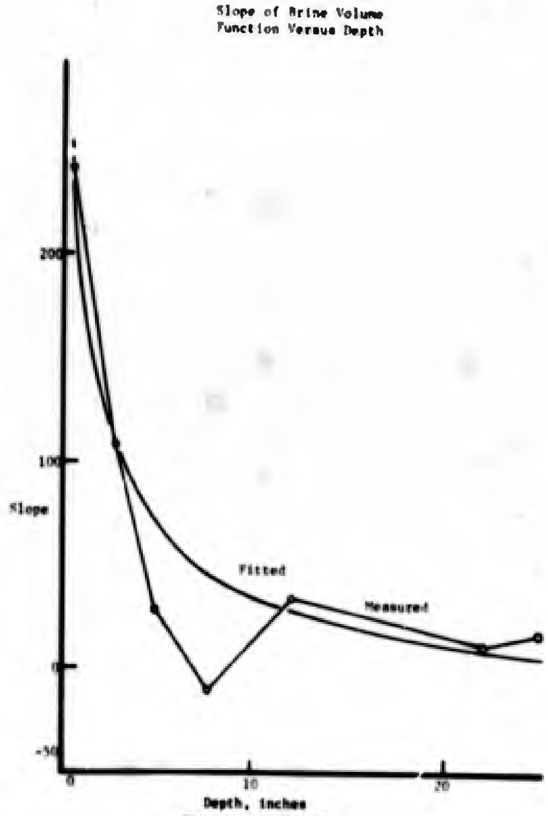

Slope of Brine Volume
Function Versus Depth

Figure 7.6

With a least squares line forced through the origin, the equation becomes

$$\text{Strate}_{-1°} = 81\ (1-v^{1/2}) \qquad 7.10$$

Using equation 7.10, an anchor point for each constant temperature curve can be based on the -1° curve and defined in terms of depth.

$$X_o = 0.177 + 0.243\ \text{Depth}^{0.138} \qquad 7.11$$

$$Y_o = 81\ X_o \qquad 7.12$$

7.4.2 Slope of Brine Volume Function. A least squares line was fitted between the anchor point for a particular depth and the -2° and -5° data for that depth. The slope of this least squares line represents the brine volume function for that depth based on the anchor point. Table 7.5 shows the various depths, number of observations, anchor points, and slope of the least squares line through the anchor points.

Table 7.5

Anchor Points and Least Squares Slopes

Depth	Obs	X_o	Y_o	Slope
1"	81	.42	34.0	242.7
4	99	.47	38.0	124.3
7	15	.50	40.5	27.9
11	18	.52	42.1	-11.0
17	46	.54	43.7	27.5
32	8	.59	47.8	9.9
36	10	.60	48.6	14.9

Figure 7.6 shows slope versus depth. A regression, analysis weighted by number of observations, between slope and depth yielded equation 7.13.

$$\text{Slope} = -61. + 309.4/\text{Depth}^{.443} \qquad 7.13$$

Table 7.6 shows the measured slopes, the calculated slopes, and the differences.

Table 7.6

Slope of Brine Volume Functions (units = 1/inch)

Depth	Measured Slope	Fitted Slope	Difference
1"	242.7	248.3	-7.6
4	124.3	106.6	17.7
7	27.9	70.1	-42.2
11	-11.0	45.7	-56.7
17	27.5	27.4	.1
32	9.9	4.5	4.4
36	14.9	2.1	12.8

The 7 and 11 inch data have the poorest fit but both are for small numbers of data, the general fit seems good.

For any calculated strength, an equation can be written as follows:

$$Y - Y_o = M\ (X - X_o), \qquad 7.14$$

where M is the slope of the line and (X_o, Y_o) is the anchor point. This equation can also be written in the form:

$$Y = Y_o - M\ X_o + M\ X \qquad 7.15$$

which is of the form:

$$Y = A + BX$$

where X is $(1-v^{1/2})$

$$A = Y_o - MX_o$$

It was shown in Chapter 6 that

$$\sigma_a = \sigma_o\ (1-Gv^{1/2})$$

where $\sigma_o = A + B$

$G = B/(A+B)$

In the existing situation

$$\sigma_o = A + M = Y_o - MX_o + M \qquad 7.16$$

$$G = M/\sigma_o \qquad 7.17$$

$$\text{Brine volume function} = \sigma_o(1-Gv^{1/2}) \qquad 7.18$$

where $X_o = 0.177 + 0.243\ \text{Depth}^{0.138}$

$Y_o = 81\ X_o$

$M = -61 + 309.4/\text{Depth}^{0.443}$

7.4.3 Salt Reinforcement. Chapter 5 showed the effect of salt reinforcement on 1" center ice and the reinforcement is described by equation 7.19.

$$\upsilon_r = G\ S\ K\ Q^e, \qquad 7.19$$

where

G is the geometric factor determined in the brine function study.
S is the salty ice (sali) area in the brine plane.
K is a fitting coefficient.
Q is the quality of salty ice (sali).
e is a fitting exponent.

Figure 7.1 shows solid salt reinforcement to be found in all center ice studies; therefore a general approach may be followed.

$$\sigma_r = \sigma_a - (\text{liquid brine volume function}) \qquad 7.20$$

σ_r was calculated for each test with solid salts and average values of σ_r for each depth and temperature are shown in Table 7.7. S, the salt area function, is also shown in the table.

Table 7.7

Average Values of Salt Reinforcement and S: σ_r/S
Depth

Temp °C	1	4	7	11	17
-10	9.23/.0205	10.3/.0172	23.0/.0157	35.7/.0184	0.25/.0145
-21	36.1/.0638	27.8/.0578	18.8/.0543		21.3/.0548

Of the elements in equation 7.19, σ_r, G, S, and Q are either measured or defined models. The unknowns are K and e. A new strength function is defined and used to describe additional geometric and phase information.

$$\sigma_q = \frac{\sigma_r}{GS} = K\,Q^e \qquad 7.21$$

The value of σ_q for each test was calculated, and the average values with the standard deviation for each depth and temperature are shown in Table 7.8 accompanied by the value of Q for that temperature.

Table 7.8

Average Values of σ_q and Standard Deviation; σ_q/S.D.
Depth

Temp °C	1"	4"	7"	11"	17"	Q
-10	848/410	524/583	2145/1842	2700/881	64/2382	.0680
-21	431/203	424/218	374/311		793/752	.0423

Figure 7.5 shows σ_q versus Q for the various depths. It is obvious that no precise salt reinforcement function is possible. The scatter inherent in the rate and brine volume functions have been carried into the salt reinforcement function. In the analysis of the center 1" ice, it was found that e, the exponent of Q, was about 1.3 for the best fit. In this analysis it appears that a value of e of 1.0 will be satisfactory. The remaining unknown is K, with equation 7.21 becoming

$$\sigma_q = K\,Q \qquad 7.22$$

The best fitting value of K for each depth was determined by

$$K = \frac{\Sigma Q\,\sigma_q}{\Sigma Q^2}$$

Table 7.9

Values of K for Each Depth

Depth	Number of Observations	K	Standard Deviation
1"	63	11,595	302
4"	97	8,547	390
7"	32	30,675	1777
11"	17	39,712	881
17"	50	5,352	1862
18-21"	29	6,475	682
25-29"	17	44,400	2345

Figure 7.4 shows K as a depth function with the number of observations for each depth shown. K exhibits great variation; however, the high values are all for small groups of observations and the larger groups tend to show a pattern. A series of weighted, linear regressions were made of the Depth-K values with the weighting factor being the number of observations.

Table 7.10

Relationships of K and Depth

Regression No	Data used	Number of Observations	$\bar{Y}$	A	B	R
1111	All	305	14,513	10,926	401	.258
1112	Less 25-29	288	12,748	14,265	-193	-.128
1113	Less 25-29, 11	271	11,057	13,518	-321	-.288
1114	Less 25-29,11,7	239	8,430	10,624	-283	-.896

The only significant relationship between K and depth is found in Regression 1114 with a correlation coefficient of 0.9 for the equation

$$K = 10624 - 283(\text{Depth}) \qquad 7.24$$

If the depth function in K proves to not be significant, an alternate would be to use a constant value of about 10,000. This completes the definition of equation 7.1 and the general strength function for center ice is now ready for testing and evaluation.

7.5 TESTING, ADJUSTING, AND EVALUATING THE COMPLETE STRENGTH FUNCTION

The general expression for the compressive strength of center ice is

$$\text{Strength} = \text{Rate}^{r}\ [\sigma_o(1 - G\ v^{1/2}) + G\ S\ K\ Q] \qquad 7.25$$

with the following values for the individual components of equation 7.25.

$$r = 0.166\ \text{Depth}^{0.138}\ \text{Temp}^{0.09}$$

$$\sigma_o = Y_o - M X_o + M$$

$$Y_o = 81 X_o$$

$$X_o = 0.177 + 0.243 \text{ Depth}^{0.138}$$

$$M = -61 + 309.4/\text{Depth}^{.443}$$

$$G = m/\sigma_o$$

$$S = (SV+BV)^{1/2} - (BV)^{1/2} = \text{Sal}^{1/2}(.082 - .180/T^{.381})$$

$$v = \text{Sal}(1.03 + 45.8/T)$$

$$\text{Sal} = 7.25 - .95 \ln(\text{Depth})$$

$$K = 10600 - 280 \text{ Depth}$$

$$Q = .034 + 2.707/T^{1.90}$$

Strength was calculated for each individual test using equation 7.25. These values were compared with the measured value and two regressions were made, each on the calculated strength in terms of the measured strength. The first by a general least squares fit and the second with a least squares fit forced through the origin. These results are shown in Exhibit 7.1 and in Table 7.11.

Table 7.11

Comparative Statistical Information, K = f(Depth)

	- Least Squares Line - - -				Line Through Origin		
Depth	Number of Observations	A	B	Stand. Dev.	R	Slope	Stand. Dev.
1"	155	35	.98	91.7	.958	1.041	93.8
4	196	10	1.00	69.1	.965	1.023	96.3
7	52	75	.72	94.4	.861	.872	102.1
11	35	142	.52	91.6	.822	.787	120.7
17	96	84	.74	92.4	.892	.908	103.3
18-21	29	67	.79	58.8	.888	.952	63.8
25-29	17	51	.67	42.1	.910	.813	46.4
32-36	18	74	.61	22.5	.865	.976	33.3
All	598	33	.92	92.4	.934	.984	94.2

The information shown in Table 7.11 indicates the general expression fits well. The equation was adjusted by changing K to a constant value of 10,000 and ignoring the depth effect.

Table 7.12

Plotback Statistical Information, K = 10,000

	- Least Squares Line - - -				Line Through Origin		
Depth	Number of Observations	A	B	Stand. Dev.	R	Slope	Stand. Dev.
1"	155	36	.98	91.0	.958	1.035	93.2
4"	196	7	1.02	70.1	.965	1.034	70.2
7"	52	73	.74	97.2	.861	.889	104.3
11"	35	137	.55	89.7	.841	.809	117.8
17"	96	76	.80	96.9	.897	.951	105.4
18-21"	29	65	.86	58.4	.905	1.022	63.1
25-29"	17	54	.70	40.9	.919	.842	45.8
32-36"	18	74	.61	22.5	.865	.976	33.3
All	598	33	.93	90.9	.937	.997	92.7

The slope of the single curve from the origin through all of the data is very close to 1.00. The correlation coefficient for this line is .934 which is satisfactory.

Exhibit 7.2 shows the value of the brine volume-strength function in tabular form for each degree from -1°C to -22°C, and for 7 depths. Exhibit 7.3 shows the value of $(1-v^{1/2})$ for the same temperatures and depth. Figure 7.7 shows the brine volume-strength function versus $(1-v^{1/2})$ for the different depths and is the model derived from the data shown in Figures 7.1 and 7.3.

The salt reinforcement for constant temperatures and depth groups is shown in Exhibit 7.4, and Figure 7.8 shows salt reinforcement as a function of depth for three temperatures and Figure 7.9 shows salt reinforcement versus temperature.

Strate, the sum of the brine volume strength function and the salt reinforcement, is shown for the same depths and temperatures in Exhibit 7.5, and Figure 7.10 shows strate versus temperature for constant depths. The brine volume strength function and the salt reinforcement are apparent in this figure, and the reduction of both components with increasing depth is also apparent.

7.6 INTEGRATED COMPRESSIVE STRENGTH OF AN ICE SHEET, CENTER ICE, HORIZONTAL LOADING.

The practical problem of a moving ice sheet impinging on an obstacle such as a piling is one of timely concern. It is known that the mode of failure in such a circumstance can be direct compression; therefore, the net strength through the sheet thickness can be integrated from the information developed for center ice. A natural ice sheet normally exists with a roughly linear temperature gradient; about -2°C throughout during summer melt and with upper surface temperature about -20°C during cold winter periods.

All the parameters of strength thus far studied, load rate, salinity, brine volume and brine reinforcement, vary both with temperature and depth. The limitations of integrating the sheet strength with the information thus far developed are as follows.

1. The entire sheet need be composed of center ice,
2. The ice may not be colder than -22.9°C which is the initial precipitation temperature of sodium chloride dihydrate, and has not been studied,
3. The mode of failure must be the same as for the specimens tested, and
4. The accuracy of the model.

With these limitations in mind, three example integrations are performed for an ice sheet 40 inches thick as follows:

1. The temperature is held constant at -2°C thus reflecting a summer condition. (Warm regime)
2. A linear temperature gradient is established with -22°C at the upper surface and -2°C at the lower surface thus reflecting a cold period. (Medium regime)
3. A linear temperature gradient is established with -22°C at the upper surface and -12°C at the lower surface simulating the center ice upper layer of an 80 inch thick ice sheet during a cold winter period. (Cold regime)
4. Load rates of 100, 300, 1000, and 5000 psi/min are used with each temperature profile yielding 12 integrations.
5. The integration is performed by finite summation of one inch increments.

Exhibit 7.6 shows the temperatures for the three thermal regimes at the top of each increment, Exhibit 7.7 shows the values of rate exponent for each inch for each thermal regime, Exhibits 7.8, 7.9 and 7.10 show the rate functions, $(\text{Rate})^r$, for the warm, medium, and cold thermal regimes at the four different loading rates. The rate function increases with increasing temperature, increasing depth, and increasing rate, and it ranges in value from about 2 to about 19. This is a multiplying function and shows the rate function to be highly important.

Exhibit 7.11 indicates the general brine volume functions, X_o, Y_o, B(or M), σ_o, G, and salinity at various depths, and Exhibit 7.12 shows the brine volume-strength functions (in psi) for the three thermal regimes at each inch of depth. The latter is sensitive to both depth and temperature near the surface but approaches a constant value which is independent of depth or temperature at deeper depths.

The salt reinforcement values are shown in Exhibit 7.13 for the three thermal regimes. The difference in reinforcement between the medium and cold ice is small, thus indicating the results of the solid salt quality function.

Exhibit 7.14 shows strate, the brine volume strength function, and the salt reinforcement values. Strate decreases rapidly with depth in the upper levels because both the brine volume strength function and the salt reinforcement exhibit this characteristic. For the ice under study, strate varies from about 45 to 240 depending on depth and temperature. In Exhibits

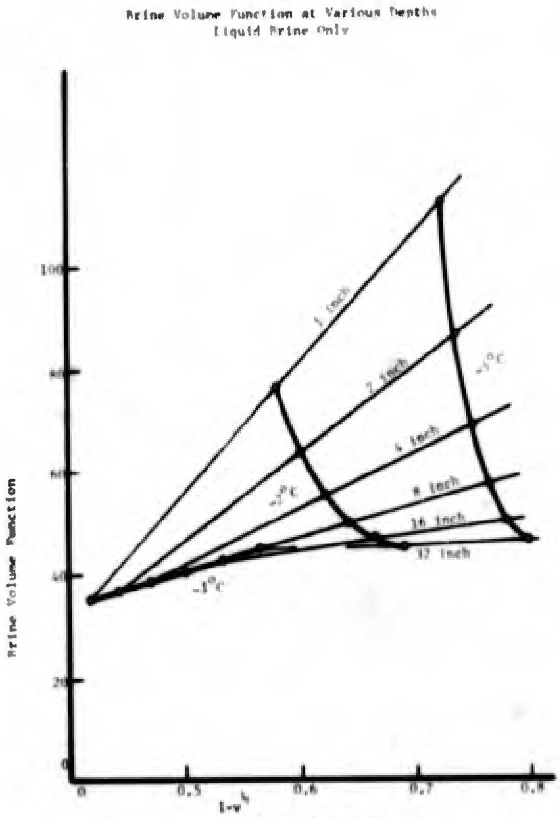


Figure 7.7

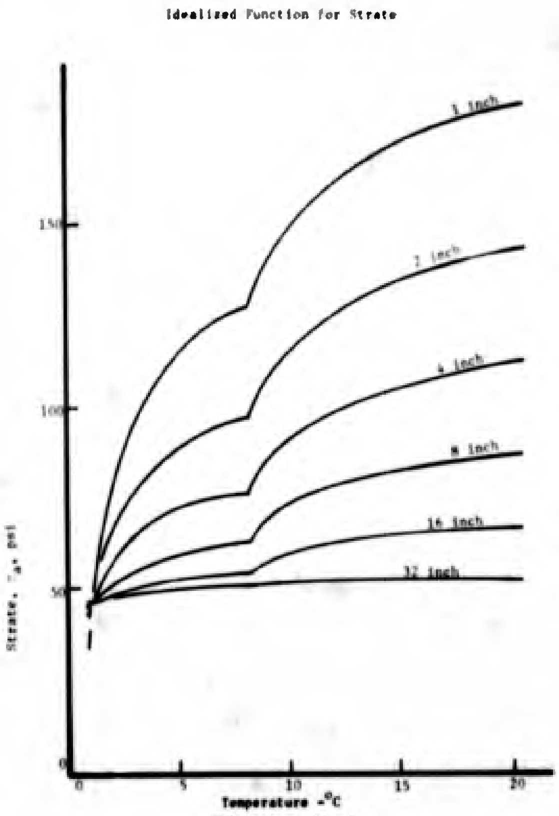


Figure 7.8

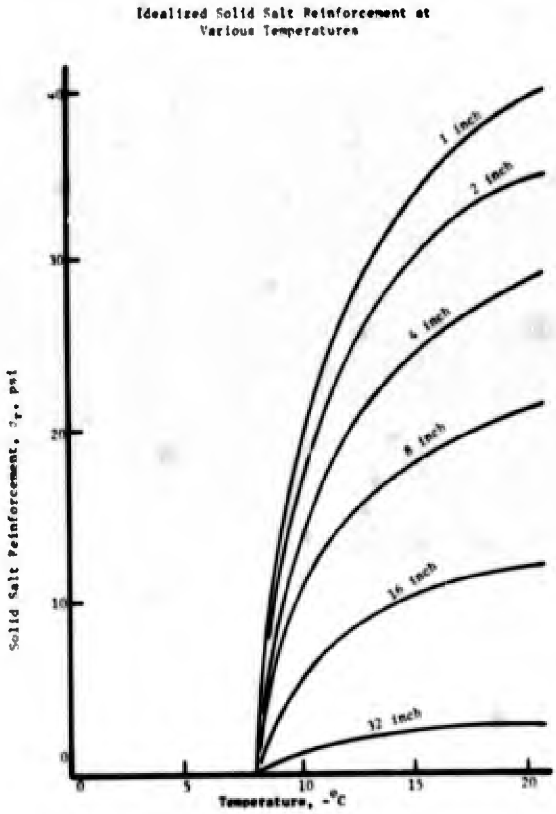


Figure 7.9

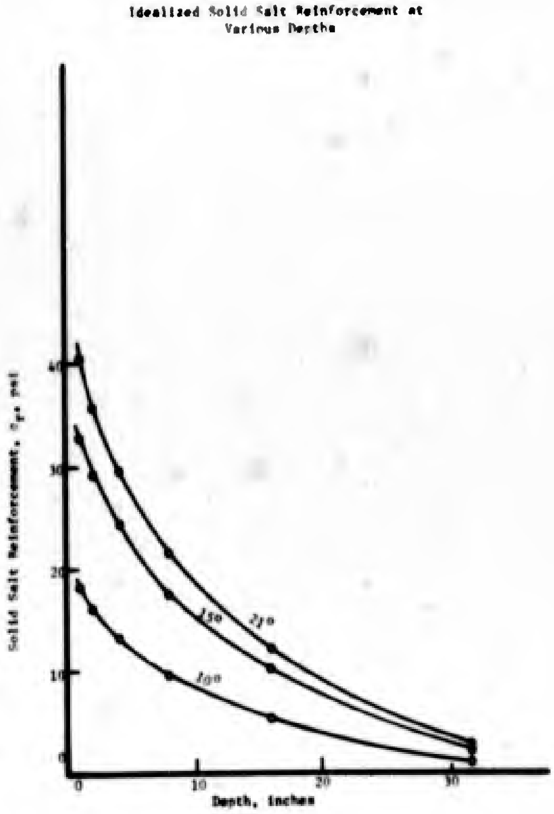


Figure 7.10

7.15, 7.16 and 7.17 are shown the strengths (strate times the rate function) of warm, medium, and cold ice respectively at the four different loading rates. Also shown are the totals or integrated strengths and the average strengths. The integrated strengths for the different rate-thermal regime combinations are shown in Table 7.13. Strength varies from about 145 to 1300 psi.

Table 7.13

Integrated Center Ice Sheet Strengths, lbs/inch of width
Thickness of 40"

Rate, psi/min	Warm	Medium	Cold
100	6,400	10,500	11,400
300	8,500	14,500	15,900
1,000	11,700	20,600	23,000
5,000	17,800	33,100	37,900

The medium and cold ice sheets are substantially stronger than the warm ice sheets,and the cold ice is somewhat stronger than the medium ice. Increasing rate from 100 to 5,000 psi/minute increases the strength by three times.

Figure 7.11 indicates the strength-depth relationship for a rate of 1,000 psi/minute for the three thermal regimes. In general, the warm ice strength is almost constant with depth because the brine volume-strength function decreases with depth but the rate function increases. The medium and cold ice have appreciable strength gradients with depth due to overriding effects of brine volume and solid salt reinforcement.

7.7 CONCLUSIONS

1. The general compressive strength function has been developed for all horizontally loaded center ice which inherently has horizontal crystal orientation but random orientation in the horizontal plane. The geometric variables used were based on bottom ice which is similar to center ice but has colinearly oriented crsytals in the horizontal plane. Center ice can then be expected to behave somewhat as bottom ice if bottom ice properties were integrated in orientation about the horizontal plane. These geometric variables have shown to fit the data very well, but further refinements must await detailed analysis of bottom ice.
2. Center ice from varying depths in the ice sheet has a systematic pattern, thus making it possible to develop a general strength function with a correlation coefficient of 0.93 for 598 specimens with variation of temperature from -1° to -21°C and depths from 1 to 36 inches.
3. The general strength function is

$$\text{Strength} = f(\text{Load Rate})[f(\text{brine volume} + \text{solid salt reinforcement})]$$

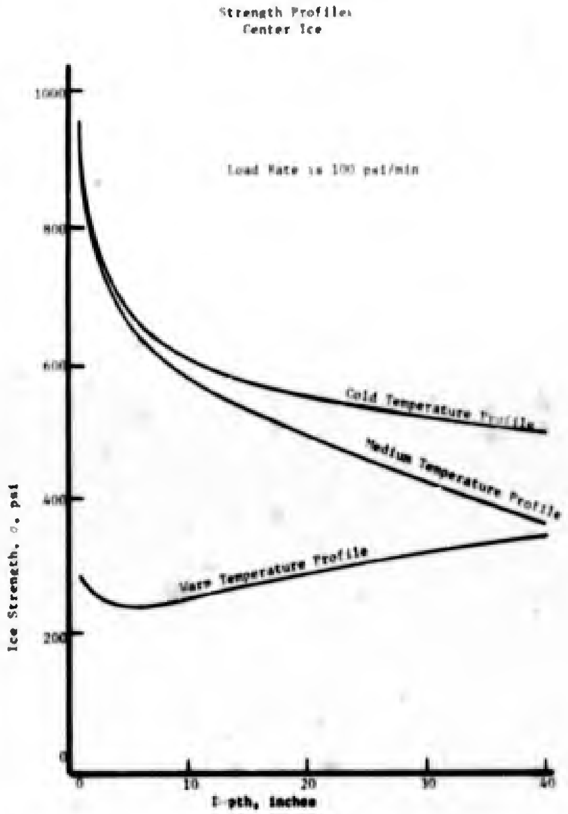

Strength Profiles
Center Ice
Load Rate is 100 psi/min
Cold Temperature Profile
Medium Temperature Profile
Warm Temperature Profile
Ice Strength, σ, psi
1000
800
600
400
200
0
0
10
20
30
40
Depth, inches

Figure 7.11

4. The function of load rate is

   $$(\text{Load Rate})^{0.166}\ \text{Depth}^{0.138}\ \text{Temp}^{0.09} = f(\text{Rate})$$

5. The brine volume function is complicated. The greatest strength attenuation is due to liquid brine occuring with warm temperature near the ice sheet surface. The value of the function becomes much less with depth for all temperatures although it remains linear with strate for a particular depth. The details are expressed in equation 7.18. The reason for the attenuation of the brine volume effect with depth is not yet clear. The most intriguing speculation concerns platelet widths increasing with depth and the possibility of a shift in brine plane failures through the bridging ice to interior platelet ice. The failure plane shift is tentatively considered in Chapter 9. It is interesting to note here that such a shift does not negate the solid salt reinforcement concept, but rather enhances it for two reasons: 1) the solid salt reinforced ice is most probably stronger than interior platelet ice and 2) the reinforced brine channels may well inhibit crack propogation and increase the platelet ice's net rupture strength. Thus, the strength in the brine plane may exceed the strength in the platelet plane, and further, the strength in the platelet plane may be enhanced because of inhibition of crack propagation from platelet to platelet. Certain other speculations can be made about variability of brine channel shape, brine plane contaminates between channels, stress concentration, crystal lattice dislocations, and surface energy, but no clear evidence can be discerned.
6. All center ice indicates strong reinforcement due to precipitated sodium sulfate decahydrate. The reinforcement for a single depth is proportional to the salty quantity but the effect decreases with depth. This reinforcement is a significant factor in the strength of colder ice thus implying that salty ice is several times stronger than salt-free ice. Although intriguing, no definitive data are yet availalbe for describing the mechanism of reinforcement.
7. The six primary variables which govern strength are ice type, orientation, load rate, temperature, depth and salinity.
8. The strength functions developed in this chapter are limited to ice warmer than -22.9°C and having direct compression failure.
9. The equations for center ice strength allow integration through a thickness up to 40 inches. Reasonable average strengths range between 155 to 955 pounds per square inch for reasonable field conditions and for failure modes in direct compression.

Chapter 8

STRENGTH FUNCTIONS, BOTTOM ICE

8.1 INTRODUCTION

General load rate functions were developed in Chapter 5 for each ice petrofabric type and orientation. The development of this chapter is the determination of functions for brine volume and solid salt reinforcement for bottom ice by methods described in Chapters 6 and 7. The amount of data collected was very large; therefore, the orientation effect was closely studied with the data selected from a single depth and load rate.

8.2 AVERAGE STRENGTH

Tensile and compressive strengths are affected by the rate of loading, thus standard rates of loading were established and a calculation was made to determine the most probable strength at that rate for each orientation. The standard rates which were selected are 200 psi/min for tension and 460 psi/min for compression. The most probable strength values for each orientation were then obtained as follows:

1. For the main orientations (00-90, 90-00, 90-45 and 90-90), for which rate functions have been established, a group of 6 to 12 tests was selected with rates near the standard. Strate for the group was averaged and the appropriate rate function was applied to find the most probable strength.
2. For other orientations (22 1/2-90, 45-90, 67 1/2-90, 90-22 1/2, and 90-67 1/2) the tests were generally grouped near the standard rates. A linear regression of strength versus rate was calculated, and the strength was adjusted to reflect its value at the standard rate by use of the regression equation. This value was examined to ensure that it was typical. Sparsity of data in these orientations precluded development of a general rate function of high confidence.

Without a suitable general rate function, value of strate could not be determined with a high level of statistical significance. It is for this reason that the analysis in this chapter is made in terms of strength at the fixed value of load rate. Table 8.1 shows, for each orientation, the number of tests, strength at the standard rate, and standard deviation of the strength for both tension and compression. Figure 8.1 shows strength versus orientation in one configuration and Figure 8.2 indicates the same information in another configuration.

Table 8.1

Tensile and Compressive Strength at Standard Conditions for Different Orientations.

Orientation	Number of Observations	Tension Strength (Rate=200)	Stdev.	Number of Observations	Compression Strength (Rate=460)	Stdev.
00-90	9	284	68	12	1260	175
22 1/2-90	6	169	19	9	638	150
45-90	4	192	15	12	790	250
67 1/2-90	6	132	22	7	348	40
90-90	8	153	25	8	612	115
90-67 1/2	5	151	25	8	329	82
90-45	8	110	27	6	259	145
90-22 1/2	6	109	8	8	356	70
90-00	9	132	13	8	1020	210

It is interesting and important to note that Figures 8.1 and 8.2 indicate the same pattern of strength versus orientation in compression as in tension. The fact that tension and compression strength patterns are similar reinforces the probability that each is roughly correct.

The quadrant from the b-axis to the c-axis is the zone containing the brine-basal failure plane and it will be studied in the greatest detail. The character of the strength-orientation function, the extreme variation in strength, and the known structure of the ice in this quadrant suggest that the strength and other mechanical properties of the brine-basal plane can be defined and is worthy of tentative analysis.

8.3 ELASTICITY

8.3.1 General. E, the modulus of elasticity, or Young's modulus, is defined by the slope of the stress-strain curve. In determining E for individual data, a stress-strain plot was made and the average strength for a group of similar data was determined if the plot showed substantial curvature. A secant slope was then obtained between a point of zero stress and a point equal to 1/3 the average maximum failure stress of repeated tests.

Tests were sorted by type, orientation and sampling date, and it was observed that E was strongly dependent on rate of loading. Table 8.2 indicates the E dependence of the various parameters including the best-fitting rate exponent, Exp, in the equation as determined by regression,

$$E = \text{Rate}^{\text{Exp}}(\text{All other functions}).$$

Table 8.2

Orient	Tension or Compression	No. of data	Rate Exp.	t-test	Correlation Coefficient Multiple	With Strength	With Rate
00-90	T	65	.02	0.9	.39	.21	.13
90-00	T	53	.13	2.9	.56	.34	.38
90-45	T	58	.40	9.6	.84	.72	.71
90-90	T	67	.09	2.6	.44	.03	.30
00-90	C	113	.20	8.8	.74	.74	.58
90-00	C	105	.27	7.6	.71	.64	.56
90-45	C	95	.46	14.5	.84	.71	.79
90-90	C	114	.32	8.8	.72	.76	.62

The information presented in Table 8.2 is not intended to be definitive. It is presented to indicate some of the characteristics of E, shown by the tests, but without detailed analysis. This information shows generally:

1. The pattern of E versus rate is very similar to that for strength.
   - A. The E-rate relationship is curvilinear.
   - B. The exponent in compression is larger than the exponent in tension.
   - C. The pattern of exponents versus orientation is similar to that for strength.
2. The multiple correlation coefficients are all significant and are highly significant in most cases.
3. Partial correlation coefficients between E and strength and between E and rate are found to be significant in most cases.

It is important to remember that this is average information, and the modulus of elasticity has not been studied in detail.

8.3.2 Elasticity at Various Orientations. The data which have been studied for strength for different orientations were also subjected to a cursory examination of modulus of elasticity. For the different groups of tests, E has been determined by fitting a least squares line for E versus rate and then finding E for the standard rates of 200 and 460 psi/min for tension and compression respectively. Table 8.3 shows these values of E for the different orientations, and Figure 8.3 shows E versus orientation.

Table 8.3

Values of E at different orientations.

Orientation	E in compression Rate = 460 psi/min	E in tension Rate = 200 psi/min
00-90	2.47×10^5	10.23×10^5
22 1/2-90	.72 "	8.54 "
45-90	1.54 "	8.73 "
67 1/2-90	.56 "	6.22 "
90-90	1.75 "	7.90 "
90-67 1/2	1.13 "	4.76 "
90-45	.93 "	4.19 "
90-22 1/2	.58 "	4.27 "
90-00	1.30 "	8.11 "

Two points are important:

1. The modulus of elasticity for tension is approximately 5 times greater than that for compression.
2. The modulus of elasticity-orientation plot shows the same shape as that for strength-orientation.

The E orientation pattern in the brine-basal plane shows the same deep, broad valley as the strength -orientation. This reinforces further the confidence in the general strength-orientation pattern in the brine-basal plane shown by the data under study. It also suggests that the same sort of orientation relationship can be used to define the value of E in the brine-basal plane.

8.4 TENSILE STRATE FUNCTIONS OF 90-00, 90-45 AND 90-90 ORIENTATIONS

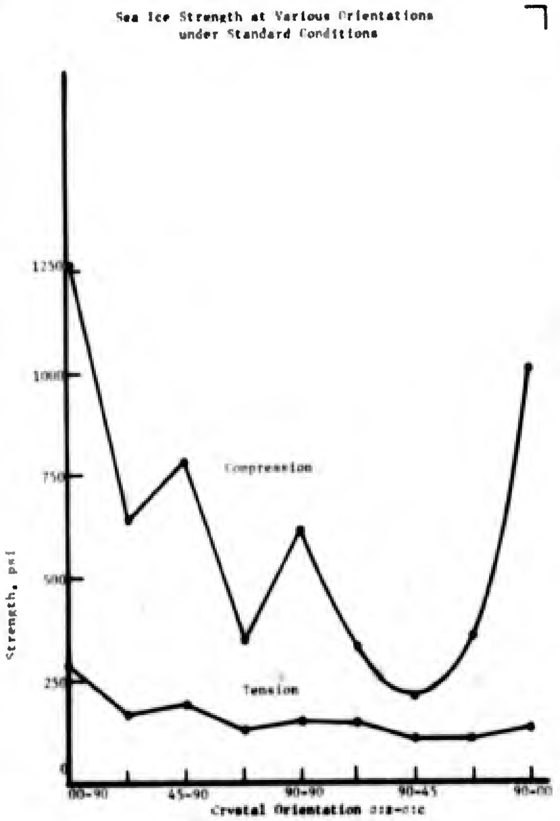
Strate has been defined as the strength with the rate function removed and Table 8.4 shows the average tensile strate and $(1-v^{1/2})$ for 44 inch depth ice for the three orientations, 90-00, 90-45 and 90-90 for temperatures of -2, -5, -10, and -21°C.

Table 8.4

Average Tensile Strate

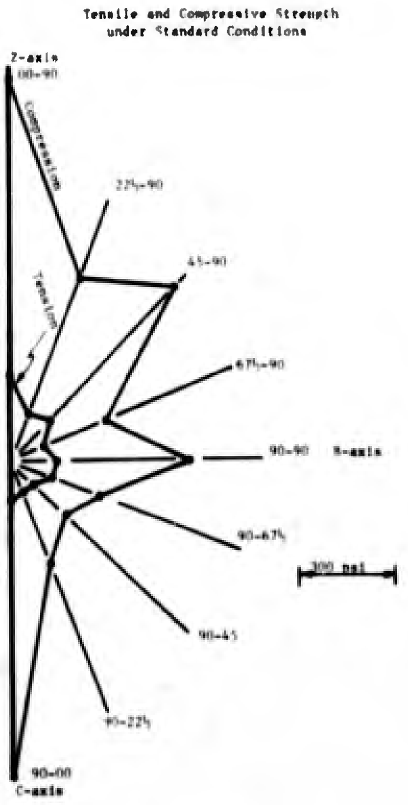
Temp	Number of Obs.	90-00 Strate	$1-v^{1/2}$	Number Obs.	90-45 Strate	$1-v^{1/2}$	Number Obs.	90-90 Strate	$1-v^{1/2}$
-2°	20	78.4	.6512	15	53.3	.6568	16	108.2	.6703
-5	22	104.1	.7696	12	61.8	.7720	23	125.6	.7820
-10	8	112.8	.8355	11	72.4	.8421	20	150.0	.8328
-21	12	121.2	.8726	14	70.7	.8781	14	145.2	.8790

It is immediately obvious that no salt reinforcement is shown by the data. Furthermore, while the data appear approximately linear with $(1-v^{1/2})$, it is not sufficiently sensitive to changes in $(1-v^{1/2})$ to allow fitting of the general model.



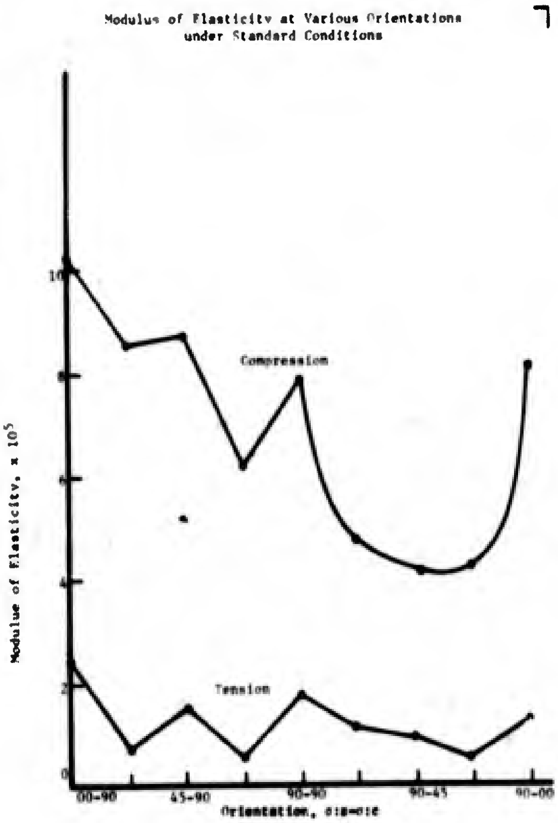
Sea Ice Strength at Various Orientations
under Standard Conditions

Figure 8.1



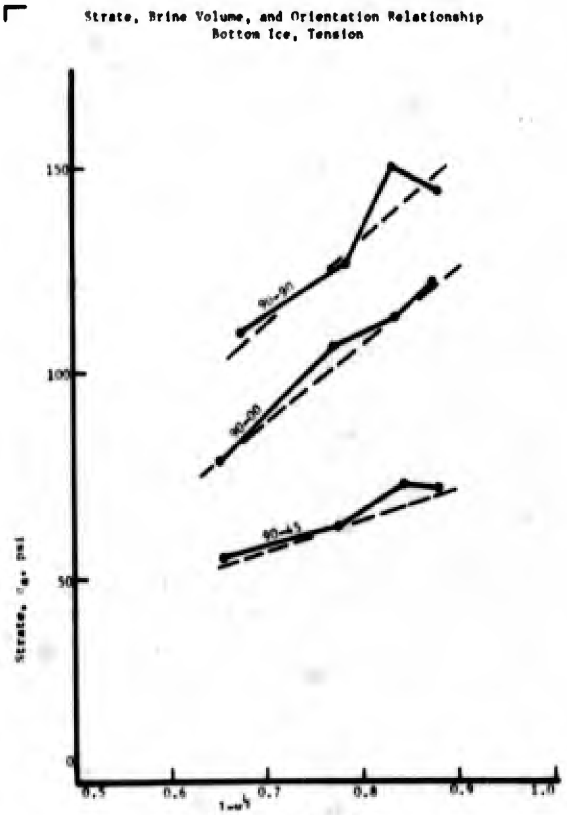
Tensile and Compressive Strength
under Standard Conditions

Figure 8.2



Modulus of Elasticity at Various Orientations
under Standard Conditions

Figure 8.3



Strate, Brine Volume, and Orientation Relationship
Bottom Ice, Tension

Figure 8.4

linear equations using the average values and weighted for number of observations are:

Orient	Equation	$(1-v^{1/2})$ intercept	
90-00	$\sigma_a = -46.4 + 193.0\ (1-v^{1/2})$	.240	8.1
90-45	$\sigma_a = -3.4 + 86.2\ (1-v^{1/2})$	.040	8.2
90-90	$\sigma_a = -31.9 + 207.8\ (1-v^{1/2})$	.154	8.3

and in standard form,

Orient	Equation	
90-00	$\sigma_a = 146.6\ (1-1.32v^{1/2})$	8.6
90-45	$\sigma_a = 82.8\ (1-1.04v^{1/2})$	8.5
90-90	$\sigma_a = 175.8\ (1-1.18v^{1/2})$	8.6

These provide the strate functions needed to describe the tensile strength of sea ice at 44 inches of depth.

8.5 COMPRESSIVE STRENGTH FUNCTIONS OF 90-00, 90-45 AND 90-90 ORIENTATIONS.

8.5.1 Strate Functions. Table 8.5 and Figure 8.5 show the average compressive strate and $(1-v^{1/2})$ for 44 inch ice for the three orientations, 90-00, 90-45 and 90-90 for temperatures of -2, -5, -10, and -21°C.

Table 8.5

Average Compressive Strate

Temp °C	Number of Obs.	90-00 Strate	$1-v^{1/2}$	Number of Obs.	90-45 Strate	$1-v^{1/2}$	90-90 Obs.	Strate	$1-v^{1/2}$
-2	59	212.2	.682	45	14.09	.682	66	91.65	.700
-5	65	245.7	.800	47	17.22	.790	82	110.4	.802
-10	36	341.0	.832	34	17.07	.836	37	148.3	.839
-21	28	351.1	.881	24	22.33	.877	29	198.1	.881

Figure 8.5 demonstrates that the strength of 90-45 ice in compression, as in tension, shows no salt reinforcement and is relatively insensitive to changes in brine volume. On the other hand, the strength of 90-00 and 90-90 orientations in compression show a greater sensitivity to changes in brine volume function and also show strong salt reinforcement. The shape of the brine volume function for the 90-00 and 90-90 orientations can not be determined because only two temperature, -2° and -5°, are available, in the non-solid salt temperature range. The brine volume function is assumed to be linear.

Linear equations fitting the above data and weighted for the number of observations are shown on the following page.

Orient	Temps	Equation	$(1-v^{1/2})$ intercept	
90-00	All	$\sigma_a = -256.0 + 671.2\ (1-v^{1/2})$	.381	8.7
90-00	2,5	$\sigma_a = 18.58 + 283.9\ (1-v^{1/2})$	-.065	8.8
90-45	All	$\sigma_a = -8.62 + 32.82\ (1-v^{1/2})$	.263	8.9
90-90	All	$\sigma_a = -253.5 + 478.0\ (1-v^{1/2})$	.530	8.10
90-90	2,5	$\sigma_a = -37.0 + 183.8\ (1-v^{1/2})$	.201	8.11

Also shown are the linear brine volume equations in standard form.

Orient	Temps	Equation	
90-00	2,5	$\sigma_a = 302.5\ (1-.938v^{1/2})$	8.12
90-45	All	$\sigma_a = 24.2\ (1-1.36v^{1/2})$	8.13
90-90	2,5	$\sigma_a = 146.8\ (1-1.25v^{1/2})$	8.14

The 90-45 ice shows no salt reinforcement and equation 8.13 completes the description of the strength of 90-45 compression ice at 44". A salt reinforcement term is required for the other two orientations.

8.5.2 Solid Salt Reinforcement Functions. Solid salt reinforcement is described as in Chapter 6.

$$\sigma_r = \sigma_a - \sigma_o(1-Gv^{1/2}) \qquad 8.15$$

σ_r is salt reinforcement, and σ_o and G are the constants in equations 8.12 and 8.14. Table 8.6 shows the calculation of σ_r for the 90-00 and 90-90 ice at -10 and -21°C.

Table 8.6

Calculation of Salt Reinforcement.

Orient	Temp °C	Number of Observations	$1-v^{1/2}$	meas	calc	$\sigma_r = \sigma_m - \sigma_c$
90-00	-10	36	.832	341.0	254.8	86.2
90-00	-21	28	.881	351.1	268.7	82.4
90-90	-10	37	.839	148.3	117.2	31.1
90-90	-21	29	.881	198.1	124.9	73.2

As for center ice,

$$S = (Sall + v)^{1/2} - v^{1/2} \qquad 8.16$$

where Sall is the relative quantity of solid salts and associated ice (salty ice). An equation has been developed for S for the temperature range, -8.2° to -22.9°C.

$$S = (\mathrm{Salinity})^{1/2} \, (.082 - .180/\mathrm{Temp}^{.381}) \qquad 8.17$$

For the data under consideration, average S is 0.0154 at -10°C and 0.055 at -21°C, the details of which are shown in Figure 8.6.

In the study of salt reinforcement of center ice, the general function developed for salt reinforcement was

$$\sigma_r = G\ S\ K\ Q^e \qquad 8.18$$

where G is the geometric constant found in determining the brine volume function, S has been defined, Q is a quality function for salty ice, e is the fitting exponent for Q, and K is a fitting constant. σ_r is calculated from equation 8.15, S is calculated from equation 8.17, and Q can be calculated from

$$Q = .034 + 2.707/T^{1.90} \qquad 8.19$$

and from equation 8.18

$$\frac{\sigma_r}{GS} = K\ Q^e. \qquad 8.20$$

Table 8.7 shows the different values involved in equation 8.20 for the 90-00 and 90-90 compressive data.

Table 8.7

Salt Reinforcement Data

Orient	Number of Observations	Temp	σ_r	G	S	σ_r/GS	Q
90-00	36	-10°	86.2	.938	.015	6.20	.068
90-00	28	-21	82.4	.938	.055	1600	.052
90-90	37	-10	3.1.	1.25	.015	1600	.068
90-90	29	-21	73.2	1.25	.055	1060	.042

Figure 8 .7 gives the salt reinforcement data of Table 8.7 with a third point at the origin for each oriention. The relationship is linear for the 90-90 data, and e can be taken as 1. Using a weighted least squares line through the origin, K is approximately 250,000, but it was later necessary to adjust this to 30,000 when the functions were tested. The salt reinforcement for 90-90 compression is

$$\sigma_{r_{90\text{-}90\ c}} = 30{,}000\ G\ S\ Q \qquad 8.21$$

For the 90-00 salt reinforcement, an equation can be fitted using a value of e of 2.5, but this increases the value of K by several times. Another approach is suggested by Figure 8.8 which shows the salt reinforcement to be constant at approximately 85 psi, and this approach will be used because of its simplicity.

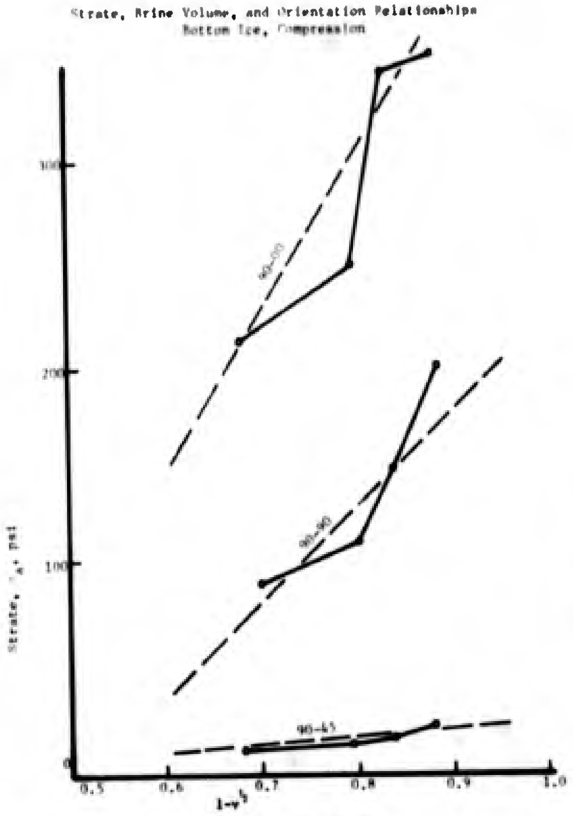


Figure 8.5

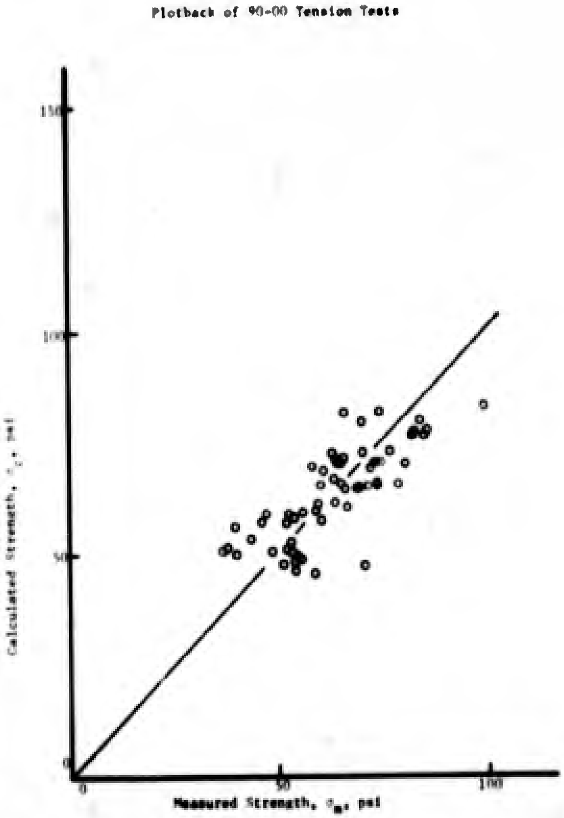


Figure 8.6

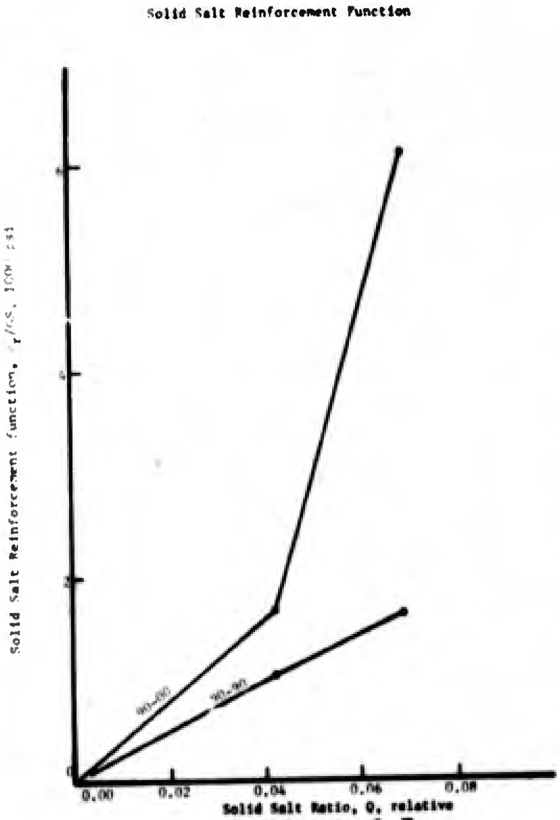


Figure 8.7

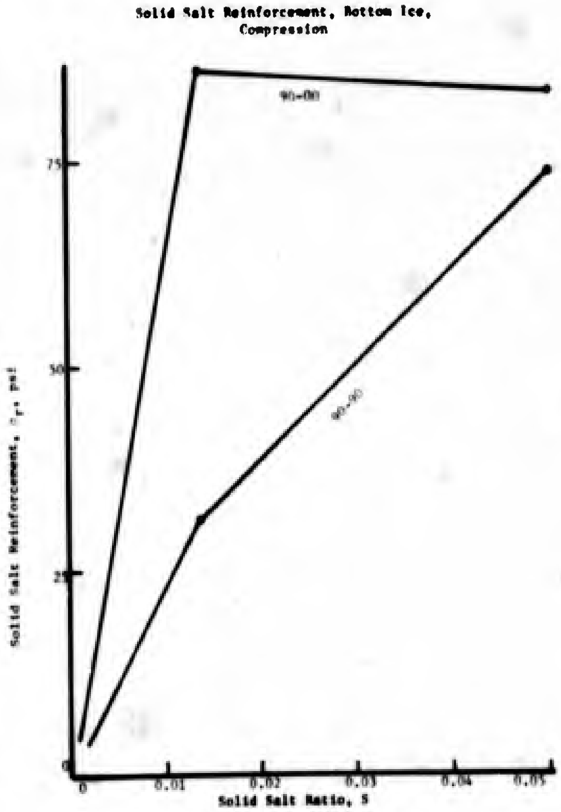


Figure 8.8

8.6 TESTING THE STRENGTH FUNCTIONS

8.6.1 Plotback Check. Plotback of the calculated value versus the measured value was used for the strength functions that were developed in the preceding two sections for strength at 90-00, 90-45 and 90-90 orientations in both tension and compression. Figures 8.8 to 8.13 show the calculated strength-measured strength using the following equations:

Fig.	Orient	Tension or Compression	Equation	
8	90-00	T	$= f(\text{rate})\ (146.6(1-1.32v^{1/2}))$	8.22
9	90-45	T	$= f(\text{rate})\ (82.8(1-1.04v^{1/2}))$	8.23
10	90-90	T	$= f(\text{rate})\ (175.8(1-1.18v^{1/2}))$	8.24
11	90-00	C	$= f(\text{rate})(302.5(1-.938v^{1/2})+85.)$*	8.25
12	90-45	C	$= f(\text{rate})\ (24.2(1-1.36v^{1/2}))$	8.26
13	90-90	C	$= f(\text{rate})(146.8(1-1.25v^{1/2})+ 30{,}000\ G\ S\ Q)$*	8.27

*Salt reinforcement only below -8.2°C.

Five statistical tests are used to determine the fit of the plotback and thus the fit of the equations, the results of which are shown in Table 8.8

1. The average residual.
2. The least squares slope from the origin through the data.
3. The standard deviation of the residuals.
4. The correlation coefficient.
5. The coefficient of variation.

Table 8.8

Statistical Tests of Strength Functions.

Data	Number of Observations	Average σ_m	Slope	R	Residuals, psi Avg.	Residuals, psi Stdev	Coeff. of Variation
90-00 T	62	124.7	.985	.73	- .13	17.8	.143
90-45 T	52	115.0	.978	.77	.10	17.2	.150
90-90 T	73	172.9	.961	.53	.01	35.7	.206
All Tens	187	140.8	.971	.62	- .01	26.0	.185
90-00 C	188	1039.	.968	.86	- 11.	273.	.263
90-45 C	150	323.	.980	.95	- 2.9	85.4	.264
90-90 C	214	771.	.963	.93	4.0	185.	.240
All Comp	552	740.	.967	.90	- 2.8	201.	.272
All Data	739	589.	.967	.90	- 2.1	174.	.296

The average residuals are negligible indicating that the average calculated strength is close to the average measured strength. The slope, Plotback of 90-45 Tension Tests

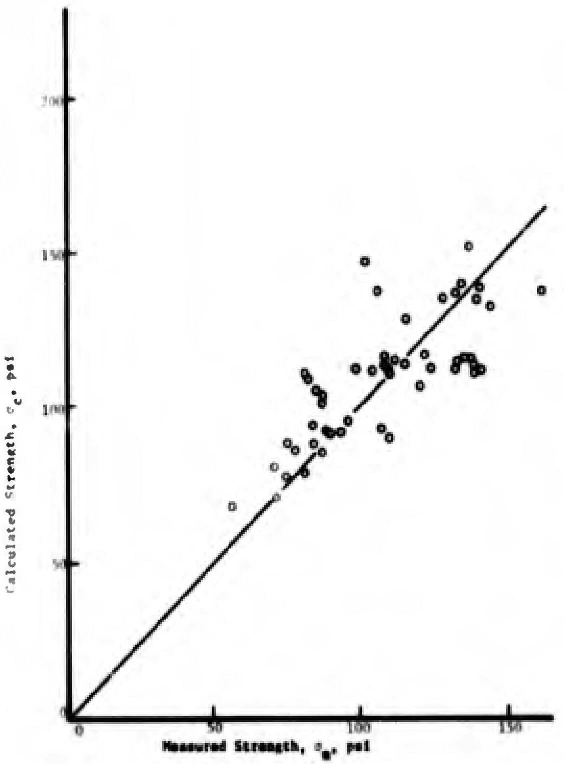


Figure 8.9

Plotback, 90-90 Tension Tests

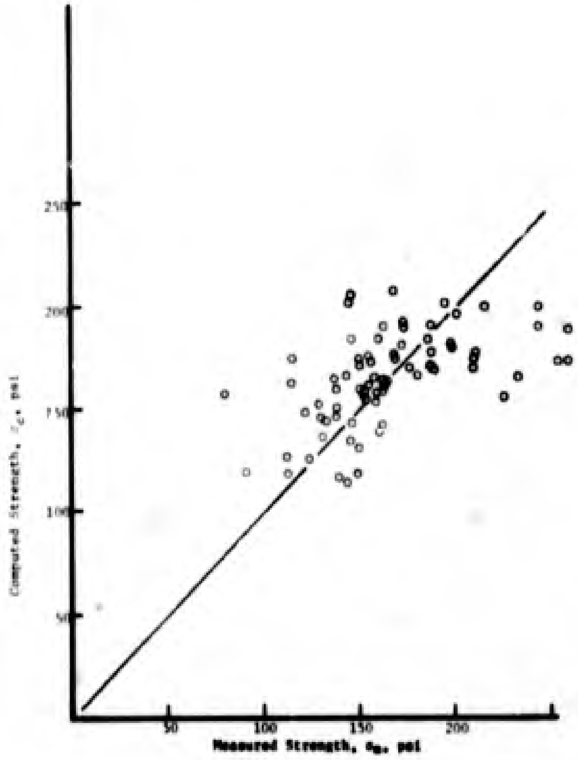


Figure 8.10

Plotback of 90-00 Compression Tests

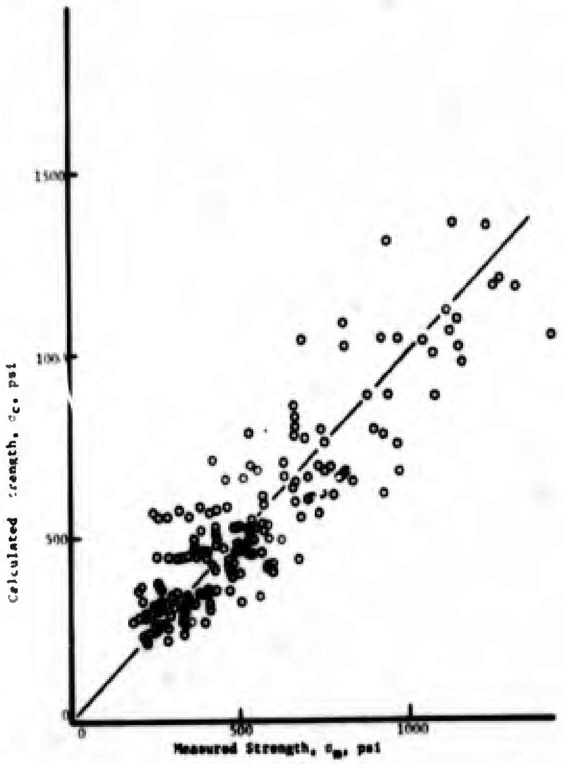


Figure 8.11

Plotback of 90-45 Compression Tests

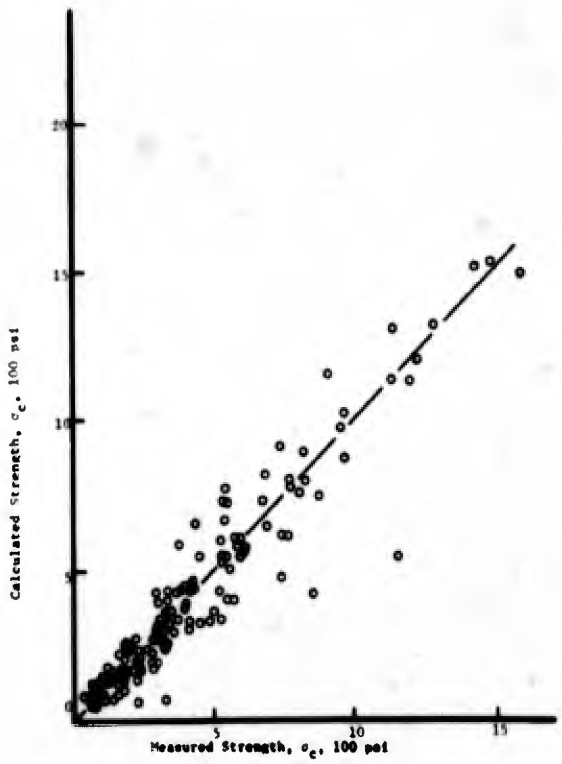


Figure 8.12

which is calculated by least squares shows an average value of approximately .97 with a systematic grouping of all data about that value. This indicates that all calculated values should be increased by approximately 3 percent to yield the best least squares fit; however, this small systematic error is ignored because the functions are probably as accurate as the data.

The correlation coefficients vary between 0.53 and 0.77 for tension and between 0.86 and 0.95 for compression. This is highly satisfactory. The coefficients of variation show a standard deviation in tension of 15 to 20 percent of the average value of measured strength. The compression data show the standard deviation of the residuals is approximately 25 percent of the average value of measured strength; however, while the compression data show a higher coefficient of variation, it also shows a higher correlation coefficient, and this apparent anomaly results from the different distributions and ranges of the data. The tension data are relatively insensitive to rate, and the range of rate was smaller than for compression. On the other hand, the compressive strength is much more sensitive to load rate and the range of the load rate is much greater. Consequently, the range of the compression data is much greater than the tension data. The tension data occur in a group removed from the origin by a discrete amount and have a fairly uniform density over a limited range. The result of this distribution gives relatively high average values which in turn yields a low coefficient of variation. The compression data, however, extends from near the origin for a relatively great range with high density near the origin, and decreases in density at the higher strengths. This gives average values that are relatively low and a correspondingly high coefficient of variation. The great range makes possible a high correlation coefficient.

The plotback plot and statistical analysis generate the following comments:

90-00 Tension. Figure 8.6
The data appear to be well centered on the line of perfect agreement. Because of the weak rate function, the data for the different temperatures are grouped separately, and the range for an individual temperature is small. This explains both the correlation coefficient (.73) and the coefficient of variation (.143). The fitting function is satisfactory.

90-45 Tension. Figure 8.9
These data also appear to be well centered on the line of perfect agreement. Because of the stronger rate effect, the data for the different temperatures overlap, and those for a single temperature have considerably more range than for 90-00 tension. The correlation coefficient is relatively large (.77) because of the increased data ranges.

90-90 Tension. Figure 8.10
This group of tests has the smallest correlation coefficient (.53) and the largest coefficient of variation (.206) of any tension group. It is relatively insensitive to load-rate, with the data grouped by temperature; however, the plot shows a general curve for the data as a whole. The reason for this is two-fold:

1. The data for each temperature tend to show a substantial scatter, and

2. The function used is a compromise because the -10° data show a substantial strength increase over that expected from the strate-$(1-v^{1/2})$ relation for -2° and -5°. This suggests solid salt reinforcement. The strength for -21°, however, drops to an approximately linear relationship with the -2° and -5° data, thus making the solid salt reinforcement concept questionable.

The -2° data falls on the line of perfect agreement. The -5° data falls somewhat above it. The -10° data falls below it and the -21° data falls above it. The correlation coefficient is sufficiently large to show a moderate correlation.

90-00 Compression. Figure 8.11
This pattern is fairly typical of the compression data groups. Because of rate sensitivity and range, the data for different temperatures overlap extensively, and for each temperature there is enough range in strength values to demonstrate a linear pattern. The correlation coefficient (.86) is quite good, but the standard deviation of the residuals (273.) and the coefficient of variation (.263) are both high. The function includes a constant salt reinforcement value, and it is obvious that salt reinforcement must be considered for this orientation. If the density of the data were more uniform, the coefficient of variation would be somewhat smaller.

90-45 Compression. Figure 8.12
Most of the comments regarding the 90-00 compression apply here, but the correlation coefficient is higher (.95), the differential density is more marked, and the overlap of the data for different temperatures is greater. The coefficient of variation (.264) is the same as for the 90-00 data and the fit for each temperature seems adequately centered and linear. Since no salt reinforcement is involved in the calculated strength, it appears certain that this orientation has insignificant salt reinforcement. These data and those for 90-45 tension show that the 90-45 ice is more consistant in performance than all other orientations studied.

90-90 Compression. Figure 8.13
The comments regarding the 90-00 and 90-45 compression data generally apply to this ice. The correlation (.93) is almost as good as the 90-45 data but the coefficient of variation (.272) is the greatest of any data group studied. Differential data density is seen to be much of the reason. The different temperatures overlap at the lower strengths; however, this function contains a salt reinforcement element which drives the -10° and -21° data into somewhat exclusive zones. Both the -10° and -21° data seem satisfactorily linear and these data, like the 90-00, appear to define a linear envelope indicating either random scatter or a second order effect not yet identified.

All Tension.
Statistical information has been calculated for groups of all tension, all compression, and all tests. In general, the All Tension grouping shows values that are approximately average for the three groups. The

All Compression.
This grouping shows an overall correlation coefficient of .90 but a relativelly high coefficient of variation (.272) due to differential data density. The average residual is essentially zero and the least squares slope through the origin is .97. The poorest results were obtained from the 90-00 data.

All Data.
Because the compression data is approximately 3 times as numerous as the tension data, this shows primarily the results of the compression analysis. The data show a correlation coefficient of .90, a high coefficient of variation (.290), an essentially zero average residual, and a slope by least squares through the origin of about .97. Since tension strength is much weaker than compression, the effect of differential density noted in the compression data is intensified in this grouping of all 739 data.

It is concluded that the strength models and the functions derived therefrom express the behavior quite well and are considered adequate for the further analysis in Chapter 9.

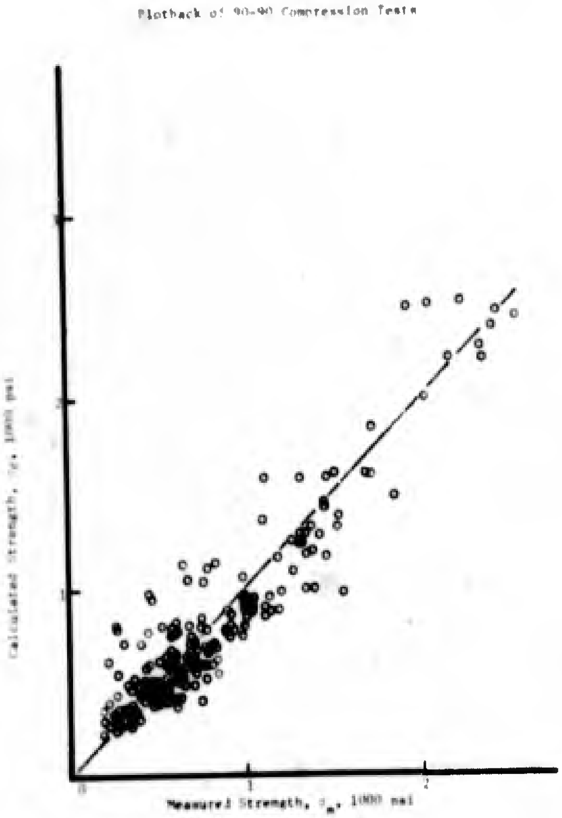


Figure 8.13

Chapter 9

BRINE PLANE - BASAL PLANE FAILURE

9.1 INTRODUCTION

The extremely low strength and stiffness of ice subjected to basal plane shear stress is well known and has been intensively investigated in fresh ice, single and polycrystaline. Substantial evidence has been found in this study for proposing that sea ice properties are sometimes dictated by basal plane characteristics of ice within platelets rather than by the parallel brine plane with its liquid brine and solid salts. These effects were not discernable in center ice, but became quite clear in observations of certain bottom ice properties.

Should basal plane failure be significant, several properties should be apparent, but before proceeding to such a list, the following considerations are put forth.

A shift from brine plane failure to basal plane failure could occur at warmer temperatures and would be difficult to ascertain without data over many small increments of temperature. Such data do not exist, but this type of shift is quite unlikely because of very low areas of bridging ice in the brine plane near the melting point. Ice specimen failures under these conditions in the laboratory have resulted in considerable delamination of crystals. This was not generally found in specimens with high shear stresses in the brine-basal plane, but was found with edge loading of the platelets.

Nothing is known about the crystal orientation of the bridging ice; at least sufficient detail is not available to allow a definitive strength analysis. It is conceivable that bridging ice is not a continuation of platelet ice, but the presentation which follows will consider only the continuation concept.

9.2 BRINE - BASAL PLANE CHARACTERISTICS

9.2.1 Necessary Conditions. Two parallel planes will be considered. The first is the brine plane including the total interplatelet brine at -1.8°C, the solids that form from this liquid, and the ice bridging from platelet to platelet at -1.8°C. The second is the basal plane within the fresh ice platelet.

Brine-plane failure requires several elements:

1. A linear relation between strate and $(1-v^{1/2})$ with strate sensitive to v.
2. A reasonable value of v_o, perhaps in the order of .5 to .65.
3. Salt reinforcement. All solid salts are deposited in the brine plane, therefore, salt reinforcement indicates that failure occurs either in the brine plane or in a failure plane cutting the brine plane.

Basal plane failure characteristics to be expected would include:

1. A rather limited relationship between strength and brine volume. Brine volume would probably be of some effect until enough ice had formed to provide a continuous platelet structure through the specimen. Beyond that point, the strength should remain approximately constant except for the direct temperature effect on the platelet structure strength.
2. Relatively high creep rates at cold temperatures.
3. No salt reinforcement.

9.2.2 Mechanical Properties in the Brine-Basal Plane. The behavior of the 90-45 ice in both tension and compression suggests a basal plane failure in the ice platelets between brine planes. This question is left open for the present and a general function for either the brine or basal plane or both can be developed without definitely identifying the specific plane involved.

Figure 9.1 shows a specimen with unit cross-sectional area loaded with an axial force $\sigma.AB$ and a crystal axis at an angle θ with σ. The brine-basal plane of weakness cuts the specimen at EF perpendicular to the c-axis. Figure 9.2 shows a force diagram of the upper part of the specimen with the internal forces $\sigma_n.EF$, and $\sigma_s \cdot FF$.

$$\sigma_n \cdot EF = \sigma.AB \cdot \cos\theta \qquad 9.1$$

$$\sigma_s \cdot EF = \sigma \cdot AB \cdot \sin\theta \qquad 9.2$$

However, AB/EF = cos θ, and equations 9.1 and 9.2 can be written

$$\sigma_n = \sigma\cos^2\theta \qquad 9.3$$

$$\sigma_s = \sigma\sin\theta\cos\theta \qquad 9.4$$

or

$$\sigma = \sigma_n/\cos^2\theta \qquad 9.5$$

$$\sigma = \sigma_s/\sin\theta\cos\theta \qquad 9.6$$

Figures 9.3 and 9.4 show the situation when θ approaches 90° and it can be shown,

$$\sigma_e CD = \sigma AB\sin\theta \qquad 9.7$$

$$\sigma_e = \sigma\sin^2\sigma\theta \qquad 9.8$$

$\sigma = \sigma_e/\sin^2$ [illegible] 9.9

Equations 9.5, 9.6 and 9.9 yield ultimate strength values based on three modes of failure in the b-c-axis plane. The most important strength function here is that for shear in the brine-basal plane. Equation 9.4, where σ_s is the shear strength in the brine-basal plane, can be solved for σ_s for the 90-45 data. Since sin θ cos θ is 0.5 for $\theta = 45°$,

$$\sigma_s = 0.5\,\sigma_{90-45} \qquad 9.10$$


Force On a Specimen
Small θ

Figure 9.1

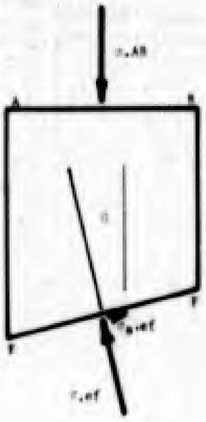

Force Diagram
Small θ

Figure 9.2

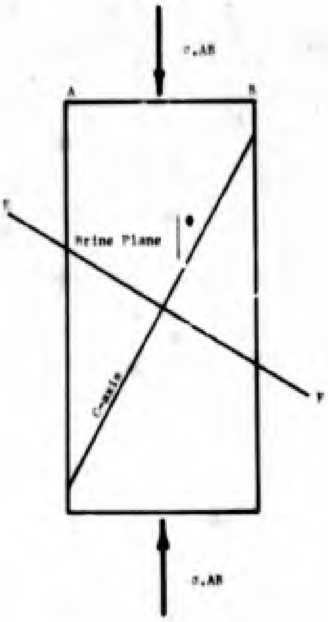

Force On a Specimen
Large θ

Figure 9.3

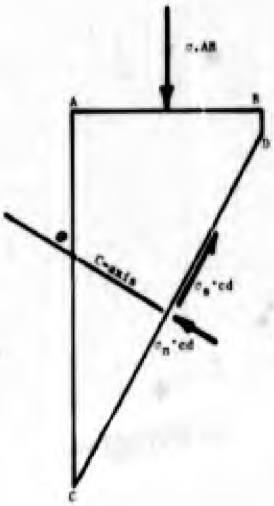

Force Diagram
Large θ

Figure 9.4

Figure 9.5 shows the function $\frac{1}{\sin\theta\cos\theta}$ which becomes infinite if θ is 0° or 90° and attain a value of 2.0 for $\theta = 45°$. This function forms a broad, deep valley similar to the apparent shape of the strength function.

The function is valid at angles greater than 0° less than 90°. Near 0° and 90° the lack of information prevents definition of the shape of the curve from data. Two possibilities present themselves:

1. If 90-00 and 90-90 orientations have unique modes of failure based on the frontal and edge loading of the platelet structure, equations 9.5 and 9.9 would begin to govern as the angle between load and the c-axis departed from 0° and 90°.
2. If sea ice acts as a granular or amorphous material when loaded on these two axes, the strength should remain approximately constant until another mode of failure controls strength.

Figure 8.6 shows strength versus orientation with both options 1 and 2 under the standard conditions outlined in Chapter 8. The scale factor used for the central part of the function is obtained using equation 9.10 which yields 129.5 psi in compression and 55 psi in tension. At both ends of the curve, strength is

$$\sigma_n = \text{90-00 strength} \qquad 9.11$$

$$\sigma_e = \text{90-90 strength} \qquad 9.12$$

By definition, the 90-00, 90-45 and 90-90 strength values are on the curve. The 90-22 1/2 and 90-67 1/2 values are the only ones available for testing the curves and these strengths are shown in Table 9.1 and Figure 9.6. Three values fit rather nicely but the 90-22 1/2 strength in tension is lower than it should be. The fit is sufficiently satisfactory to indicate that the strength-orientation relation is a good first approximation for the data available.

Table 9.1

Estimated-Measured Strength Values for Odd Orientations

Orientation	Tensile Strength		Compressive Strength	
	Estimated	Measured	Estimated	Measured
90-67 1/2	151	156	329	366
90-22 1/2	109	156	356	366

The shape of the curve is undefined between 0° - 22 1/2° and 67 1/2° -90°. Evidence from tests of laboratory grown single, fresh, ice crystals indicates the strength to be very sensitive to θ near 0° and 90°. The sea ice tests did not show such high sensitivity, but the expected true shape of the curves are shown dotted. Certain additional effects would be expected from experimental error due to lateral restraints at specimen ends and end interference with brine plane and platelet continuity.

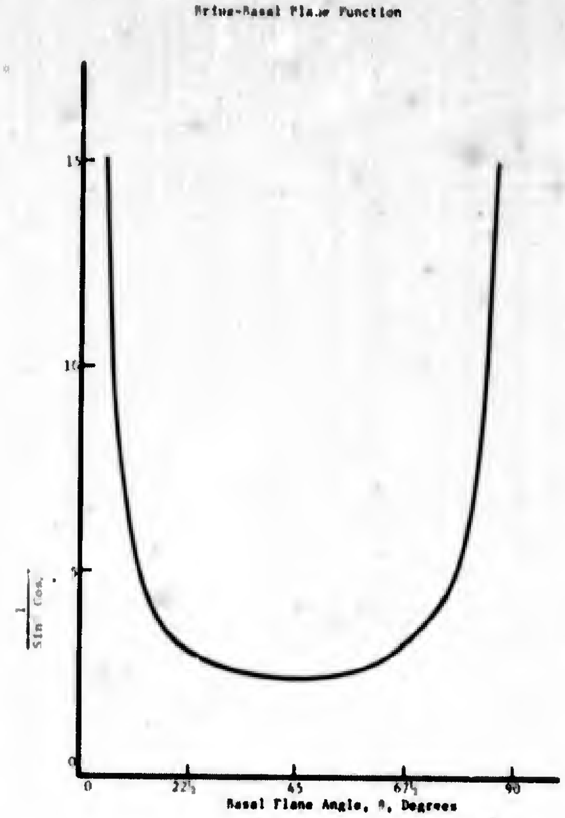

Brine-Basal Plane Function

Figure 9.5

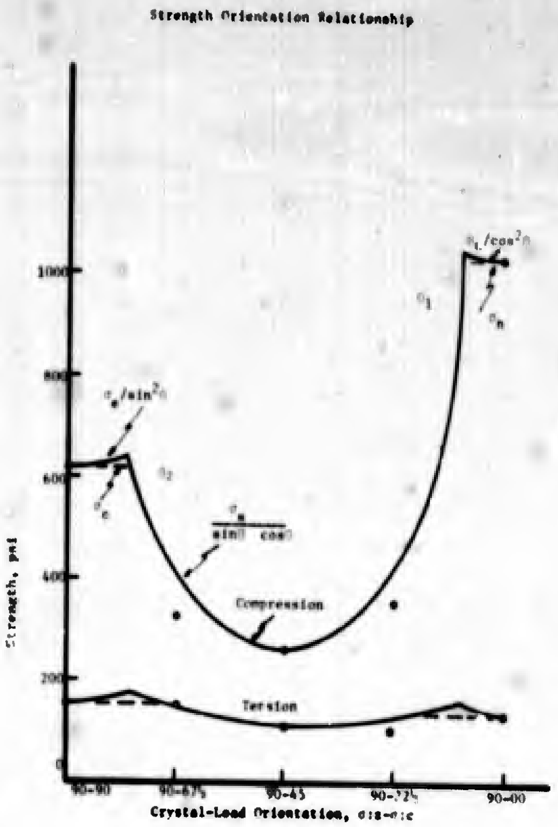

Strength Orientation Relationship

Figure 9.6

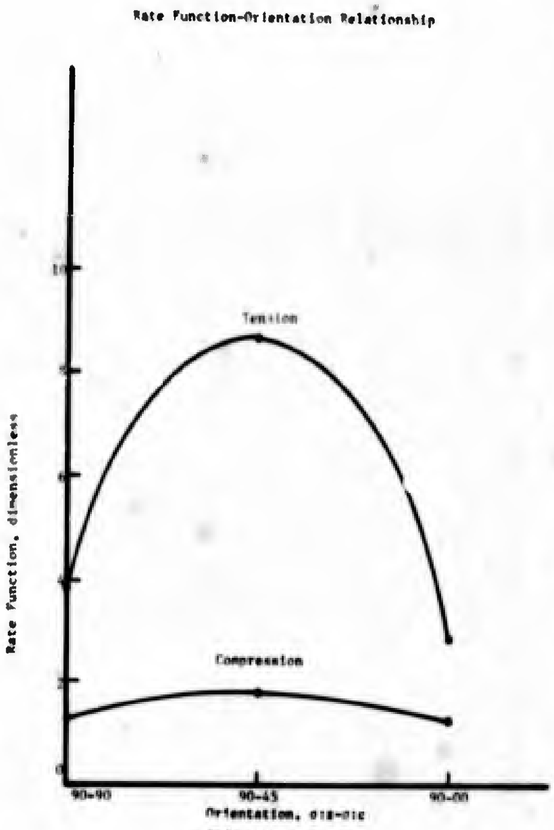

Rate Function-Orientation Relationship

Figure 9.7

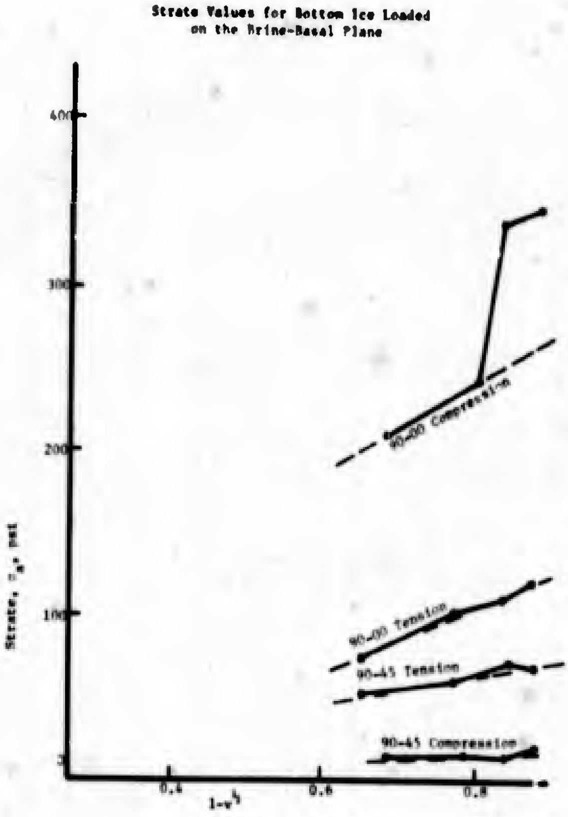

Strate Values for Bottom Ice Loaded on the Brine-Basal Plane

Figure 9.8

9.2.3 Rate Functions in the Brine-Basal Plane. The rate functions for tensile and compressive strength were developed in Chapter 4 with the general approach

$$\text{Strength} = f(\text{rate}) \times (\text{All other functions})$$

where

$$f(\text{rate}) = \text{Rate}^{r}$$

The exponent, r, is empirically fitted to the compression strength data in the horizontal plane:

$$r_{comp_h} = 0.166\ \text{Depth}^{.138}\ \text{Temperature}^{.09}\ \text{Rotvar}_c \qquad 9.12$$

and, for tensile strength

$$r = .082\ \text{Depth}^{-.195}\ \text{Temperature}^{-.064}\ \text{Rotvar}_t \qquad 9.13$$

Rotvar is the Rate Orientation and Type Variable empirically fitted for the different orientations and types. Table 9.2 shows the values of Rotvar for bottom ice.

Table 9.2

Values of Type and Orientation Variable for Several Orientations

Orientation	$\text{Rotvar}_{comp.}$	$\text{Rotvar}_{tens.}$
90-00	.60	1.82
90-45	1.26	4.48
90-90	.79	2.12

The f(rate) is shown in Table 9.3 and Figure 9.7 for tension and compression for 44 inch ice at -5° at rates of 200 psi/min for tension and 460 psi/min for compression.

Table 9.3

Rate Functions for Standard Conditions.

Orientation	Compression		Tension	
	r	f(rate)	r	f(rate)
90-00	.194	2.79	.0445	1.266
90-45	.407	8.60	.109	1.78
90-90	.255	3.86	.052	1.32

Comparison of Figure 9.7 with Figures 8.1 and 8.3 indicates that, in the basal plane, an inverse relation exists between the rate function and both strength and modulus of elasticity.

9.2.4 Brine Volume and Salt Reinforcement in the Brine-Basal Plane. Four data groups represent direct loads on the brine-basal plane. The 90-00 data is loaded directly on the basal plane in either tension or compression. The 90-45 data is loaded at 45° to the brine-basal plane and exerts the maximum shear force combined with either a tensile or compressive force. Tables 8.4 and 8.5 show the values of strate and $(1-v^{1/2})$ for this data at the temperatures available. Equations for the brine volume functions have been developed in the form

$$\sigma_a = \sigma_o(1-Gv^{1/2}).$$

Table 9.4 shows the values of σ_o, G, and v_o for the four groups, and Figure 9.8 shows strate versus $(1-v^{1/2})$.

Table 9.4

Equation Data for Groups Loaded on the Brine Plane

Orient	σ_o	G	v_o
90-00	146.6	1.32	.634
90-45	82.8	1.04	.040
90-00	302.5	.938	1.134
90-45	24.2	1.36	.543

9.3 SUMMARY AND CONCLUSIONS

Analysis of all details which have been outlined has not been accomplished and some gaps occur in Table 9.5 which summarizes details of the mechanical properties of bottom ice of various load orientations.

Table 9.5

Orientation vs Mechanical Properties

	Compression				
	90-00	90-22 1/2	90-45	90-67 1/2	90-90
$\bar{\sigma}$, psi	1020	356	259	329	612
$E \times 10^{-5}$, psi	1.30	0.58	0.93	1.13	1.75
Strate, psi	246		17		110
Rotvar	0.60		1.26		0.75
Rate Exponent	0.19		0.14		0.26
f(rate)	2.8		8.6		3.9
σ_o, psi	303		24		147
G	0.94		1.3		1.4
v_o	1.1		0.54		0.62
Salt Reinforcement	yes		no		yes

Orientation vs Mechanical Properties

Tension

$\bar{\sigma}$,psi	132	109	110	141	143
Ex10^{-5},psi	8.11	4.27	4.10	4.76	7.90
Strate, psi	104		62		126
Rotvar	1.82		4.48		2.12
Rate Exponent	0.04		0.11		0.05
f(rate)	1.3		1.8		1.3
σ_o ,psi	147		83		176
G	1.3		1.0		1.2
v_o	0.58		0.90		0.71
Salt Reinforcement	no		no		no

The evidence clearly indicates that compression at 90-45 and tension at 90-45 and 90-00 exhibit characteristics of failure outside the brine plane, at least for temperature colder than -10°C. Behavior at warmer temperatures is quite different from that for 90-90 orientation, but the differences could be equally ascribed to brine plane failure or as basal plane failure.

The 90-22 1/2 orientation seems adequate to force basal plane failure, but information is inadequate to make further analysis at this time. The 90-67 1/2 orientation is strongly affected by mechanical and geometrical constraints on the ends of specimens; therefore, these data would yield erroneous results.

The 90-00 compression curve shows obvious solid salt reinforcement and that failure must be influenced by the brine plane. The three groups remaining for examination are the 90-00 tension data and the 90-45 data in both compression and tension. The 90-00 tension data show:

1. There is no apparent salt reinforcement.
2. For the four different temperatures, strate is apparently fairly linear with $(1-v^{1/2})$.
3. v_o = .63 is reasonable.

Table 8.3 and Figure 8.3 show the 90-00 tension ice to be relatively stiff and the stress-strain curves for the individual data show an almost linear relationship curve from the origin to the point of failure with only small load rates and warm ice showing significant curvature. The tensile strength of 90-00 ice is only 20% stronger than that of 90-45 ice. This has been shown in Figure 8.1. The rate function compared with that for 90-45 tension ice is small with tension Rotvar values respectively of 1.82 and 4.48.

Inspection of the 90-00 tension data indicates no salt reinforcement. In addition, the four data points are quite linear with $(1-v^{1/2})$, thus reinforcing the validity of this function. Finally a v_o of .63 is a reasonable value . It seems; therefore, that all criteria for brine plane failure are met with the possible exception of salt reinforcement.

The 90-45 tension data indicates some similarities to the 90-00 tension data. There is no salt reinforcement and there is apparently a linear relationship with $(1-v^{1/2})$. σ_o is about 83 psi compared with 147 for the 90-00 ice. The slope is relatively flat with a G value of 1.04 and an $(1-v^{1/2})$ intercept of .04. In this case, the requirement for a reasonable v_o value is not met.

The 90-45 compression data shows no salt reinforcement, it is fairly linear with $(1-v^{1/2})$, and it has a reasonable value for v_o. However, this ice is very weak with a σ_o of .3 that for 90-45 tension. Since σ_o is in terms of strate, it is necessary to calculate a rate function to compare strengths. Using a rate of 500 psi/min, a depth of 44 inches and a temperature of -5°, the rate functions for tension and compression are 2.68 and 12.4 respectively. In this representative case, the ratio of compression to tension rate functions is 4.64, thus the compressive strength for this ice is greater than for tension.

The evidence is not entirely satisfactory to explain the occurrence of solid salt reinforcement in some orientations but not in others. There is, however, enough evidence to demonstrate the possibility of failure plane shift from the brine plane to the basal plane within platelets at cold temperatures when the brine plane strength may be strongly reinforced with solid salts.

It should be noted that no solid salt reinforcement has been indicated by tension tests on bottom ice. The question of possible solid salt reinforcement as reported by Assur has not been verified by the direct tension tests of bottom ice used in this study.

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Chapter 10

APPLICATION

10.1 INTRODUCTION

Direct application of the work shown in the preceding chapters was made on a specific project from 1963 through 1965; determination of ice loads, design, fabrication, erection and performance testing of a large offshore oil drilling platform in Cook Inlet, Alaska. The analysis in Chapters 4 through 9 were not completed, and parts had not yet been initiated. Early analysis had given considerable insight to the engineering properties of sea ice, and intuitive reasoning could be used with discretion It should be noted here that the time requirement for establishing the design conditions in a new environment was very short. For example, specially manufactured steel for the future structure was ordered less than six months after the project was conceived and three months after the author began work on the design conditions. The tone of this chapter, therefore, is quite different from that of preceding chapters which were in a research instead of design atmosphere.

The actual study was accomplished in a different manner than outlined here. Actually, the work resulted in a set of four reports, each a substantial refinement of the other. This chapter will contain only those portions which show the end product and the method of achieving it. Work which was exploratory and was later refined will be deleted in the interest of clarity and brevity. Further, much of the detailed work has yet to be released from proprietary status.

10.1.1 The Problem. The problem is rather simple to state: "What will be the forces imposed by ice on an offshore oil drilling platform in Cook Inlet, Alaska?" There is some experience concerning lateral loads on piling or structures by ice in rivers and in some other situations. The extrapolation of this experience to the Cook Inlet is, however, not practical because of the different parametric factors that are known to occur in Cook Inlet. These include high tides, large tidal velocities, high mineral content in the form of soil particles in the water, and considerable mixing of fresh river water with sea water. No previous work has been done in attempting to describe the ice conditions in Cook Inlet.

10.1.2 Status of Knowledge. The description of lateral loads on structures due to ice is an empirical relationship, and the literature contains certain empirical expressions describing these lateral forces on such structures as bridge piers located in rivers. Mechanical properties of ice are highly variable thus leading to different failure modes and great differences in strength. Extensive differences in heat transfer result in large differences in ice growth rates, even in locations with similar ambient weather conditions. Therefore, it is impossible to closely predict lateral loads on a specific structure in a specific location without first determining for the specific ice the expected thickness, the strength of that ice, and the failure mode exhibited when such ice impinges upon a structure. Of necessity, then, an empirical ad hoc experimental approach must be followed if answers are to be found in reasonable time.

10.2 INITIAL OBSERVATIONS

Cook Inlet. Cook Inlet, Alaska, assumed considerable engineering importance after the discovery of offshore oil in the summer of 1962. The inlet is one of the most difficult in the world in which to work because of 35 foot tides and six knot tidal velocities. The high latitude of 62° results in strong coriolis forces, so this coupled with the inlet geometry causes considerable cross currents at both ebb and flood tides. The water is quite turbulent through its entire depth and has a high silt suspension content which makes it virtually opaque. The water depths are variable from 135 feet to -35 feet, based on mean low tide, resulting in frequent choppy wave action, extensive mud flats and three to four foot tidal bores. The general distribution of atmospheric air pressures coupled with the geometry of surrounding mountains and valleys allows full gales to frequently occur and the attendent water waves have heights of about 30 feet. Katabatic winds are very strong in the Turnagain and Knik Arm vicinities. The influx of fresh water from numerous rivers is highly variable from summer to winter resulting in an attendant variability in salinity in the inlet.

These factors alone make Cook Inlet a difficult place in which to work, but the climate is sufficiently cold in the winter to also create a sea ice cover of up to 3.5 feet. This ice forms in floes of up to two miles in diameter which move up and down the inlet with the six knot tide and travel distances in the order of 25 miles per tide.

The study of this ice is the topic of this chapter. The general characteristics of the inlet are shown in Figures 10.1 through 10.4.

10.3 ICE THICKNESS PREDICTIONS

The thickness of the sea ice in Cook Inlet is derived from two mechanisms. The first is the growth thickness and the second is the mechanical stacking or rafting. The analysis of growth of sea ice in Cook Inlet has proved to be an interesting problem. Many factors are contributing to the growth and decay of the ice sheet, and fundamental information of the oceanographic and weather parameters of the inlet area are too meager to allow competent analysis from first principles at the present time. Therefore, the analysis prior to construction of the first offshore drilling platform was subject to wide limits of confidence.

10.4 RAFTING

At the time of maximum ice growth in the inlet and at the time of sampling for strength measurements, thickness determinations were made of several floes during 1963-64. They were quite uniform in thickness of about twelve inches. At this time, general observations were made concerning the occurrence of rafting, and it was determined, and is shown in Figure 10.5, that the majority of the rafting occurs when the ice is quite thin and generally does not appreciably affect ice thickness. However, it will be noted that some small areas of rafting do indeed occur which can double the thickness of the ice sheet. Several locations were observed in which the one foot thick ice sheet had rafted with its full thickness, thereby resulting in a two foot thick ice sheet. It will be noted, however, that not only

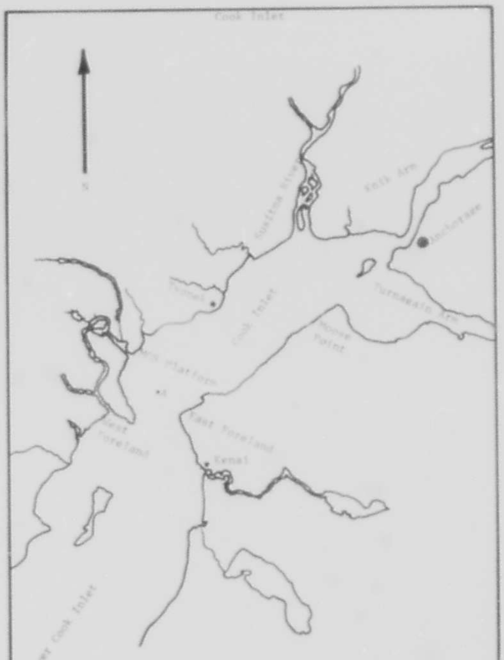


Figure 10.1

Wind at Middleground Shoal Platform A.

Figure 10.2

Wind and Waves which Commonly Occur in the Summer in Cook Inlet.

Figure 10.3

Common Winter Ice Cover in Cook Inlet.

Figure 10.4

the fact that the ice sheet doubles in thickness is important, but also of significance, is the horizontal extent of such thickening. The field determination of rafting effects is complex because a search must be conducted for the maximum rafting effects. This is a population sampling program which requires a large number of observations.

10.5 ICE STRENGTH

10.5.1 Mode of Failure. The most important observation made during the first winter of the study was the mode of failure of the ice when impinging upon a temporary exploratory drilling platform. Figures 10.6, 7 and 8 show the general features of the failure type. At the time these pictures were taken, the tidal movement was into the Inlet, or a flood tide. The "A" arrows in all figures indicate the platform orientation with the "A" arrow indicating "up Inlet" toward Anchorage.

It can be observed that the failure mode of the ice is direct compression. No significant tension cracking of the ice floes occurred, and the total volume of ice impinging upon a single platform piling is crushed into very small pieces. Figures 10.9, 10 and 11 show this failure in detail. Figure 10 shows in particular the ice being reduced to small particle size.

Figures 10.6, 7, and 8 show that orientation of the platform relative to the direction of general ice movement is of little significance in reducing ice forces on the platform due to forces imposed by floes, be they rafted or not. This can be observed particularly in Figure 10.7 in which the "trailing" piling might have been expected to receive substantial force reduction. Piling No. 3 in Figure 10.7 can be observed to be offset about one piling diameter and is apparently receiving negligible force reduction due to the path cut by piling No. 1. This compression failure mode makes the utilization of ice cutters of questionable value.

Also to be observed from Figures 10.6, 7 and 8, is the type of path cut through the floes. The platform is obviously a restriction to the movement of individual floes. The configuration and point of contact of upstream floes with the particular floe which is being extruded past the platform results in differing path shapes. In Figure 10.6 it can be seen that a curvilinear path is being generated, probably dictated by the floe immediately upstream from the one being cut. Figure 10.7 shows a large floe moving past the platform in which no major floes are obvious upstream and the path generated is straight. Figure 10.8 again shows a curvilinear path. The upstream conditions at the time of the photograph are unknown.

10.5.2 Ice Strength Testing, 1962-63. Mid-Inlet ice was sampled at Middleground Shoals immediately after the maximum ice growth conditions occurred during the winter of 1962-63. The only major ice-growing weather occurred during the first week of February and sampling was done on 7 February when the ice was thickest. Five samples were collected and salinity profiles were determined for each sample. Eighty-two compression and tension tests were made from the ice collected.

Rafting of Thin Ice Floes, R Indicates Rafted Section.

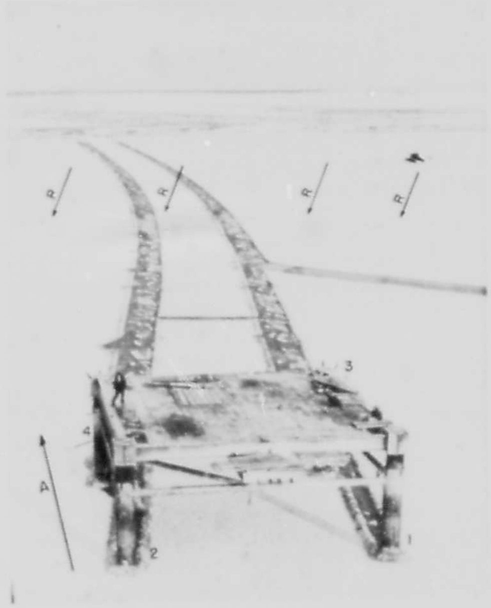
Figure 10.5

Ice Failure Against Platform, I, Note the Double Thick Rafted Section and the Small Floe Size.

Figure 10.6

Ice Failure Against Platform II, Note the Double Thick Rafted Section and the Compression Failure on all Four Legs.

Figure 10.7



Ice Failure Against Platform,III, Note the Curvalinear Path and Nature of Floe Splitting which does not Reduce Platform Loads.

Figure 10.8

10.5.3 Ice Strength Testing, 1963-64. Two favorable ice growing periods occurred during the winter, mid-January and mid-February. The January period provided the best ice and five samples were studied in detail. One sample, number 6, was collected during March for detailed study. All samples were collected to correlate with unique test pile (see 10.6) data. The first day of test pile data collection produced the most important bit of record for the season. On this day, 22 January, ice was sampled, numbers 4 and 5, which appeared to best match this record.

The samples were collected, flown directly to Anchorage by helicopter and stored in a deepfreeze until tested. Compression tests, salinity tests and crystalographic thin sections were run on each of the six samples.

10.5.4 Ice Strength Testing, 1964-65. Six large field samples were collected, and direct compression strengths were determined over a range of load rates and temperatures. Five samples (1-5) were collected in conjunction with force measurements on MGS-A, the completed structure. Previous test pile results indicated loads or forces at high load rates to be about one-half of those at low load rates. The results of the load rate -strength data show this clearly in Figure 10.12. The dotted line denotes Arctic sea ice properties as determined from slower load rates. It should be noted that the actual strength of this particular ice is much lower than average for Cook Inlet ice and the temperature effect is very slight, due to the low salinities (less than 2 parts per thousand). There were three ice growth periods during the winter, and these samples were taken on 16 and 20 February, during the third growth period. Onsite observations and impressions indicated the highest ice strengths during the first period, with the second and third periods producing increasingly weaker ice.

10.6 LATERAL ICE FORCES ON PILING

10.6.1 Field Measurements. A test pile was erected on the temporary drilling platform previously shown. Figure 10.13 shows the test pile for this project at the right side of the figure. It was a 36 inch diameter, 20 foot long cylinder supported as a simple beam. The lower hinge was a piece of 3/4 inch plate which also served to support the pile vertically. The upper end was unsupported either vertically or horizontally except by a 300,000 pound load cell and adequate rigging to prevents its being pushed over.

The second test pile shown in Figure 10.13, erected by others, is of cantilever design. It was totally collapsed by ice forces before useful data could be acquired from it. The simple beam test pile facility was destroyed when the entire platform failed and disappeared in December 1964.

Several interesting factors were observed. First, and most important, is that the largest ice forces occurred when the ice velocity was very slow or zero. The action seen in Figure 10.14, Case J, occurred with a change in velocity of from 3 or 4 miles per hour to zero. In Figure 10.14, the trace runs from left to right and from top to bottom. Starting with the upper left corner (Point C), the ice velocity is high but slowing-down by point D. This slowing resulted from the breaking away of a large chunk of the ice floe which had already passed the platform and thus ceased pulling the floe past the platform. From point E to F on the

Detailed Ice Failure I, Note the Berm of Broken Ice on Each Side of Paths.

Figure 10.9

Detailed Ice Failure II, Note the Small Size of Crushed Ice.

Figure 10.10

Detailed Ice Failure III, Note the Rolling Berm of Broken Ice.

Figure 10.11

Strength-Load Rate Relationship, Field Sample
Cook Inlet Ice

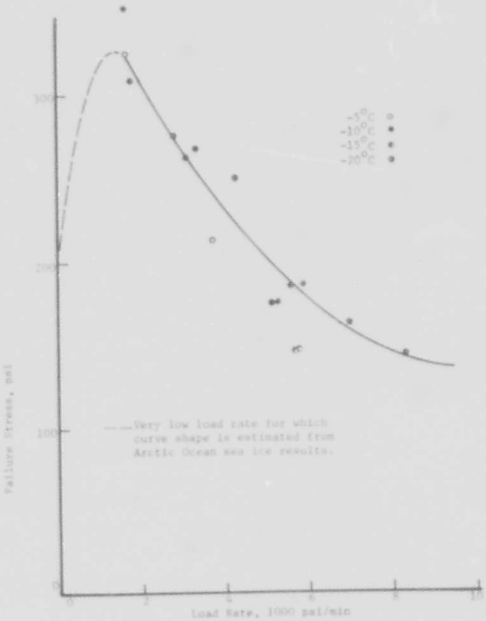


Figure 10.12

record is the slowing of the floe to a complete stop at about point F. Very little motion or ice breakage occurred between points B-A and F. This slow ratcheting failure is characteristic of all the low velocity failure experienced during the winter. This floe seemed to be uniform in thickness over its entire area.

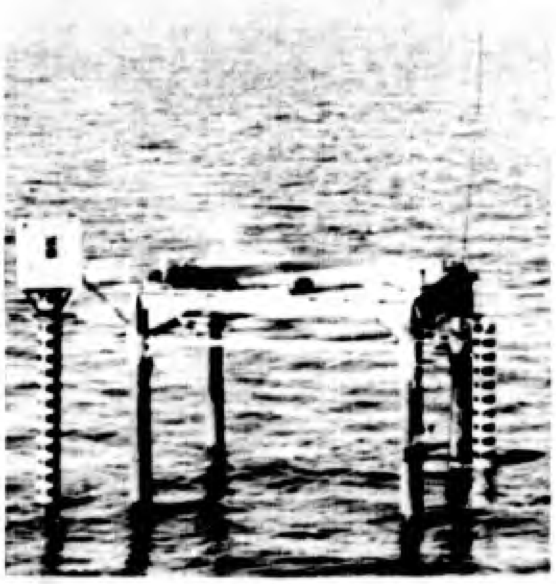
Slow, ratcheting failure was also experienced by small floes which were held against the test pile by currents which were insufficient to fail the ice. If this floe were struck by another, a substantial amount of ratcheting failure occurred until eventually, enough ice was backed upstream to provide adequate force to increase the velocity. Then the forces were reduced.

This mode of ice failure produces severest structurla loading and occurs with very small rates of loading. The actual rate of loading for this type of failure has not been measured, but it is believed that the failure occurs at velocities between virutally zero and 50 feet per minute. Normal high velocity failures may be as high as 600 feet per minute. The ratcheting failure appears to occur only at low ice temperatures and has been recorded only twice, once in early 1964 on the test pile at MGST I and once in late 1964 on MGS-A. The replotted MGS-A record is shown in Figure 10.15. Reasonably accurate values for resonant structural frequency were available for MGS-A, but not for MGST-I. The MGS-A ratcheting ice failure frequency and the resonant structural frequency are nearly identical at 1.2 cycles per second. This is very important if the mechanism is forced, poorly damped, reasonant vibration caused by an oscialatory failure of the ice which happens to occur at the same frequency as the resonant structural frequency. Laboratory studies, reported below, indicate the vibrations to be forced, but that damping is too great to allow significant amplification.

A 2:1 ratio of ratcheting induced forces to high velocity induced forces is a consistant value found in results of direct compression tests, test pile data, MGS-A data and laboratory pile loading data. The ratio is thus found both in static and dynamic situations and clearly shows this to be a load rate effect of the ice rather than resonant amplification of structural stresses.

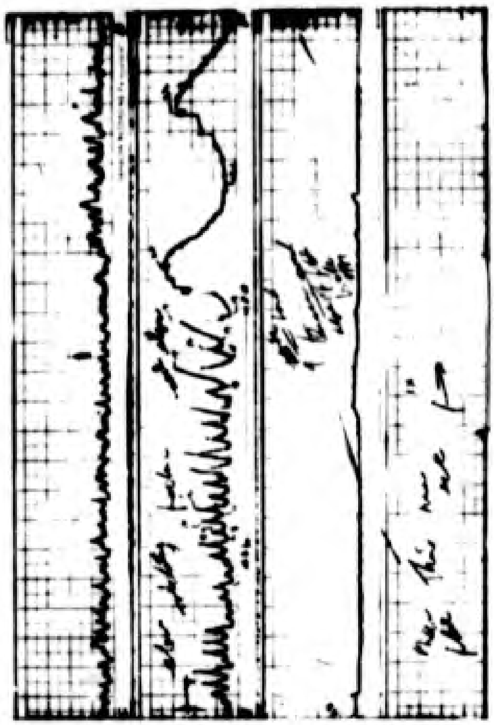
10.6.2 Oscillatory Forces.

1. Laboratory Measurements. The experimental set up is shown in Figure 10.16. The ice was frozen in place with the tank and associated equipment in a cold lab. The full ice sheet was cut into four smaller pieces which could be forced past the pile by the variable speed drive equipment. Each small "floe" was failed at a very slow velocity for half its length and then at the highest velocity which the equipment was capable of producing for the second half. The forces were determined by SR-4 strain gage measurements of the cantilevered, fixed end, one inch diameter pile. Various test sections were mounted at the top of the pile; single piles of 1/4, 1/2, 1 and 2 inch diameters and double piles of the identical diameters and variable spacing.
2. Data Evaluation. Precision measurement of the ice thickness was impractical; therefore, all forces are related to those of a one inch diameter pile at high velocity failure. This base run was



Test Pile Installation. The Test Pile used is on the Right and is a Simple Beam

Figure 10.13



Test Pile Force Records, Oscillating Force Case J.

Figure 10.14

Ratcheting Failure
MGS A, 29 December, 1964
Gage 33-A

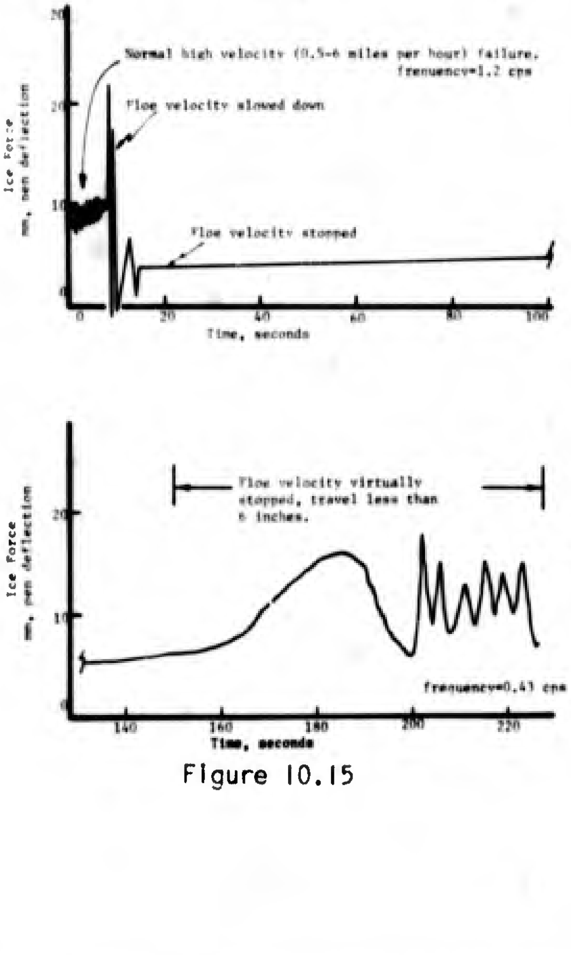


Figure 10.15

Experimental Equipment
Laboratory Pile Study

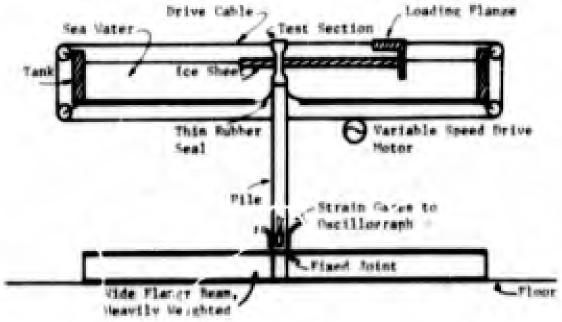


Figure 10.16

made on each new tank of ice and provided adequate references for force and stress values.

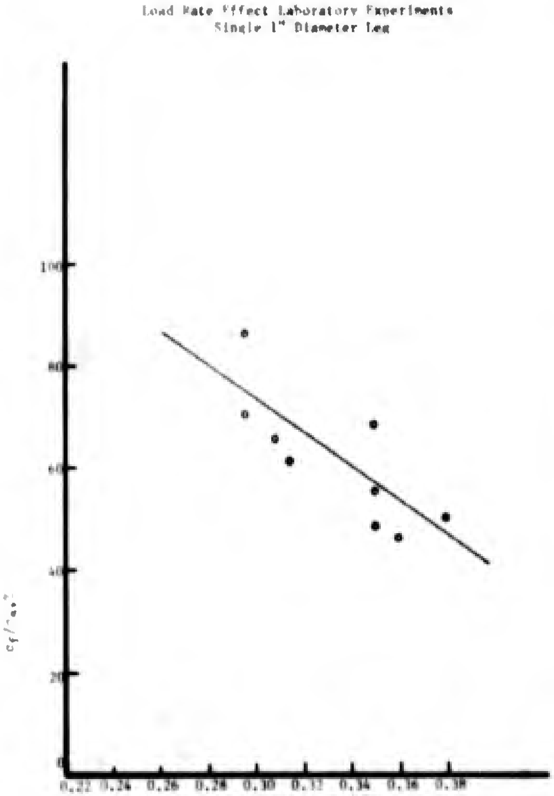
The ice was not identical from day to day; therefore, the ratio of the failure stress at high velocity to that at low velocity is more meaningful than either of the absolute values.

3. Loading Rate. The loading rate effect was clearly shown by experiments and was very similar to the effects observed on the platforms and to those of the direct compression tests in the laboratory. This feature is shown in Figure 10.17 by the decreasing ratio of the ice failure stress for high load rate (σ_f) to the failure stress for low load rate (σ_S). The 2:1 ratio of low velocity to high velocity failure was reproduced and substantiated similar results by other methods of measurement.

4. Superstructure Mass Effect. This parameter was studied by adding weights to the top of the pile test section. The results are shown in Figure 10.18. These tests were run only on the one inch diameter section only and are shown for the slow velocity failure as a failure stress ratio using the unweighted one inch test section (σ_S) as 100%. There is no appreciable effect within the range of the experiments.

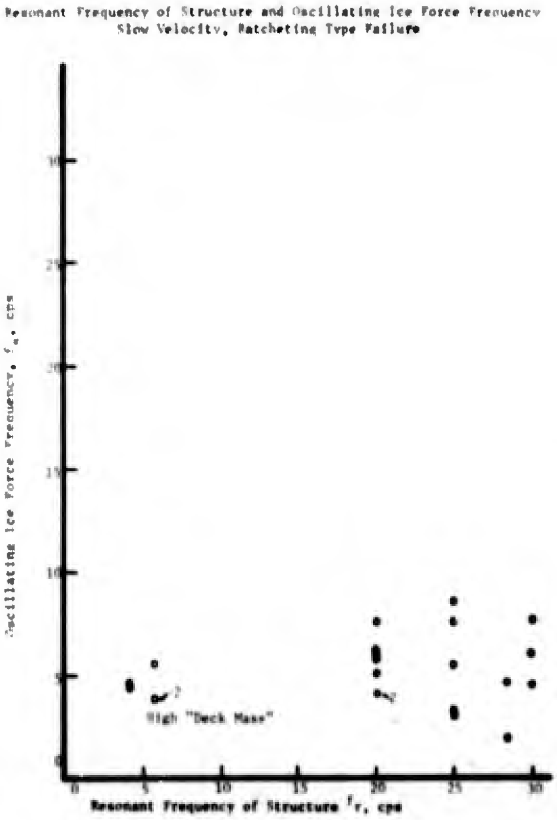
There is a slight reduction in failure stress with increased superstructure weight, but the effect is very small. The range of superstructure masses used would be equivalent to the deck weights of MGS-A which range from zero to approximately 5000 tons. Therefore, the deckmass parameter has a negligible effect on ice failure stress at the slow velocities within the scope of these tests. This result should be studied further with particular emphasis on low ice temperatures (σ_S) where ratcheting failure has been observed in the field.

5. Vibration. The results concerning oscillating ice forces and structural vibration are shown in Figure 10.19. The most severe restraint of the present design criteria is that of ratcheting ice failure which occurs frequently at very low ice velocitites. The slow speed experimental tests duplicated the ratcheting failure for all pile sizes and spacings and were easily induced. All of the data in Figure 10.19 are of the ratcheting type and it is easily seen that the frequency of this type failure is not matched to the resonant frequency of the structure but rather is a characteristic of the ice. It will be further noted that the frequency associated with the laboratory grown ice is approximately 5 cycles per second with the spread in data decreasing with increased "deck mass". It is doubtful that the decrease in data spread is due to decreasing resonant frequency per se, but rather is apparently dependent on the structural mass, structural time response, and ice failure force relationships. The difference between the experimental value of approximately 5 cps as compared with approximately 1 cps for the prototypes is most probably due to the differences in the ice. It was not possible to



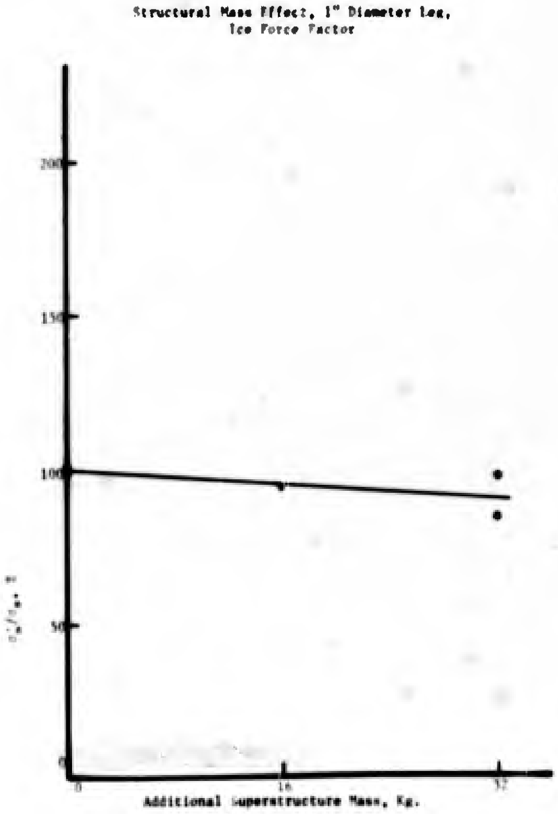
Load Rate Effect Laboratory Experiments
Single 1" Diameter Leg

Figure 10.17



Resonant Frequency of Structure and Oscillating Ice Force Frequency
Slow Velocity, Ratcheting Type Failure

Figure 10.18



Structural Mass Effect, 1" Diameter Leg,
Ice Force Factor

Figure 10.19

experiment with lower ice temperatures, but it should be expected that there is a frequency-temperature relationship due to the large changes in ice properties with varying It should be noted that earlier the ratcheting frequency was speculated to be generated by the resonant frequency of the structure; this must now be seriously questioned. The two data records from prototypes showing ratcheting failure frequencies which were nearly equal to the structural resonant frequencies could now be considered coincidence. It is of considerable importance, however, to be aware of the high probability of the ratcheting failure's matching the structural resonant frequency.

There does exist a possibility for forced, damped, resonant vibration of platforms at a time of very large ice forces. This, of course, is not a trivial matter. The degree of damping to be expected is variable between structures and is probably most dependent upon structural deflection in the water and water displacement per cycle. The extent to which damping is accurately included in the two prototype records is not known. None of the experimental data show the characteristic forced resonant vibration amplification, through the experimental device had far less damping than the prototypes. All evidence, thus far indicates the damping to be great, and the amplification due to forced vibration is insignificant. The 2:1 ratio of low to high speed failure stresses is further substantion of the validity a load rate function concept as seen in Figure 10.12.

EXHIBITS

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EXHIBIT 1.2

DATA CODE

The data shown in Exhibit 1.2.1 is a summary of values calculated from the experimental data shown in Exhibit A. This summary includes the mechanical properties of failure strength and stiffness, the test parameters of temperature and load rate, and many physical properties of the ice.

A specimen of the data is shown below. The decimal is ommitted in the data and immediately below each "word" in the specimen below is the word number.

12250	2639011	808011	531	210	10000	8230	5400	Word
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Word Number
1	0	0	2	1	4	1	0	Decimal place

Word Meaning

1 Identification number.
2 bcdeeff

b = date of collection

2	1 Nov-31 Dec
3	1 Jan-31 Apr
4	1 May-15 May
5	16 May-31 May
6	1 June-15 June
7	16 June-1 Aug
8	1 Aug-31 Oct

c = location of collection

1	100 yards of theater
2	1 mile off ACS
3	100 miles north of Barrow
4	200 miles north of Barrow
5	100-150 yards north of theater, 1961
6	300 yards north of theather

d = crystal type code

1	fine
2	medium
3	center
4	bottom
5	pack

ee - angle between sigma and zenith, 0° to 90°
ff - angle between sigam and c-axis, 0° to 90°
"11" indicates randomness

Word Meaning

3 ghhiij

g = failure type

Code	Tension meaning	Compression meaning
1	good test	no visible deformation
2	weld failure	tensile failure

3	head failure	head failure
4	no failure	plastic failure
5	not used	no information
6	"	bad test
7	"	bulge failure
8	"	explosive failure
9	"	ring around specimen

hh - age of sample at time of test, days.
TT - depth from top of ice to center of specimen, inches.
I - type of test, "1" is compression, "2" is tension

4 Chlorinity o/oo
5 Temperature -°C.
6 Modulus of Elasticity, psi × 10^5.
7 Failure Strength, psi.
8 Rate of Loading, psi/min.

```
EXHIBIT 1.1  COMPRESSION DATA. REDUCED

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0229.0 .6149045 .501121 2.64 1.00 580.0 .160000   143.00
0230.0 .6149090 .502121 2.64 1.00 140.0 .450000   79.000
0231.0 .6149000 .502121 2.64 1.00 120.0 .220000   92.000
0232.0 .6149045 .502121 2.64 1.00 33.00 .120000   47.000
0233.0 .6140090 .501601 2.58 1.00 560.0           587.00
0234.0 .6140090 .501601 2.58 1.00 870.0 1.00000   385.00
0235.0 .6149090 .501601 2.58 1.00 960.0 1.20000   429.00
0236.0 .6149000 .501601 2.58 1.00 680.0 .710000   293.00
0237.0 .6149045 .502601 2.58 1.00 675.0 .280000   103.00
0238.0 .7149090 .501501 .740 1.00 132.0 .460000   256.00
0239.0 .7149000 .501501 .740 1.00 140.0 .380000   269.00
0240.0 .7149045 .501501 .740 1.00 130.0 .160000   71.000
0244.0 .7149090 .502121 .250 1.00 480.0 .340000   166.00
0242.0 .7140090 .501501 .870 1.00 95.00           370.00
0241.0 .7140090 .501501 .870 1.00 110.0 .340000   333.00
0245.0 .7149000 .503121 .250 1.00 660.  2.00000   198.00
0246.0 .7149045 .503121 .250 1.00 960.0 .930000   158.00
0247.0 .7149090 .504121 .250 1.00 111.0 .340000   285.00
0248.0 .7149000 .504121 .250 1.00 140.0 .390000   315.00
0249.0 .7149045 .504121 .250 1.00 180.0 1.00000   111.00
0250.0 .7140090 .501081 .050 2.00 520.0           577.00
0251.0 .7140090 .502081 .050 2.00 1040.           680.00
0252.0 .7140090 .501081 .050 2.00 83.00           288.00
0253.0 .7140090 .501081 .050 2.00 560.0           499.00
0254.0 .7140090 .502081 .050 2.00 920.0           312.00
0255.0 .7140090 .501081 .050 2.00 42.00           225.00
0256.0 .7140090 .501081 .050 2.00 540.0           532.00
0257.0 .7140090 .501081 .050 2.00 1120.           600.00
0258.0 .7140090 .500081 .050 2.00 41.00           341.00
0259.0 .7140090 .502181 .050 2.00 53.00           295.00
0260.0 .7140090 .502181 .050 2.00 550.0           702.00
0261.0 .7140090 .502181 .050 2.00 1080.           620.00
0262.0 .7140090 .503181 .050 2.00 62.00           441.00
0263.0 .7140090 .503181 .050 2.00 480.0           379.00
0264.0 .7140090 .503181 .050 2.00 1020.           530.00
0265.0 .7140090 .503181 .050 2.00 48.00           371.00
0266.0 .7140090 .502181 .050 2.00 540.0           488.00
0267.0 .7140090 .502181 .050 2.00 950.0           400.00
0268.0 .7140090 .505081 .400 10.0 40.00           322.00
0269.0 .7140090 .504081 .400 10.0 330.0           453.00
0270.0 .7140090 .505081 .400 10.0 1040.           754.00
0271.0 .7140090 .505081 .400 10.0 46.00           229.00
0272.0 .7140090 .505081 .400 10.0 445.0           229.00
0273.0 .7140090 .505081 .400 10.0 1240.           698.00
0274.0 .7140090 .506081 .400 10.0 43.00           449.00
0275.0 .7140090 .505081 .400 10.0 500.0           786.00
0276.0 .7140090 .506081 .400 10.0 1200.           189.00
0277.0 .7140090 .506181 .400 10.0 35.00           496.00
0278.0 .7140090 .506181 .400 10.0 480.0           1333.0
0279.0 .7140090 .506181 .400 10.0 1060.           872.00
0280.0 .7140090 .506181 .400 10.0 51.00           496.00
0281.0 .7140090 .507181 .400 10.0 600.0           790.00
0282.0 .7140090 .507181 .400 10.0 1200.           903.00
0283.0 .7140090 .507181 .400 10.0 47.00           395.00
Y284.0 .7140090 .507181 .400 10.0 565.0           824.00
0285.0 .7140090 .507181 .400 10.0 840.0           447.00
0286.0 .7140090 .502181 .090 1.00 480.0           277.00
Y287.0 .7140090 .502181 .090 1.00 430.0           410.00
0288.0 .7140090 .503181 .090 1.00 560.0           729.00
0289.0 .7140090 .503181 .090 1.00 810.0 1.40000   587.00
0290.0 .7144590 .503181 .090 1.00 760.0 1.10000   402.00
0002.0 .2120000 .500081 3.51 12.0 250.0           377.00
0003.0 .2120000 .500081 4.74 8.00 300.0           280.00
0004.0 .2120000 .500081 5.53 10.0 270.0           270.00
0005.0 .2120000 .500081 6.47 14.0 300.0           379.00
0006.0 .2120000 .500081 5.74 14.3 85.00           428.00
0007.0 .2120000 .500081 5.49 14.0 270.0           575.00
0291.0 .7149090 .503181 .090 1.00 530.0 .430000   282.00
0292.0 .7144545 .503181 .090 1.00 650.0 .860000   290.00
0293.0 .7149000 .503181 .090 1.00 875.0 1.10000   583.00
0294.0 .7149045 .503181 .090 1.00 750.0 3.90000   206.00
0295.0 .7140090 .503181 .090 1.00 990.0 3.70000   387.00
0296.0 .7144590 .503181 .090 1.00 900.0 1.55000   545.00
0297.0 .7149090 .504181 .090 1.00 873.0 1.90000   595.00
0298.0 .7144545 .504181 .090 1.00 740.0 .780000   219.00
0299.0 .7149000 .504181 .090 1.00 740.0 2.40000   371.00
0300.0 .7149045 .505181 .090 1.00 560.0 .780000   165.00
0301.0 .7140090 .504181 .090 1.00 800.0 2.10000   974.00
0302.0 .7144590 .504181 .090 1.00 845.0 1.70000   582.00
0303.0 .7149090 .504181 .090 1.00 750.0 .800000   427.00
0304.0 .7144545 .504181 .090 1.00 520.0 .620000   177.00
0305.0 .7149000 .504181 .090 1.00 660.0 .720000   400.00
0306.0 .7149045 .504181 .130 1.00 530.0 .220000   182.00
0307.0 .7140090 .504181 .130 1.00 1930. .110000   1131.0
0308.0 .7144590 .505181 .130 1.00 1590. 1.30000   503.00
0309.0 .7149090 .505181 .130 1.00 1700. 1.20000   432.00
0310.0 .7149045 .505181 .130 1.00 1150. 3.60000   239.00
0311.0 .7140090 .505181 .130 1.00 1400. .600000   445.00
0312.0 .7149090 .505181 .130 1.00 1550. 1.30000   396.00
0313.0 .7149045 .505181 .130 1.00 1560. 3.40000   241.00
0314.0 .7140090 .505181 .130 1.00 1735. 1.50000   466.00
0315.0 .7149090 .505181 .130 1.00 1460. .660000   603.00
0316.0 .7149045 .505181 .130 1.00 930.0 .480000   178.00
0317.0 .7140090 .505181 .130 1.00 180.0 1.30000   466.00
0318.0 .7149090 .505181 .130 1.00 130.0 .450000   245.00
0319.0 .7149045 .505181 .130 1.00 103.0 .620000   91.000
0320.0 .7140090 .505181 .130 1.00 153.0 1.00000   516.00
0321.0 .7149090 .506181 .130 1.00 130.0 .580000   237.00
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EXHIBIT 1.1  COMPRESSION DATA, REDUCED

  ID    CODE 1  CODE 2 CHL  TEMP RATE  MODULUS STRENG

0009.0 .2120000 .500081 4.54 16.9 30.00          405.00
0010.0 .2120090 .500081 5.39 16.8 35.00          413.00
0011.0 .2120000 .500081 4.18 14.3 89.00          410.00
0012.0 .2120000 .500081 5.11 16.8 88.00          509.00
0014.0 .3120000 .502081 4.44 18.9 79.00          540.00
0015.0 .3120000 .502081 4.71 18.9 580.0          785.00
0017.0 .3120000 .500081 5.09 21.0 82.00          461.00
0018.0 .3120090 .500081 5.22 21.0 590.0          889.00
0020.0 .3120000 .500081 4.07 21.0 30.00          436.00
0021.0 .3120000 .500081 4.72 21.0 700.0          886.00
0023.0 .3120090 .501031 4.49 21.0 260.0          692.00
0027.0 .3120000 .501081 6.70 21.0 1230.          894.00
0030.0 .3120000 .501081 4.57 14.0 2200.          742.00
0041.0 .3120090 .500081 4.00 10.0 80.00          347.00
0042.0 .3120090 .500081 4.05 10.0 510.0          628.00
0045.0 .3120090 .500081 4.21 10.0 1320.          831.00
0046.0 .3130090 .500081 3.60 10.0 250.0          445.00
0047.0 .3130000 .500081 4.77 10.0 36.00          457.00
0050.0 .3130000 .500081 3.46 18.9 2200.          872.00
0051.0 .3130090 .500081 3.76 18.9 470.0          582.00
0057.0 .3130090 .501081 3.39 21.0 510.0          920.00
0058.0 .3130000 .501081 5.32 21.0 85.00          551.00
0059.0 .3130090 .501081 4.04 21.0 34.00          553.00
0060.0 .3140090 .500481 2.23 14.3 71.00          929.00
0061.0 .3140090 .500481 2.27 14.3 660.0          1270.0
0062.0 .3140090 .500481 3.46 14.3 93.00          1040.0
0063.0 .3140090 .500481 2.52 14.3 560.0          544.00
0064.0 .3140090 .500481 2.33 14.3 990.0          1003.0
0065.0 .3140090 .500481 2.63 14.3 91.00          1007.0
0066.0 .3140090 .500481 2.30 14.3 55.00          806.00
0071.0 .3140090 .500481 2.41 10.0 67.00          800.00
0072.0 .3140090 .500481 2.19 10.0 610.0 0        1330.0
0073.0 .3140090 .500481 1.92 10.0 48.00          578.00
0077.0 .3140090 .500601 2.72 6.00 94.00          738.00
0078.0 .3140090 .500601 2.96 6.00 600.0 0        1143.0
0079.0 .3140090 .501601 1.94 6.00                795.00
0083.0 .3149090 .500601 1.86 6.00 120.0 01.1000 329.00
0084.0 .3149000 .500601 1.86 6.00 130.0 .860000 475.00
0085.0 .3149045 .500601 1.86 6.00 82.00 .500000 105.00
0086.0 .3149090 .500601 1.99 6.00 970.0 6.60000 733.00
0087.0 .3149000 .500601 1.99 6.00 920.0 6.20000 958.00
0088.0 .3149045 .500601 1.99 6.00 660.0 1.40000 240.00
0089.0 .3140090 .500601 1.99 6.00 1000.          917.00
0097.0 .3130090 .500081 4.06 14.3 93.00          455.00
0098.0 .3130000 .500081 4.26 14.3 540.0          741.00
0099.0 .3130090 .500081 3.87 14.3 93.00          476.00
0103.0 .3130000 .501081 3.97 14.3 157.0          622.00
0104.0 .3139000 .501081      14.3 150.0 6.20000 477.00
0105.0 .3139090 .501081 4.80 14.3 134.0 1.00000 338.00
0107.0 .3139090 .501081      14.3 165.0 1.30000 514.00
0108.0 .3139000 .500081 5.28 14.3 1060.          917.00
0109.0 .3134545 .500081 5.28 14.3 800.0 1.40000 530.00
0119.0 .3229011 .500081 .100 14.3 520.0 1.90000 376.00
0110.0 .3129090 .500081 5.28 14.3 1000.          667.00
0120.0 .3220000 .500081 .070 14.3 88.00          494.00
0121.0 .3229090 .500081 .070 14.3 89.00 1.10000 416.00
0122.0 .3220000 .500081 .070 14.3 480.0          262.00
0125.0 .3249090 .501601 1.15 14.3 740.0          403.00
0126.0 .3249000 .501601 1.15 14.0 125.0          227.00
0128.0 .4120000 .500081 5.13 14.3 245.0          587.00
0131.0 .4120000 .501081 6.56 14.3 580.0          680.00
0132.0 .4129090 .501081 6.56 14.3 1030. 1.50000 756.00
0134.0 .4130000 .501081 4.89 14.3 930.0 1.80000 676.00
0136.0 .4139090 .500081 4.43 14.3 143.0 .710000 388.00
0139.0 .4130011 .502081 3.29 14.3 45.00          470.00
0149.0 .4139090 .500081 4.54 6.00 480.0          429.00
0151.0 .4139090 .500081 5.38 6.00 825.0 1.20000 375.00
0157.0 .5149090 .500601 2.49 6.00 840.0 1.00000 608.00
0159.0 .5149000 .500601 2.49 6.00 910.0 1.40000 599.00
0161.0 .5149045 .500601 2.49 6.00 870.0 2.10000 278.00
0166.0 .5140090 .500601 2.93 6.00 1060. 7.30000 1345.0
0196.0 .5120000 .500081 3.98 2.00 470.0          303.00
0197.0 .5120000 .500081 3.98 2.00 540.0 9.20000 741.00
0198.0 .5120000 .500081 3.98 2.00 680.0 1.00000 598.00
0199.0 .5120000 .500081 2.36 2.00 440.0 .230000 147.00
0200.0 .5120000 .500081 2.36 2.00 735.0 1.90000 410.00
0201.0 .5129090 .500081 2.36 2.00 295.0 .150000 116.00
0202.0 .5129090 .500081 2.36 2.00 765.0 2.00000 225.00
0203.0 .5120000 .500081 2.36 2.00 880.0 1.50000 866.00
0204.0 .5129090 .500081 2.36 2.00 550.0 .190000 168.00
0207.0 .5140090 .500601 2.90 2.00 530.0          743.00
0208.0 .5140090 .500601 2.90 2.00 980.0 1.40000 1013.0
0209.0 .5140090 .500601 2.90 2.00 520.0          738.00
0210.0 .5140090 .500601 2.90 2.00 960.0 2.60000 901.00
0211.0 .6149090 .501601 2.13 2.00 600.0          231.00
0212.0 .6149000 .501601 2.13 2.00 740.0 1.90000 469.00
0213.0 .6149045 .501601 2.13 2.00 740.0 1.90000 163.00
0214.0 .6149090 .500601 2.19 2.00 175.0 1.40000 146.00
0215.0 .6149000 .501601 2.19 2.00 120.0 .340000 118.00
0216.0 .6140045 .501601 2.19 2.00 160.0 .600000 109.00
0217.0 .6140090 .501601 1.68 2.00 184.0 4.40000 765.00
0219.0 .6149090 .501601 2.50 2.00 680.0 .650000 650.00
0220.0 .6149000 .502601 2.50 2.00 600.0 .340000 499.00
0221.0 .6149045 .502601 2.50 2.00 460.0 .190000 153.00
0222.0 .6140090 .501141 1.21 1.00 530.0          477.00
0223.0 .6140090 .501141 1.21 1.00 510.0          413.00
0224.0 .6140090 .501101 1.21 1.00 740.0 1.60000 411.00
0225.0 .6140090 .501141 1.21 1.00 1060. .760000 492.00
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  ID    CODE 1  CODE 2 CHL  TEMP RATE  MODULUS STRENG

0226.0 .6140090 .502141 1.21 1.00 184.0 1.20000 245.00
0228.0 .6149000 .501121 2.64 1.00 580.0 .690000 204.00
0229.0 .6149045 .501121 2.64 1.00 580.0 .160000 143.00
0230.0 .6149090 .502121 2.64 1.00 140.0 .450000 79.000
0231.0 .6149000 .502121 2.64 1.00 120.0 .220000 92.000
0232.0 .6149045 .502121 2.64 1.00 33.00 .120000 47.000
0233.0 .6140090 .501601 2.58 1.00 560.0          587.00
0234.0 .6140090 .501601 2.58 1.00 870.0 1.00000 385.00
0235.0 .6149090 .501601 2.58 1.00 960.0 1.20000 429.00
0236.0 .6149000 .501601 2.58 1.00 680.0 .710000 293.00
0237.0 .6149045 .502601 2.58 1.00 675.0 .280000 103.00
0238.0 .7149090 .501501 .740 1.00 132.0 .460000 256.00
0239.0 .7149000 .501501 .740 1.00 140.0 .380000 267.00
0240.0 .7149045 .501501 .740 1.00 130.0 .160000 71.000
0244.0 .7149090 .503121 .250 1.00 480.0 .540000 166.00
0242.0 .7140090 .501501 .870 1.00 95.00          370.00
0241.0 .7140090 .501501 .870 1.00 110.0 .340000 333.00
0245.0 .7149000 .503121 .250 1.00 660.0 2.00000 198.00
0246.0 .7149045 .503121 .250 1.00 940.0 .930000 158.00
0247.0 .7149090 .504121 .250 1.00 1110. .340000 285.00
0248.0 .7149000 .504121 .250 1.00 [illegible] .390000 315.00
0249.0 .7149045 .504121 .250 1.00 [illegible] 1.00000 111.00
0250.0 .7140090 .501081 .050 2.00 [illegible]          577.00
0251.0 .7140090 .502081 .050 2.00 1040.          680.00
0252.0 .7140090 .501081 .050 2.00 83.00          288.00
0253.0 .7140090 .501081 .050 2.00 560.0          499.00
0254.0 .7140090 .502081 .050 2.00 920.0          312.00
0255.0 .7140090 .501081 .050 2.00 52.00          225.00
0256.0 .7140090 .501081 .050 2.00 540.0          532.00
0257.0 .7140090 .501081 .050 2.00 1120.          600.00
0258.0 .7140090 .500081 .050 2.00 41.00          341.00
0259.0 .7140090 .502181 .050 2.00 53.00          295.00
0260.0 .7140090 .502181 .050 2.00 550.0          702.00
0261.0 .7140090 .502181 .050 2.00 1080.          620.00
0262.0 .7140090 .503181 .050 2.00 62.00          441.00
0263.0 .7140090 .503181 .050 2.00 480.0          379.00
0264.0 .7140090 .503181 .050 2.00 1020.          530.00
0265.0 .7140090 .503181 .050 2.00 48.00          371.00
0266.0 .7140090 .502181 .050 2.00 540.0          408.00
0267.0 .7140090 .502181 .050 2.00 950.0          400.00
0268.0 .7140090 .505081 .400 10.0 40.00          322.00
0269.0 .7140090 .504081 .400 10.0 330.0          453.00
0270.0 .7140090 .505081 .400 10.0 1040.          754.00
0271.0 .7140090 .505081 .400 10.0 46.00          229.00
0272.0 .7140090 .505081 .400 10.0 445.0          229.00
0273.0 .7140090 .505081 .400 10.0 1240.          698.00
0274.0 .7140090 .506081 .400 10.0 43.00          449.00
0275.0 .7140090 .505081 .400 10.0 500.0          786.00
0276.0 .7140090 .506081 .400 10.0 1200.          189.00
0277.0 .7140090 .506181 .400 10.0 35.00          496.00
0278.0 .7140090 .506181 .400 10.0 480.0          1333.0
0279.0 .7140090 .506181 .400 10.0 1060.          872.00
0280.0 .7140090 .506181 .400 10.0 51.00          496.00
0281.0 .7140090 .507181 .400 10.0 600.0          790.00
0282.0 .7140090 .507181 .400 10.0 1200.          803.00
0283.0 .7140090 .507181 .400 10.0 47.00          395.00
0284.0 .7140090 .507181 .400 10.0 565.0          824.00
0285.0 .7140090 .507181 .400 10.0 840.0          447.00
0286.0 .7140090 .502181 .090 1.00 480.0          277.00
0287.0 .7140090 .502181 .090 1.00 430.0          410.00
0288.0 .7140090 .503181 .090 1.00 560.0          729.00
0289.0 .7140090 .503181 .090 1.00 810.0 1.40000 587.00
0290.0 .7144590 .503181 .090 1.00 760.0 1.10000 402.00
0002.0 .2120000 .500081 3.51 12.0 250.0          377.00
0003.0 .2120000 .500081 4.74 8.00 300.0          280.00
0004.0 .2120000 .500081 5.53 10.0 270.0          270.00
0005.0 .2120000 .500081 6.47 14.0 300.0          379.00
0006.0 .2120000 .500081 5.74 14.3 85.00          428.00
0007.0 .2120000 .500081 5.49 14.0 270.0          575.00
0291.0 .7149090 .503181 .090 1.00 530.0 .430000 282.00
0292.0 .7144545 .503181 .090 1.00 650.0 .860000 290.00
0293.0 .7149000 .503181 .090 1.00 875.0 1.10000 583.00
0294.0 .7149045 .503181 .090 1.00 750.0 3.90000 206.00
0295.0 .7140090 .503181 .090 1.00 990.0 3.70000 387.00
0296.0 .7144590 .503181 .090 1.00 900.0 1.55000 545.00
0297.0 .7149090 .504181 .090 1.00 873.0 1.90000 595.00
0298.0 .7144545 .504181 .090 1.00 740.0 .780000 219.00
0299.0 .7149000 .504181 .090 1.00 740.0 2.40000 371.00
0300.0 .7149045 .505181 .090 1.00 560.0 [illegible] 165.00
0301.0 .7140090 .504181 .090 1.00 800.0 3.10000 874.00
0302.0 .7144590 .504181 .090 1.00 845.0 1.70000 582.00
0303.0 .7149090 .504181 .090 1.00 750.0 .800000 427.00
0304.0 .7144545 .504181 .090 1.00 520.0 .620000 177.00
0305.0 .7149000 .504181 .090 1.00 660.0 .720000 400.00
0306.0 .7149045 .504181 .130 1.00 530.0 .220000 182.00
0307.0 .7140090 .504181 .130 1.00 1930. .110000 1131.0
0308.0 .7144590 .505181 .130 1.00 1590. 1.30000 803.00
0309.0 .7149090 .505181 .130 1.00 1700. 1.20000 432.00
0310.0 .7149045 .505181 .130 1.00 1150. 3.60000 239.00
0311.0 .7140090 .505181 .130 1.00 1400. .800000 445.00
0312.0 .7149090 .505181 .130 1.00 1550. 1.30000 396.00
0313.0 .7149045 .505181 .130 1.00 1560. 3.40000 241.00
0314.0 .7140090 .505181 .130 1.00 1735. 1.50000 466.00
0315.0 .7149090 .505181 .130 1.00 1460. .860000 603.00
0316.0 .7149045 .505181 .130 1.00 930.0 .480000 178.00
Y317.0 .7140090 .505181 .130 1.00 180.0 1.30000 468.00
0318.0 .7149090 .505181 .130 1.00 130.0 .450000 245.00
Y319.0 .7149045 .505181 .130 1.00 103.0 .620000 91.000
0320.0 .7140090 .505181 .130 1.00 151.0 1.00000 516.00
0321.0 .7149090 .506181 .130 1.00 130.0 .580000 237.00
```

ID	CODE 1	CODE 2	CHL	TEMP	RATE	MODULUS	STRENG
0322.0	.7149045	.506181	.130	1.00	170.0	.230000	153.00
0323.0	.7140090	.506181	.130	1.00	99.00	.320000	260.00
0324.0	.7149090	.506181	.130	1.00	78.00	.340000	321.00
0325.0	.7149045	.506181	.130	1.00	38.00	.450000	89.000
0326.0	.7140090	.508181	.110	2.00	300.0	1.00000	437.00
0327.0	.7149090	.508181	.110	2.00	190.0	4.10000	610.00
0328.0	.7149045	.508181	.110	2.00	71.00	.900000	103.00
0329.0	.7140090	.508181	.110	2.00	190.0	1.00000	570.00
0330.0	.7149090	.508181	.110	2.00	330.0	2.40000	575.00
0331.0	.7149045	.509181	.110	2.00	139.0	1.00000	242.00
0332.0	.7140090	.509181	.110	2.00	210.0	2.50000	770.00
0333.0	.7149090	.509181	.110	2.00	150.0	1.30000	345.00
0335.0	.7140090	.509181	.110	2.00	1790.	0.98000	607.00
0336.0	.7149090	.509181	.110	2.00	1670.	1.30000	535.00
0337.0	.7149045	.509181	.110	2.00	1150.	.870000	220.00
0338.0	.7140090	.509181	.110	2.00	3000.	2.00000	1030.0
0339.0	.7149090	.509181	.110	2.00	2900.	.670000	611.00
0340.0	.7149045	.509181	.110	2.00	1140.	1.70000	250.00
0341.0	.7140090	.509181	.110	2.00			214.00
0342.0	.7149045	.509181	.110	2.00	1050.	1.20000	353.00
0343.0	.7149090	.510181	.110	2.00	3200.	2.30000	636.00
0344.0	.7149011	.510081	.040	2.00		.800000	142.00
0345.0	.7149011	.510081	.040	2.00		.450000	150.00
0346.0	.7149011	.510081	.040	2.00	870.0	.830000	181.00
0347.0	.7140090	.510081	.040	2.00	1400.	.900000	611.00
0348.0	.7140090	.510081	.040	2.00	1100.	.490000	340.00
0350.0	.7149011	.510081	.040	2.00	880.0	.840000	124.00
0351.0	.7149011	.510081	.040	2.00	685.0	.950000	86.000
0352.0	.7140090	.510081	.040	2.00	1450.	1.70000	486.00
0353.0	.7149011	.511081	.040	2.00	103.0	.290000	67.000
0354.0	.7149011	.511081	.040	2.00	89.00	.570000	57.000
0355.0	.7149011	.511081	.040	2.00	163.0	.620000	135.00
0356.0	.7140090	.511081	.040	2.00	160.0	.560000	192.00
0357.0	.7140090	.511081	.040	2.00	143.0	1.10000	255.00
0358.0	.7140090	.511081	.040	2.00	130.0	.530000	364.00
0359.0	.7149011	.511081	.030	1.00	49.00	.500000	90.000
0360.0	.7149011	.511081	.030	1.00	62.00	.560000	59.000
0361.0	.7149011	.511081	.030	1.00	119.0	.290000	55.000
0362.0	.7140090	.511081	.030	1.00	101.0	.480000	210.00
0363.0	.7140090	.511081	.030	1.00	138.0	.510000	302.00
0364.0	.7140090	.511081	.030	1.00	93.00	.270000	243.00
0365.0	.7149011	.511081	.030	1.00	1320.		177.00
0366.0	.7149011	.510081	.030	1.00	1000.	1.20000	139.00
0367.0	.7149011	.512081	.030	1.00	1070.	.620000	67.000
0368.0	.7140090	.512081	.030	1.00			468.00
0369.0	.7140090	.512081	.030	1.00	987.0	.390000	362.00
0370.0	.7140090	.512081	.030	1.00	1370.	.600000	500.00
0371.0	.7149011	.513081	.030	1.00	780.0	.270000	177.00
0372.0	.7149011	.512081	.030	1.00	970.0	.420000	158.00
0373.0	.7149011	.512081	.030	1.00	1060.	.360000	223.00
0374.0	.7140090	.512081	.030	1.00	1100.	.640000	349.00
0375.0	.7140090	.513081	.040	1.00	1450.	.220000	551.00
0376.0	.7140090	.513081	.040	1.00	1400.	.600000	395.00
0377.0	.7140090	.513081	.030	1.00	1500.	.720000	543.00
0378.0	.7140090	.513081	.030	1.00	1100.	.370000	408.00
0379.0	.7140090	.513081	.030	1.00	910.0	.300000	197.00
0380.0	.7140090	.513081	.030	1.00	1170.	.410000	431.00
0381.0	.7140090	.513081	.030	1.00	1450.	.720000	373.00
0382.0	.7140090	.514081	.030	1.00	1040.	.580000	293.00
0383.0	.7140090	.514081	.030	1.00	1520.	.720000	529.00
0384.0	.2329090	.500041	4.30	6.00	920.0	2.00000	668.00
0385.0	.2329090	.501041	3.98	6.00	1340.	1.10000	212.00
0386.0	.2329090	.501041	3.98	6.00	2000.	3.40000	275.00
0387.0	.2329090	.500041	3.98	6.00	1760.		316.00
0388.0	.2329090	.500041	4.27	6.00	1530.	2.30000	322.00
0389.0	.2329090	.500041	4.27	6.00	1055.	.810000	292.00
0390.0	.2329090	.500041	4.27	10.0	1375.	.580000	387.00
0391.0	.2329090	.500041	4.00	9.00	1470.	.970000	582.00
0392.0	.2329090	.500041	4.00	9.00	1500.	.710000	408.00
0393.0	.2329090	.500041	4.00	9.00	3900.	9.30000	947.00
0394.0	.2329090	.500041	4.00	9.00	6500.		1018.0
0395.0	.2329090	.500041	4.00	9.00	6200.		1105.0
0396.0	.2329090	.500041	4.00	9.00	5600.	3.10000	1033.0
0397.0	.2329090	.500041	4.00	9.00	3000.	4.60000	603.00
0398.0	.2329090	.500041	4.00	9.00	3850.	5.50000	820.00
0399.0	.2329090	.500041	4.00	9.00	6500.	5.50000	1033.0
0400.0	.2329090	.500041	3.45	9.00	1570.	3.40000	460.00
0401.0	.2329090	.500041	3.45	9.00	4150.	9.30000	932.00
0402.0	.2329090	.500041	4.07	9.00	7400.	3.20000	818.00
0403.0	.2329090	.500041	4.07	9.00	1900.	2.00000	665.00
0404.0	.2329090	.500041	4.09	9.00	4000.		603.00
0405.0	.2329090	.500041	4.09	9.00	5300.	4.20000	694.00
0406.0	.2324545	.500061	4.38	9.00	1700.	3.10000	420.00
0407.0	.2324545	.500061	4.38	9.00	1800.	6.70000	549.00
0408.0	.2324545	.500061	4.39	9.00	1620.	6.30000	468.00
0409.0	.2324545	.500061	4.39	9.00	1630.	3.10000	545.00
0410.0	.2324545	.500061	4.01	9.00	1000.		499.00
0411.0	.2324545	.500061	4.01	9.00	1000.		504.00
0412.0	.2324545	.500061	3.80	9.00	1000.		516.00
0413.0	.2324545	.500061	4.01	9.00	970.0		513.00
0414.0	.2320000	.500061	3.25	9.00	1000.		611.00
0415.0	.2320000	.500061	3.25	9.00	1130.		740.00
0416.0	.2320000	.500061	3.25	9.00	1200.		736.00
0417.0	.2320000	.500061	3.25	9.00	1100.		643.00
0420.0	.2329090	.500041	5.60	14.3	1700.	2.00000	370.00
0421.0	.2329090	.500041	5.60	14.3	1600.	1.40000	913.00
0422.0	.2329090	.500041	5.60	14.3	1500.	1.60000	559.00
0424.0	.2329090	.500041	5.25	14.3	1600.	1.10000	269.00
0425.0	.2329090	.500041	5.25	14.3	1400.	1.10000	412.00
0426.0	.2329090	.500041	5.25	14.3	1310.	1.30000	455.00

ID	CODE 1	CODE 2	CHL	TEMP	RATE	MODULUS	STRENG
0428.0	.2329090	.500041	6.58	14.3	153.0	.970000	273.00
0429.0	.2329090	.500041	6.58	14.3	264.0	.900000	236.00
0430.0	.2329090	.500041	6.58	14.3	153.0	.710000	193.00
0431.0	.2329090	.500041	6.58	14.3	134.0	.590000	226.00
0432.0	.2329090	.500041	6.06	14.3	337.0	1.80000	350.00
0433.0	.2329090	.500041	6.06	14.3	345.0	1.80000	350.00
0434.0	.2329090	.500041	6.06	14.3	320.0	1.30000	197.00
0436.0	.2329090	.500041	6.06	14.3	410.0	4.20000	461.00
0437.0	.2329090	.500041	6.06	14.3	280.0	.630000	249.00
0439.0	.2329090	.500041	6.00	14.3	1400.	1.00000	367.00
0440.0	.2329090	.500041	6.00	14.3	840.0	2.20000	380.00
0441.0	.2329090	.500041	6.00	14.3	810.0	4.20000	340.00
0443.0	.2329090	.500041	6.00	14.3	980.0		370.00
0444.0	.2329090	.500041	6.00	14.3	840.0	2.20000	347.00
0445.0	.2329090	.500041	5.17	14.3	5000.		625.00
0446.0	.2329090	.500041	5.17	14.3	5100.		537.00
0447.0	.2329090	.500041	5.17	14.3	4800.	7.70000	534.00
0448.0	.2329090	.500041	5.17	14.3	6100.	9.30000	630.00
0452.0	.2324545	.500041	5.87	14.3	120.0	.220000	111.00
0453.0	.2324545	.500041	5.87	14.3	225.0	.360000	128.00
0454.0	.2324545	.500041	5.87	14.3	410.0	.180000	270.00
0457.0	.2324545	.500041	5.87	14.3	750.0	2.80000	237.00
0458.0	.2324545	.500041	5.87	14.3	5600.	3.60000	928.00
0459.0	.2324545	.500041	5.87	14.3	1540.	2.10000	323.00
0461.0	.2329090	.500061	5.77	14.3	166.0	1.80000	245.00
0462.0	.2329090	.500061	5.77	14.3	210.0	1.70000	462.00
0463.0	.2329090	.500061	5.77	14.3	196.0	1.70000	365.00
0465.0	.2329090	.500061	5.77	14.3	195.0	3.70000	476.00
0466.0	.2329090	.500081	5.77	14.3	360.0	1.70000	640.00
0467.0	.2329090	.500081	5.77	14.3	530.0	1.20000	525.00
0468.0	.2329090	.500081	4.17	14.3	360.0	3.40000	670.00
0469.0	.2329090	.500081	4.17	14.3	950.0	3.40000	555.00
0472.0	.2329090	.500081	4.17	14.3	960.0	3.40000	683.00
0476.0	.2329090	.500081	4.92	14.3	6440.		1219.0
0477.0	.2329090	.500081	4.92	14.3	6400.		1132.0
0478.0	.2324545	.500081	4.92	14.3	161.0	1.30000	325.00
0481.0	.2324545	.500081	4.92	14.3	160.0	1.20000	491.00
0483.0	.2324545	.500081	4.92	14.3	171.0	1.23000	377.00
0001.0	.2120000	.500081	5.08	12.0	270.0		351.00
0484.0	.2324545	.500081	4.84	14.3	324.0	1.20000	420.00
0485.0	.2324545	.500081	4.84	14.3	360.0	2.20000	529.00
0487.0	.2324545	.500081	4.84	14.3	5900.	4.20000	1133.0
0488.0	.2324545	.500081	4.84	14.3	6300.	1.10000	1076.0
0490.0	.2324545	.500081	4.84	14.3	6500.	4.30000	902.00
0495.0	.2339011	.500181	2.98	10.0	174.0	2.20000	252.00
0496.0	.2339011	.500181	2.98	10.0	210.0	2.80000	260.00
0497.0	.2339011	.500181	2.98	10.0	164.0	1.50000	213.00
0498.0	.2339011	.500181	2.98	10.0	170.0	1.00000	235.00
0499.0	.2339011	.500181	2.98	10.0	330.0	1.60000	289.00
0504.0	.2339011	.500181	2.70	10.0	330.0		268.00
0505.0	.2339011	.500181	2.70	10.0	490.0	9.30000	270.00
0506.0	.2339011	.500181	2.70	10.0	870.0	1.90000	375.00
0508.0	.2339011	.500181	2.70	10.0	970.0	2.50000	435.00
0509.0	.2339011	.500181	2.70	10.0	875.0	2.50000	430.00
0510.0	.2339011	.500181	2.70	10.0	3350.	1.35000	489.00
0570.0	.3349090	.500421	2.57	4.00	320.0	4.10000	589.00
0571.0	.3349090	.500421	2.57	4.00	247.0	2.20000	431.00
0572.0	.3349090	.500421	2.57	4.00	190.0	1.46000	390.00
0573.0	.3349090	.500421	2.57	4.00	230.0	1.31000	395.00
0574.0	.3349090	.500421	2.57	4.00	260.0	4.00000	351.00
0575.0	.3349090	.500421	2.57	4.00	200.0	1.50000	387.00
0576.0	.3349090	.500421	3.05	4.00	2850.	4.20000	560.00
0577.0	.3349090	.500421	3.05	4.00	2250.	2.40000	317.00
0578.0	.3349090	.500421	3.05	4.00	3050.	6.40000	700.00
0579.0	.3349090	.500421	3.05	4.00	2150.	1.10000	536.00
0580.0	.3349090	.500421	3.05	4.00	2300.	4.10000	465.00
0581.0	.3349090	.500421	3.05	4.00	2100.	2.50000	547.00
0582.0	.3349090	.500421	2.76	4.00	222.0	2.60000	380.00
0583.0	.3349090	.500421	2.76	4.00	226.0	1.10000	220.00
0584.0	.3349000	.500421	2.76	4.00	135.0	.300000	458.00
0585.0	.3349000	.500421	2.76	4.00	200.0	1.20000	450.00
0586.0	.3349000	.500421	2.76	4.00	195.0	1.00000	276.00
0587.0	.3349000	.500421	2.76	4.00	136.0	.450000	322.00
0588.0	.3349000	.500421	2.55	4.00	173.0	.700000	469.00
0589.0	.3349000	.500421	2.55	4.00	2000.	1.60000	478.00
0590.0	.3349000	.500421	2.55	4.00	1900.	1.70000	366.00
0591.0	.3349000	.500421	2.55	4.00	1600.	.620000	638.00
0592.0	.3349000	.500421	2.55	4.00	1450.	.600000	761.00
0593.0	.3349000	.500421	2.55	4.00	1510.	1.10000	756.00
0594.0	.3349045	.500421	2.24	4.00	1300.	1.00000	132.00
0595.0	.3349045	.500421	2.24	4.00	1600.	1.60000	228.00
0596.0	.3349045	.500421	2.24	4.00	1450.	1.50000	180.00
0597.0	.3349045	.500421	2.24	4.00	1200.	1.20000	133.00
0598.0	.3349045	.500421	2.24	4.00	1600.	1.50000	171.00
0599.0	.3349045	.500421	2.24	4.00	163.0	1.30000	91.000
0600.0	.3349045	.500421	2.03	4.00	210.0	2.10000	93.000
0601.0	.3349045	.500421	2.03	4.00	196.0	.880000	78.000
0602.0	.3349045	.500421	2.03	4.00	190.0	.920000	85.000
0603.0	.3349045	.500421	2.03	4.00	180.0	.800000	78.000
0604.0	.3349045	.500421	2.03	4.00	493.0	1.80000	135.00
0605.0	.3349045	.500421	2.03	4.00	550.0	1.00000	107.00
0606.0	.3349090	.800421	2.31	4.00	2100.	3.20000	630.00
0607.0	.3349090	.500421	2.31	4.00	1950.	2.20000	395.00
0608.0	.3349090	.800421	2.31	4.00	2250.	3.80000	747.00
0609.0	.3349090	.800421	2.31	4.00	2050.	2.10000	532.00
0610.0	.3349045	.500421	2.31	4.00	520.0	1.80000	146.00
0611.0	.3349045	.500421	2.31	4.00	510.0	1.30000	108.00
0612.0	.3339090	.500041	4.21	21.0	2030.	5.30000	1169.0
0613.0	.3339090	.500041	4.21	21.0	2100.	3.60000	968.00
0614.0	.3339090	.500041	4.21	21.0	2100.		1026.0

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  ID     CODE 1    CODE 2 CHL   TEMP RATE   MODULUS STRENG

0616.0 .3329090 .500041 4.21 21.0 2180. 3.60000 1119.0
0620.0 .3329090 .500041 5.23 21.0 1950. 3.00000 965.00
0622.0 .3329090 .500041 5.23 21.0 2250. 4.20000 1213.0
0624.0 .3329090 .500041 5.23 21.0 2000. 2.70000 947.00
0626.0 .3329090 .500041 3.62 21.0 640.0 2.30000 810.00
0628.0 .3329090 .500041 3.62 21.0 630.0 2.70000 773.00
0629.0 .3329090 .500041 3.62 21.0 750.0 2.30000 940.00
0630.0 .3329090 .500041 3.62 21.0 700.0 2.10000 740.00
0631.0 .3379090 .500041 5.51 21.0 693.0 3.00000 910.00
0632.0 .3329090 .500041 5.51 21.0 720.0 4.00000 750.00
0633.0 .3329090 .500041 5.51 21.0 695.0 2.90000 846.00
0634.0 .3329090 .500041 5.51 21.0 590.0 2.40000 832.00
0636.0 .3329090 .500041 4.91 21.0 264.0 2.60000 683.00
0637.0 .3329090 .500041 4.91 21.0 249.0 2.70000 618.00
0639.0 .3329090 .500041 4.91 21.0 260.0 3.40000 601.00
0640.0 .3329090 .501041 4.91 21.0 260.0 2.40000 582.00
0642.0 .3329090 .500041 3.33 21.0 260.0 2.40000 874.00
0643.0 .3329090 .500041 3.33 21.0 260.0 3.00000 633.00
0645.0 .3329090 .500041 3.33 21.0 260.0 1.90000 611.00
0647.0 .3329090 .500041 3.33 21.0 255.0 3.10000 561.00
0650.0 .3329090 .501041 3.33 21.0 235.0 1.40000 687.00
0651.0 .3329090 .500041 3.60 21.0 650.0 2.70000 663.00
0652.0 .3329090 .500041 3.60 21.0 750.0 4.70000 964.00
0653.0 .3329090 .500041 3.60 21.0 730.0 4.60000 672.00
0654.0 .3329090 .500041 3.60 21.0 730.0 3.80000 695.00
0655.0 .3329090 .500041 3.60 21.0 640.0 2.10000 503.00
0656.0 .3329090 .500041 2.51 21.0 200.0 2.60000 487.00
0657.0 .3329090 .500041 2.51 21.0 220.0 3.40000 663.00
0658.0 .3329090 .500041 2.90 21.0 230.0 3.40000 751.00
0659.0 .3319011 .500041 5.80 20.0 225.0 2.70000 529.00
0660.0 .3329090 .500021 2.90 20.0 250.0 3.10000 720.00
0661.0 .3319011 .500041 5.80 20.0 230.0 2.60000 546.00
0662.0 .3329090 .500021 3.39 21.0 235.0 2.40000 543.00
0663.0 .3319011 .500041 4.96 20.0 215.0 2.60000 550.00
0664.0 .3329090 .500021 3.39 21.0 140.0 2.90000 694.00
0665.0 .3319011 .500041 4.96 21.0 120.0 1.40000 533.00
0666.0 .3329090 .500021 2.93 21.0 130.0 4.00000 761.00
0667.0 .3319011 .500041 5.25 21.0 110.0 1.80000 529.00
0668.0 .3329090 .500021 2.93 21.0 26.00 .700000 268.00
0669.0 .3319011 .500041 5.25 20.0 15.00 1.40000 412.00
0670.0 .3329090 .501021 2.93 21.0 16.00 1.40000 0328.0
0671.0 .3319011 .501041 5.25 21.0 14.00 1.40000 412.00
0672.0 .3329090 .500021 2.53 21.0 27.00 1.20000 424.00
0673.0 .3319011 .500041 4.95 21.0 28.00 1.30000 477.00
0674.0 .3329090 .501021 2.53 21.0 29.00 2.70000 618.00
0675.0 .3329090 .500021 2.53 21.0 2100. 3.30000 1195.0
0676.0 .3319011 .500041 5.10 21.0 1900. 3.20000 910.00
0677.0 .3329090 .500021 2.53 21.0 2200. 4.20000 1220.0
0678.0 .3319011 .500041 5.10 21.0 1900. 3.30000 895.00
0679.0 .3329090 .500021 2.53 21.0 2050. 4.00000 1463.0
0681.0 .3324545 .500031 3.82 21.0 29.00 1.00000 295.00
0682.0 .3324545 .500031 3.82 20.0 158.0 1.20000 453.00
0683.0 .3324545 .500031 3.82 20.0 1800. 3.60000 824.00
0684.0 .3324545 .501031 3.82 20.0 1900. 3.70000 800.00
0685.0 .3324545 .501031 3.82 14.3 1500. 2.80000 671.00
0686.0 .3320000 .500031 3.82 14.3 1900. 2.90000 835.00
0687.0 .3320000 .500031 3.82 14.3 29.00 1.50000 383.00
0688.0 .3320000 .501031 3.82 14.3 1900. 3.30000 816.00
0680.0 .3319090 .500041 5.10 21.0 1000. 3.20000 740.00
0690.0 .3329090 .500021 2.53 14.3 162.0 2.50000 581.00
0691.0 .3329090 .500021 2.53 14.3 150.0 1.00000 468.00
0693.0 .3329090 .500021 2.53 14.3 165.0 1.90000 723.00
0695.0 .3319011 .500041 5.10 14.3 160.0 1.00000 462.00
0696.0 .3329090 .500021 2.53 14.3 300.0 2.00000 450.00
0697.0 .3329090 .500021 2.53 14.3 160.0 2.00000 634.00
0698.0 .3329090 .500021 2.53 14.3 156.0 1.30000 395.00
0700.0 .3319011 .500041 5.10 14.3 150.0 1.56000 476.00
0701.0 .3319011 .500041 5.10 14.3 150.0 1.30000 460.00
0702.0 .3329090 .500021 2.53 14.3 150.0 2.00000 542.00
0703.0 .3329090 .500021 2.53 14.3 160.0 1.56000 504.00
0704.0 .3329090 .500021 2.53 14.3 125.0 2.70000 408.00
0705.0 .3329090 .500021 2.53 14.3 160.0 1.90000 480.00
0710.0 .3329090 .500021 2.53 14.3 980.0 2.40000 821.00
0711.0 .3329090 .500021 2.53 14.3 900.0 2.40000 732.00
0712.0 .3329090 .500021 2.53 14.3 980.0 2.70000 800.00
0713.0 .3329090 .500021 2.53 14.3 920.0 2.50000 645.00
0715.0 .3329090 .500021 2.53 14.3 950.0 1.80000 690.00
0716.0 .3319011 .500041 4.33 14.3 900.0 2.34000 634.00
0717.0 .3319011 .500041 4.33 14.3 970.0 3.50000 648.00
0718.0 .3319011 .500041 4.33 14.3 900.0 1.80000 641.00
0719.0 .3329090 .500021 2.64 14.3 31.00 1.80000 544.00
0721.0 .3329090 .500021 2.64 14.3 22.00 .900000 362.00
0722.0 .3329090 .500021 2.64 14.3 36.00 1.10000 305.00
0724.0 .3329090 .500021 2.64 14.3 30.00 1.00000 323.00
0726.0 .3329090 .501021 2.64 14.3 22.00 1.50000 401.00
0728.0 .3319011 .500041 3.88 14.3 24.00 1.30000 408.00
0730.0 .3319011 .500041 3.88 14.3 22.00 1.10000 405.00
0731.0 .3319011 .500041 3.88 14.3 3700. 3.00000 885.00
0732.0 .3319011 .500041 3.88 14.3 3650. 2.50000 874.00
0741.0 .3319011 .501091 4.78 14.3 210.0 2.00000 533.00
0742.0 .3319011 .501091 4.78 14.3 210.0 1.30000 540.00
0743.0 .3319011 .501151 4.78 14.3 215.0 2.15000 570.00
0744.0 .3319011 .501121 4.78 14.3 215.0 1.68000 573.00
0745.0 .3319011 .501121 4.78 14.3 23.00 1.10000 416.00
0746.0 .3319011 .501121 4.78 14.3 1000. 3.00000 691.00
0747.0 .3319011 .501121 4.78 14.3 190.0 2.40000 474.00
0748.0 .3319011 .501121 4.78 14.3 170.0 1.40000 405.00
0749.0 .3339011 .500171 4.68 14.3 930.0 2.50000 532.00
0750.0 .3339011 .500211 4.49 14.3 1000. 2.65000 662.00
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  ID     CODE 1    CODE 2 CHL   TEMP RATE   MODULUS STRENG

0751.0 .3339011 .500171 4.68 14.3 1000. 3.10000 538.00
0752.0 .3339011 .500211 4.49 14.3 1000. 2.45000 685.00
0753.0 .3339011 .500171 4.68 14.3 1100. 2.10000 482.00
0754.0 .3339011 .500211 4.49 14.3 880.0 2.30000 450.00
0755.0 .3339011 .500181 4.68 14.3 980.0 1.90000 428.00
0756.0 .3339011 .500211 4.49 14.3 990.0 2.30000 516.00
0757.0 .3339011 .500171 4.68 14.3 1000. 2.60000 499.00
0762.0 .4329090 .501021 2.53 14.3 170.0 3.20000 688.00
0763.0 .4329090 .501021 2.53 14.3 170.0 1.60000 665.00
0764.0 .4329090 .501021 2.53 14.3 155.0 1.50000 465.00
0765.0 .4329090 .501021 2.53 14.3 137.0 1.42000 472.00
0766.0 .4329090 .501021 2.52 14.3 143.0 1.45000 414.00
0767.0 .4329090 .501021 2.53 14.3 161.0 2.50000 455.00
0768.0 .4329090 .501021 2.53 14.3 160.0 1.50000 432.00
0769.0 .4329090 .502021 2.53 14.3 161.0 1.65000 450.00
0770.0 .4329090 .502021 2.53 14.3 157.0 1.90000 432.00
0771.0 .4319011 .501101 5.25 14.3 159.0 2.40000 502.00
0772.0 .4319011 .502101 5.25 14.3 160.0 2.20000 550.00
0773.0 .4319011 .502101 5.25 14.3 160.0 2.40000 482.00
0774.0 .4319011 .502101 5.25 14.3 153.0 1.60000 470.00
0775.0 .4319011 .502141 5.25 14.3 162.0 2.15000 433.00
0776.0 .4319011 .502141 5.25 14.3 158.0 2.30000 478.00
0777.0 .4319011 .502141 5.25 14.3 160.0 2.40000 511.00
0778.0 .4319011 .502141 5.25 14.3 157.0 2.30000 471.00
0779.0 .4319011 .503141 5.25 14.3 155.0 1.80000 479.00
0780.0 .4319011 .503101 5.25 14.3 157.0 1.90000 503.00
Y781.0 .4339011 .503201 4.45 14.3 152.0 1.45000 275.00
0782.0 .4339011 .503201 4.45 14.3 160.0 1.30000 317.00
0783.0 .4339011 .503201 4.45 14.3 156.0 1.40000 288.00
0784.0 .4339011 .503181 4.68 14.3 158.0 1.10000 273.00
0785.0 .4339011 .503181 4.68 14.3 158.0 1.60000 270.00
0786.0 .4339011 .503181 4.68 14.3 146.0 .740000 314.00
0787.0 .4339011 .506251 2.24 14.3 150.0 1.80000 344.00
0788.0 .4339011 .506251 2.24 14.3 146.0 2.35000 386.00
0789.0 .4339011 .506271 2.24 14.3 163.0 2.50000 408.00
0790.0 .4339011 .507271 2.24 14.3 158.0 3.80000 340.00
0791.0 .4339011 .507271 2.24 14.3 154.0 2.60000 432.00
0792.0 .4339011 .507271 2.24 14.3 153.0 1.70000 292.00
0793.0 .4329090 .507021 2.64 14.3 32.00 1.40000 330.00
0794.0 .4329090 .507021 2.64 14.3 34.00 1.60000 350.00
0795.0 .4329090 .507021 2.64 14.3 55.00 1.20000 349.00
0796.0 .4329090 .507021 2.64 14.3 66.00 1.80000 418.00
0797.0 .4329090 .507021 2.64 14.3 1200. 3.80000 821.00
0798.0 .4329090 .507021 2.64 14.3 1200. 4.40000 830.00
0799.0 .4329090 .508021 2.64 14.3 52.00 1.90000 368.00
0800.0 .4319011 .508121 5.24 14.3 37.00 2.50000 413.00
0801.0 .4319011 .508121 5.24 14.3 1200.         818.00
0802.0 .4319011 .508121 5.24 14.3 47.00 3.30000 538.00
0803.0 .4319011 .508121 5.24 14.3 34.00 2.25000 434.00
0804.0 .4319011 .508121 5.24 14.3 56.00 1.70000 491.00
0805.0 .4319011 .508121 5.24 14.3 31.00 1.40000 387.00
0806.0 .4319011 .509121 5.24 14.3 1100. 4.20000 672.00
0808.0 .4339011 .509191 4.49 14.3 1060. 3.20000 583.00
0809.0 .4339011 .509191 4.49 14.3 25.00 .420000 185.00
0810.0 .4339011 .509191 4.49 14.3 1070. 1.20000 545.00
0811.0 .4339011 .509191 4.49 14.0 27.00 .770000 190.00
0812.0 .4339011 .509191 4.49 14.0 52.00 .840000 238.00
0813.0 .4339011 .510191 4.49 14.3 54.00 .720000 227.00
0814.0 .4339011 .510191 4.49 14.0 1020. 2.20000 531.00
0815.0 .5339011 .501291 2.24 10.0 160.0 1.30000 238.00
0816.0 .5339011 .501291 2.24 10.0 165.0 1.20000 247.00
0817.0 .5339011 .501291 2.24 10.0 167.0 1.10000 263.00
0818.0 .5539011 .501291 2.24 10.0 169.0 1.10000 282.00
0819.0 .5339011 .501291 2.24 10.0 170.0 1.70000 273.00
0820.0 .5339011 .501291 2.24 10.0 1100. 2.10000 485.00
0821.0 .5339011 .501291 2.24 10.0 28.00 .670000 158.00
0822.0 .5339011 .502291 2.24 10.0 1020. 2.30000 550.00
0823.0 .5339011 .502291 2.24 10.0 1040. 2.30000 622.00
0824.0 .5339011 .502291 2.24 10.0 25.00 .520000 129.00
0825.0 .5339011 .502291 2.24 10.0 29.00 .670000 183.00
0829.0 .5339011 .504321 2.25 6.00 158.0 1.00000 251.00
0830.0 .5339011 .504321 2.25 6.00 156.0 .930000 211.00
0831.0 .5339011 .504321 2.25 6.00 160.0 1.10000 268.00
0832.0 .5339011 .504321 2.25 6.00 165.0 1.00000 212.00
0833.0 .5339011 .504321 2.25 6.00 168.0 1.40000 280.00
0834.0 .5339011 .505321 2.25 2.00 139.0 .600000 164.00
0835.0 .5329011 .505321 2.25 2.00 145.0 .540000 171.00
0836.0 .5339011 .505321 2.25 2.00 142.0 .730000 184.00
0837.0 .5339011 .505361 2.25 2.00 147.0 .900000 169.00
0838.0 .5339011 .505361 2.25 2.00 157.0 1.00000 207.00
0839.0 .5339011 .506361 2.25 2.00 150.0 1.00000 201.00
0840.0 .5339011 .506361 2.25 1.00 66.00 .120000 112.00
0841.0 .5339011 .506361 2.25 1.00 77.00 .160000 99.000
0842.0 .5339011 .506361 2.25 1.00 115.0 .270000 195.00
0843.0 .5339011 .507361 2.25 1.00 137.0 .450000 256.00
0844.0 .5339011 .507361 2.25 1.00 93.00 .160000 162.00
0845.0 .5339011 .507361 2.25 1.00 10.00 .080000 87.000
0846.0 .5339011 .507361 2.25 1.00 15.00 .180000 52.000
0847.0 .5349045 .514721 2.25 1.00 96.00 .280000 75.000
0848.0 .5349045 .514721 2.25 1.00 9.300 .150000 35.000
0849.0 .5349045 .514721 2.25 1.00 710.0 .380000 145.00
0852.0 .5349000 .515721 2.25 1.00 125.0 .400000 195.00
0853.0 .5349000 .515721 2.25 1.00 970.0 .930000 271.00
0854.0 .5349000 .515721 2.25 1.00 22.00 .270000 116.00
0855.0 .5349090 .516721 2.25 1.00 105.0 .320000 207.00
0856.0 .5349090 .516721 2.25 1.00 24.00 .200000 117.00
0857.0 .5349090 .516681 2.25 1.00 380.0 .830000 411.00
0858.0 .5349090 .516681 2.25 1.00 180.0 1.00000 371.00
0859.0 .5349090 .516681 2.25 1.00 23.00 .310000 160.00
0860.0 .5349090 .516681 2.25 1.00 980.0 1.40000 479.00
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  ID      CODE 1   CODE 2 CHL  TEMP RATE  MODULUS STRENG

0861.0 .5349090 .516681 2.25 1.00 150.0 .600000 319.00
0862.0 .5349090 .518681 2.25 1.00 25.00 .440000 185.00
0863.0 .5349090 .518681 2.25 1.00 770.0 .900000 414.00
0864.0 .5349000 .518681 2.25 1.00 152.0 .740000 421.00
0865.0 .5349000 .518681 2.25 1.00 24.00 .440000 254.00
0866.0 .5349000 .518681 2.25 1.00 970.0 1.25000 488.00
0867.0 .5349000 .518631 2.25 1.00 153.0 .700000 327.00
0868.0 .5349000 .518631 2.25 1.00 21.00 .270000 196.00
0869.0 .5349000 .519631 2.25 1.00 80.00 .610000 445.00
0878.0 .5349000 .522581 2.25 2.00 168.0 1.28000 583.00
0879.0 .5349000 .522581 2.25 2.00 165.0 .950000 364.00
0881.0 .5349090 .522581 2.25 2.00 164.0 1.03000 384.00
0882.0 .5349090 .522581 2.25 2.00 163.0 .930000 297.00
0883.0 .5349045 .523581 2.25 2.00 113.0 .330000 102.00
0884.0 .5349045 .523581 2.25 2.00 120.0 .450000 113.00
0885.0 .5349000 .523531 2.25 2.00 155.0 .690000 330.00
0886.0 .5349090 .523531 2.25 2.00 165.0 1.00000 321.00
0887.0 .5349045 .525581 2.25 6.00 117.0 .350000 136.00
0888.0 .5349090 .525531 2.25 6.00 170.0 .930000 314.00
0889.0 .5349090 .525531 2.25 6.00 29.00 1.10000 299.00
0890.0 .5349090 .525531 2.25 6.00 1900. 1.60000 479.00
0891.0 .5349090 .525531 2.25 6.00 170.0 1.09000 559.00
0892.0 .5349000 .525531 2.25 6.00 152.0 .680000 466.00
0893.0 .5349000 .525531 2.25 6.00 22.00 .340000 313.00
0894.0 .5349000 .525531 2.25 6.00 950.0 1.65000 560.00
0895.0 .5349000 .525531 2.25 6.00 151.0 .630000 500.00
0896.0 .5349000 .526531 2.25 6.00 26.00 .940000 285.00
0897.0 .5349000 .526451 2.25 6.00 1000. 1.60000 601.00
0898.0 .5349000 .526451 2.25 6.00 151.0 .980000 400.00
0899.0 .5349090 .526481 2.25 6.00 154.0 .900000 344.00
0900.0 .5349090 .526481 2.25 6.00 27.00 .680000 231.00
0901.0 .5349000 .526481 2.25 6.00 980.0 1.30000 541.00
0903.0 .5349045 .527431 2.25 6.00 120.0 .500000 131.00
0904.0 .5349045 .527431 2.25 6.00 20.00 .400000 76.000
0905.0 .5349045 .527431 2.25 6.00 930.0 1.10000 291.00
0906.0 .5349045 .527431 2.25 6.00 15.00 .300000 62.000
0907.0 .5349045 .527431 2.25 6.00 990.0 .500000 271.00
0960.0 .8449000 .544141 .230 10.0 170.0 .940000 205.00
0962.0 .8449000 .547121 .230 10.0 38.00 .800000 279.40
0968.0 .8449000 .551121 .230 10.0 51.00 .520000 366.20
0969.0 .6449090 .554121 .230 10.0 61.00 1.35000 349.70
0971.0 .8449090 .554121 .230 10.0 61.00 3.90000 349.70
0974.0 .8449000 .558091 .230 10.0 95.00 .580000 386.00
0976.0 .8449000 .560091 .230 10.0 240.0 .480000 380.00
0978.0 .8449000 .560091 .230 10.0 630.0 .950000 446.00
0981.0 .8449090 .560091 .230 10.0 350.0 1.09000 402.00
0982.0 .8449090 .561091 .230 10.0 380.0 1.21000 523.00
0983.0 .8449090 .561091 .230 10.0 770.0 1.40000 833.00
0991.0 .8449090 .562061 .230 10.0 52.00 .725000 277.00
0993.0 .8449090 .562061 .230 10.0 61.00 1.40000 388.00
0995.0 .8449000 .554061 .230 10.0 775.0 1.10000 596.00
0997.0 .8449000 .564061 .230 10.0 39.00 .100000 451.00
1000.0 .8449000 .564061 .230 10.0 13.00 .030000 217.00
1003.0 .8449000 .564201 .210 10.0 50.00 .450000 401.00
1004.0 .3449000 .565201 .210 10.0 34.00 .440000 285.00
1005.0 .8449000 .565201 .210 10.0 880.0 1.18000 781.00
1006.0 .8449000 .565201 .210 10.0 1000. 2.35000 1189.0
1008.0 .8449090 .565201 .210 10.0 1100. 3.70000 1218.0
1011.0 .8449090 .565201 .210 10.0 1100. 6.20000 1130.0
1012.0 .8449090 .565201 .210 10.0 59.00 6.60000 652.00
1014.0 .8449090 .565201 .210 10.0 71.00 3.50000 495.00
1016.0 .8449045 .566201 .210 10.0 44.00 .480000 88.000
1018.0 .8449045 .566201 .210 10.0 130.0 .800000 157.00
1020.0 .8449045 .566201 .210 10.0 280.0 1.13000 207.00
1022.0 .8449045 .566201 .230 10.0 700.0 .610000 223.00
1027.0 .8449000 .567251 .270 10.0 11.00 .300000 372.00
1028.0 .8449000 .567251 .270 10.0 180.0 1.60000 427.00
1029.1 .8449090 .867251 .270 10.0 3950. 4.00000 990.00
1030.0 .8449090 .568251 .270 10.0 12.00         475.00
1031.0 .8449090 .569251 .270 10.0 4600. 4.00000 1490.0
1032.0 .8449045 .569251 .270 10.0 13.00 .300000 63.000
1033.0 .8449045 .569251 .270 10.0 3200. 1.95000 533.00
1034.0 .8449090 .569251 .270 10.0 419.0 2.75000 707.00
1037.0 .8449090 .571251 .270 1.00 27.00 2.60000 247.00
1038.0 .8449090 .571251 .270 1.00 575.0 2.40000 605.00
1039.0 .8449090 .572251 .270 1.00 3800. 4.80000 989.00
1041.0 .8449070 .572251 .270 1.00 64.00 3.00000 343.00
1043.0 .8449000 .572281 .190 1.00 41.00 1.90000 321.00
1044.0 .8449000 .572281 .190 1.00 620.0 2.00000 592.00
1045.0 .8449000 .873281 .190 1.00 3000. .390000 896.00
1046.0 .8449000 .573281 .190 1.00 41.00 2.20000 317.00
1047.0 .8449045 .573281 .190 1.00 35.00 .560000 85.000
1048.0 .8449045 .573281 .190 1.00 13.00 .110000 73.000
1049.0 .8449045 .574281 .190 1.00 2100. .500000 308.00
1050.0 .8449045 .574281 .190 1.00 35.00 1.00000 148.00
1051.0 .8449090 .574281 .190 1.00 760.0 3.20000 767.00
1052.0 .8449090 .574281 .190 1.00 3100. 1.60000 740.00
6053.0 .8449000 .574281 .190 1.00 510.0 .470000 618.00
1054.0 .8449000 .574281 .190 1.00 3800. 1.40000 856.00
1065.0 .8449045 .578301 .140 1.00 650.0 .610000 221.00
1066.0 .8449045 .578301 .140 1.00 1800. 1.40000 337.00
1067.0 .8449000 .578301 .140 1.00 2000. .860000 691.00
1068.0 .8449000 .578301 .140 1.00 900.0 .610000 672.00
1069.0 .8449090 .578321 .140 1.00 900.0 .600000 626.00
1070.0 .8449090 .578321 .140 1.00 3000. .880000 679.00
1073.0 .8449045 .579321 .140 1.00 42.00 .350000 92.000
1074.0 .8449045 .579321 .140 1.00 450.0 .370000 233.00
1076.0 .8449045 .579321 .140 1.00 1550. 1.05000 363.00
1077.0 .8449045 .579321 .140 1.00 3000. 2.00000 450.00
1079.0 .8449045 .580321 .140 3.00 46.00 .900000 112.00
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  10      CODE 1   CODE 2 CHL  TEMP RATE  MODULUS STRENG

1080.0 .8449045 .580321 .140 3.00 530.0 1.40000 264.00
1081.0 .8449045 .580321 .140 3.00 1700. 1.40000 432.00
1083.0 .8449045 .580221 .140 3.00 3450. 1.70000 489.00
1085.0 .8449045 .580281 .190 6.00 40.00 .550000 111.00
1086.0 .8449045 .580281 .190 6.00 47.00 1.30000 250.00
1087.0 .8449045 .580281 .190 6.00 1600. 1.85000 424.00
1088.0 .8449045 .580281 .190 6.00 3100. 1.50000 694.00
1090.0 .8449045 .581281 .190 10.0 48.00 1.10000 122.00
1091.0 .8449045 .581281 .190 10.0 500.0 1.00000 311.00
1092.0 .8449045 .581281 .190 10.0 780.0 .630000 353.00
1093.0 .8449045 .581281 .190 10.0 2500. 2.00000 529.00
1094.0 .6449045 .581281 .190 10.0                 618.00
1094.1 .6449045 .581281 .190 10.0 3400. 3.20000 626.00
1095.0 .8449090 .581321 .140 10.0 1112. 2.90000 1008.0
1096.0 .8449090 .581321 .140 10.0 1200. 3.70000 880.00
1097.0 .8449090 .581321 .140 10.0 2500. 4.10000 1075.0
1098.0 .8449090 .581321 .140 10.0 2400. 4.20000 1139.0
1099.0 .8449090 .581321 .140 10.0 4250. 5.40000 1812.0
1100.0 .8449000 .581321 .140 10.0 1300. 4.40000 926.00
1101.0 .8449000 .581321 .140 10.0 1100. 2.40000 1044.0
1102.0 .8449000 .581321 .140 10.0 2300. 2.80000 918.00
1103.0 .8449000 .581321 .140 10.0 2400. 5.00000 854.00
1104.0 .8449000 .581321 .140 10.0 5250. 3.30000 1210.0
1106.0 .8449000 .582321 .140 10.0 1200. 2.30000 1089.0
1108.0 .6449045 .593281 .190 1.00 730.0 .370000 222.00
1109.0 .8449045 .594281 .190 1.00 2000. .450000 382.00
1110.0 .6449045 .594341 .140 1.00 4500. 1.40000 512.00
1111.0 .8449045 .594341 .140 1.00 2460. .900000 411.00
1112.0 .5449045 .594341 .140 1.00 4500. 1.00000 461.00
1113.0 .8449045 .594241 .140 1.00 960.0 .570000 291.00
1114.0 .8449045 .594341 .140 1.00 2450. 1.10000 408.00
1115.0 .8449045 .594341 .140 1.00 3350. .640000 483.00
1117.0 .2519011 .501011 7.00 1.00 170.0 .180000 54.000
1118.0 .2519011 .503011 7.00 10.0 790.0 .910000 428.00
1119.0 .2519011 .503011 7.00 10.0 140.0 .480000 309.00
1120.0 .2519011 .503011 7.00 10.0 1800. 1.65000 442.00
1121.0 .2519011 .503011 7.00 10.0 2800. .900000 432.00
1122.0 .2519011 .503031 7.00 10.0 1550. 2.20000 475.00
1123.0 .2519011 .500051 6.67 10.0 1500. 1.20000 408.00
1124.0 .2519011 .500071 6.67 10.0 1150. 1.50000 378.00
1125.0 .2519011 .503011 6.67 10.0 320.0 1.20000 334.00
1126.0 .2519011 .503011 6.67 10.0 40.00 .430000 229.00
1127.0 .2639011 .501011 5.80 10.0 118.0 .290000 212.00
1128.0 .2639011 .501011 5.80 10.0 650.0 .605000 273.00
1129.0 .2639011 .501011 5.80 10.0 3150. .975000 393.00
1130.0 .2639011 .501011 5.80 10.0 4700. .380000 393.00
1131.0 .2639011 .501011 5.80 10.0 890.0 .325000 328.00
1132.0 .2639011 .501041 5.80 10.0 35.00 .340000 136.00
1133.0 .2639011 .501041 5.80 10.0 582.0 .550000 236.00
1134.0 .2639011 .501041 5.80 10.0 2600. .990000 361.00
1535.0 .2639011 .501071 4.85 10.0 35.00 .170000 147.00
1136.0 .2639011 .501071 4.85 10.0 473.0 .370000 257.00
1137.0 .2639011 .501071 4.85 10.0 1900. .580000 454.00
1138.0 .2639011 .501011 6.70 10.0 47.00 .595000 214.00
1139.0 .2639011 .501011 6.70 10.0 2000. .350000 295.00
1140.0 .2639011 .501011 6.70 10.0 5600. .820000 432.00
1141.0 .2639011 .501041 5.80 10.0 120.0 .550000 149.00
1142.0 .2639011 .501041 5.80 10.0 1050. .630000 283.00
1143.0 .2639011 .501041 5.80 10.0 170.0 .520000 158.00
1144.0 .2639011 .501071 4.85 10.0 110.0 .480000 127.00
1145.0 .2639011 .501071 4.85 10.0 1400. 1.00000 272.00
1146.0 .2639011 .501071 4.85 10.0 280.0 1.05000 206.00
1167.0 .2639011 .503041 5.30 2.00 300.0 .190000 144.00
1170.0 .2639011 .303071 4.80 2.00 555.0 .810000 168.00
1171.0 .2639011 .303071 4.80 2.00 100.0 .640000 149.00
1172.0 .2639011 .303071 4.80 2.00 3200. .910000 294.00
1173.0 .2639011 .303071 4.80 2.00 989.0 .570000 157.00
1174.0 .2639011 .303041 5.30 2.00 105.0 .370000 151.00
1176.0 .2639011 .503041 5.30 2.00 1200. .670000 153.00
1177.0 .2639011 .503041 5.30 2.00 2370. .840000 254.00
1179.0 .2639011 .504041 5.30 2.00 36.00 1.70000 99.000
1181.0 .2639011 .504041 5.30 2.00 23.00 .180000 70.000
1184.0 .2639011 .304041 5.30 2.00 1600. .760000 258.00
1185.0 .2639011 .304041 5.30 2.00 4070. 1.00000 243.00
1187.0 .2519011 .313041 5.80 2.00                 6.0000
1189.0 .2519011 .513041 5.80 2.00 10.00 .004000 6.0000
1190.0 .2519011 .513041 5.80 2.00 3200. 5.33000 225.00
1191.0 .2639011 .505041 5.30 2.00 330.0 .170000 157.00
1193.0 .2639011 .305041 5.30 2.00 87.00 .036000 70.000
1196.0 .2639011 .505011 4.85 2.00 630.0 .710000 217.00
1197.0 .2639011 .506011 4.85 2.00 680.0 1.50000 207.00
1198.0 .2639011 .506011 4.85 1.00 9.000 .008000 6.0000
1200.0 .2639011 .306041 4.85 1.00 .3100 .002000 16.000
1201.0 .2639011 .306041 4.85 1.00 1.200 .002400 7.0000
1202.0 .2639011 .506041 4.85 1.00 130.0 .040000 112.00
1203.0 .2639011 .507041 4.85 1.00 150.0 .032000 80.000
1204.0 .2639011 .507041 4.85 1.00 870.0 .053000 80.000
1207.0 .2639011 .507071 4.85 1.00 37.00 .056000 74.000
1208.0 .2639011 .507071 4.85 1.00 290.0 .087000 124.00
1209.0 .2639011 .307071 4.85 1.00 490.0 .470000 200.00
1210.0 .2639011 .307071 4.85 1.00 1700. .350000 157.00
1213.0 .2639011 .307011 4.85 1.00 40.00 .070000 70.000
1214.0 .2639011 .307011 4.85 1.00 125.0 .040000 67.000
1215.0 .2639011 .307011 4.85 1.00 150.0 .062000 42.000
1216.0 .2639011 .507011 4.85 1.00 230.0 .060000 23.000
1218.0 .2639011 .504041 3.40 20.0 820.0 1.30000 530.00
1219.0 .2639011 .804041 3.40 20.0 5300. 3.20000 905.00
1220.0 .2639011 .504041 3.40 20.0 160.0 1.30000 361.00
1222.0 .2639011 .504041 3.40 20.0 48.00 1.00000 263.00
1223.0 .2639011 .304041 3.41 21.0 290.0 1.35000 471.00
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  ID     CODE 1    CODE 2 CHL   TEMP RATE   MODULUS STRENG

1224.0  .2639011  .304041 3.41  21.0 3300.  2.10000 862.00
1225.0  .2639011  .828011 5.31  21.0 5400.  1.00000 623.00
1226.0  .2639011  .309011 5.31  21.0 2050.  1.60000 700.00
1227.0  .2639011  .509011 5.31  21.0 44.00  .450000 327.00
1229.0  .2639011  .305071 2.46  21.0 51.00  1.10000 207.00
1230.0  .2639011  .305071 2.46  21.0 2050.  2.40000 730.00
1231.0  .2639011  .805071 2.46  21.0 5400.  1.65000 1100.0
1233.0  .8449045  .399151 .210  21.0 5450.  2.70000 812.00
1234.0  .8449045  .299151 .210  21.0 2940.  2.80000 762.00
1235.0  .8449045  .379151 .210  21.0 937.0  1.80000 575.00
1236.0  .8449045  .595151 .210  21.0 32.00  .320000 260.00
1239.0  .2519011  .518041 6.66  21.0 64.00          384.00
1240.0  .2519011  .418041 6.66  20.0 150.0  .900000 480.00
1241.0  .2519011  .418041 6.66  20.0 920.0  1.70000 650.00
1242.0  .2519011  .818041 6.66  20.0 58.00  2.45000 910.00
1244.0  .2639011  .536041 3.41  1.00 2.130  .002000 40.000
1245.0  .2639011  .406041 3.41  1.00 41.00  1.20000 80.000
1246.0  .2639011  .406041 3.41  1.00 160.0  .160000 84.000
1247.0  .2639011  .307041 3.41  1.00 24.00  .093000 106.00
1248.0  .2639011  .307041 3.41  1.00 330.0  .190000 99.000
1249.0  .2639011  .307041 3.41  1.00 940.0  .100000 90.000
1250.0  .2639011  .307071 2.46  1.00 16.00  .075000 84.000
1251.0  .2639011  .307071 2.46  1.00 1300.  .290000 245.00
1252.0  .2639011  .307071 2.46  1.00 1700.  .120000 116.00
1254.0  .2639011  .308111 2.85  1.00 11.00  .330000 52.000
1255.0  .2639011  .308111 2.85  1.00 71.00  .092000 124.00
1256.0  .2639011  .308111 2.85  1.00 620.0  .500000 237.00
1257.0  .2639011  .308111 2.85  1.00 613.0  .130000 140.00
1261.0  .2639011  .320011 2.85  1.00 2100.  .930000 245.00
1266.0  .2519011  .324041 6.66  5.00 52.00  .800000 161.00
1267.0  .2519011  .324041 6.66  5.00 115.0  .380000 188.00
1268.0  .2519011  .324041 6.66  5.00 560.0  .200000 204.00
1270.0  .2519011  .124071 6.66  5.00 39.00  .200000 220.00
1271.0  .2519011  .324071 6.66  5.00 540.0  .450000 304.00
1272.0  .2519011  .324071 6.66  5.00 3400.  .250000 291.00
1273.0  .2519011  .124011 6.66  5.00 44.00  .500000 168.00
1274.0  .2519011  .524011 6.66  5.00 787.0  1.10000 270.00
1275.0  .2519011  .824011 6.66  5.00 3510.  1.20000 236.00
1276.0  .2639011  .102011 5.26  5.00 48.00  .550000 230.00
1277.0  .2639011  .102011 5.26  5.00 120.0  .570000 238.00
1278.0  .2639011  .402011 5.26  5.00 660.0  .080000 341.00
1279.0  .2639011  .402011 5.26  5.00 2500.  1.10000 351.00
1280.0  .2639011  .302011 5.26  5.00 5600.  1.90000 706.00
1283.0  .2639011  .123041 3.59  5.00 45.00  .600000 160.00
1284.0  .2639011  .123041 3.59  5.00 140.0  .630000 202.00
1285.0  .2639011  .123041 3.59  5.00 720.0  .900000 278.00
1286.0  .2639011  .823041 3.59  5.00 5050.  1.30000 348.00
1289.0  .2639011  .103071 2.50  5.00 24.00  .170000 100.00
1290.0  .2639011  .103071 2.50  5.00 170.0  1.10000 183.00
1291.0  .2639011  .103071 2.50  5.00 830.0  1.30000 289.00
1292.0  .2639011  .803071 2.50  5.00 4300.  2.50000 351.00
1294.0  .2639011  .133041 3.59  5.00 62.00  .900000 162.00
1295.0  .2639011  .133041 3.59  5.00 18.50  1.40000 205.00
1296.0  .2639011  .333041 3.59  5.00 300.0  1.50000 255.00
1297.0  .2639011  .133041 3.59  5.00 2650.  1.80000 445.00
1299.0  .2639011  .104171 2.90  5.00 14.00  .120000 79.000
1300.0  .2639011  .304171 2.90  5.00 80.00  .330000 98.000
1301.0  .2639011  .404171 2.90  5.00 520.0  .550000 140.00
1302.0  .2639011  .804171 2.90  5.00 600.0  .024000 243.00
1304.0  .2639011  .104111 2.67  5.00 46.00  .130000 79.000
1305.0  .2639011  .104111 2.67  5.00 160.0  1.00000 150.00
1306.0  .2639011  .104111 2.67  5.00 240.0  .715000 210.00
1307.0  .2639011  .104111 2.67  5.00 640.0  1.90000 320.00
1308.0  .2639011  .404111 2.67  5.00 1700.  .550000 205.00
1309.0  .2639011  .804111 2.67  5.00 4750.  .850000 260.00
1311.0  .2639011  .104111 2.67  5.00 68.00  .800000 79.000
1312.0  .2639011  .104111 2.67  5.00 900.0  1.40000 183.00
1313.0  .2639011  .104111 2.67  5.00 2620.  2.30000 445.00
1314.0  .2639011  .804111 2.67  5.00 4000.  .280000 447.00
1316.0  .2639011  .104111 2.67  5.00 180.0  .200000 149.00
1317.0  .2639011  .304111 2.67  5.00 700.0  .720000 235.00
1318.0  .2639011  .304111 2.67  5.00 2250.  1.30000 244.00
1319.0  .2639011  .804111 2.67  5.00 6100.  1.73000 350.00
1325.0  .2639011  .101011 4.94  10.0 66.00  1.10000 346.00
1326.0  .2639011  .101011 4.94  10.0 110.0  .250000 396.00
1327.0  .2639011  .101011 4.94  10.0 275.0  .200000 392.00
1328.0  .2639011  .501011 4.94  10.0 1400.  1.10000 670.00
1329.0  .2639011  .501011 4.94  10.0 2150.  1.45000 780.00
1330.0  .2639011  .501011 4.94  10.0 5100.  1.60000 854.00
1331.0  .2639011  .501041 3.42  10.0 67.00  .840000 256.00
1332.0  .2639011  .101041 3.42  10.0 157.0  .460000 316.00
1333.0  .2639011  .101041 3.42  10.0 373.0  1.00000 335.00
1334.0  .2639011  .101041 3.42  10.0 300.0  .310000 450.00
1335.0  .2639011  .101041 3.42  10.0 1400.  .800000 564.00
1336.0  .2639011  .501041 3.42  10.0 3000.  .840000 679.00
1337.0  .2639011  .801041 3.42  10.0 5200.  1.30000 781.00
1338.0  .2639011  .501041 3.42  10.0 880.0  1.20000 479.00
1339.0  .2639011  .101071 2.37  10.0 74.00  .950000 220.00
1340.0  .2639011  .101071 2.37  10.0 185.0  1.20000 359.00
1341.0  .2639011  .101071 2.37  10.0 420.0  3.30000 299.00
1342.0  .2639011  .501071 2.37  10.0 790.0  .770000 618.00
1343.0  .2639011  .505071 2.37  10.0 1950.  .600000 496.00
1344.0  .2639011  .505071 2.37  10.0 2700.  .500000 387.00
1345.0  .2639011  .105111 3.70  10.0 53.00  .570000 261.00
1346.0  .2639011  .105111 3.70  10.0 170.0  .820000 338.00
1347.0  .2638011  .105111 3.70  10.0 290.0  .470000 394.00
1348.0  .2639011  .505111 3.70  10.0 980.0  1.10000 734.00
1349.0  .2639011  .505111 3.70  10.0 2700.  2.05000 831.00
1350.0  .2639011  .805111 3.70  10.0 5400.  1.50000 912.00
1351.0  .2639011  .106111 3.70  10.0 66.00  .830000 236.00
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  ID     CODE 1    CODE 2 CHL   TEMP RATE   MODULUS STRENG

1352.0  .2639011  .506111 3.70  40.0 170.0  1.00000 451.00
1353.0  .2639011  .106111 3.70  10.0 420.0  1.40000 459.00
1354.0  .2639011  .506111 3.70  10.0 1100.  2.70000 825.00
1355.0  .2639011  .506111 3.70  10.0 2500.  .850000 810.00
1356.0  .2639011  .806011 3.70  10.0 5150.  1.75000 952.00
1357.0  .2639011  .506111 3.70  10.0 75.00  .680000 289.00
1358.0  .2639011  .106111 3.70  10.0 120.0  .600000 320.00
1359.0  .2639011  .106111 3.70  10.0 321.0  .950000 394.00
1360.0  .2639011  .506111 3.70  10.0 540.0  .460000 559.00
1361.0  .2639011  .806111 3.70  10.0 1700.  1.90000 711.00
1362.0  .2639011  .806111 3.70  10.0 3600.  2.00000 873.00
1363.0  .2629090  .106171 3.84  10.0 78.00  .480000 338.00
1364.0  .2629090  .106171 3.84  10.0 100.0  .610000 358.00
1365.0  .2629090  .106171 3.84  10.0 170.0  1.00000 360.00
1366.0  .2629090  .106171 3.84  10.0 330.0  .700000 425.00
1367.0  .2629090  .107171 3.84  10.0 760.0  .420000 610.00
1368.0  .2629090  .806171 3.84  10.0 1400.  1.40000 663.00
1369.0  .2629090  .806171 3.84  10.0 2500.  .350000 732.00
1370.0  .2629090  .806171 3.84  10.0 4900.  .480000 837.00
1371.0  .2629090  .107171 3.84  10.0 75.00  .700000 388.00
1372.0  .2629090  .107171 3.84  10.0 124.0  .750000 423.00
1373.0  .2629090  .107171 3.84  10.0 700.0  1.60000 500.00
1374.0  .2629090  .107171 3.84  10.0 950.0  .920000 570.00
1375.0  .2629090  .507171 3.84  10.0 2500.  1.00000 700.00
1376.0  .2629090  .107171 3.84  10.0 5000.  1.70000 650.00
1377.0  .2629090  .107171 3.84  10.0 12.00  .100000 261.00
1378.0  .2629090  .107171 3.84  10.0 62.00  .250000 410.00
1379.0  .2629090  .107171 3.84  10.0 700.0  1.00000 500.00
1380.0  .2629090  .107171 3.84  10.0                640.00
1381.0  .2629090  .507171 3.84  10.0 3900.  3.30000 737.00
1382.0  .2629090  .507171 3.84  10.0 5400.  2.30000 918.00
1383.0  .2629090  .507261 2.32  10.0 80.00  .680000 340.00
1384.0  .2629090  .107261 2.32  10.0 110.0  .900000 269.00
1385.0  .2629090  .107261 2.32  10.0 190.0  .700000 359.00
1386.0  .2629090  .107261 2.32  10.0 320.0  1.30000 345.00
1387.0  .2629090  .107261 2.32  10.0 835.0  1.30000 278.00
1388.0  .2629090  .107261 2.84  10.0 1600.  7.60000 635.00
1389.0  .2629090  .507261 2.84  10.0 3400.  1.80000 635.00
1390.0  .2629090  .807261 2.84  10.0 3950.  1.60000 560.00
1391.0  .2629090  .108261 2.84  10.0 73.00  .540000 263.00
1392.0  .2629090  .108261 2.84  10.0 160.0  .600000 335.00
1393.0  .2629090  .108261 2.84  10.0 850.0  1.00000 523.00
1394.0  .2629090  .808261 2.84  10.0 5700.  1.21000 490.00
1395.0  .2629090  .108261 2.84  10.0 69.00  .580000 300.00
1396.0  .2629090  .108261 2.84  10.0 284.0  .700000 315.00
1397.0  .2629090  .108261 2.84  10.0 870.0  1.10000 540.00
1398.0  .2629090  .808261 2.84  10.0 5900.  2.80000 617.00
1422.0  .2639011  .122071 2.37  10.0 76.00  .830000 255.00
1423.0  .2639011  .522071 2.37  10.0 67.00  .440000 206.00
1424.0  .2639011  .122071 2.37  10.0 120.0  .240000 255.00
1425.0  .2639011  .122071 2.37  10.0 248.0  .600000 299.00
1426.0  .2639011  .225071 2.37  10.0 890.0  1.20000 453.00
1427.0  .2639011  .222071 2.37  10.0 1700.  1.60000 717.00
1428.0  .2639011  .522071 2.37  10.0                657.00
1429.0  .2639011  .522071 2.37  10.0                640.00
1430.0  .2639011  .526071 2.37  10.0 79.00  .920000 478.00
1431.0  .2639011  .126071 2.37  10.0 55.00  .180000 378.00
1432.0  .2639011  .523071 2.37  10.0 135.0  .580000 282.00
1433.0  .2639011  .123071 2.37  10.0 357.0  2.80000 368.00
1434.0  .2639011  .425071 2.37  10.0 990.0  1.50000 575.00
1435.0  .2639011  .425071 2.37  10.0 1700.  1.50000 651.00
1436.0  .2639011  .826071 2.37  10.0 3100.  1.30000 637.00
1437.0  .2639011  .826071 2.37  10.0 5100.  .980000 843.00
1438.0  .2639011  .126071 2.37  10.0 63.00  .480000 357.00
1439.0  .2639011  .426071 2.37  10.0 380.0  1.00000 525.00
1440.0  .2639011  .326071 2.37  10.0 860.0  .870000 710.00
1441.0  .2639011  .126071 2.37  10.0 72.00  .860000 347.00
1442.0  .2639011  .526071 2.37  10.0 286.0  .540000 450.00
1443.0  .2639011  .326071 2.37  10.0 900.0  .660000 560.00
1444.0  .2639011  .127071 2.37  10.0 84.00  .500000 400.00
1445.0  .2639011  .327071 2.37  10.0 720.0  .640000 688.00
1460.0  .2639011  .536011 4.94  21.0 63.00  1.40000 454.00
1461.0  .2639011  .536011 4.94  21.0 1100.  1.80000 911.00
1462.0  .2639011  .136011 4.94  21.0 1100.  2.20000 874.00
1463.0  .2639011  .836011 4.94  21.0 5800.  2.74000 1257.0
1466.0  .2639011  .336011 4.94  21.0 2800.  2.29000 1050.0
1471.0  .3639011  .304011 3.80  21.0 1000.  1.00000 829.00
1472.0  .3639011  .304011 3.80  21.0 1000.  2.10000 861.00
1473.0  .3639011  .104011 3.80  21.0 85.00  1.70000 490.00
1474.0  .3639011  .604011 3.80  21.0 2700.  1.90000 1071.0
1475.0  .3639011  .804011 3.80  21.0 5500.  2.40000 1130.0
1476.0  .3639011  .105011 3.80  21.0 128.0  2.20000 518.00
1477.0  .3639011  .105011 3.80  21.0 200.0  1.40000 591.00
1478.0  .3639011  .105011 3.80  21.0 410.0  1.36000 690.00
1479.0  .2639011  .140041 2.96  21.0 63.00  1.41000 320.00
1480.0  .2639011  .140041 2.96  21.0 18.00  .750000 488.00
1481.0  .2639011  .340041 2.96  21.0 990.0  1.20000 737.00
1482.0  .2639011  .340041 2.96  21.0 970.0  1.70000 696.00
1483.0  .2639011  .840041 2.96  21.0 5700.  1.80000 1070.0
1484.0  .2639011  .540041 2.96  21.0 340.0  .770000 513.00
1485.0  .2639011  .340041 3.20  21.0 2800.  1.99000 1008.0
1488.0  .3639011  .106041 3.20  21.0 68.00  .450000 328.00
1489.0  .3639011  .106041 3.20  21.0 110.0  .670000 325.00
1490.0  .3639011  .106041 3.20  21.0 180.0  1.40000 439.00
1491.0  .3639011  .106041 3.20  21.0 360.0  1.30000 530.00
1492.0  .3639011  .426041 3.20  21.0 1000.  1.25000 764.00
1493.0  .3639011  .416041 3.20  21.0 990.0  .820000 685.00
1494.0  .3639011  .506041 3.20  21.0 1900.  1.90000 810.00
1495.0  .3639011  .106041 3.20  21.0 5800.  1.90000 1062.0
1503.0  .2629090  .147171 2.68  21.0 76.00  1.20000 904.00
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  ID     CODE 1    CODE 2 CHL  TEMP RATE  MODULUS STRENG

1504.0 .2629090 .147171 2.68 21.0 235.0 1.70000 667.00
1505.0 .2629090 .547171 2.68 21.0 1100. 2.10000 949.00
1506.0 .2629090 .847171 2.68 21.0 2300. 2.20000 1028.0
1507.0 .2629090 .847171 2.68 21.0 5800. 1.80000 1163.0
1508.0 .2629090 .147171 2.68 21.0 400.0 1.70000 750.00
1514.0 .2629090 .553261 1.95 21.0 54.00 .250000 378.00
1515.0 .2629090 .553261 1.95 21.0 190.0 .920000 497.00
1516.0 .2629090 .453261 1.95 21.0 670.0 1.87000 656.00
1517.0 .2629090 .553261 1.95 21.0 2000. 1.00000 860.00
1518.0 .2629090 .553261 1.95 21.0 5800. 1.03000 1054.0
1519.0 .3639011 .118171 2.64 21.0 68.00 .780000 394.00
1520.0 .3639011 .118171 2.64 21.0 200.0 .900000 489.00
1521.0 .3639011 .118171 2.64 21.0 540.0 .590000 723.00
1522.0 .3639011 .418171 2.64 21.0 1800. .780000 910.00
1523.0 .3639011 .518171 2.64 21.0 6300. 1.19000 1132.0
1530.0 .2629090 .163171 2.68 1.00 48.00 .280000 188.00
1531.0 .2629090 .553171 2.68 1.00 24.00 .080000 127.00
1532.0 .2629090 .463171 2.68 1.00 510.0 1.28000 240.00
1533.0 .2629090 .463171 2.68 1.00 1600. .440000 350.00
1534.0 .2629090 .863171 2.68 1.00 2900. .320000 424.00
1535.0 .2629090 .363171 2.68 1.00 47.00 .270000 331.00
1536.0 .2629090 .563171 2.68 1.00 49.00 .090000 112.00
1537.0 .2629090 .563171 2.68 1.00 1400. .019000 175.00
1538.0 .2629090 .464171 2.67 1.00                 98.000
1539.0 .2629090 .565261 1.95 1.00 38.00 .038000 160.00
1540.0 .2629090 .565261 1.95 1.00 72.50 .200000 120.00
1541.0 .2629090 .564261 1.95 1.00                 97.000
1542.0 .2629090 .167171 2.68 1.00 120.0 .600000 295.00
1543.0 .2629090 .467171 2.68 1.00 880.0 .540000 460.00
1544.0 .2629090 .567171 2.68 1.00 3800. .400000 440.00
1545.0 .2629090 .567261 1.95 1.00 91.00 .150000 151.00
1546.0 .2629090 .567261 1.95 1.00 341.0 .120000 132.00
1547.0 .2629090 .868261 1.95 1.00 4400. 1.44000 465.00
1548.0 .2629090 .168261 1.95 1.00 742.0 1.60000 308.00
1549.0 .3639011 .134171 2.55 2.00 145.0 .480000 205.00
1550.0 .3639011 .134171 2.60 2.00 261.0 .250000 207.00
1551.0 .3639011 .334171 2.76 2.00 1320. .600000 163.00
1552.0 .3639011 .334171 2.50 2.00 4450. 2.40000 409.00
1553.0 .3639011 .134171 2.52 2.00 176.0 1.20000 241.00
1555.0 .3639011 .134171 2.48 2.00 300.0 .270000 228.00
1556.0 .3639011 .334171 2.48 2.00 850.0 .720000 243.00
1557.0 .3639011 .334171 2.78 2.00 2600. .440000 316.00
1558.0 .3639011 .134171 2.69 2.00 25.00 .078000 139.00
1559.0 .3639011 .134171 2.70 2.00 61.00 .530000 183.00
1560.0 .3639011 .135041 2.65 2.00 44.00 .190000 121.00
1561.0 .3639011 .135041 2.78 2.00 24.00 .240000 125.00
1562.0 .3639011 .135041 2.95 2.00 157.0 2.00000 169.00
1563.0 .3639011 .335041 2.58 2.00 34.00 .080000 161.00
1564.0 .3639011 .135041 2.60 2.00 400.0 1.10000 184.00
1565.0 .3639011 .135041 2.80 2.00 290.0 .540000 150.00
1566.0 .3639011 .135041 2.88 2.00 1250. 1.06000 199.00
1567.0 .3639011 .335041 3.08 2.00 700.0 .450000 171.00
1568.0 .3639011 .335041 3.33 2.00 3650. .230000 171.00
1569.0 .3639011 .335041 3.10 2.00 3700. .900000 220.00
1573.0 .3539011 .135011 3.60 2.00 47.00 .250000 141.00
1574.0 .3639011 .136011 3.65 2.00 176.0 .160000 90.000
1575.0 .3639011 .336011 2.85 2.00 3700. .610000 276.00
1578.0 .3639011 .101011 3.67 2.00 35.00 .290000 169.00
1579.0 .3639011 .101011 3.45 2.00 33.00 .270000 152.00
1580.0 .3639011 .101011 4.00 2.00 32.00 .210000 142.00
1581.0 .3639011 .101011 4.05 2.00 68.00 .650000 161.00
1582.0 .3639011 .101011 4.00 2.00 85.00 .820000 142.00
1583.0 .3639011 .101011 3.98 2.00 90.00 .420000 161.00
1584.0 .3639011 .101011 4.12 2.00 220.0 .140000 172.00
1585.0 .3639011 .101011 3.66 2.00 314.0 .380000 214.00
1586.0 .3639011 .101011 3.63 2.00 340.0 .550000 216.00
1587.0 .3639011 .401011 4.20 2.00 1100. .330000 268.00
1588.0 .3639011 .401011 3.95 2.00 1400. .860000 260.00
1589.0 .3639011 .401011 3.95 2.00 1200. .380000 291.00
1590.0 .3639011 .301011 4.30 2.00 2100. .240000 252.00
1591.0 .3639011 .301011 4.07 2.00 3000. .860000 190.00
1592.0 .3639011 .301011 4.26 2.00 3800. 1.20000 237.00
1594.0 .3639011 .102011 3.70 2.00 36.00 .210000 142.00
1595.0 .3639011 .102011 4.05 2.00 45.00 .640000 131.00
1596.0 .3639011 .102011 4.00 2.00 74.00 .180000 152.00
1597.0 .3639011 .503011 3.40 2.00 280.0 .340000 159.00
1598.0 .3639011 .103011 3.76 2.00 840.0 .470000 206.00
1599.0 .3639011 .303011 4.79 2.00 700.0 .040000 71.000
1600.0 .3639011 .304011 4.00 2.00 2600. .590000 117.00
1601.0 .3639011 .303011 3.65 2.00 1200. .180000 180.00
1602.0 .3639011 .303011 4.13 2.00 1400. .190000 217.00
1603.0 .3639011 .303011 4.20 2.00 1500. .590000 180.00
1604.0 .3639011 .102041 2.73 2.00 4300. .027000 113.00
1605.0 .3639011 .102041 2.55 2.00 42.00 .260000 161.00
1606.0 .3639011 .103041 2.50 2.00 124.0 .550000 131.00
1607.0 .3539011 .103041 2.59 2.00 116.0 .340000 152.00
1608.0 .3639011 .103041 2.83 2.00 330.0 .440000 204.00
1609.0 .3639011 .403041 2.57 2.00 320.0 .500000 220.00
1610.0 .3639011 .403041 2.75 2.00 900.0 .340000 240.00
1611.0 .3639011 .403041 2.50 2.00 980.0 .320000 296.00
1612.0 .3639011 .403041 2.70 2.00 2500. .630000 331.00
1613.0 .3639011 .303041 2.70 2.00 3200. .760000 349.00
1614.0 .3639011 .104041 2.49 2.00 32.00 .350000 110.00
1615.0 .3639011 .104041 2.90 2.00 28.00 .140000 150.00
1616.0 .3639011 .104041 2.78 2.00 51.00 .100000 130.00
1617.0 .3639011 .104041 2.57 2.00 150.0 .470000 105.00
1618.0 .3639011 .104041 2.61 2.00 390.0 .330000 259.00
1619.0 .3639011 .104041 2.73 2.00 250.0 .140000 192.00
1620.0 .3639011 .404041 2.50 2.00 970.0 .570000 295.00
1621.0 .3639011 .204041 2.75 2.00 720.0 .610000 280.00
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  ID     CODE 1    CODE 2 CHL  TEMP RATE  MODULUS STRENG

1622.0 .3639011 .204041 2.55 2.00 3950. .530000 424.00
1623.0 .3639011 .304041 2.56 2.00 3900. .600000 272.00
1631.0 .3639011 .105041 2.75 2.00 37.00 .140000 157.00
1632.0 .3639011 .105041 2.63 2.00 150.0 1.10000 205.00
1633.0 .3639011 .405041 2.61 2.00 540.0 .910000 285.00
1634.0 .3639011 .305041 2.70 2.00 1350. .870000 385.00
1635.0 .3639011 .405041 3.03 2.00 2400. .600000 343.00
1636.0 .3639011 .405041 2.60 2.00 2900. .750000 380.00
1637.0 .3639011 .305041 2.05 2.00 2400. .410000 417.00
1638.0 .3639011 .305041 2.86 2.00 2660. 1.69000 381.00
1639.0 .3639011 .305041 2.55 2.00 2400. .750000 430.00
1640.0 .3639011 .305041 2.23 2.00 5400. 1.07000 470.00
1641.0 .3639011 .305041 2.77 2.00 3050. 1.60000 383.00
1643.0 .3639011 .105041 2.12 2.00 520.0 .740000 262.00
1644.0 .3639011 .305041 2.50 2.00 3100. .350000 340.00
1649.0 .3640090 .107441 2.78 2.00 68.00 .420000 537.00
1650.0 .3640090 .107441 2.47 2.00 61.00 .630000 790.00
1651.0 .3640090 .107441 2.55 2.00 110.0 1.80000 756.00
1652.0 .3640090 .107441 2.40 2.00 170.0 1.30000 882.00
1653.0 .3640090 .107441 2.50 2.00 217.0 1.72000 951.00
1654.0 .3640090 .107441 2.50 2.00 220.0 1.00000 890.00
1655.0 .3640090 .308441 2.55 2.00 590.0 1.37000 1433.0
1656.0 .3640090 .108441 2.66 2.00 730.0 2.50000 1170.0
1657.0 .3640090 .108441 2.63 2.00 675.0 3.00000 1102.0
1658.0 .3640090 .808441 2.55 2.00 1900. 2.20000 1458.0
1659.0 .3640090 .808441 2.53 2.00 [illegible]240. 2.80000 1457.0
1660.0 .3640090 .808441 2.55 2.00 2400. 2.90000 1550.0
1661.0 .3640090 .808441 2.60 2.00 5900. 3.50000 1775.0
1662.0 .3640090 .808441 2.53 2.00 5800. 3.03000 1565.0
1663.0 .3640090 .808441 2.68 2.00 5600. 1.60000 989.00
1664.0 .3640090 .808441 2.48 2.00 5900. 3.80000 1797.0
1665.0 .3640090 .808441 2.60 2.00 3800. 1.54000 974.00
1666.0 .3640090 .808441 2.55 2.00 4700.         1615.0
1667.0 .3640090 .908441 2.70 2.00 2300. 2.60000 1330.0
1668.0 .3640090 .108441 2.75 2.00 280.0 2.20000 843.00
1669.0 .3640090 .108441 2.55 2.00 165.0 1.20000 761.00
1675.0 .3640090 .109441 2.75 2.00 90.00 1.20000 602.00
1677.0 .3640090 .109441 2.51 2.00 630.0 1.10000 1046.0
1678.0 .3640090 .809441 2.55 2.00 2200. 1.80000 1279.0
1685.0 .3649090 .111441 2.53 2.00                 337.00
1686.0 .3649090 .111441 2.44 2.00 197.0 3.80000 455.00
1690.0 .3649090 .311441 2.44 2.00 1600. 1.37000 505.00
1691.0 .3649090 .311441 2.32 2.00 1750. 1.90000 628.00
1692.0 .3649090 .311441 2.56 2.00 2000. 1.84000 615.00
1693.0 .3649090 .311441 2.56 2.00 1550. 1.30000 551
1706.0 .3640090 .113441 2.85 2.00 62.00 .270000 413.
1707.0 .3640090 .113441 2.37 2.00 230.0 1.32000 782.
1708.0 .3640090 .113441 2.70 2.00 4300. 1.71000 1060.
1709.0 .3640090 .813441 2.40 2.00 7000. 2.15000 849.00
1713.0 .3640090 .813441 2.55 2.00 6500. 2.50000 1456.0
1726.0 .3639011 .102041 2.07 10.0 54.00 .330000 210.00
1728.0 .3639011 .302041 2.75 10.0                 508.00
1729.0 .3639011 .302041 2.55 10.0 5500. 1.13000 653.00
1730.0 .3639011 .302041 3.90 10.0 710.0 .830000 469.00
1731.0 .3639011 .302041 4.10 10.0 660.0 .800000 383.00
1732.0 .3639011 .302041 3.70 10.0 1600. 1.56000 565.00
1733.0 .3639011 .302041 4.30 10.0 1500. .880000 432.00
1734.0 .3639011 .302041 3.15 10.0 1500. 1.20000 438.00
1735.0 .3639011 .302041 3.10 10.0 5600. 4.60000 737.00
1738.0 .3639011 .302041 4.30 10.0 810.0 .960000 362.00
1742.0 .3649090 .800441 2.80 10.0 6400. 2.10000 1700.0
1743.0 .3649090 .300441 2.70 10.0 1800. 4.70000 825.00
1744.0 .3649090 .300441 2.55 10.0 1005. 1.51000 987.00
1749.0 .3649090 .800441 2.55 10.0 6400. 2.00000 1693.0
1750.0 .3649090 .800441 1.90 10.0                 2165.0
1751.0 .3649090 .800441 1.65 10.0 3700. 1.60000 1530.0
1752.0 .3649090 .300441 2.75 10.0 680.0 2.03000 1033.0
1753.0 .3649090 .301441 3.05 10.0 100.0 1.10000 475.00
1754.0 .3649090 .301441 2.47 10.0       .220000 653.00
1755.0 .3649090 .301441 2.78 10.0 71.00 .770000 383.00
1756.0 .3649090 .101441 2.30 10.0 175.0 .610000 675.00
1757.0 .3649090 .401441 2.97 10.0 180.0 .600000 560.00
1758.0 .3649090 .301441 3.26 10.0 160.0 .440000 617.00
1759.0 .3649090 .301441 2.60 10.0 1950. 2.30000 1175.0
1760.0 .3649090 .201441 2.74 10.0 2000. 1.76000 1463.0
1761.0 .3649090 .401441 2.57 10.0 2050. 1.60000 1350.0
1767.0 .3649000 .301441 2.90 10.0 90.00 .820000 720.00
1768.0 .3649000 .301441 3.42 10.0 55.00 .240000 1910.0
1769.0 .3649000 .501441 2.50 10.0 4600.         1565.0
1770.0 .3649000 .901441 2.80 10.0 190.0 1.30000 1065.0
1771.0 .3649000 .301441 2.82 10.0 180.0 .770000 1027.0
1772.0 .3649000 .301441 3.05 10.0 180.0 1.00000 816.00
1773.0 .3649000 .301441 2.65 10.0 540.0 .830000 890.00
1774.0 .3649000 .301441 3.12 10.0 610.0         1363.0
1775.0 .3649000 .201441 2.67 10.0 610.0 2.10000 855.00
1776.0 .3649000 .301441 2.92 10.0 1700. 1.75000 1284.0
1777.0 .3649000 .301441 3.30 10.0 1600. .680000 1285.0
1778.0 .3649000 .301441 2.85 10.0 1350. .780000 1029.0
0779.0 .3649000 .801441 2.80 10.0 5400. 1.72000 1334.0
1780.0 .3649000 .801441 2.81 10.0 6000. 2.63000 2177.0
1781.0 .3649000 .801441 2.80 10.0 6500. 1.54000 1972.0
1786.0 .3649000 .300441 3.78 10.0 65.00 1.50000 1118.0
1788.0 .3649045 .301441 4.80 10.0 21.00 .050000 109.00
0789.0 .3649045 .101441 3.80 10.0 63.00 .370000 97.000
1790.0 .3649045 .101441 3.04 10.0 100.0 .900000 110.00
1791.0 .3649045 .101441 1.96 10.0 90.00 .170000 133.00
1792.0 .3649045 .101441 2.22 10.0 140.0 1.13000 139.00
1793.0 .3649045 .101441 2.80 10.0 400.0 .910000 230.00
1794.0 .3649045 .501441 2.72 10.0 300.0 .800000 228.00
1795.0 .3649045 .101441 3.52 10.0 380.0 1.40000 232.00
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  ID     CODE 1   CODE 2 CHL  TEMP RATE  MODULUS STRENG
1796.0 .3649045 .201441 2.73 10.0 1400. 1.42000 350.00
1797.0 .3649045 .201441 2.86 10.0 1120. .750000 340.00
1798.0 .3649045 .301441 3.02 10.0 1300. .600000 417.00
1799.0 .3649045 .201441 2.40 10.0 4400. 1.82000 598.00
1800.0 .3649045 .501441 4.56 10.0 4200. 1.60000 614.00
1801.0 .3649045 .201441 3.55 10.0 4000. 1.20000 543.00
1803.0 .3640090 .102441 2.64 10.0 110.0 1.56000 1098.0
1804.0 .3640090 .302441 3.44 10.0 108.0 1.37000 915.00
1805.0 .3640090 .302441 3.04 10.0 98.00 .840000 1191.0
1806.0 .3640090 .302441 2.15 10.0 240.0 .950000 1221.0
1807.0 .3640090 .302441 3.14 10.0 240.0 .900000 920.00
1809.0 .3640090 .102441 3.66 10.0 630.0 1.40000 1604.0
1810.0 .3640090 .302441 3.21 10.0 666.0 1.24000 1627.0
1811.0 .3640090 .302441 3.61 10.0 650.0 1.20000 1355.0
1812.0 .3640090 .802441 3.50 10.0 2700. 2.10000 2008.0
1813.0 .3640090 .202441 2.35 10.0 2500. 2.04000 1999.0
1814.0 .3640090 .802441      10.0 2300. 1.23000 1635.0
1815.0 .3640090 .802441 3.25 10.0               1855.0
1816.0 .3640090 .802441 3.25 10.0 7000. 1.81000 2235.0
1617.0 .3640090 .802441 3.25 10.0 6900. 4.60000 2610.0
1823.1 .3649045 .102441 3.25 5.00 30.00 .140000 46.000
1828.0 .3649045 .102441 3.63 5.00 36.00 .180000 79.000
1829.0 .3649045 .102441 3.65 5.00 73.00 .600000 82.000
1830.0 .3649045 .102441 4.19 5.00 280.0 .610000 164.00
1831.0 .3649045 .302441 4.27 5.00 300.0 .580000 180.00
1833.0 .3649045 .202441 2.95 5.00 2600. .820000 440.00
1835.0 .3649045 .102441 3.02 5.00 4400. 1.10000 609.00
1841.0 .3649090 .402441 3.30 5.00 97.00 .890000 432.00
1842.0 .3649090 .102441 2.66 5.00 65.00 1.00000 329.00
1843.0 .3649090 .202441 2.29 5.00 480.0 1.08000 564.00
1844.0 .3649090 .302441 2.95 5.00 680.0 2.70000 700.00
1845.0 .3649090 .302441 2.80 5.00 460.0 .450000 565.00
1846.0 .3649090 .302441 3.10 5.00 76.00 .500000 356.00
1847.0 .3649090 .202441 2.35 5.00 1800. 1.40000 900.00
1848.0 .3649090 .202441 2.46 5.00 1650. 1.50000 802.00
1849.0 .3649090 .302441 2.58 5.00               816.00
1851.0 .3649090 .202441 2.83 5.00 5400. 1.20000 460.00
1852.0 .3649090 .202441 2.97 5.00 4800. 1.58000 1027.0
1855.0 .3649000 .102441 2.28 5.00 95.00 .480000 576.00
1856.0 .3649000 .302441 2.66 5.00 95.00 1.00000 657.00
1857.0 .3649000 .302441 2.35 5.00 100.0 1.20000 642.00
1858.0 .3649000 .302441 2.65 5.00 570.0 1.60000 900.00
1859.0 .3649000 .302441 1.88 5.00 570.0 1.40000 782.00
1860.0 .3649000 .302441 3.41 5.00 700.0 2.30000 1144.0
1861.0 .3640090 .802441 3.25 5.00 6500. 3.30000 1790.0
1862.0 .3640090 .802441 3.25 5.00 6500. 3.00000 1989.0
1863.0 .3640090 .802441 3.25 5.00 7500. 2.60000 2042.0
1867.0 .3640090 .302441 3.25 5.00 660.0 1.68000 1363.0
1868.0 .3640090 .302441 2.75 5.00 1000. 2.20000 1400.0
1869.0 .3640090 .302441 3.17 5.00 680.0 1.76000 1222.0
1877.0 .3649045 .107441 2.90 5.00 56.00 .170000 78.000
1879.0 .3649045 .507441 3.48 5.00 110.0 .260000 119.00
1880.0 .3649045 .107441 3.00 5.00 114.0 .500000 120.00
1881.0 .3649045 .107441 2.83 5.00 27.00 .800000 168.00
1882.0 .3649045 .307441 2.90 5.00 1000. 1.11000 331.00
1883.0 .3649045 .307441 2.68 5.00 975.0 1.20000 290.00
1884.0 .3649045 .308441 2.60 5.00 750.0 1.30000 323.00
1885.0 .3649045 .308441 2.60 5.00 3000. 1.19000 431.00
1886.0 .3649045 .308441 3.00 5.00 3300. 2.27000 413.00
1887.0 .3649045 .308441 2.60 5.00 2600. .710000 421.00
1888.0 .3649045 .308441 2.85 5.00 3660. 1.40000 460.00
1894.0 .3649000 .308441 2.60 5.00 130.0 .350000 793.00
1895.0 .3649000 .308441 2.98 5.00 245.0 .960000 839.00
1896.0 .3649000 .308441 2.80 5.00 220.0 1.30000 900.00
1897.0 .3649000 .308441 3.25 5.00 1800. 1.23000 1014.0
1898.0 .3649000 .308441 3.25 5.00 2000. 2.64000 961.00
1899.0 .3649000 .308441 3.03 5.00 1400. .136000 702.00
1900.0 .3649000 .808441 3.31 5.00 3700. 1.70000 1100.0
1901.0 .3649000 .808441 3.00 5.00 3900. 1.32000 1383.0
1902.0 .3649000 .808441 3.00 5.00 3800. 2.66000 1363.0
1903.0 .3649000 .308441 2.80 5.00 3100. 3.50000 735.00
1904.0 .3649000 .308441 2.75 5.00 5400. 2.50000 1283.0
1905.0 .3649090 .808441 3.00 5.00 .0000 6.40000 1403.0
1908.0 .3649090 .109441 2.90 5.00 200.0 1.10000 360.00
1909.0 .3649090 .109441 3.03 5.00 180.0 .990000 425.00
1910.0 .3649090 .109441 3.05 5.00 170.0 .880000 351.00
1911.0 .3649090 .309441 3.05 5.00 1500. 1.50000 715.00
1912.0 .3649090 .309441 3.15 5.00 3250. 1.39000 900.00
1913.0 .3649090 .309441 3.13 5.00 3800. 1.86000 738.00
1914.0 .3649090 .309441 2.88 5.00 4100. 1.85000 1132.0
1915.0 .3649090 .209441 3.10 5.00 5100. 1.27000 1050.0
1924.0 .3640090 .311441 2.48 5.00 265.0 4.90000 1309.0
1925.0 .3640090 .311441 2.55 5.00 110.0 .860000 1181.0
1926.0 .3640090 .111441 2.80 5.00 235.0 2.04000 860.00
1927.0 .3640090 .311441 3.14 5.00 280.0 .140000 932.00
1928.0 .3640090 .311441 3.13 5.00 750.0 2.60000 1463.0
1929.0 .3640090 .311441 3.00 5.00 720.0 1.47000 1225.0
1930.0 .3640090 .311441 3.00 5.00 1277. .870000 1260.0
1931.0 .3640090 .211441 2.85 5.00 1800. 2.52000 1579.0
1932.0 .3640090 .311441 2.85 5.00 1950. 2.33000 1490.0
1933.0 .3640090 .811441 3.00 5.00 4450. 4.43000 1461.0
1934.0 .3640090 .811441 3.00 5.00 4400. 4.34000 1988.0
1961.0 .3649000 .118441 2.42 2.00 120.0 .970000 481.00
1962.0 .3649000 .318441 2.80 2.00 85.00 .350000 432.00
1963.0 .3649000 .318441 3.30 2.00 120.0 1.13000 475.00
1964.0 .3649000 .318441 2.85 2.00 160.0 .910000 494.00
1965.0 .3649000 .318441 2.70 2.00 170.0 1.10000 630.00
1967.0 .3649000 .519441 2.63 2.00 1500. 1.62000 975.00
1968.0 .3649000 .319441 2.58 2.00 410.0 .360000 677.00
1969.0 .3649000 .519441 2.90 2.00 540.0 .490000 981.00
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  ID     CODE 1   CODE 2 CHL  TEMP RATE  MODULUS STRENG
1970.0 .3649000 .319441 2.50 2.00 1900. 2.99000 808.00
1971.0 .3649000 .319441 2.26 2.00 1900. 2.16000 922.00
1972.0 .3649000 .319441 2.90 2.00 1800. 2.30000 1163.0
1973.0 .3649000 .819441 2.80 2.00 3850. 2.23000 989.00
1974.0 .3649000 .319441 2.95 2.00 2700. 1.93000 1011.0
1975.0 .3649000 .619441 2.60 2.00 2600. 3.00000 976.00
1976.0 .3649000 .219441 3.03 2.00 5300. 1.97000 953.00
1977.0 .3649000 .219441 3.28 2.00 5000. 1.53000 769.00
1978.0 .3649000 .819441 2.93 2.00 5600. 2.20000 1200.0
1990.0 .3649000 .220441 3.00 2.00 86.00 1.60000 413.00
1991.0 .3649000 .520441 2.65 2.00 103.0 .320000 550.00
1992.0 .3649000 .120441 3.00 2.00 110.0 1.22000 474.00
1993.0 .3649000 .220441 2.84 2.00 430.0 .570000 467.00
1994.0 .3649000 .220441 3.00 2.00 620.0 2.30000 673.00
1995.0 .3649090 .120441 2.32 2.00 78.00 1.10000 256.00
1996.0 .3649090 .120441 2.98 2.00 49.00 .140000 207.00
1997.0 .3649090 .120441 2.61 2.00 76.00 .400000 253.00
1998.0 .3649090 .120441 2.50 2.00 135.0 .720000 293.00
1999.0 .3649090 .120441 2.65 2.00 122.0 .530000 251.00
2000.0 .3649090 .120441 2.86 2.00 150.0 .920000 295.00
2014.0 .3649090 .121441 3.48 2.00 570.0 1.77000 522.00
2015.0 .3649090 .121441 2.31 2.00 560.0 1.26000 470.00
2016.0 .3649090 .121441 2.78 2.00 580.0 2.10000 472.00
2017.0 .3649090 .121441 2.50 2.00 1400. .470000 693.00
2018.0 .3649090 .121441 2.05 2.00 1400. 1.10000 412.00
2019.0 .3649090 .321441 2.80 2.00 1600. .740000 637.00
2020.0 .3649090 .221441 3.15 2.00 5000. 1.42000 762.00
2021.0 .3649090 .721441 3.25 2.00 5100. 2.48000 754.00
2022.0 .3649090 .721441 2.53 2.00 5700. 2.34000 564.00
2025.0 .3649045 .121441 2.15 2.00 19.00 .050000 53.000
2026.0 .3649045 .121441 2.96 2.00 35.00 .200000 43.000
2027.0 .3649045 .121441 2.93 2.00 71.00 .210000 57.000
2028.0 .3649045 .121441 2.18 2.00 83.00 .380000 77.000
2029.0 .3649045 .121441 2.70 2.00 280.0 .910000 133.00
2030.0 .3649045 .121441 2.38 2.00 270.0 .270000 136.00
2031.0 .3649045 .121441 2.61 2.00 845.0 2.62000 213.00
2032.0 .3649045 .121441 2.16 2.00 1100. 1.38000 203.00
2033.0 .3649045 .121441 2.31 2.00 4200. 1.87000 323.00
2034.0 .3649045 .121441 2.43 2.00 4100. 1.00000 314.00
2036.0 .3649045 .121441 2.78 2.00 2650. .850000 248.00
2037.0 .3649045 .121441 2.80 2.00 2500. 1.08000 277.00
2045.0 .3649090 .322441 2.65 21.0 89.00 .980000 828.00
2046.0 .3649090 .322441 2.63 21.0 98.00 1.57000 675.00
2047.0 .3649090 .322441 3.22 21.0 99.00 1.60000 980.00
2048.0 .3649090 .222441 2.80 21.0 780.0 4.00000 1530.0
2049.0 .3649090 .722441 2.80 21.0 700.0 .770000 1341.0
2050.0 .3649090 .322441 2.80 21.0 780.0 2.95000 1372.0
2051.0 .3649090 .822441 2.80 21.0 6500. 3.44000 1943.0
2052.0 .3649090 .822441 2.90 21.0 6300. 4.98000 2562.0
2053.0 .3649090 .822441 2.80 21.0 7100. 3.33000 2253.0
2060.0 .3649000 .122441 2.70 21.0 94.00 1.19000 832.00
2061.0 .3649000 .722441 2.80 21.0 113.0 2.55000 832.00
2062.0 .3649000 .122441 2.36 21.0 110.0 2.20000 746.00
2063.0 .3649000 .522441 2.70 21.0 710.0 2.18000 1281.0
2064.0 .3649000 .822441 2.70 21.0 640.0 1.75000 1457.0
2065.0 .3649000 .822441 2.70 21.0 760.0 3.34000 1735.0
2066.0 .3649000 .822441 2.70 21.0 8900. 3.25000 2200.0
2067.0 .3649000 .822441 2.70 21.0 8700. 1.57000 2398.0
2068.0 .3649000 .822441 2.70 21.0               2365.0
2075.0 .3649045 .124441 2.60 21.0 74.00 .580000 110.00
2076.0 .3649045 .124441 2.75 21.0 74.00 .850000 130.00
2077.0 .3649045 .124441 2.65 21.0 490.0 1.31000 343.00
2078.0 .3649045 .124441 2.87 21.0 570.0 3.30000 335.00
2079.0 .3649045 .124441 2.63 21.0 4200. 1.68000 983.00
2080.0 .3649045 .124441 2.40 21.0 5000. 1.30000 1030.0
2090.0 .3639011 .101011 3.86 10.0 76.00 .370000 359.00
2091.0 .3639011 .101011 3.75 10.0 80.00 4.30000 334.00
2092.0 .3639011 .101011 4.19 10.0 78.00 .320000 343.00
2093.0 .3639011 .101011 3.86 10.0 100.0 .210000 409.00
2094.0 .3639011 .101011 4.04 10.0 200.0 .780000 367.00
2095.0 .3639011 .101011 4.07 10.0 160.0 .870000 289.00
2096.0 .3639011 .201011 3.85 10.0 550.0 1.32000 513.00
2097.0 .3639011 .201011 4.06 10.0 640.0 1.02000 531.00
2098.0 .3639011 .201011 3.88 10.0 590.0 1.10000 574.00
2099.0 .3639011 .201011 3.93 10.0 1950. 1.69000 743.00
2100.0 .3639011 .201011 3.63 10.0 1700. 1.25000 687.00
2101.0 .3639011 .201011 3.84 10.0 2000. 2.48000 672.00
2102.0 .3639011 .201011 4.13 10.0 3900. 1.85000 781.00
2116.0 .3639011 .501011 3.85 10.0 5800. 3.16000 830.00
2117.0 .3639011 .201011 4.00 10.0 6800. 2.35000 832.00
2118.0 .3639011 .201011 3.76 10.0       1.87000 811.00
2119.0 .3639011 .201011 3.90 10.0 3700. 1.70000 802.00
2120.0 .3639011 .201011 3.85 10.0 3050. 1.21000 715.00
2121.0 .3639011 .102041 3.90 10.0 61.00 1.33000 228.00
2122.0 .3639011 .102041 3.11 10.0 68.00 .580000 253.00
2123.0 .3639011 .102041 3.11 10.0 47.00 .310000 212.00
2124.0 .3639011 .102041 2.94 10.0 170.0 2.13000 265.00
2125.0 .3639011 .102041 3.00 10.0 145.0 .640000 252.00
2126.0 .3639011 .102041 2.90 10.0 166.0 1.30000 172.00
2127.0 .3639011 .102041 3.00 10.0 520.0 1.00000 370.00
2128.0 .3639011 .102041 3.20 10.0 400.0 1.71000 403.00
2129.0 .3639011 .102041 3.92 10.0 360.0 .280000 363.00
2130.0 .3639011 .202041 2.87 10.0 1400. 1.20000 572.00
2131.0 .3639011 .202041 2.91 10.0 1600. 1.18000 577.00
2132.0 .3639011 .202041 2.82 10.0 2000. 2.74000 500.00
2133.0 .3639011 .702041 3.24 10.0       1.35000 765.00
2134.0 .3639011 .702041 2.91 10.0 6000. 2.10000 649.00
2135.0 .3639011 .702041 3.00 10.0 6100. 2.68000 522.00
2136.0 .3639011 .702041 3.00 10.0 3800. 2.14000 610.00
9137.0 .3639011 .802041 3.00 10.0 3200. 2.80000 617.00
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  ID     CODE 1    CODE 2 CHL  TEMP RATE  MODULUS STRENG

2138.0 .3639011 .702041 2.97 10.0         1.60000 707.00
2147.0 .3639011 .103041 2.51 10.0 126.0 1.80000 187.00
2148.0 .3639011 .103041 2.66 10.0 58.00 .200000 137.00
2149.0 .3639011 .103041 3.00 10.0 74.00 .510000 171.00
2150.0 .3639011 .103041 3.00 10.0 180.0 .670000 177.00
2151.0 .3639011 .103041 3.00 10.0 140.0 .530000 242.00
2152.0 .3639011 .103041 3.00 10.0 160.0 .750000 185.00
2153.0 .3639011 .103041 3.00 10.0 490.0 1.28000 261.00
9154.0 .3639011 .103041 3.00 10.0 340.0 .490000 262.00
2155.0 .3639011 .103041 3.00 10.0 520.0 1.34000 330.00
2156.0 .3639011 .103041 3.00 10.0       1.58000 426.00
2157.0 .3639011 .103041 3.00 5.00 1000. .490000 336.00
2158.0 .3639011 .103041 3.00 5.00 1900. 2.57000 398.00
2159.0 .2639011 .703041 3.00 5.00 4900. 2.77000 540.00
2160.0 .2639011 .703041 3.00 5.00 5000. 1.66000 519.00
2161.0 .3639011 .703041 3.00 5.00 5250. 3.07000 527.00
2162.0 .3639011 .703041 3.00 5.00 2900. .710000 496.00
2163.0 .3639011 .703041 3.00 5.00 3200. 1.10000 456.00
2164.0 .3639011 .703041 3.00 5.00 2100. .590000 402.00
2176.0 .3639011 .104011 3.91 5.00 96.00 .510000 234.00
2177.0 .3639011 .104011 3.45 5.00 39.00 .140000 210.00
2178.0 .3639011 .104011 3.29 5.00 64.00 .350000 212.00
2179.0 .3639011 .104011 3.50 5.00 48.00 .240000 221.00
2180.0 .3639011 .104011 3.60 5.00 220.0 .390000 244.00
2181.0 .3639011 .104011 3.61 5.00 182.0 .720000 260.00
2182.0 .3639011 .104011 3.30 5.00 140.0 .470000 256.00
2183.0 .3639011 .104011 3.41 5.00 190.0 1.00000 241.00
2184.0 .3639011 .104011 3.48 5.00 390.0 .580000 387.00
2185.0 .3639011 .104011 3.65 5.00 490.0 .800000 347.00
2186.0 .3639011 .704011 3.65 5.00 1100. 1.00000 389.00
2187.0 .3639011 .704011 3.65 5.00 1140. 2.00000 394.00
2188.0 .3639011 .704011 3.46 5.00 1500. .860000 433.00
2189.0 .3639011 .204011 3.38 5.00 5900. 2.00000 590.00
2190.0 .3639011 .204011 3.50 5.00 5600. 3.60000 573.00
2191.0 .3639011 .204011 3.40 5.00 4600. .350000 470.00
2192.0 .3639011 .504011 3.43 5.00 4150. 1.80000 520.00
2193.0 .3639011 .704011 3.78 5.00 3400. 1.30000 506.00
2194.0 .3639011 .104011 3.81 5.00 450.0 .860000 335.00
2195.0 .3639011 .704011 3.69 5.00 3000. 1.20000 533.00
2209.0 .3639011 .105041 3.10 2.00 51.00 .270000 119.00
2210.0 .3639011 .105041 3.11 2.00 65.00 .580000 129.00
2211.0 .3639011 .105041 2.84 2.00 41.00 .270000 135.00
2212.0 .3639011 .105041 2.80 2.00 85.00 .245000 175.00
2213.0 .3639011 .105041 2.50 2.00 64.00 .190000 137.00
2214.0 .3639011 .105041 2.82 2.00 100.0 .260000 157.00
2215.0 .3639011 .105041 2.90 2.00 66.00 .290000 133.00
2216.0 .3639011 .105041 2.90 2.00 360.0 .290000 225.00
2217.0 .3639011 .105041 2.88 2.00 375.0 .580000 210.00
2218.0 .3639011 .105041 2.92 2.00 310.0 .245000 203.00
2219.0 .3639011 .705041 2.70 2.00 870.0 .350000 285.00
2220.0 .3639011 .505041 3.10 2.00 1400. 1.30000 217.00
2221.0 .3639011 .705041 2.92 2.00 1800. .570000 313.00
2222.0 .3639011 .705041 2.78 2.00 3300. .700000 268.00
2223.0 .3639011 .705041 3.32 2.00 4900. 2.10000 284.00
2224.0 .3639011 .705041 2.94 2.00 3300. .650000 253.00
2225.0 .3639011 .705041 2.79 2.00 3150. 1.50000 214.00
2226.0 .3639011 .705041 3.20 2.00 2700. .900000 305.00
2227.0 .3639011 .705041 3.19 2.00 1750. .730000 191.00
2228.0 .3639011 .505041 2.97 2.00 400.0 .800000 256.00
2231.0 .3649000 .129441 2.70 2.00 640.0 1.30000 660.00
2232.0 .3649000 .729441 2.79 2.00 590.0 1.10000 653.00
2244.0 .3639011 .107011 3.52 2.00 68.00 1.50000 203.00
2245.0 .3639011 .107011 3.58 2.00 52.00 .620000 174.00
2246.0 .3639011 .107011 3.58 2.00 47.00 .330000 190.00
2247.0 .3639011 .107011 3.51 2.00 36.00 .220000 177.00
2248.0 .3639011 .107011 3.88 2.00 97.00 .460000 254.00
2249.0 .3639011 .107011 3.79 2.00 150.0 .600000 207.00
2250.0 .3639011 .107011 3.52 2.00 180.0 .620000 217.00
2251.0 .3639011 .107011 3.48 2.00 150.0 .710000 189.00
2252.0 .3639011 .107011 3.92 2.00 320.0 .320000 338.00
2253.0 .3639011 .107011 3.67 2.00 460.0 .880000 277.00
2254.0 .3639011 .107011 3.60 2.00 470.0 .800000 257.00
2255.0 .3639011 .107011 3.64 2.00 1400. 1.10000 341.00
2256.0 .3639011 .707011 3.50 2.00 1600. 1.60000 390.00
2257.0 .3639011 .707011 3.30 2.00 1500. .780000 356.00
2258.0 .3639011 .807011 3.58 2.00 4200. 1.30000 454.00
2259.0 .3639011 .607011 3.76 2.00 4100. 1.50000 369.00
2260.0 .3639011 .207011 3.76 2.00 3200. 1.30000 417.00
2261.0 .3639011 .207011 3.65 2.00 3600. 1.50000 417.00
2262.0 .3639011 .207011 3.49 2.00 2900. .800000 394.00
2263.0 .3639011 .207012 3.50 2.00 2300. 1.50000 392.00
2278.0 .3639011 .109011 3.56 21.0 100.0 2.00000 480.00
2279.0 .3639011 .109011 3.56 21.0 91.00 1.00000 474.00
2280.0 .3639011 .109011 2.72 21.0 78.00 1.60000 493.00
2281.0 .3639011 .109011 2.72 21.0 63.00 .460000 441.00
2282.0 .3639011 .109011 2.72 21.0 210.0 1.40000 573.00
2283.0 .3639011 .109011 2.72 21.0 200.0 1.00000 474.00
2284.0 .3639011 .103011 2.72 21.0 190.0 .107000 575.00
2286.0 .3639011 .109011 2.72 21.0 650.0 2.60000 750.00
2287.0 .3639011 .109011 2.72 21.0 580.0 2.24000 599.00
2288.0 .3639011 .109011 2.72 21.0 740.0 1.45000 636.00
2289.0 .3639011 .209011 2.72 21.0 2000. 2.20000 950.00
2290.0 .3639011 .209011 2.72 21.0 1410. .600000 759.00
2291.0 .3639011 .209011 2.72 21.0 2060. 1.10000 923.00
2292.0 .3639011 .809011 2.72 21.0       3.00000 1183.0
2293.0 .3639011 .809011 2.72 21.0 6100. 2.08000 1192.0
2294.0 .3639011 .809011 2.72 21.0 6400. 2.00000 1003.0
2295.0 .3639011 .209011 2.72 21.0 3400. 3.80000 860.00
2296.0 .3639011 .209011 2.72 21.0 4100. 1.60000 1040.0
2297.0 .3639011 .209011 2.72 21.0 4100. .600000 1003.0
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  ID     CODE 1    CODE 2 CHL  TEMP RATE  MODULUS STRENG

2310.0 .3639011 .510041 2.58 21.0 51.00 .290000 314.00
2311.0 .3639011 .510041 2.30 21.0 76.00 .620000 301.00
2312.0 .3639011 .510041 2.40 21.0 55.00 .265000 380.00
2313.0 .3639011 .510041 2.58 21.0 68.00 .560000 302.00
2314.0 .3639011 .510041 2.58 21.0 190.0 1.60000 313.00
2315.0 .3639011 .510041 2.58 21.0 130.0 .280000 332.00
2316.0 .3639011 .510041 2.58 21.0 180.0 .900000 323.00
2317.0 .3639011 .510041 2.58 21.0 182.0 1.30000 320.00
2318.0 .3639011 .510041 2.58 21.0 700.0 1.80000 478.00
2319.0 .3639011 .510041 2.58 21.0 560.0 .700000 484.00
2320.0 .3639011 .510041 2.58 21.0 700.0 1.30000 516.00
2321.0 .3639011 .210041 2.58 21.0 1850. 1.50000 533.00
2322.0 .3639011 .210041 2.58 21.0 1600. 1.10000 719.00
2323.0 .3639011 .510041 2.58 21.0 1900. 1.40000 643.00
2324.0 .3639011 .810041 2.58 21.0 5700. 2.60000 907.00
2325.0 .3639011 .810041 2.58 21.0 5900. 1.95000 913.00
2326.0 .3639011 .210041 2.58 21.0 5800. 2.10000 1026.0
2327.0 .3639011 .810041 2.58 21.0 3700. 1.42000 883.00
2328.0 .3639011 .810041 2.58 21.0 3650. 1.30000 828.00
2329.0 .3639011 .510041 2.58 21.0 3850. 1.30000 749.00
2342.0 .3639011 .103171 2.74 21.0 83.00 1.00000 197.00
2343.0 .3639011 .103171 2.24 21.0 97.00 1.30000 258.00
2344.0 .3639011 .103171 2.41 21.0 64.00 .800000 187.00
2345.0 .3639011 .103171 2.30 21.0 97.00 1.03000 242.00
2346.0 .3639011 .303171 2.38 21.0 175.0 1.60000 530.00
2347.0 .3639011 .303171 2.58 21.0 170.0 1.00000 456.00
2348.0 .3639011 .303171 2.47 21.0 174.0 .930000 372.00
2349.0 .3639011 .403171 2.50 21.0 180.0 1.18000 447.00
2350.0 .3639011 .303171 2.57 21.0 610.0 1.40000 529.00
2351.0 .3639011 .103171 2.32 21.0 510.0 .630000 353.00
2352.0 .3639011 .103171 2.65 21.0 530.0 1.10000 378.00
2353.0 .3639011 .303171 2.62 21.0 180.0 1.10000 544.00
2354.0 .3639011 .303171 2.59 21.0 1650. 1.10000 712.00
2355.0 .3639011 .703171 2.64 21.0 2100. 2.70000 713.00
2356.0 .3639011 .803171 2.30 21.0 5200. .670000 823.00
2357.0 .3639011 .803171 2.74 21.0       2.20000 874.00
2358.0 .3639011 .203171 2.49 21.0 4750. 1.60000 652.00
2359.0 .3639011 .203171 2.25 21.0 3800. 2.80000 873.00
2360.0 .3639011 .803171 2.61 21.0 3250. 1.10000 1226.0
2374.0 .3639011 .104171 2.43 5.00 70.00 .455000 111.00
2375.0 .3639011 .104171 2.52 5.00 54.00 .420000 91.000
2376.0 .3639011 .104171 2.31 5.00 49.00 .400000 165.00
2377.0 .3639011 .104171 2.25 5.00 58.00 .420000 112.00
2378.0 .3639011 .104171 2.30 5.00 119.0 .700000 186.00
2379.0 .3639011 .304171 2.40 5.00 135.0 .700000 238.00
2380.0 .3639011 .104171 2.40 5.00 118.0 .630000 147.00
2381.0 .3639011 .304171 2.39 5.00 102.0 .680000 222.00
2382.0 .3639011 .304171 2.60 5.00 450.0 .680000 542.00
2383.0 .3639011 .304171 2.25 5.00 420.0 .720000 367.00
2384.0 .3639011 .304171 2.30 5.00 450.0 .720000 285.00
2385.0 .3639011 .104171 2.61 5.00 1500. 1.90000 334.00
2386.0 .3639011 .904171 2.46 5.00 1600. 1.90000 393.00
2387.0 .3639011 .904171 2.76 5.00 1550. 1.10000 305.00
2388.0 .3639011 .904171 2.40 5.00 5500. 2.00000 652.00
2389.0 .3639011 .904171 2.42 5.00               500.00
2390.0 .3639011 .304171 2.32 5.00               500.00
2391.0 .3639011 .904171 2.29 5.00 2200. 1.70000 469.00
2392.0 .3639011 .204171 2.42 5.00 2650. 1.20000 431.00
2393.0 .3639011 .304171 2.28 5.00               431.00
2394.0 .3639011 .204171 2.25 5.00 4100. 1.45000 514.00
2407.0 .3639011 .214011 3.30 21.0               919.00
2408.0 .3639011 .214011 2.56 21.0 1900. .910000 649.00
2409.0 .3639011 .214011 2.76 21.0               997.00
2410.0 .3639011 .214011 3.15 21.0 7200. 2.63000 886.00
2411.0 .3639011 .814011 2.90 21.0 5500. 3.47000 1300.0
2412.0 .3639011 .814011 3.10 21.0 6000. 2.70000 1200.0
2413.0 .3639011 .814011 2.68 21.0               1169.0
2414.0 .3639011 .814011 3.62 21.0 7800. 1.78000 1269.0
2415.0 .3639011 .814011 2.68 21.0               1183.0
2416.0 .3639011 .814011 2.71 21.0 5500. 3.64000 1205.0
2417.0 .3639011 .814011 2.48 21.0 4500.         1090.0
2418.0 .3639011 .814011 2.77 21.0 4000. 1.25000 1181.0
2419.0 .3639011 .115041 2.74 21.0 92.00 1.25000 417.00
2420.0 .3639011 .115041 2.81 21.0 89.00 1.20000 418.00
2421.0 .3639011 .115041 2.51 21.0 98.00 1.51000 340.00
2422.0 .3639011 .115041 2.50 21.0 58.00 .340000 341.00
2423.0 .3639011 .115041 2.40 21.0 190.0 1.47000 379.00
2424.0 .3639011 .115041 3.03 21.0 180.0 1.22000 462.00
2425.0 .3639011 .115041 2.51 21.0 160.0 .690000 417.00
2426.0 .3639011 .115041 2.67 21.0 200.0 1.53000 457.00
2427.0 .3639011 .115041 3.15 21.0 630.0 2.63000 576.00
2428.0 .3639011 .115041 3.16 21.0 637.0 2.13000 580.00
2429.0 .3639011 .115041 2.85 21.0 560.0 2.60000 567.00
2430.0 .3639011 .215041 2.65 21.0 2200. 3.20000 880.00
2431.0 .3639011 .315041 2.65 21.0 2200. 2.17000 988.00
2432.0 .3639011 .915041 3.05 21.0 2300. 3.55000 800.00
2433.0 .3639011 .815041 2.40 21.0 6400. 3.59000 1184.0
2434.0 .3639011 .815041 2.60 21.0 6100. 2.69000 798.00
2435.0 .3639011 .815041 2.85 21.0 6100. 2.06000 1019.0
2436.0 .3639011 .415041 2.72 21.0 4000. 2.40000 953.00
2437.0 .3639011 .415041 2.75 21.0 4100. 2.31000 915.00
2438.0 .3639011 .815041 2.72 21.0 4700. 2.61000 1019.0
2439.0 .3639011 .815041 2.96 21.0 8100. 3.39000 1075.0
2452.0 .3639011 .110171 2.41 10.0 86.00 .950000 153.00
2453.0 .3639011 .110171 2.38 10.0 95.00 .770000 158.00
2454.0 .3639011 .110171 2.30 10.0 110.0 1.25000 173.00
2455.0 .3639011 .110171 2.40 10.0 65.00 .690000 158.00
2456.0 .3639011 .110171 2.23 10.0 120.0 .610000 319.00
2457.0 .3639011 .410171 2.58 10.0 129.0 .450000 183.00
2458.0 .3639011 .410171 2.38 10.0 170.0 1.13000 308.00
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  ID     CODE 1   CODE 2 CHL  TEMP RATE  MODULUS STRENG

2459.0 .3639011 .110171 2.39 10.0 165.0 2.08000 229.00
2460.0 .3639011 .110171 1.94 10.0 700.0 1.70000 379.00
2461.0 .3639011 .110171 1.99 10.0 660.0 1.49000 350.00
2462.0 .3639011 .410171 2.60 10.0 650.0 .600000 604.00
2463.0 .3639011 .110171 2.26 10.0 590.0 1.30000 348.00
2464.0 .3639011 .410171 2.31 10.0 2000. 1.80000 652.00
2465.0 .3639011 .410171 2.32 10.0 1800. 1.36000 594.00
2466.0 .3639011 .410171 2.39 10.0 2000. 1.64000 470.00
2467.0 .3639011 .410171 2.00 10.0 4900. 2.56000 727.00
2468.0 .3639011 .410171 2.45 10.0 5800. 2.10000 635.00
2469.0 .3639011 .410171 2.26 10.0 6600. 5.00000 988.00
2470.0 .3639011 .110171 2.58 10.0 4200. 1.56000 529.00
2471.0 .3639011 .410171 1.88 10.0 3500. 1.30000 864.00
2472.0 .3639011 .110171 1.89 10.0 4100. 2.65000 539.00
2473.0 .3639011 .110171 2.76 10.0 130.0 .610000 253.00
2485.0 .3639011 .111171 2.49 10.0 41.00 .170000 55.000
2486.0 .3639011 .111171 2.48 10.0 73.00 .480000 104.00
2487.0 .3639011 .111171 2.42 10.0 50.00 .270000 94.000
2488.0 .3639011 .411171 2.25 10.0 74.00 .600000 163.00
2489.0 .3639011 .111171 2.40 10.0 144.0 .940000 118.00
2490.0 .3639011 .111171 2.59 2.00 81.00 .240000 137.00
2491.0 .3639011 .111171 2.50 2.00 66.00          130.00
2492.0 .3639011 .411171 2.46 2.00 93.00 .230000 222.00
2493.0 .3639011 .411171 2.47 2.00 410.0 .550000 166.00
2494.0 .3639011 .111171 2.68 2.00 290.0 .290000 173.00
2495.0 .3639011 .411171 2.79 2.00 353.0 .370000 222.00
2496.0 .3639011 .411171 2.65 2.00 1800. 1.31000 293.00
2497.0 .3639011 .411171 2.48 2.00 1400. .790000 446.00
2498.0 .3639011 .411171 2.49 2.00 2000. 1.30000 364.00
2499.0 .3639011 .311171 2.77 2.00 6900. .800000 390.00
9500.0 .3639011 .311171 2.48 2.00 5650. 1.05000 333.00
2501.0 .3639011 .411171 2.33 2.00 6050. 2.50000 317.00
2502.0 .3639011 .411171 2.43 2.00 2650. .700000 475.00
2503.0 .3639011 .411171 2.31 2.00 4300. 2.14000 385.00
2519.0 .4649000 .205441 2.24 21.0 110.0 2.04000 1024.0
2520.0 .4649000 .205441 2.10 21.0 59.00 1.04000 1043.0
2521.0 .4649000 .205441 2.54 21.0 110.0 2.00000 1103.0
2522.0 .4649000 .205441 2.47 21.0 110.0 2.00000 1017.0
2523.0 .4649000 .305441 2.41 21.0 270.0 3.54000 1277.0
2524.0 .4649000 .305441 2.41 21.0 215.0 1.29000 1284.0
2525.0 .4649000 .405441 2.81 21.0 87.00          1054.0
2526.0 .4649000 .205441 2.48 21.0 235.0 2.19000 1112.0
2527.0 .4649000 .405441 2.49 21.0 680.0 1.10000 1343.0
2528.0 .4649000 .805441 2.49 21.0 620.0 1.07000 1873.0
2529.0 .4649000 .805441 2.49 21.0 730.0 1.43000 1776.0
2530.0 .4649000 .805441 2.49 21.0 770.0 3.62000 1437.0
2531.0 .4649000 .805441 2.58 21.0 7500. 2.86000 1530.0
2532.0 .4649000 .805441 2.63 21.0 2800. 3.21000 2980.0
2533.0 .4649000 .805441 2.59 21.0 7500. 2.46000 1833.0
2534.0 .4649000 .805441 2.27 21.0 2600. 2.88000 1776.0
2535.0 .4649000 .805441 2.38 21.0 2500. 2.90000 2025.0
2536.0 .4649000 .805441 2.06 21.0 2500. 2.94000 1876.0
2537.0 .4649000 .805441 2.56 21.0 4700. 2.06000 2570.0
2538.0 .4649000 .805441 2.77 21.0 5300. .353000 2470.0
2551.0 .4649045 .106441 2.50 21.0 67.00 .850000 183.00
2552.0 .4649045 .106441 2.27 21.0 73.00 .750000 184.00
2553.0 .4649045 .106441 2.60 21.0 47.00 .560000 174.00
2554.0 .4649045 .106441 2.58 21.0 150.0 .810000 260.00
2555.0 .4649045 .106441 2.58 21.0 170.0 1.00000 245.00
2556.0 .4649045 .106441 2.38 21.0 127.0 .550000 220.00
2557.0 .4649045 .406441 2.56 21.0 510.0 .600000 583.00
2558.0 .4649045 .106441 2.40 21.0 470.0 .780000 413.00
2559.0 .4649045 .106441 2.75 21.0 .6300 1.70000 412.00
2560.0 .4649045 .306441 2.68 21.0 6800. 2.80000 1148.0
2561.0 .4649045 .206441 2.28 21.0 6800. 3.00000 1197.0
2562.0 .4649045 .406441 2.78 21.0 6700. 2.80000 1278.0
2563.0 .4649045 .306441 2.49 21.0 2100. 3.10000 772.00
2564.0 .4649045 .306441 2.49 21.0 1500. 1.50000 647.00
2565.0 .4649045 .306441 2.34 21.0 1500. 1.00000 697.00
2566.0 .4649045 .405441 2.58 21.0 5000. 4.10000 912.00
2567.0 .4649045 .806441 2.49 21.0 3700. 2.50000 917.00
2568.0 .4649045 .806441 2.68 21.0 3700. 2.10000 968.00
2569.0 .4649045 .806441 2.55 21.0 74.00 .880000 226.00
2582.0 .4649090 .207441 2.57 21.0 80.00 3.00000 793.00
2583.0 .4649090 .207441 2.58 21.0 91.00 2.70000 702.00
2584.0 .4649090 .207441 2.57 21.0 90.00 1.40000 764.00
2585.0 .4649090 .207441 2.20 21.0 70.00 1.80000 663.00
2586.0 .4649090 .207441 2.29 21.0 250.0 2.90000 1040.0
2587.0 .4649090 .207441 2.82 21.0 240.0 2.70000 997.00
2588.0 .4649090 .207441 2.30 21.0 240.0 3.00000 1004.0
2589.0 .4649090 .207441 2.67 21.0 210.0 .940000 1047.0
2590.0 .4649090 .207441 2.38 21.0 760.0 2.80000 1423.0
2591.0 .4649090 .207441 2.10 21.0 720.0 2.40000 1266.0
2592.0 .4649090 .807441 2.04 21.0 780.0 3.20000 1315.0
2593.0 .4649090 .207441 2.15 21.0 3600. 3.19000 2030.0
2594.0 .4649090 .807441 2.72 21.0 2600. 3.10000 2438.0
2595.0 .4649090 .807441 2.58 21.0 2500. 2.90000 1735.0
2596.0 .4649090 .807441 2.12 21.0 6500. 4.30000 2412.0
2597.0 .4649090 .807441 2.15 21.0 7200. 4.00000 2451.0
2598.0 .4649090 .807441 2.42 21.0 7250. 5.00000 2058.0
2599.0 .4649090 .807441 2.42 21.0 5350. 4.60000 2353.0
2600.0 .4649090 .807441 2.15 21.0 5100. 4.09000 2178.0
2601.0 .4649090 .807441 2.55 21.0 4800. 4.10000 2366.0
2628.0 .4649000 .309441 2.51 10.0 110.0 2.34000 704.00
2629.0 .4649000 .309441 2.71 10.0 102.0 2.36000 953.00
2630.0 .4649000 .209441 3.10 10.0 87.00 2.20000 629.00
2632.0 .4649000 .209441 2.60 10.0 190.0 1.56000 939.00
2633.0 .4649000 .309441 2.70 10.0 190.0 2.05000 832.00
2634.0 .4649000 .509441 3.20 10.0 203.0 1.00000 953.00
2635.0 .4649000 .209441 2.81 10.0 212.0 2.13000 1097.0
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  ID     CODE 1   CODE 2 CHL  TEMP RATE  MODULUS STRENG

2636.0 .4649000 .309441 2.90 10.0 680.0 4.31000 1570.0
2637.0 .4649000 .309441 2.84 10.0 740.0 4.16000 1627.0
2638.0 .4649000 .309441 2.90 10.0 2500. 5.12000 1827.0
2639.0 .4649000 .809441 2.76 10.0 670.0 2.80000 1457.0
2640.0 .4649000 .809441 2.69 10.0 2400. 4.07000 1693.0
2641.0 .4649000 .809441 2.81 10.0 2400. 2.92000 2084.0
2642.0 .4649000 .809441 2.73 10.0 7400. 7.30000 2153.0
2643.0 .4649000 .809441 2.90 10.0 6900. 4.27000 2216.0
2644.0 .4649000 .809441 2.01 10.0 7200. 8.30000 2530.0
2645.0 .4649000 .809441 2.84 10.0 4500. 4.32000 2072.0
2646.0 .4649000 .809441 2.80 10.0 3900. 4.99000 2241.0
2647.0 .4649000 .809441 2.80 10.0 4750. 4.81000 2227.0
2650.0 .4649000 .509441 2.47 10.0 2000. 1.10000 1283.0
2651.0 .4649090 .312441 2.80 10.0 93.00 1.59000 475.00
2652.0 .4649090 .312441 2.69 10.0 61.00 .560000 349.00
2653.0 .4649090 .312441 2.51 10.0 81.00 .750000 462.00
2654.0 .4649090 .312441 2.70 10.0 86.00 2.20000 398.00
2655.0 .4649090 .312441 2.31 10.0 210.0 1.10000 585.00
2656.0 .4649090 .212441 2.70 10.0 185.0 1.10000 598.00
2657.0 .4649090 .912441 2.61 10.0 170.0 .880000 682.00
2658.0 .4649090 .512441 2.40 10.0 154.0 .620000 689.00
2659.0 .4649090 .312441 2.41 10.0 730.0 3.09000 1004.0
2660.0 .4649090 .312441 2.70 10.0 720.0 3.02000 890.00
2661.0 .4649090 .312441 2.69 10.0 680.0 1.81000 1018.0
2662.0 .4649090 .312441 2.76 10.0 690.0 3.00000 911.00
2663.0 .4649090 .312441 2.10 10.0 2500. 5.00000 1305.0
2664.0 .4649090 .312441 2.61 10.0 2400. 4.83000 1307.0
2665.0 .4649090 .212441 2.58 10.0 2150. 4.50000 1383.0
2666.0 .4649090 .312441 2.71 10.0 6500. 4.22000 1517.0
2667.0 .4649090 .312441 2.63 10.0 6100. 3.89000 1471.0
2668.0 .4649090 .312441 2.76 10.0 6100. 3.06000 1305.0
2669.0 .4649090 .312441 2.43 10.0 6100. 4.67000 1104.0
2670.0 .4649090 .812441 2.63 10.0 4900. 3.33000 1847.0
2671.0 .4649090 .312441 2.48 10.0 3600. .970000 1097.0
2672.0 .4649090 .312441 2.90 10.0 4400. 2.57000 1443.0
2673.0 .4649090 .312441 2.60 10.0 4300. 3.34000 1457.0
2688.0 .4649045 .113441 2.57 10.0 70.00 .500000 83.000
2689.0 .4649045 .113441 2.15 10.0 41.00 .350000 75.000
2690.0 .4649045 .113441 2.38 10.0 60.00 .880000 89.000
2691.0 .4649045 .113441 2.15 10.0 47.00 .200000 83.000
2692.0 .4649045 .113441 2.10 10.0 172.0 .510000 123.00
2693.0 .4649045 .113441 2.64 10.0 160.0 .740000 174.00
2694.0 .4649045 .113441 2.15 10.0 170.0 1.13000 186.00
2695.0 .4649045 .113441 2.58 10.0 207.0 1.50000 150.00
2696.0 .4649045 .113441 2.58 10.0 410.0 .520000 262.00
2697.0 .4649045 .113441 2.67 10.0 530.0 1.50000 240.00
2698.0 .4649045 .113441 2.51 10.0 560.0 2.35000 273.00
2699.0 .4649045 .113441 2.58 10.0 1800. 2.11000 469.00
2700.0 .4649045 .113441 2.60 10.0 3100. 3.00000 435.00
2701.0 .4649045 .113441 2.40 10.0 1700. 1.87000 447.00
2702.0 .4649045 .213441 2.28 10.0 7500. 3.50000 725.00
2703.0 .4649045 .313441 2.47 10.0 5800. 4.40000 772.00
2704.0 .4649045 .313441 2.60 10.0 5300. 2.16000 762.00
2705.0 .4649045 .113441 2.60 10.0 3200. .880000 617.00
2706.0 .4649045 .113441 2.59 10.0 4350. 1.45000 651.00
2707.0 .4649045 .113441 2.58 10.0 3300. 2.60000 659.00
2722.0 .4649000 .314441 2.61 5.00 92.00 1.13000 795.00
2723.0 .4649000 .314441 2.97 5.00 81.00 .870000 643.00
2724.0 .4649000 .314441 2.58 5.00 85.00 1.10000 492.00
2725.0 .4649000 .314441 2.51 5.00 69.00 .640000 567.00
2743.0 .4649000 .314441 2.51 5.00 215.0 2.34000 783.00
2744.0 .4649000 .314441 2.77 5.00 200.0 1.30000 787.00
2745.0 .4649000 .214441 2.62 5.00 200.0 1.10000 727.00
2746.0 .4649000 .914441 2.78 5.00 185.0 1.00000 1080.0
2747.0 .4649000 .514441 3.24 5.00 540.0 1.23000 825.00
2748.0 .4649000 .514441 2.74 5.00 580.0 .750000 1120.0
2749.0 .4649000 .514441 2.86 5.00 700.0 1.63000 1302.0
2750.0 .4649000 .314441 2.61 5.00 2300. 1.75000 1326.0
2751.0 .4649000 .314441 2.47 5.00 2400. 1.36000 1425.0
2752.0 .4649000 .214441 2.81 5.00 1850. 1.20000 1123.0
2753.0 .4649000 .214441 2.73 5.00 6200. 3.03000 1554.0
2754.0 .4649000 .214441 2.62 5.00 6300. 1.96000 1883.0
2755.0 .4649000 .214441 2.78 5.00 5300. 3.08000 1613.0
2756.0 .4649000 .214441 2.81 5.00 4000. 2.50000 1494.0
2757.0 .4649000 .814441 2.75 5.00 4200. 3.86000 1442.0
2758.0 .4649000 .814441 2.86 5.00 4100. 2.59000 1797.0
2772.0 .4649045 .415441 2.93 5.00 29.00 .120000 253.00
2773.0 .4649045 .115451 2.61 5.00                39.000
2774.0 .4649045 .115451 2.70 5.00                55.000
2775.0 .4649045 .415451 3.05 5.00 29.00 .220000 93.000
2776.0 .4649045 .115451 2.47 5.00 64.00 .240000 102.00
2777.0 .4649045 .115451 2.70 5.00 61.00 .170000 469.00
2778.0 .4649045 .315451 2.59 5.00 165.0 .830000 151.00
2779.0 .4649045 .115451 2.65 5.00 105.0 .350000 106.00
2780.0 .4649045 .315451 2.59 5.00 380.0 .760000 222.00
2781.0 .4649045 .315451 2.72 5.00 290.0 .430000 222.00
2782.0 .4649045 .515451 2.78 5.00 490.0 2.00000 208.00
2783.0 .4649045 .215451 2.44 5.00 1000. .440000 340.00
2784.0 .4649045 .115451 2.47 5.00 1400. 1.76000 345.00
2785.0 .4649045 .315451 2.70 5.00 1300. .530000 584.00
2786.0 .4649045 .315441 2.70 5.00 4100. 1.70000 590.00
2787.0 .4649045 .315441 2.89 5.00 6400. 2.00000 534.00
2788.0 .4649045 .315441 2.69 5.00 4550. 1.00000 550.00
2789.0 .4649045 .115441 2.65 5.00 3450. 1.76000 480.00
2790.0 .4649045 .315441 2.78 5.00 2600. .680000 939.00
2791.0 .4649045 .315441 2.80 5.00 3200. 2.00000 472.00
2792.0 .4649045 .315441 2.52 5.00 3150. 2.20000 481.00
2809.0 .4649090 .116441 2.20 5.00 85.00 1.30000 326.00
2810.0 .4649090 .416441 2.68 5.00 73.00 .860000 408.00
9811.0 .4649090 .116441 2.22 5.00 66.00 .605000 388.00
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  ID     CODE 1   CODE 2 CHL  TEMP RATE  MODULUS STRENG

2812.0 .4649090 .116441 2.71 5.00 63.00 .640000 348.00
2813.0 .4649090 .316441 2.58 5.00 195.0 1.13000 622.00
2814.0 .4649090 .316441 2.21 5.00 190.0 1.80000 568.00
2815.0 .4649090 .316441 2.78 5.00 190.0 2.10000 469.00
2816.0 .4649090 .316441 2.09 5.00 162.0 .570000 411.00
2817.0 .4649090 .316441 2.30 5.00 750.0 2.94000 792.00
2818.0 .4649090 .316441 2.06 5.00 700.0 .800000 547.00
2819.0 .4649090 .316441 2.64 5.00 750.0 2.35000 647.00
2820.0 .4649090 .316441 2.20 5.00 730.0 2.30000 590.00
2821.0 .4649090 .316441 2.13 5.00 2000. 3.13000 885.00
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2934.0 .4649090 .321441 2.52 2.00 3900. .960000 505.00
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2962.0 .4640090 .122441 2.50 2.00 175.0 .880000 796.00
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2964.0 .4640090 .322441 2.69 2.00 750.0 2.70000 1248.0
2965.0 .4640090 .322441 2.72 2.00 820.0  3.2000 961.00
2966.0 .4640090 .222441 2.86 2.00 2100. 2.14000 910.00
2967.0 .4640090 .822441 2.63 2.00 2300. 3.29000 1383.0
2968.0 .4640090 .222441 2.68 2.00 2060. 1.92000 1306.0
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2970.0 .4640090 .822441 2.65 2.00 4750. 3.82000 1587.0
2971.0 .4640090 .822441 2.71 2.00 6000. 2.60000 1635.0
2972.0 .4640090 .422441 2.80 2.00 5650. 3.22000 1600.0
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2975.0 .4640090 .822441 2.45 2.00 6400. 6.00000 1600.0
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2977.0 .4640090 .323441 3.08 10.0 130.0 1.91000 1283.0
2978.0 .4640090 .223441 3.10 10.0 66.00 1.36000 1363.0
2979.0 .4640090 .323441 2.97 10.0 159.0 3.60000 1227.0
2980.0 .4640090 .323441 2.49 10.0 240.0 2.18000 1430.0
2981.0 .4640090 .323441 2.61 10.0 220.0 2.80000 1420.0
2982.0 .4640090 .323441 3.10 10.0 220.0 5.20000 1348.0
2983.0 .4640090 .223441 2.71 10.0 210.0 1.34000 1112.0
2984.0 .4640090 .823441 2.69 10.0 810.0 4.16000 2090.0
2985.0 .4640090 .823441 2.48 10.0 720.0 2.31000 1727.0
2986.0 .4640090 .823441 2.68 10.0 800.0 4.71000 2079.0
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2988.0 .4640090 .823441 2.41 10.0 2500. 3.60000 2597.0
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2992.0 .4640090 .823441 2.55 10.0 4900. 3.85000 2729.0
2993.0 .4640090 .823441 2.60 10.0 5500. 4.07000 2990.0
2994.0 .4640090 .123441 2.68 10.0 6150. 3.95000 2670.0
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3048.0 .4640090 .426441 2.58 21.0 230.0 5.50000 1957.0
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3091.0 .4649090 .129531 2.63 5.00 200.0 2.00000 613.00
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3099.0 .4649090 .229531 2.83 5.00 4000.  4.0000 961.00
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3105.0 .4649090 .329531 2.27 5.00 6700. 2.85000 1170.0
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3121.0 .4649000 .330531 2.34 5.00 89.00 2.30000 754.00
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3130.0 .4649000 .330531 3.13 5.00 1900. 1.63000 1113.0
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3137.0 .4649000 .230531 2.33 5.00 3300. 4.20000 845.00
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3158.0 .4649045 .131531 2.80 5.00 127.0 .650000 74.000
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3265.0 .4649090 .135531 2.68 2.00 610.0 1.00000 484.00
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3275.0 .4649000 .335531 2.78 2.00 500.0 .600000 620.00
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3277.0 .4649000 .335531 2.68 2.00 460.0 .660000 582.00
3278.0 .4649000 .335531 2.50 2.00 510.0 .610000 610.00
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3293.0 .4644590 .136441 2.91 5.00 75.00 .590000 477.00
3294.0 .4644590 .136441 2.69 5.00 150.0 .850000 469.00
3295.0 .4644590 .136441 2.83 5.00 140.0 .770000 315.00
3296.0 .4644590 .136441 3.18 5.00 160.0 1.40000 605.00
3297.0 .4644590 .136441 2.78 5.00 630.0 1.80000 1003.0
3298.0 .4644590 .136441 2.80 5.00 460.0 .370000 926.00
3299.0 .4644590 .136441 2.41 5.00 680.0 1.90000 899.00
3300.0 .4644590 .236441 2.50 5.00 2200. 2.70000 1186.0
3301.0 .4644590 .336441 2.81 5.00 2200. 2.50000 1335.0
3302.0 .4644590 .236441 2.39 5.00 2300. 2.55000 1191.0
3303.0 .4644590 .336441 2.64 5.00 4100. 1.88000 1297.0
3304.0 .4644590 .336441 2.88 5.00 4400. 2.64000 1572.0
3305.0 .4644590 .836441 2.77 5.00 4100. 2.22000 1396.0
3306.0 .4644590 .836441 2.88 5.00 5800. 1.35000 1636.0
3307.0 .4644590 .836441 2.59 5.00 6100. 2.22000 1551.0
3308.0 .4644590 .836441 2.68 5.00 5900. 3.93000 1282.0
3317.0 .4644590 .137441 2.78 5.00 65.00 .850000 419.00
3318.0 .4644590 .137441 2.67 5.00 74.00 1.72000 508.00
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  ID     CODE 1    CODE 2 CHL  TEMP RATE  MODULUS STRENG

3319.0 .4644590 .137441 2.59 5.00 49.00 .350000 426.00
3320.0 .4644590 .137441 2.89 5.00 170.0 .810000 543.00
3321.0 .4644590 .137441 2.51 5.00 150.0 .950000 522.00
3322.0 .4644590 .137441 2.51 5.00 160.0 1.39000 494.00
3323.0 .4644590 .137441 2.72 5.00 640.0 1.98000 710.00
3324.0 .4644590 .337441 2.59 5.00 730.0 3.20000 1202.0
3325.0 .4644590 .137441 2.75 5.00 590.0 1.25000 746.00
3326.0 .4644590 .337441 2.60 5.00 1650. 1.54000 926.00
3327.0 .4644590 .237441 2.80 5.00 1900. .780000 1153.0
3328.0 .4644590 .337441 2.50 5.00 2100. 2.30000 1124.0
3329.0 .4644590 .237441 2.61 5.00 4500. 2.73000 1376.0
3330.0 .4644590 .337441 2.78 5.00                1420.0
3331.0 .4644590 .837441 2.57 5.00 4400. 2.66000 1318.0
3332.0 .4644590 .837441 2.75 5.00 5600. 2.26000 1410.0
3333.0 .4644590 .837441 2.72 5.00 5100. 1.60000 1410.0
3334.0 .4644590 .837441 2.72 5.00 5600. 2.76000 1406.0
3356.0 .4642290 .338441 2.59 5.00 680.0 2.14000 768.00
3357.0 .4642290 .138441 2.50 5.00 530.0 .860000 486.00
3358.0 .4642290 .338441 2.60 5.00 470.0 .600000 907.00
3359.0 .4642290 .138441 2.50 5.00 640.0 1.80000 795.00
3360.0 .4642290 .138441 2.50 5.00 370.0 .370000 536.00
3361.0 .4642290 .138441 2.61 5.00 520.0 .590000 499.00
3362.0 .4642290 .138441 2.68 5.00 540.0 1.84000 793.00
3363.0 .4642290 .138441 2.90 5.00 620.0 2.00000 761.00
3364.0 .4642290 .138441 2.61 5.00 620.0 1.60000 696.00
3365.0 .4646790 .138441 2.89 5.00 480.0 .990000 392.00
3366.0 .4646790 .138441 2.79 5.00 610.0 .250000 342.00
3367.0 .4646790 .138441 2.99 5.00 480.0 .430000 273.00
3368.0 .4646790 .138441 2.89 5.00 360.0 .280000 336.00
3369.0 .4646790 .138441 2.75 5.00 29.00 .150000 362.00
3370.0 .4646790 .138441 2.58 5.00 440.0 .850000 351.00
3371.0 .4646790 .138441 2.78 5.00 440.0 .510000 390.00
3372.0 .4646790 .138441 2.86 5.00 530.0 .560000 349.00
3385.0 .4649067 .140441 2.60 5.00 470.0 1.30000 386.00
3386.0 .4649067 .140441 2.61 5.00 350.0 .260000 389.00
3387.0 .4649067 .140441 2.60 5.00 253.0 .250000 250.00
3388.0 .4649067 .140441 2.70 5.00 380.0 1.40000 245.00
3389.0 .4649067 .140441 2.52 5.00 430.0 .830000 406.00
3390.0 .4649067 .140441 2.52 5.00 420.0 .750000 229.00
3391.0 .4649067 .140441 2.44 5.00 500.0 1.30000 337.00
3392.0 .4649067 .140441 2.58 5.00 394.0 .800000 203.00
3393.0 .4649022 .140441 2.60 5.00 450.0 .510000 356.00
3394.0 .4649022 .340441 2.61 5.00 490.0 .740000 317.00
3395.0 .4649022 .340441 2.73 5.00 440.0 .700000 280.00
3396.0 .4649022 .140441 2.62 5.00 460.0 1.10000 309.00
3397.0 .4649022 .140441 2.58 5.00 520.0 .250000 308.00
3398.0 .4649022 .140441 2.68 5.00 430.0 .350000 455.00
3399.0 .4649022 .140441 2.70 5.00 470.0 .670000 341.00
3400.0 .4649022 .940441 2.70 5.00 430.0 .330000 469.00
3401.0 .6649090 .102441 1.68 5.00 94.00 1.40000 305.10
3402.0 .6649090 .102441 1.85 5.00 80.00 .710000 278.90
3403.0 .6649090 .102441 1.66 5.00 54.00 .260000 249.60
3404.0 .6649090 .102441 1.67 5.00 95.00 .830000 190.20
3405.0 .6649090 .102441 1.54 5.00 176.0 1.70000 501.00
3406.0 .6649090 .102441 1.25 5.00 180.0 1.09000 348.70
3407.0 .6649090 .102441 1.47 5.00 192.0 1.69000 473.10
3408.0 .6649090 .102441 1.63 5.00 170.0 1.50000 471.60
3409.0 .6649090 .102441 1.44 5.00 760.0 3.70000 611.00
3410.0 .6649090 .302441 1.85 5.00 580.0 .880000 428.60
3411.0 .6649090 .102441 1.90 5.00 700.0 2.70000 580.80
3412.0 .6649090 .102441 1.51 5.00 690.0 1.90000 647.10
3413.0 .6649090 .402441 1.29 5.00 1500. 1.10000 583.40
3414.0 .6649090 .502441 1.24 5.00 1630. 1.05000 573.30
3415.0 .6649090 .402441 1.48 5.00 1400. 1.56000 969.20
3416.0 .6649090 .802441 1.43 5.00 5000. 2.70000 750.40
3417.0 .6649090 .802441 1.64 5.00 4950. 2.50000 1347.0
3418.0 .6649090 .802441 1.76 5.00 4500. 2.85000 1194.2
3419.0 .6649090 .802441 1.71 5.00 6950. 6.00000 1290.2
3420.0 .6649090 .802441 1.71 5.00 7700. 2.60000 637.40
3421.0 .6649090 .802441 1.23 5.00 6100. 3.50000 765.50
3422.0 .6649090 .802441 1.89 5.00 4700. 2.50000 439.90
3430.0 .6649090 .502441 1.67 5.00 570.0 .870000 558.20
3431.0 .6649090 .102441 1.65 5.00 2000. 2.90000 660.00
3440.0 .6649000 .104441 1.41 5.00 105.0 1.90000 510.00
3441.0 .6649000 .104441 1.45 5.00 100.0 1.02000 715.70
3442.0 .6649000 .104441 1.54 5.00 100.0 .820000 545.40
3443.0 .6649000 .104441 1.41 5.00 100.0 .940000 402.20
3444.0 .6649000 .304441 1.50 5.00 160.0 1.19000 595.90
3445.0 .6649000 .304441 1.27 5.00 150.0 1.10000 381.90
3446.0 .6649000 .404441 1.50 5.00 140.0 .510000 577.10
3447.0 .6649000 .104441 1.27 5.00 170.0 1.06000 509.20
3448.0 .6649000 .304441 1.26 5.00 610.0 2.10000 702.20
3449.0 .6649000 .404441 1.75 5.00 610.0 2.10000 487.40
3450.0 .6649000 .304441 1.30 5.00 700.0 2.10000 828.50
3451.0 .6649000 .304441 1.50 5.00 650.0 1.59000 786.30
3452.0 .6649000 .304441 1.43 5.00 610.0 1.90000 716.50
3453.0 .6649000 .304441 1.44 5.00 1900. 2.90000 835.90
3454.0 .6649000 .304441 1.38 5.00 1900. 2.60000 614.70
3455.0 .6649000 .304441 1.41 5.00 1800. 1.10000 787.10
3456.0 .6649000 .304441 1.41 5.00 2100. 3.10000 884.10
3457.0 .6649000 .804441 1.28 5.00 5500. 2.78000 802.60
3458.0 .6649000 .804441 1.53 5.00 5100. 1.64000 1069.2
3459.0 .6649000 .104441 1.47 5.00 5600. 3.30000 1209.5
3460.0 .6649000 .104441 1.49 5.00 5300. 5.00000 1024.8
3461.0 .6649000 .804441 1.41 5.00 4750. 4.80000 1471.4
3462.0 .6649000 .804441 1.52 5.00 4000. 1.80000 987.80
3463.0 .6649000 .804441 1.44 5.00 4150. 4.30000 1223.8
3464.0 .6649000 .304441 1.50 5.00 4100. 3.00000 1542.1
3471.0 .6649045 .105441 1.49 5.00 58.00 .270000 53.000
3472.0 .6649045 .105441 1.87 5.00 40.00 .190000 37.200
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   ID     CODE 1    CODE 2 CHL  TEMP RATE  MODULUS STRENG

3473.0 .6649045 .105441 1.78 5.00 84.00 .700000 64.100
3474.0 .6649045 .105441 1.69 5.00 44.00 .330000 75.200
3479.0 .6649045 .105441 1.55 5.00 170.0 .550000 89.500
3480.0 .6649045 .105441 2.10 5.00       .200000 51.500
3481.0 .6649045 .105441 1.50 5.00 85.00 .350000 91.100
3482.0 .6649045 .105441 1.73 5.00 87.00 .220000 46.700
3483.0 .6649045 .105441 1.39 5.00 450.0 1.14000 168.00
3484.0 .6649045 .105441 1.48 5.00 360.0 .660000 137.80
3485.0 .6649045 .105441 1.54 5.00 420.0 1.20000 138.60
3486.0 .6649045 .105441 1.55 5.00 350.0 .410000 153.70
3487.0 .6649045 .105441 1.47 5.00 1500. 1.90000 310.60
3488.0 .6649045 .105441 1.80 5.00 1200. .880000 259.10
3489.0 .6649045 .105441 1.52 5.00 1400. 1.10000 299.50
3490.0 .6649045 .105441 1.39 5.00 1300. .890000 225.80
3491.0 .6649045 .105441 1.68 5.00 3100. 1.53000 418.80
3492.0 .6649045 .105441 1.52 5.00 2850. .820000 294.80
3493.0 .6649045 .105441 1.79 5.00 4000. 1.50000 340.70
3494.0 .6649045 .105441 1.77 5.00 5100. 1.40000 422.60
3495.0 .6649045 .105441 1.84 5.00 4100. 2.05000 427.90
3496.0 .6649045 .105441 2.04 5.00 5300. 2.40000 433.90
3525.0 .6649090 .306441 1.57 5.00 128.0 1.68000 742.80
3526.0 .6649090 .306441 1.54 5.00 96.00 1.20000 599.70
3527.0 .6640090 .106441 1.47 5.00 130.0 2.40000 780.40
3528.0 .6640090 .306441 1.61 5.00 105.0 1.53000 750.40
3529.0 .6640090 .506441 1.75 5.00 700.0 3.25000 1192.0
3530.0 .6640090 .806441 1.46 5.00 600.0 2.00000 939.60
3532.0 .6640090 .406441 2.04 5.00 700.0 3.00000 969.20
3533.0 .6640090 .406441 1.64 5.00 665.0 2.03000 975.90
3534.0 .6640090 .806441 1.35 5.00 6000. 3.74000 1157.8
3535.0 .6640090 .806441 1.37 5.00 7000. 3.52000 832.20
3536.0 .6640090 .806441 1.36 5.00 5200. 2.86000 584.60
3537.0 .6640090 .806441 1.34 5.00 5500. 4.26000 1647.4
3538.0 .6640090 .806441 1.41 5.00 5400. 3.50000 1857.8
3539.0 .6640090 .106401 1.70 5.00 110.0 2.58000 1489.6
3540.0 .6640090 .106401 1.72 5.00 95.00 1.84000 876.70
3541.0 .6640090 .106401 1.70 5.00 66.00 .410000 806.30
3542.0 .6640090 .106401 1.68 5.00 120.0 3.00000 930.00
3543.0 .6640090 .806401 1.70 5.00 740.0 2.08000 1456.1
3544.0 .6640090 .806401 1.70 5.00 740.0 3.24000 1615.8
3545.0 .6640090 .806401 1.70 5.00 740.0 2.50000 1281.5
3546.0 .6640090 .806401 1.70 5.00 750.0 3.70000 1531.6
3547.0 .6640090 .806401 1.70 5.00 700.0 3.10000 1246.6
3548.0 .6640090 .806401 1.64 5.00 7300. 4.30000 1857.8
3549.0 .6640090 .806401 1.77 5.00 7200. 4.40000 1993.0
3550.0 .6640090 .806401 1.70 5.00 7900. 5.53000 2398.3
3551.0 .6640090 .806401 1.74 5.00 6100. 1.70000 1032.2
3552.0 .6640090 .107441 1.56 5.00 189.0 1.70000 831.50
3553.0 .6640090 .107441 1.53 5.00 170.0 .970000 565.80
3554.0 .6640090 .107441 1.52 5.00 130.0 .920000 747.40
3555.0 .6640090 .107441 1.62 5.00 195.0 1.20000 515.30
3556.0 .6640090 .807441 1.49 5.00 2000. 4.80000 1376.1
3557.0 .6640090 .807441 1.48 5.00 2700. 11.0000 1829.3
3558.0 .6640090 .807441 1.84 5.00 2500. 2.28000 1128.5
3559.0 .6640090 .807441 1.50 5.00 2200. 3.70000 1268.4
3560.0 .6640090 .807441 1.49 5.00 5700. 3.70000 1448.8
3561.0 .6640090 .807441 2.30 5.00 4300. 3.03000 1477.9
3562.0 .6640090 .807441 1.74 5.00 4400. 7.70000 1871.4
3563.0 .6640090 .807441 1.52 5.00 4100. 3.98000 1724.5
3565.0 .6640090 .407401 1.74 5.00 186.0 1.80000 1076.6
3566.0 .6640090 .307401 1.89 5.00 200.0 2.50000 1011.4
3567.0 .6640090 .307401 1.99 5.00 190.0 1.90000 984.00
3568.0 .6640090 .807401 1.51 5.00 2500. 3.20000 1898.4
3569.0 .6640090 .807401 1.92 5.00 2500. 2.40000 1682.4
3570.0 .6640090 .807401 1.50 5.00 2400. 5.70000 1633.3
3571.0 .6640090 .807401 1.70 5.00 2300. 3.16000 1703.5
3572.0 .5640090 .807401 1.92 5.00 3700. 1.90000 2020.0
3573.0 .6640090 .807401 1.69 5.00 4000. 4.42000 2202.4
3574.0 .664009C .807401 2.19 5.00 5000. 3.79000 1993.0
3575.0 .6640090 .807401 1.71 5.00 4800. 4.30000 2026.7
3602.0 .6644590 .308441 1.41 5.00 570.0 1.82000 546.90
3603.0 .6644590 .308441 1.36 5.00 440.0 1.04000 339.20
3604.0 .6644590 .308441 1.34 5.00 590.0 1.24000 621.50
3605.0 .6644590 .408441 1.35 5.00 640.0 3.20000 546.90
3606.0 .6644590 .108441 1.67 5.00 600.0 1.35000 601.90
3607.0 .6644590 .108441 1.71 5.00 570.0 2.00000 685.60
3608.0 .6644590 .108441 1.63 5.00 560.0 1.60000 697.60
3609.0 .6644590 .108401 1.83 5.00 640.0 2.20000 681.10
3610.0 .6644590 .108401 1.70 5.00 670.0 1.91000 781.90
3611.0 .6644590 .108401 1.79 5.00 690.0 3.20000 745.90
3612.0 .6644590 .108401 1.86 5.00 520.0 1.35000 562.70
3613.0 .6644590 .108401 1.61 5.00 720.0 2.16000 885.60
3614.0 .6644590 .108401 1.62 5.00 490.0 2.20000 910.00
3615.0 .6644590 .108401 1.70 5.00 660.0 2.30000 743.60
3616.0 .6644590 .108401 1.74 5.00 712.0 3.00000 989.20
3629.0 .6649000 .109441 1.34 5.00 520.0 1.19000 561.20
3630.0 .6649000 .109441 1.38 5.00 480.0 .810000 592.90
3631.0 .6649000 .309441 1.34 5.00 546.0 1.80000 664.50
3632.0 .6649090 .109441 2.02 5.00 180.0 1.30000 213.90
3633.0 .6649090 .109441 1.56 5.00 190.0 1.19000 249.60
3634.0 .6649090 .109441 1.40 5.00 140.0 .650000 216.30
3635.0 .6649090 .109441 1.44 5.00 174.0 1.40000 403.70
3636.0 .6649090 .309441 1.63 5.00 380.0 .720000 364.50
3637.0 .5649090 .309441 1.98 5.00 630.0 .500000 960.50
3638.0 .6649090 .309441 1.67 5.00 480.0 1.00000 261.50
3639.0 .6649090 .309441 1.80 5.00 570.0 2.30000 415.10
3640.0 .6649090 .109441 1.46 5.00 1700. 1.26000 432.40
3641.0 .6649090 .109441 1.45 5.00 1650. 1.70000 607.20
3642.0 .6649090 .809441 1.59 5.00 1700. 1.83000 433.90
3643.0 .6649090 .309441 1.62 5.00 1700.         261.50
3644.0 .6649090 .309441 1.71 5.00 6000. 3.40000 660.00
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   ID     CODE 1    CODE 2 CHL  TEMP RATE  MODULUS STRENG

3645.0 .6649090 .309441 1.61 5.00 5400. 3.97000 971.50
3646.0 .6649090 .309441 1.60 5.00               277.30
3647.0 .6649090 .809441 1.49 5.00               277.30
3664.0 .6649045 .111441 1.61 2.00 94.00 .670000 64.900
3665.0 .6649045 .111441 2.29 2.00 86.00 .380000 54.600
3668.0 .5649045 .111441 1.93 2.00 113.0 .390000 57.000
3669.0 .6649045 .111441 1.90 2.00 97.00 .280000 49.900
3670.0 .6649045 .111441 2.27 2.00 100.0 .350000 61.800
3671.0 .6649045 .111441 1.93 2.00 63.00 .130000 41.200
3672.0 .6649045 .111441 2.27 2.00 390.0 1.40000 103.00
3673.0 .6649045 .111441 2.60 2.00 360.0 .790000 71.300
3674.0 .6649045 .111441 1.70 2.00 365.0 .700000 103.00
3675.0 .6649045 .111441 1.67 2.00 334.0 .650000 138.60
3676.0 .6649045 .111441 2.04 2.00 300.0 .500000 95.100
3677.0 .6649045 .111441 2.70 2.00 1500. .760000 220.30
3678.0 .6649045 .111441 1.86 2.00 1350. 1.03000 230.60
3679.0 .6649045 .111441 2.60 2.00 1300. .900000 174.30
3680.0 .6649045 .111441 2.08 2.00 1000. .590000 151.30
3681.0 .6649045 .111441 2.10 2.00 2350. .740000 265.40
3682.0 .6649045 .111441 2.08 2.00 2600. 1.40000 237.70
3683.0 .6649045 .111441 2.70 2.00 1900. .630000 225.00
3684.0 .6649045 .111441 2.19 2.00 3200. .620000 252.80
3685.0 .6649045 .111441 2.68 2.00 3800. 1.30000 255.10
3686.0 .6649045 .111441 2.01 2.00 5100. 1.29000 332.80
3687.0 .6649045 .111441 1.60 2.00 4000. 1.70000 263.10
3688.0 .6649045 .111441 1.88 2.00 3600. 1.03000 233.70
3706.0 .6649090 .112441 1.52 2.00 97.00 .880000 178.30
3707.0 .6649090 .112441 1.80 2.00 90.00 .460000 233.70
3708.0 .6649090 .112441 1.43 2.00 118.0 1.30000 235.30
3709.0 .6649090 .112441 1.80 2.00 79.00 .380000 221.90
3710.0 .6649090 .112441 1.37 2.00 140.0 .700000 217.90
3711.0 .6649090 .112441 1.32 2.00 130.0 .320000 306.70
3712.0 .6649090 .312441 1.34 2.00 190.0 1.50000 309.00
3713.0 .6649090 .312441 1.50 2.00 141.0 .800000 229.80
3714.0 .6649090 .112441 1.27 2.00 560.0 1.50000 375.60
3715.0 .6649090 .112441 1.64 2.00 540.0 1.60000 397.70
3716.0 .6649090 .112441 1.33 2.00 425.0 .450000 396.20
3717.0 .6649090 .112441 1.43 2.00 560.0 1.05000 427.10
3718.0 .6649090 .112441 1.16 2.00 540.0 1.40000 380.40
3719.0 .6649090 .312441 1.24 2.00 1700. 1.32000 591.40
3720.0 .6649090 .312441 1.15 2.00 1700. 1.80000 214.70
3721.0 .6649090 .312441 1.24 2.00 1800. 1.85000 606.50
3722.0 .6649090 .112441 1.08 2.00 1700. 2.30000 540.90
3723.0 .6649090 .312441 1.16 2.00 3100. 1.60000 305.90
3724.0 .6649090 .312441 1.08 2.00 3400. 2.00000 558.20
3725.0 .6649090 .312441 1.10 2.00 2900. 1.12000 403.70
3726.0 .6649090 .312441 1.18 2.00 5100. 3.50000 509.20
3727.0 .6649090 .312441 1.15 2.00 5100. 1.23000 253.60
3728.0 .6649090 .812441 1.09 2.00 5600. 2.58000 595.20
3729.0 .6649090 .812441 1.08 2.00 4700. 1.30000 735.30
3730.0 .6649090 .112441 1.10 2.00 1850. 1.35000 660.70
3731.0 .6649090 .312441 1.13 2.00 3150. 1.03000 712.70
3732.0 .6649000 .313441 1.19 2.00 110.0 .860000 427.10
3733.0 .6649000 .913441 1.17 2.00 78.00 .910000 359.80
3734.0 .6647000 .313441 1.18 2.00 93.00 .540000 418.80
3735.0 .6649000 .313441 1.16 2.00 77.00 .500000 359.00
3736.0 .6649000 .313441 1.24 2.00 90.00 .270000 388.30
3737.0 .6649000 .313441 1.20 2.00 130.0 .420000 485.90
3738.0 .6649000 .313441 1.24 2.00 130.0 .440000 471.60
3739.0 .6649000 .313441 1.17 2.00 180.0 .860000 494.20
3740.0 .6649000 .313441 1.20 2.70 4500. 1.40000 501.70
3741.0 .6649000 .313441 1.30 2.00 5300. 1.61000 464.80
3742.0 .6649000 .813441 1.08 2.00 3950. 2.00000 562.00
3743.0 .6647000 .313441 1.16 2.00 4600. 1.46000 676.50
3760.0 .6649000 .313441 1.23 2.00 420.0 6.55000 396.20
3761.0 .6649000 .313441 1.16 2.00 485.0 1.30000 482.90
3762.0 .6649000 .313441 1.18 2.00 460.0 .770000 492.70
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EXHIBIT 1.2 TENSION DATA. REDUCED

ID	CODE 1	CODE 2	CHL	TEMP	RATE	MODULUS	STRENG
0141.0	.4119090	.104082	4.41	14.3	86.00		138.00
0143.0	.4129090	.305082	3.82	14.3	160.0		105.00
0144.0	.4129090	.105082	3.82	14.3	90.00		74.000
0145.0	.4129090	.306082	3.82	14.3	140.0		93.000
0146.0	.4129090	.106082	3.82	14.3	160.0		97.000
0147.0	.4129090	.107082	3.82	14.3	130.0		76.000
0154.0	.5149090	.300602	2.69	6.00	170.0		87.500
0155.0	.5149000	.100602	2.20	6.00	190.0		81.000
0156.0	.5149045	.100602	2.20	6.00	170.0		106.00
0163.0	.5149090	.300602	2.37	6.00	130.0		87.000
0164.0	.5149000	.100602	2.37	6.00	140.0		53.500
0165.0	.5149045	.101602	2.37	6.00	190.0		104.00
0176.0	.5149000	.100602	2.53	6.00	270.0		33.500
0177.0	.5149045	.100602	2.53	6.00	160.0		50.000
0178.0	.5149090	.101602	2.53	6.20	280.0		92.000
0179.0	.5149000	.101602	1.86	6.00	250.0		75.000
0180.0	.5149045	.101602	1.86	6.00	230.0		97.000
0181.0	.5149090	.301602	1.86	6.00	260.0		116.00
0185.0	.5149090	.101602	2.33	6.00	140.0		92.000
0186.0	.5149090	.100602	2.33	6.00	160.0		147.00
0195.0	.5130090	.100082	2.86	2.00	520.0		308.00
0418.0	.2329090	.100062	3.25	7.00	420.0	2.15000	72.100
0419.0	.2329090	.100042	5.66	14.3	330.0	2.50000	95.300
0435.0	.2329090	.100042	6.06	14.3	290.0	2.10000	51.000
0438.0	.2329090	.200042	6.06	14.3	400.0	2.10000	30.800
0442.0	.2329090	.100042	6.00	14.3	320.0		44.000
0449.0	.2329090	.100042	5.17	14.3	1400.	1.80000	41.900
0450.0	.2329090	.100042	5.17	14.3	1600.	3.30000	44.200
0451.0	.2327090	.100042	5.17	14.3	1200.	2.00000	45.900
0455.0	.2329090	.100042	5.87	14.3	45.00	1.90000	47.800
0456.0	.2329090	.100042	5.87	14.3	49.00	3.80000	64.900
0464.0	.2329090	.100082	5.77	14.3	47.00	2.40000	98.900
0471.0	.2329090	.100082	4.17	14.3	49.00	3.50000	111.30
0474.0	.2329090	.100092	4.17	14.3	1300.	2.70000	100.50
0479.0	.2329090	.100092	4.92	14.3	48.00	3.20000	120.60
0480.0	.2329090	.100082	4.92	14.3	46.00	1.80000	60.300
0482.0	.2329090	.100072	4.92	14.3	46.00	1.90000	45.500
0486.0	.2329090	.100072	4.84	14.3	1100.	3.10000	77.600
0489.0	.2329090	.200072	4.84	14.3	1100.	3.80000	110.00
0491.0	.2329090	.200072	4.84	14.3	1100.		46.900
0494.0	.2339011	.100182	2.98	10.0	47.00	1.70000	48.900
0500.0	.2339011	.200182	2.98	10.0	44.00	2.10000	76.700
0501.0	.2339011	.100182	2.98	10.0	51.00	3.20000	63.000
0502.0	.2339011	.100182	2.98	10.0	750.0	3.10000	59.000
0503.0	.2339011	.100182	2.70	10.0	890.0		83.800
0507.0	.2339011	.100182	2.70	10.0	43.00	1.30000	51.900
0511.0	.2339011	.100182	2.70	10.0	48.00	1.10000	77.100
0515.0	.3349000	.100282	2.44	6.00	45.00		73.000
0516.0	.3349000	.100282	2.44	6.00	47.00		92.000
0517.0	.3349090	.100282	2.44	6.00	45.00		106.00
0518.0	.3349000	.101282	2.44	6.00	45.00		55.000
0519.0	.3349090	.101282	2.44	6.00	44.00		71.000
0520.0	.3349045	.101282	2.44	6.00	45.00		77.000
0521.0	.3349045	.100282	2.44	6.00	44.00		71.000
0522.0	.3349090	.200282	2.44	6.00	47.00		78.000
0523.0	.3349045	.200282	2.44	6.00	46.00		70.000
0524.0	.3349000	.100282	2.44	6.00	390.0		80.000
0525.0	.3349090	.200282	2.41	6.00	380.0		74.000
0525.1	.3349090	.100282	2.41	6.00	400.0		78.000
0526.0	.3349045	.100282	2.41	6.00	370.0		59.000
0527.0	.3349000	.100282	2.41	6.00	360.0	2.40000	74.000
0528.0	.3349090	.100282	2.41	6.00	400.0	2.30000	97.400
0529.0	.3349045	.200282	2.41	6.00	390.0	2.50000	72.000
0530.0	.3349000	.100282	2.56	14.3	47.00	3.20000	66.000
0531.0	.3349090	.100282	2.56	14.3	47.00	2.90000	69.000
0532.0	.3349045	.100282	2.56	14.3	48.00	1.70000	66.000
0533.0	.3349000	.100282	2.56	14.3	46.00	1.50000	55.000
0534.0	.3349090	.100282	2.84	14.3	46.00	3.20000	81.000
Y535.0	.3349045	.100282	2.84	14.3	47.00	1.20000	83.000
0536.0	.3349000	.100282	2.84	14.3	44.00	1.50000	70.000
0537.0	.3349090	.100282	2.84	14.3	44.00	1.90000	89.300
0538.0	.3349045	.101282	2.84	14.3	44.00	1.80000	57.000
0539.0	.3349000	.100282	2.85	14.3	44.00	1.50000	29.000
0540.0	.3349090	.100282	2.85	14.3	46.00	1.70000	107.70
0541.0	.3349045	.100282	2.85	14.3	42.00	1.30000	64.000
0542.0	.3349000	.100282	3.16	14.3	380.0	1.90000	75.000
0543.0	.3349090	.100282	3.16	14.3	400.0	1.70000	84.000
0544.0	.3349045	.100282	3.16	14.3	370.0	1.60000	59.000
0545.0	.3349000	.100282	3.16	14.3	400.0	1.70000	78.000
0546.0	.3349090	.100282	2.39	14.3	440.0	1.90000	79.000
0547.0	.3349045	.100282	2.39	14.3	380.0	1.80000	73.000
0548.0	.3349090	.100282	2.39	14.3	360.0	1.90000	64.000
0549.0	.3349090	.100422	2.90	4.00	46.00	1.90000	83.000
0550.0	.3349090	.100422	2.90	4.00	51.00	1.60000	81.000
0551.0	.3349090	.200422	2.62	4.00	48.00	1.80000	50.000
0552.0	.3349090	.100422	2.62	4.00	48.00	2.20000	113.00
0553.0	.3349000	.100422	2.62	4.00	46.00	1.20000	38.000
0554.0	.3349000	.100422	2.62	4.00	33.00	1.10000	32.000
0555.0	.3349000	.100422	2.90	4.00	46.00	1.20000	36.000
0556.0	.3349000	.100422	2.90	4.00	44.00	1.20000	38.000
0557.0	.3349045	.200422	2.90	4.00	44.00	1.30000	69.200
0558.0	.3349045	.100422	2.91	4.00	43.00	.980000	39.000
0559.0	.3349045	.100422	2.91	4.00	44.00	1.20000	44.000
0560.0	.3349045	.100422	2.91	4.00	49.00	1.30000	69.000
0561.0	.3349090	.100422	2.93	4.00	410.0	2.50000	60.000
0562.0	.3349090	.100422	2.93	4.00	390.0	1.80000	73.000
0563.0	.3349090	.100422	2.93	4.00	520.0	2.00000	95.000
0564.0	.3349000	.100422	3.30	4.00	330.0	1.30000	49.000
0565.0	.3349000	.100422	3.30	4.00	530.0	2.00000	42.000
0566.0	.3349000	.100422	3.30	4.00	320.0	1.70000	87.000
0567.0	.3349045	.100422	2.57	4.00	320.0	1.20000	33.500
0568.0	.3349045	.100422	2.57	4.00	310.0	1.50000	45.000
0569.0	.3349045	.100422	2.57	4.00	310.0	1.40000	62.000
0617.0	.3329090	.100042	4.21	21.0	430.0	5.70000	117.40
0618.0	.3329090	.100042	5.23	21.0	390.0	7.50000	146.00
0619.0	.3329090	.100042	5.23	21.0	400.0	3.80000	99.400
0621.0	.3329090	.100042	5.23	21.0	410.0	3.50000	115.00
0623.0	.3329090	.100042	5.23	21.0	440.0	4.70000	134.00
0625.0	.3329090	.300042	3.62	21.0	150.0	6.70000	138.00
0627.0	.3329090	.100042	3.62	21.0	140.0	6.80000	127.00
0635.0	.3329090	.100042	4.91	21.0	130.0	4.10000	132.00
0638.0	.3329090	.200042	4.91	21.0	140.0	5.10000	50.000
0641.0	.3329090	.100042	3.33	21.0	55.00	6.60000	149.00
0644.0	.3329090	.100042	3.33	21.0	57.00	2.80000	125.00
0646.0	.3329090	.200042	3.33	21.0	56.00	5.40000	80.000
0648.0	.3329090	.100042	3.33	21.0	57.00	4.00000	134.00
0649.0	.3329090	.101042	3.33	21.0	56.00	4.30000	113.00
0689.0	.3319011	.302042	5.10	14.3	26.00		78.000
0692.0	.3319011	.100042	5.10	14.3	40.00		93.800
0694.0	.3319011	.101042	5.10	14.3	40.00	.300000	93.800
0699.0	.3319011	.300042	5.10	14.3	43.00		83.800
0706.0	.3319011	.100042	4.33	14.3	41.00		99.000
0707.0	.3319011	.100042	4.33	14.3	44.00		93.800
0708.0	.3319011	.100042	4.33	14.3	210.0		125.80
0709.0	.3319011	.300042	4.33	14.3	180.0		110.50
0714.0	.3319011	.300042	4.33	14.3	230.0		127.30
0720.0	.3319011	.100042	4.33	14.3	7.600		124.20
0723.0	.3319011	.100042	4.33	14.3	12.00		181.50
0725.0	.3319011	.100042	4.33	14.3	10.00		144.50
0727.0	.3319011	.100042	3.88	14.3	14.00		97.000
0727.1	.3319011	.100042	4.33	14.3	270.0		130.50
0729.0	.3319011	.100042	3.88	14.3	280.0		126.80
0733.0	.3329090	.100022	2.64	14.3	330.0		131.20
0734.0	.3329090	.100022	2.64	14.3	310.0		159.40
0735.0	.3329090	.100022	2.64	14.3	280.0	0	105.00
0736.0	.3329090	.101022	2.64	14.3	310.0		101.50
0758.0	.3319011	.102042	5.25	14.3	77.00		127.00
0759.0	.4319011	.100042	5.25	14.3	69.00		68.000
0761.0	.4319011	.104042	5.25	14.3	57.00		97.000
0880.0	.5349000	.122582	.700	2.00	38.00	3.50000	50.400
0914.0	.5349090	.232632	.700	6.00	47.00	6.90000	61.000
0914.1	.5349090	.132632	.700	6.00	35.00	5.80000	82.000
0915.0	.5349000	.133632	.700	6.00	42.00	5.60000	75.000
0916.0	.5349000	.133632	.700	6.00	80.00	5.80000	84.000
0917.0	.5349000	.133632	.700	6.00	42.00	4.70000	54.000
0918.0	.5349090	.133632	.700	6.00	50.00		92.300
0919.0	.5349045	.233532	.700	6.00	42.00	2.20000	60.000
0919.1	.5349045	.234532	.700	6.00	43.00	2.20000	60.000
0919.2	.5349045	.234532	.700	6.00	180.0	5.70000	77.400
0919.3	.5349045	.134532	.700	6.00	200.0	6.00000	69.000
0920.0	.5349000	.234632	.700	6.00	42.00		57.000
0920.1	.5349000	.134632	.700	6.00	43.00		63.000
0921.0	.5349000	.134632	.700	6.00	50.00		109.00
0922.0	.5349045	.235432	.700	6.00	40.00	2.10000	51.000
0922.1	.5349045	.235432	.700	6.00	28.00	.750000	50.000
0922.2	.5349045	.135432	.700	1.00	31.00	.750000	42.000
0923.0	.5349045	.235432	.700	1.00	34.00	1.80000	35.000
0923.1	.5349045	.236432	.700	1.00	190.0	2.20000	43.000
0923.2	.5349045	.237432	.700	1.00	200.0	2.50000	55.000
0923.3	.5349045	.237432	.700	2.00	220.0	1.90000	68.000
0923.4	.5349045	.237432	.700	2.00	200.0	4.00000	64.000
0924.0	.5319011	.347082	.300	2.00	56.00	3.40000	114.00
0924.1	.5319011	.248082	.300	2.00	58.00	4.00000	127.00
0925.0	.5319011	.148082	.300	2.00	98.00		236.00
0926.0	.5319011	.349082	.300	2.00	48.00	3.90000	120.00
0927.0	.5319011	.149082	.300	2.00	120.0		151.00
0928.0	.5319011	.149082	.300	2.00	120.0		107.00
0929.0	.5319011	.150082	.300	2.00	45.00	2.50000	93.000
0930.0	.5319011	.150082	.300	2.00	220.0	4.60000	77.000
0931.0	.5319011	.150082	.300	2.00	200.0	4.20000	117.00
0932.0	.5319011	.151082	.300	6.00	370.0		157.00
0933.0	.5319011	.151082	.300	6.00	210.0	5.70000	70.000
0934.0	.5319011	.151082	.300	6.00	490.0		62.300
0935.0	.5319011	.151082	.300	6.00	360.0		102.00
0936.0	.5319011	.153082	.300	6.00	390.0		79.000
0937.0	.5319011	.153082	.300	6.00	380.0	3.70000	79.000
0938.0	.5319011	.154082	.300	6.00	390.0		101.00
0939.0	.5319011	.155082	.300	6.00	290.0	3.60000	64.000
0940.0	.5219011	.155082	.300	6.00	420.0	3.90000	86.000
0941.0	.5329090	.155022	.300	6.00	48.00	1.60000	79.000
0942.0	.5329090	.156022	.300	6.00	52.00	3.20000	74.000
0943.0	.5329090	.156022	.300	6.00	50.00	3.10000	60.000
0944.0	.5329090	.157022	.300	6.00	130.0		33.500
0945.0	.5329090	.157022	.300	6.00	230.0	4.00000	101.00
0946.0	.5329090	.357022	.300	6.00	230.0	3.90000	107.00
0947.0	.5329090	.158022	.300	6.00	530.0	3.30000	104.00
0948.0	.5329090	.158022	.300	6.00	600.0	3.80000	94.000
0949.0	.5329070	.158022	.300	6.00	460.0	4.30000	87.000
0950.0	.5329090	.158022	.300	6.00	240.0	3.60000	94.000
0951.0	.8449090	.126162	.200	10.0	270.0		163.00
0952.0	.8449090	.126162	.200	10.0	160.0		130.50
0953.0	.8449090	.127162	.200	10.0	210.0		103.20
0954.0	.8449090	.131162	.200	10.0	50.00		103.20
0955.0	.8449090	.131142	.230	10.0	30.00	4.40000	97.800
0956.0	.8449090	.139142	.230	10.0	27.00	11.0000	110.00
0957.0	.8449090	.140142	.230	10.0	38.00	12.0000	101.20
0958.0	.8449000	.141142	.230	10.0	34.00	5.30000	81.300
0959.0	.8449000	.144142	.230	10.0	30.00	2.70000	100.60

ID	CODE 1	CODE 2	CHL	TEMP	RATE	MODULUS	STRENG
0961.0	.8449000	.145122	.230	10.0	33.00	2.90000	91.300
0963.0	.8449000	.147122	.230	10.0	32.00		80.300
0964.0	.8449000	.147122	.230	10.0	64.00		92.000
0965.0	.8449090	.147122	.230	10.0	66.00		106.10
0966.0	.8449090	.248122	.230	10.0	28.00	3.30000	68.300
0967.0	.8449090	.151122	.230	10.0	33.00	3.50000	101.00
0970.0	.8449090	.154122	.230	10.0	29.00	2.80000	67.500
0972.0	.8449090	.155122	.230	10.0	53.00	7.30000	100.20
0973.0	.8449022	.157092	.230	10.0	50.00	2.10000	73.200
0975.0	.8449000	.158092	.230	10.0	46.00	1.40000	59.300
0977.0	.8449000	.160092	.230	10.0			64.300
0979.0	.8449000	.160092	.230	10.0	130.0	4.30000	73.600
0980.0	.8449000	.160092	.230	10.0	130.0	3.70000	65.300
0984.0	.8449090	.161092	.230	10.0	140.0	4.80000	80.000
0986.0	.8449090	.161062	.230	10.0	150.0		77.000
0987.0	.8449090	.161062	.230	10.0	150.0	4.30000	82.000
0990.0	.8449090	.162062	.230	10.0	9.500	2.00000	79.100
0992.0	.8449090	.162062	.230	10.0	10.00	1.60000	37.600
0994.0	.8449090	.162062	.230	10.0	9.200	2.80000	65.300
0996.0	.8449090	.164062	.230	10.0	50.00	11.0000	92.500
0998.0	.8449000	.164062	.230	10.0	9.300	1.80000	36.200
1001.0	.8449000	.164062	.230	10.0	9.300	4.40000	34.600
1002.0	.8449000	.164062	.230	10.0	9.000	1.00000	35.800
1007.0	.8449000	.165202	.210	10.0			92.700
1009.0	.8449090	.165202	.210	10.0	150.0	7.80000	115.60
1010.0	.8449090	.165202	.210	10.0	130.0	10.0000	78.400
1011.0	.8449090	.166202	.210	10.0	10.00	5.40000	95.500
1015.0	.8449090	.366202	.210	10.0	9.500	8.00000	107.90
1015.1	.8449090	.266202	.210	10.0	9.900	8.60000	119.00
1015.2	.8449090	.167202	.210	10.0	10.00	8.60000	109.00
1017.0	.8449000	.166202	.210	10.0	10.00	2.80000	102.80
1019.0	.8449000	.166202	.210	10.0	140.0	4.80000	130.70
1021.0	.8449000	.267252	.270	10.0	8.600	4.20000	62.600
1021.1	.8449000	.167252	.270	10.0	9.000		102.20
1023.0	.8449045	.267252	.270	10.0	7.200	.070000	64.000
1023.1	.8449045	.168252	.270	10.0	7.400	.870000	59.900
1024.0	.8449045	.268252	.270	10.0	31.00	3.00000	74.100
1024.1	.8449040	.268252	.270	10.0	28.00	2.80000	48.600
1024.2	.8449045	.169252	.270	10.0	27.00	2.30000	79.800
1025.0	.8449045	.268252	.270	10.0	56.00	3.00000	71.000
1025.1	.8449045	.268252	.270	10.0	56.00	3.30000	61.400
1025.2	.8449045	.169252	.270	10.0	61.00	4.50000	92.800
1026.0	.8449045	.369252	.270	10.0	130.0	5.10000	78.700
1026.1	.8449045	.271252	.270	10.0	130.0	4.00000	51.500
1035.0	.8449000	.369252	.270	10.0	140.0	7.40000	133.00
1035.1	.8449090	.170252	.270	10.0	170.0	9.60000	158.00
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1040.2	.8449090	.274252	.270	1.00	31.00	8.00000	111.00
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1042.2	.8449090	.374282	.190	1.00	150.0	9.10000	104.00
1042.3	.8449090	.175282	.190	1.00			139.00
1057.0	.8449000	.175282	.190	1.00	6.600	1.60000	78.700
1058.0	.8449000	.176282	.190	1.00	57.00	5.00000	106.00
1059.0	.8449000	.176282	.190	1.00	120.0	4.60000	102.00
1061.0	.8449045	.276282	.190	1.00	7.000	.890000	58.600
1061.1	.8449045	.178282	.190	1.00			68.000
1062.0	.8449045	.278282	.190	1.00	50.00	1.10000	68.700
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1078.0	.8449045	.180282	.190	3.00	8.500	1.50000	57.200
1082.0	.8449045	.180282	.190	3.00	130.0	5.10000	74.000
1149.0	.2639011	.102012	6.70	10.0	3.700	2.50000	43.000
1150.0	.2639011	.103042	5.60	10.0	3.900	1.30000	34.000
1152.0	.2639011	.103012	6.70	10.0	51.00	2.80000	15.700
1154.0	.2619011	.103042	5.60	10.0	130.0	7.90000	74.100
1155.0	.2619011	.107072	4.85	10.0	100.0	3.90000	51.600
1156.0	.2619011	.107012	6.83	10.0	130.0	2.50000	59.000
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1162.0	.2639011	.107042	5.30	10.0	57.00	2.30000	40.000
1163.0	.2639011	.109072	4.80	10.0	81.00	2.50000	43.200
1164.0	.2639011	.102042	5.30	10.0	14.00	1.40000	27.000
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1166.0	.2639011	.102072	4.80	10.0	75.00	3.40000	57.000
1167.0	.2639011	.103072	4.80	2.00	68.00	2.70000	40.800
1175.0	.2639011	.103072	4.80	2.00	12.00	1.30000	28.900
1178.0	.2639011	.103042	5.30	2.00	72.00	1.80000	49.000
1180.0	.2639011	.104042	5.30	2.00	13.00	1.60000	19.000
1182.0	.2639011	.104072	4.80	2.00	4.600	1.40000	41.900
1183.0	.2639011	.104042	5.30	2.00	5.000	.820000	31.300
1188.0	.2519011	.113042	5.80	2.00	100.0	3.50000	52.900
1192.0	.2519011	.113042	5.80	2.00	27.00	1.40000	55.600
1194.0	.2519011	.113072	5.80	2.00	15.00	1.50000	97.000
1195.0	.2519011	.113012	5.80	2.00	23.00	1.80000	69.000
1199.0	.2519011	.114072	6.66	1.00	25.00	3.30000	45.800
1205.0	.2519011	.114012	6.66	1.00			7.0000
1206.0	.2519011	.114012	6.66	1.00	79.00	.830000	30.000
1211.0	.2519011	.115072	5.80	1.00	20.00	.940000	16.100
1212.0	.2639011	.107012	4.85	1.00	12.00		21.600
1217.0	.2639011	.109042	4.85	20.0	16.00	3.00000	80.000
1221.0	.2639011	.104012	5.21	20.0			80.800
1228.0	.2639011	.104072	2.46	20.0	75.00	4.50000	76.000
1232.0	.2639011	.105042	3.41	21.0	15.00	5.40000	58.200
1237.0	.8449045	.299152	.210	21.0	130.0		87.000
1237.1	.8449045	.199152	.210	20.0	120.0	2.00000	97.300
1238.0	.8449045	.299152	.210	21.0	6.500	2.00000	67.100
1238.1	.8449045	.299152	.210	1.00	4.000	1.60000	27.000
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1259.0	.2639011	.108072	2.46	1.00			27.400
1260.0	.2639011	.102072	2.46	1.00	68.00	2.20000	38.400
1262.0	.2639011	.109042	3.41	1.00	69.00	3.10000	32.200
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1282.0	.2639011	.103012	5.26	5.00	56.00	1.80000	39.600
1287.0	.2639011	.103042	3.59	5.00	5.800	2.60000	54.700
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1293.0	.2639011	.103012	5.26	5.00	5.000	1.40000	44.700
1298.0	.2639011	.104072	2.50	5.00	5.000	1.50000	64.400
1303.0	.2639011	.204072	2.50	5.00	85.00	4.50000	66.600
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1303.2	.2639011	.105072	2.50	5.00	72.00	3.00000	65.200
1310.0	.2639011	.104042	3.59	5.00	18.00	2.40000	67.300
1315.0	.2639011	.104042	2.59	5.00	87.00	2.40000	52.200
1322.0	.2639011	.105112	2.67	5.00	5.000	1.00000	53.100
1323.0	.2639011	.105112	2.67	5.00	62.00		50.200
1446.0	.2629090	.127172	3.85	10.0	21.00	5.70000	65.000
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1449.0	.2629090	.128172	3.85	10.0	390.0	7.60000	126.60
1450.0	.2629090	.129172	3.85	10.0	930.0	5.70000	134.00
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1487.0	.3639011	.106012	3.80	21.0	700.0	5.70000	111.00
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1500.0	.3639011	.107012	3.80	21.0	720.0	5.40000	110.00
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1572.0	.3639011	.135047	3.10	2.00	680.0	6.40000	98.300
1572.1	.3639011	.235042	3.10	2.00	550.0	7.10000	57.900
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1700.0	.3640090	.212442	2.65	2.00	19.00	2.10000	250.00
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1818.0	.3640090	.102442	2.66	10.0	21.00	8.50000	193.50
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2074.0 .3649000 .122442 2.60 21.0 1200. 9.30000 147.00
2081.0 .3649045 .322442 2.32 21.0 17.00 3.20000 102.70
2082.0 .3649045 .122442 2.70 21.0 26.00 3.70000 100.00
2084.0 .3649045 .122442 2.70 21.0 2000. 7.00000 106.00
2085.0 .3649045 .122442 2.70 21.0 2800. 9.40000 144.00
2109.0 .3639011 .101012 4.15 10.0 14.00 5.10000 110.30
2110.0 .3639011 .101012 4.26 10.0 18.00 4.20000 98.500
2111.0 .3639011 .101012 3.85 10.0 17.00 3.70000 97.200
2112.0 .3639011 .101012 3.98 10.0 940.0 4.80000 123.60
2113.0 .3639011 .101012 3.79 10.0 670.0 7.70000 138.80
2114.0 .3639011 .101012 3.76 10.0 790.0 6.00000 119.20
2115.0 .3639011 .101012 3.80 10.0 140.0 5.50000 117.80
2139.0 .3639011 .102042 3.00 10.0 15.00 1.80000 91.300
2140.0 .3639011 .102042 3.20 10.0 15.00 2.60000 104.70
2141.0 .3639011 .102042 2.90 10.0 13.00 2.20000 90.000
2142.0 .3639011 .102042 2.80 10.0 950.0 6.80000 138.00
2143.0 .3639011 .102042 2.87 10.0 810.0 6.10000 121.50
2144.0 .3639011 .102042 3.20 10.0 800.0 8.30000 128.00
2145.0 .3639011 .102042 3.00 10.0 150.0 4.80000 108.30
2146.0 .3639011 .102042 3.00 10.0 150.0 5.60000 124.80
2167.0 .3639011 .103042 3.00 5.00 13.00         93.500
2168.0 .3639011 .103042 3.00 5.00 14.00         94.300
2169.0 .3639011 .103042 3.00 5.00 13.00 6.40000 92.000
2170.0 .3639011 .103042 3.00 5.00 800.0         95.000
2171.0 .3639011 .103042 3.00 5.00 810.0 8.00000 148.70
2172.0 .3639011 .103042 3.00 5.00 760.0 5.90000 120.30
2173.0 .3639011 .103042 3.00 5.00 130.0 6.30000 91.200
2174.0 .3639011 .103042 3.00 5.00 910.0 4.80000 77.600
2175.0 .3639011 .103042 3.00 5.00 630.0 5.10000 104.80
2196.0 .3639011 .104012 3.35 5.00 13.00 2.00000 91.200
2197.0 .3639011 .104012 3.88 5.00 14.00 2.90000 79.500
2198.0 .3639011 .104012 3.71 5.00 15.00 1.90000 76.800
2199.0 .3639011 .104012 3.55 5.00 760.0 6.30000 104.80
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  ID     CODE 1   CODE 2 CHL  TEMP RATE  MODULUS STRENG

2200.0 .3639011 .104012 3.55 5.00               109.00
2201.0 .3639011 .104012 3.55 5.00 1000.         97.000
2202.0 .3639011 .104012 3.47 5.00               104.80
2203.0 .3639011 .104012 3.85 5.00               93.100
2204.0 .3639011 .104012 3.60 5.00 120.0 1.70000 97.000
2205.0 .3649045 .328442 2.69 5.00 16.00 4.10000 73.200
2205.1 .3649045 .428442 2.69 2.00 14.00 3.20000 68.500
2206.0 .3649045 .128442 3.51 5.00 1200. 8.80000 143.60
2233.0 .3639011 .105042 3.19 2.00 15.00         65.000
2234.0 .3639011 .105042 3.41 2.00 16.00 1.40000 64.100
2235.0 .3639011 .105042 2.90 2.00 13.00 2.40000 86.400
2236.0 .3639011 .105042 3.19 2.00 700.0 10.0000 79.200
2237.0 .3639011 .105042 3.09 2.00               86.400
2238.0 .3639011 .305042 3.10 2.00 720.0 9.80000 59.800
2238.1 .3639011 .107062 3.10 2.00 700.0 12.0000 86.300
2239.0 .3639011 .105042 2.92 2.00 110.0 5.90000 77.400
2240.0 .3639011 .105042 2.98 2.00 130.0         86.400
2241.0 .3639011 .105042 2.90 2.00 120.0 7.30000 91.800
2242.0 .3639011 .105042 2.92 2.00 10.00         77.400
2243.0 .3639011 .105042 2.87 2.00 11.00 3.60000 81.000
2264.0 .3639011 .107012 3.65 2.00 11.00 2.10000 78.500
2265.0 .3639011 .107012 3.40 2.00 13.00 1.50000 58.700
2266.0 .3639011 .107012 3.66 2.00 12.00         51.500
2267.0 .3639011 .107012 3.73 2.00 13.00 2.50000 77.400
2268.0 .3639011 .107012 3.70 2.00 410.0 7.70000 97.900
2269.0 .3639011 .107012 3.31 2.00 430.0         92.700
2270.0 .3639011 .107012 3.31 2.00 470.0 5.50000 105.10
2271.0 .3639011 .107012 3.70 2.00 430.0 7.00000 98.700
2272.0 .3639011 .107012 3.49 2.00               97.900
2273.0 .3639011 .107012 3.56 2.00 110.0 2.30000 83.600
2274.0 .3639011 .107012 3.36 2.00 110.0 2.80000 87.500
2275.0 .3639011 .107012 3.43 2.00               67.500
2298.0 .3639011 .109012 2.98 21.0 18.00 6.40000 97.000
2299.0 .3639011 .109012 3.19 21.0 19.00 5.30000 94.300
2300.0 .3639011 .109012 2.80 21.0 19.00 4.80000 98.700
2301.0 .3639011 .109012 2.72 21.0 17.00 4.30000 129.90
2302.0 .3639011 .109012 2.30 21.0 960.0         123.40
2303.0 .3639011 .109012 2.39 21.0 1100. 7.80000 110.20
2304.0 .3639011 .109012 2.21 21.0               112.90
2305.0 .3639011 .109012 2.85 21.0               123.90
2306.0 .3639011 .109012 2.20 21.0               180.50
2307.0 .3639011 .109012 2.72 21.0 160.0 6.70000 102.50
2308.0 .3639011 .109012 3.17 21.0 160.0 10.0000 111.50
2309.0 .3639011 .109012 3.10 21.0 120.0 5.50000 91.700
2330.0 .3639011 .110042 2.36 18.9 17.00 1.40000 98.800
2331.0 .3639011 .110042 2.70 18.9               105.20
2332.0 .3639011 .110042 2.58 18.9               93.800
2333.0 .3639011 .110042 2.40 18.9 15.00 3.40000 102.50
2334.0 .3639011 .110042 3.30 18.9 880.0 8.30000 115.70
2335.0 .3639011 .110042 2.69 18.9               123.90
2336.0 .3639011 .110042 2.65 18.9               130.50
2337.0 .3639011 .110042 2.59 18.9 880.0 6.70000 145.80
2338.0 .3639011 .110042 2.30 18.9 160.0 6.70000 119.00
2339.0 .3639011 .110042 2.65 18.9 120.0 3.20000 94.000
2340.0 .3639011 .110042 2.56 18.9 150.0 5.30000 129.10
2362.0 .3639011 .103172 2.39 21.0 14.00 2.30000 90.300
2363.0 .3639011 .303172 2.32 21.0 12.00 2.00000 109.20
2364.0 .3639011 .103172 2.39 21.0 12.00 3.20000 90.400
2365.0 .3639011 .103172 2.68 21.0 13.00 1.80000 98.200
2366.0 .3639011 .103172 2.69 21.0 830.0 5.40000 84.500
2367.0 .3639011 .103172 2.40 21.0 970.0         84.000
2368.0 .3639011 .103172 2.25 21.0 1000. 7.50000 96.500
2369.0 .3639011 .103172 2.40 21.0 830.0 6.50000 77.700
2370.0 .3639011 .103172 2.12 21.0 130.0 5.70000 71.400
2371.0 .3639011 .103172 2.60 21.0               92.300
2372.0 .3639011 .103172 2.48 21.0 150.0 6.30000 94.400
2373.0 .3639011 .103172 2.47 21.0 140.0 4.60000 100.50
2395.0 .3639011 .104172 2.21 5.00 11.00 1.20000 66.200
2396.0 .3639011 .104172 2.64 5.00 9.000 1.40000 75.000
2397.0 .3639011 .104172 2.40 5.00 9.500 1.30000 78.600
2398.0 .3639011 .104172 2.18 5.00 10.00 1.70000 66.900
2399.0 .3639011 .104172 2.52 5.00               89.700
2400.0 .3639011 .104172 2.31 5.00 690.0 4.90000 88.000
2401.0 .3639011 .104172 2.58 5.00 690.0 7.30000 81.000
2402.0 .3639011 .104172 2.79 5.00 740.0 2.70000 93.000
2403.0 .3639011 .104172 2.42 5.00 110.0 2.60000 75.300
2404.0 .3639011 .104172 2.42 5.00 110.0 2.50000 75.300
2405.0 .3639011 .204172 2.42 5.00 110.0 4.60000 84.300
2406.0 .3639011 .204172 2.42 5.00 100.0 5.20000 90.500
2440.0 .3639011 .115042 2.77 21.0 16.00 3.20000 92.000
2441.0 .3639011 .115042 2.63 21.0 19.00 3.30000 90.000
2442.0 .3639011 .115042 3.08 21.0 20.00 4.00000 93.300
2443.0 .3639011 .115042 2.46 21.0 15.00 3.70000 107.00
2444.0 .3639011 .115042 2.76 21.0 870.0 8.20000 115.00
2445.0 .3639011 .115042 2.60 21.0 760.0 8.00000 124.00
2446.0 .3639011 .115042 2.39 21.0 960.0 8.90000 124.00
2447.0 .3639011 .115042 2.72 21.0 870.0 7.20000 133.00
2448.0 .3639011 .115042 2.50 21.0 160.0 6.00000 104.00
2449.0 .3639011 .115042 2.86 21.0 150.0 6.00000 113.00
2450.0 .3639011 .115042 2.65 21.0 130.0 4.60000 90.000
2451.0 .3639011 .115042 2.60 21.0 150.0 6.10000 102.50
2474.0 .3639011 .310172 2.01 10.0 9.500 1.30000 82.000
2475.0 .3639011 .110172 2.76 10.0 10.00 1.20000 78.300
9476.0 .3639011 .110172 2.11 10.0 10.00 2.00000 69.700
2477.0 .3639011 .110172 2.50 10.0 8.500 2.70000 87.500
2478.0 .3639011 .110172 2.30 10.0 740.0 5.30000 136.00
2479.0 .3639011 .110172 2.30 10.0 790.0 6.10000 81.700
2480.0 .3639011 .110172 2.49 10.0 810.0 6.20000 109.00
2481.0 .3639011 .110172 3.17 10.0 810.0 5.70000 97.300
2482.0 .3639011 .110172 2.99 10.0 140.0 9.20000 75.500
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   ID     CODE 1   CODE 2  CHL  TEMP  RATE   MODULUS  STRENG
 2483.0 .3639011 .110172 2.71 10.0  140.0  5.00000  91.000
 2484.0 .3639011 .110172 2.74 10.0  120.0  4.60000  66.200
 2506.0 .3639011 .111172 2.59 2.00  9.400  2.00000  72.700
 2507.0 .3639011 .111172 2.51 2.00  10.00  .980000  57.000
 2508.0 .3639011 .111172 2.65 2.00  9.400  .870000  44.000
 2509.0 .3639011 .111172 2.31 2.00  9.000  1.10000  65.000
 2510.0 .3639011 .111172 2.77 2.00  710.0  4.30000  57.000
 2511.0 .3639011 .111172 2.59 2.00  710.0  5.90000  47.000
 2512.0 .3639011 .111172 2.59 2.00  630.0  6.20000  63.000
 2513.0 .3639011 .111172 2.50 2.00  560.0  4.70000  62.000
 2514.0 .3639011 .111172 2.47 2.00  100.0  4.10000  60.000
 2515.0 .3639011 .114172 2.65 3.00  100.0  3.30000  67.200
 2516.0 .3639011 .911172 2.02 2.50  100.0  3.00000  98.000
 2517.0 .3639011 .311172 2.75 2.00  140.0  3.50000  40.400
 2518.0 .3639011 .111172 2.12 2.00  630.0  4.60000  77.000
 2540.0 .4649000 .105442 2.68 21.0  21.00  6.00000  146.00
 2541.0 .4649000 .105442 2.10 21.0                   95.000
 2542.0 .4649000 .105442 2.38 21.0  19.00            124.93
 2543.0 .4649000 .105442 2.27 21.0                   129.00
 2544.0 .4649000 .105442 2.16 21.0                   114.50
 2545.0 .4649000 .105442 2.50 21.0  1200.   12.000   110.50
 2546.0 .4649000 .105442 2.50 21.0  180.0  8.20000  142.[illegible]
 2547.0 .4649000 .105442 2.69 21.0  170.0  7.90000  167.50
 2548.0 .4649000 .105442 2.68 21.0  170.0  10.0000  162.30
 2550.0 .4649000 .105442 2.50 21.0  20.00  8.80000  126.50
 2570.0 .4649045 .307442 2.67 21.0  12.00  2.30000  85.000
 2571.0 .4649045 .107442 2.41 21.0  11.00  2.40000  88.000
 2572.0 .4649045 .107442 2.40 21.0  17.00  2.40000  92.500
 2573.0 .4649045 .107442 2.68 21.0  18.00  3.70000  94.100
 2574.0 .4649045 .107442 2.45 21.0  1100.  4.70000  141.40
 2575.0 .4649045 .107442 2.55 21.0  1000.  6.80000  169.70
 2576.0 .4649045 .107442 2.67 21.0  1000.  6.50000  138.90
 2577.0 .4649045 .107442 2.51 21.0  1000.  8.00000  110.80
 2578.0 .4649045 .107442 2.42 21.0  150.0  5.20000  113.20
 2579.0 .4649045 .107442 2.55 21.0  160.0  4.50000  144.10
 2580.0 .4649045 .107442 2.12 21.0  160.0  6.10000  113.50
 2581.0 .4649045 .107442 2.28 21.0  160.0  5.30000  141.40
 2602.0 .4649090 .108442 2.45 21.0  15.00            105.50
 2603.0 .4649090 .108442 2.38 21.0  19.00  2.50000  244.60
 2604.0 .4649090 .108442 2.45 21.0  22.00  2.50000  149.80
 2605.0 .4649090 .108442 2.15 21.0  15.00  5.80000  165.20
 2606.0 .4649090 .108442 2.49 22.0  1300.  10.0000  226.00
 2607.0 .4649090 .108442 2.38 21.0  1300.  11.0000  204.30
 2608.0 .4649090 .108442 2.33 21.0  1200.            188.80
 2609.0 .4649090 .108442 2.50 21.0  1200.  12.0000  255.70
 2610.0 .4649090 .108442 2.18 21.0  180.0            77.400
 2611.0 .4649090 .108442 2.01 21.0  180.0  9.00000  151.70
 2612.0 .4649090 .108442 2.34 21.0  200.0  14.0000  195.00
 2613.0 .4649090 .108442 2.49 21.0  180.0  8.40000  213.60
 2614.0 .4649000 .109442 2.73 10.0  12.00  12.0000  119.50
 2615.0 .4649000 .109442 2.81 10.0  12.00            147.30
 2616.0 .4649000 .309442 2.50 10.0  12.00  6.40000  82.500
 2617.0 .4649000 .109442 2.71 10.0  12.00  11.0000  128.20
 2618.0 .4649000 .109442 2.69 10.0  1100.  12.0000  139.10
 2619.0 .4649000 .109442 2.50 10.0  1100.  9.60000  166.50
 2620.0 .4649000 .109442 2.93 10.0  830.0  10.0000  168.80
 2621.0 .4649000 .109442 2.71 10.0  830.0  13.0000  118.60
 2622.0 .4649000 .109442 2.80 10.0  146.0  5.00000  151.50
 2623.0 .4649000 .109442 2.72 10.0  150.0  14.0000  139.60
 2624.0 .4649000 .109442 2.88 10.0  150.0            116.30
 2625.0 .4649000 .109442 2.98 10.0  140.0            178.80
 2674.0 .4649090 .112442 2.66 10.0  20.00  8.30000  166.90
 2675.0 .4649090 .112442 2.93 10.0  20.00  9.20000  169.80
 2676.0 .4649090 .112442 2.77 10.0  20.00  7.70000  160.80
 2677.0 .4649090 .112442 2.70 10.0  20.00            148.90
 2678.0 .4649090 .112442 2.80 10.0  650.0  10.0000  [illegible]68.00
 2679.0 .4649090 .112442 2.86 10.0  1100.  9.20000  196.60
 2680.0 .4649090 .112442 2.50 10.0  1100.  10.0000  181.70
 2681.0 .4649090 .112442 2.77 10.0  1100.  11.0000  170.40
 2682.0 .4649090 .112442 2.77 10.0  210.0  6.30000  162.00
 2683.0 .4649090 .112442 2.61 10.0  1100.  9.40000  181.70
 2684.0 .4649090 .112442 2.91 10.0  200.0  9.00000  266.00
 2685.0 .4649090 .112442 2.87 10.0  210.0  12.0000  177.50
 2686.0 .4649090 .112442 2.78 10.0  200.0  6.50000  177.30
 2687.0 .4649090 .112442 2.67 10.0  190.0  9.00000  220.40
 2709.0 .4649045 .113442 2.56 10.0  1200.  6.90000  147.10
 2710.0 .4649045 .113442 2.40 10.0  850.0  5.80000  146.10
 2711.0 .4649045 .113442 2.45 10.0  910.0  8.00000  135.10
 2712.0 .4649045 .113442 2.80 10.0  850.0  8.60000  151.50
 2713.0 .4649045 .113442 2.29 10.0  170.0  4.50000  139.20
 2714.0 .4649045 .113442 2.50 10.0  150.0  4.90000  148.00
 2715.0 .4649045 .113442 2.58 10.0  160.0  3.70000  115.00
 2716.0 .4649045 .113442 2.54 10.0  150.0  5.50000  109.20
 2717.0 .4649045 .113442 2.38 10.0  12.00  1.40000  80.900
 2718.0 .4649045 .113442 2.51 10.0  12.00  1.60000  90.900
 2719.0 .4649045 .413442 2.64 10.0  13.00  .890000  87.900
 2721.0 .4649045 .113442 2.58 10.0  160.0  5.80000  129.10
 2728.0 .4649000 .114442 2.99 5.00  11.00  6.30000  119.80
 2729.0 .4649000 .114442 2.59 5.00  13.00  8.00000  116.30
 2730.3 .4649000 .114442 2.30 5.00  13.00  6.80000  125.40
 2731.0 .4649000 .114442 2.86 5.00  15.00  4.50000  102.60
 2734.0 .4649000 .114442 3.20 5.00  880.0  7.80000  120.40
 2735.0 .4649000 .114442 2.80 5.00  750.0  10.0000  128.60
 2736.0 .4649000 .114442 2.73 5.00  990.0  13.0000  128.60
 2737.0 .4649000 .114442 3.00 5.00  890.0  6.40000  114.00
 2738.0 .4649000 .114442 2.74 5.00  150.0  9.80000  155.30
 2739.0 .4649000 .114442 2.94 5.00  150.0  6.10000  135.90
 2740.0 .4649000 .114442 2.78 5.00  150.0  7.40000  145.50
 2741.0 .4649000 .114442 2.85 5.00  150.0  7.10000  136.80
 2742.0 .4649000 .114442 2.68 5.00  150.0  10.0000  145.50
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   ID     CODE 1   CODE 2  CHL  TEMP  RATE   MODULUS  STRENG
 2759.0 .4649045 .115442 2.67 5.00  750.0  6.20000  164.20
 2760.0 .4649045 .115442 2.70 5.00                   77.500
 2761.0 .4649045 .115442 2.75 5.00  1000.  6.80000  120.90
 2762.0 .4649045 .115442 2.60 5.00  670.0  5.70000  136.80
 2763.0 .4649045 .115442 2.47 5.00  150.0  4.80000  124.00
 2764.0 .4649045 .115442 3.10 5.00  140.0  4.70000  91.200
 9765.0 .4649045 .115442 2.61 5.00  150.0  3.90000  88.900
 2766.0 .4649045 .115442 2.65 5.00  140.0  3.70000  91.200
 2767.0 .4649045 .115442 2.72 5.00  14.00  2.10000  72.900
 2769.0 .4649045 .115442 [illegible] 5.00  [illegible]  2.20000  77.500
 2770.0 .4649045 .115442 2.94 5.00  13.00  1.80000  64.400
 2771.0 .4649045 .115442 2.73 5.00  [illegible]  6.10000  132.30
 2793.0 .4649090 .116442 2.74 5.00  1200.  9.30000  196.60
 2794.0 .4649090 .326442 2.23 5.00  1100.  10.0000  181.70
 2795.0 .4649090 .116442 2.59 5.00  1100.  8.00000  220.40
 2796.0 .4649090 .116442 2.33 5.00  1100.  7.70000  208.50
 2797.0 .4649090 .116442 2.09 5.00  400.0  9.00000  119.10
 2798.0 .4649090 .116442 2.70 5.00  410.0  9.80000  189.40
 2799.0 .4649090 .116442 3.08 5.00  330.0  9.70000  169.80
 2800.0 .4649090 .116442 2.23 5.00  [illegible]  7.50000  157.40
 2801.0 .4649090 .116442 2.23 5.00  120.0  7.30000  119.10
 2802.0 .4649090 .116442 2.33 5.00  120.0  8.50000  160.80
 2803.0 .4649090 .116442 2.16 5.00  120.0  10.0000  169.80
 2804.0 .4649090 .116442 2.10 5.00  120.0  4.20000  143.10
 2805.0 .4649090 .116442 2.87 5.00  [illegible]  8.70000  169.80
 2806.0 .4649090 .116442 2.40 5.00  27.00  7.70000  144.20
 2807.0 .4649090 .116442 2.38 5.00  [illegible]  [illegible]  126.90
 2808.0 .4649090 .116442 2.06 5.00  [illegible]  [illegible]  134.00
 2833.0 .4649000 .117442 2.70 2.00  [illegible]           91.600
 2834.0 .4649000 .117442 2.60 2.00  [illegible]  4.10000  105.90
 2835.0 .4649000 .117442 2.40 2.00  [illegible]  [illegible]  107.20
 2836.0 .4649000 .117442 2.54 2.00  [illegible]  4.20000  115.60
 2845.0 .4649000 .117442 2.57 2.00  [illegible]  9.30000  105.10
 2846.0 .4649000 .117442 2.72 2.00  [illegible]  [illegible]  101.70
 2847.0 .4649000 .217442 2.65 2.00                   25.100
 2848.0 .4649000 .117442 2.68 2.00  [illegible]  9.30000  90.400
 2849.0 .4649000 .117442 2.78 2.00  [illegible]  9.50000  101.70
 2850.0 .4649000 .117442 2.90 2.00  140.0  7.40000  71.400
 2851.0 .4649000 .117442 2.84 2.00  140.0  7.90000  75.600
 2852.0 .4649000 .117442 2.21 2.00  150.0  9.80000  77.700
 2853.0 .4649000 .117442 2.48 2.00  530.0  9.30000  92.500
 2871.0 .4649045 .119442 2.70 2.00  780.0  5.00000  84.400
 2872.0 .4649045 .119442 2.49 2.00  430.0  5.40000  116.30
 2873.0 .4649045 .119442 2.59 2.00  830.0  05.2000  138.40
 2874.0 .4649045 .119442 2.75 2.00  930.0  3.70000  102.60
 2875.0 .4649045 .119442 2.45 2.00  140.0  2.20000  111.70
 2876.0 .4649045 .119442 2.64 2.00  130.0  2.70000  114.90
 2877.0 .4649045 .119442 2.49 2.00  150.0  2.80000  87.500
 2878.0 .4649045 .119442 2.67 2.00  150.0  3.20000  98.000
 2879.0 .4649045 .419442 2.45 2.00  10.00  1.30000  77.300
 2880.0 .4649045 .419442 2.41 2.00  10.00            73.700
 2881.0 .4649045 .119442 2.50 2.00  16.00  1.30000  58.600
 2882.0 .4649045 .419442 2.45 2.00  21.00  1.10000  70.900
 2883.0 .4649045 .119442 2.91 2.00  140.0  1.20000  77.500
 2906.0 .4649090 .120442 2.40 2.00  1300.  8.70000  165.60
 2907.0 .4649090 .120442 2.08 2.00  1200.  6.80000  143.80
 2908.0 .4649090 .120442 2.08 2.00  1200.  7.60000  169.10
 2909.0 .4649090 .120442 2.21 2.00  1200.  11.0000  105.80
 2910.0 .4649090 .120442 2.41 2.00  150.0  6.60000  136.80
 2911.0 .4649090 .120442 2.64 2.00  180.0  6.40001  153.10
 2912.0 .4649090 .120442 2.19 2.00  180.0  04.8000  153.10
 2913.0 .4649090 .120442 2.87 2.00  180.0  4.60000  156.30
 2914.0 .4649090 .120442 2.60 2.00  17.00  5.10000  154.70
 2915.0 .4649090 .120442 2.15 2.00  19.00  8.00000  116.70
 2916.0 .4649090 .120442 [illegible] 2.00  17.00  7.60000  129.20
 2917.0 .4649090 .120442 2.87 2.00  16.00  8.60000  149.30
 2918.0 .4649090 .220442 2.75 2.00  970.0  7.50000  122.10
 2941.0 .4640090 .121442 3.20 2.00  24.00  12.0000  162.00
 2942.0 .4640090 .121442 2.80 2.00  18.00  10.0000  187.70
 2943.0 .4640090 .121442 2.70 2.00  18.00            231.80
 2944.0 .4640090 .121442 2.61 2.00  29.00  8.10000  229.30
 2945.0 .4640090 .121442 3.12 2.00  240.0  9.50000  218.00
 2946.0 .4640090 .121442 2.86 2.00  [illegible]  9.50000  248.90
 2947.0 .4640090 .121442 2.81 2.00  23.00  6.30000  207.40
 2948.0 .4640090 .121442 2.91 2.00  [illegible]  10.0000  275.10
 2949.0 .4640090 .121442 3.10 2.00  [illegible]  6.40000  207.40
 2950.0 .4640090 .122442 2.66 2.00  1500.  9.80000  255.40
 2951.0 .4640090 .122442 2.41 2.00  2000.  8.70000  186.50
 2952.0 .4640090 .122442 2.69 2.00  1800.  8.90000  275.70
 2953.0 .4640090 .122442 2.70 2.00  1700.  10.0000  224.00
 2954.0 .4640090 .122442 2.59 2.00  1600.  12.0000  17[illegible]
 2997.0 .4640090 .123442 2.39 10.0  [illegible]  9.80000  205.10
 2998.0 .4640090 .123442 3.10 10.0  350.0  11.0000  356.30
 2999.0 .4640090 .123442 2.79 10.0  350.0  9.40000  345.50
 3000.0 .4640090 .123442 2.08 10.0  350.0  6.50000  296.90
 3001.0 .4640090 .223442 2.91 10.0  2500.  12.0000  237.50
 3002.0 .4640090 .123442 2.42 10.0  2200.  12.0000  299.10
 3003.0 .4640090 .123442 3.10 10.0  2000.  11.0000  275.30
 3004.0 .4640090 .123442 2.81 10.0  [illegible]  11.0000  280.70
 3005.0 .4640090 .123442 2.58 10.0  45.00  13.0000  367.10
 3006.0 .4640090 .123442 2.89 10.0  35.00  11.0000  378.40
 3007.0 .4640090 .123442 2.70 10.0  38.00  11.0000  356.30
 3008.0 .4640090 .123442 2.86 10.0  40.00  12.0000  350.90
 3009.0 .4640090 .124442 2.40 5.00  1100.  11.0000  277.10
 3010.0 .4640090 .124442 2.19 5.00  2200.  11.0000  287.40
 3011.0 .4640090 .124442 2.54 5.00  1900.  07.5000  241.40
 3012.0 .4640090 .124442 2.58 5.00  2000.  8.50000  273.10
 3013.0 .4640090 .124442 2.50 5.00  [illegible]  9.30000  384.70
 3014.0 .4640090 .124442 2.24 5.00  290.0  6.50000  287.40
 3015.0 .4640090 .124442 2.39 5.00  290.0  14.0000  296.60
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  ID      CODE 1    CODE 2 CHL  TEMP RATE   MODULUS STRENG

3016.0 .4640090 .124442 2.50 5.00 290.0 9.10000 379.80
3017.0 .4640090 .124442 2.74 5.00 36.00 12.0000 297.50
3018.0 .4640090 .124442 2.26 5.00 40.00 13.0000 240.00
3019.0 .4640090 .124442 2.60 5.00 32.00 9.50000 244.30
3020.0 .4640090 .124442 2.29 5.00 36.00 11.0000 203.20
3021.0 .4640090 .124442 2.33 5.00 320.0 08.9000 195.00
3066.0 .4640090 .126442 2.79 21.0 42.00 9.70000 409.30
3067.0 .4640090 .226442 2.61 21.0 38.00         203.40
3068.0 .4640090 .126442 2.40 21.0 40.00 6.20000 326.[illegible]
3069.0 .4640090 .126442 2.61 21.0 42.00 7.90000 326.70
3070.0 .4640090 .126442 2.80 21.0 380.0 13.0000 379.70
3071.0 .4640090 .126442 2.76 21.0 390.0 9.10000 321.00
3072.0 .4640090 .126442 2.76 21.0 410.0 6.60000 345.20
3073.0 .4640090 .126442 2.81 21.0 400.0 9.30000 382.10
3074.0 .4640090 .126442 2.32 21.0 1300. 11.0000 249.00
3075.0 .4640090 .126442 2.81 21.0 2200. 14.0000 463.90
3076.0 .4640090 .126442 2.50 21.0 2500. 12.0000 249.00
3077.0 .4640090 .126442 2.62 21.0 2500. 11.0000 271.20
3078.0 .4640090 .126442 2.55 21.0 44.00         283.50
3079.0 .4640090 .126442 2.76 21.0 170.0 11.0000 357.50
3080.0 .4640090 .126442 2.20 21.0 2700. 11.0000 351.30
3081.0 .4640090 .126442 2.55 21.0 42.00         351.00
3106.0 .4649090 .129532 2.49 5.00 24.00 7.60000 119.10
3107.0 .4649090 .129532 2.69 5.00 24.00 15.0000 150.10
3108.0 .4649090 .129532 2.96 5.00 21.00 11.0000 134.00
3109.0 .4649090 .129532 3.10 5.00 23.00 12.0000 150.70
3110.0 .4649090 .129532 3.20 5.00 200.0 11.0000 113.20
3111.0 .4649090 .129532 2.49 5.00 240.0 9.00000 134.00
3112.0 .4649090 .129532 3.05 5.00 180.0 9.30000 129.90
3113.0 .4649090 .129532 2.79 5.00 180.0 9.50000 187.70
3114.0 .4649090 .129532 3.15 5.00 1100. 10.0000 160.80
3115.0 .4649090 .129532 2.85 5.00 700.0 8.20000 140.00
3116.0 .4649090 .129532 2.86 5.00 1100. 7.40000 178.70
3117.0 .4649090 .129532 2.57 5.00 1100. 7.40000 190.60
3118.0 .4649090 .129532 2.49 5.00 1100. 7.80000 148.90
3140.0 .4649000 .130532 3.13 5.00 800.0         84.500
3141.0 .4649000 .130532 3.19 5.00 800.0 7.10000 127.70
3142.0 .4649000 .130532 2.70 5.00 920.0 6.30000 77.500
3143.0 .4649000 .130532 3.00 5.00 640.0 5.30000 51.600
3144.0 .4649000 .130532 2.71 5.00 140.0 5.80000 79.800
3145.0 .4649000 .130532 2.32 5.00 140.0 5.80000 104.10
3146.0 .4649000 .130532 3.19 5.00 140.0 6.40000 129.10
3147.0 .4649000 .130532 2.40 5.00 140.0 6.40000 68.400
3148.0 .4649000 .130532 2.73 5.00 12.00 5.50000 130.00
3149.0 .4649000 .130532 2.46 5.00 9.000 11.0000 108.90
3150.0 .4649000 .130532 2.86 5.00 13.00         119.90
3151.0 .4649000 .130532 3.10 5.00 13.00 6.60000 107.20
3173.0 .4649045 .131532 2.60 5.00 1000. 05.5000 114.70
3174.0 .4649045 .131532 2.80 5.00 1100. 6.00000 102.60
3175.0 .4649045 .131532 2.98 5.00 930.0 5.90000 91.200
3176.0 .4649045 .131532 2.87 5.00 980.0 6.20000 132.30
3177.0 .4649045 .131532 2.87 5.00 130.0 2.60000 96.700
3178.0 .4649045 .131532 2.80 5.00 130.0 2.40000 87.100
3179.0 .4649045 .131532 2.51 5.00 140.0 3.40000 102.60
3180.0 .4649045 .131532 2.83 5.00 140.0 3.40000 84.400
3181.0 .4649045 .431532 2.40 5.00 14.00 2.50000 72.000
3182.0 .4649045 .131532 2.67 5.00 17.00 1.40000 70.700
3183.0 .4649045 .131532 2.87 5.00 14.00 .830000 70.700
3184.0 .4649045 .431532 3.10 5.00 11.00 1.40000 63.800
3185.0 .4649045 .131532 2.65 5.00 1100. 1.30000 119.50
3208.0 .4640090 .133532 2.62 5.00 18.00 14.0000 204.50
3209.0 .4640090 .133532 2.79 5.00 35.00 6.70000 190.90
3210.0 .4640090 .133532 2.50 5.00 36.00 11.0000 190.90
3211.0 .4640090 .133532 2.97 5.00 31.00         150.00
3212.0 .4640090 .133532 2.50 5.00 270.0 12.0000 190.90
3213.0 .4640090 .133532 2.58 5.00 260.0 7.50000 249.10
3214.0 .4640090 .133532 3.02 5.00 270.0 14.0000 159.10
3215.0 .4640090 .133532 2.63 5.00 280.0 9.10000 195.50
3216.0 .4640090 .133532 2.78 5.00                 159.00
3217.0 .4640090 .133532 2.88 5.00 1800. 12.0000 140.90
3218.0 .4640090 .133532 2.66 5.00 1800. 11.0000 177.30
3219.0 .4640090 .133532 2.80 5.00 1800. 9.80000 127.30
3221.0 .4640090 .134532 2.78 2.00 190.0 11.0000 174.10
3222.0 .4640090 .134532 2.80 2.00 200.0 6.00000 216.80
3223.0 .4640090 .134532 2.98 2.00 200.0 10.0000 206.90
3225.0 .4640090 .134532 3.10 2.00 210.0 8.50000 187.20
3226.0 .4640090 .134532 2.82 2.00 130.0 3.90000 99.800
3227.0 .4649045 .134532 2.30 2.00 160.0 2.70000 60.800
3228.0 .4649045 .134532 2.51 2.00 160.0 1.80000 34.200
3231.0 .4649045 .134532 2.66 2.00 160.0 2.10000 45.000
3233.0 .4649045 .134532 2.80 2.00 83.00 1.50000 34.500
3250.0 .4649090 .235532 3.10 2.00 170.0 11.0000 65.100
3251.0 .4649000 .235532 2.89 2.00 150.0 6.80000 103.10
3252.0 .4649090 .135532 2.50 2.00 160.0 8.10000 143.80
3253.0 .4649090 .135532 2.50 2.00 170.0 8.10000 129.20
3254.0 .4649090 .135532 2.59 2.00 170.0 8.30000 141.10
3255.0 .4649090 .135532 2.97 2.00 180.0 8.90000 139.00
3256.0 .4649000 .135532 3.20 2.00 150.0 8.50000 75.600
3257.0 .4649000 .135532 2.63 2.00 140.0 5.60000 87.800
3258.0 .4649000 .135532 2.79 2.00 150.0 3.40000 45.400
3259.0 .4649000 .135532 2.99 2.00 110.0 5.10000 85.300
3260.0 .4649000 .135532 3.18 2.00 120.0 9.60000 71.400
3261.0 .4649090 .135532 3.20 2.00 140.0 9.80000 110.50
3279.0 .4644590 .136442 3.05 5.00 21.00 3.20000 165.50
3280.0 .4644590 .136442 2.88 5.00 21.00         137.90
3281.0 .4644590 .136442 2.95 5.00 25.00 4.30000 147.80
3282.0 .4644590 .136442 2.90 5.00 23.00         166.20
3283.0 .4644590 .136442 2.82 5.00 190.0 8.20000 180.00
3284.0 .4644590 .136442 2.98 5.00 190.0 8.00000 202.30
3285.0 .4644590 .136442 3.16 5.00 210.0 8.40000 183.90
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  ID      CODE 1    CODE 2 CHL  TEMP RATE   MODULUS STRENG

3286.0 .4644590 .136442 2.88 5.00 200.0 10.0000 202.90
3288.0 .4644590 .136442 2.79 5.00 1500. 13.0000 197.00
3289.0 .4644590 .136442 2.90 5.00 1500. 11.0000 266.00
3290.0 .4644590 .136442 3.10 5.00 1300. 9.80000 233.80
3335.0 .4644590 .137442 2.60 5.00 1300. 9.50000 180.60
3336.0 .4644590 .137442 2.79 5.00 1300. 9.60000 226.50
3337.0 .4644590 .137442 2.65 5.00 470.0 15.0000 170.80
3338.0 .4644590 .137442 2.69 5.00 400.0 10.0000 226.60
3339.0 .4644590 .137442 2.79 5.00 420.0 11.0000 187.60
3340.0 .4644590 .137442 2.95 5.00 61.00 9.00000 157.00
3341.0 .4644590 .137442 2.79 5.00 77.00 8.70000 178.70
3342.0 .4644590 .137442 2.79 5.00 72.00 7.30000 193.80
3343.0 .4644590 .237442 2.69 5.00                 65.200
3344.0 .4642290 .137442 2.79 5.00 210.0 5.20000 177.30
3345.0 .4642290 .138442 2.88 5.00 220.0 6.50000 223.30
3346.0 .4642290 .138442 2.72 5.00 200.0 14.0000 164.20
3347.0 .4642290 .138442 2.61 5.00 210.0 7.80000 197.70
3348.0 .4642290 .138442 2.65 5.00 200.0 6.50000 197.00
3349.0 .4642290 .138442 2.60 5.00 200.0 5.80000 152.40
3350.0 .4646790 .138442 2.78 5.00 220.0 5.60000 141.20
3351.0 .4646790 .138442 2.90 5.00 220.0 4.70000 154.30
3352.0 .4646790 .138442 2.90 5.00 200.0 5.10000 130.00
3353.0 .4646790 .138442 2.81 5.00 200.0 7.20000 163.50
3354.0 .4646790 .138442 2.98 5.00 200.0 5.80000 105.10
3355.0 .4646790 .138442 2.70 5.00 210.0 6.90000 130.70
3373.0 .4649067 .140442 2.37 5.00 200.0 6.70000 162.90
3374.0 .4649067 .140442 2.46 5.00 210.0 5.40000 161.60
3375.0 .4649067 .140442 2.80 5.00 210.0 3.10000 130.00
3376.0 .4649067 .140442 2.39 5.00 210.0 3.00000 104.50
3377.0 .4649067 .140442 2.60 5.00 180.0 5.10000 179.00
3379.0 .4649022 .140442 2.46 5.00 180.0 3.80000 112.30
3380.0 .4649022 .140442 2.76 5.00 180.0 4.70000 111.60
3381.0 .4649022 .140442 3.00 5.00 180.0 4.10000 95.900
3382.0 .4649022 .140442 2.90 5.00 180.0 4.90000 115.60
3383.0 .4649022 .140442 2.40 5.00 200.0 4.00000 107.70
3384.0 .4649022 .140442 2.90 5.00 190.0 4.90000 112.30
3423.0 .6649090 .102442 1.59 5.00 120.0 11.0000 139.60
3424.0 .6649090 .102442 1.40 5.00 120.0 4.20000 90.400
3425.0 .6649090 .102442 1.54 5.00 140.0 8.90000 132.40
3426.0 .6649090 .102442 1.75 5.00 140.0 7.30000 126.10
3427.0 .6649090 .102442 1.85 5.00 15.00         111.40
3428.0 .6649090 .102442 1.66 5.00 14.00 9.10000 94.600
3429.0 .6649090 .102442 1.49 5.00 16.00 9.40000 133.70
3432.0 .6649090 .102442 2.08 5.00                 111.40
3433.0 .6649090 .104442 1.70 5.00 880.0 10.0000 101.90
3434.0 .6649090 .104442 1.47 5.00 940.0 13.0000 74.800
3435.0 .6649090 .104442 1.44 5.00 900.0 6.70000 45.600
3436.0 .6649090 .104442 1.87 5.00 870.0 8.80000 159.60
3437.0 .6649090 .104442 1.63 5.00 990.0 11.0000 143.70
3438.0 .6649090 .104442 1.48 5.00 120.0 6.70000 148.20
3639.0 .6649090 .104442 1.70 5.00 15.00 4.20000 134.50
3465.0 .6649000 .104442 1.46 5.00 120.0 6.20000 99.100
3466.0 .6649000 .104442 1.68 5.00 120.0 14.0000 120.50
3467.0 .6649000 .104442 1.60 5.00 120.0 9.60000 127.50
3468.0 .6649000 .104442 1.48 5.00 140.0 13.0000 85.500
3469.0 .6649000 .104442 1.59 5.00 93.00 10.0000 100.20
3470.0 .6649000 .104442 1.87 5.00 18.00 4.80000 75.800
3498.0 .6649000 .105442 1.23 5.00 20.00 7.70000 94.000
3499.0 .6649000 .105442 1.50 5.00 20.00         42.700
3500.0 .6649000 .105442 1.45 5.00 14.00 11.0000 100.60
3501.0 .6649000 .105442 1.63 5.00 14.00 6.50000 85.100
3502.0 .6649000 .105442 1.63 5.00 14.00 4.00000 74.200
3503.0 .6649000 .105442 1.58 5.00 140.0 12.0000 78.500
3504.0 .6649000 .105442 1.80 5.00 820.0 7.70000 111.90
3505.0 .6649000 .105442 1.80 5.00 760.0 8.60000 104.90
3506.0 .6649000 .105442 1.75 5.00 820.0 7.60000 93.300
3507.0 .6649000 .105442 1.70 5.00 740.0 12.0000 113.50
3508.0 .6649000 .105442 1.47 5.00 720.0 23.0000 98.300
3509.0 .6649000 .105442 1.50 5.00 570.0         73.800
3510.0 .6649045 .106442 1.63 5.00 17.00 .620000 66.900
3512.0 .6649045 .106442 1.92 5.00 16.00 1.50000 59.200
3513.0 .6649045 .106442 1.92 5.00 16.00 1.20000 74.000
3516.0 .6649045 .106442 1.61 5.00 130.0 4.50000 91.600
3517.0 .6649045 .106442 2.02 5.00 120.0 2.30000 97.100
3518.0 .6649045 .106442 1.46 5.00 130.0 1.90000 94.600
3519.0 .6649045 .106442 1.67 5.00 124.0 3.50000 100.90
3520.0 .6549045 .106442 2.45 5.00 130.0 3.60000 92.500
3521.0 .6649045 .106442 1.25 5.00 780.0 7.40000 107.60
3522.0 .6649045 .106442 1.37 5.00 770.0 7.00000 88.200
3523.0 .6649045 .106442 1.79 5.00 820.0 4.70000 83.200
3524.0 .6649045 .106442 2.10 5.00 790.0 5.10000 104.20
3576.0 .6640090 .107442 1.42 5.00 100.0 4.00000 202.30
3577.0 .6640090 .107442 1.39 5.00 180.0 6.20000 231.90
3578.0 .6640090 .107442 1.47 5.00 200.0 9.80000 208.90
3579.0 .6640090 .107442 1.45 5.00 200.0 11.0000 269.30
3580.0 .6640090 .207442 1.46 5.00 200.0 9.70000 170.80
3581.0 .6640090 .107442 1.49 5.00 26.00         200.30
3582.0 .6640090 .107442 1.40 5.00 25.00 13.0000 175.40
3583.0 .6640090 .307402 2.60 5.00 180.0 11.0000 275.90
3584.0 .6640090 .107402 1.92 5.00 220.0 12.0000 218.10
3585.0 .6640090 .107402 1.42 5.00 220.0 15.0000 220.00
3586.0 .6640090 .107402 1.88 5.00 220.0 15.0000 258.00
3587.0 .6640090 .107402 2.06 5.00 22.00 8.50000 227.30
3588.0 .6640090 .107402 2.14 5.00 23.00 26.0000 244.40
3589.0 .6640090 .207402 1.79 5.00 27.00 9.50000 167.50
3590.0 .6640090 .108442 1.61 5.00 36.00 15.0000 284.20
3592.0 .6640090 .108442 1.47 5.00 1600. 14.0000 255.30
3593.0 .6640090 .108442 1.34 5.00 1700. 10.0000 243.40
3594.0 .6640090 .108442 1.38 5.00 1700. 13.0000 222.20
3595.0 .6640090 .108442 1.42 5.00 1800. 13.0000 178.10
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  ID     CODE 1    CODE 2 CHL  TEMP RATE  MODULUS STRENG
3596.0 .6640093 .118402 1.81 5.00 41.00 11.0000 187.40
3598.0 .6640090 .118402 1.80 5.00 1700. 16.0000 234.40
3599.0 .6640093 .118402 1.92 5.00 1800. 16.0000 252.80
3600.0 .6640093 .118402 1.91 5.00 1500. 16.0000 255.10
3601.0 .6640093 .118402 1.78 5.00 1500. 14.0000 237.50
3617.0 .6644590 .119442 1.41 5.00 210.  14.0000 149.70
3618.0 .6644590 .119442 1.38 5.00 220.  8.20000 111.60
3619.0 .6644590 .119442 1.38 5.00 190.  11.0000 123.90
3620.0 .6644590 .119442 1.71 5.00 210.  10.0000 164.20
3621.0 .6644590 .119442 1.50 5.00 220.0 10.0000 68.900
3622.0 .6644590 .119442 1.70 5.00 210.0 9.50000 147.10
3623.0 .6644590 .119402 2.17 5.00 220.0 5.30000 75.500
3624.0 .6644590 .119402 1.99 5.00 210.0 7.30000 216.80
3625.0 .6644590 .119402 1.83 5.00 220.0 8.20000 187.20
3626.0 .6644590 .219402 1.89 5.00 200.0 8.20000 121.50
3628.0 .6644590 .219402 2.20 5.00 220.0 11.0000 75.500
3648.0 .6649045 .411442 2.10 2.00 19.00 1.40000 63.000
3649.0 .6649045 .111442 2.38 2.00 17.00 1.60000 66.900
3650.0 .6649045 .111442 2.36 2.00 15.00 .960000 58.800
3651.0 .6649045 .411442 1.98 2.00 18.00 1.10000 55.400
3652.0 .6649045 .111442 2.60 2.00 17.00 1.20000 52.600
3653.0 .6649045 .111442 1.53 2.00 120.0 1.40000 71.000
3654.0 .6649045 .111442 2.11 2.00 130.0 2.50000 80.300
3655.0 .6649045 .111442 2.32 2.00 120.0 2.80000 55.900
3656.0 .6649045 .111442 2.08 2.00 140.0 2.70000 90.800
3657.0 .6649045 .211442 1.99 2.00 110.0 4.10000 74.800
3658.0 .6649045 .111442 1.80 2.00 840.0 4.20000 74.800
3659.0 .6649045 .111442 2.01 2.00 910.0 5.20000 91.600
3660.0 .6649045 .111442 3.35 2.00 740.0 6.10000 86.100
3661.0 .6649045 .111442 2.30 2.00 800.0 4.70000 84.000
3662.0 .6649045 .111442 1.86 2.00 1100. 4.10000 77.700
3663.0 .6649045 .112442 2.34 2.00 120.0 3.10000 42.800
3685.0 .6649090 .112442 1.30 2.00 27.00 2.40000 98.500
3690.0 .6649090 .112442 1.36 2.00 28.00 5.30000 79.400
3691.0 .6649090 .112442 1.80 2.00 30.00         118.20
3694.0 .6649090 .112442 1.41 2.00 190.0 7.70000 78.800
3695.0 .6649090 .112442 1.39 2.00 200.0 6.50000 139.00
3696.0 .6649090 .112442 1.50 2.00 190.0 8.40000 82.100
3698.0 .6649090 .112442 1.80 2.00 210.0 7.60000 99.200
3700.0 .6649090 .112442 1.70 2.00 1100. 6.80000 131.30
3701.0 .6649090 .112442 1.36 2.00 1200. 5.50000 78.800
3702.0 .6649090 .112442 1.34 2.00 1100. 8.50000 134.60
3744.0 .6649000 .113442 1.17 2.00 31.00 1.70000 97.200
3745.0 .6649000 .113442 1.14 2.00 30.00 4.88000 104.90
3746.0 .6649000 .113442 1.14 2.00 34.00 8.80000 95.900
3747.0 .6649000 .113442 1.25 2.00 27.00 8.30000 97.800
3749.0 .6649000 .113442 1.18 2.00 200.0 8.80000 116.90
3750.0 .6649000 .113442 1.14 2.00 190.0 5.90000 78.100
3751.0 .6649000 .213442 1.21 2.00 200.0 6.60000 78.800
3752.0 .6649000 .113442 1.16 2.00 190.0 6.20000 105.10
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3754.0 .6649000 .113442 1.16 2.00 820.0 12.0000 111.60
3755.0 .6649000 .113442 1.13 2.00 1000. 22.0000 90.600
3756.0 .6649000 .113442 1.04 2.00 1200. 12.0000 130.00
3758.0 .6549000 .113442 1.24 2.00 1200. 23.0000 158.30
```

Rate Constant and Rate Power

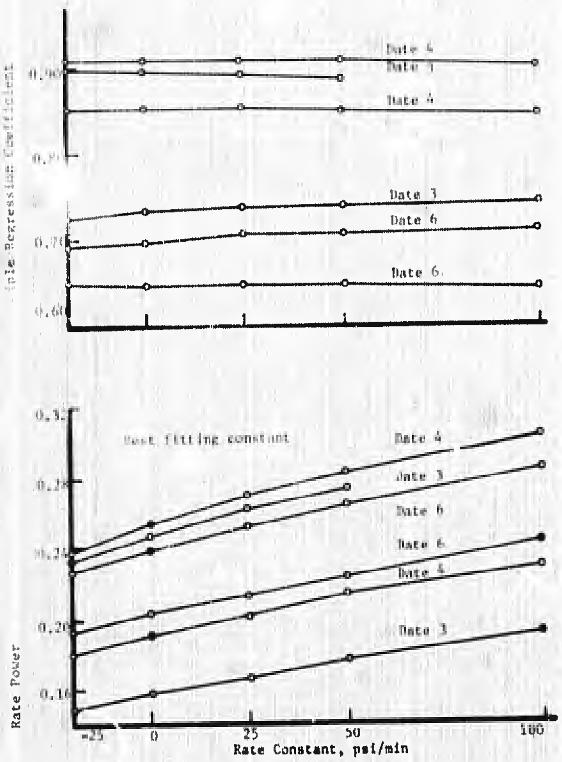

Exhibit 5.1

Rate Power at various depths and temperatures, Center Ice

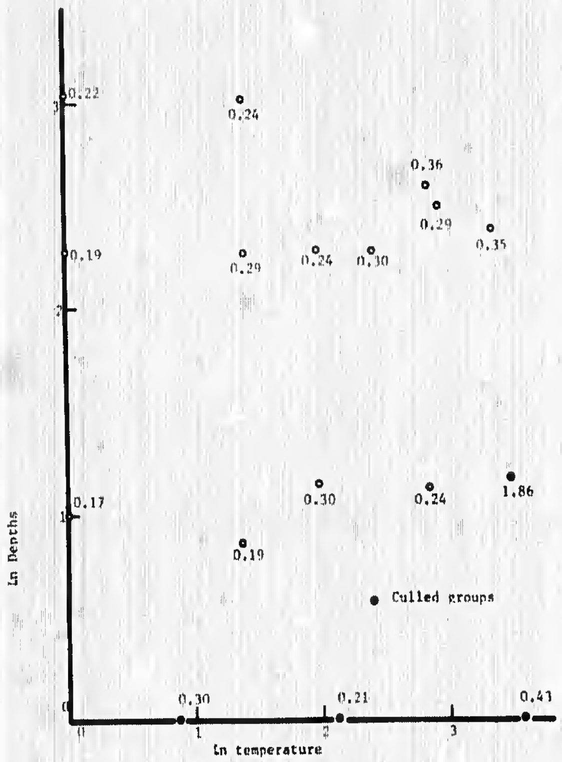

Exhibit 5.3

EXHIBIT 5.2

DATA GROUPS. COMPRESSION. ALL VALUES IN HUNDREDTHS

ID	NOBS	RPOW	LN DEP	LN TEM	LN SAL	LN ROTVAR	X E
HORIZONTAL SPECIMENS							
CFAREV	9	10	111	161	249	40	
CFB	19	15	97	249	228	40	
CFC	15	16	139	302	231	40	
CFD	25	14	247	266	222	40	
CM79A	22	42	139	269	198		• EARLY DATE
CM99B	71	20	113	266	192	76	
CM99C	40	25	120	304	187	76	
CM99D	17	20	298		147	76	
CM99E	35	17	303	230	177	76	
CM99F	11	21	303	304	143	76	
CRP A	16	30	87		201	100	• -1 C
CRP B	75	17		100	193	100	
CRP C1	32	19		230	211	100	
CRP C2	47	22		304	180	100	
CRP D	89	19	138	86	171	100	
CRP E1	48	29	139	230	167	100	
CRP E2	62	24	139	304	163	100	
CRP F	11	21	211		179	100	• - 1 C
CRP G	8	23	195	115	184	100	
CRP H	37	24	195	236	158	100	
CRP I	14	30	240	161	158	100	
CRP J	17	30	240	230	190	100	
CRP K	46	24	283	113	152	100	
CRP L RV	50	36	283	264	147	100	
CRP M	29	29	294	252	192	100	
CRP N	7	43	358		140	100	• SMALL GROUP
CRP O	11	86	350	119	140	100	• - 1 C
CRP P	17	35	333	242	140	100	
CB90AREV	8	22	334		114	48	
CB90B	9	15	218	230	-88		•
CB90C	12	24	327	230	113	48	
CB90DREV	44	16	378	69	159	48	
CB90E	102	19	379	184	143	48	
CB90F	27	19	378	304	151	48	
CB90GREV	28	22	414	27	72	48	
CB90HREV	23	20	397	165	154	48	
CB90I	21	20	428	230	102	48	
CB94AREV	45	44	378	69	143	123	
CB94BREV	59	39	379	161	144	123	
CB94C	34	42	378	230	158	123	
CB94D	24	43	378	304	153	123	
CB94E	13	20	401	64	148		• - 1.2 C
CB94FREV	19	45	397	161	155	123	
CB94GREV	25	33	428	18	-97	123	
CB94H	15	39	428	216	-99	123	
CB99AREV	52	25	378	69	141	73	
CB99BREV	42	25	378	161	155	73	
CB99C	37	28	378	230	155	73	
CB99D	29	26	378	304	151	73	
CB99EREV	27	22	397	134	161	73	
CB99F	26	22	428	16	126	73	
CB99G	19	28	428	230	100	73	
VERTICAL ICE							
CM00A	16	21	208	275	218	2	
CM00B	16	19	188	181	136	2	
CB09A	49	18	378	69	155	1	
CB09B1	24	17	369	161	115	1	
CB09B2	60	17	378	161	136	1	
CB09C	32	20	378	230	164	1	
CB09D	22	12	378	304	155	1	
CB09E1	8	18	397	69	167	1	
CB09E2	22	28	397	161	160	1	• VERY EARLY
CB09F	10	9	387	255	143	1	•
CB09GREV	29	18	428	69	-131	1	
CB09H	18	14	428	230	- 32	1	

• CULLED DATA GROUPS

EXHIBIT 5.4

EVALUATION OF STRATE TWO. COMPRESSION

ID	NOB	RPOW ×100	AV ****STRATE 2** ×100	SD ×1OE4	CV ×1OE4	AV ----STRATE 1-- ×100	SD ×1OE4	CV ×1OE4	
HORIZONTAL SPECIMENS									
FINE ICE									
CFAREV	9	10	470	1504	319	483	1593	330	
CFB	19	15	535	2252	421	522	2720	520	
CFC	15	16	558	2014	161	549	1034	188	
CFD	25	14	542	1058	195	553	1008	182	
MEDIUM ICE									
CM99A	22	42	488	3948	808	364	3324	1092	1
CM99B	71	20	501	3876	773	497	3592	723	2
CM99C	40	25	540	2088	386	510	1887	369	
CM99D	17	20	435	3686	846	432	3562	830	3
CM99F	35	17	463	2437	526	507	1905	375	
CM99F	11	21	494	1766	357	524	1144	218	
CENTER ICE									
CRP A	16	30	421	7570	2354	270	7189	2666	4
CRP B	75	17	444	3141	708	448	3399	758	5
CRP C1	32	19	487	2727	560	493	2731	554	
CRP C2	42	22	518	1185	228	513	1192	232	
CRP D	89	19	408	2671	654	422	2878	682	
CRP E1	48	29	412	2412	559	401	2290	570	
CRP E2	62	24	468	1621	346	480	1596	332	
CRP F	11	21	366	2652	724	370	2706	732	6
CRP G	8	23	383	1674	437	386	2064	535	
CRP H	37	24	441	3148	763	454	3409	750	
CRP I	14	30	364	2649	728	338	2583	765	7
CRP J	17	30	450	1225	272	436	1161	266	
CRP K	46	24	386	2802	726	401	2917	727	8
CRPL1	27	40	390	3571	916	325	3004	921	9
CRPL2	23	29	427	2773	649	442	2740	619	
CRP M	29	29	407	1567	385	415	1848	445	
CRP N	7	43	375	3466	923	310	2998	966	10
CRP O	11	86	386	1193	308				11
CRP P	17	35	410	1824	445	394	1914	486	
BOTTOM ICE									
CB90AREV	8	22	539	1348	250	497	613	123	
CB90B	9	15	510	3104	608	516	2863	555	
CB90C	12	24	540	2283	422	509	2073	407	
CB90DREV	44	16	545	1812	332	554	1796	324	
CB90E	102	19	560	3077	549	567	3279	582	
CB90F	27	19	567	1851	315	604	1832	303	
CB90GREV	28	22	510	3266	640	485	3083	635	
CB90HREV	23	20	544	2600	477	541	2517	465	
CB90I	21	20	507	3147	620	516	3236	627	
CB94AREV	45	44	269	2594	964	218	2270	1041	12
CB94BREV	59	39	291	4089	1405	294	4093	1391	13
CB94C	34	42	291	1515	520	291	1515	520	
CB94D	24	43	318	1772	557	331	1726	521	
CB94E	13	20	256	1984	773	357	1838	514	14
CB94FREV	19	46	258	1866	723	222	1651	745	
CB94GREV	25	33	309	2218	718	335	2385	711	15
CB94H	15	39	286	1754	613	319	1366	429	
CB99AREV	52	25	461	2255	489	444	2175	490	
CB99BREV	42	25	488	1941	398	482	1935	401	
CB99C	37	28	509	1540	302	494	1486	301	
CB99D	29	26	539	1071	198	549	1022	186	
CB99EREV	27	22	496	2221	447	512	2683	524	
CB99F	26	22	466	3203	687	471	3249	690	
CB99G	19	28	487	2421	496	485	2411	497	
VERTICAL SPECIMENS									
MEDIUM ICE									
CM00A	16	21	539	3385	628	508	3233	636	
CM00B	16	19	519	4848	934	505	4442	879	
BOTTOM ICE									
CB09A	49	18	570	2184	383	574	2183	380	
CB09B1	24	17	610	1845	302	610	1845	302	
CB09B2	60	17	596	2685	450	596	2685	450	
CB09C	32	20	640	1649	257	612	1444	235	
CB09D	22	12	679	2288	336	698	2283	327	
CB09E1	8	18	513	836	162	518	835	161	
CB09E2	22	28	569	2111	371	493	1170	237	
CB09F	10	9	600	2872	479	633	2772	437	
CB09GREV	29	18	501	3096	617	505	3102	614	
CB09H	18	14	535	4942	923	546	4939	904	

1 EARLY 384-465
2 466-479
3 TEMP = -1
4 TEMP = -1
5 TEMP = -2.5
6 ONLY 11. TEMP = -1
7 ONLY 14
8 TEMP = -2.5
9 POOR RESULTS
10 TEMP = -1
11 REGRESSION BLEW UP
12 TEMP = -2
13 TEMP = -2
14 TEMP = -1.2
15 PACK ICE. TEMP = -1

Rate and Orientation Variable, Compression

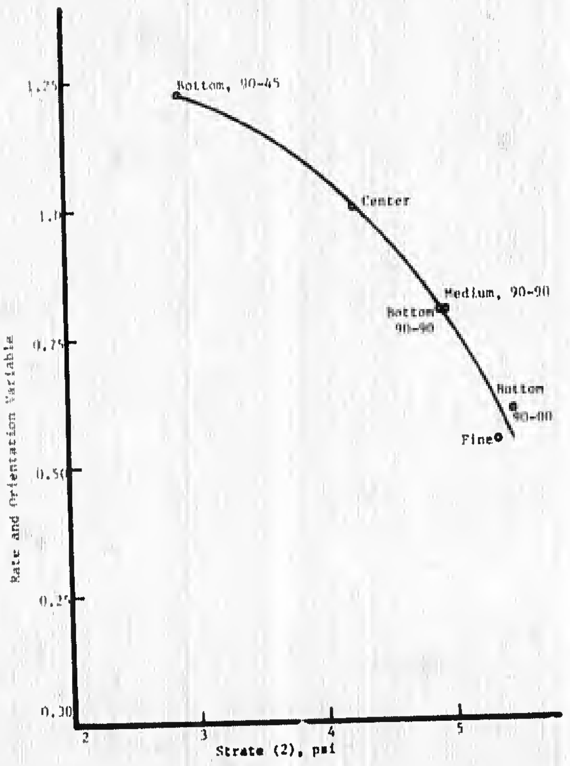

Exhibit 5.5

Strength and Strate at Various Orientations
Bottom Ice, Compression

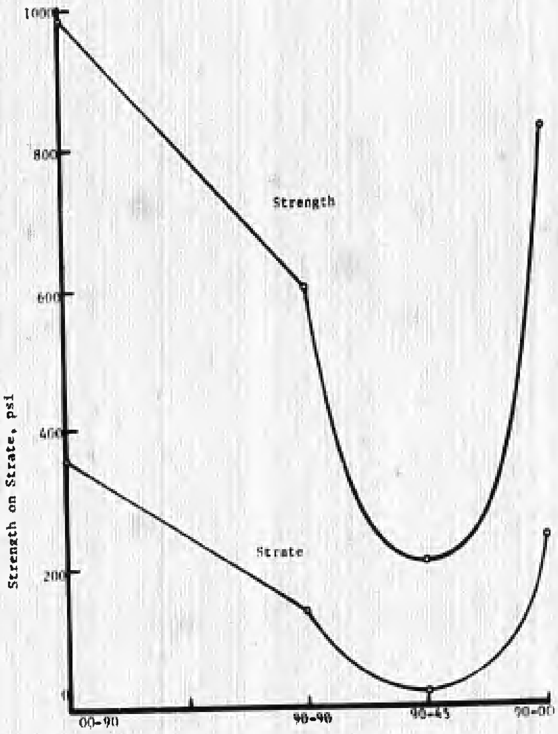

Exhibit 5.6

EXHIBIT 5.7

STATISTICAL ANALYSIS OF LN(STRENGTH) AND STRATE

ID	NOBS	AV LN	AV	STDEV	ESTDEV	COFVAR
HORIZONTAL ICE						
FINE 90-11 ICE						
STRENGTH	71	6.0199	411	.6882	1.99	.1143
STRATE	68	5.3409	209	.3042	1.35	.0569
DIFF		.6790	1.97	.3840	1.47	
MEDIUM 90-90 ICE						
STRENGTH	203	6.2036	493	.5089	1.66	.0820
STRATE	196	4.9489	141	.4424	1.56	.0893
DIFF		1.2547	3.50	.0665	1.07	
CENTER 90-11 ICE						
STRENGTH	606	5.7464	313	.7085	2.03	.1232
STRATE	611	4.2828	72	.5053	1.66	.1179
DIFF		1.4636	4.31	.2032	1.22	
BOTTOM 90-00 ICE						
STRENGTH	246	6.7134	822	.5505	1.73	.0820
STRATE	274	5.4666	237	.3547	1.42	.0648
DIFF		1.2468	3.48	.1958	1.21	
BOTTOM 90-45 ICE						
STRENGTH	269	5.3421	210	.7776	2.17	.1445
STRATE	234	2.8658	17	.3260	1.39	.1137
DIFF		2.4763	11.9	.4516	1.57	
BOTTOM 90-90 ICE						
STRENGTH	308	6.3947	600	.6085	1.84	.0951
STRATE	232	4.8984	134	.3255	1.38	.0664
DIFF		1.4963	4.46	.2830	1.32	
ALL HORIZONTAL ICE						
STRENGTH	1703	6.0054	405	.7949	2.21	.1325
STRATE	1615	4.4992	90	.8857	2.42	.1969
DIFF		1.5062	4.52	-.0908	.91	
VERTICAL ICE						
MEDIUM 00-00 ICE						
STRENGTH	33	6.2349	510	.4271	1.53	.0685
STRATE	32	5.0518	156	.4365	1.54	.0864
DIFF		1.1831	3.26	-.0094	.99	
BOTTOM 00-90 ICE						
STRENGTH	306	6.8956	985	.6483	1.91	.0940
STRATE	274	5.8688	354	.5234	1.69	.0891
DIFF		1.0268	2.79	.1249	1.13	
ALL VERTICAL ICE						
STRENGTH	339	6.8313	927	.6601	1.93	.0966
STRATE	307	5.7646	117	.6586	1.93	.1142
DIFF		1.0667	2.90	.0015	1.00	
ALL ICE						
STRENGTH	2042	6.1425	465	.8274	2.28	.1347
STRATE	1922	4.6954	109	.9861	2.68	.2100
DIFF		1.4471	4.25	-.1587	.85	

EXHIBIT 5.8

TENSION RATE POWER

ID	NOBS	STR	DEP	T	RATE	STDEVR	RPOW	T
RNTF1	11	3.945	1.212	1.089	3.715	.962	-.117	.70
RNTF2	15	4.588	2.079	1.352	5.439	.681	-.035	.15
RNTM1	9	4.343	.693	1.792	5.147	1.040	.162	1.43
RNTM2	12	4.612	2.904	2.343	6.016	1.114	.178	3.35
RNTC1	21	3.686	1.493	.964	2.763	1.188	.042	.95
RNTC2A	9	3.873	1.419	2.539	3.043	1.322	.124	1.44
RNTC3A	13	4.434	0.000	.693	4.916	1.803	.107	2.85
RNTC4	22	4.414	1.405	.693	4.492	2.011	.026	2.24
RNTC5A	12	4.198	2.833	.693	4.072	1.946	.033	1.53
RNTC6A	14	4.582	.792	1.609	4.667	1.951	.050	3.04
RNTC7	9	4.347	2.833	1.609	4.242	2.002	.033	2.64
RNTC8	16	4.732	.780	2.303	4.938	1.903	.069	6.39
RNTC9	10	4.469	2.833	2.303	4.603	1.940	.066	1.92
RNTC10	7	4.734	1.386	2.939	4.653	1.642	.102	2.76
RNTC11	23	4.720	.000	3.042	5.268	1.564	.045	2.89
RNTC12	12	4.667	1.386	3.045	4.869	1.670	.063	3.88
NTC13A	9	4.567	2.833	3.045	4.690	1.751	.036	2.12
RNT091A	16	5.476	3.784	.693	5.442	1.839	.043	2.75
RNT092	17	5.596	3.784	1.609	5.494	1.691	.028	1.05
RNT093A	13	5.272	3.956	1.327	4.965	1.258	.034	1.24
RNT094	10	5.453	3.689	1.609	5.568	1.792	.032	1.80
RNT095	11	5.403	3.784	1.609	5.473	1.729	.038	1.20
RNT096	12	5.711	3.784	2.303	5.315	1.749	-.023	.59
RNT097A	12	5.873	3.784	3.045	5.278	1.555	.038	1.83
RNT901	23	4.304	2.986	1.821	3.543	.968	.166	3.43
RNT902	21	4.575	3.784	.693	4.844	1.677	-.021	1.03
RNT903	12	4.640	3.784	.693	5.210	1.512	.057	1.40
RNT904	22	4.858	3.784	1.609	4.947	1.699	.032	2.22
RNT905A	15	4.552	3.970	1.365	4.613	1.532	-.064	1.92
RNT906	18	4.509	3.784	1.609	4.731	1.603	.063	1.66
RNT907	11	4.953	3.784	2.303	4.986	1.815	.029	1.07
RNT908	13	4.975	3.784	3.045	4.802	1.853	.020	.79
RNT941	11	4.244	3.366	1.263	3.736	1.304	.136	5.80
RNT942	15	4.613	3.784	.693	5.668	1.583	.138	3.70
RNT943	13	4.250	3.784	.693	5.107	1.591	.090	2.11
RNT944	12	4.673	3.784	1.609	5.132	1.776	.134	5.72
RNT945	15	4.344	3.970	1.365	5.291	1.414	.107	3.94
RNT946	12	4.466	3.784	1.609	4.940	1.534	.090	3.29
RNT947	11	4.822	3.784	2.303	5.243	1.606	.118	5.20
RNT948	14	4.776	3.784	3.045	5.349	1.913	.079	3.42
RNT991	26	4.547	2.639	2.175	3.872	1.102	.096	2.31
RNT992A	18	4.940	3.784	.693	4.836	1.838	.017	.84
RNT993A	9	4.640	3.784	.693	5.019	1.440	.075	1.47
RNT994	23	5.092	3.784	1.609	5.234	1.500	.064	3.23
RNT995	18	4.962	3.970	1.355	5.198	1.373	.044	1.77
RNT996A	12	4.824	3.784	1.609	4.622	1.628	.037	1.15
RNT997	21	5.240	3.784	2.303	5.387	1.691	.071	2.47
RNT998	18	5.145	3.784	3.045	5.330	1.935	.019	.50

```
EXHIBIT 5.9

STRATE AND STRENGTH. INDIVIDUAL DATA GROUPINGS

   STRATE    STRENGTH

RNTM1      009
     181.88    726.50  SUM
    3925.99  62697.25  CROSS PRODUCT
    20.2089   80.7222  AVERAGE
     5.5943   22.5070  STANDARD DEVIATION
      .2768     .2788  COEFF OF VARIATION

RNTV2      012          RNTC10     007          RNT907     011          RNT991     026          RNT093A    013
     552.78   1255.00        643.54    804.90       1274.77   1574.30       1941.79   2547.00       2060.91   2493.20
   26842.22 140306.26      59866.20  94575.63     150516.56 230009.09     154956.45 267283.88     332317.88 485832.34
    46.0650  104.5833       91.9351  114.9857      115.8883  143.1181       74.6845   97.9615      158.5318  191.7846
    11.1922   28.6898       10.8124   18.3649       16.6895   21.6751       19.9340   26.6652       21.5972   25.2899
      .2429     .2743         .1176     .1597         .1440     .1514         .2669     .2722         .1362     .1318

RNTC1      021          RNTC11     023          RNT908     013          RNT992A    018          RNT094     010
     770.76    892.90       1819.95   2602.20       1566.23   1901.10       1958.71   2543.80       1935.59   2344.80
   31742.60  42246.89     146076.78 299623.18     192048.56 283827.83     218741.54 367061.68     377605.29 554547.20
    36.7029   42.5190       79.1286  113.1391      120.4793  146.2384      108.8173  141.3222      193.5590  234.4800
    13.1394   14.6315        9.5724   15.3926       16.7086   22.0111       18.1489   21.0967       18.1171   22.9455
      .3579     .3441         .1209     .1360         .1386     .1505         .1667     .1492         .0936     .0978

RNTC2A     009          RNTC12     012          RNT941     011          RNT993A    009          RNT095     011
     399.67    458.40       1030.12   1287.80        486.98    789.20        720.80    952.10       2037.66   2471.30
   19705.60  26012.48      89043.97 140575.14      22151.60  59628.58      59596.03 105025.19     387106.82 568033.59
    44.4078   50.9333       85.8436  107.3166       44.2709   71.7454       80.0893  105.7888      185.2419  224.6636
    15.5679   18.2564        7.4738   14.6868        7.6977   17.3408       15.2775   23.1937       31.0590   35.8083
      .3505     .3585         .0870     .1368         .1738     .2417         .1907     .2192         .1676     .1593

RNTC3A     013          RNTC13A    009          RNT942     015          RNT994     023          RNT096     012
     760.00   1135.60        761.75    875.30        799.58   1560.40       2890.20   3802.70       3111.63   3705.10
   46121.74 106619.56      65609.22  87003.47      43871.20 172123.06     370263.75 648747.97     844174.33 .11860507E 07
    58.4616   87.3538       84.6395   97.2555       53.3055  104.0266      125.6612  165.3347      259.3025  308.7583
    11.8701   24.8671       11.9083   15.3120        9.4455   26.4573       17.9599   30.1732       58.2477   61.8430
      .2030     .2846         .1406     .1574         .1771     .2543         .1429     .1824         .2246     .2002

RNTC4      022          RNT901     023          RNT943     013          RNT995     018          RNT097A    012
    1450.19   1829.60       1483.70   1808.10        514.56    933.30       2008.44   2601.30       3630.88   4297.90
   96797.12 154141.22     105623.20 156880.63      20971.23  69882.29     228568.57 384958.29     1111875.6 1563363.2
    65.9178   83.1636       64.5089   78.6130       39.5815   71.7923      111.5805  144.5166      302.5739  358.1583
     7.5705    9.7224       21.2248   25.8847        7.0953   15.4879       16.2058   23.0435       34.7243   46.7434
      .1148     .1169         .3290     .3292         .1792     .2157         .1452     .1594         .1147     .1305

RNTC5A     012          RNT902     021          RNT944     012          RNT996A    012          RNT091A    016
     688.33    809.30       1650.39   2061.80        741.94   1327.90       1194.70   1516.10       21.1713   32.3632
   40215.76  55850.93     133933.58 207211.54      46679.13 156775.05     121964.87 196885.05         .1084     .1343
    57.3613   67.4416       78.5900   98.1809       61.8288  110.6583       99.5588  126.3416
     8.1567   10.7466       14.5420   15.4629        8.5570   29.8965       16.5729   22.0298     RNT092     017
      .1421     .1593         .1850     .1574         .1383     .2701         .1664     .1743         40.7390   50.8492
                                                                                                       .1811     .1859
RNTC6A     014          RNT903     012          RNT945     015          RNT997     021
    1050.84   1386.10        987.75   1265.80        707.62   1247.00       3130.60   4104.60     RNT093A    013
   80938.32 141344.97      83724.43 138950.90      36419.24 116449.76     493561.74 856664.96       21.5972   25.2899
    75.0605   99.0071       82.3298  105.4833       47.1749   83.1333      149.0766  195.4571         .1362     .1318
    12.5915   17.7832       14.7277   22.2161       14.7288   30.2164       36.6478   52.1495
      .1677     .1796         .1788     .2106         .3122     .3634         .2458     .2668     RNT094     010
                                                                                                  18.1171   22.9455
RNTC7      009          RNT904     022          RNT946     012          RNT998     017                .0936     .0978
     608.39    699.30       2290.13   2850.70        615.44   1060.00       2323.79   2985.30
   41325.88  54955.19     240811.14 373825.47      31985.20  96098.32     338111.21 557131.23     RNT095     011
    67.5991   77.7000      104.0968  129.5772       51.2872   88.3333      136.6940  175.6058       31.0590   35.8083
     4.9881    8.8044       10.7255   14.5398        6.1837   14.9696       35.7612   45.3424         .1676     .1593
      .0737     .1132         .1030     .1122         .1205     .1694         .2616     .2582
                                                                                                RNT096     012
RNTC8      016          RNT905A    015          RNT947     011          RNT091A    016              58.2477   61.8430
    1375.15   1832.00       1207.96   1457.20        796.20   1392.10       3124.24   3853.70         .2246     .2002
  119063.00 213236.02     103616.48 148429.32      58199.11 182092.59     616778.40 943898.41
    85.9469  114.5000       80.5312   97.1466       72.3826  126.5545      195.2650  240.8562     RNT097A    012
     7.6281   15.2140       21.2759   22.1475        7.5329   24.3228       21.1713   32.3632       34.7243   46.7434
      .0887     .1328         .2641     .2279         .1040     .1921         .1084     .1343         .1147     .1305

RNTC9      010          RNT906     018          RNT948     014          RNT092     017
     765.84    892.20       1357.96   1679.40        990.71   1697.70       3823.61   4648.50
   60790.55  83528.10     106414.26 163604.88      71511.13 213962.73     886558.75 .13124616
    76.5842   89.2200       75.4426   93.3000       70.7650  121.2642      224.9188  273.4411
    15.4165   20.8859       15.2729   20.1711       10.3901   24.9497       40.7390   50.8492
      .2013     .2340         .2024     .2161         .1468     .2057         .1811     .1859
```

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EXHIBIT 5.1

STRATE AND STRENGTH. SINGTO AND LARGER GROUPINGS

      STRENGTH       STRATE     STRENGTH/STRATE

 LL TENSION
    671                                      NO. OF DATA
     86960.50      66225.06            1.31  SUMS
  14470417.00    8918692.30            1.62  CROSS PRODUCTS
      129.598        98.696           1.313  AVERAGES
      69.1146       59.6324          1.1590  STD. DEVIATION
        .5332         .6042           .8826  COEFF. OF VARIATION


ALL HORIZONTAL TENSION
    580
     63146.00      46500.54            1.35
   7856226.80    4362275.20            1.80
      108.872        80.173           1.357
      41.1696       33.0951          1.2439
        .3781         .4127           .9160

ALL LATE HORIZONTAL
    481
     55923.90      41235.56            1.35
   7241477.10    4024169.60            1.79
      116.265        85.728           1.356
      39.2490       31.9209          1.2295
        .3375         .3723           .9066

MEDIUM
     21
      1981.50        734.66            2.69
    203003.51      30768.21            6.59
       94.357        34.983           2.697
      28.3150       15.9169          1.7789
        .3000         .4549           .6595

ALL CENTER
    177
     15305.60      12124.73            1.27
   1499712.80     897246.74            1.67
       87.602        68.501           1.278
      28.3431       19.4654          1.4560
        .3235         .2841          1.1385

ALL LATE CENTER
    147
     14154.30      10954.10            1.29
   1431453.40     845798.54            1.69
       96.287        74.517           1.292
      21.6712       14.2204          1.5239
        .2250         .1908          1.1793


BOTTOM 00-90
     91
     23814.50      19724.52            1.20
   6614190.00    4556417.10            1.45
      261.697       216.752           1.207
      65.1483       55.8836          1.1657
        .2459         .2578           .9655
```

```
      STRENGTH       STRATE     STRENGTH/STRATE

ALL BOTTOM 90-00
    135
     14598.40      11819.09            1.23
   1702739.70    1116688.20            1.52
      108.136        87.548           1.235
      30.4350       24.7285          1.2307
        .2814         .2824           .9964

LATE BOTTOM 90-00
    112
     12790.30      10335.39            1.23
   1545859.00    1011065.00            1.52
      114.199        92.200           1.237
      27.7079       22.7228          1.2193
        .2426         .2462           .9853

ALL BOTTOM 90-45
    103
     10007.60       5653.03            1.77
   1067012.40     331787.84            3.21
       97.161        54.883           1.770
      30.4641       14.5279          2.0969
        .3135         .2647          1.1845

LATE BOTTOM 90-45
     92
      9210.40       5166.05            1.78
   1007383.80     309636.24            3.25
      100.200        56.152           1.784
      30.3278       14.6566          2.0692
        .3026         .2610          1.1596

ALL BOTTOM 90-90
    144
     21052.90      16169.03            1.30
   3383758.30    1985784.10            1.70
      146.200       112.284           1.302
      46.2442       34.5040          1.3402
        .3163         .3072          1.0293

LATE BOTTOM 90-90
    118
     18505.90      14227.24            1.30
   3116474.40    1830827.70            1.70
      156.829       120.569           1.300
      42.7875       31.4128          1.3621
        .2728         .2605          1.0471
```

EXHIBIT 6.1

COMPRESSION DATA WITH SALT PROPERTIES, CENTER ICE

```
  ID      A       B     CHL   T  STRATE   BV    SV   IV      E    STR  RATE  ES

 11980 2639011 506011 485   10 143610 4171     0 5829    80    60     9    4
 12130 2639011 507011 485   10 365139 4171     0 5829   700   700    40   38
 12140 2639011 367011 485   10 314560 4171     0 5829   400   620   125   28
 12150 2639011 367011 485   10 232662 4171     0 5829   620   420   150   15
 12160 2639011 507011 485   10 225526 4171     0 5827   600   230   230    9
 12610 2639011 309011 285   10 426304 2451     0 7549  9300  2450  2100   71

 11960 2639011 505011 485   20 426940 2104     0 7896  7100  2170   630   71
 11970 2639011 506011 485   20 420907 2104     0 7896 15000  2070   680   67
 15730 3639011 135011 360   20 428544 1562     0 8438  2500  1410    47   72
 15740 3639011 136011 365   20 361099 1584     0 8416  1400   900   174   37
 15750 3639011 436011 285   20 420456 1236     0 8764  6100  2760  3700   67
 15780 3639011 101011 367   20 451737 1592     0 8408  2900  1690    35   91
 15790 3639011 101011 395   20 442149 1714     0 8286  2700  1520    33   83
 15800 3639011 101711 400   20 435873 1736     0 8264  2100  1420    32   78
 15810 3639011 101012 405   20 435444 1757     0 8243  6500  1610    68   77
 15820 3639011 101011 400   20 419043 1736     0 8264  8200  1420    85   66
 15830 3639011 101011 398   20 430616 1727     0 8273  4700  1610    90   74
 15840 3639011 101011 412   20 421826 1788     0 8212  1400  1720   220   67
 15850 3639011 101011 366   20 437545 1588     0 8412  3800  2140   314   79
 15860 3639011 101011 363   20 437104 1575     0 8425  5500  2160   340   79
 15870 3639011 401011 420   20 438447 1822     0 8178  3300  2680  1100   80
 15880 3639011 401011 395   20 431262 1714     0 8286  8600  2600  1400   74
 15890 3639011 401011 395   20 445102 1714     0 8286  3800  2910  1200   85
 15900 3639011 301011 450   20 421151 1866     0 8134  2400  2520  2100   67
 15910 3639011 302011 407   20 386766 1766     0 8234  8600  1900  3000   47
 15920 3639011 101011 426   20 404797 1848     0 8152 12000  2370  3800   57
 15940 3639011 103011 370   20 433844 1605     0 8395  2100  1420    36   76
 15950 3639011 102011 405   20 421937 1757     0 8243  6400  1310    45   67
 15960 3639011 102011 400   20 424236 1736     0 8264  1800  1520    74   72
 15970 3639011 503011 340   20 409812 1475     0 8525  3400  1590   280   60
 15980 3639011 103011 376   20 416782 1631     0 8369  4700  2060   840   64
 15990 3639011 303011 479   20 313404 2078     0 7922   400   710   700   22
 16000 3639011 304011 400   20 340746 1736     0 8264  5500  1170  2600   30
 16010 3639011 307011 365   20 397145 1584     0 8416  1800  1800  1200   53
 16020 3639011 303011 413   20 413184 1792     0 8208  1500  2170  1400   62
 16030 3639011 303011 420   20 393301 1822     0 8178  5900  1800  1500   51
 22440 3639011 107011 352   20 458625 1527     0 8473 15000  2030    68   98
 22450 3639011 107011 358   20 447832 1553     0 8447  6200  1740    52   88
 22460 3639011 107011 358   20 458370 1553     0 8447  3300  1900    47   97
 22470 3639011 107011 351   20 455877 1523     0 8477  2200  1770    36   95
 22480 3639011 107011 388   20 434918 1683     0 8317  4600  2540    97  115
 22490 3639011 107011 370   20 446947 1605     0 8395  6000  2070   150   87
 22500 3639011 107011 352   20 448523 1527     0 8473  6200  2170   160   88
 22510 3639011 107011 348   20 437849 1510     0 8490  7100  1890   150   79
 22520 3639011 107011 352   20 482976 1527     0 8473  3200  3380   320  125
 22530 3639011 107011 367   20 456771 1592     0 8408  8800  2770   460   96
 22540 3639011 107011 360   20 448906 1562     0 8438  8000  2570   470   69
 22550 3639011 107011 364   20 458382 1579     0 8421 11000  3410  1400   97
 22560 3639011 707011 350   20 469508 1519     0 8481 16000  3900  1600  109
 22570 3639011 707011 330   20 461498 1432     0 8568  7800  3560  1500  100
 22580 3639011 807011 358   20 468076 1553     0 8447 13000  4540  4200  107
 22590 3639011 807011 376   20 447761 1631     0 8369 15000  3690  4100   88
 22600 3639011 207011 376   20 464260 1631     0 8369 13000  4170  3200  103
 22610 3639011 207011 365   20 462231 1584     0 8416 15000  4170  3600  101
 22620 3639011 207011 349   20 460289 1514     0 8486  8000  3940  2900   99
 22630 3639011 207011 350   20 460378 1519     0 8481 15000  3920  2800   99

 12760 2639011 102011 526   50 471360  976     0 9022  5500  2300    48  111
 12770 2639011 102011 526   50 457656  976     0 9022  5700  2380   120   97
 12780 2639011 402011 526   50 461723  976     0 9022   800  3410   660  101
 12790 2639011 402011 526   50 439696  978     0 9022 11000  3510  2500   81
 12800 2639011 302011 526   50 494490  978     0 9022 19000  7060  5600  140
 21760 3639011 104011 391   50 460136  727     0 9273  5100  2340    96   99
 21770 3639011 104011 345   50 466654  641     0 9359  1400  2100    38  106
 21780 3639011 104011 329   50 457848  611     0 9389  3500  2120    64   97
 21790 3639011 104011 350   50 467386  651     0 9349  2400  2210    48  107
 21800 3639011 104011 360   50 448805  669     0 9331  3900  2440   220   88
 21810 3639011 104011 361   50 458704  671     0 9329  7200  2600   182   98
 21820 3639011 104011 330   50 462063  613     0 9387  4700  2560   140  101
 21830 3639011 104011 341   50 450311  634     0 9366 10000  2410   190   90
 21840 3639011 104011 348   50 484220  647     0 9353  5800  3870   390  126
 21850 3639011 104011 365   50 469039  678     0 9322  8000  3470   490  108
 21860 3639011 704011 365   50 465235  678     0 9322 10000  3890  1100  104
 21870 3639011 704011 365   50 465944  678     0 9322 20000  3940  1140  105
 21880 3639011 704011 346   50 470248  643     0 9357  8600  4330  1500  110
 21890 3639011 204011 338   50 475565  628     0 9372 20000  5900  5900  116
 21900 3639011 204011 350   50 473617  651     0 9349 36000  5730  5600  113
 21910 3639011 204011 340   50 457482  632     0 9368  3500  4700  4600   97
 21920 3639011 504011 343   50 469518  637     0 9363 18000  5200  4150  109
 21930 3639011 704011 378   50 470518  703     0 9297 13000  5060  3400  110
 21940 3639011 104011 381   50 467113  708     0 9292  8600  3350   450  106
 21950 3639011 704011 365   50 478058  678     0 9322 12000  5330  3000  119

 13250 2639011 101011 494  100 501212  492    99 9408 11000  3460    66  150
 13260 2639011 101011 494  100 504537  492    99 9408  2500  3960   110  155
 13270 2639011 101011 494  100 485276  492    99 9408  2000  3920   275  128
 13280 2639011 501011 494  100 501464  492    99 9408 11000  6700  1800  150
 13290 2639011 501011 494  100 513127  492    99 9408 14500  7800  2150  169
 13300 2639011 501011 494  100 504995  492    99 9408 16000  8540  5100  156
 13560 2639011 806011 370  100 515659  368    74 9557 17500  9520  5150  175
 20900 3639011 101011 386  100 502091  384    77 9538  3700  3590    76  151
 20910 3639011 101011 375  100 493852  373    75 9551 43000  3340    80  139
 20920 3639011 101011 419  100 497015  417    84 9498  3200  3430    78  144
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20930 3639011 101011 386 100 509666  384    77 9538  2100  4090  100  163
20940 3639011 101011 404 100 485027  402    61 9516  7800  3670  200  127
20950 3639011 101011 407 100 495292  405    81 9513  8700  3890  160  141
20960 3639011 201011 385 100 498374  383    77 9539 13200  5130  550  146
20970 3639011 201011 406 100 498805  404    61 9514 10200  5310  640  146
20980 3639011 201011 388 100 508552  386    78 9535 11000  5740  580  161
20990 3639011 201011 393 100 510212  391    74 9529 16900  7430 1950  164
21000 3639011 201011 383 100 505108  381    77 9541 12500  6870 1700  156
21010 3639011 201011 384 100 499664  382    77 9540 24800  6720 2000  147
21020 3639011 201011 413 100 501397  411    83 9505 18500  7810 3900  150
21160 3639011 501011 385 100 499579  383    77 9539 31600  8300 5800  147
21170 3639011 201011 400 100 496652  398    80 9521 23500  8320 6800  143
21190 3639011 201011 390 100 505059  388    78 9533 17000  8020 3700  156
21200 3639011 201011 385 100 497463  383    77 9539 12100  7150 3050  144

12250 2639011 808011 531 210 488337  315   347 9337 10000  8230 5400  132
12260 2639011 309011 531 210 492768  315   347 9337 16000  7000 2050  138
12270 2639011 509011 531 210 498435  315   347 9337  4500  3270   44  146
14600 2639011 536011 494 210 517738  293   323 9383 14000  4540   83  177
14610 2639011 536011 494 210 532368  293   323 9383 18000  9110 1100  205
14620 2639011 136011 494 210 528221  293   323 9383 27000  8740 1100  196
14630 2639011 836011 494 210 529168  293   323 9383 27000 12570 5800  198
14660 2639011 336011 494 210 526678  293   323 9383 22900 10500 2800  193
14710 3639011 304011 380 210 524964  226   248 9525 10000  8290 1000  190
14720 3639011 304011 380 210 528752  226   248 9525 21000  8610 1000  197
14730 3639011 104011 380 210 524862  226   248 9525 17000  4900   85  190
14740 3639011 804011 380 210 529432  226   248 9525 14000 10710 2700  199
14750 3639011 804011 380 210 519645  226   248 9525 24000 11300 5500  180
14760 3639011 105011 380 210 521704  226   248 9525 22000  5180  128  184
14770 3639011 105011 380 210 525367  226   248 9525 14000  5910  200  191
14780 3639011 105011 380 210 525592  226   248 9525 13800  6400  410  191
22780 3639011 109011 356 210 519340  211   233 9555 20000  4800  100  180
22790 3639011 109011 356 210 520090  211   233 9555 10000  4740   91  181
22800 3639011 109011 272 210 527702  161   178 9660 16000  4930   78  195
22810 3639011 109011 272 210 520702  161   178 9660  4600  4410   63  182
22820 3639011 109011 272 210 521255  161   178 9660 14000  5730  210  183
22830 3639011 109011 272 210 503326  161   178 9660 10000  4740  200  153
22840 3639011 109011 272 210 523734  161   178 9660  1070  5750  190  188
22860 3639011 109011 272 210 524120  161   178 9660 26000  7500  650  188
22870 3639011 109011 272 210 504065  161   178 9660 22400  5990  580  154
22880 3639011 109011 272 210 504872  161   178 9660 14500  6360  740  155
22890 3639011 209011 272 210 523832  161   178 9660 22000  9500 2000  188
22900 3639011 209011 272 210 508828  161   178 9660  6000  7590 1410  162
22910 3639011 209011 272 21  520320  161   178 9660 11000  9230 2060  181
22930 3639011 809011 272 210 522785  161   178 9660 20800 11920 6100  186
22940 3639011 809011 272 210 524499  161   178 9660 20000 10030 6400  155
22950 3639011 209011 272 210 502583  161   178 9660 38000  8600 3400  152
22960 3639011 209011 272 210 517602  161   178 9660 16000 10400 4100  176
22970 3639011 209011 272 210 513979  161   178 9660  6000 10030 4100  170
23120 3639011 814011 310 210 523806  184   203 9612 27000 12000 6000  188
24080 3639011 214011 256 210 486821  152   167 9680  9100  6490 1900  130
24100 3639011 214011 315 210 514829  187   206 9606 26300  8860 2200  172
24110 3639011 814011 290 210 533662  172   190 9637 34700 13000 5500  207
24140 3639011 814011 362 210 523811  215   237 9547 17800 12690 7800  188
24160 3639011 814011 271 210 526074  161   177 9661 36400 12050 5500  192
24170 3639011 814011 248 210 520316  147   162 9690     0 10900 4500  181
24180 3639011 814011 277 210 530842  164   181 9654 12500 11810 4000  202
```

EXHIBIT 6.2

CODE FOR DATA

The data shown in Exhibit 6.1 is the data at a relatively advanced stage of analysis. Besides the original data, rate of loading, and modulus of elasticity, it contains brine volume, solid salt volume, ice volume, strate, and the natural log of strate.

A specimen of the data is shown below. The decimal is ommitted in the data and immediately below each "word" in the specimen below is the word number.

```
12250 2639011 808011 531 210 488337 315 347 9337 10000 8230 5400 132
 (1)    (2)     (3)  (4) (5)   (6)  (7)(8)  (9)  (10)  (11)(12) (13)
  1      0       0    2   1     5    4  4    4     4     1   0    0
                                     Word Number
                                     Decimal Place
```

Word Meaning

1 Identification number.
2 bcdeeff

b = date of collection

2	1 Nov-31 Dec
3	1 Jan-31 Apr
4	1 May-15 May
5	16 May-31 May
6	1 June-15 June
7	16 June-1 Aug
8	1 Aug-31 Oct

c = location of collection

1	100 yards of theater
2	1 mile off ACS
3	100 miles north of Barrow
4	200 miles north of Barrow
5	100-150 yards north of theater, 1961
6	300 yards north of theather

d = crystal type code

1	fine
2	medium
3	center
4	bottom
5	pack

ee - angle between sigma and zenith, 0° to 90°
ff - angle between sigam and c-axis, 0° to 90°
"11" indicates randomness

Word Meaning

3 ghhiij

g = failure type

Code	Tension meaning	Compression meaning
1	good test	no visible deformat
2	weld failure	tensile failure

3	head failure	head failure
4	no failure	plastic failure
5	not used	no information
6	"	bad test
7	"	bulge failure
8	"	explosive failure
9	"	ring around specimen

hh - age of sample at time of test, days.
ii - depth from top of ice to center of specimen, inches.
j - type of test, "1" is compression, "2" is tension

4 Chlorinity, o/oo
5 Temperature, -°C.
6 Natural log of Strate
7 Brine volume, relative
8 Solid salt volume, relative
9 Ice volume, relative
10 Modulus of Elasticity, psi x 10^5.
11 Strength, psi.
12 Rate of loading, psi/min.
13 Strate.

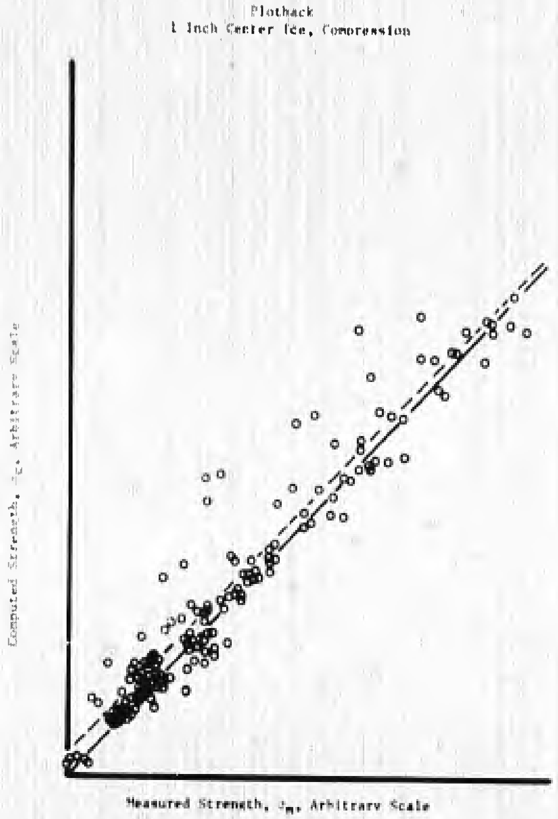

Plotback
1 Inch Center Ice, Compression

Exhibit 7.1A

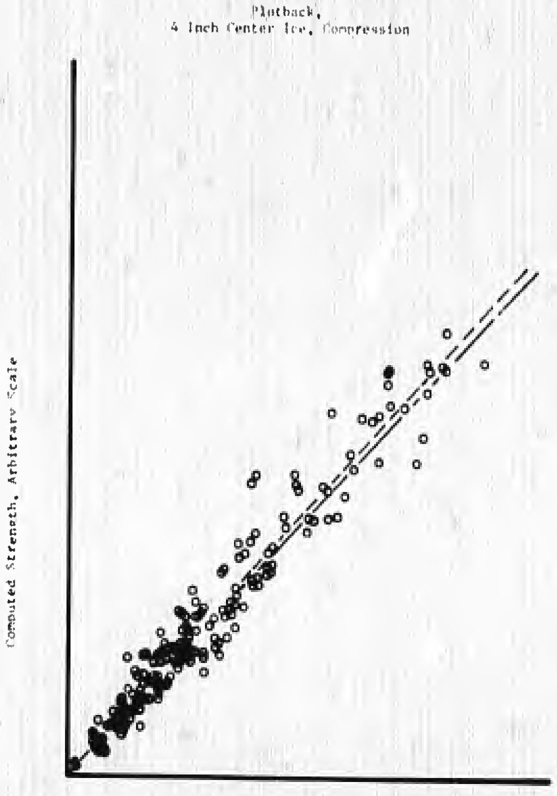

Plotback,
4 Inch Center Ice, Compression

Exhibit 7.1B

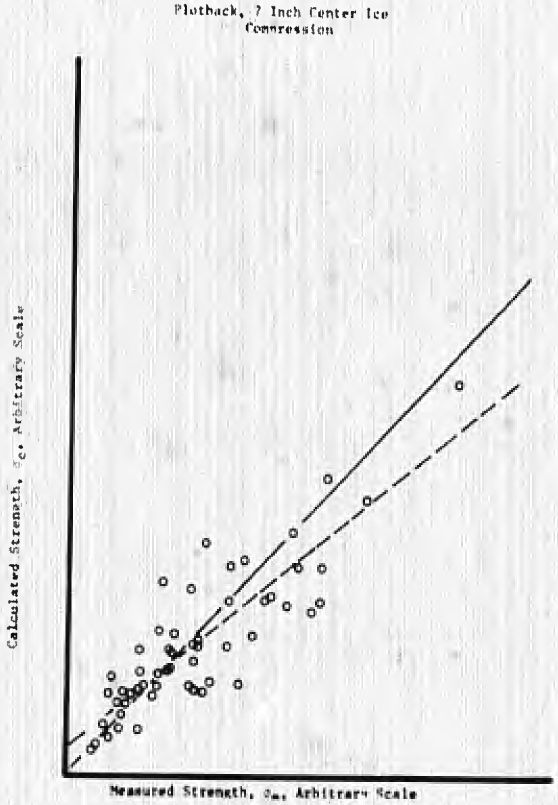

Plotback, 7 Inch Center Ice
Compression

Exhibit 7.1C

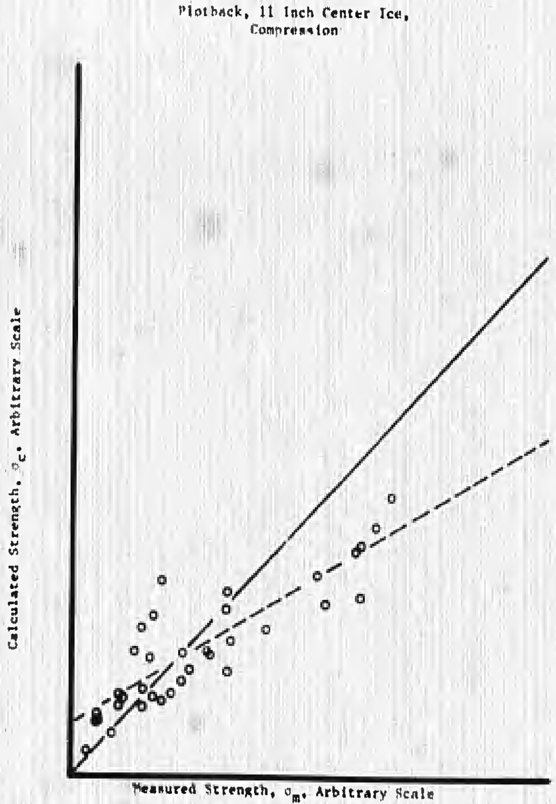
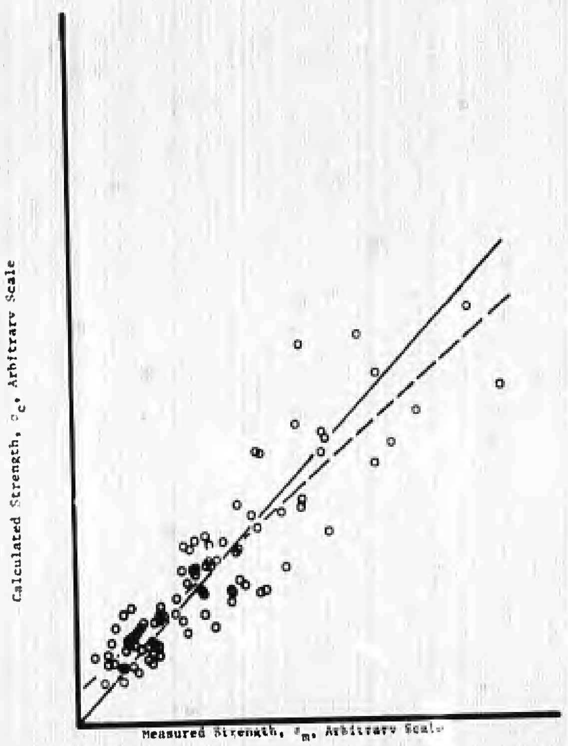
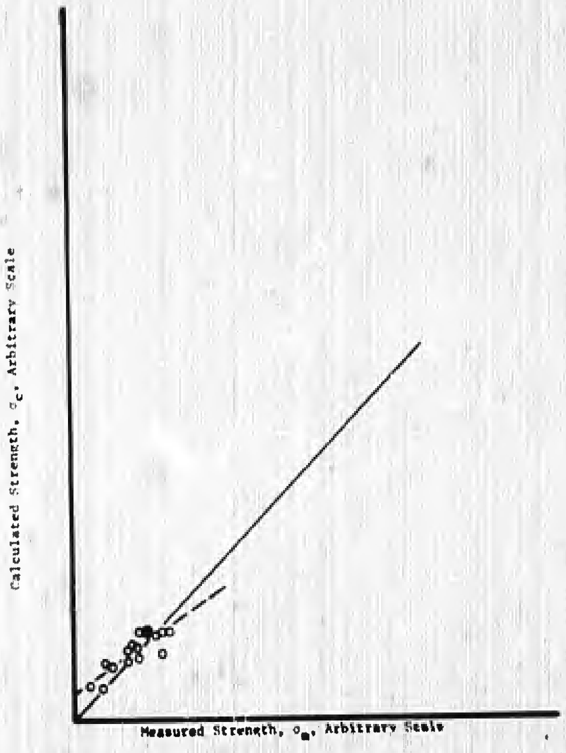

Plotback, 11 Inch Center Ice,
Compression

Exhibit 7.1D



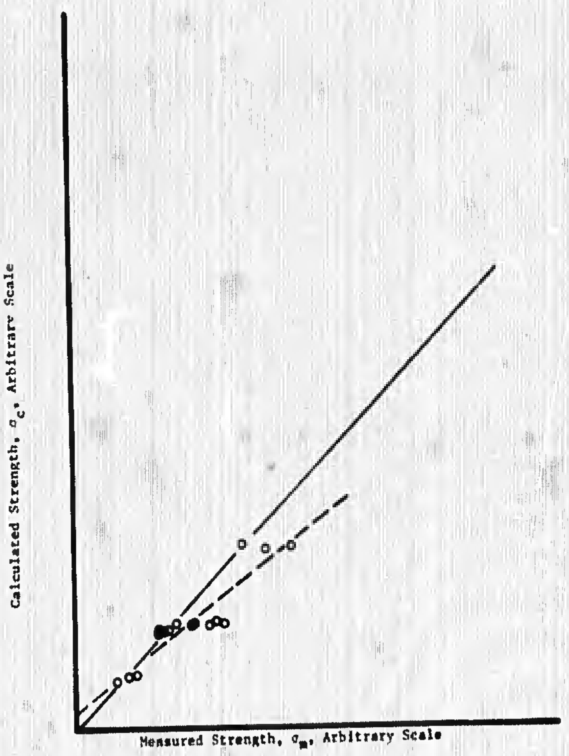
Plotback, 17 Inch Center Ice
Compression

Exhibit 7.1F



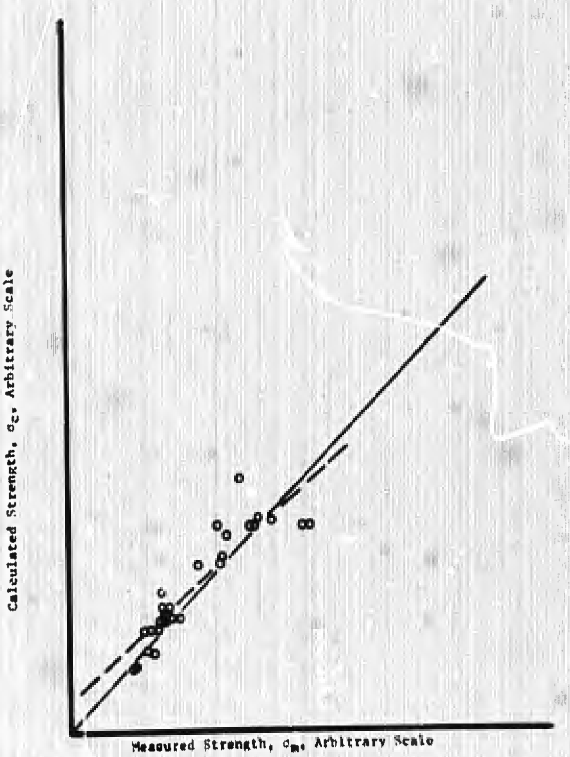
Plotback, 32-36 Inch Center Ice,
Compression

Exhibit 7.1E



Plotback, 25-29 Inch Center Ice
Compression

Exhibit 7.1G



Plotback, 18-21 Inch Center Ice,
Compression

Exhibit 7.1H

EXHIBIT 7.2 BRINE VOLUME STRENGTH FUNCTION

TEMP	1.	2.	4.	DEPTH 8.	16.	32.	40.
1	34.8	36.8	38.6	40.4	42.5	44.9	45.8
2	76.1	63.2	54.6	49.2	46.4	45.6	45.7
3	94.2	74.8	61.6	53.1	48.2	45.9	45.7
4	104.8	81.6	65.7	55.4	49.2	46.1	45.7
5	112.0	86.2	68.5	56.9	49.9	46.2	45.7
6	117.3	89.5	70.5	58.0	50.4	46.3	45.7
7	121.3	92.1	72.1	58.9	50.7	46.4	45.7
8	124.6	94.2	73.4	59.6	51.1	46.5	45.6
9	127.2	95.9	74.4	60.1	51.3	46.5	45.6
10	129.5	97.3	75.3	60.6	51.5	46.5	45.6
11	131.3	98.5	76.0	61.0	51.7	46.6	45.6
12	133.0	99.6	76.6	61.4	51.9	46.6	45.6
13	134.4	100.5	77.2	61.7	52.0	46.6	45.6
14	135.7	101.3	77.7	62.0	52.1	46.6	45.6
15	136.5	102.0	78.1	62.2	52.2	46.7	45.6
16	137.8	102.7	78.5	62.4	52.3	46.7	45.6
17	138.7	103.3	78.6	62.6	52.4	46.7	45.6
18	139.6	103.8	79.2	62.8	52.5	46.7	45.6
19	140.3	104.3	79.5	62.9	52.5	46.7	45.6
20	141.0	104.7	79.7	63.1	52.6	46.7	45.6
21	141.6	105.1	80.0	63.2	52.7	46.7	45.6
22	142.2	105.5	80.2	63.4	52.7	46.8	45.6

EXHIBIT 7.3 11-ROOT BRINE VOLUME* MATRIX

TEMP	1.	2.	4.	DEPTH 8.	16.	32.	40.
1	.4173	.4444	.4728	.5030	.5350	.5694	.5811
2	.5834	.6028	.6232	.6447	.6676	.6922	.7006
3	.6562	.6722	.6890	.7068	.7257	.7460	.7529
4	.6992	.7131	.7278	.7434	.7599	.7777	.7837
5	.7281	.7408	.7541	.7681	.7831	.7991	.8046
6	.7493	.7610	.7732	.7862	.8000	.8148	.8198
7	.7656	.7765	.7880	.8001	.8130	.8268	.8315
8	.7786	.7889	.7998	.8112	.8234	.8364	.8409
9	.7893	.7991	.8094	.8203	.8319	.8443	.8486
10	.7983	.8077	.8175	.8279	.8390	.8509	.8550
11	.8059	.8149	.8244	.8344	.8451	.8566	.8605
12	.8125	.8212	.8304	.8401	.8504	.8615	.8652
13	.8183	.8267	.8356	.8450	.8550	.8657	.8694
14	.8234	.8316	.8402	.8493	.8590	.8695	.8730
15	.8279	.8359	.8443	.8532	.8627	.8728	.8763
16	.8320	.8398	.8480	.8567	.8659	.8758	.8792
17	.8356	.8433	.8513	.8598	.8688	.8785	.8818
18	.8390	.8465	.8543	.8626	.8715	.8810	.8842
19	.8420	.8494	.8571	.8652	.8739	.8833	.8864
20	.8448	.8523	.8596	.8676	.8762	.8853	.8884
21	.8474	.8545	.8619	.8698	.8782	.8872	.8903
22	.8497	.8567	.8641	.8718	.8801	.8890	.8920

EXHIBIT 7.4 SALT REINFORCEMENT FUNCTION

TEMP	1.	2.	4.	DEPTH 8.	16.	32.	40.
1	.0	.0	.0	.0	.0	.0	.0
2	.0	.0	.0	.0	.0	.0	.0
3	.0	.0	.0	.0	.0	.0	.0
4	.0	.0	.0	.0	.0	.0	.0
5	.0	.0	.0	.0	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	.0
7	.0	.0	.0	.0	.0	.0	.0
8	.0	.0	.0	.0	.0	.0	.0
9	11.4	10.1	8.4	6.1	3.4	.7	-.0
10	18.0	16.0	13.2	9.7	5.4	1.1	-.1
11	22.7	20.2	16.7	12.2	6.9	1.4	-.1
12	26.3	23.3	19.3	14.1	7.9	1.6	-.1
13	29.0	25.7	21.3	15.5	8.8	1.8	-.2
14	31.2	27.7	22.9	16.7	9.4	1.9	-.2
15	33.0	29.3	24.3	17.7	10.0	2.1	-.2
16	34.6	30.7	25.4	18.6	10.5	2.2	-.2
17	36.0	31.9	26.4	19.3	10.9	2.2	-.2
18	37.2	33.0	27.3	20.0	11.2	2.3	-.2
19	38.3	34.0	28.1	20.6	11.6	2.4	-.2
20	39.3	34.9	28.9	21.1	11.9	2.5	-.2
21	40.3	35.7	29.6	21.6	12.2	2.5	-.2
22	41.1	36.5	30.2	22.1	12.4	2.6	-.2

EXHIBIT 7.5 STRATE OF ICE SHEET

TEMP	1.	2.	4.	DEPTH 8.	16.	32.	40.
1	34.8	36.8	38.6	40.4	42.5	44.9	45.8
2	76.1	63.2	54.6	49.2	46.4	45.6	45.7
3	94.2	74.8	61.6	53.1	48.2	45.9	45.7
4	104.8	81.6	65.7	55.4	49.2	46.1	45.7
5	112.0	86.2	68.5	56.9	49.9	46.2	45.7
6	117.3	89.5	70.5	58.0	50.4	46.3	45.7
7	121.3	92.1	72.1	58.9	50.7	46.4	45.7
8	124.6	94.2	73.4	59.6	51.1	46.5	45.6
9	138.7	106.1	82.8	66.3	54.8	47.2	45.6
10	147.5	113.4	88.5	70.3	57.0	47.7	45.5
11	154.1	118.8	92.7	73.3	58.6	48.0	45.5
12	159.3	122.9	96.0	75.5	59.8	48.3	45.4
13	163.5	126.3	98.5	77.3	60.8	48.5	45.4
14	166.9	129.0	100.6	78.7	61.6	48.6	45.4
15	169.9	131.4	102.4	80.0	62.2	48.8	45.4
16	172.5	133.4	104.0	81.0	62.8	48.9	45.4
17	174.8	135.2	105.3	82.0	63.3	49.0	45.4
18	176.8	136.9	106.6	82.8	63.8	49.1	45.4
19	178.7	138.3	107.7	83.5	64.2	49.2	45.3
20	180.4	139.7	108.7	84.2	64.5	49.2	45.3
21	182.0	140.9	109.6	84.9	64.9	49.3	45.3
22	183.4	142.0	110.5	85.5	65.2	49.4	45.3

EXHIBIT 7.6

TEMPERATURE MATRIX

DEPTH	WARM	MEDIUM	COLD
1	2.00	22.00	22.00
2	2.00	21.50	21.75
3	2.00	21.00	21.50
4	2.00	20.50	21.25
5	2.00	20.00	21.00
6	2.00	19.50	20.75
7	2.00	19.00	20.50
8	2.00	18.50	20.25
9	2.00	18.00	20.00
10	2.00	17.50	19.75
11	2.00	17.00	19.50
12	2.00	16.50	19.25
13	2.00	16.00	19.00
14	2.00	15.50	18.75
15	2.00	15.00	18.50
16	2.00	14.50	18.25
17	2.00	14.00	18.00
18	2.00	13.50	17.75
19	2.00	13.00	17.50
20	2.00	12.50	17.25
21	2.00	12.00	17.00
22	2.00	11.50	16.75
23	2.00	11.00	16.50
24	2.00	10.50	16.25
25	2.00	10.00	16.00
26	2.00	9.50	15.75
27	2.00	9.00	15.50
28	2.00	8.50	15.25
29	2.00	8.00	15.00
30	2.00	7.50	14.75
31	2.00	7.00	14.50
32	2.00	6.50	14.25
33	2.00	6.00	14.00
34	2.00	5.50	13.75
35	2.00	5.00	13.50
36	2.00	4.50	13.25
37	2.00	4.00	13.00
38	2.00	3.50	12.75
39	2.00	3.00	12.50
40	2.00	2.50	12.25

EXHIBIT 7.7

RATE POWER MATRIX

DEPTH	WARM	MEDIUM	COLD
1	.160	.199	.199
2	.186	.231	.231
3	.200	.247	.248
4	.210	.258	.259
5	.217	.267	.268
6	.223	.274	.275
7	.228	.280	.282
8	.233	.285	.287
9	.237	.289	.292
10	.241	.293	.296
11	.244	.296	.300
12	.247	.299	.303
13	.250	.301	.306
14	.253	.304	.309
15	.255	.306	.312
16	.257	.308	.314
17	.260	.309	.317
18	.262	.311	.319
19	.264	.312	.321
20	.266	.313	.323
21	.268	.314	.324
22	.269	.315	.326
23	.271	.316	.328
24	.273	.317	.329
25	.274	.317	.331
26	.276	.317	.332
27	.277	.317	.333
28	.279	.317	.335
29	.280	.317	.336
30	.281	.317	.337
31	.283	.316	.338
32	.284	.316	.339
33	.285	.315	.340
34	.286	.314	.341
35	.288	.312	.342
36	.289	.311	.342
37	.290	.308	.343
38	.291	.306	.344
39	.292	.303	.344
40	.293	.299	.345

EXHIBIT 7.8

RATE FUNCTION FOR WARM ICE

DEPTH	100	300	1000	5000
1	2.094	2.498	3.031	3.925
2	2.364	2.903	3.635	4.910
3	2.517	3.138	3.994	5.516
4	2.630	3.313	4.266	5.982
5	2.721	3.456	4.490	6.372
6	2.799	3.578	4.684	6.712
7	2.867	3.686	4.856	7.017
8	2.928	3.784	5.011	7.295
9	2.983	3.872	5.154	7.552
10	3.034	3.954	5.286	7.792
11	3.081	4.031	5.410	8.018
12	3.126	4.102	5.527	8.231
13	3.167	4.170	5.637	8.435
14	3.206	4.234	5.742	8.629
15	3.244	4.295	5.843	8.815
16	3.279	4.353	5.939	8.994
17	3.313	4.409	6.031	9.167
18	3.346	4.463	6.120	9.334
19	3.377	4.515	6.206	9.496
20	3.407	4.564	6.289	9.653
21	3.436	4.613	6.370	9.806
22	3.464	4.659	6.448	9.955
23	3.491	4.705	6.524	10.100
24	3.518	4.747	6.598	10.242
25	3.543	4.792	6.670	10.380
26	3.568	4.833	6.741	10.515
27	3.592	4.874	6.810	10.648
28	3.616	4.914	6.877	10.778
29	3.639	4.953	6.943	10.905
30	3.662	4.991	7.007	11.030
31	3.684	5.028	7.071	11.153
32	3.705	5.064	7.133	11.274
33	3.726	5.100	7.193	11.392
34	3.747	5.135	7.253	11.509
35	3.767	5.169	7.312	11.624
36	3.787	5.203	7.370	11.737
37	3.806	5.236	7.426	11.849
38	3.825	5.268	7.482	11.959
39	3.844	5.300	7.537	12.067
40	3.862	5.332	7.591	12.174

EXHIBIT 7.9

RATE FUNCTION FOR MEDIUM ICE

DEPTH	100	300	1000	5000
1	2.503	3.115	3.960	5.457
2	2.902	3.742	4.944	7.175
3	3.129	4.108	5.536	8.249
4	3.295	4.380	5.982	9.076
5	3.427	4.598	6.346	9.761
6	3.538	4.783	6.655	10.351
7	3.633	4.942	6.925	10.870
8	3.716	5.082	7.163	11.333
9	3.789	5.207	7.377	11.751
10	3.855	5.319	7.569	12.131
11	3.914	5.420	7.744	12.476
12	3.967	5.512	7.903	12.793
13	4.015	5.595	8.047	13.082
14	4.059	5.670	8.179	13.347
15	4.099	5.739	8.299	13.589
16	4.135	5.801	8.408	13.809
17	4.167	5.858	8.507	14.010
18	4.196	5.908	8.596	14.191
19	4.222	5.953	8.676	14.353
20	4.245	5.993	8.746	14.496
21	4.265	6.028	8.808	14.622
22	4.282	6.058	8.860	14.730
23	4.296	6.083	8.904	14.821
24	4.307	6.102	8.940	14.894
25	4.316	6.118	8.967	14.948
26	4.321	6.128	8.984	14.985
27	4.324	6.132	8.993	15.003
28	4.324	6.132	8.993	15.002
29	4.321	6.126	8.982	14.980
30	4.314	6.115	8.961	14.938
31	4.304	6.097	8.930	14.873
32	4.290	6.072	8.887	14.784
33	4.272	6.041	8.831	14.670
34	4.249	6.001	8.761	14.527
35	4.222	5.953	8.676	14.353
36	4.188	5.895	8.573	14.143
37	4.148	5.825	8.449	13.893
38	4.100	5.741	8.302	13.594
39	4.041	5.639	8.125	13.237
40	3.970	5.516	7.910	12.807

EXHIBIT 7.10

RATE FUNCTIOON FOR COLD ICE

DEPTH	100	300	1000	5000
1	2.503	3.115	3.960	5.457
2	2.905	3.747	4.952	7.190
3	3.137	4.121	5.557	8.286
4	3.308	4.401	6.017	9.141
5	3.446	4.629	6.398	9.859
6	3.563	4.825	6.726	10.487
7	3.665	4.996	7.017	11.049
8	3.756	5.150	7.279	11.560
9	3.837	5.289	7.518	12.030
10	3.912	5.417	7.739	12.466
11	3.981	5.535	7.943	12.874
12	4.044	5.645	8.134	13.256
13	4.103	5.747	8.313	13.617
14	4.159	5.843	8.482	13.958
15	4.210	5.933	8.641	14.282
16	4.259	6.019	8.791	14.589
17	4.305	6.099	8.934	14.882
18	4.349	6.176	9.070	15.161
19	4.390	6.248	9.199	15.428
20	4.429	6.317	9.322	15.683
21	4.466	6.383	9.439	15.926
22	4.501	6.445	9.551	16.160
23	4.535	6.505	9.658	16.383
24	4.567	6.561	9.761	16.597
25	4.597	6.616	9.858	16.802
26	4.626	6.667	9.951	16.998
27	4.654	6.716	10.040	17.185
28	4.680	6.763	10.125	17.365
29	4.705	6.808	10.206	17.537
30	4.729	6.851	10.284	17.701
31	4.751	6.891	10.358	17.857
32	4.773	6.930	10.428	18.007
33	4.793	6.966	10.495	18.149
34	4.812	7.001	10.558	18.285
35	4.831	7.034	10.618	18.413
36	4.848	7.065	10.675	18.535
37	4.864	7.095	10.729	18.650
38	4.879	7.123	10.780	18.759
39	4.894	7.148	10.827	18.861
40	4.907	7.172	10.872	18.956

EXHIBIT 7.11

GENERAL BRINE VOLUME FUNCTIONS

DEPTH	XO	YO	B	SIGO	G	SAL
.5	.389	31.56	359.60	251.04	1.432	7.908
1.5	.424	34.38	197.53	148.06	1.334	6.864
2.5	.442	35.84	145.17	116.77	1.243	6.379
3.5	.455	36.86	116.62	100.40	1.161	6.059
4.5	.464	37.66	97.90	90.04	1.087	5.821
5.5	.473	38.31	84.39	82.78	1.019	5.630
6.5	.479	38.87	74.02	77.37	.956	5.471
7.5	.486	39.36	65.72	73.14	.898	5.335
8.5	.491	39.80	58.89	69.75	.844	5.216
9.5	.496	40.19	53.12	66.95	.793	5.111
10.5	.500	40.55	48.17	64.61	.745	5.016
11.5	.504	40.88	43.86	62.61	.700	4.929
12.5	.508	41.19	40.06	60.88	.658	4.850
13.5	.512	41.48	36.67	59.37	.617	4.777
14.5	.515	41.75	33.63	58.04	.579	4.709
15.5	.518	42.00	30.87	56.86	.542	4.646
16.5	.521	42.24	28.36	55.81	.508	4.586
17.5	.524	42.47	26.06	54.87	.475	4.530
18.5	.527	42.68	23.94	54.01	.443	4.478
19.5	.529	42.89	21.99	53.24	.413	4.428
20.5	.532	43.09	20.17	52.53	.384	4.380
21.5	.534	43.28	18.47	51.88	.356	4.335
22.5	.536	43.46	16.69	51.29	.329	4.292
23.5	.538	43.63	15.40	50.74	.303	4.250
24.5	.540	43.80	14.01	50.24	.278	4.211
25.5	.542	43.97	12.69	49.77	.255	4.173
26.5	.544	44.12	11.44	49.34	.232	4.136
27.5	.546	44.28	10.26	48.93	.209	4.101
28.5	.548	44.43	9.14	48.56	.188	4.067
29.5	.550	44.57	8.08	48.21	.167	4.034
30.5	.552	44.71	7.07	47.88	.147	4.003
31.5	.553	44.84	6.10	47.57	.128	3.972
32.5	.555	44.98	5.18	47.28	.109	3.942
33.5	.556	45.10	4.30	47.01	.091	3.914
34.5	.558	45.23	3.45	46.76	.073	3.886
35.5	.559	45.35	2.64	46.52	.056	3.858
36.5	.561	45.47	1.86	46.29	.040	3.832
37.5	.562	45.59	1.11	46.08	.024	3.806
38.5	.564	45.70	.39	65.87	.008	3.781
39.5	.565	45.81	-.29	45.68	-.006	3.757

EXHIBIT 7.12

BRINE VOLUME STRENGTH FUNCTIONS

DEPTH	WARM	MEDIUM	COLD
1	94.607	194.633	194.633
2	68.006	118.972	119.085
3	60.051	95.996	96.161
4	55.998	84.006	84.205
5	53.504	76.435	76.660
6	51.809	71.147	71.393
7	50.585	67.214	67.478
8	49.663	64.160	64.438
9	48.947	61.713	62.004
10	48.378	59.705	60.008
11	47.919	58.026	58.339
12	47.544	56.602	56.923
13	47.233	55.377	55.707
14	46.974	54.314	54.650
15	46.756	53.383	53.725
16	46.573	52.561	52.909
17	46.418	51.832	52.184
18	46.287	51.180	51.536
19	46.175	50.596	50.955
20	46.081	50.069	50.431
21	46.002	49.594	49.956
22	45.934	49.162	49.526
23	45.878	48.770	49.133
24	45.832	48.413	48.775
25	45.793	48.088	48.447
26	45.763	47.790	48.146
27	45.738	47.519	47.870
28	45.720	47.270	47.616
29	45.706	47.044	47.381
30	45.697	46.837	47.165
31	45.692	46.650	46.965
32	45.691	46.480	46.781
33	45.693	46.327	46.610
34	45.698	46.191	46.453
35	45.706	46.072	46.307
36	45.716	45.970	46.172
37	45.728	45.885	46.047
38	45.743	45.821	45.932
39	45.759	45.780	45.826
40	45.777	45.768	45.728

EXHIBIT 7.13

SALT REINFORCEMENT

DEPTH	WARM	MEDIUM	COLD
1	.000	44.531	44.531
2	.000	38.240	39.441
3	.000	33.981	34.353
4	.000	30.592	31.113
5	.000	27.734	28.390
6	.000	25.251	26.030
7	.000	23.053	23.944
8	.000	21.080	22.076
9	.000	19.292	20.386
10	.000	17.660	18.846
11	.000	16.160	17.434
12	.000	14.774	16.133
13	.000	13.489	14.929
14	.000	12.291	13.811
15	.000	11.172	12.770
16	.000	10.122	11.798
17	.000	9.133	10.889
18	.000	8.201	10.037
19	.000	7.317	9.237
20	.000	6.478	8.485
21	.000	5.678	7.777
22	.000	4.912	7.110
23	.000	4.177	6.481
24	.000	3.467	5.887
25	.000	2.780	5.326
26	.000	2.109	4.796
27	.000	1.452	4.296
28	.000	.304	3.823
29	.000	.007	3.376
30	.000	.000	2.954
31	.000	.000	2.556
32	.000	.000	2.180
33	.000	.000	1.826
34	.000	.000	1.494
35	.000	.000	1.181
36	.000	.000	.889
37	.000	.000	.615
38	.000	.000	.361
39	.000	.000	.126
40	.000	.000	-.090

EXHIBIT 7.14

STRATE VALUES

DEPTH	WARM	MEDIUM	COLD
1	94.607	239.164	239.164
2	68.006	157.213	157.527
3	60.051	129.978	130.514
4	55.998	114.598	115.310
5	53.504	104.169	105.051
6	51.809	96.399	97.423
7	50.585	90.267	91.422
8	49.663	85.240	86.515
9	48.947	81.006	82.391
10	48.378	77.365	78.854
11	47.919	74.187	75.774
12	47.544	71.376	73.056
13	47.233	68.866	70.636
14	46.974	66.606	68.462
15	46.756	64.555	66.496
16	46.573	62.683	64.708
17	46.418	60.965	63.074
18	46.287	59.381	61.574
19	46.175	57.914	60.192
20	46.081	56.548	58.916
21	46.002	55.272	57.734
22	45.934	54.075	56.636
23	45.878	52.948	55.614
24	45.832	51.881	54.662
25	45.793	50.868	53.774
26	45.763	49.900	52.943
27	45.738	48.971	52.166
28	45.720	48.075	51.439
29	45.706	47.044	50.758
30	45.697	46.837	50.120
31	45.692	46.650	49.522
32	45.691	46.480	48.962
33	45.693	46.327	48.437
34	45.698	46.191	47.947
35	45.706	46.072	47.489
36	45.716	45.970	47.061
37	45.728	45.886	46.663
38	45.743	45.821	46.294
39	45.759	45.780	45.952
40	45.777	45.768	45.637

EXHIBIT 7.15

WARM ICE STRENGTH

DEPTH	100	300	1000	5000
1	198.180	236.412	286.832	371.415
2	160.789	197.428	247.235	333.976
3	151.192	188.448	239.899	331.263
4	147.310	185.542	238.926	335.018
5	145.637	184.934	240.278	340.957
6	145.046	185.424	242.692	347.784
7	145.060	166.507	245.647	354.984
8	145.440	187.935	248.890	362.321
9	146.052	189.570	252.288	369.678
10	146.817	191.334	255.763	376.993
11	147.687	193.177	259.272	384.231
12	148.627	195.068	262.784	391.377
13	149.616	196.985	266.284	398.421
14	150.638	198.911	269.758	405.361
15	151.683	200.846	273.201	412.195
16	152.741	202.773	276.609	418.925
17	153.808	204.691	279.977	425.555
18	154.878	206.596	283.306	432.087
19	155.949	208.487	286.594	438.524
20	157.018	210.360	289.841	444.871
21	158.083	212.217	293.048	451.130
22	159.142	214.054	296.216	457.305
23	160.196	215.874	299.345	463.401
24	161.242	217.674	302.436	469.419
25	162.281	219.455	305.490	475.363
26	163.311	221.218	308.508	481.236
27	164.333	222.962	311.491	487.040
28	165.346	224.688	314.441	492.779
29	166.350	226.396	317.357	498.455
30	167.346	228.086	320.242	504.070
31	168.333	229.758	323.095	509.627
32	169.311	231.414	325.919	515.127
33	170.280	233.053	328.714	520.573
34	171.240	234.676	331.480	525.966
35	172.192	236.283	334.219	531.309
36	173.135	237.874	336.931	536.603
37	174.070	239.451	339.618	541.849
38	174.996	241.012	342.279	547.050
39	175.915	242.559	344.916	552.206
40	176.825	244.092	347.530	557.319
SUMS	6408.111	8524.248	11669.371	17793.785
AVERAGE	160.202	213.106	291.734	444.844

EXHIBIT 7.17

OLD ICE STRENGTH

DEPTH	100	300	1000	5000
1	598.665	745.156	947.169	1305.246
2	457.721	590.354	780.230	1132.713
3	409.466	547.873	725.272	1061.538
4	381.518	507.545	693.941	1054.194
5	362.059	486.381	672.155	1035.799
6	347.167	470.104	655.354	1021.757
7	335.105	456.836	641.572	1010.183
8	324.965	445.603	629.810	1000.171
9	316.218	435.844	619.497	991.212
10	308.529	427.205	610.282	983.081
11	301.675	419.450	601.935	975.545
12	295.498	412.416	594.294	968.506
13	289.883	405.982	587.247	961.887
14	284.744	400.060	580.706	955.632
15	280.014	394.579	574.610	949.700
16	275.642	389.486	568.903	944.061
17	271.583	384.736	563.546	938.669
18	267.804	380.292	558.504	933.564
19	264.276	376.128	553.749	928.671
20	260.974	372.214	549.259	923.995
21	257.878	368.531	545.011	919.526
22	254.971	365.061	540.989	915.251
23	252.237	361.786	537.178	911.163
24	249.663	358.694	533.564	907.254
25	247.238	355.772	530.135	903.516
26	244.951	353.009	526.882	899.942
27	242.794	350.397	523.795	896.527
28	240.759	347.925	520.865	893.266
29	238.838	345.588	518.087	890.154
30	237.026	343.378	515.452	887.187
31	235.317	341.290	512.956	884.363
32	233.706	339.319	510.594	881.678
33	232.190	337.460	508.362	879.131
34	230.764	335.709	506.256	876.720
35	229.426	334.064	504.274	874.444
36	228.172	332.521	502.414	872.304
37	227.002	331.080	500.674	870.301
38	225.912	329.738	499.054	868.438
39	224.903	328.495	497.555	866.717
40	223.974	327.351	496.177	865.143
S	11391.247	15925.436	23038.334	37659.202
RAGE	284.781	398.135	575.959	946.480

EXHIBIT 7.16

MEDIUM ICE STRENGTH

DEPTH	100	300	1000	5000
1	598.665	745.156	947.169	1305.246
2	456.301	588.367	777.379	1128.136
3	406.800	534.061	719.676	1072.287
4	377.673	501.967	689.622	1040.150
5	357.081	479.074	661.119	1016.864
6	341.090	461.095	641.605	997.648
7	327.956	446.146	625.112	981.224
8	316.764	433.248	610.633	966.090
9	306.980	421.832	597.594	951.954
10	298.265	411.540	585.639	938.528
11	290.392	402.132	574.530	925.629
12	283.197	393.437	564.099	913.133
13	276.563	385.331	554.226	900.951
14	270.398	377.717	544.816	889.014
15	264.632	370.519	535.794	877.265
16	259.206	363.677	527.098	865.658
17	254.073	357.138	518.676	854.146
18	249.193	350.859	510.480	842.690
19	244.531	344.799	502.469	831.248
20	240.055	338.924	494.604	819.778
21	235.738	333.200	486.846	808.239
22	231.554	327.597	479.158	796.584
23	227.478	322.085	471.503	784.765
24	223.487	316.633	463.843	772.731
25	219.557	311.212	456.139	760.425
26	215.665	305.792	448.350	747.785
27	211.787	300.341	440.432	734.745
28	207.901	294.827	432.341	721.234
29	203.286	288.229	422.581	704.763
30	202.084	286.419	419.753	699.681
31	200.802	284.443	416.606	693.856
32	199.425	282.275	413.081	687.208
33	197.936	279.887	409.136	679.546
34	196.314	277.243	404.712	671.054
35	194.534	274.302	399.736	661.294
36	192.564	271.008	394.116	650.187
37	190.363	267.294	387.734	637.502
38	187.876	263.065	380.429	622.929
39	185.028	258.189	371.977	606.037
40	181.704	252.473	362.046	586.190
SUMS	10524.920	14503.553	20638.887	33144.709
AVERAGE	263.123	362.588	515.972	828.617

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EXHIBIT A

TIME-STRAIN-STRESS DATA

Tensile stress-strain test

Tensile creep tests

Compressive stress-strain test

Compressive creep tests

TIME-STRAIN-STRESS DATA

This exhibit contains the detailed data from stress-strain and creep tests. The column headings have the following meaning:

Time

This is the clock time which was photographically recorded simultaneously with measurements of load and deformation. Time is generally expressed in the data a hours, minutes, and hundredths of minutes. The format of the six digit number (123456) is hours in digits 1 and 2, minutes in digits 3 and 4, and hundredths of minutes in digits 5 and 6. In some cases, digits 5 and 6 represent seconds, and these cases are noted. Some creep tests have time durations greater than 99 hours. In these cases the leading 100's of hours digit has been ignored.

Strain

Strain is calculated from the raw deformation measurements and is expressed as a dimensionless number. The number is listed as strain x 10^5. Exceptions to the exponent 5 are noted.

Stress

Compression: Stress is calculated from the raw data load measurements and is expressed in pounds per square inch. The number listed is stress x 10^0. Exceptions to the exponent o are noted.

Tension: Stress is expressed in pounds per square inch and the number listed is stress x 10^1. Exceptions to the exponent 1 are noted.

Test number

A test identification number preceeds the set of time-strain-stress data for each test

The tension test are the first test listed and start on page A 4. These are then followed by the compression test which begin with test 1 and continue through the remainder of Exhibit A.

Some tension tests were re-run because of weld or head failures. Data for the original run and each re-run are listed.

Explanatory Notes.

1. Strain data expressed as strain × 10^5.
2. Strain data expressed as strain × 10^4.
3. Strain data expressed as strain × 10^6.
4. Stress data expressed as stress × 10^0.
5. Stress data expressed as stress × 10^1.
6. Not used.
7. The last two time digits represent seconds.

A 4

```
TIME  STRAIN STRS
0141
SEE NOTES 2,4,7
101903      0    0
101910     13    8
101919     49   15
101926     74   19
101928    102   28
101940    140   36
101947    167   45
101952    188   53
101957    204   62
102001    218   71
102006    233   82
102012    250   94
102016    265  105
102021    310  109
102027    322  110
102032    392   86
102040    404  112
102044    420  138
0142
SEE NOTES 2,4,7
135220      0    0
135315     70   34
135332    150   53
135340    181   68
135600    185   67
140803    188   67
150800    195   67
155115    196   68
170000    200   68
180800    203   68
190000    204   69
201500    207   68
210000    208   67
222200    209   67
244000    213   68
080700    225   68
081013    357
0143
SEE NOTES 2,4,7
100502     27    0
100700     28    0
100717      0   20
100732     70   36
100738     89   51
100742    100   63
100746    109   77
100750    131   81
100754    139   94
100758    147  105
0144
SEE NOTES 2,4,7
214502      0    0
214519     27   18
214529     69   34
214542    135   51
214548    160   62
214554    190   70
214556          74
0145
SEE NOTES 2,4,7
213730      0    0
213736     13   17
213740     27   26
213746     57   35
213750     71   45
213754     84   56
213757     97   66
213800    108   76
213804    117   85
213807    126   93
01458
SEE NOTES 2,4,7
192108      0    0
192113     11    9
192116     22   20
192119     33   29
192123     50   41
192128     65   55
192132     78   66
192135     97   75
192139    128   84
192143    702
192352    728
192404    728
0146
SEE NOTES 2,4,7
214030      0    0
215036      8    2
215041     14   10
215046     38   19
215050     53   24
215054     73   34
215100     96   49
215603    109   57
215606    120   66
215610    132   78
215613    140   88
215616          97
0147

TIME  STRAIN STRS
SEE NOTES 2,4,7
093033      0    0
093040      0    3
093044     13   11
093047     24   20
093050     40   26
093054     53   33
093057     64   39
093100     77   47
093103     88   57
093106    100   67
093107          76
0148
SEE NOTES 2,4,7
100921      0    0
100929     20   56
100935     36   36
100940     50   56
100946     64   76
                78
0154
SEE NOTES 2,4,7
213035      0    0
213039     10   11
213042     20   19
213045     27   27
213047     33   36
213050     39   43
213053     46   51
213056     54   59
213059     62   67
213102     70   76
213105     78   84
                88
0154
SEE NOTES 2,4,7
201508      0    0
201516      0    0
201545      1    1
201548      3    4
201552     13   11
201554     21   19
201557     33   27
201600     38   34
201604     40   44
201607     50   54
201610     67   64
201614     78   70
                74
0155
SEE NOTES 2,4,7
213305      0    0
213308      9    8
213311     16   17
213314     25   27
213317     30   37
213320     37   47
213323     44   57
213326     45   66
213329     58   75
213332          81
0156
SEE NOTES 2,4,7
235045      0    0
235103      0    0
235106     17    7
235110     29   17
235113     33   27
235116     35   34
235120     42   44
235123     54   51
235125     58   59
235128     63   67
235131     79   75
235134     83   84
235137     92   92
235140    100  100
               107
0163
SEE NOTES 2,4,7
211659      0    0
211707      3    3
211712     13   10
211716     28   21
211720     46   31
211726     75   40
211730     89   49
211736 ,  112   61
211739    122   69
211742    135   77
211746    149   87
0164
SEE NOTES 2,4,7
225104      0    0
225109      0    1
225113      7    8
225116     18   12
225120     32   18
225124     46   26
225127     53   33
225130     57   38

TIME  STRAIN STRS
                41
0165
SEE NOTES 2,4,7
091751      0    0
091801      0    0
091808      3    2
091811      8    8
091814     13   17
091817     20   26
091820     27   35
091823     33   44
091825     37   52
091828     42   61
091831     42   71
091834     46   81
091837     53   91
091840     59  101
               104
0176
SEE NOTES 2,4,7
204633      0    0
204702      1    0
204710      1    2
204713      8    8
204716     16   17
204719     23   20
204723          33
0177
SEE NOTES 2,4,7
214846      0    0
214859      0    0
214904      0    1
214910      2    2
214914      9    8
214917     17   12
214922     42   18
214928     71   25
214931     83   29
214934     96   33
214937    109   37
                50
0178
SEE NOTES 2,4,7
094218      0    0
094232      0    1
094240      0    2
094252     10    8
094246     20   17
094249     29   25
094252     35   32
094255     43   42
094258     50   51
094301     57   60
094304     65   69
094307     72   77
094310     78   85
094313          92
0179
SEE NOTES 2,4,7
092147      0    0
092203      0
092211      3    3
092214      8   10
092217     16   18
092220     25   27
092224     33   35
092226     38   44
092229     45   54
092232     52   62
092234     57   70
092237          75
0180
SEE NOTES 2,4,7
101420
101430      0    0
101434      3    2
101439      3    3
101443     10   11
101446     17   21
101449     25   30
101452     30   41
101455     38   50
101458     38   60
101501     38   70
101504     38   78
101507     38   87
101510          97
0181
SEE NOTES 2,4,7
205823
205830      0    0
205839      3    3
205842      9    6
205846     22   16
205850     32   26
205853     43   34
205855     49   42
205859     57   50
205902     66   58
205905     75   66
205908     84  101

TIME  STRAI   TRS
205911     94   83
205914    104   92
205918    117  100
205920    131  104
205925    167  103
205929    193  105
205932    226   97
205936    238  108
205939         116
0185
SEE NOTES 2,4,7
090539      0    0
090600           0
090609
090617      1    3
090621     10   11
090625     25   19
090628     36   26
090631     46   34
090634     55   43
090637     63   51
090640     74   58
090644     84   65
090647     97   71
090649    109   77
090653    123   84
090655          92
0186
SEE NOTES 2,4,7
195252
195304      0    0
195308           1
195312      8    7
195315     17   16
195318     25   24
195321     33   32
195324     38   41
195327     46   50
195330     51   58
195333     59   68
195336     67   77
195338     72   86
195341     79   94
195345     88  105
195348     96  115
195351    103  123
195355    113  140
195358    121  156
195402         147
0190
SEE NOTES 2,4,7
140110      0    0
140129      5    9
140133      7   37
140139     16   84
140142     24  105
140149     34  176
140154     43  221
140200     54  268
140207     70  302
140211     87  308
140214    118  279
140217    260  240
0418
SEE NOTE 7
155825      0    0
155829     33   30
155832     37   37
155835     63  111
155836     67  144
155837     67  188
155838     83  250
155839    104  302
155840    108  340
155842    142  397
155843    171  443
155844    204  510
155846    238  598
155848    271  675
155849         721
0419
SEE NOTE 7
167501      0    0
167504      0   11
167506      0   16
167512     29   37
167515     25   60
167517     29   88
167519     41  107
167521     58  128
167522     58  135
167523     58  136
167525     58  155
167526     62  210
167527     83  249
167529    116  296
167531    137  367
167533    137  402
167534    166  447
167535    166  515
167537    195  587

TIME  STRAIN STRS
167538    237  652
167539    279  726
167542    320  807
167543    350  875
167545    366  953
0435
SEE NOTE 7
150400      0    0
150403      0    6
150405      0   22
150410      0   23
150415     24   60
150417     32  108
150419     84  134
150421     93  208
150422    100  212
150426    100  212
150428    100  212
150432    128  296
150433    144  338
150434    180  382
150436    236  445
150437    236  510
0438
165250      0    0
165256      0    0
165260      0   33
165261     36   77
165262     48  114
165263     76  156
165264     96  201
165265    168  250
165266    172  299
165267    208  339
165268
0442
162725      0    0
162729      0   18
162731      0   55
162732      0   97
162734      0  147
162735      8  184
162736     16  233
162737     40  271
162738     44  303
162739     56  337
162740     60  369
162741     60  409
162742     52  449
162743     48  484
0449
150002      0    0
150005      0   28
150006     29  104
150006     42  171
150007    129  245
150007    167  325
150008    213  402
0450
162077      0    0
162080      4   47
162080     33  144
162081     62  225
162081    100  309
162082    158  394
0451
175200      0    0
175202      8   11
175203      8   44
175203     37  123
175204     70  174
175204    100  226
175205    133  281
175205    166  333
175206    195  403
175206    220  459
0455
152050      0    0
152133      4    9
152145      4   46
152157     12   76
152164     36  107
152173     64  143
152180     92  177
152187    104  211
152195    120  244
152203    128  277
152210    144  311
152217    160  344
152226    196  378
152235    212  445
152241    240  478
0456
173353      0    0
173380      0    2
173435      0   30
173449      0   67
173456      4   97
173463      8  134
173471     17  167
173478     29  201

TIME  STRAIN STRS
173485     38  234
173491     50  269
173498     54  301
173505     75  335
173511     91  368
173517    108  402
173521    116  418
173524    120  435
173527    125  452
173530    133  469
173536    145  502
173543    158  536
173546    166  552
173549    170  571
173555    187  604
173561    200  638
173567    250  670
173586    279  767
173595    312  807
173603    354  849
0460
093000           0
093037           3
093047          33
093055          67
093062         100
093070         137
093077         167
0464
142700      0    0
142707      0    5
142769      0   34
142777      4   67
142785      8  101
142793     12  134
142800     24  168
142808     44  203
142813     52  235
142822     52  271
142829     84  302
142835    108  335
142843    120  369
142849    136  402
142856    148  436
142863    168  469
142870    188  506
142877    212  538
142885    236  570
142891    272  605
142898    300  637
142905    328  670
142912    352  704
142919    372  737
142926    408  771
142940    472  838
142948    512  875
142958    584  925
142969    672  973
0471
131205      0    0
131380      0   34
131395      8  101
131403     16  134
131410     36  172
131417     48  203
131424     56  235
131430     64  268
131438     72  302
131445     84  335
131451     92  369
131458    112  402
131464    124  436
131471    144  469
131478    156  503
131484    180  540
131497    216  603
131504    232  637
131511    248  670
131516    268  704
131524    288  737
131538    356  804
131545    384  838
131551    448  875
131557    472  908
131563    500  942
131572    544  972
131577    576 1005
131583    608 1039
131590    640 1074
131597    676 1106
          684 1113
0474
170450      0    0
170451      8   58
170452     64  160
170453    120  235
170454    156  315
170455    212  416
170455    276  519
170456    336  607
170456    380  714
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TIME   STRAIN STRS
170457   432   821
170458   [illegible]   918
170459   508  1005
         532  1003

0479
015560     0     0
015640     0    30
015660    12    98
015676    32   167
015691    56   236
015705    76   302
015720         368
015727         398
015735   120   445
015746   128   502
015760   152   566
015767   160   571
015774   184   639
015781   200   671
015793   216   735
015809   272   804
015825   312   872
015840   344   938
015847   360   971
015862   384  1042
015877   456  1104
015885   472  1141
015900   540  1206
0480
154540     0     0
154555    16    33
154572    60   100
154588   120   167
154602   184   234
154617   232   301
154632   280   368
154653   308   469
154668   320   536
154682   396   603
0482
173725     0     0
173746    36    45
173764    72   113
173780   108   187
173795   132   247
173810   172   314
173825   212   392
173840   248   455
0486
132477     0     0
132481    44   170
132482    64   234
132482    92   316
132483   112   375
132483   136   455
132484   176   519
132484   196   586
132485   248   656
132485   280   732
0489
151800     0     0
151802     8    56
151803    16   125
151804    36   202
151805    64   261
151805    88   328
151806   112   392
151806   140   462
151807   172   526
151807   232   599
151808   300   695
151808   332   764
151809   412   831
151809   448   898
151810   496   983
151810   552  1047
151811
0491
165550     0     0
165551     0    37
165552     4    97
165553    12   186
165553    32   251
165554    40   312
165554    60   375
165555
0494
131150     0     0
131230     8    44
131245    40   107
131260    80   178
131275   120   245
131290   160   312
131303   196   379
131310   216   409
131316   260   442
131324   296   476
131328
0500
143150     0     0
143172    12    33
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TIME   STRAIN STRS
143188    24   100
143205    20   167
143220    96   234
143235   128   301
143243   140   335
143250   160   368
143258   172   402
143265   196   435
143273   212   469
143277   216   489
143280   224   506
143288   244   539
143295   252   573
143303   264   604
143311   284   637
143317   300   670
143325   320   703
143333   352   737
         408   767

0501
160350     0     0
160375     4    34
160390    24   101
160405    44   171
160420    64   238
160440   104   335
160446   128   369
160453   144   402
160465   180   469
160478   216   536
160485   232   570
160490   260   603
         264   630

0502
172825     0     0
172829    28    67
172830    32    97
172830    36   121
172830    52   151
172831    56   174
172831    72   208
172831    72   191
172832    92   278
172833   104   315
172833   116   345
172834   132   379
172834   144   409
172835   160   452
172835   180   486
172835   192   519
172836   204   553
172836   224   590
172836         588
0503
112752     0     0
112753     0    20
112754     4   117
112755     8   161
112755    20   223
112756    24   302
112757    32   362
112758    40   429
112758    40   499
112759    48   556
112760    56   610
112760    80   684
112761    84   762
112762   104   824
         112   838

0507
134375     0     0
134410    12    39
134432    52   134
134448    76   201
134462   124   268
134478   172   335
134493   240   402
134500   264   436
134510   288   469
134517   312   503
         352   519

0511
151000     0     0
151030     4    34
151047    20    99
151062    60   168
151077   124   238
151090   184   302
151105   256   369
151120   328   436
151125   364   469
151132   396   503
151140   432   536
151153   492   603
151160   524   640
151168   556   670
151175   548   704
151190   540   771
0515
153411     0     0
153452         170
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TIME   STRAIN STRS
153525         500
153563         726
153569         726
153576         726
0516
000045     0     0
000076         170
000147         500
000237         420
0518
140073     0     0
140115         170
140188         500
0517
113158     0     0
113201         170
113274         500
113392        1060
0519
153850     0     0
153888         170
153964         500
154092         709
0520
172164     0     0
172202         170
172275         500
172345         770
0521
114815     0     0
114857         170
114933         500
114978         713
0522
000030     0     0
000069         170
000140         500
000194         780
0525
131132     0     0
131136         190
131149         680
131150         740
0525
152177     0     0
152181         170
152194         690
152196         780
0523
164615     0     0
164654         170
164726         500
164770         703
0524
180900     0     0
180910         180
180918         510
180923         680
180926         803
0526
171805     0     0
171810         190
171819         500
171822         590
171823         590
0527
190803     0     0
190805    12    40
190807    30   107
190809    63   170
190811    96   243
190813   133   301
190814   171   371
190815   200   441
190817   234   513
190818   258   540
190819   271   575
190820   300   610
190821   317   640
190822   342   675
190823   367   707
190824   396   742
0528
204651
204653     4    33
204654    12    77
204656    54   174
204658    88   240
204660   125   307
204661   158   368
204663   204   438
204664   242   502
204665   271   552
204667   292   592
204668   321   630
204669   354   665
204670   392
204671   421
204672   450
204673   475
204674   526
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TIME   STRAIN STRS
204675   580
204677
0529
095652
095653          33
095655    29   104
095656    46   174
095658    83   240
095660   121   308
095661   163   370
095663   204   435
095665   246   505
095666   275   544
095666   300   592
095667   325
095668   379   680
095670   420
0530
131477
131485    21    33
131502    29   100
131519    63   170
131534    83   234
131548   104   300
131562   113   368
131577   146   435
131591   167   500
131605   187   565
131621   229   636
0531
140691
140700     8    33
140715    21   100
140731    25   167
140746    63   234
140760    63   300
140773   104   370
140787   104   410
140800   129   500
140813   146   570
140820   146   600
140828   154   636
140836   179   670
140842
0532
160186           0
160196    13    32
160205    29    65
160213    50    99
160221    67   132
160229    92   166
160236   108   199
160244   130   233
160250   150   266
160257   171   301
160263   196   335
160270   221   368
160277   246   402
160284   275   436
160290   304   469
160297   338   502
160304   371   536
160310   400   570
160318   434   603
160325   467   636
0533
171190     0
171205    12    34
171221    54   100
171237    96   167
171251   150   234
171265   192   301
171280   238   369
171285   250   392
171294   280   439
171300   296   469
171307   321   502
171313   342   536
0534
141915
141923     4    33
141938    21   100
141954    42   170
141967    63   237
141981    83   304
141995   104   365
142010   125   435
142023   146   505
142030   158   540
142037   175   570
142044   188   606
142050   200   636
0535
151740
151750     8    33
151763    42    84
151775    83   134
151786   125   184
151797   171   234
151808   213   290
151818   254   335
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TIME   STRAIN STRS
151826   292   370
151837   354   420
151847   413   470
151857   471   520
0536
181142
181159    17    33
181171    46    84
181193    83   134
181195   121   184
181205   158   240
181216   192   290
181227   225   335
181235   254   370
181242   283   400
181249   312   435
181255   338   470
0537
170220
170233    13    33
170250    42   100
170266    79   170
170280   116   234
170294   158   300
170310   200   370
170320   229   415
170332   263   470
170345   292   520
170355   325   570
170365   342   600
               890

0538
091424
091433    17    33
091446    46    84
091458    83   134
091465   104   167
091473   125   204
091480   142   234
091487   163   270
091494   188   304
091500   208   335
091507   225   370
0539
114927
114940    21    33
114952    50    84
114963    83   136
114975   121   190
114985   154   240
114995   188   290
115005
0540
132186
132204    21    33
132220    63   100
132236    96   170
132246   146   220
132256   150   270
132267   188   320
132276   213   365
132288   242   420
132299   275   470
132306   288   505
132314   317   540
0541
142111
142144          33
142160    79   100
142176   125   170
142187   167   217
142199   208   268
142210   292   320
142222   371   374
142228   375   400
142237   446   440
142244   500   470
0542
131630
131631     0    33
131633    17   106
131635    75   167
131636    96   240
131639   146   316
131640   180   378
131641   217   427
131643   250   470
131644   270   530
131645   296   570
131646   333   620
131647   346   650
131648   375   694
131649   413   740
0543
151806
151807    12     2
151809    42    70
151810    54   117
151811    92   170
151812   138   234
151815   191   304
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TIME   STRAIN STRS
151816   250   350
151817   254   410
151819   296   470
151820   317   500
151821   358   540
151822   375   570
151823   388   606
151824   429   640
151825   463   686
151826   463   720
151827   483   776
151828   546   840
0544
170604
170605          42
170606         105
170607         167
170610         220
170611         258
170612         318
170613         351
170615         404
170616         455
170617         502
170618         545
170619         590
0545
201282
201283          49
201285         114
201286         170
201287         234
201290         300
201291         368
201301         780
0546
114977
114980          40
114981         104
114983         176
114984         234
114986         306
114987         368
114990         438
0547
133179
133196   452   733
0548
152122
152139   326   642
0549
152667   539   830
0550
172904
173069   554   810
0551
133735
133852   302   501
0552
145740
145997   766  1128
0553
160540
160615   265   380
0554
185342           0
185350          30
185360          60
185370          90
185380         130
185390         160
185397         190
185405         230
185413         270
185420   249   300
0555
154585
154663   286   360
0556
171690
171776   352   380
0557
183608           0
183625          60
183634          90
183640         120
183648         160
183655         190
183661         230
183667         260
183673         290
183680         320
183685         360
183691         390
183698         430
183705         460
183711         490
183718         530
183726         560
183733         600
183740         630
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A 6

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TIME   STRAIN STRS
183747          660
183753   931    700
                700
0558
141692
141788   484    388
0559
156056
156171   451    438
0560
170037
170180   912    689
0561
143808
143829   304    796
0562
155450
155471   426    729
0563
170405
170409           40
170410    45    107
170415   116    358
170429   385    950
0564
131229
131235   116    485
0565
143280
143291   282    422
0566
163026
163050   466    870
0567
132229
132239   290    335
0568
142529
142540   253    448
0569
152779
152795   406    622
0617
182518     0      0
132525     4     40
182526    20     90
182533    60    320
182570    60    330
182575    80    400
182576    80    460
182577   100    500
182578   100    550
182579   100    590
182580   110    630
182581   120    670
182583   120    720
182584   130    770
182585   130    810
182587   140    860
182588   170    940
182590   190   1010
182593   210   1080
182595   240   1140
182597   250   1160
182600         1180
0618
140630     0      0
140634     0     70
140636     4    120
140637    12    180
140638    16    240
140640    20    300
140641    30    350
140643    30    400
140644    40    470
140646    40    550
140647    50    610
140649    60    680
140650    70    750
140652    80    820
140654    80    890
140656    90    950
140658   110   1020
140660   140   1070
140661   160   1120
140662   170   1150
140663   190   1150
140666   190   1150
140672   200   1150
140689   260   1210
140735   320   1330
140738   340   1420
140743         1460
0619
153690     0     20
153695     0     70
153696    10    140
153698    30    210
153700    40    280
153701    70    350
153703    90    410
```

```
TIME   STRAIN STRS
153705   100    480
153706   120    540
153708   130    610
153710   150    680
153711   160    750
153714   190    840
153716   210    930
153718
0621
170013     0      0
170015     0     70
170016    30    120
170017    60    170
170018    60    230
170020    90    290
170021   100    340
170024   110    420
170025   140    490
170027   160    560
170028   180    610
170030   190    690
170031   200    750
170034   220    820
170035   260    890
170037   290    950
170038   280   1020
170040   310   1090
170041         1150
0623
181053     0      0
181055     0     60
181056     0    110
181058    10    160
181059    30    210
181061    30    270
181062    60    340
181064    70    400
181065    80    480
181067    90    550
181068   100    610
181070   120    670
181072   140    740
181074   160    810
181075   180    880
181076   210    940
181077   210   1010
181080   230   1070
181081   250   1130
181083   280   1210
181084   300   1270
181086         1340
0625
133728     0      0
133740    10     80
133746    10    150
133751    20    220
133755    30    280
133760    50    350
133765.   50    410
133770    60    480
133774    70    560
133778    80    620
133783    90    680
133787   100    750
133792   120    820
133796   130    890
133800   150    930
133802   150    960
133805   160   1040
133810   170   1080
133815   190   1150
133820   210   1220
133825   230   1290
133830   250   1350
133832         1380
0627
144827    10      0
144835     0     60
144840    10    140
144845    30    210
144850    40    270
144855    50    340
144860    60    400
144864    70    470
144869    80    540
144874    90    610
144878   100    680
144883   110    740
144887   120    800
144892   130    870
144897   160    940
144903   170   1010
144908   190   1070
144913   200   1140
144918   220   1220
144923         1270
0639
131811     0      0
131818    24     70
131824    15    140
131830    36    210
```

```
TIME   STRAIN STRS
131834    56    280
131839    82    350
131844    92    400
131849   105    480
131854   122    540
131859   144    610
131864   163    680
131869   172    740
131875   184    820
131880   207    880
131885   215    950
131890   222   1010
131897   234   1080
131903   238   1120
131912   268   1150
132001         1190
132038   310   1250
132044   314   1320
0638
163634     0      0
163645    20     70
163650    50    140
163655    60    200
163660    70    270
163665    80    340
163670   100    400
163674   110    470
163678          500
0641
130560     0      0
130595     0     70
130607    10    130
130620    10    200
130634    20    270
130645    30    340
130656    40    400
130670    50    460
130682    50    540
130693    60    600
130706    70    670
130718    80    740
130731   100    800
130743   100    870
130750   110    910
130755   110    940
130768   130   1010
130780   140   1070
130792   160   1140
130805   170   1210
130818   180   1270
130830   210   1340
130842   230   1410
130854   250   1470
130857         1490
0644
151954     0      0
151965    40     50
151979    68    120
151990    92    190
152003   120    260
152015   138    320
152029   160    400
152044   192    490
152058   204    580
152074   256    660
152085   276    720
152097   288    790
152110   320    860
152122   336    930
152134   368    990
152145   400   1060
152158   420   1130
152171   448   1200
152181         1250
0646
165179     0      0
165221    20     70
165235    40    130
165247    40    200
165259    60    270
165270    70    340
165282    80    400
165295   100    470
165306   120    540
165319   120    600
165331   130    670
165343   140    740
165355   160    800
0648
215680     0     10
215706    20     70
215717    20    130
215731    30    200
215742    50    270
215754    60    340
215765    80    400
215777   100    470
215787   120    540
215800   140    610
215811   160    670
215823   190    740
```

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TIME   STRAIN STRS
215836   210    800
215848   240    870
215860   260    940
215873   280   1000
215884   300   1070
215896   330   1140
215908   360   1210
215921   390   1280
215935         1340
215936         1340
0649
083510     0      0
083603     0     30
083611     0     70
083624    10    130
083637    30    200
083650    40    270
083661    50    340
083674    70    400
083685    90    470
083696   110    540
083707   140    610
083720   170    670
083732   200    740
083744   210    800
083756   240    870
083769   270    940
083781   320   1010
083793   350   1070
083804         1130
0689
153777     0      3
153789     0     50
153805    20    121
153823   100    204
153847   240    271
153892   248    355
153925   256    422
153963   268    492
153990   692    564
154007   784    640
154025   928    693
154048  1148    781
154060
0692
222485    48      0
222526     0     34
222540    20     97
222550    32    134
222564    44    198
222581    44    268
222596    44    331
222614    44    402
222630   184    469
222644   244    526
222657   272    570
222668   312    610
222682   412    663
222691   456    698
222709   692    767
222725   992    834
222741  1072    901
222751  1140    938
0694
090700     0      0
090743     2     14
090758    32     77
090776   112    151
090788   196    201
090804   320    288
090820   512    335
090838   712    402
090848   912    442
090855   972    469
090871  1212    536
090888  1432    603
090904  1660    637
090920  1712    737
090938  1784    804
090954  1964    871
090962  2084    905
0699
183407            0
183471          168
183595          708
0706
000000            0
000078          134
000248          835
000280          971
0707
000000
000065          144
000216          805
0708
000000            0
000030           97
000071         1005
000081         1258
000083         1234
0709
```

```
TIME   STRAIN STRS
000000
000044           87
000083          804
0714
000000
000042           84
000078          915
0720
000000
000381          134
001061          670
001821         1242
0723
000000
000533          684
000900         1140
001495         1815
0725
000000
000250           21
001302         1259
0727
000000            0
000285          228
000782          912
000830          972
000046           21
000077         1045
000086         1305
0729
000000
000042          232
000073         1093
0733
000000
000102          232
000121         1005
0734
000000
000032          228
000069         1368
0735
000000
000042          205
000068          942
000073         1050
0736
000000
000074          228
000096          902
0758
SEE NOTES 1,4
143383     0      0
143395     6     11
143405     5     18
143416    12     27
143428    13     36
143440     8     46
143452    17     55
143464    25     64
143475    24     73
143487    23     82
143498    21     91
143510    37    100
143525    45    109
143540    48    119
143551          127
0759
SEE NOTES 1,4
190000     0      0
190062    17      2
190072    15      9
190084    32     18
190097    39     28
190109    36     37
190122    29     46
190135    21     55
190149    63     64
190157           68
0761
110905     0      0
110926     0      2
110936     0      8
110947     0     13
110960     8     20
110969     4     26
110980     8     33
110990     6     39
111000     9     44
111013    12     51
111024    19     56
111033    28     61
111045    40     67
111057    58     74
111070    77     80
111084    99     87
111093   119     92
111103   128     97
0880
153945
154315     0      0
```

```
TIME   STRAIN STRS
154357    22     33
154375    48    100
154390    66    167
154410    84    234
154427   106    301
154445   136    368
154474   158    435
154480   188    504
0914
171256     0      0
171315   104     70
171332    96    130
171347 .  92    200
171362   116    270
171376   112    340
171391   140    400
171411   160    470
171426   178    540
171441   182    600
201407            0
201502   174     70
201521   186    130
201540   202    200
201560   206    270
201580   220    340
201598   232    400
201615   244    470
201634   274    540
201652   288    600
201663          670
0915
084583     0      0
084601    26     30
084610    32     70
084620    40    100
084630    46    130
084637    52    170
084645    60    200
084653    62    230
084661    72    270
084667    76    300
084676    82    340
084682    88    370
084688   100    400
064696   104    430
084705   124    470
084711   120    500
084718   128    540
084726   138    570
084735   162    600
084743   162    630
084750   168    670
084757   192    700
084765   196    740
0916
134621            0
134639     2     30
134648     0     70
134657     6    100
134667     6    130
134674    16    170
134681    26    200
134689    30    230
134696    28    270
134705    28    300
134711    24    340
134719    36    400
134727    42    470
134736    52    540
134744    56    600
134751    66    670
134765    88    740
134780    94    800
0917
171247     0      0
171262    38     30
171275    50     70
171284    56    100
171291    66    130
171299    58    170
171307    56    200
171315    64    230
171322    68    270
171330    72    300
171337    84    340
171353    98    400
171370   126    470
171385   144    540
0918
000000            0
000022           70
000040          150
000056          240
000074          320
000088          390
000102          450
000116          520
000128          590
000142          660
000155          720
000171          790
```

```
TIME   STRAIN STRS
000185         860
000196
0919
210723     0     0
210735    26    30
210744    54    70
210751    58   100
210758    52   130
210765    82   170
210773    96   200
210780   130   230
210788   158   270
210795   190   300
210804   236   340
210821   326   400
210840   448   470
210858   624   540
210876
114410     0     0
114430    56    40
114440    76    70
114447    98   110
114455   118   140
114463   136   180
114471   154   220
114480   172   250
114488   204   290
114495   238   320
114505   280   360
114523   376   430
114540   494   510
114558   632   580
154136     0     0
154150    20    90
154154    40   180
154158    48   270
154162    80   360
154166   112   450
154170   148   540
154175   208   630
154178   266   720
192228     0     0
192250    92   100
192255   112   200
192260   134   300
192264   162   390
192269   222   490
192273   266   590
192277   330   690
0920
000000           0
000016          20
000038         100
000064         200
000086         300
000110         400
000132         500
000149
000000           0
000035          80
000056         170
000076         250
000094         330
000108         400
000121         470
000135         530
000151         600
000157
0921
000000           0
000022          70
000038         160
000055         250
000073         330
000091         410
000108         500
000124         580
000140         660
000158         750
000174         830
000193         920
000210        1000
000227        1080
0922
202200     0     0
202230    58    70
202246    84   130
202261   122   200
202277   170   270
202293   222   340
202310   294   400
202330   396   470
202342
111773     0     0
111809   268    70
111830   350   130
111850   446   200
111874   694   270
111897   792   340
111923  1040   400
111948  1380   470
```

```
TIME   STRAIN STRS
165523     0     0
165551    96    40
165565   134    70
165572   170   100
165583   246   140
165590   266   170
165601   336   200
165613   434   240
165624   560   270
165636   718   300
165647   864   340
165660  1120   370
165673  1360   400
0923
081730     0     0
081761    12    33
081770    30    67
081780    46   100
081790    70   130
081800   100   170
081810   138   200
081820   188   230
081830   228   270
081840   282   300
         320   340
194347     0     0
194351     8    20
194352    14    40
194353    26    60
194354    30    80
194356    34   100
194357    48   120
194358    56   140
194359    64   160
194360    70   180
194361    84   200
194362   106   210
194363   122   230
194364   140   250
194365   152   270
194366   162   290
194367   174   310
194368   190   330
194369   196   350
194370   214   370
194370   230   390
194371         430
101179     0     0
101180    44    20
101181    50    40
101183    58    60
101185    62    80
101186    64   100
101187    76   130
101189    86   150
101190   106   170
101191   124   190
101192   128   210
101194   154   250
101196   180   290
101198   214   340
101200   228   380
101202   284   420
101205   314   460
101206   346   500
101209   408   540
133721     0     0
133759    94    20
133760    96    40
133761   100    60
133762   100    80
133763   104   100
133764   114   130
133765   118   150
133766   132   170
133767   132   190
133768   144   210
133769   146   250
133770   174   290
133771   194   340
133773   216   380
133775   222   420
133776   230   460
133778   256   500
133780   292   540
133782   332   590
133783   358   630
133785   402   670
195186     0     0
195190    44    21
195191    50    42
195191    58    63
195192    62    84
195193    70   105
195194    74   136
195195    78   150
195196    82   170
195197    88   190
195198    94   210
195199   100   230
195200   122   250
```

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TIME   STRAIN STRS
195202   140   290
195204   158   340
195205   176   380
195207   214   420
195209   238   460
195210   262   500
195212   292   540
195214   326   590
195215   360   630
0924
101300     0     0
101352    20    70
101366    20   130
101378    40   200
101389    60   270
101400    80   340
101413    60   400
101426    80   470
101440   100   540
101452   120   600
101464   140   670
101476   180   740
101486   190   800
101500   220   870
101511   240   940
101525   240  1010
101536   280  1070
104373     0     0
104400     0    70
104452     0   130
104464     0   200
104475    20   270
104490    34   340
104500    36   400
104512    60   470
104524    80   540
104537   100   600
104550   120   670
104563   140   770
104580   140   870
104597   180   970
104616   230  1040
104635   260  1140
104654   320  1240
0925
080259           0
080277         120
080291         250
080307         390
080320         520
080334         650
080348         780
080360         910
080374        1040
              2360
0926
103401     0     0
103418    20    30
103437    30   100
103453    56   160
103466    74   220
103478    80   280
103490    90   340
103503   110   390
103515   124   450
103528   136   510
103541   160   570
103553   180   630
103567   200   700
103582   230   770
103596   260   850
103611   290   920
103627   310   990
103643   348  1070
103659   360  1140
0927
134200           0
134405         120
134421         250
134434         460
134447         520
134458         660
134470         780
134482         920
134493        1040
134507        1180
134513        1250
134519        1310
134526        1380
134532        1440
134538        1510
0928
080950           0
080974         100
080986         230
080998         370
081010         500
081022         630
081034         760
081046         890
081058        1020
```

```
TIME   STRAIN STRS
              1070
0929
103098     0     0
103326    10    60
103379    60   120
103394    90   180
103408   120   230
103421   130   290
103434   150   350
103447   170   410
103458   190   470
103471   220   530
103483   240   580
103497   262   660
103513   320   730
103530   350   800
103544   420   880
               930
0930
152219     0     0
152258    34    40
152263    40   100
152268    50   160
152271    66   220
152274    86   280
152276    96   340
152278   106   390
152282   122   450
152284   146   510
152287   176   570
152291   190   630
               770
0931
191699     0     0
191708    70    40
191710    86   100
191714   100   160
191717   110   220
191722   130   280
191724   140   340
191726   150   400
191731   170   450
191733   210   510
191738   224   570
191740   246   640
191743   284   720
191747   304   790
191751   326   860
191754   364   930
191758   420  1010
191762   450  1080
191765        1150
0932
113200           0
113229         100
113231         210
113235         320
113239         430
113241         540
113244         640
113247         750
113250         860
113253         970
113256        1080
113258        1190
113261        1300
113263        1410
113266        1510
0933
143551     0
143565    14    40
143568    24   100
143571    40   160
143574    44   220
143577    60   270
143580    70   360
143582    76   390
143585   106   450
143587   120   510
143590   156   570
143593   170   630
143597   206   700
0934
162396           0
162399          78
162402          78
162406         267
162408         333
162411         508
162414         614
0935
091700     0     0
091718     0    60
091720     0   120
091724     0   180
091725     0   230
091727     0   300
091729     0   350
091730     0   410
091732     1   470
091734    14   530
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TIME   STRAIN STRS
091735    22   580
091737    34   660
091739    44   730
091741    50   800
091742    70   860
091745   114   950
091747   150  1010
0936
114474           0
114547          60
114549         120
114550         180
114552         230
114554         290
114555         350
114556         410
114558         470
114560         530
114561         580
114562         660
114564         720
114566         770
0937
152300     0     0
152320     2    60
152321     2   120
152323    26   180
152325    42   230
152327    64   290
152328    82   350
152330    98   410
152331   108   470
152333   128   530
152335   144   590
152336   160   660
152339   178   720
152340         770
0938
114899           0
114927          60
114929         120
114931         190
114933         240
114935         290
114937         350
114938         430
114940         500
114942         580
114943         640
114946         720
114948         800
114950         870
114952         940
114954        1010
0939
091299     0     0
091315     0    60
091317     0   120
091320    18   180
091321    38   230
091323    58   290
091326    58   350
091327    68   410
091329    78   470
091330    88   530
091331   128   580
091332   158   640
0940
135499     0     0
135518     0    60
135521     0   120
135523    20   180
135525    30   230
135526    30   290
135527    40   350
135529    50   410
135530    70   470
135532    90   530
135534   100   580
135535   120   660
135537   140   730
135540   160   800
         190   860
0941
163445     0     0
163506     0    60
163520    30   120
163534    60   180
163548    90   230
163563   100   290
163576   170   350
163590   200   410
163604   240   470
163619   290   530
163633   330   580
163648   360   640
163662   430   700
163678   500   760
0942
113300    00     0
113318    20    70
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TIME   STRAIN STRS
113339    40   130
113352    60   200
113365    80   270
113378   100   340
113390   130   400
113403   160   470
113416   200   540
113430   220   600
113442   240   670
113456   270   736
0943
154985    00     0
155000    20    70
155014    20   130
155027    30   200
155041    50   270
155054    90   340
155068   140   400
155092   140   470
155093         540
0944
103351           0
104220          70
104230         130
104235         200
104240         270
104246         336
0945
140807    00     0
140833    00    70
140836    00   130
140840    20   200
140842    36   270
140845    42   340
140848    58   400
140851    80   470
140854    96   540
140856   118   600
140860   140   670
140862   160   740
140865   182   800
140868   200   870
140871   218   940
140873   234  1003
0946
163300    00     0
163330     2    70
163334    10   130
163337    26   200
163340    42   270
163343    60   340
163345    82   400
163348   102   470
163351   124   540
163354   138   600
163357   160   670
163360   168   740
163363   184   800
163365   202   870
163368   226   940
163371   244  1010
163374   264  1070
0947
201200    00     0
201210    10    70
201211    10   130
201212    32   200
201213    52   270
201215    74   340
201216   100   400
201218   128   470
201219   152   540
201220   178   600
201222   210   670
201224   238   740
201226   258   800
201228   244   870
201229   274   940
201230        1003
0948
140867    00     0
140879    00    70
140880    10   130
140882    36   200
140884    40   270
140885    60   340
140886    80   400
140888    94   470
140889   120   540
140890   130   500
140892   144   670
140894   164   740
140896   180   800
140897   190   870
140899   200   936
0949
162555     0     0
162580    34    70
162582   100   130
162583    96   200
162585   100   270
```

A 8

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TIME   STRAIN STRS
162586   110   340
162588   116   400
162589   130   470
162591   150   540
162592   166   600
162594   190   670
162596   196   740
162597   210   800
162599   226   869
0950
092530    00     0
092580    30    70
092584    10   130
092586    00   200
092589    20   270
092592    40   340
092595    54   400
092598    90   470
092601    94   540
092603   120   600
092607   130   670
092609   150   740
092611   170   800
092614   190   870
0951
132607           0
132630         130
132637         360
132645         570
132660        1000
132676        1430
0952
195912         410
195921         580
195932         740
195942         910
195952        1080
195963        1240
200018           4
0953
161000           0
161019           8
161040          52
161046         176
161056         382
161069         634
161076         772
161081         897
161086        1026
161090           0
0954
171716     0     0
171775     2    24
171895    21   114
171921    78   268
171940    97   367
171963    97   496
171991    99   625
172019   120   754
172045   136   883
172070   157  1012
0955
084820     0     0
084850   101    26
084860   101    59
084871   117    89
084882   113   123
084892   115   157
084902   119   190
084913   132   224
084925   126   257
084935   122   291
084946   124   324
084969   144   391
084990   167   458
085011   176   525
085033   207   594
085051   234   659
085072   303   723
085100   326   810
085131   359   891
0956
162026     0     0
162053     5    16
162066          67
162078    21   117
162090    96   168
162106    21   235
162129    20   303
162143    12   370
162163    15   439
162181    24   505
162198    33   572
162217    30   640
162235    40   705
162253    46   779
162271    57   842
162290    62   913
162311    66   990
162326    72  1046
162345    65  1112

TIME   STRAIN STRS
0957
114700     0     0
114720    58    13
114730    59    36
114745    58    66
114752    54   104
114763    49   155
114776    47   212
114793    44   285
114812    48   357
114835    55   429
114855    68   501
114876    76   573
114893    70   646
114911    69   718
114931    98   790
114949    98   862
114967   135   942
0958
090330     0     0
090365    50    10
090385    50    43
090398    52    77
090418    70   144
090437    77   212
090455    88   283
090473   112   347
090494   119   414
090515   152   481
090536   203   549
090556   243   616
090575   291   684
090594   357   751
090616   400   812
0959
193513     0     0
193541    28    10
193558    28    41
193574    36    84
193582    38   119
193592    56   155
193610    90   228
193634   118   301
193658   178   380
193684   272   459
193707   330   535
193729   458   606
193751   536   682
193774   682   757
193796   854   837
193817  1052   912
193840  1248   983
193851         938
0961
185100     0     0
185134     8    37
185150     4    74
185163     2   117
185181    32   180
185192    28   217
185203    26   254
185212    28   284
185227    48   336
185237    52   371
185255   114   421
185265   124   455
185283   142   510
185292   158   538
185307   178   588
185322   228   637
185333   268   672
185342   298   705
185353   346   744
185362   374   773
185373   424   806
185383   458   839
185393   538   872
185405   590   906
0963
083965     0     0
083978     0     8
083990     2    33
084003     2    70
084012     8   104
084024     2   138
084034     2   170
084045     4   202
084065     6   269
084078    22   311
084092   170   353
084110   206   404
084135   286   475
084157   358   539
084179   428   606
084200   538   674
084216   646   724
084233   782   775
084245         744
084254         744
0964
132680     0     0

TIME   STRAIN STRS
132700    20    24
132710    18    66
132723    22   137
132735    40   161
132748    68   208
132759    74   258
132769    72   307
132779    76   359
132788    80   410
132799    88   477
132809    92   545
132820   120   612
132830   142   680
132840   240   749
132851   340   824
132860   402   882
0965
080817     0     0
080832    20    33
080843     0    70
080862     2   121
080876     6   171
080890    10   239
080901    14   306
080912    18   370
080923    20   441
080935    20   512
080945    24   576
080955    26   643
080964    28   711
080974    36   778
080983    72   845
080992    96   909
081001   112   973
081007   340  1014
081012   362  1048
081016         987
0966
160860     0     0
160870     2    11
160885     2    33
160901     2    36
160918    46   105
160937    56   154
160967   124   227
160993   128   291
161009   128   304
161034   140   409
161073   166   512
161082   192   539
161103   240   606
161122   308   670
161128         629
0967
175273           0
175291     4    39
175303     6    78
175316    12   118
175326    22   157
175351    48   231
175376    74   315
175387    88   354
175398   102   392
175421   126   474
175445   166   551
175466   192   627
175487   228   709
175507   262   786
175517   296   827
175528   310   866
175538   336   909
175549   344   945
175558   372   985
175568   390  1026
175575         951
0970
042911     0     0
042930     4     9
042943     6    35
042976    16    11
043005    22    41
043012    32    73
043032    42   112
043043    50   139
043055    56   170
043068    58   203
043079    84   234
043092   110   274
043118   142   337
043144   180   405
043170   228   510
043190   230   536
043212   276   603
043235   326   671
0972
050037     0     0
050094     4     2
050104     4    27
050113    14    43
050119    18    98
050122    16   132

TIME   STRAIN STRS
050133    10   164
050139    24   199
050146    28   231
050152    28   263
050159    28   300
050165    28   331
050178    38   397
050191    72   464
050202    82   532
050214   112   602
050225   118   667
050236   132   735
050247   148   801
050257   178   867
050270   200   934
050281        1000
0973
083661     0     0
083672     4    32
083680    18    63
083687    24   100
083694    44   135
083702    68   169
083707    82   199
083713    88   233
083720   110   266
083727   152   302
083733   168   335
083743   206   386
083753   266   436
083763   322   483
083773   364   538
083781   390   585
083790   496   633
083798   528   686
0975
172816     0     0
172830     0    11
172836     0    29
172845     2    56
172853    10    90
172861    18   123
172869    80   157
172876   100   191
172882   134   224
172890   156   256
172896   196   291
172903   218   325
172909   272   355
172919   314   408
172930   344   459
172940   398   509
172950   458   559
172958         668
173046 14320
0977
132622
0979
045600     0     0
045700     2     0
045707     0    26
045714     0     5
045715     0    36
045730     2    99
045734     4   152
045739     6   209
045742     6   256
045746     8   271
045750    20   312
045753    32   389
045756    46   432
045760    60   480
045763    66   527
045767    78   580
045772    96   647
045776   112   712
045781         736
0980
052680     0     0
052696     0    22
052703     0    98
052707     2   133
052711    10   180
052716    18   234
052719    38   276
052722    64   315
052726    86   352
052729   108   397
052732   114   439
052736   192   480
052739   212   523
052742   248   563
052745   286   588
0984
133080     0     0
133105    10     0
133108     6    16
133111    10    45
133115    10    87
133118    10   123
133123    10   187

TIME   STRAIN STRS
133126    10   247
133130    10   294
133134     6   343
133137    30   403
133142    30   460
133145    66   505
133149    64   551
133151    74   595
133155    84   643
133158    84   672
133161   100   749
133164   100   800
133397         799
0986
152989     0     0
153001     0     2
153007     7    28
153011     7    91
153015    23   164
153019    25   218
153023    30   306
153026    37   324
153032    44   421
153036    46   475
153040    48   534
153043    48   588
153048    51   639
153051    76   692
153055    99   749
153209         770
0987
163076     0     0
163101     0     7
163105     0     2
163114     0    19
163118     0    49
163123     0   113
163127     0   170
163130     0   255
163133    16   272
163137    16   348
163140    46   397
163143    50   418
163148    76   482
163153    90   545
163155    94   595
163159   140   651
163161   160   696
163165   180   751
163168   196   782
163280
0990
012798     0     0
012963    12    15
012988    16    33
013013    22    49
013031    32    68
013064    44   100
013078    56   135
013137    70   170
013170    86   200
013107   100   233
013145   124   264
013183   156   302
013222   182   335
013260   210   366
013277   230   373
013294   244   402
013313   250   419
013333   260   433
013370   310   468
013509   342   500
013547   390   534
013582   430   565
013613   474   600
013650   528   634
013685   584   670
013712   632   702
013734   662   720
013751   688   737
013770   726   753
0992
042000     0     0
042074     0    23
042091    12    44
042117    24    77
042147    42   111
042180    68   144
042216    90   179
042250   126   209
042284   158   243
042321   196   273
042363   250   300
042398   272   338
042438   338   395
042472
0994
052651     0     0
052857     4    15
052885     2    37
052904     8    51

TIME   STRAIN STRS
052931    16    84
052986    24   136
053011    34   166
053041    46   188
053074    60   220
053107    80   253
053144   104   284
053177   127   313
053218   156   348
053257   184   385
053290   220   418
053329   256   454
053367   298   487
053402   332   519
053438   376   553
053473   420   587
053503   458   621
0996
114951     0     0
114969     0    11
114976     0    46
114983     4    82
114988     2   125
114992     0   151
114996     4   184
115000     8   211
115005     8   243
115010    14   278
115016    16   310
115023    22   351
115028    26   382
115034    34   416
115040    38   447
115045    46   482
115050    50   514
115056    56   553
115061    66   583
115066    74   616
115070    78   651
115075    82   682
115080    88   718
115085    94   755
115089   110   787
115093   116   818
115097   130   858
115003
0998
161600    40     0
161798    40    29
161821    40    47
161866     6    81
161891    10   115
161920     8   149
161957    28   181
161992    54   213
162030    62   246
162069    96   277
162105   130   311
162150   168   347
1001
161700           0
161798     6    27
161821     4    46
161865     8    80
161892    14   114
161920    30   146
161956    38   179
161992    52   212
162031    64   245
162068   102   276
162106   154   310
162130   178   346
1002
173400     0     0
173495     0    27
173518    10    41
173565    38    81
173591    88   112
173629   108   141
173669   160   177
173702   208   208
173743   278   241
173780   356   272
173816   444   305
173864   552   342
173880
1009
042761     0     0
042778     6     9
042782    14    37
042785    18    82
042790    30   140
042793    28   177
042796    40   211
042799    48   248
042802    54   288
042805    62   327
042810    58   390
042813    70   438
042817    72   520
042820    78   559
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TIME	STRAIN	STRS
042823	[illegible]	599
042826	94	616
042830	100	666
042833	104	713
042836	112	752
042839	116	808
042843	114	863
042846	110	910
042850	126	964
042853	136	1007
042857	142	1060
042862	150	1132
1010		
051750	0	0
051825	4	1
051831	2	31
051836	10	78
051850	20	242
051853	26	281
051836	28	322
051861	32	382
051865	38	440
051869	48	485
051872	50	529
051876	52	580
051881	64	657
051885	68	721
051888	70	771
1013		
093981	0	0
093994	6	1
094048	16	20
094085	34	48
094119	42	100
094148	54	117
094185	50	150
094225	58	183
094260	68	216
094292	68	249
094323	74	280
094358	82	314
094394	92	348
094439	100	383
094461	112	417
094513	122	470
094562	142	517
094610	154	567
094653	162	616
094696	180	665
094745	196	718
094799	204	770
094833	218	822
094874	238	869
094919	252	919
1015		
011750	0	0
011842	0	6
011885	0	42
011912	0	91
011943	0	112
011968	2	142
011992	0	176
012011	4	208
012057	0	238
012091	8	272
012128	20	308
012169	14	342
012205	20	377
012238	16	410
012275	32	446
012310	34	476
012343	48	510
012378	52	543
012412	64	577
012443	62	576
012473	68	606
012505	66	640
012552	74	728
012598	96	781
012642	112	829
012685	114	878
012715	114	912
012747	126	942
012778	122	975
012810	122	1001
012844	132	1046
012876	142	1079
160951	100	0
161030	16	44
161062	22	77
161096	26	120
161130	32	156
161187	42	207
161247	46	259
161308	52	311
161371	54	363
161432	62	418
161497	64	478
161560		539
161618		585
161678		656

TIME	STRAIN	STRS
161732		689
161787		740
161840		798
161897		855
161950		908
162002		962
162055		1013
162115		1068
162169		1123
162206		1176
162241		1188
085099	0	0
085145	16	18
085198	20	52
085231	22	94
085264	30	131
085295	34	169
085352	38	225
085412	64	281
085446	72	334
085521	78	391
085589	86	450
085634	102	512
085687	122	584
085740	132	621
085792	140	677
085835	162	730
085888	184	790
085937	204	847
085985	220	907
090028	238	962
090086	266	1017
090125	306	1067
1017		
024800	0	0
024828	2	17
024865	6	51
024887	18	85
024915	24	118
024945	42	153
024978	56	185
025012	66	217
025049	124	249
025064	122	282
025121	150	317
025159	174	353
025195	144	388
025235	164	426
025268	186	458
025300	212	490
025336	240	524
025368	264	554
025397	288	584
025429	330	617
025464	362	654
025514	420	705
025567	468	757
025611	532	807
025662	610	855
025713	680	905
025765	784	955
025804	864	988
1019		
132901	0	0
132906	12	59
132909	14	110
132913	16	135
132918	22	190
132923	32	241
132927	50	286
132932	58	336
132937	78	389
132941	84	443
132944	88	480
132948	102	532
132952	118	586
132955	132	639
132959	144	688
132962	158	741
132965	168	792
132969	182	841
132972	200	892
132975	208	937
132979	228	992
132982	242	1046
132985	264	1091
132989	276	1146
132992	296	1187
132996	320	1239
133000	342	1272
133004	370	1301
1021		
144145	00	0
144205	6	39
144234	4	71
144265	4	103
144303	10	139
144348	26	171
144386	30	203
144425	36	237
144462	52	268

TIME	STRAIN	STRS
144499	56	300
144541	64	333
144583	80	370
144639	96	422
144697	110	473
144752	144	521
144806	172	571
144858	190	618
144911	132	671
144964	152	723
145013	172	773
145065	228	826
051879	0	0
051905	24	13
052073	24	51
052102	20	83
052131	12	117
052163	28	151
052215	30	198
052274	30	247
052328	44	295
052388	42	348
052450	50	402
052506	62	452
052562	86	503
052618	104	518
052672	144	599
052722	160	648
052793	194	716
052843	242	769
052894	296	821
052945	340	869
053000	392	919
053054	466	966
1023		
041016	4	0
041200	0	10
041261	10	47
041292	34	83
041332	74	115
041400	150	167
041461	246	214
041521	368	264
041584	432	310
041656	630	364
041724	850	415
041803	1090	467
041878	1436	515
041943	1808	549
042013	2194	583
042085	2728	613
042170	3528	640
101058	0	0
101102	36	36
101140	76	75
101178	108	108
101226	144	145
101264	174	181
101310	212	216
101362	288	252
101408	360	285
101464	512	324
101521	608	361
101581	814	398
101666	1180	449
101770	1760	504
101850	2280	542
101936	3880	596
102075	4340	597
102097	4630	598
102125	4970	596
102151	5300	595
102185	5800	594
102205	6170	592
102260	6940	580
102312	7720	566
102364	8550	548
1024		
112433	0	0
112451	0	34
112460	18	69
112470	4	104
112481	8	136
112491	24	168
112502	28	201
112513	40	235
112525	60	265
112537	82	302
112550	106	337
112561	136	372
112571	166	404
112583	208	438
112594	244	470
112604	334	503
112615	420	537
112627	464	570
112628	504	602
112650	534	637
112662	626	673
112673	698	705
112684	798	741

TIME	STRAIN	STRS
035898	0	0
035951	0	13
035965	2	52
035975	10	87
035984	18	120
035995	24	160
040007	44	194
040020	62	228
040033	88	262
040057	150	298
040062	201	335
040076	326	372
040090	388	410
040102	436	443
091009	0	0
091046	0	15
091077	10	55
091089	28	96
091099	42	128
091108	56	163
091130	78	203
091145	86	242
091156	98	274
091169	116	312
091182	148	348
091195	178	386
091209	212	425
091223	238	464
091235	302	497
091250	362	537
091263	428	572
091276	558	608
091290	628	645
091304	734	683
091318	846	718
091333	966	757
1025		
012153	0	0
012158	16	11
012167	24	47
012174	28	83
012179	28	112
012184	36	149
012190	46	183
012195	64	212
012200	74	244
012207	96	279
012214	106	312
012220	126	347
012228	148	383
012233	152	416
012240	188	448
012247	206	481
012253	238	516
012260	274	551
012265	304	582
012271	338	617
012280	406	664
172163	0	0
172171	4	39
172178	11	75
172184	15	109
172190	30	145
172196	38	181
172202	47	217
172208	60	253
172215	64	289
172222	75	325
172229	113	361
172236	138	400
172242	166	435
172248	200	470
172255	232	506
172261	268	542
172268	315	581
172274	351	614
1025		
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134316	0	39
134322	6	73
134327	21	111
134333	32	148
134339	40	186
134346	51	223
134352	60	259
134360	89	311
134367	117	352
134376	130	388
134380	153	429
134385	168	464
134390	209	501
134396	232	538
134401	256	574
134407	288	614
134413	315	648
134419	349	686
134425	386	725
134430	424	759
134436	469	800
134442	524	835
134448	571	871

TIME	STRAIN	STRS
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152203	2	0
152222	8	75
152226	14	122
152230	22	157
152234	30	205
152238	42	250
152241	46	290
152246	64	337
152250	92	392
152253	114	437
152257	142	482
152261	174	532
152264	222	580
152268	264	637
152271	304	680
152274	362	731
152278	432	787
112551	0	0
112601	14	7
112615	16	24
112621	38	86
112626	42	151
112632	50	215
112637	78	279
112640	102	324
112644	120	370
112650	180	440
112655	246	515
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051551	0	0
051557	10	14
051561	2	53
051565	4	101
051569	10	152
051573	22	215
051576	28	262
051579	36	299
051582	42	345
051586	56	400
051590	62	450
051594	66	488
051598	74	562
051601	78	606
051604	82	651
051607	90	700
051610	96	751
051614	110	803
051617	124	863
051621	136	915
051625	144	1000
051628	152	1016
051631	164	1067
051635	176	1117
051638	188	1167
051641	200	1210
051644	216	1260
051647	226	1300
051650	244	1330
012250	0	0
012256	2	22
012260	4	76
012264	6	138
012268	18	202
012270	26	257
012274	26	307
012278	34	376
012281	40	426
012285	50	487
012288	56	535
012291	64	591
012294	76	639
012297	84	692
012300	88	748
012306	107	848
012309	118	911
012312	130	971
012315	146	1034
012319	162	1095
012322	178	1156
012325	182	1219
012329	208	1277
012332	226	1340
012336	244	1407
1036		
040600	0	0
040738	14	25
040877	8	57
040907	12	97
040962	20	131
041015	18	165
041075	22	196
041145	26	230
041208	24	261
041272	20	293
041340	30	328
041413	36	362
041480	44	396

TIME	STRAIN	STRS
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041608	54	465
041676	56	498
041743	64	530
041815	66	565
041894	72	596
041945	90	628
042007	94	660
042085	102	695
042187	102	748
042251	106	782
042342	128	834
040229		0
040263		0
040310	0	11
040345	2	50
040391	4	89
040418	6	128
040449	14	165
040478	20	203
040506	26	239
040527	30	276
040566	34	311
040595	40	347
040633	46	386
040672	48	427
040706	50	466
040741	54	504
040779	56	544
040812	60	581
040847	62	615
040885	66	653
040935	70	708
040987	74	763
041035	78	822
041072	82	882
041128	86	934
041173	88	955
041220	92	1048
041267	96	1101
041326	98	1161
1040		
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113950	6	1
113969	10	26
113978	24	65
113985	28	124
113992	36	177
113998	40	217
114005	54	262
114014	52	377
114023	58	381
114029	64	420
092482	0	0
092493	0	0
092529	0	20
092538	6	56
092544	12	98
092552	20	147
092559	26	185
092565	34	224
092572	40	262
092582	56	318
092592	74	377
092602	92	436
092612	104	496
092622	114	552
092628	122	592
092633	138	644
092648	156	679
092657	178	756
101000	0	0
101013	7	44
101027	0	118
101030	7	274
101042	15	343
101055	21	392
101069	27	443
101081	33	532
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111965	10	2
111970	12	33
111975	19	67
111977	23	123
111981	31	173
111984	35	217
111988	37	265
111993	56	318
111997	60	379
112001	72	432
112005	84	449
112009	87	543
112012	95	598
112016	99	651
112020	111	708
112024	119	762
112029	140	852
112032	155	918
112037	150	993
112042	173	1062

A 10

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TIME   STRAIN STRS
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112055    210 1280
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051592     10  158
051600     21  210
051607     31  264
051612     43  311
051618     45  372
051622     56  429
051627     72  480
051633     76  556
051638     91  627
051643     89  682
051646     91  734
051650     95  790
051653    105  846
051657    111  902
051660    126  954
150256      0    0
150263      2    7
150268      6   75
150272      6  141
150275      6  186
150279      8  258
150283     21  317
150288     16  375
150292     23  433
150296     27  490
150300     29  530
150303     43  602
150307     49  659
150311     54  714
150315     66  791
           70  864
           78  943
           93 1013
1057
051750      0    0
051840     14    8
051897     20   43
051929     28   75
052002     48  109
052081     64  143
052154     86  176
052221    106  209
052270    122  243
052335    162  291
052405    210  343
052474    250  394
052541    320  446
052610    398  494
052680    496  544
052751    608  594
052819    750  642
052870    942  694
052965   1158  745
053018   1370  782
1058
012671      0    0
012692     12    9
012705     16   48
012713     20   99
012720     30  139
012726     42  176
012733     48  211
012742     56  261
012753     70  315
012765    140  369
012776    126  426
012786    120  481
012796    134  537
012805    156  590
012815    196  640
012825    280  700
012835    286  751
012845    298  806
012854    354  843
012865    450  931
012875    548  984
012885    624 1026
1059
051351      0    0
051360      2   11
051372      4   51
051376     20  111
051382     36  174
051387     44  227
051391     58  270
051395     70  332
051399     76  379
051404     96  446
051410    106  516
051416    120  599
051420    126  650
051424    138  702
051428    158  768
051433    192  832

TIME   STRAIN STRS
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051444    296 1001
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090911      0    0
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091435      6   39
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091568    126  157
091632    214  206
091679    298  240
091725    424  271
091770    538  303
091825    674  339
091871    856  373
091931   1038  407
091989   1268  441
092051   1980  474
092119   2168  511
092193   2894  540
092252   3344  559
092295   3738  571
092336   4146  581
1062
031700      0    0
031712      2   22
031721     24   76
031727     52  124
031740     92  175
031750    148  225
031760    204  272
031766    258  308
031774    320  345
031783    420  392
031794    528  433
031802    624  478
031809    710  511
031816    816  543
031824    926  576
031836   1146  626
031850   1408  677
1063
052263      0    0
052290     18   14
052302     28   43
052306     36   81
052310     42  111
052313     50  144
052317     64  181
052321     86  227
052326    124  278
052331    144  328
052335    176  381
052340    216  432
052343    262  478
052348    346  532
052352    428  580
052356    522  629
052361    596  682
052365    690  736
052369    760  784
1071
113604      0    9
113657     20   32
113699     40   71
113737     72  104
113804    126  137
113873    216  172
113925    280  205
113985    426  255
114038    532  288
114090    684  322
114170    992  372
114244   1410  423
114319   1800  459
114482   3170  515
114515   3530  522
114557   4030  526
114628   5010  525
1075
143110      0    0
143115      0   16
143120      4   72
143125      6  136
143129     16  183
143133     22  231
143138     30  284
143142     42  325
143145     50  361
143148     76  406
143152     94  454
143156    120  504
143161    142  563
143165    170  615
143168    224  664
143172    230  712
143175    256  759
143178    300  842
1078
101777      2    0
101817      0    7

TIME   STRAIN STRS
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101957     60  142
101981     68  174
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102098    208  273
102139    284  310
102181    382  343
102237    528  394
102300    732  444
102366   1004  493
102438   1386  544
102488   1732  572
1082
013398      0    0
013407      0   10
013412     36   61
013417     58  130
013421     60  188
013427     74  249
013430     82  286
013433     94  319
013436    108  356
013439    118  395
013441    136  440
013445    156  478
013448    190  526
013452    222  578
013456    250  628
013460    282  677
013463         729
1149
112950      0    0
112996      0    6
113023     10   23
113036     12   37
113065     20   59
113084     28   76
113103     44   93
113123     36  112
113148     14  127
113205     46  162
113261     64  195
113304     72  228
113346    104  260
113394    128  296
113428    142  326
113480    176  362
113509    208  396
113545    230  432
1150
111151      0    0
111300     24   10
111515     18   22
111550     18   40
111575     24   57
111597     30   70
111624     34   90
111646     42  111
111670     52  124
111692     70  141
111735     90  174
111780    118  208
111821    154  241
111866    188  276
111907    220  309
111952    288  340
1152
153975      0    0
153990      2    4
154005      8   10
154012     18   37
154018     34   71
154022     56   95
1154
091599      0    0
091613      6    6
091617     10   22
091616     20   71
091630     26  120
091634     30  167
091639     42  232
091643     52  272
091646     80  320
091650     64  361
091653     70  407
091658     96  506
091662    102  524
091666     98  573
091670    132  637
091674    144  681
091678    164  741
1155
131200      0    0
131205      2    8
131220      8   20
131224      8   42
131227     36   73
131230     44  110
131234     56  143

TIME   STRAIN STRS
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131242     70  213
131245     76  250
131249     90  288
131252    110  321
131255    112  356
131258    120  396
131261    138  433
131264    134  470
1156
152870      0    0
152884     10    7
152888      6   14
152905      4   37
152914     28   70
152918     48  142
152922     74  171
152926     76  217
152931    114  271
152935    126  326
152939    146  370
152944    162  420
152947    190  477
152952    222  538
152956    266  590
1159
172479      0    0
172516      6    5
172556     20   22
172605     28   53
172629     44   76
172648     48   91
172668     48  107
172689     54  123
172710     60  140
172736     78  160
172779     84  195
172812    108  225
172852    120  259
172888    136  290
172926    138  319
172965    170  359
173004    194  395
173040    210  430
173075    244  461
173130    306  514
173181    332  591
173239    374  610
173291    450  662
1162
162775      0
162788      8    5
162794     18   23
162799     32   53
162804     34   79
162810     48  106
162814     60  133
162819     74  162
162822     82  189
162827    102  218
162831    120  248
162836    136  279
162840    148  307
162844    154  336
162847    168  366
162851    194  393
1163
113500      0    0
113510      8    7
113515     12   25
113519     26   53
113524     50   80
113529     60  111
113533     62  133
113536     70  162
113541     74  192
113545     70  213
113548     96  235
113552    106  264
113555    122  290
113559    134  318
113563    138  346
113566    160  374
113570    174  404
113573    190  432
1164
132500      0    0
132522      2    4
132530      6   14
132546      8   23
132555      8   36
132562     10   43
132568     16   51
132590     30   68
132596     46   87
132610     60  107
132622     78  124
132634     84  141
132648    112  160
132659    132  177
132672    146  196

TIME   STRAIN STRS
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132705    184  252
132715    222  270
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160188     42   75
160190     56  110
160193     76  146
160195    112  180
160198    136  218
1166
171538     20   14
171543     18   45
171546     24   69
171551     28   98
171555     42  127
171560     46  159
171565     60  189
171569     66  216
171573     80  232
171576     82  288
171580     98  309
171585    120  344
171590    132  380
171593    148  409
171598    168  449
171602    176  486
171608    206  531
171613    222  571
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102363      0    0
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102376     18   45
102381     26   69
102388     36   97
102392     46  123
102396     58  149
102400     72  176
102405     88  206
102409     96  233
102414    124  268
102418    156  298
102423    170  326
102426    208  351
102430    226  317
102434    244  407
1175
151635      0    0
151651      6    2
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151669     18   20
151676     28   29
151689     32   38
151699     36   47
151713     50   65
151729     68   83
151747     76  102
151761     94  120
151775    110  138
151788    126  156
151802    142  174
151815    154  193
151829    176  211
151842    192  232
151860    224  257
151880    270
1178
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164162     18   20
164165     18   35
164169     18   59
164172     38   76
164177     58  103
164180     64  129
164185     64  155
164190     74  185
164192     94  206
164196    114  233
164200    130  258
164203    134  286
164207    148  313
164211    174  341
164215    194  368
164218    210  398
164223    224  432
164226    234  462
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134560      2   59
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134602     40  103
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134628     64  140
134642     82  157
134657    106  177
1182

TIME   STRAIN STRS
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155618    124  153
155659    166  170
155700    192  189
155742    206  210
155778    228  228
155818    278  246
155860    308  259
155897    350  282
155937    404  300
155978    482  318
160019    540  336
160063    626  355
160102    698  374
160140    588  393
1183
171195      2    3
171225     32   10
171245     38   19
171275     60   28
171307    116   47
171336    130   65
171424    132  101
171450    148  119
171489    190  131
171549    244  165
171590    304  182
171650    312  211
171705    376  240
171745    430  258
171784    504  276
171843    634  304
1188
110795      0    0
110805     14    6
110811     20   37
110816     44  104
110821     46  138
110825     62  174
110830     92  223
110834    120  269
110838    144  323
110843    176  377
110847    202  427
110851    218  476
110856    266  529
1192
132227      0    0
132262      6   21
132278     38   55
132285     48   73
132294     66   88
132300     78  108
132306     84  122
132319     86  159
132332    128  190
132345    168  226
132357    170  257
132376    230  304
132389    258  341
132407    306  391
132419    334  426
132432    372  462
132444    402  495
132455    432  527
132468    494  563
1194
150946      0    0
150990      4   20
151001     12   37
151027     50   91
151050     90  141
151067     96  175
151092    152  238
151107    186  274
151126    218  320
151140    236  357
151159    274  409
151177    308  459
151180    336  496
151201    360  529
151212    386  561
151225    422  594
151243    458  643
151255    492  677
151272    456  728
151285    584  764
151295    628  797
151307    668  836
151317    712  867
151329    748  899
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TIME   STRAIN STRS
151347   848   948
1195
170898
170926    36    21
170933    20    40
170940    24    59
170945    42    73
170954    46    92
170972    62   122
170992    88   158
171012   106   195
171031   118   222
171044   144   258
171057   164   289
171077   194   343
171095   224   392
171112   292   446
171132   328   495
171151   390   545
171169   436   595
171187   476   644
171205   558   694
1199
110300     0     0
110382     0    34
110412     0   105
110426     6   142
110453     8   190
110471    22   236
110492    44   286
110510    54   334
110531    86   391
110545    94   441
110558   106   458
1206
184897     0     0
184923    30     1
184927     6    28
184931    98    58
184937    88    74
184960    96    91
184965    96   106
184973   104   124
184978   150   201
184981   276   262
1211
153298     0     0
153348    68    66
153356   106    94
153372   116   104
153378   146   138
1212
074200     0     0
074240     8     5
074267    24    15
074303    20    24
074327    10    31
074370    42    42
074388    50    43
074431    46    44
074510    58    47
074519    78    50
074580    62    59
074597    76    79
074611    86    98
074626    88   118
074646   106   144
074665   128   171
074695   154   198
1217
102559     0     0
102580    14    16
102601     4    44
102621     6    79
102638    26   106
102635    36   133
102679    50   168
102691    44   188
102710    80   217
102727    74   224
102748   142   271
102765   134   298
102783   130   324
102805   130   362
102828   110   401
102850   118   436
102870   134   472
102900   160   528
102929   156   574
102956   224   619
102977   260   655
103096   254   701
103032   248   737
103072   260   783
1221
132783    54
132815    52
132820    62
132824    60
132830    44
132837   206

TIME   STRAIN STRS
132845   226
132851   244
132856   256
132861   270
132866   210
132870   210
132877   266
132886   236
132892   244
132897   232
132903   228
132909   202
1228
171805           0
171824    10    15
171828     8    34
171832    14    53
171835    16    72
171839    20    87
171841    24   100
171848    28   127
171851    32   146
171854    36   165
171857    42   189
171860    54   211
171864    58   237
171867    58   261
171872    66   289
171875    78   316
171879    82   344
171882    90   372
171886   100   403
171890   116   437
171894   120   475
171898   130   508
171904   136   553
171910   128   619
171914   172   640
171918   184   675
171925   214   729
171930   224   765
1232
085562     0
085692     8
085710     8
085737     6
085814     0     0
085832     4     4
085852     2    34
085866     2    52
085913     6    80
085942     4    97
085992    20   127
090025     8   151
090039         170
090062    30   198
090088    22   235
090113    52   271
090141    86   308
090165    54   329
090191         381
090213    78   437
090235   116   456
090262         501
090278   142   527
090307   128   574
1237
132211
132257    32    15
132265    32    88
132273    30   190
132279    68   261
132283   108   311
132303   198   554
132310   264   644
132315   348   714
132320   368   791
132325   442   857
170676     0
170683    14    25
170686    18    61
170691    34   102
170700    56   151
170706    74   185
170712   108   236
170716   126   286
170720   138   337
170725   210   390
170731   244   456
170736   300   524
170741   322   590
170747   366   655
170752   418   727
170756   468   789
170761   526   856
170765   596   930
1238
095859     0
095923     6    19
095946    14    43
095965    26    57

TIME   STRAIN STRS
095997    44    73
100036    46   126
100110    54   124
100179    96   156
100255   128   187
100326   174   222
100396   212   253
100429   230   290
100472   290   326
100516   314   361
100571   374   410
100628   424   463
100686   596   514
100742   626   563
100801   748   612
100858   736   661
1238
110075           0
110180     2     6
110220    12    16
110241    10    26
110270    12    37
110290    18    44
110315    10    53
110336    20    63
110377    42    81
110426    94    99
110498   154   117
110553   288   135
110611   330   145
110629   368   139
110639   380   129
110650   408    29
110700     0    53
110741    17    71
110766    17    81
110807    36   100
110845    84   117
110893   120   136
110970   268   172
111055   490   199
111139   836   227
111255  1560   254
111356  2538   269
111573  3220   270
1253
113804     2     4
113812     2    11
113823     2    20
113835     2    40
113851    10    65
113862    10    85
113873    24   101
113888    34   120
113900    64   139
114000   120   193
114058   122   222
114077   170   250
114094   178   276
1259
160250     0     0
160351    50
160396   104
160426   114
160452   112
160470   112
160487    94
160506    72
1260
082606     0     0
082630   102    56
082638   118    93
082642    32   129
082647   140   150
082650   146   180
082654   160   207
082658   188   236
082662   206   262
082665   236   289
082670   230   317
082673   258   346
082677
1262
114550     0     0
114563    22    42
114570    56    63
114575    70   103
114580    74   126
114584    84   159
114590   104   196
114596   134   251
114602   138   286
114606   164   322
1263
135800     0     0
135858     2    13
135891    34    22
135923    40    59
135979    96   115
140010   392   132
140042   348   169

TIME   STRAIN STRS
1264
164800     0
164810     4
164816     6
164822     4
164830     6
164842     4
164858   268
164866   266
164870   278
1281
081402
081511    12
081529    50
081541    52
081580    42
1282
000012    16    32
000014    18    48
000018    30    69
000022    42    89
000026    44   102
000030    50   123
000033    52   141
000036    76   157
000039    90   174
000042   106   193
000045   140   212
000048   142   231
000051   154   251
000054   174   272
000057   166   288
000060   156   307
000065   154   340
000069   146   366
000074   146   396
000077         394
1287
132602     0     0
132709     2    28
132866     2    85
132965     8   131
132973     8   144
133041    16   186
133075    36   204
133090    30   211
133120    42   230
133137    56   268
133163    60   250
133169    66   258
133185    68   268
133215    88   284
133249    96   302
133280   126   320
133293   128   330
133321   134   336
133338   142   356
133355   158   365
133371   162   368
133415   194   404
133446   230   423
133475   248   440
133502   278   458
133532   306   476
133563   342   495
133594   380   514
1288
150000     0
150055     4     7
150058     8    27
150063    16    49
150066    10    62
150070    10    77
150076    34    93
150083    26   122
150088    40   152
150092    46   181
150096    60   210
150102    64   240
150107    96   277
150113   108   322
150116   112   349
150119   124   365
150123   136   394
150129   156   432
150131   168   470
150137   186   505
1293
165382    18    31
165410    30    48
165471    60    84
165531    74   114
165607    62   155
165648    74   173
165720   118   210
165800   152   265
165871   186   284
165944   206   319
170017   254   356
170088   319   392
170170   336   419

TIME   STRAIN STRS
1298
080951     0     0
081043     4    17
081102    24    48
081183    40    83
081283    60   119
081367    94   159
081530   124   189
081605   124   228
081680   192   265
081765   248   303
081821   308   337
081891   380   372
081928   428   392
081964   470   411
081997   492   430
082040   538   448
082063   580   466
082096   650   484
082133   708   502
082169   782   520
082205   860
082241   976   556
082282  1058   575
082322  1180   593
082368  1320   613
082407  1448   631
1303
105401     0     0
105406     6    17
105411    12    14
105416    18   108
105420    24   117
105424    28   163
105428    32   177
105431    40   184
105435    58   244
105438    74   272
105441    90   297
105445    70   328
105448   118   354
105451   120   381
105454   134   408
105457   150   433
105462   180   474
105465   200   520
105468   216   528
150900
150910     0    29
150915    36    28
150918    46    46
150921    56    56
150925    58    65
150928    62    16
150952    82   145
150955    80   164
150957    70   182
150960    86   199
150962    90   217
150965    86   238
150970    96   269
150974   102   293
150977   116   313
150980   126   338
150985   126   344
150988   156   374
150992   156   422
150995   186   450
150998   182   475
151002   186   503
151011   246   572
100200
100278    52    14
100400   120     9
10041[illegible]   154    73
100418   158    95
100421   178   122
100426   174   140
100430   184   175
100435   196   200
100438   218   227
100443         262
100448   242   295
100452   244   324
100456   264   360
100461   284   398
100464   306   423
100468   310   452
100471   330   480
100475   344   505
100478   386   532
100481   396   557
100486   428   598
100489   448   626
100492   464   646
1310
131000           0
131051     4     0
131111     2    45
131143     4    65
131200    28   105

TIME   STRAIN STRS
131241    38   136
131267    66   171
131293    82   212
131316   107   242
131345   158   290
131363   154   319
131386   178   364
131406   220   392
131426   238   430
131445   266   466
131467   364   500
131486   422   540
131507   488   575
131528   558   613
131538   588   640
131548   640   650
131559   676   668
1315
163000     0
163016     0     9
163020    12    28
163023    28    56
163027    34    69
163031    46    99
163039    66   144
163045   114   210
163049   110   255
163055   162   324
163059   208   370
163061   242   423
163064   292   466
1322
131953     0     0
132205    42    27
132272    98    59
132392    80   101
132472   100   119
132572   128   146
132643   154   185
132715   192   220
132822   286   275
132921   342   328
133027   428   380
133115   548   440
133176   674   476
1323
154002     0     0
154076    26    10
154094    24    20
154099    20    48
154105    18    73
154110    18    91
154126    32   165
154135    22   200
154140    46   237
154147    72   272
154152    60   310
154158    60   346
154163    86   394
154169   100   433
154174   120   474
1446
030000     3    67
030100     0    90
030182    10   107
030216    28   134
030268    54   308
030313    88   399
030370   132   503
030420   188   604
1447
012950    10    67
013000     6    67
013025    24   134
013032    34   201
013038    50   269
013044    60   332
013050    66   399
013058    76   469
013064    88   536
013071   102   603
013077   122   667
1448
030000     0    99
030012     4   124
030015    12   184
030018    16   229
030020    22   280
030023    30   322
030025    36   359
030026    42   395
030029    48   433
030041    88   680
030044    98   720
030046   108   768
030048   114   798
030050   126   846
030052   138   892
030055   146   934
030059   160  1022
030061   176  1053
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TIME   STRAIN STRS
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043000      0   77
043006      8  128
043010     22  229
043012     30  308
043014     40  375
043016     48  440
043018     60  512
043020     68  631
043024     98  772
043026    112  864
043028    126  935
043030    132  994
043032    144 1056
043034    158 1115
043036    166 1173
043038    176 1223
043040    180 1256
1450
100000      0   73
100008     36  304
100010     56  454
100012     92  686
100014    116  852
100016    148 1032
1454
042900      0   59
042919     22  146
042922     38  266
042925     56  382
042928     70  479
042930     82  570
042932     92  651
042935    112  787
042938    120  839
042940    138  934
042941    150 1003
042943    168 1069
042948    188 1140
1455
071550      0   80
071566     20  139
071593     30  202
071620     48  271
071650     60  335
071682     78  401
071716     96  470
071746    116  538
071780    130  606
071811    162  671
071841    178  736
071875    204  804
071907    224  873
071938    252  939
071972    278 1005
1456
010300      0   38
010374      6  142
010326     20  188
010329     28  242
010331     36  297
010334     46  346
010337     58  401
010339     66  453
010341     72  508
010345     88  556
010350    112  674
010351    156
010364    174  962
010366    186 1018
010370    204 1075
010371    206 1111
1457
034650      0
034663     16  169
034665     36  308
034668     54  466
034670     76  610
034672     98  757
034675    120  879
034676    144  988
1458
090000           4
090025    108   67
090100    120   67
090266    160   67
090275    202   67
091599    222   67
092200    236   67
093000    254   67
094500    260   67
100051    270   67
101500    284   67
103000    292   67
104507    292   67
110200    300   67
113100    300   67
121551    312   67
124700    330   67
133100    342   67
140700    342   67
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TIME   STRAIN STRS
150000    354   67
155000    364   67
164200    378   67
172500    398   67
202100    416   67
212500    432   67
225500    444   67
230068    464   67
123100    462   67
154800          67
112751      0  104
112776     16  186
112783     26  262
112791     42  361
112796     54  428
112803     60  504
112809     72  576
112815     84  654
112820    100  720
112826    112  789
112834    128  862
112840    146  937
112846    162 1012
112853    180 1080
112860    192 1149
1465
012900     16   89
012933     46  217
012939     52  286
012945     52  348
012953     56  431
012959     76  500
012966     90  587
012972     96  648
012977    112  719
012984    120  786
012990    144  861
012997    156  937
1467
000000      0   73
000016      8  171
000022     24  332
000026     66  499
000030     90  660
000035    122  834
000039    134  999
000041    142 1010
000044    146 1010
000046    154 1010
000049    158 1010
000054    160 1010
000057    164 1010
000060    164 1010
000062    168 1010
000065    168 1010
000070    176 1010
000089    178 1010
000109    180 1010
000200    230 1010
000300    264 1010
000350    272 1010
000400    292 1010
000450    312 1010
000500    336 1010
000600    344 1010
000700    354 1010
000800    358 1010
000900    370 1010
001000    378 1010
001100    384 1010
001200    388 1010
001400    420 1010
001500    428 1010
001898    444 1010
001900    448 1010
002100    462 1010
002300    474 1010
002500    492 1010
003000    508 1010
003500    514 1010
004000    518 1010
004500    522 1010
005000    538 1010
005600    548 1010
010200    564 1010
010800    588 1010
011700    604 1010
012500    612 1010
013500    618 1010
014500    622 1010
015500    644 1010
020600    660 1010
022059    668 1010
023950    680 1010
024000    680 1010
024608    690 1010
032315    716 1010
043948    784 1010
050900    824 1010
061510    838 1010
1470
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TIME   STRAIN STRS
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012215     30  350
012219     52  494
012222     70  636
012227     96  834
012232    122 1004
1486
040000         105
040087      4  136
040103      8  168
040118     12  203
040155     36  274
040189     42  336
040224     54  403
040263     80  473
040297     98  543
040332    114  610
040366    140  675
040398    162  740
040433    182  810
040468    212  874
040500    230  949
1487
            0  101
012150      0  100
012155      0  179
012159     52  374
012162    102  603
012165    176  840
012167    206  956
012169    266  106
1487
042950          95
042960     18  182
042963     24  335
042965     42  450
042967     90  582
042970    120  769
042973    146  892
042975    158 1010
1496
110423      0   20
110500      4   50
110510     30  250
110513     76  600
110515    114  840
110518    144 1080
045000     16   60
045050     20   90
045063     58  370
045065     84  540
045068    108  800
045070    132  900
045073    192 1240
020400     16   90
020413     36  220
020415     68  460
020417    104  630
020420    130  800
020422    158 1000
020424    196 1140
020425    212 1280
113000      0   90
113005      0  141
113008      0  256
113010      6  419
113015     36  813
113017     76  953
113018     86 1096
1500
021050      0   20
021100      0   20
021112      6  110
021115     20  190
021117     52  380
021120     88  560
021122    110  770
021125    164  970
114150      6   70
114162     24  200
114165
          120
114171    164  920
114173        1170
044950      4   70
044959     16  190
044961     58  400
044964     84  690
044966    116  950
044969    136 1120
044971
113000     10  122
113005     10  148
113008     14  237
113010     46  451
113012     68  613
113013     88  759
113015    110  892
113017    132 1031
113019    158 1219
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TIME   STRAIN STRS
113021    182 1345
113023    208 1500
1527
013000      0  133
013007      2  148
013009     22  302
013011     56  432
013013     84  563
013015    124  742
013018    162  870
013020    194  990
013022
075300      0  117
075310      2  152
075312     20  270
075314     40  391
075315     62  495
075317     82  598
075320    118  746
075321    150  853
075323    184  963
075325    204 1061
075326    240 1113
075335
1528
033200      0   83
033210      4  148
033212     20  274
033214     28  379
033215     48  480
033216     66  581
033218     82  728
033220     98  826
033222    110  917
033225    146 1155
033228    162 1270
033224
100000      0   97
100010      8  151
100012     20  238
100013     20  341
100014     46  444
100015     54  558
100017     66  662
100018     76  752
100023    128 1053
100024    150 1140
100025    164 1243
110000      0  136
110009     34  387
110011     52  569
110013     72  752
110915    112  941
1529
111900      0   97
111909      8  153
111910     30  250
111912     44  359
111914     62  473
111915     76  585
111916    106  678
014800      0  100
014807      2  138
014809     12  247
014810     20  357
014812     56  455
014814     86  570
014815     86  662
014817    148  806
014819    182  903
014820    214 1010
014822    250 1120
014825    316 1220
035300
                64
035500      0   94
035508     10  136
035510     20  235
035511     28  332
035513     42  476
035514     68  590
035515     86  681
035516     96  769
035518    106  868
035520    122  970
1554
130000    618   57
130007    616  121
130010    622  144
130012    626  232
060000      0   72
060007      4  134
060010     40  362
060011     56  483
060013     80  608
060015     98  699
060017    118  800
060019
080000          88
080008     14  189
080010     28  336
```

```
TIME   STRAIN STRS
080011     54  479
080013     68  623
1572
110000      0  111
110005    880  144
110007    884  277
110009    908  403
110012    980  649
110013    918  700
110016   1064  890
050000      0   98
050005      8  129
050006     24  228
050009     50  379
050010     82  497
050000          82
050007         140
050009      4  269
050012     28  432
050013     56  558
050015    102  681
050016    172  789
050018    176  893
090000      0  120
090010     14  195
090011     46  355
090013     94  545
090015    144  720
090017    196  864
1593
030000     44   52
030005     54  104
030010     52  148
030011     76  249
030013     98  350
030017    150  576
030019    174  681
030020    204  780
030021    226  873
090000      6  160
090009     22  292
090010     42  501
090012     68  602
09 013     94  713
090015    118 1140
090017    150 1320
091500      0  127
091510      0  194
091511     14  332
091513     44  458
091515     90  609
1624
090000         119
090008     18  154
090010     56  285
090011    112  403
090013    168  523
090015    228  629
1625
040000      0   89
040009      8  150
040010      4  288
040012     54  413
040014     66  537
040016    116  655
040018    148  762
1626
050000      0  102
050007     22  131
050010     24  151
050013     10  308
050014     40  412
050016     78  544
050018    120  675
050020    156  783
1627
150000         127
150007      8  151
150009      2  276
150010     40  397
150012     76  517
150015    120  757
150017
080000      0  124
080002      0  127
080004      2  128
080006      2  138
080007      0  210
080011     96  532
080013    174  675
080014    276  797
080016    348  915
080019
1698
100000      0    0
100006     11   65
100009     55  111
100011     55  394
100013    100  676
100015    144  952
100017    167 1070
```

```
TIME   STRAIN STRS
100020    167 1300
100022    189 1484
100025    211 1833
100027    256 2023
100030    211 2306
1700
  0000    129  274
  0041    160  364
  0200    289  602
  0303    365  786
  0400    467  986
  0500    578 1180
  0600    666 1365
  0700    780 1540
  0800    975 1780
  0900   1065 1985
  0982   1150 2046
  0924   1275 2110
  1067   1380 2180
  1113   1490 2260
  1158   1583 2324
  1200   1630 2400
  1247   1776 2462
1701
050000      0    0
050100     11  201
050173     35  360
050233     53  487
050300     82  630
050370    115  756
050424    153  890
050490    182 1017
050557    213 1147
050634    260 1287
050711    317 1424
050779    348 1547
050857    400 1674
050935    460 1796
051022    535 1938
051062    584 2005
051103    635 2070
051127    649 2104
051149    685 2142
051190    739 2202
1702
050000         250
050010      0  391
050012     40  708
050014     53  993
050016    104 1347
050018    120 1608
050021    124 1937
050024    178 1200
050025    200 1491
1703
050200      0  224
050210     11  309
050212     58  660
050213    109  985
050214    140 1280
050216    216 1525
050218    318
050220    418
050221
1704
120000      0  209
120003      7  298
120004     18  600
120006     35  882
120007     82 1185
120008    105 1472
120010    127 1765
120011    158 2005
120013    169 2360
120014    178 2600
120016    218 2800
120017    238 2940
1705
060000      0    0
060028     32  152
060035     50  267
060042     51  380
060049     87  494
060056    120  614
060063    155  733
060072    190  851
060079    226  968
060086    245 1078
060094    265 1202
060102    281 1320
060108    293 1438
060116    440 1556
060125    430 1665
060133    467 1790
060141    478 1907
060150    487 2025
1714
  0000     00  107
  0065     00  178
  0112      2  238
  0141     10  270
```

```
TIME  STRAIN STRS
  0200    36  338
  0257    84  401
  0317   142  472
  0438   300  603
  0508   404  670
  0583   584  735
  0700  1006  831
1715
  0000     0  111
  0052     8  154
  0099    32  201
  0173   108  269
  0239   196  335
  0303   283  402
  0400   468  523
  0494   700  603
  0634  1182  737
1716
  0000     0  121
  0052     1  161
  0115    44  246
  0229   144  378
  0334   194  503
  0423   404  603
  0487   555  670
  0551   776  735
  0587     4  771
  0606   880  787
  0625   954  803
1717
  0000    64  113
  0005    80  160
  0008   120  332
  0009   166  465
  0011   208  582
  0013   276  694
1718
  0000
  0017         67
1719
010000     0  109
010006     8  158
010007    28  291
010008    66  414
010009   106  547
010010   164  665
010011   220  741
010012
1720
120000     0   82
120019    12  124
120021    22  175
120024    52  325
120025    88  445
120027   112  571
120029   142  684
1721
120000        152
120008    10  173
120010    28  338
120011    86  476
120013   142  597
120015   200  704
120016   284  801
120018   336  908
120020   432 1005
1722
120000     0  148
120012    16  172
120024    40  198
120047    76  248
120100    96  281
120107   198  430
120130   244  476
120200   312  541
120232   380  606
120310   488  677
120324   520  700
120342   578  736
120402   650  770
120426   732  807
120443
1723
120000     0   80
120108    24  133
120285    44  193
120360    96  259
120428   144  321
120494   214  385
120561   284  453
120625   372  516
120690   468  581
121256   594  642
121289   664  675
121324   744  705
121362   854  736
121400   954  771
121438  1064  805
121478  1208  838
1724
090000     0  101
```

```
TIME  STRAIN STRS
090030    10  144
090033    36  276
090036    66  420
090037    86  561
090039   108  670
090040   132  780
090041   148  916
1725
070000     0  100
070027    20  149
070029    40  288
070031    70  414
070034   120  543
070035   160  660
070037   200  770
070038   360  915
1727
000000     0  121
600005    28  220
000006    64  343
000007   102  477
000008   134  607
000009   170  726
000010        858
000011   228
000012   258 1080
000013   286 1190
1762
000000        174
  0017    49  382
  0018    95  761
  0019   120 1090
  0021   162 1400
  0022   207 1660
  0023   272 1960
  0024       1640
1763
120000     0  309
120005    11  464
120007    44  828
120009    88 1165
120011   110 1485
120013   145 1765
120014   178 2050
120016   222 2320
120018   244 2610
120019   272 2850
120021
1782
  0000    20  161
  0027    43  296
  0030    67  515
  0032    89  697
  0034   100  888
  0035   113 1060
  0036   151 1310
  0037   178 1525
  0039   204 1665
  0041   240 1940
  0043   267 2200
  0045   291 2460
1783
  0000    00  194
  0121    00  239
  0172    33  361
  0245    44  519
  0282    78  597
  0337    89  715
  0394   178  835
1785
  0000    46  115
  0002    78  470
  0200    86  620
  0284   104  848
  0345   160 1001
  0415   196 1190
  0477   160 1355
  0547   196 1533
  0615   220 1694
  0687   244 1863
  0764   278 2034
  0843   320 2201
  0924   360 2380
1787
120000   174  216
120090   200  484
120093   222  664
120102   238  810
120110   262 1080
120118   292 1286
120124   318 1500
120131   349 1730
1802
060000          0
060000    20   99
060075     8  412
060078    12  658
060090    14  805
060095   163  966
060107   208 1300
060112   230 1465
```

```
TIME  STRAIN STRS
060117   250 1580
060128   288 1855
060130   295 1910
060128   310 1975
060136   321 2055
060138   338 2140
060142   348 2188
060144   368 2260
060152   418 2430
060157   438 2510
060160   455 2590
060164   473 2680
060163   500 2760
060172   518 2845
060176   540 2935
1818
  0000     0  342
  0048     0  436
  0090    11  547
  0146    36  697
  0200    55  840
  0220    55  896
  0247    55  974
  0272    73  975
  0345    89 1233
  0400   111 1370
  0457   118 1508
  0519   142 1642
  0585   156 1784
  0643   169 1918
1820
  0000   197  196
  0000    95  183
  0018   109  277
  0025   122  416
  0036   156  625
  0042   187  757
  0048   198  884
  0053   245 1010
  0060   272 1138
  0067   304 1264
  0073   331 1377
  0081   370 1518
1836
040000    46  195
040020    93  466
040023   108  546
040027   117  615
040032   133  685
040039   157  821
040048   191  962
040054   222 1095
040062   255 1235
040071   302 1390
1837
040000     0  283
040011    31  485
040017    51  631
040022    73  767
040028    95  920
040030   125 1078
040042   146 1238
040050   182 1397
040057   215 1547
1838
040000     0  235
040010   333  382
040015   845  739
1840
160000        233
160003     3  582
160005     7  855
160007    11 1088
160008    15 1359
160010    20 1583
1916
110000     0  180
110058     8  261
110107     8  376
110269     4  500
110434    26  623
110498    48  747
110565   104  874
110630   110 1003
110693   136 1124
110760   184 1252
110823   192 1368
1917
110000     0    0
110000     6  105
110083    47  282
110122    66  381
110174    92  504
110225   117  619
110278   149  742
110432   194  870
110483   243  993
110539   287 1126
110592   556 1241
1918
110000     0    0
```

```
TIME  STRAIN STRS
110000     0  261
110015     0  305
110080   213  474
110130   244  593
110183   262  713
110233   283  836
110280   312  955
110342   347 1071
110400   411 1188
110457       1307
110480       1366
110520       1427
110554       1488
110588       1550
110751       1668
1919
110000     0    0
110000    13  186
110008    22  315
110010    36  570
110012    72  774
110014    96  980
110015   153 1178
110017   185 1347
110018   221 1541
110022   372 1869
110023   406 2008
1920
           0    0
110000     0  175
110010     0  178
110012     0  344
110014    32  507
110015    43  666
110017    43  827
110018    53  987
110020    64 1083
110022    96 1338
110024   107 1497
110026   149 1662
110028   149 1790
110029   139 1937
110031   160 2100
1921
110000     0    0
110000     9  181
110005    21  272
110008    60  523
110010    77  683
110012   104  858
110014   160 1063
110016   179 1232
110017   211 1395
110019   272 1550
110020   312 1740
110023   347 1962
1940
120110     0    0
120110     0  219
120153    11  292
120193    23  353
120279    36  468
120370    87  584
120459   108  712
120552   115  818
120640   121  930
120735   174 1055
120826   193 1167
120917   206 1280
121020   228 1403
121121   230 1523
121171   262 1580
121218   268 1637
121270   276 1692
121323   276 1752
121423   304 1863
121533   330 1983
1941
090000    29  380
090062     0  655
090102    13  828
090253    36 1488
090370    73 1942
090475   113 2310
090525   200 2450
1942
           0    0
100000    20  222
100080    27  414
100210    65  821
100288    69 1075
100373    82 1340
100465   127 1598
100567   131 1883
100619   138 2012
100670       2137
1943
010000     0    0
010000     0  228
010103     0  296
010177     2  430
```

```
TIME  STRAIN STRS
010263    33  572
010347    56  712
010435    82  865
010507   120 1000
010582   143 1142
010665   183 1284
010762   225 1447
010836   278 1561
010929   312 1712
011025   356 1854
011119   407 1998
011171   446 2007
011226   476 2140
011279   507 2205
011335   552 2270
011391   568 2345
011450   605 2420
           0    0
120000    18  238
120120    73  546
120267   207 1042
120354   307 1350
120439   398 1631
120480   452 1793
120536   499 1937
120581   552 2083
120633   641 2232
120711   710 2450
1944
                0
100000    16  213
100002    22  268
100004    27  344
100006    38  428
100008    42  683
100010    85  974
100011   118 1267
100013   176 1504
100015   244 1780
100017   273 2030
100019   311 2240
100020   344 2444
1945
           0    0
100500     9  255
100507     9  465
100510    16  742
100511    36  946
100512    60 1158
100514    73 1369
100516    85 1587
100519    87 1820
100520       2035
100521   100 2215
100524   114 2445
1946
020000     0    0
020000    18  239
020018    20  264
020020    31  438
020022    64  717
020024    73  973
020025   100 1215
020028   100 1468
020030   140 1697
020033   185 2190
020035   203 2450
020037   203 2665
020039   231 2920
1947
120000     0    0
120000    18  231
120006    24  426
120007    53  744
120009    91 1043
120010   125 1354
120012   169 1707
120014   197 1913
120017   267 2293
020000     0    0
020000    20  290
020017    24  344
020020    60  684
020021   111 1048
020023   136 1395
020025   214 1747
020026   298 2020
020028   369 2295
1948
120000     0    0
120000    16  216
120183    47  564
120235    76  688
120322   116  920
120402   172 1128
120480   264 1311
1949
120190     0    0
120190     9  598
120245    32  721
120300    49  845
```

```
TIME  STRAIN STRS
120355    66  963
120412    66 1080
1950
120000     0    0
120000     6  205
120075     4  254
120143    15  406
120206    30  537
120259    32  634
120321    55  692
120386    83  888
120447   104 1018
120509   153 1150
1951
110000     0    0
110000     7  211
110039    11  360
110040    31  489
110043    67  735
110045    91 1027
110047   100 1237
110048   123 1414
1952
110000     0    0
110000    16  191
110019    29  297
110021    71  593
110023    96  864
110025   116 1113
110027   154 1357
1953
120000     0    0
120000     2  418
120019    22  658
120020        872
120022    58 1122
1954
020000     0    0
020000    16  164
020027    60  213
020038    73  370
020041    82  428
020054    96  643
020058   107  724
020069   123  918
020076   134 1057
020080   145 1125
020085   156 1200
020090   189 1336
1955
110000     0    0
110000    13  163
110017    20  296
110030    44  547
110035    51  624
110042    67  772
110046    71  842
110050    78  907
110053    87  976
110056    93 1027
110059    96 1080
110063   102 1152
110067   102 1213
110071   114 1287
1956
110000     0    0
110000     9  164
110051    24  306
110056    35  380
110060    40  456
110068    60  582
110073    69  667
110078    76  770
110084    93  876
110090    93  972
110097   138 1082
110103   151 1175
1979
110000     0    0
110000     0  204
110096     0  398
110140    36  541
110176    54  657
1980
110000     0    0
110000     4  225
110079    36  407
110109    60  525
110141    96  654
110175   132  743
1981
120000     0    0
120000     0  216
120059    40  403
120100    76  525
120158   152  657
120181   156  720
120210   180  789
120238   212  852
120265   242  922
120291   276 1059
```

A 14

```
TIME   STRAIN  STRS
1982
072400      0     0
072400      0   148
072437      4   189
072439     13   387
072441     28   561
072443     36   738
072445     40   878
072447     53   992
1983
073000      0     0
073000      0   119
073019      8   133
073020     20   213
073024     56   384
073025    124   517
073028    258   657
073030    320   817
1984
083800            0
083800          132
083816      0   212
083818     12   360
083820     33   505
083821     50   657
083824     73   863
083826     81  1017
1985
010000      0   143
010025     30   182
010028     32   221
010037     44   356
010040     52   427
010047     60   497
010060     78   716
010067     80   821
010073     94   709
010075    100
010079
010081    116  1087
1986
010000            0
010000          134
010025      0   272
010043     12   522
010060     48   765
010066     75   865
010070     90   915
010074     96   952
010077    104  1006
1987
010000      0     0
010000      0   134
010026      0   266
010041      6   484
010051     24   672
010055     46   692
010063     76   807
010074    130   947
2001
070000      0     0
070000      0    55
070004      1    96
070006     44   155
070008     50   232
070010     74   276
070011     88   336
070013    106   396
070015    126   452
070017          507
2002
030000      0
030000      0   168
030007     20   267
030009     44   486
030011     90   796
030014    130  1070
030015    164  1250
2003
040000      0
040000      0   164
040006      8   223
040008     18   418
040010     38   495
040011     60   807
040013     80  1020
040015     96  1200
2004
040000            0
040000          206
040033          328
040100          543
040133          657
040166          762
040197          872
040230          980
040265         1089
040300         1192
040339         1253
040360         1363
040378         1412

TIME   STRAIN  STRS
040419         1527
040464         1630
040507         1735
2005
040000          183
040048     16   312
040097     38   461
040115     56   516
040150     74   610
040185     96   719
040220    108   835
2006
010000
010061
010000
010000          170
010064          262
010140      6   413
010191     24   515
010246     54   619
010328    106   776
010411    178   930
010472    230  1030
010535    292  1160
010572    328  1181
010611    376  1240
010645    418  1280
010683    468  1334
010756    526  1440
2007
030000
030000
030000          227
030047     20   312
030081     38   420
030160     78   560
030243    126   712
030401    232   975
030463    280  1069
030510    342  1135
2008
010000
010000          141
010011          206
010013          376
010015          540
010016          707
010018          885
010020         1055
2009
033000
033000          166
033008      4   231
033010     50   446
033012     92   696
033014    136   891
2010
010900
010000          201
010001     33   270
010003     75   425
010005    127   589
010007    229   805
010009    334   996
010010    475  1180
2012
120000      0     0
120000      0   210
120028     19   325
120030     83   569
120031    137   775
120034    243   980
120036    376  1230
2013
120000      0     0
120000      0    95
120030      4   294
120032     53   543
120035    132   815
2038
120000      0
120000      0   175
120110    111   304
120157    183   374
120177    236   404
120198    300   439
120235    416   499
120274    596   555
120316    864   614
120370   1325   670
120388   1640   691
120452   2330   734
120488   2900   744
120520   3520   742
120563   4410   770
120595   5170   731
120614   5640   725
120643   6330   710
120676   7100   692
120706   7820   685
120741   8650   670

TIME   STRAIN  STRS
120782   9460   653
120810  10100   645
2039
120000      0
120000      2   208
120027     34   246
120127    386   422
120180    702   503
120275   1622   615
120355   2810   623
120398   3450   740
120441   4490   746
120540   4580   673
120583   5680   657
120630   6920   635
120700          617
2040
010000      0
010000     15   199
010093     92   254
010163    258   377
010209    438   449
010278    628   543
010357   1505   626
010419   2280   673
010470   3115   765
010519   4220   870
010571   5120   983
010625   6360   796
010684   7540   635
010707   8360   666
2041
012300
012300          368
012325     62   648
012328    143   945
012330    260  1190
2042
010000
010000          199
010018     59   391
010020    134   726
010023    219   957
010025    326  1170
2043
010000      0
010000     15   174
010007          218
010010     60   339
010012    115   635
010015    213   925
010017    338  1200
2044
100000      0
100000     11   195
100012     34   396
100018    245  1020
100020    368  1259
2054
090000      0     0
090003      0   361
090052     33   598
090079     49   724
090125     85   947
090175    127  1165
090227    185  1278
090278    231  1643
2055
090000      0     0
090000      7   449
090064     36   700
090119     67   932
090200    124  1254
090238    154  1392
090295    178  1570
090298    187  1640
090327    209  1757
090358    234  1873
2056
090000      0     0
090000     20   325
090062     40   462
090121     76   770
090158    100   943
090206    140  1071
2057
090000      0     0
090000     18   329
090007     16   347
090009     40   675
090011     82  1094
090012    120  1462
2058
090000      0     0
090000     18   325
090024     91   352
090026    125   873
090028    160  1318
2059
095953      0     0
095953     18   329

TIME   STRAIN  STRS
095958     24   376
095960     67   625
095961    103  1047
095962    147  1423
2069
080000     14   226
080053     22   331
080142     50   532
080197     70   657
080258     92   786
080321    120   924
080383    146  1055
080444    178  1187
080475    194  1250
080506    212  1314
080537    232  1381
080569    250  1437
2070
080005     14   282
080040     58   354
080056     76   400
080108    114   525
080169    170   662
080242    220   813
080291    256   925
080353    288  1056
080440    342  1238
080480    360  1318
2071
080000      0     0
080000      6   185
080065     20   331
080091     36   398
080149     50   534
080206     74   662
080264     92   720
080386    130  1056
080450    150  1187
2072
090400      0     0
090400     12   197
090422      6   444
090425     30   916
090427     60  1082
090431    104  1622
090434    130  1866
2073
090000      0     0
090000      4   184
090007     12   254
090009     30   461
090010     62   670
090011     80   891
090013    100  1125
2074
100050      0     0
100050      8   185
100056      6   186
100058     20   332
100060     34   413
100061     52   582
100062     74   773
100064    102   980
100066    114  1185
100067    128  1380
2081
093000      0     0
093000     20   218
093120    120   425
093255    189   512
093302    394   603
093400    816   778
093443   1070   869
093501   1510   935
093572   2085  1020
2082
094500      0     0
094500      2   272
094532     29   339
094565     62   442
094623    129   597
094654    209   683
094685    231   764
094718    384   845
094758    515   927
2084
090500      0     0
090500      7   244
090513     30   314
090515     67   619
090516    128   904
2085
094400      0     0
094400     11    74
094406     31   356
094408     67   653
094409    120   927
094410    174  1205
2109
030000      0     0
030000      2   126

TIME   STRAIN  STRS
030031      4   174
030055     14   214
030112     36   322
030165     54   402
030232     88   503
030373    150   676
030437    198   758
030505    234   867
030568    276   922
030638    306  1007
030707    350  1096
2110
030000      0     0
030000     18   135
030045     38   214
030066     52   259
030107     68   341
030191    112   502
030241    140   597
030284    150   677
030330    184   753
030381    218   838
030440    266   920
2111
030000      0     0
030000     12   202
030046     42   280
030081     58   342
030125     70   417
030298    158   716
030378    208   838
030431    244   919
2112
030050      0     0
030050     18    72
030066     42   183
030068     76   341
030070    100   508
030072    150   715
030074    180   912
030077    226  1100
2113
030000      0     0
030000      6   127
030008     16   166
030010     44   376
030011     70   572
030014    104   765
030017    130   947
030019    166  1137
030021    196  1277
2114
030000      0     0
030000     10   119
030025      0   143
030027     18   284
030029     54   440
030031     86   632
030033    174   756
030035    156   915
030037    184  1052
2115
030000      0     0
030000      0   145
030009      2   182
030012      8   230
030016     20   292
030024     26   413
030028     58   463
030031     64   517
030043    104   682
030051    178   794
030054    142   837
030057    146   876
030060    162   920
030063    176   960
030067    186  1003
030071    204  1053
030074    218  1100
030077    232  1132
030081    256  1178
2139
120000      0     0
120000      0   129
120250      8   479
120300     66   541
120356     86   627
120411    124   713
120469    182   793
120527    240   875
2140
120000      0     0
120000     10   143
120087     44   246
120162     92   381
120229    118   439
120293    184   509
120354    238   671
120426    306   774
120472    358   836
120534    430   917

TIME   STRAIN  STRS
120604    524  1006
2141
120000      0     0
120000     14   129
120274     92   313
120367    142   414
120472    226   550
120531    278   672
120637    384   767
120698    460   837
2142
120000      0     0
120000     10   126
120007     20   225
120009     54   337
120010     90   533
120013    114   772
120015    128   926
120017    152  1180
120020    178  1255
2143
120000      0     0
120000      2   129
120008     10   188
120010     48   418
120012     82   587
120015    124   802
120018    172  1017
120020    202  1152
2144
120050      0     0
120050      4   107
120057      4
120060     12   208
120062     30   366
120063     56   501
120065     78   650
120067     96   790
120069    120   933
120071    150  1072
120072    160  1188
2145
120000      0     0
120000     16   135
120006     24   162
120011     36   250
120017     58   337
120023     70   428
120028     92   495
120035    108   585
120040    140   670
120047    164   757
120051    192   834
120058    222   918
120064    276  1000
2146
120051      0     0
120051     14   129
120073     52   217
120078     58   300
120083     70   376
120088     86   441
120092    100   503
120097    110   583
120103    132   670
120110    150   753
120115    168   834
120121    202   917
120129    234  1000
120133    256  1050
120137    264  1093
120140    278  1134
120145    304  1177
2167
120000      0     0
120000      0   120
120150      0   196
120237      4   314
120290     86   387
120480    100   633
120530    138   702
120591    256   775
120657    420   853
120732    684   932
2168
120000      0     0
120000      0   123
120300    246   157
120353    306   625
120406    420   700
120488    540   777
120530    684   853
120602    902   933
2169
120000      0     0
120000      8   118
120061     14   155
120247    101   379
120316    153   467
120465    276   656
120500    312   702
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TIME   STRAIN STRS
120568    384  777
120637    468  853
120678    542  893
2170
120000      0    0
120000     18  119
120005     16  156
120008     36  273
120009     44
               950
2171
120000      0    0
120000      0  108
120019     16  120
120021     26  184
120023     44  335
120026     72  545
120028     98  759
120030    172  911
120034    160 1108
120035    198 1280
120037    222 1485
2172
120000      0    0
120000     14  117
120008     28  192
120010     54  356
120011     82  518
120017    178  944
120020    216 1095
2173
120000      0    0
120000     12  120
120020     54  240
120035     98  462
120050    122  634
120061    182  790
120064    200  828
120067    230  872
120071    300  912
2174
120000      0    0
120000     16  120
120006     28  168
120007     60  314
120009     94  462
120011    130  617
120012    166  758
2175
120000      0    0
120000     12   12
120004     40  186
120006     60  304
120008     90  430
120010    110  560
120014    184  913
2196
120000      0    0
120000      8  120
120067      0  155
120094     12  193
120132     42  244
120184     10  313
120238     12  387
120303    142  473
120365    132  558
120472    268  702
120534    364  780
120595    448  853
2197
120000      0    0
120000     14  141
120051     36  202
120077      0  235
120133     46  310
120190     66  387
120247    118  466
120304    174  547
120418    316  700
2198
120000      0
120000      2  108
120011     76  224
120151    102  281
120334    248  543
120389    296  627
120443    348  702
2199
120000      0    0
120000      8  113
120017      6  155
120018      6  298
120020      6  449
120022     38  612
120025     86  762
120027    132  913
120028        1048
2201
120000      0    0
120000      0  117
120006     14  184

TIME   STRAIN STRS
120008     20  304
120010     26  536
120012     44  702
120014     52  894
2204
120000      0    0
120000      0  123
120010     18  155
120019     82  271
120027    152  368
120031    180  422
120036    200  464
120041    236  539
120049    256  622
120055    272  695
120061    290  773
120068    312  848
120071    316  886
120075    330  927
120079    356  970
2205
120000      0    0
120000      4  205
120061     27  310
120261    340  615
120292    663  653
120000      0    0
120000      0  201
120035    129  312
120072    207  374
120259   1262  623
120373   3125  682
120432   4560  678
120500   6040  662
2206
120000      0    0
120000     11  176
120017     13  370
120019     13  594
120020     71  820
120023    156 1080
120025    273 1283
2233
120000      0    0
120000     16  126
120144      0  252
120220     40  366
120262    102  430
120310    344  500
120396    542  632
2234
120000      0    0
120000     12  115
120115     24  206
120190    120  292
120250    182  361
120310    264  432
120376    334  507
120440    572  578
2235
120000
120003
120003
120000      0    0
120000     44  137
120084     76  245
120149    132  331
120190    166  367
120267    266  476
120320    374  563
120361    468  587
120419    600  652
120463    721  687
120491    816  724
120555   1162  776
2236
010000      0    0
010000      0  108
010010      6  163
010012     22  308
010014     44  443
010016     76  572
010018     86  708
2238
120000      0    0
120000      4  112
120006     22  173
120009     36  311
120010     52  452
120011     64  584
030000      0    0
030000      4  133
030005      8  195
030007     20  291
030009     36  393
030010     56  490
030011     78  591
030013    114  698
030016    176  803
2239
120000      0    0

TIME   STRAIN STRS
120000     16  108
120021     22  153
120031     36  220
120043     82  399
120057    150  519
120064    208  616
120073    292  721
2240
120000
120014
120000           0
120000         109
120031         177
120047         368
120057         505
120067         642
120073         719
120076         755
120079         790
120081         827
2241
120051      0    0
120051      0  114
120065      0  151
120077     21  264
120083     38  359
120090     42  438
120094     54  498
120103     76  617
120112     90  720
120119    110  794
120123    130  828
120126    156  867
2242
120000      0    0
120000      6  121
120068     58  189
120200    190  337
120285    278  425
120357    310  537
120435    420  580
120477    420  625
120557    420  683
120590    484  723
2243
120000
120000         115
120121     18  180
120203     36  278
120270     84  360
120335    124  437
120441    256  568
120500    368  633
120555    450  687
120667    482  726
2264
030000
030000         113
030050     14  147
030077     28  181
030131     58  245
030170     80  288
030207    116  443
030384    202  540
030476    318  645
030550    338  723
2265
030000         112
030119     54  206
030241    202  372
030313    306  467
030375    228  547
2266
030000          91
030116         210
030200         306
030358         497
030372         509
2267
030000         102
030197     18  210
030248    114  364
030376    262  537
030396    306  563
030420    334  595
030451    396  632
030476    444  660
030530    548  722
2268
030051         112
030059      8  181
030061     24  265
030063     38  346
030065     50  420
030067     52  498
030068     50  577
030070    116  667
030072    144  732
030075    188  833
030077    224  899
030078    248  963

TIME   STRAIN STRS
2269
030000           0
010000         108
030021         192
030024         296
030026         388
030028         483
030030         578
030031         668
030034         719
030036         823
030038         890
2270
030052      0    0
030052      0  119
030059      2  144
030061     20  234
030063     36  306
030064     54  379
030067     70  485
030068     90  566
030070    112  648
030072    134  732
030074    160  828
030076    178  897
030078    186  992
2271
030000          96
030015     20  147
030017     26  287
030019     28  320
030020     62  389
030022     80  470
030024    104  557
030027    102  669
030028    158  745
030031    170  830
030033    184  897
2273
030000      0    0
030000      2   95
030050     72  203
030055    106  268
030066    162  396
030077    212  523
030086    294  623
030092    348  680
2274
030000          97
030015      8  130
030020     12  180
030031     48  306
030036     62  360
030044     94  447
030049    112  505
030054    140  575
030060    174  646
030066    214  715
030073    250  786
030076    270  826
030080    302  867
2298
120000      0  150
120076     16  278
120158     40  396
120200     54  478
120328     78  732
120379    108  830
120443    138  940
2299
120000
120062
120160
120000      8    0
120000      8  164
120107     28  235
120223     76  463
120272     94  549
120323    114  643
120423    162  823
120977    204  913
2300
120000      0    0
120000      4  128
120179     68  341
120245     98  462
120290    120  548
120339    148  642
120385    178  732
120435    210  822
120486    258  912
120513    270  956
2301
120000
120000         134
120114         232
120152     14  282
120203     38  368
120257     62  455
120308     92  545
120362    124  640

TIME   STRAIN STRS
120410    148  730
120461    186  823
120513    244  910
120540    262  955
120569    280 1000
120598    304 1050
120628    324 1095
120659    342 1140
120690    366 1165
120751    422 1279
2302
120011      0    0
120011     10  214
120013     14  402
120015     24  607
120017     36  772
120018     48  917
120020     56 1071
120021     66 1210
2303
120000      8  129
120007     22  219
120009     40  388
120011     66  547
120012     96  715
120014    118  871
120015    154 1010
2304
120000
120000      0
120006      4
120008     12
120010     16
120012     22
120014     28
120016     30 1129
2307
120000
120017
120033
120000      0    0
120000     18  131
120021     24  160
120025     34  204
120028     40  268
120034     52  346
120039     60  423
120043     74  493
120047     82  558
120052    100  640
120057    120  822
120062    138  866
120068    164  892
2308
120000      0    0
120000      0  132
120016     16  165
120022     22  249
120029     34  364
120035     52  453
120040     46  548
120046     66  647
120051     94  737
120056    116  825
120061    140  913
120064         957
              1100
2309
120000         102
120018      2  139
120021     10  176
120026     16  222
120030     26  270
120037     34  338
120042     50  400
120053     68  539
120058     88  604
120063    106  670
120067    114  707
120070    122  738
120073    120  773
120077    136  822
120080    146  859
120093    156  890
2330
120000      0    0
120000      0  139
120117    134  273
120184    224  385
120240    294  475
120286    338  551
120440    400  643
120488    468  730
120545    516  823
120604    560  912
120636    586  960
2331
120000
120000      0
120078     46
120128     76

TIME   STRAIN STRS
120181    134
120234    188
2333
120000      0    0
120000     16  141
120100     30  235
120133     44  277
120197     78  364
120270    142  468
120327    198  554
120384    252  645
120436    310  730
120495    382  822
120561    480  916
120590    532  960
120621    602 1003
2334
120000      0    0
120000     10   84
120007     16  162
120010     22  224
120011     44  371
120012     72  533
120015     98  710
120017    128  860
120018    152 1008
120020    188 1146
2337
120000      0    0
120007     12  145
120009     20  264
120011     74  464
120013     80  658
120015    112  843
120017    138  997
120018    166 1043
120020    182 1217
120021    206 1376
120023        1458
2338
            0    0
120000      0  109
120019     14  277
120024     26  287
120035     64  451
120038         497
120050    137  693
120053    446  736
120058         810
120064    756  907
120068    156  967
120071    476 1018
120077    204 1022
120083    246 1095
2339
120000      0    0
120000      6  110
120012     20  135
120023     34  199
120029     56  268
120036     76  343
120040     96  400
120047    116  476
120052    144  542
120060    172  632
120063    192  672
120069    208  738
120075    224  811
120081    280  876
120085    276  913
120088    284  947
2340
120000      0    0
120000      0  146
120010      4  183
120022     26  334
120026     42  385
120031     54  455
120039     74  567
120043     92  637
120049    110  732
120065    128  827
120060    148  907
120067    180  998
120073    206 1089
120080    240 1140
120083    264 1232
120082    280 1282
2362
120000      0    0
120000     34  176
120083     48  186
120167    100  285
120212    136  346
120280    196  430
120404    368  593
120480    460  693
120533    554  757
120586    684  821
120605    728  841
2363
```

A 16

```
TIME   STRAIN STRS
120000     0    0
120000     0  127
120008     6  192
120042    42  264
120125    90  336
120195   186  431
120359   218  512
120320   394  597
120377   530  671
120567   702  777
120625   986  840
120677  1220  913
120708  1376  925
120760  1640  968
120808  1922 1008
120867  2284 1053
2364
120000     0    0
120000     8  142
120088    26  219
120148    58  292
120260   144  432
120317   202  504
120453   396  675
120528   528  761
120605   690  867
120647   778  893
2365
120000     0    0
120000    10  150
120044    24  188
120107   110  269
120195   186  190
120227   232  436
120310   368  545
120410   568  672
120503   842  772
120557  1020  840
120625  1294  905
2366
120000     0    0
120051     2  106
120069     2  142
120071     2  189
120074    26  360
120076    68  532
120078    98  695
120080   114  845
2367
120000     0    0
120000     2  126
120007    16  210
120008    42  396
120010    50  573
120012        618
2368
120000     0    0
120000     0  126
120011     0  197
120013    20  352
120015    44  517
120017    72  787
120018    96  831
2369
120000     0    0
120000     8  123
120010    18  172
120011    70  330
120013    70  487
120016   100  665
2370
120000     0    0
120000     2  131
120019        163
120031    40  314
120036    54  382
120040    66  438
120045    84  492
120050   106  590
120057   138  672
2372
120000     0    0
120000    10  148
120007    14  189
120015        302
120023    72  418
120029    98  502
120034   124  588
120040   160  670
120047   204  757
120052   244  840
120055   266  877
120058   300  919
2373
           0    0
120000    12  138
120014    40  272
120018    54  320
120024    74  414
120030    96  504
120036   114  588

TIME   STRAIN STRS
120041   140  672
120048   170  757
120054   204  840
120060   240  925
120063   250  963
120067   360 1005
2395
120000     0    0
120000    16  133
120109    78  202
120180   162  273
120250   270  341
120319   420  407
120380   700  510
120462  1032  541
120546  1480  612
2396
120096     0    0
120096     0  171
120163    56  232
120280   176  337
120366   310  413
120431   440  477
120502   612  541
120586   858  607
120673  1232  674
120720  1478  708
120780  1840  745
2397
120000     0    0
120000    18  111
120143    80  208
120201   106  229
120240   144  270
120303   234  337
120371   378  408
120423   500  469
120505   732  541
120600  1118  622
120684  1576  685
120715  1792  707
120775  2234  742
120866  3050  787
2398
120000     0    0
120000     0  104
120054     0  135
120085     0  169
120143    16  231
120193    20  286
120268   128  358
120336   142  438
120435   328  540
120520   572  613
120600   934  672
2399
           0    0
120000    18  111
120017    28  132
2400
120000     0    0
120000     8  101
120015     6  130
120017    18  220
120019    42  342
120020    72  467
120022   100  597
120025   154  700
120027   186  887
2401
120018     0    0
120018     4  152
120020    32  264
120027   144  316
120028   168  417
120030   196  508
120031   232  590
2402
           0    0
120000    18  112
120007    20  157
120014   230  672
2403
050000     0    0
050000    10   68
050057    22  152
050077   170  542
050073   198  610
050098   662  673
050105  1324  740
2404
120000     0    0
120000    14  113
120020    20  189
120029    54  273
120035    80  330
120040   112  404
120047   166  473
120051   206  539
120058   258  607
120063   312  672

TIME   STRAIN STRS
120070   378  738
2405
120000     0    0
120000    12  113
120017    38  168
120030    82  310
120031        323
120050   206  545
120057   260  612
120062   316  676
120068   396  738
120072   446  777
2406
120008     0    0
120008    24  150
120015    40  223
120020    56  268
120027    70  337
120033   108  401
120040   138  472
120046   176  538
120052   224  607
120059   278  675
120065   348  743
120069   376  768
120072   424  812
120076   470  845
2440
120000     0    0
120000    14  133
120097    28  219
129171    62  332
120235   100  435
120292   132  525
120352   168  624
120457   240  784
120514   282  866
2441
120000     0    0
120000     4  148
120128    42  296
120177    88  386
120234   110  493
120285   166  587
120335   186  680
120445   310  872
2442
120000     0    0
120000     4  144
120090    26  255
120100    32  277
120162    72  396
120193    88  457
120242   124  547
120288   164  642
120341   206  740
120447   316  915
2443
           0    0
120000    14  130
120089    30  181
120181    60  282
120248    84  370
120310   120  462
120430   194  649
120489   236  745
120565   310  857
120611   348  924
120669   428 1000
2444
120000     0    0
170000     4  137
120013     8  223
120016    44  463
120019    86  740
120021   116  916
120023   140 1070
2445
120000     0    0
120000     6  140
120008    18  216
120011    46  409
120013    78  594
120016   112  782
120018   160  943
2446
120000     0    0
120000     8  138
120011    14  219
120015    44  439
120017    72  636
120019   102  816
120020   124  976
120023   150 1118
2447
120000     0    0
120000     4  146
120007    32  228
120009    58  419
120010    80  573
120012   104  745

TIME   STRAIN STRS
120014   126  912
120016   152 1050
120018   154 1180
2448
120000     0    0
120000    16  142
120017    30  232
120020    38  286
120031    70  458
120037    84  547
120043   104  636
120049   122  731
120055   142  823
120060   162  912
120066   184  992
2449
120000     0    0
120000     0  126
120052    24  244
120063    58  385
120068    66  458
120075    74  544
120080    96  639
120086   124  729
120092   152  822
120098   168  912
120104   194 1002
120108   206 1052
120112   230 1096
2450
           0    0
120000    10  105
120012    14  130
120018    22  166
120025    40  239
120032    60  312
120038    72  401
120048    96  472
120053   116  541
120059   140  606
120065   160  672
120071   180  740
120076   200  794
120081   220  843
120088   246  912
2451
           0    0
120000     6  146
120012    18  312
120019    34  318
120025    52  412
120028    62  458
120034    76  542
120043   106  663
120047   116  729
120053   130  821
120058   152  912
120064   178 1002
2474
           0    0
120000     4  150
120086    18  216
120155    96  276
120238   152  353
120274   186  384
120357   278  415
120517   534  623
120606   760  702
120698  1020  777
2475
120000     0    0
120000     6  128
120096    44  165
120189    72  242
120391   236  392
120498   350  [illegible]
120578   468  623
120671   658  712
120752   892  780
2476
           0    0
120000     4  135
120095    52  201
120119   140  326
120187   206  393
120360   318  467
120476   530  583
2477
120000     0    0
120000     8  148
120080    44  194
120126    64  234
120300   182  452
120360   252  477
120361   436  583
120544   640  662
120637   940  743
120736  1378  820
120793  1678  956
              875
           0    0

TIME   STRAIN STRS
120000     2  129
120041    18  202
120043    48  341
120045    68  489
120047    90  633
120049   112  777
120050   138  907
120052   168 1030
120053   194 1153
120055   210 1271
2479
120000     0    0
120000     6  116
120012    20  194
120015    46  342
120017    60  495
120019   116  662
120020   154  798
2480
120000     0
120000     8  129
120015    22  190
120017    44  334
120019    78  473
120020   108  657
120023   156  805
120025   198  952
2481
120000     0    0
120000    16    0
120012    30  176
120014    56  324
120017    84  472
120018   108  634
120020   130  797
120022   158  930
2482
120000     0    0
120000     0  148
120010     6  198
120015    18  271
120018    22  307
120021    30  351
120024    36  388
120029    56  464
120035    70  543
120040    94  622
120046   110  677
2483
120000     0    0
120000    18  129
120010    22  157
120017    38  232
120023    60  311
120029    72  391
120035    92  465
120040   112  544
120046   134  625
120051   164  701
120057   184  776
120063   222  853
2484
120000     0    0
120000     0  145
120011    24  195
120017    40  260
120021    52  314
120028    70  388
120035    88  465
120041   108  545
120047   130  623
2506
120000     0    0
120000    10  129
120077    36  169
120147    88  238
120210   144  304
120280   250  377
120353   410  442
120425   628  509
120525   970  575
120618  1410  646
120674  1750  678
2507
120000
    00     8  114
    94    56  168
  0191   182  274
  0255   300  337
  0367   618  441
  0441   914  507
  0526  1328  569
2508
120000     0    0
    00    12  121
    95    98  169
  0138   140  207
  0201   262  270
    71   428  337
  0343   660  369
2509

TIME   STRAIN STRS
120000     0    0
    00    28  133
    77    78  169
  0123   114  204
  0208   188  276
    95   264  352
  0360   326  407
    96   376  442
  0448   446  491
  0506   544  561
  0628   802  643
2510
120000     0    0
    00    18  114
    05    36  151
    07    74  300
    09   114  437
    11   176  575
2511
120000     0    0
    00    10  115
    05    22  165
    07    46  309
2512
120000     0    0
    00     0  105
    18    18  151
    20    30  256
    22    60  369
    24    86  503
    26   162  632
2513
120000     0    0
    00    18  117
    06    38  174
    07    72  270
    09   100  389
    11   138  487
2514
120000     0    0
    00     8   96
    39    26  202
    35    36  246
    40    64  303
    43    76  337
  0190   112  403
    57   160  473
    63   202  541
    68   254  607
    75   314  572
    81   386  740
    88   470  812
2515
120000     0    0
    00    18   96
    24    44  180
    29    64  234
    36    76  306
    46   164  363
    52   198  436
    60   272  541
    67   332  607
    73   396  672
2516
120000    12  112
    11    28  135
    19    52  205
    26    72  268
    33   104  337
    40   140  372
    47   190  473
    53   244  542
    60   308  609
    67   376  676
    73   466  740
    80   570  808
    86   630  847
    88   694  860
    95   852  946
2517
120000     0    0
    00    12  120
    09    30  169
    15    52  235
    19    90  270
    25   230  337
    32   328  404
2518
120000     0    0
    00    36  116
    08    52  167
    10    82  300
    12   114  437
2540
120000     0  139
  0108     6  309
    58    20  412
  0207    32  517
    59    44  623
  0331    64  778
  0408    76  932
```

```
TIME  STRAIN STRS
    65    88 1033
  0519   102 1133
    78   120 1242
  0636   124 1342
  0698   146 1448
2541
120000          0
    00        162
  0104        324
  0270        631
  0340        782
2542
120000     0    0
    00    52  139
  0149   130  428
  0223   168  527
  0305   212  752
    95   310  932
  0465   382 1040
  0513   452 1145
    70   550 1242
2543
010000
010000
    18
    20
    22
    25
    27       1290
2544
010000
010000
    13
    15
    17
    20       1148
2545
010000    12  161
    07    34  206
    08    56  464
    11    60  682
    12    92  889
    14   116 1072
2546
120000     0    0
120000     2  145
    30     6  208
    37    16  314
    43    28  410
    47    42  513
    55    50  617
    61    60  723
    67    78  827
    72    98  929
    78   106 1022
    83   124 1130
    90   134 1239
    96   134 1343
  0102   152 1447
    09   158 1544
2547
120000     0    0
120000    18  172
    18    20  261
    27    40  418
    31    52  515
    43    66  724
    52   102  879
    61   108 1035
    70   126 1187
    76   136 1292
    85   160 1447
    92   172 1548
    98   190 1646
2548
120000     0    0
120000     0  160
    20    18  207
    27    26  304
    33    36  412
    39    52  510
    45    58  612
    50    70  720
    62    96  933
    68       1027
    80   126 1238
    92   140 1447
    99   170 1543
  0102   172 1595
2550
120000     0    0
120000     0  169
    86     6  268
    41    18  364
  0160    24  413
  0224    54  515
    78    50  617
  0332    62  727
    84    78  830
  0438    96  929
    93   108 1032

TIME  STRAIN STRS
  0548   122 1132
  0610   144 1240
2570
120000     0    0
120000    14  159
    89    66  263
  0135    94  317
  0220   174  418
    98   264  518
  0382   390  625
  0464   550  728
  0560   788  835
2571
120000     0    0
120000    38  155
  0139   104  300
  0242   174  413
  0466   514  687
  0591   866  827
2572
    00     0  137
    38    48  214
  0105    95  314
  0247   268  550
  0421   686  852
2573
    00     0  153
    85    11  216
  0140    44  313
  0191    91  412
  0251   195  520
  0300   300  612
  0362   404  721
  0427   586  833
  0474   706  877
  0491   777  929
2574
    00     0  132
    11    20  159
    14    22  293
    17    71  517
    18   113  720
    20   160  927
    21   200 1100
    23   251 1271
2575
    00     0  133
    28    11  210
    31    28  545
    34    57  802
    37    68 1110
    39    93 1313
    41   146 1513
2576
    00     0  137
    13    15  241
    16    53  469
    18    84  662
    20   122  886
    22   160 1074
2577
    00     0  134
    10    15  251
    12    42  463
    13    68  666
    15    95  879
    18   131 1065
2578
    00     0  154
    15     8  205
    22    13  308
    30    42  414
    37    66  514
    44    95  613
    51   137  720
    57   177  823
    63   220  924
    67   242  978
    71   264 1027
    75   295 1075
    78   326 1126
2579
    00     0  159
    19    11  208
    27    40  308
    34    64  417
    40    97  513
    47   146  614
    53   195  719
    59   235  823
    66   291  928
    72   346 1023
    79   397 1126
    87   480 1233
    93   560 1337
  0102   644 1440
2580
120000     0    0
120000    14  161
    12    34  309
    19    56  413

TIME  STRAIN STRS
    25    80  512
    32   112  614
    38   150  723
    44   188  825
    57   284 1032
    63   340 1123
2581
    00     0  137
    49    11  206
    57    31  309
    64    60  417
    71    82  514
    77   113  613
    84   148  720
    89   173  823
    95   211  926
  0102   253 1028
  0108   293 1125
  0115   351 1233
  0122   404 1336
2602
    00     0  211
    97     2  310
  0171     6  437
  0205     6  502
  0283    13  618
  0382    28  743
  0482    45  869
  0578    62  994
2603
    00     0  168
  0101   312  360
  0236   485  619
  0297   553  740
  0366   600  873
  0431   640  997
  0507   700 1116
  0591   755 1238
  0707   823 1407
  0760   857 1486
  0841   893 1613
  0921   929 1738
  1000   965 1857
  1079  1010 1977
  1163  1051 2108
  1247  1100 2230
  1337  1155 2354
2604
    00     0  201
    85   157  372
  0183   287  495
  0300   402  866
  0412   546 1091
  0605   591 1249
  0668   619 1359
  0748   657 1490
2605
    00     0  185
  0273    89  490
  0357   108  615
  0398   123  679
  0530   148  901
  0718   210 1211
  0808   238 1362
  0891   263 1496
  0993   295 1652
2606
    00     0  174
    24     4  244
    26    27  466
    28    63  725
    30    82  998
    32    97 1250
    35   127 1530
    37   148 1750
    39   172 2040
2607
    00     0  174
    18    23  335
    21    51  581
    23    85  829
    25   110 1090
    27   129 1332
    30   142 1560
    32   170 1832
2608
    00     0  193
    12     6  432
    15    27  654
    17    63  874
    19    36 1109
    21   142 1332
    23   223 1560
    25   219 1750
2609
    00     0  178
    13     0  255
    16    21  483
    22    78 1223
    24    95 1430
    26   112 1640

TIME  STRAIN STRS
    28   131 1848
    29   148 2036
    33   176 2431
2610
    00     0  176
    28    17  242
    41    31  403
    55    54  740
2611
    00     0  149
    19    21  315
    30    38  501
    37    57  619
    47    78  798
    53    89  922
    63   112 1120
    70   125 1238
    79   146 1420
2612
    00     0  185
    13     4  253
    19    14  362
    30    27  570
    37    40  733
    44    53  866
    55    76 1120
    61    93 1232
    67   106 1356
    73   121 1486
    80   134 1611
    87   154 1739
    93   163 1857
2613
    00     0  199
    10     2  247
    27    30  495
    18    15  371
    33    43  614
    48    81  866
    60   113 1118
    72   140 1359
    83   159 1611
    90   182 1732
  0103   204 1974
  0110   223 2106
2614
    00     0  139
    60     8  189
    93    16  228
  0138    18  277
  0212    22  370
  0292    24  470
  0351    32  546
  0420    32  642
  0485    54  731
  0559    58  826
  0628    68  912
  0702    72 1000
  0783    82 1095
  0873    94 1180
2615
    00     0  139
  0194     4  232
  0329    20  373
  0468    18  542
  0639     8  775
  0673    14  821
  0745    26  911
  0816    46 1001
  0897    66 1097
  0988    96 1193
  1067    84 1280
  1159   122 1366
  1253   134 1456
2616
    00     0  151
  0163        233
  0198        274
  0420    50  547
  0496    62  657
  0620    74  821
2617
    00     0  140
  0100     2  311
  0142     0  366
  0300    16  589
  0413    30  753
  0538    52  917
  0693    68 1105
  0806    88 1234
  0851   104 1279
2618
    00     0  151
    07    10  273
    10    36  551
    11    68  749
    13    64  919
    15    82 1026
    17    98 1282
2619
    00     0  152

TIME  STRAIN STRS
    06    17  269
    08    36  477
    10    56  661
    12    76  886
    14    94 1045
    17   108 1198
    18   122 1342
2620
    00     0  128
    20    20  237
    22    38  419
    25    54  602
    27    68  791
    29    92  959
    30   106 1141
    33   112 1302
    35   118 1465
    37   128 1634
2621
    00     0  129
    13     2  154
    17     6  232
    20    38  501
    23    70  751
    26   128  972
    28   186 1171
2622
    00     0  156
    11    22  241
    18    48  324
    26    60  436
    33    84  540
    39   108  636
    51   128  818
    57   154  906
    63   162  993
    70   178 1088
    77   204 1183
    82   216 1276
    89   233 1361
2623
    00     0  153
    16  - 26  178
    23  - 22  272
    37  - 10  456
    44  -  4  542
    50     6  643
    61    26  823
    67    36  912
    72    44  999
    85    56 1188
    98    80 1366
2624
    00     0  151
    08     0  200
    13     2  268
    30     2  510
    47    24  762
    59    50  937
    64    60 1000
    70    64 1094
2625
    00        155
    12        230
    45        577
    70        916
    79       1043
    86       1139
    93       1231
  0105       1368
  0113       1456
  0125       1556
  0133       1688
2674
    00     0  199
  0217    90  624
  0287   108  776
  0386   122  987
  0428   148 1072
  0488   180 1187
  0550   220 1304
  0617   280 1431
  0688   328 1552
  0762   392 1669
2675
    00     0  191
  0172    36  411
  0330    62  716
  0359    80  773
  0493   126 1051
  0567   170 1191
  0697   294 1433
  0773   362 1554
2676
    00     0  196
    95    52  476
  0347    80  781
  0438   116  984
  0512   150 1132
  0547   158 1191
  0408   174 1312

TIME  STRAIN STRS
  0712   226 1498
2677
000000        190
000053        238
000253        595
000381        867
000475       1044
000680       1430
2678
000000     0  166
000021    22  405
000023    36  536
000025    48  658
000027    62  789
000029    78  932
000031    94 1076
000033   110 1220
000035   126 1400
000037   154 1566
2679
000000     0  196
000005    30  387
000007    62  692
000016    88  904
000018   104 1035
000020   124 1220
000021   138 1427
000023   160 1627
000025   180 1787
000028   190 1948
2680
000000     0  169
000011    12  297
000014    36  448
000016    56  637
000018    74  834
000020    94 1039
000021   104 1202
000023   124 1412
000026   142 1604
2681
000000     0  157
000007    12  293
000008    32  495
000010    60  708
000012    80  978
000014    94 1185
000016   108 1378
000018   118 1549
000019   136 1704
2682
000000     0  191
000029    38  248
000033    50  323
000044    78  536
000050    96  655
000058   134  835
000063   152  954
000069   168 1074
000074   194 1191
000080   202 1308
000087   226 1433
000096   252 1606
2683
000000     0  197
000006    24  219
000008    48  457
000011    78  771
000012   104  901
000014   132 1081
000015   156 1235
000017   180 1400
000019   204 1558
2684
000000     0  206
000008     4  241
000013    30  357
000019    46  479
000025    62  595
000030    70  708
000036    84  839
000048   106 1075
000053   122 1190
000062   150 1366
000069   156 1491
000075   172 1606
000080   186 1696
000084   196 1780
000091   210 1898
000097   234 2022
000108   214 2202
2685
000000     0  189
000015     8  241
000022    18  357
000028    26  476
000034    34  591
000041    48  722
000050    62  901
000058    74 1073
000064    80 1191
```

A 18

```
TIME  STRAIN STRS
000070     96 1305
000077    104 1430
000082    120 1549
000089    142 1668
2686
000011      0  249
000017     14  361
000023     30  477
000028     48  570
000035     92  709
000041     86  834
000053    106 1072
000058     94 1190
000077    244 1550
000084    158 1670
2687
000000      0  197
000012     18  301
000021     38  479
000028     56  595
000034     66  715
000040     76  834
000054    108 1191
000068    142 1368
000078    156 1549
000085    158 1679
000092    168 1787
000099    176 1902
000106    200 2024
000118    232 2204
2709
000000      0  160
000007     10  221
000010     59  554
000011     97  761
000013    140  980
000015    189 1185
000017    236 1380
2710
000000      0  150
000008     23  268
000010     57  459
000011    102  660
000013    144  860
000018    257 1322
000020    308 1461
2711
000000      0  163
000011      4  318
000013     31  517
000015     61  702
000018     91  898
000019    125 1058
000021    176 1241
2712
000000      0  153
000008     21  218
000010     38  377
000011     59  539
000012     87  716
000014    108  894
000016    134 1058
000018    165 1218
000020    202 1382
2713
000033      0  211
000038     19  298
[illegible]    397
[illegible] 55 499
000056     81  591
000063    125  742
000073    198  923
000078    224  991
000083    294 1080
000090    366 1192
000096    446 1293
000104    575 1392
2714
000000      0  161
000018     19  201
000026     38  298
000033     61  397
000040     85  496
000053    140  695
000065    229  897
000072    287  989
000078    361 1092
000088    544 1241
2715
000000      0  163
000021      4  199
000028     10  299
000035     34  400
000041     63  496
000048     87  592
000053    121  696
000062    157  842
000071    202  993
2716
000000      0  173
000012     21  252
```

```
TIME  STRAIN STRS
000019     36  348
000031     21  512
000040     61  648
000049    112  799
000056    131  896
000063    214  991
000068    282 1089
2717
000000      0  172
000176    125  360
000350    559  571
000412    872  642
000470   1242  695
2718
000000      0  163
000081      6  199
000112     23  249
000230      4  397
000310    110  496
000459    480  666
000535    821  746
000725   2425  875
2719
000000      0  167
000166    293  372
000372    846  652
000408   1014  694
000563   2285  824
000610   2865  848
000751   2757  879
000812   3866  879
000835   4219  876
2721
000000      0  103
000020      4  205
000028     21  301
000036     36  398
000042     63  500
000049     93  595
000055    119  695
000061    165  794
000073    291  992
000078    376 1088
000085    491 1192
2728
000000      0  156
000150     22  296
000203     50  469
000305     56 [illegible]
000445     18  734
000481     34  824
000556     72  957
000629     92 1003
000695    138 1066
000837    232 1096
000918    310 1188
2729
000000          148
000077          182
000272          385
000329          456
000399          543
000561          730
000615          821
000690          912
000800         1068
2730
000000      0  164
000038      6  182
000107     28  281
000169     44  370
000230     54  458
000370     88  662
000493    140  830
000557    160  912
000627    186 1002
000707    228 1096
000788    294 1186
2731
000000      0  151
000074     18  182
000173     40  319
000207     48  372
000265     60  456
000327     90  549
000388     86  645
000513    126  828
000578    142  912
000648    154 1003
2734
000000      0  150
000012     14  212
000014     38  384
000016     58  553
000018     82  731
000020    106  908
000022    128 1068
2735
000000      0   91
000010      2  168
000011      4  161
```

```
TIME  STRAIN STRS
000013     14  287
000015     34  437
000017     46  579
000019     62  752
000021     80  948
000023     74 1110
000026    104 1260
2736
000000      0  156
000005     14  288
000007     24  451
000008     44  625
000010     50  787
000012     64  952
000013     74 1105
000015     88 1252
2737
000000      0  137
000023     14  235
000025     32  364
000026     52  497
000028     78  639
000030    110  794
000031    136  935
000033    170 1071
2738
000000      0  126
000029          229
000039          364
000045          453
000053     16  593
000062     28  729
000073     42  910
000079     54 1000
000086     70 1100
000092     82 1187
000098     94 1277
000107    106 1363
000113    124 1456
000120    138 1553
2739
000000      0  168
000020     42  230
000030     64  365
000037     84  456
000042     94  546
000049    116  638
000054    132  729
000060    148  822
000066    166  912
000075    198 1045
000081    210 1141
000087    224 1234
000094    242 1323
2740
000000      0  151
000009     16  182
000020     28  325
000031     56  496
000041     74  638
000050     92  775
000059    108  909
000068    134 1042
000078    162 1186
000088    194 1324
000095    222 1409
2741
000000      0  137
000025     14  278
000031     24  317
000040     38  457
000049     58  592
000058     88  733
000063    100  820
000072    120  952
000081    154 1094
000091    188 1240
2742
000000      0  149
000007      0  181
000011      0  232
000020     22  367
000028     36  498
000037     46  639
000046     64  775
000054     76  912
000064     90 1045
000073    112 1140
000080    124 1282
000087    136 1368
000094    152 1455
2759
000000      0  147
000005     21  243
000007     44  411
000011    136  935
000013    176 1088
000016    234 1308
000018    285 1446
000020    363 1610
2760
```

```
TIME  STRAIN STRS
000000   2593  149
2761
000000      0  153
000005     23  250
000007     53  417
000008     68  614
000010     91  883
000012     42  965
000013     65 1133
2762
000000      0  143
000004     14  230
000006     40  382
000007     68  528
000010    117  783
000012    168 1012
000014    208 1163
000016    259 1300
2763
000000      0  149
000010      8  187
000015     23  273
000027     72  456
000036    123  589
000047    219  775
000057    304  912
000072    576  114
000079    748 1232
2764
000000      0  150
000011      4  183
000018     25  272
000026     46  364
000032     65  451
000039     80  548
000048    151  733
000057    246  823
000063    329  912
2765
000000      0  151
000010     36  181
000017     72  275
000022    112  361
000029    155  456
000035    225 [illegible]
000043    351  687
000049    431  775
2766
000000      0  151
000017     34  182
000025     51  273
000032     80  364
000039    112  456
000049    192  597
000057    261  729
000067    374  865
2767
000000      0  160
000063     34  228
000097     63  276
000163    155  372
000222    287  456
000293    531  552
000377    980  693
2769
000000      0  152
000006     63  227
000278    197  416
000380    461  543
000552   1244  709
000657   2212  774
2770
000000      0  149
000170     36  364
000263    217  497
000341    493  600
000407    859  684
000513   1714  775
000593   2606  821
2771
000000      0  151
000006      4  213
000007     31  387
000009     68  577
000011    100  741
000012    134  895
000014    180 1039
000016    221 1181
000018    280 1308
2793
000000      0  135
000003     12  327
000007     68  774
000008    100 1026
000010    138 1248
2794
000000      0  202
000008     24  491
000009     40  647
000011     66  853
000012     80 1057
```

```
TIME  STRAIN STRS
000014    100 1255
000028    136 1644
2795
000000      0  200
000006     16  309
000007     36  476
000010     82  738
000012    102  983
000015    130 1234
000017    174 1510
000019    218 1715
000021    228 1894
000023    242 2115
2796
000000      0  178
000016      4  207
000019     20  311
000021     44  514
000023     66  721
000025     86  954
000027    114 1203
000029    144 1414
000030    166 1607
000033    200 1787
000035    212 1973
2797
000000      0  200
000006      4  234
000010      8  357
000013     28  476
000019     62  710
000022     76  842
000025    100  957
000032    140 1191
2798
000000      0  200
000006      2  239
000010      8  359
000013     22  483
000016     26  597
000018     38  707
000021     52  834
000026     50 1006
000030    102 1187
000033    106 1306
000038    130 1489
000043    138 1610
000047    152 1728
000049    164 1792
2799
000000      0  202
000008     10  298
000011     28  483
000015     40  600
000021     64  774
000027     88 1008
000033    106 1187
000038    132 1369
000043    152 1542
2800
000000      0  204
000006     20  300
000011     38  482
000015     84  653
000020     85  834
000025    114 1008
000030    138 1191
000035    166 1364
000040    194 1544
2801
000000      0  192
000009      6  239
000020     20  358
000030     42  480
000040     60  595
2802
000000      0  195
000027     40  238
000039     54  358
000050     72  485
000059     88  595
000077    120  839
000090    154 1014
000106    186 1191
000116    214 1306
000128    254 1430
000140    294 1550
2803
000000      0  197
000015      8  238
000027      2  359
000038     14  476
000048     26  589
000059     44  715
000069     64  834
000079     80  956
000089    132 1078
000100    130 1188
000111    156 1307
000122    186 1430
000135    236 1550
```

```
TIME  STRAIN STRS
2804
000000      0  208
000013     36  298
000030     76  476
000040    138  595
000050    142  716
000060    166  834
000068    206  951
000078    234 1075
000088    266 1191
000097    336 1303
000109    356 1431
2805
000000      0  199
000159     22  370
000229     42  548
000300     60  721
000387    134  953
000487    144 1191
000597    242 1431
000714    384 1668
2806
000000      0  199
000135     28  416
000289     76  827
000384    124 1079
000513    172 1382
2807
000000      0  193
000110     22  369
000296    132  816
000400    212 1073
000482    322 1253
2808
000000      0  199
000141     44  384
000217     72  610
000336     58  898
000368    184  973
000440    282 1132
000469    330 1190
000525    438 1306
2833
000000          134
000175          444
000316          645
000424          798
000497          890
2834
000000      0  152
000018     38  282
000259     96  486
000300    162  703
000300    162  703
000391    214  831
000397    214  840
000459    256  919
000667    332 1051
2835
000100      0  168
000134    170  325
000290    310  568
000469    438  849
000531    492  938
000613    544 1052
2836
000000      0  134
000158     46  307
000326    116  555
000467    144  738
000520    170  941
000650    230 1011
000757    302 1139
2845
000000      0  131
000008      2  182
000010     18  348
000011     38  519
000013     62  693
000017     86  900
2846
000000      0  137
000005      2  185
000006     22  341
000008     36  493
000010     56  660
000011     74  815
000013     96  954
2847
000000      0    0
000003      4   73
2848
000000      0  130
000006      2  195
000008     22  374
000010     42  525
000012     62  700
000014     76  850
2849
000000      0   95
000013     22  168
```

```
TIME  STRAIN  STRS   TIME  STRAIN  STRS   TIME  STRAIN  STRS   TIME  STRAIN  STRS   TIME  STRAIN  STRS   TIME  STRAIN  STRS
000021    12   253   000051   373   820   2912                 000535   244  1822   000000     0   255       00     0   349
000029         335   2878                 000000     0   179   000630   374  2052   000008     2   372     0207   162  1114
000037    17   420   000000     0   168   000009    20   224   000707   393  2218   000010    26   656     0256   116  1296
000047    40   546   000007    22   233   000014    46   327   2945                 000012    53   974     0434   183  2159
000057    78   675   000015    69   364   000020    68   443   000000     0   259   000014    88  1300     0557   320  2658
000062    94   758   000021   111   450   000026    86   538   000012    11   362   000016   126  1630     0627   411  2919
000069   112   840   000030   197   588   000035   116   700   000020    28   510   2997                     0721   581  3200
000076   142   919   000039   317   729   000047   182   926   000035    51   722   000000     0   345   3009
000082   178  1009   000052   560   912   000055   238  1080   000044    71   940   000012     7   431       00     0   334
2850                 2879                 000064   306  1247   000053    97  1170   000020    28   651       07    30   628
000000     0   154   000000     0     0   000071   352  1358   000065   126  1450   000028    49   859       08    48   821
000011    10   211   000000     0   181   000078   406  1467   000075   151  1670   000035    74  1071       10    69  1026
000029    30   341   000060    40   228   2913                 000084   162  1890   000043    98  1182       12    88  1215
000035    40   420   000077   222   367   000000     0   178   000091   182  2040   000063   130  1621       14   106  1448
000041    56   504   000246   426   453   000008    16   216   000098   204  2170   000066   172  2051       17   141  1736
000050    88   634   000397  1071   601   000014    28   325   2946                 2998                       19   165  2106
2851                 000537  2362   729   000021    48   439   000000     0   244   000000     0   337       21   195  2488
000000     0   143   000626  3735   763   000027    76   540   000009     6   292   000011    21   431   3010
000004     2   167   000785  4691   763   000036   110   701   000016    13   436   000028    73  1087       00     0   320
000011     4   252   2880                 000047   164   924   000021    33   582   000038   128  1397       05    18   511
000017    24   340   000000     0   160   000055   190  1085   000029    42   722   000047   156  1741       07    53   972
000022    30   420   000230   355   260   000064   234  1243   000037    66   946   000059   188  2154       09   100  1413
000031    58   543   000133  1015   575   000071   274  1358   000048   100  1244   000078   216  2481       11   132  1830
000040    84   672   000551  1235   737   000073   320  1464   000057   120  1456   000083   262  2913       13   165  2218
2852                 000646  3208   732   2914                 000065   131  1668   2999                       15   202  2577
000000     0   142   000655  3408   730   000000     0   193   000075   155  1892       00     0   347   3011
000010  - 76   210   2881                 000060     6   329   000081   168  2038       10     2   426       00     0   340
000019  - 56   297   000000     0   165   000228    18   526   000088   184  2183       17    20   656       03     4   497
000028  - 34   474   000281   226   464   000325    66   683   000094   200  2323       29    74  1077       06    72  1001
000033  - 16   502   000308   357   496   000424    78   863   000101   208  2475       41   113  1511       07   109  1336
000038     4   589   000400   995   586   000591   168  1139   2947                     53   162  1943       10   172  1723
000044    24   672   2882                 000708   208  1313   000000     0   249       59   175  2159       11   213  2066
000050    42   759   000000     0   177   000828   328  1493   000008     2   293       68   227  2583   3012
2853                 000107   146   314   2915                 000015     4   436       78   293  2807       00     0   330
000000     0   142   000257   628   498   000000     0   180   000022    28   582       88   346  3140       04    30   530
000005     8   190   000352  1213   602   000132    36   325   000029    55   727       95   395  3338       06    67  9413
000006    26   306   000465  2357   684   000277    68   602   000039   108   940   3000                       08   109  1313
000008    50   482   000674  3393   709   000392   152   831   000052   191  1241       00     0   347       10   165  1733
000010    74   658   000760  4937   692   000472   248   977   000060   280  1455       10    39   430       12   206  2083
000012   106   815   2883                 2916                 000070   373  1674       16    72   649       13   241  2412
2871                 000000     0   183   000000     0   196   000080   466  1892       28   144  1077       16   279  2731
000000     0   150   000000    64   273   000125    10   387   000087   533  2049       35   165  1207   3013
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 0553        2391
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 0145     34  767
 0237     69  959
 0316    153 1566
 0567    206 2044
3020
   00      0  348
 0148     51  700
 0234     86  988
 0414    111 1641
3021
   00      0  381
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   30    930 1220
   39    123 1539
   49    156 1642
3066
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 0578    239 2720
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 0780    313 3465
 0857    330 3709
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3067
   C0      0  335
 0160     46  891
 0512    179 1179
 0615    218 1596
 0725    232 1983
3068
   00      0  388
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 0388    183 1849
 0611    295 2739
 0710    346 3094
3069
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 0195    106 1290
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 0470    311 2444
 0571    325 2860
3070
   00      0  321
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   26     55  872
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   47    104 1600
   55    139 1972
   68    174 2465
   78    186 2833
   89    230 3211
   99    267 3577
3071
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   18     76 1112
   36    120 1467
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   59    223 2634
   72    276 2961
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   00      0  372
   16    123  749
   26    197 1113
   35    251 1467
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   53    362 2216
   60    400 2465
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3073
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   20     55  792
   25     79  986
   31    102 1232
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3074
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TIME  STRAIN STRS
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3079
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   37     60  993
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 0115    188 2829
 0128    218 3207
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3080
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   08     93 1380
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   13    202 2649
   15    230 3045
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3081
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 0771        3216
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 0482    218 1244
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 0204     34  613
 0292     56  813
 0359    104  958
 0442    154 1133
 0531    186 1313
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 0370     70  953
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   48     98 1011
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   16     34  479
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   31     68  769
   40     94  953
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3112
   00      0  160
   11      4  238
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   31     42  595
   38     58  709
   47     84  893
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3113
   0C      0  160
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   29     44  595
   38     62  775
   47     80  952
   57     96 1137
   62    110 1248
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   87    160 1669
   93    172 1787
3114
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   12    102 1224
   14    126 1422
   16    144 1603
3115
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   17    102  805
   19    128  998
   21    156 1191
   24    186 1400
3116
   00      0  169
   12     24  291
   14     58  555
   17     92  783
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   20    148 1233
   22    176 1425
   24    204 1608
3117
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   08     66  719
   09    102  942
   11    132 1190
   13    170 1368
   15    186 1554
   17    218 1765
3118
   00      0  165
   05     22  250
   07     52  464
   08     88  667
   10    100  893
   12    128 1109
   14    146 1311
   16    170 1489
3140
   00      0  128
   04     16  245
   06     38  845
3141
   00      0  125
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   09     52  526
   11     54  718
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TIME  STRAIN STRS
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   12     32  393
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   16    100  742
3143
   00      0   92
   04      4  122
   07     38  288
   08     60  405
3144
   00      0  127
   20     26  240
   29     42  369
   35     58  456
   46     88  615
   56    122  729
3145
   00      0  128
   10      8  182
   16     22  273
   23     44  369
   29     54  456
   36     70  542
   42     90  638
   48    108  729
   54    130  822
   61    152  912
3146
   00      0  155
   16     12  228
   27     40  365
   34     50  456
   44     70  593
   54     86  733
   67    118  908
   77    142 1045
   90    166 1187
3147
   00      0  132
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3148
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 0759    194 1094
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3149
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000477     86  572
000511     90  603
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000673     80  735
000761    104  804
000853    132  874
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001034    208 1007
001126    260 1072
3150
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000470     80  668
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000700     76  954
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000245     42  411
000341     84  544
000413    105  643
000515    148  776
000590    200  870
3173
000000      0  127
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000006     37  364
000008     97  565
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000011    213  881
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000014    397 1147
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TIME   STRAIN STRS
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000013    231  906
3176
000000      0  125
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000000      0  130
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000021     88  370
000028    146  459
000038    248  592
000048    388  729
000058    615  729
3178
000000      0  148
000004     28  183
000010     53  273
000017    102  364
000024    168  456
000036    297  592
000047    491  729
000059    791  866
3179
000000      0  130
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3180
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3183
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000828   7531  597
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TIME   STRAIN STRS
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000437    348 1818
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000356    120 1385
000390    137 1501
000428    151 1636
000481    157 1793
3211
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000247     13  892
000313     40 1112
000402    182 1409
3212
000000     00  220
000012     13  390
000019     22  574
000025     35  729
000031     51  902
000038     66 1083
000048     93 1363
000058    124 1641
000064    148 1815
3213
000000      0  235
000011     20  363
000022     53  636
000032     97  902
000039    115 1074
000050    153 1366
000060    191 1635
000067    206 1816
000074    233 1999
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000007     22  272
000017     22  545
000030     66  909
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3215
000009      0  272
000016     15  459
000026     48  726
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000058    155 1635
000064    184 1809
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3217
000000      0  237
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000006    184  729
000007    155 1054
3218
000000      0  220
000004     11  345
000006     37  631
000007     64  921
000009     93 1184
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000006     24  518
000008     88  208
3221
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000036     65  785
000042     70  921
000052     93 1118
000061    119 1311
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000067    197 1248
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000047    93 1047
000057   108 1248
000066   136 1438
000077   161 1642
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000036    57  783
000045    80  988
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000061   127 1312
000071   148 1509
000081   161 1713
3226
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000010    19  133
000017    31  201
000023    44  268
000029    59  331
000038    91  433
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000058   140  639
000067   168  733
000078   202  840
000088   234  938
3227
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000011    35  216
000018    86  326
000025   162  437
000031   262  533
3228
000000     0  135
000008    51  218
000015   135  332
3231
000000     0  141
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3233
000000     0   84
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000017    40  135
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000021    16  440
000027    24  539
3251
000000     0  141
000008     4  217
000019    30  382
000027    48  497
000038    70  651
000048    96  814
000058   124  978
3252
000000     0  152
000005     4  215
000012     6  325
000020    20  435
000027    38  542
000034    58  647
000044    80  814
000054   106  978
000064   136 1132
000071   162 1244
000084   210 1413
3253
000000     0  158
000009    14  272
000018    38 4452
000023    52  540
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000041   102  871
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000064   184 1244
3254
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000077   164 1303
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000008     6  218
000017    22  380
000026    42  542
000035    60  651
000044    78  871
000057   112 1084
000062   128 1190
000069   146 1297
3256
000000     0  110
000011    12  214
000019    26  339
000025    38  420
000034    56  546
000042    76  676
3257
000000     0   84
000018    12  171
000028    28  253
000035    46  338
000041    62  419
000050    86  544
000059   112  674
000065   130  757
000072   160  840
3258
000000     0  150
000017    26  210
000014    42  311
000021    80  420
3259
000000     0  101
000012     2  126
000019    16  254
000026    32  295
000037    52  418
000044    66  500
000052    84  588
000060    98  676
000067   112  756
000074   132  840
3260
000000     0  104
000005     4  126
000012    16  211
000021    22  296
000031    34  420
000041    42  546
000052    60  677
3261
000000     0  128
000008     2  169
000019    14  298
000027    38  417
000036    66  545
000044    94  672
000057   132  840
000067   178  967
000079   228 1097
3279
000000     0  158
000066    35  229
000112    64  331
000145   142  612
000295   160  718
000413   242  953
000484   275  989
000551   311 1114
000647   366 1321
000702   422 1439
000776   500 1576
3280
000000        170
000041        195
000102        323
000118        354
000231        572
000373        871
000410       1168
000668       1307
3281
000000     0  191
000106    48  394
000213   104  638
000321   175  900
000420   260 1149
000496   340 1319
3282
000000     0  187
000109    13  342
000196    55  498
000260    66  653
000400    42  974
```

```
TIME   STRAIN STRS
000526    15 1254
000626    31 1452
000730   108 1643
3283
000000     0  197
000007     2  264
000014    15  396
000021    33  528
000028    46  656
000038    68  855
000052    91 1053
000066   128 1312
000076   151 1511
000088   188 1715
3284
000060     0 1254
000070    24 1442
000077    40 1576
000084    62 1708
000091    84 1840
000098   108 1970
3285
000000     0  167
000009    15  266
000015    37  394
000021    44  525
000027    57  656
000036    84  854
000045   108 1055
000054   135 1248
000064   151 1446
000073   184 1642
3286
000000     0  158
000012    13  195
000021    33  333
000029    44  459
000036    57  591
000046    84  787
000056    95  991
000064    64 1184
000071    66 1313
000081   104 1511
000087   122 1643
000095   137 1776
000102   173 1908
000109   191 2029
3288
000000     0  167
000004     2  278
000007    27  586
000009    69  873
000011   102 1166
000012   140 1402
000014   182 1636
000016   202 1839
3289
000000     0  183
000003    11  356
000005    24  503
000006    53  709
000008    73  939
000009    95 1165
000011   122 1371
000012   146 1570
000014   175 1758
000018   211 2184
000019   233 2392
000021   257 2583
3290
000000     0  191
000004    17  355
000006    42  570
000008    60  809
000010    84 1082
000012   113 1321
000014   140 1568
000016   166 [illegible]
000019 [illegible] 2068
000021   208 2332
3335
    00     0  166
    03     0  229
    05    20  461
    07    53  687
    08    82  921
    10   111 1164
    12   135 1341
    14   377 1635
3336
    00     0  155
    04     6  216
    06    31  440
    08    53  664
    10    77  909
    11   106 1153
    13   131 1382
    15   177 1624
    17   177 1808
    18   206 2016
    20   233 2225
```

```
TIME   STRAIN STRS
3337
    00     0  198
    05     2  262
    08     8  407
    11    22  526
    13    35  662
    18    62  852
    22    84 1053
    27   115 1248
    31   142 1440
    37   162 1646
3338
    00     0  145
    06     4  204
    08    28  332
    13    51  525
    18    73  722
    23   106  927
    34   160 1372
    38   177 1511
    42   193 1645
    46   217 1775
    52   244 1970
    56   266 2102
3339
    00     0  191
    06     4  270
    09    17  400
    14    55  595
    18    71  787
    23    86  993
    28   106 1185
    32   128 1374
    38   142 1576
    43   166 1773
3340
    00     0  160
    73    11  262
  0105    26  465
  0124    44  591
  0155    53  716
  0185    95  923
  0212   104 1116
  0243   144 1313
  0277   180 1511
3341
    00     0  200
    27    24  328
    53    48  394
    70    71  656
    86    91  787
  0110   122  988
  0127   155 1120
  0153   222 1309
  0172   266 1443
  0192   326 1578
  0214   393 1711
3342
    00     0  157
    20     8  197
    38    15  400
    63    42  525
    79    64  656
  0104   106  858
  0153   195 1248
  0179   255 1438
  0200   297 1578
  0221   351 1709
  0242   411 1839
3343
    03     0  290
    05   917  652
3344
    00     0  200
    06     6  266
    15    44  459
    24    88  660
    34   144  854
    43   208 1052
    53   282 1254
    60   337 1374
    67   400 1506
    80   560 1711
3345
    00     0  243
    07    24  328
    13    51  457
    22    68  658
    31   108  854
    40   142 1051
    49   177 1248
    58   215 1440
    69   273 1642
    77   311 1775
    88   857 1970
    95   417 2097
3346
    00     0  197
    08     4  262
    18     8  459
    28    22  654
```

```
TIME   STRAIN STRS
    38    35  852
    51    84 1118
    61   126 1313
    68   162 1439
    75   195 1576
3347
    00     0  168
    06    13  203
    13    28  332
    23    57  532
    29    71  656
    38   102  861
    47   135 1051
    56   177 1251
    65   226 1445
    76   291 1648
    87   368 1840
    94   431 1970
3348
    00     0  158
    09    20  192
    17    26  329
    25    51  470
    32    64  591
    42    93  781
    52   131  991
    70   191 1372
    77   222 1509
    87   275 1708
    99   355 1905
3349
    00     0  181
    13    17  333
    23    48  526
    30    84  656
    40   115  854
    49   157 1051
    63   224 1310
    72   291 1511
3350
    00     0  162
    11    28  266
    20    68  474
    28   102  656
    38   157  854
    47   217 1051
    57   313 1256
3351
    00     0  264
    07    33  394
    13    57  525
    19    95  656
    25   133  783
    31   177  925
    40   253 1120
    47   320 1116
    53   395 1373
    61   497 1509
3352
    00     0  148
    06     8  191
    13    37  395
    24    80  525
    30   111  653
    40   157  852
    46   215  985
    62   271 1118
3353
    00     0  170
    11    17  262
    21    42  461
    28    51  592
    34    86  717
    40   131  854
    50   217 1055
    57   291 1186
    64   375 1313
    71   486 1438
    78   551 1576
3354
    00     0  158
    11     2  199
    18    26  398
    25    51  461
    35    95  656
    42   160  783
    48   180  919
3355
    00     0  158
    07    13  197
    13    33  331
    20    62  463
    27    75  592
    32   108  722
    39   164  854
    44   177  991
    54   266 1183
3373
    00     0  147
    10    20  193
    24    62  467
```

```
TIME   STRAIN STRS
    34   104  655
    44   153  854
    54   202 1052
    63   311 1250
    74   428 1440
3374
    00     0  154
    09     8  198
    19    46  400
    28    86  593
    37   140  792
    46   226  990
    56   315 1186
    63   402 1312
    69   515 1440
    77   677 1583
3375
    00     0  159
    10    37  263
    16    75  395
    22   120  527
    28   171  658
    38   302  855
    47   455 1051
    56   691 1248
3376
    08    11   73
    15    33  204
    20    86  340
    27   128  469
    37   211  666
    46   320  861
3377
    00     0  157
    09     8  302
    15    37  394
    24    77  530
    31   122  724
    42   193  851
    52   286 1049
    63   417 1298
    69   537 1373
    76   704 1509
    85   926 1710
    94  1228 1770
3379
    00     0  158
    09    24  262
    16    38  394
    24   107  527
    31   160  656
    41   275  856
    52   455 1057
3380
    00     0  157
    08     0  198
    14    26  331
    24    77  525
    30   126  656
    39   211  852
    49   362 1051
3381
    00     0  157
    08    22  195
    16    48  335
    24    95  463
    33   188  656
    40   260  787
3382
    00     0  149
    07    20  197
    14    48  329
    22    80  459
    30   133  597
    41   237  783
    49   328  919
    56   457 1051
3383
    00     0  188
    80    34  332
  0170    88  526
  0230   132  657
  0300   190  781
  0360   268  920
3384
    00     0  158
    06    11  193
    15    46  331
    22    75  459
    29   111  591
    36   175  716
    43   237  852
    53   373 1051
3423
    00     0  118
    07     8  168
    13     0  256
    19     6  338
    26    14  420
    32    24  501
    42    42  630
```

```
TIME  STRAIN STRS
  52     60  756
  59     68  840
  65     78  920
  73     90 1009
  81    108 1092
  89    120 1179
  96    138 1259
0103    1541344
3424
  00      0  128
  06     20  213
  13     38  299
  23     72  418
  33    104  546
  43    130  673
  53    164 7997
3425
  00      0  113
  09     22  168
  15     24  252
  21     32  336
  27     34  421
  37     48  547
  45     76  674
  54     86  798
  60     90  878
  67    104  965
  74    116 1051
  82    130 1136
  92    144 1258
3426
  00      0  128
  08      4  211
  16     23  303
  22     43  420
  31     52  547
  39     70  631
  48     90  798
  58    108  925
  68    136 1052
  75    150 1137
  86    170 1262
3427
  00      0  112
  46      2  168
0102      4  252
0190      0  378
0290      6  528
0387     16  682
0510     50  861
0607     76  932
0692     96 1095
3428
  00      0  107
  40     24  147
0161     36  302
0300     12  491
0443     30  687
0495     50  760
0604    112  899
3429
  00      0  126
  95     10  250
0240     20  491
0346     42  672
0480     80  879
0640    132 1095
0713    158 1179
0787    296 1259
3432
  00      0  102
0124     20  203
3433
  00      0  113
  03     12  151
  05     32  299
  07     48  459
  09     74  689
  11     94  848
  13    108  994
3434
  00      0  114
  03     10  205
  05     22  378
  07     44  578
3435
  00      0  111
  03     16  139
  05     36  264
  06     58  416
3436
  00      0  105
  04      6  176
  06     24  333
  07     40  462
  09     56  599
  11     78  779
  13     94  909
  16    116 1103
  18    136 1284
  20    160 1412

TIME  STRAIN STRS
  22    164 1553
3437
  00      0  113
  05     10  229
  07     10  391
  08     28  556
  10     38  716
  12     60  886
  13     68 1027
  17    100 1327
3438
  00      0  103
  31     12  228
  37     26  319
  44     32  409
  56     68  500
  62     74  592
  72     90  731
  82    108  867
  88    114  953
  99    118 1095
0108    134 1186
0116    154 1277
0123    160 1367
0131    166 1459
3439
  00      0  105
  69      8  191
0108     32  255
0161     42  328
0217     68  410
0249     86  494
0356    132  593
0437    176  731
0513    220  843
0566    244  913
0631    254 1004
0704    274 1099
0782    372 1187
0857    394 1277
3465
  00      0   95
  11     92  152
  19    110  233
  27    118  311
  33    132  388
  43    154  505
  53    170  622
  58    188  698
  65    206  775
  71    226  852
  78    248  932
3466
  00      0   97
  07   - 18  154
  13   - 18  235
  19   - 12  311
  25      2  385
  34      4  505
  42     20  622
  52     34  739
  62     46  850
  72     62  974
  80     68 1050
  87     84 1127
3467
  00      0  118
  08     18  236
  18     28  312
  23     38  388
  22     46  506
  41     62  622
  50     82  738
  60     92  852
  70    116  974
  81    130 1089
  88    142 1165
  94    150 1241
3468
  00      0  171
  07      8  247
  11      2  311
  17      2  387
  22      4  462
  31     16  624
  37     26  660
  46     44  774
3469
  00      0   99
  08      0  155
  17      4  234
  25      8  311
  34     22  387
  47     38  462
  57     50  546
  67     64  661
  78     84  776
  89    110  893
3470
  00      0  105
  14     16  226

TIME  STRAIN STRS
0256     64  415
0289     80  464
0390    142  611
0426    178  661
3502
  00      0   94
0106     20  175
0211     58  314
0347    140  511
0392    172  582
0475    260  699
3501
  00      0  104
0109     22  239
0181     16  334
0248     16  423
0362     54  583
0445    110  699
0502    158  774
3500
  00      0   95
  43      4  115
  78     12  155
0112     24  195
0205     24  311
0281     36  412
0374     66  545
0486    106  709
0562    128  815
0652    162  936
3499
  00      0  129
0136    114  324
3498
  00      0  103
  81     30  200
0130     38  274
0232     66  432
0375     98  669
0418    108  738
0472    122  816
0528    148  893
3503
  00      0   94
  08     18  116
  15      4  195
  21      6  274
  29     12  388
  35     24  465
  44     42  625
  52     58  699
  58     72  777
3504
  00      0   96
  09     16  120
  11     24  234
  12     42  362
  14     56  485
  16     76  620
  17     88  739
  19    102  859
  21    132  974
  22    152 1080
3505
000000      0   95
000003     14  161
000004     28  283
000007     42  415
000008     58  548
000010     70  732
000012     84  873
000014    104 1017
3506
000000      0   91
000002     14   92
000004     10  162
000006     20  286
000007     40  431
000010     62  597
000011     80  742
000013    110  886
3507
000000      0  123
000005      6  202
000006     22  369
000009     44  601
000012     60  792
000013     84  937
000015     92 1024
3508
000000      0   94
000003      8  168
000005      2  291
000006      0  412
000008     18  555
000010     30  703
000011     48  821
000013     54  983
3509
000000      0   91
000002      4  128

TIME   STRAIN STRS
000004     16  252
000006     10  370
000007     14  490
000008     40  620
3510
000000      0  103
000059    151  174
000105    287  258
000214    740  440
000257   1021  502
000343   1876  601
000454   1427  669
3512
000000      0   97
000062     23  126
000088     42  169
000112     72  210
000164    159  296
000191    212  338
000245    365  420
000302    614  500
000371   1076  592
3513
000000      0  121
000032     38  169
000057     70  213
000166    323  391
000246    702  515
000314   1212  610
000426   2627  715
000529   2672  742
3516
000000      0   96
000009      8  170
000015     29  255
000021     57  337
000028     85  421
000037    153  547
000044    212  634
000050    270  719
000060    389  840
3517
000000      0  101
000010     36  169
000021     93  297
000031    168  421
000041    282  546
000051    408  676
000062    585  798
000068    746  879
000077    970  966
3518
000000      0  105
000007      4  171
000016     80  295
000021    151  379
000027    223  459
000033    308  546
000042    472  674
000052    678  800
000059    872  879
3519
000000      0   97
000011     27  169
000022     65  298
000028    102  378
000035    144  457
000046    242  592
000055    363  718
000065    544  840
000073    708  922
3520
000000      0   96
000009     14  169
000018     63  296
000027    131  421
000033    172  501
000042    276  631
000049    391  718
000059    551  840
3521
000000      0  100
000005      0  206
000007     38  372
000009     61  512
000011    104  678
000012    159  836
000015    225  982
3522
000000      0  108
000003      4  174
000005     29  301
000007     53  428
000008     97  588
000010    142  732
000012    193  857
3523
000014      0   30
000016     36  210
000018     72  356
3524

TIME   STRAIN STRS
000000      0  105
000003     14  151
000005     42  286
000006     74  436
000008    102  593
000010    136  753
000012    185  896
000013    244 1030
3576
000000      0  133
000046     51  270
000057     78  393
000071    114  526
000084    148  649
000101    185  848
000116    210 1051
000140    240 1249
000148    261 1379
000151    302 1578
000167    327 1843
3577
000000      0  157
000009     23  264
000019     53  459
000029     80  656
000039    106  853
000049    123 1052
000059    138 1247
000067    159 1371
000079    174 1576
000091    202 1775
000098    206 1909
000105    227 2031
000113    263 2168
000121         2300
3578
000000      0  197
000016      2  264
000022     10  395
000029     25  526
000035     40  655
000080         1506
000092    189 1709
000102    227 1905
3579
000000      0  158
000006     14  197
000011     19  328
000020     38  525
000026     55  655
000034     65  852
000046     85 1124
000055    106 1312
000065    131 1507
000077    148 1708
000087    159 1910
000093    163 2031
000097    168 2098
000103    180 2235
000110    180 2366
000118    187 2498
000126    202 2628
3580
000000      0  179
000006      0  262
000013     14  396
000019     21  524
000026     29  656
000036     51  852
000045     70 1051
000056     87 1255
000065    108 1440
000077    129 1710
3581
000000      0  191
000038      2  259
000088      0  328
000139      0  525
000186      6  652
000288      6  942
00038.      4 1208
000423      6 1313
000547     29 1597
000674     38 1867
000721     44 1968
3582
000000      0  162
000174     17  503
000269     40  733
000395     85 1068
000492     97 1308
000548    112 1440
000643    146 1646
3583
000000      0  162
000011     10  282
000018     31  397
000026     40  525
000033     53  656
000044     61  854
000057     89 1118

TIME   STRAIN STRS
000067     95 1315
000078    100 1509
000094    106 1777
000107    108 1970
000114    114 2097
000121    112 2235
000133    125 2432
000144    127 2624
000152    134 2756
3584
000012      0  266
000018     17  395
000025     27  525
000031     40  655
000040     68  854
000049     68 1051
000058     80 1248
000067     95 1439
000077    106 1648
000088    121 1843
000098    136 2030
3585
000000      0  187
000005      6  262
000011     12  396
000018     23  526
000024     29  656
000033     48  854
000042     63 1054
000053     78 1249
000063     97 1440
000073    114 1643
000086    127 1841
000101    148 2099
3586
000000      0  170
000007      4  262
000013     10  400
000019     19  526
000025     34  656
000034     51  855
000042     61 1049
000051     78 1252
000061     93 1440
000071    106 1712
000081    117 1838
000092    136 2029
000102    153 2235
000112    168 2434
000123    176 2627
3587
000000      0  171
000027      4  197
000084     25  328
000136     42  459
000230     74  715
000237    119 1130
000495    148 1474
000561    159 1643
000688    182 1936
000762    191 2099
000833    172 2266
3588
000000      0  178
000118      8  388
000206     42  931
000392     46 1185
000437     55 1307
000490     65 1446
000631    100 1775
000719    119 1967
000780    134 2102
000839    148 2239
000933    168 2440
3589
000000      0  158
000074     21  279
000160     53  498
000288     95  853
000380    119 1117
000453    134 1312
000528    151 1504
3590
000000      0  262
000034          344
000078          512
000124          692
000191          929
000257         1191
000347         1527
000396      0 1696
000447     12 1874
000497     21 2044
000553     34 2207
000612     38 2377
000668     61 2624
000723     91 2708
3592
000000      0  191
000004      2  274
000006      6  437
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TIME   STRAIN STRS
000009    21  675
000011    31  853
000015    57 1155
000017    74 1457
000019   100 1791
000022   129 2059
000024   148 2380
3593
000000     0  325
000003     0  445
000006    14  767
000007    46 1060
000010    87 1444
000012   114 1766
000014   151 2108
000016   178 2406
3594
000000     0  195
000004     4  332
000006     8  575
000008    36  855
000010    65 1212
000011    80 1511
000013   108 1826
000016   138 2128
3595
000000     0  223
000004     0  395
000006    19  665
000008    55 1029
000010    85 1377
000011   114 1703
3596
000000     0  235
000031    10  349
000072    27  515
000111    42  679
000171    61  923
000241    87 1231
000314   112 1540
000388   140 1824
3598
000000     0  205
000003     4  302
000005    21  592
000008    63 1166
000010    87 1488
000012   102 1752
000014   134 2064
000016   161 2344
3599
000000     0  229
000006     6  410
000007    14  705
000009    29  958
000011    53 1340
000013    63 1687
000015   102 2019
000017   131 2310
3600
000000     0  212
000004     2  366
000006    19  604
000007    40  854
000009    70 1195
000011   104 1529
000014   131 1847
000015   161 2082
000017   191 2366
3601
000000     0  241
000003    10  359
000005    34  680
000007    70  953
000009    93 1242
000011   127 1561
000012   148 1857
000015   191 2285
3617
000000     0  168
000012     6  269
000021    17  463
000031    37  651
000040    57  854
000046    64  989
000055    84 1106
000061   111 1311
3618
000000     0  197
000006    26  264
000015    53  480
000020    71  592
000029   104  787
000038   137  987
3619
000000     0  156
000009    13  197
000016    20  328
000024    33  461
000031    46  591
000038    64  716

TIME   STRAIN STRS
000045   100  854
000051   113  984
000057   135  114
3620
000000     0  159
000014    15  266
000021    31  395
000029    42  532
000035    55  656
000042    66  785
000051    77  986
000058    97 1116
000064   104 1247
000071   111 1374
000077   120 1507
000084   142 1644
3621
000000     0  170
000010  - 17  262
000016  - 13  400
000022     2  534
000028    20  653
3622
000000     0  164
000007     2  191
000014    13  334
000021    26  461
000030    55  660
000036    68  782
000041    97  919
000048   113 1053
000054   133 1182
000060   160 1310
000067   191 1440
3623
000000     0  154
000008    15  197
000014    40  329
000023    80  524
000029   115  658
3624
000000     0  220
000004    15  268
000010    31  398
000017    42  526
000024    71  653
000031    80  787
000037    97  926
000043   113 1052
000052   146 1249
000059   160 1376
000066   182 1511
000073   195 1642
000081   224 1775
000091   260 1972
000098   288 2031
3625
000000     0  158
000011    13  195
000018    28  333
000025    48  459
000032    60  591
000038    75  716
000045    86  856
000054   113 1053
000060   133 1051
000067   146 1307
000077   193 1511
000087   237 1711
000094   264 1840
3626
000000     0  163
000006    33  195
000012    28  332
000020    51  466
000026    60  595
000032    71  717
000042   104  925
000051   117 1124
3628
000000     0  192
000006    22  262
000012    35  398
000018    51  526
000024    69  652
3648
000000     0  118
000032    40  168
000053    87  212
000075   140  255
000097   221  299
000118   304  336
000164   591  418
000218  1093  502
000296  2236  588
000391  2189  630
000443  3612  627
3649
000000     0  107
000018    17  126
000041    40  168

TIME   STRAIN STRS
000064    68  212
000087   112  254
000108   187  295
000131   261  336
000180   497  420
000231   910  501
000296  1727  589
000441  2855  666
000472  3921  666
3650
000000     0  102
000047    23  125
000076    68  172
000159   329  316
000196   548  380
000221   731  419
000292  1497  515
000409  1844  586
3651
000000     0  138
000039    40  168
000060    68  212
000081   117  253
000105   180  296
000128   285  337
000180   623  420
000243  1251  501
000300  2146  545
000342  3040  551
000362  3634  547
3652
000000     0  105
000024    12  125
000048    44  168
000072   110  212
000094   193  254
000117   300  295
000142   440  336
000216  1100  438
000273  1912  501
000314  2793  523
000331  3263  523
3653
000000     0  100
000010     0  126
000014     0  168
000022     6  254
000030    65  336
000037   140  418
000043   253  502
000051   397  589
000058   570  672
3654
000000     0  112
000004    12  122
000009    27  168
000015    53  254
000028   153  421
000034   236  504
000041   353  593
000047   468  673
000053   631  756
3655
000000     0  104
000010    34  121
000017    68  211
000025   110  296
000035   212  419
000042   327  502
3656
000000     0  126
000008    14  168
000013    51  254
000019    95  337
000025   144  418
000031   208  502
000038   304  588
000044   412  676
000051   582  756
000058   787  838
3657
000000     0  105
000007    14  169
000015    42  251
000022    78  340
000030   138  420
000037   208  502
000044   300  589
000051   406  673
3658
000000     0  118
000004    19  188
000006    53  322
000007    89  454
000009   155  610
3659
000000     0  105
000004     6  173
000006    34  296
000007    63  421
000009   112  576

TIME   STRAIN STRS
000011   151  731
000012   204  854
3660
000000     0  121
000003    14  217
000006    48  363
000007    97  511
000009   144  660
000011   200  801
000012   644  839
3661
000000     0  161
000003    29  210
000005    61  354
000007   102  483
000008   155  623
000010   223  762
3662
000000     0  103
000007    65  265
000009   117  473
000011   157  644
3663
000000     0  100
000007    10  126
000011    27  168
000018    70  253
000025   146  337
000031   234  419
3689
000000     0  185
000040     2  264
000065     6  334
000090     2  394
000140     8  526
000188    29  656
000236    61  789
000285   104  932
3690
000000     0  159
000062     2  198
000119    25  328
000144    48  394
000191   112  532
000240   197  653
000291   323  789
3691
000000     0  213
000032    27  262
000051   210  328
000100   246  476
000137   240  591
000181   246  722
000226   225  856
000267   182  988
000335   187 1182
3694
000000     0  165
000006     2  197
000009    17  266
000017    31  398
000023    55  528
000030    87  656
000037   114  788
3695
000000     0  171
000005     8  198
000009    14  269
000016    38  397
000022    59  525
000028    80  656
000034   106  788
000040   140  923
000048   182 1120
000055   219 1249
3696
000000     0  167
000009    12  191
000013    21  266
000019    36  389
000030    59  593
000037    93  716
3698
000000     0  226
000008    14  331
000011    14  395
000017    40  528
000023    65  658
000026    82  722
000032   114  855
000038   148  986
3700
000000     0  158
000004    12  223
000006    42  408
000011   121  964
000012   155 1203
3701
000000     0  158
000005    10  203
000007    53  428

TIME   STRAIN STRS
000009    93  672
3702
000000     0  167
000004     6  251
000006    29  453
000008    63  655
000009   106  871
000011   159 1131
000013   185 1330
3703
000000     0  203
000004    17  310
3744
000000     0  159
000025    40  195
000060    80  294
000092   140  395
000135   219  534
000172   280  656
000291   421  920
3745
000000          0
000000     0  194
000028    16  263
000053    26  340
000071    38  395
000091    60  460
000112    70  526
000158   100  668
000192   148  788
000232   176  921
3746
000000     0  191
000034    11  275
000051    19  335
000088    45  463
000106    57  527
000124    78  592
000142    95  652
000182   126  791
000220   183  927
3747
000000     0  164
000076  - 33  233
000088  - 35  264
000115  - 28  329
000142  - 19  396
000167  -  9  461
000190  -  2  525
000236    14  655
000280    61  789
000302    92  856
000324   114  925
3749
000000     0  164
000008     0  197
000013     0  262
000020     2  394
000027    28  526
000033    35  656
000039    66  783
000046    85  920
000052   121 1056
3750
000000     0  171
000007     2  203
000010    19  264
000013    26  333
000018    38  398
000024    57  525
000028    69  592
000031    85  655
3751
000000     0  180
000008    14  262
000015    26  394
000021    57  525
000027    73  653
000033   100  783
3752
000000     0  177
000004     4  197
000008    16  262
000011    26  331
000015    30  396
000022    64  528
000029    85  653
000036   109  788
000042   133  919
000046   154  994
3753
000000     0  191
000005    11  257
000011    30  394
000017    47  525
000023    71  653
000027    85  717
000030   104  782
3754
000000     0  164
000004     4  191

TIME   STRAIN STRS
000007    35  443
000009    40  605
000010    45  777
3755
000000     0  246
000008     2  243
000010    11  448
000012    23  656
000013    57  868
3756
000000     0  158
000003     7  185
000005    26  408
000007    52  673
000009    92  946
000011   121 1184
3758
000000     0  164
000003     4  181
000005    16  360
000007    35  596
000008    52  778
000010    66  965
000011    95 1302
000013   121 1415
000014   135 1583
0001
SEE NOTES 2,7
100900
   1000    42  271
   1100   141  351
   1117   175  335
   1130   204  327
   1200   268  303
   1230   330  288
   1300   396  271
   1330   457  256
   1400   521  234
   1430   584  217
   1500   646  201
   1530   708  189
   1545   736  168
0002
SEE NOTES 2,7
100907     0
   0936     8   55
   1004    24  168
   1030    46  200
   1100    85  357
   1130   140  377
   1200   198  372
   1230   260  369
   1300   322  360
   1404   453  333
   1500   571  309
   1600   697  274
   1700   825  239
0003
SEE NOTES 2,7
151600
   1615     7   73
   1630    17  151
   1700    48  245
   1730    98  278
   1800   159  280
   1830   219  269
   1900   284  258
   1930   345  249
   2000   402  235
   2100   530  215
   2300   780  169
   2400   909  145
0004
SEE NOTES 2,7
102000          0
   2015.    5   30
   2020    11   90
   2040    20  147
   2050    30  195
   2100    45  236
   2115    58  264
   2122    89  270
   2145   122  268
   2200   148  268
   2215   177  270
   2230   210  270
   2245   242  264
   2300   273  260
   2330   335  250
   2400   394  237
   2500   514  228
   2600   632  220
   2800   875  195
0005
SEE NOTES 2,7
151400
   1415     1   15
   1425     7   64
   1435    12  104
   1445    21  164
   1455    28  217
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TIME   STRAIN STRS
  1505    35   261
  1515    44   303
  1525    53   339
  1540    80   368
  1600   115   379
  1615   148   375
  1630   179   371
  1700   236   358
  1730   293   354
  1800   354   351
  1900   471   353
  2000   596   343
  2100   716   307
  2200   846   257
0006
SEE NOTES 2,7
104400
  4500      2    18
  4515      9    40
  4530     14    61
  4600     23   105
  4630     32   148
  4700     41   190
  4730     50   230
  4800     61   280
  4900     82   338
  5000    113   405
  5100    158   427
  5200    217   428
  5300    250   417
  5400    348   376
  5600    478   336
  5800    605   285
0007
SEE NOTES 2,7
103400
   3430      7    37
   3445     15    90
   3500     28   152
   3515     37   211
   3530     50   282
   3545     60   346
   3600     75   410
   3615     87   463
   3630    105   510
   3645    130   551
   3700    159   571
   3715    196   575
   3730    246   554
   3745    303   516
   3800    357   483
   3830    470   404
   3850    541   348
0008
SEE NOTES 2,7
103500             0
   3511      4    78
   3520     14   159
   3530     24   252
   3541     35   366
   3550     46   457
   3600     58   541
   3612     78   631
   3623    120   699
   3633    211   704
0009
SEE NOTES 2,7
110500
   0600      7    24
   0700     13    54
   0800     20    84
   0900     26   114
   1000     32   143
   1100     46   201
   1300     63   254
   1500     81   303
   1700    102   343
   1900    126   376
   2100    156   397
   2300    191   405
   2500    233   405
   2700    254   401
   2900    296   388
   3100    339   377
   3505    426   360
   3900    513   340
   4300    602   319
   4700    697   288
   5000    797   254
0010
SEE NOTES 2,7
163903
   4000      8    12
   4200     26    68
   4400     40   139
   4600     53   207
   4800     68   273
   5000     85   332
   5200     1C   377
   5400    135   409
   5600    172   413

TIME   STRAIN STRS
   5700   196   411
   5800   220   400
   5900   271   371
 170100   319   350
   0300   366   338
   0500   408   333
   0700   451   326
   0900   494   322
   1100   535   318
   1300   578   314
0011
SEE NOTES 2,7
120203
   0300     14    67
   0400     29   155
   0500     47   235
   0600     68   316
   0700     96   374
   0800    130   410
   0900    182   408
   1000    241   386
   1100    304   359
   1200    366   332
   1300    423   317
   1400    481   304
   1500    538   293
   1600    594   284
   1700    651   272
   1800    708   258
0012
SEE NOTES 2,7
141700
   1730      4     6
   1800     15    36
   1900     38   116
   2000     52   204
   2100     70   293
   2200     99   375
   2300    113   447
   2400    146   496
   2500    195   509
   2600    262   474
   2700    334   429
   2800    408   387
   2900    474   356
   3000    538   338
   3100    602   314
   3200    666   293
0013
SEE NOTES 2,7
151330
151552      33    81
  1600      39    81
  4303      40    81
170019      42    81
  5645      42    81
185535      43    81
201325      44    81
211658      45    81
222608      46    81
230105      46    81
241334      48    81
045245      48    81
121736      50    81
185542      50    81
090742      51    81
090842      52    81
091022      41
0014
SEE NOTES 2,7
102903
103000      18    57
  3100      36   131
  3200      53   207
  3300      70   287
  3400      88   363
  3500     109   435
  3600     133   496
  3700     165   530
  3800     213   540
  3900     277   505
  4000     348   496
  4100     414   418
  4200     478   388
  4300     540   364
0015
SEE NOTES 2,7
160014
   1409      4    81
   1419     18   163
   1427     26   237
   1435     27   319
   1443     41   394
   1451     45   463
   1458     59   528
   1506     71   590
   1515     86   652
   1527    116   729
   1545    171   785
   1555    241   783
   1606    286   765

TIME   STRAIN STRS
   1615   399   629
   1630   527   518
   1645   670   374
   1700   794   294
   1735   877   222
   1802   906   204
0016
SEE NOTES 2,7
101506             0
   1835     40   117
   4020     48   117
110557      51   117
120010      54   117
133010      57   117
143000      59   117
145500      60   117
165553      62   117
191735      63   117
205905      65   117
211023      69   117
215025      70   117
235730      72   117
070037      79   117
074745      79   117
102053      81   117
111805      82   117
112235      63     0
113055      60     0
115910      58     0
133022      57     0
0017
SEE NOTES 2,7
183700
   3800      9    70
   3900     26   155
   4000     43   236
   4100     60   317
   4200     81   385
   4300    105   433
   4400    134   460
   4500    168   461
   4600    205   444
   4700    241   420
   4800    272   398
   4900    314   390
   5100    412   381
   5300    488   356
   5600    567   343
   5700    662   321
0018
SEE NOTES 2,7
163300
   3314      2    37
   3324     24   106
   3332     36   181
   3343     43   263
   3355     54   412
   3405     61   511
   3414     61   597
   3427     80   724
   3445    115   847
   3450    150   885
   3502    187   889
   3510    239   858
   3517    329   751
   3526    669    98
   3540    720   140
   3555    804   145
0019
SEE NOTES 2,7
154115             0
092024             0
   2313     41   235
   2400     42   235
   3000     51   235
   4500     58   235
102100      70   235
   4830     76   235
111845      83   235
   5000     91   235
131900     107   235
141700     116   235
154800     130   235
165000     137   235
190500     155   235
210905     175   235
222000     182   235
241000     195   235
070900     245   235
132000     278   235
132226     259     0
140000     256     0
145500     255     0
0020
SEE NOTES 2,7
161900
   2100     19    56
   2300     35   116
   2500     51   175
   2700     66   231
   2900     81   292

TIME   STRAIN STRS
  3000     89   317
  3200    107   368
  3400    126   410
  3600    149   431
  3800    178   436
  3920    202   429
  4000    212   404
  4200    235   368
  4330    246   321
  4600    260   290
  4700    267   280
  4900    275   266
  5100    283   252
  5800    295   222
170207    300   208
  1100    308   191
0021
SEE NOTES 2,7
151502
   1614     13   117
   1620     20   185
   1625     25   243
   1633     29   268
   1757     40   295
   1820     44   337
   1915     57   390
   2112     73   460
   2212    104   529
   2302    143   741
   2450    251   886
   2457    359   845
   2508    772   353
   2518    872   203
0022
SEE NOTES 2,7
111200             0
   1630     55   235
   1700     58   235
   1800     60   235
   2000     64   235
   2500     69   235
   3500     77   235
   5000     85   235
121500      94   235
   4600    102   235
131400     107   235
141000     119   235
151200     141   235
165700     158   235
183300     173   235
205300     190   235
240400     209   235
024500     224   235
131000     278   235
   1025    260     0
   2500    257     0
150600     255     0
163100     255     0
0023
SEE NOTES 2,7
162000             0
   2015      8    44
   2030     21   102
   2045     32   160
   2100     42   222
   2130     61   350
   2200     81   480
   2230    105   585
   2300    138   657
   2322    169   689
   2345    221   692
   2400    261   662
   2430    368   583
   2500    515   400
   2527    672   207
   2547    733   174
0024
SEE NOTES 2,7
131355           351
131617       0   498
   1432     17   498
   1451     26   512
   1515     43   509
   1543     73   501
   1652    162   512
   1718    210   506
   1850    615   431
   1900    768   285
0025
SEE NOTES 2,7
134800             0
   5000     39   174
   5100     43   174
   5200     46   174
   5600     53   174
140500      60   174
   2600     68   174
   5800     77   174
160500      88   174
   4700     92   174
185900     105   174

TIME   STRAIN STRS
211700    114   174
240200    123   174
310800    135   174
311000    144   174
331600    150   174
331700    150   174
353900    155   174
354000    135     0
360500    134     0
361700    133     0
0026
SEE NOTES 2,7
112506       0
   2515      8    61
   2535     37   249
112620      68   313
   2635     76   324
   2653     86   332
112740     110   335
   2850    146   336
   2930    168   336
   3025    201   337
   3120
   3200    290   335
   3255    373   337
   3315    425   335
   3350    557   293
   3405    704   224
0027
SEE NOTES 2,7
103057
   3104     10   122
   3111     20   218
   3115     21   308
   3120     34   411
   3125     41   497
   3128     52   570
   3133     63   652
   3137     75   723
   3142     99   810
   3147    112   855
   3151    150   888
   3155    186   894
   3159    239   893
   3203    314   820
   3207    708   758
0028
SEE NOTES 2,7
160500             0
   0650    112   174
   0735    118   174
   1000    126   174
   2000    136   174
   5600    151   174
180400     166   174
200700     183   174
215700     204   174
240300     215   174
265100     228   174
265700     251   174
305200     285   174
391000     288   174
391219     238     0
394400     235     0
430800     233     0
0029
SEE NOTES 2,7
131156
   1205     14    73
   1213     28   140
   1220     41   202
   1227     51   254
   1245     73   295
   1255     80   296
   1328     96   294
   1419    114   295
   1524    132   295
   1621    146   295
   1803    166   296
   2003    187   296
   2154    207   295
   2400    220   296
   2800    265   295
   3100    292   296
   3700    344   296
   4700    429   296
   5500    515   296
140300     605   296
   1000    710   297
   1400    805   298
   1800    953   294
0030
SEE NOTES 2,7
120158
   0205     13   121
   0212     23   242
   0217     32   356
   0223     45   487
   0230     63   602
   0236     86   685
   0243    123   741

TIME   STRAIN STRS
  0248    193   742
  0255    308   618
120301    460   455
  0314    696   205
  0329    896   133
  0359   1063   113
0031
SEE NOTES 2,7
113852      51   200
  4100      57   200
  4500      66   200
120000      76   200
  3500      89   200
131800     101   200
141700     114   200
152200     130   200
165600     148   200
190000     166   200
205700     176   200
233900     197   200
064500     246   200
092200     260   200
105800     273   200
110000     253     0
114900     251     0
135500     251     0
0032
SEE NOTES 2,7
200357       0     0
200423      22    72
  0437      33   133
  0453      45   199
  0518      50   199
  0652      56   199
  1200      65   199
  2500      75   200
211000      94   201
220400     110   199
  2613     115   199
232533     129   201
0033
SEE NOTES 2,7
143603             0
   3620     10    85
   3630     19   168
   3636     26   234
   3655     37   303
   3728     44   301
   3800     52   301
   3842     58   303
   3950     56   300
   4422     43   302
   4800     38   304
150412     136   302
   2300    171   302
   5236    219   302
162546     265   303
170418     327   302
   2005    350   302
   2100    325     6
0034
SEE NOTES 2,7
153800             0
   4200     41   160
   4600     46   160
160600      58   150
   4000     66   160
180900      80   160
200300      93   160
223700     107   160
233300     151   160
054100     179   160
090500     192   160
133100     250   160
133300     240     0
135200     240     0
165100     239     0
0035
SEE NOTES 2,7
183102             0
183116      21   103
   3121     27   151
   3131     41   238
   3217     50   239
   3424     59   239
   3800     67   241
   5300     83   240
192000     103   239
   5500    121   242
205100     145   239
213300     163   239
225403     191   234
240700     215   235
   0838    186     0
   2800    183     0
   4100    181     0
0036
SEE NOTES 2,7
140703             0
   0715     19   117
   0725     31   215
```

```
TIME   STRAIN STRS
  0739     44  342
140822     71  405
  0844     80  409
140907     91  413
141000    111  407
  1050    129  407
  1210    163  405
  1330    201  405
  1430    234  406
  1520    270  407
  1620    314  403
  1709    359  405
  1753    405  403
  1828    448  407
  1925    538  404
  2009    634  403
  2031    718  402
  2045    795  372
  2105    920  291
0037
SEE NOTES 2,7
105835      0    0
110525     72  240
  0801     76  240
  1000     79  240
  1700     86  240
  1800     88  240
  4100    104  240
  5600    110  240
130300    131  240
141000    147  240
154406    163  240
193200    197  240
221800    213  240
  2100    227  240
240300    242  240
  0510    201    0
380300    194    0
0038
SEE NOTES 2,7
101152           0
  1210     11   68
  1220     14  151
  1230     36  247
  1253     39  249
101500     48  247
  1900     54  247
  2900     63  251
112100     82  251
122700     96  245
133400    107  249
153200    125  251
200600    161  249
243900    186  251
244100    161    0
011500    158    0
082400    157    0
0039
SEE NOTES 2,7
101400           0
  1417     17   69
  1433     33  290
  1443     43  393
  1455     50  403
101553     68  403
  1720     83  401
  2100    104  401
  2700    126  401
  3700    152  401
  5600    190  403
112800    236  401
  5600    276  401
122400    315  399
133100    398  403
140400    438  403
145200    492  403
151800    522  401
155900    572  399
165800    636  401
174900    700  401
175300    678    0
334000    675    0
0040
SEE NOTES 2,7
130600           0
  0614     10   46
  0623     26  129
  0635     44  240
  0655     54  238
  0800     69  238
  0850     75  240
  1200     91  240
  2400    121  240
  3900    145  240
  5400    180  238
141200    218  240
  3900    264  240
150104    309  238
  2100    349  238
  4300    395  241
161600    464  240

TIME   STRAIN STRS
  1700    434    2
  2600    430    2
  5400    429    2
0041
SEE NOTES 2,7
203700      0    0
  3732     12   35
  3830     33  118
  3902     45  164
  4000     67  239
  4032     80  276
  4101     96  304
  4200    134  345
  4253    179  347
  4330    233  314
  4400    271  289
  4500    343  254
  4600    409  234
  4700    470  224
  4800    538  217
0042
SEE NOTES 2,7
185456           0
  5506     17   78
  5516     35  153
  5525     49  228
  5534     60  302
  5547     74  385
  5554     99  480
  5601    106  541
  5608    121  584
  5615    146  617
  5619    167  628
  5625    203  624
  5632    280  569
  5642    352  480
  5709    559  318
  5732    685  263
  5804    917  175
  5834   1019  120
  5900   1050   98
0043
SEE NOTES 2,7
182200           0
  2210     22  137
  2217     36  227
  2224     57  320
  2248     65  320
  2400     84  320
  2600    104  322
  2900    128  320
  3200    150  320
  3700    182  320
  4100    209  320
  4709    252  320
  4800    257  320
  5200    286  320
  5800    330  318
190400    380  318
  0800    418  320
  1400    483  320
  1500    449    0
192408    442    0
210620    439    0
0044
SEE NOTES 2,7
133600           0
  3611     21  108
  3618     37  209
  3624     50  296
  3630     66  400
  3642     82  400
  3706    104  400
  3722    118  400
  3753    146  400
  3847    214  399
  3914    268  396
  3936    322  398
  3950    375  399
  4012    472  398
  4020    523  397
  4037    675  364
  4140    751    4
134500    745    4
0045
SEE NOTES 2,7
151904           0
  1915     15  108
  1919     26  209
  1924     38  306
  1929     49  418
  1933     59  513
  1938     72  590
  1943     87  650
  1948    110  737
  1953    138  803
  1957    166  831
  2002    212  810
  2008    288  749
  2014    397  616
  2019    540  404

TIME   STRAIN STRS
  2023    703  110
  2029    789   91
0046
SEE NOTES 2,7
172800           0
  2815     12   37
  2827     22   85
  2841     36  150
  2850     45  188
  2900     53  231
  2910     63  271
  2921     74  317
  2933     88  360
  2947    106  406
  3004    134  438
  3016    160  445
  3025    186  439
  3037    230  414
  3047    272  378
  3058    316  341
  3113    368  306
  3131    430  273
  3149    486  254
  3204    529  241
0047
SEE NOTES 2,7
200300           0
201000      1
  1100     10   28
  1200     17   61
  1400     34  136
  1500     42  172
  1530     46  190
  1600     50  205
  1700     58  243
  1730     62  261
  1800     62  275
  1830     71  292
  1900     75  304
  2000     84  333
  2100     94  358
  2200    103  381
  2300    115  403
  2400    126  421
  2500    139  432
  2600    153  444
  2700    169  453
  2800    186  457
  3030    235  457
  3515    342  417
  4100    475  362
  5009    690  280
0048
SEE NOTES 2,7
110159           0
  0122      9   44
  0130     16   80
  0136     21  107
  0147     29  159
  0233     37  159
  0500     45  159
  1000     54  159
  3310     70  159
124800     95  159
141900    118  159
160019    139  159
182800    166  159
194411    180  159
213830    198  159
220955    205  161
221053    186    2
324024    180    2
0049
SEE NOTES 2,7
184755      0    0
  4812     11   66
  4825     31  200
  4840     51  345
  4853     70  479
  4902     78  478
  4917     88  479
  5015    125  481
  5031    138  480
  5112    173  480
  5140    213  482
  5212    272  481
  5225    304  483
  5231    323  479
  5305    473  475
  5317    573  455
0050
SEE NOTES 2,7
161530      0    0
  1607      5   51
  1612     17  149
  1617     28  270
  1622     36  374
  1627     48  462
  1631     58  565
  1636     71  635
  1640     83  699

TIME   STRAIN STRS
  1645     99  770
  1650    125  840
  1655    166  872
  1700    227  852
0051
SEE NOTES 2,7
092202      0    0
  2350      2    3
  2406     20   48
  2422     34  117
  2432     45  167
  2452     59  257
  2511     75  342
  2534     95  432
  2600    125  521
  2620    148  566
  2630    164  580
  2647    199  582
  2703    243  562
  2720    293  489
  2747    388  434
  2808    464  379
  2842    583  306
  2908    661  276
0052
SEE NOTES 2,7
141000      0    0
  1017      5   16
  1038     29   84
  1055     45  163
  1153     53  161
  1333     59  162
  2742     74  161
150027     86  161
165420    105  161
202558    126  161
220047    134  161
011208    146  161
  1300    126    2
  3043    123    2
  3600    121    2
0053
SEE NOTES 2,7
150500      0    0
  0518     12    8
  0532     27  107
  0547     42  259
150609     62  464
  0633     77  463
  0719     91  463
  0813    106  464
  0909    121  463
  1105    146  465
  1400    194  461
  1620    253  463
  1711    285  463
  1813    335  463
  1900    383  464
  1948    448  464
  2110    640  463
  2134    749  460
  2150    867  428
0054
SEE NOTES 2,7
110800           0
  0900      2    7
  0915     29  164
  0925     45  260
  0940     61  401
  1000     69  399
  1025     76  401
  1139     90  401
  1317    103  401
  1900    136  399
  2500    175  398
  3139    224  401
  3430    273  400
  3600    311  402
  3800    383  399
  3935    492  400
  4000    551  399
  4025    655  399
  4033    709  316
0055
SEE NOTES 2,7
160600           0
  0617      2   11
  0633     21  110
  0642     31  170
  0653     42  240
  0726     47  240
  0810     52  246
  1000     61  246
  2615     77  241
  4127     83  240
172600     97  239
181405    108  240
191907    119  240
201446    128  240
212518    138  240
222200    145  239

TIME   STRAIN STRS
233430    152  240
243300    159  240
013748    166  240
023700    172  240
024318    143    0
025404    140    0
033400    138    0
104400    136    0
0056
SEE NOTES 2,7
143206           0
  3307      3   84
  3325     31  149
  3343     58  320
  3430     72  322
  3518     79  321
  3713     93  320
  4030    108  320
  4434    123  320
  4916    137  320
  5925    147  319
151230    196  319
  2455    233  321
  3646    287  320
  5227    365  320
160616    445  320
  1915    535  320
  2800    622  322
  3600    729  324
  4200    852  323
  4455    950  323
  4625    927    0
  5600    927    0
182000    927    0
0057
SEE NOTES 2,7
134400      0    0
  4410     11   84
  4420     24  193
  4434     37  313
  4455     61  491
  4500     65  507
  5123     89  639
  5132     98  562
  5143    107  665
  5151    116  743
  5200    130  825
  5212    144  877
  5222    162  920
  5227    172  911
  5240    187  873
  5253    217  808
  5310    267  695
  5328    361  494
  5400    265  313
0058
SEE NOTES 2,7
151100      0    0
  1200     15   63
  1300     34  150
  1400     52  232
  1500     70  309
  1600     88  378
  1700    109  440
  1800    132  497
  1900    155  533
  2000    179  551
  2055    183  544
  2100    216  544
  2200    259  538
  2300    313  497
  2400    374  439
  2500    445  383
  2600    522  330
  2700    587  295
  2800    648  269
0059
SEE NOTES 2,7
163820      0    0
  4000     12   42
  4200     25  110
  4400     37  177
  4700     55  261
  4900     65  302
  5100     73  330
  5200     75  326
  5400     78  326
  5500     81  323
  5900     89  368
170000     93  396
  0100     97  425
  0200    104  445
  0400    113  484
  0600    126  514
  1000    162  553
  1300    213  539
  1500    260  502
  1800    340  428
  2400    491  337
  3700    608  247
0060

TIME   STRAIN STRS
SEE NOTES 2,7
192100
  2116      3    5
  2200     12   60
  2317     28  151
  2523     42  240
  2558     46  277
  2656     53  350
  2755     63  431
  2800     69  489
  2857     74  526
  3353     81  557
  3430     87  609
  3500     90  653
  3600     99  740
  3652    108  816
  3700    120  882
  3900    138  924
  3952    173  929
  4030    262  821
          672    2
0061
SEE NOTES 2,7
134100      0    0
  4623     12   10
  4653     22  106
  4709     32  271
  4725     40  448
  4741     46  626
  4756     51  782
  4812     60 1088
  4828     67 1217
  4847     74 1217
  4853     74 1218
  4920     81 1204
  5145    575  323
  5205    644  333
  5222    698  283
  5245    726  230
0062
SEE NOTES 2,7
154700      0    0
  4800     15   94
  4900     29  188
  5000     40  279
  5100     48  374
  5200     58  470
  5300     65  575
  5400     74  661
  5500     82  744
  5600     91  817
  5700    108  881
  5745    130  891
  5806    146 1040
  5831    184  996
  5855    260  714
  5910    349  539
  5935    494  272
0063
SEE NOTES 2,7
165453      0    0
  5510     18  105
  5520     29  192
  5530     43  295
  5544     54  421
  5555     62  531
  5857     88  544
0064
SEE NOTES 2,7
092603      0    0
  2641     18  390
  2649     30  528
  2707     36  659
  2718     43  772
  2726     49  845
  2735     61  931
  2748     96 1013
  2752    178  914
0065
SEE NOTES 2,7
193000      0    0
  3145     11   72
  3245     30  162
  3346     44  261
  3441     54  347
  3533     61  437
  3623     68  532
  3708     73  611
  3804     80  705
  3849     87  772
  3965     98  879
  4145    133 1007
  4205    153 1004
  4219    189  952
  4226    236  844
  4233    316  669
  4239    484  338
  4245    591  142
  4310    640   98
  4339    671   92
  4351    684   84
```

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TIME  STRAIN STRS
0066
SEE NOTES 2,7
214900     0    0
  5100    15   82
  5300    33  178
  5500    47  271
  5700    56  373
  5900    65  480
220000    69  535
  0200    79  630
  0300    83  683
  0500    96  764
  0600   106  789
  0700   124  806
  0828   139  805
  0900   169  766
  0928   255  612
  0949   340  442
  1032   452  268
  1100   532  201
  1300   599  189
0067
SEE NOTES 2,7
093810     0    0
  3824    23  173
  3840    40  264
  3850    48  355
  3907    61  528
  3917    69  637
  3927    77  723
  3934    83  785
  3942    90  856
  3950   101  937
  4000   121 1000
  4007   152 1014
0068
SEE NOTES 2,7
151600     0    0
  1625    52  186
  1640    86  390
  1717    93  392
  1828    98  392
  2613   110  392
  3841   121  392
  5115   143  392
162009   321  392
  2308   528  390
  2328   572  390
  2347   622  394
  2410   691  381
0069
SEE NOTES 2,7
191600     0    0
  1624    29  117
  1637    54  240
  1708    59  241
  2000    64  240
  5806    78  241
214850    94  284
231500    98  239
014500   108  240
051608   118  240
101545   145  241
  5045   150  241
114822   161  241
131231   196  240
  3352   213  241
140255   246  241
  2217   296  241
  5045   395  241
190543   455  241
  3040   554  241
  5046   632  242
162030   763  241
  2500   794  241
0070
SEE NOTES 2,7
204745          0
  4812    18   71
  4835    70  258
  4853    90  400
  4909   104  400
  5057   113  398
  5400   139  400
  5600   163  400
  5700   180  398
  5830   229  400
  5915   272  400
  5945   325  400
210012   405  398
  0026   539  394
0071
SEE NOTES 2,7
134200     0    0
  4300    21   72
  4400    43  157
  4430    53  202
  4500    62  244
  4530    68  289
  4600    77  335
  4700    91  425
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TIME  STRAIN STRS
  4800   109  515
  4900   121  607
  4930   127  646
  5000   135  680
  5100   149  750
  5200   174  799
  5230   201  800
  5300   282  677
  5320   448  355
  5345   552  195
  5400   343  157
0072
SEE NOTES 2,7
192400     0    0
  2407    12   71
  2418    28  168
  2427    37  260
  2437    43  346
  2446    51  435
  2455    58  524
  2503    64  608
  2511    70  692
  2520    75  774
  2527    82  851
  2534    85  930
  2542    91 1007
  2550    96 1070
  2600   105 1144
  2609   116 1216
  2618   132 1265
  2623   166 1279
  2628   595
0073
SEE NOTES 2,7
165700     0    0
  5900    26   68
170000    49  165
  0300    69  263
  0500    88  357
  0700   111  447
  0900   138  529
  1000   153  562
  1130   171  578
  1138   190  574
  1200   205  558
  1300   255  484
  1400   324  398
  1500   390  337
  1700   489  268
  1900   571  234
  2509   792  201
0074
SEE NOTES 2,7
132200     0    0
  2210    23   61
  2221    46  138
  2235    67  235
  2335    78  237
  2633    86  237
  3900   102  239
  5200   110  237
140600   121  239
  3000   155  237
  3830   179  237
  4500   215  237
  5035   278  237
  5300   333  237
  5500   396  240
  5700   481  237
  5900   601  238
0075
SEE NOTES 2,7
162200     0    0
  2222    39  122
  2248    82  167
  2250    90  403
  2335   102  402
  2500   113  402
  2700   124  404
  3000   145  401
  3135   218  405
  3530   267  400
  3604   311  401
  3630   359  402
  3700   437  403
  3726   557  396
  3740   676  383
0076
SEE NOTES 2,7
083900     0    0
  3915    18   95
  3960    43  241
  4000    50  240
  4700    55  241
091100    62  241
  4517    68  241
123700    80  241
131200    84  240
143500    87  239
161500    91  240
184300    98  238
```

```
TIME  STRAIN STRS
204000   107  239
214300   111  239
233802   118  239
014107   128  240
025907   138  241
030145   118
031800   117
080700   117
0077
SEE NOTES 2,7
190705     0    0
  0802    15   46
  0900    41  135
  1000    61  239
  1100    75  326
  1200    92  420
  1300   106  520
  1400   122  619
  1500   141  704
  1548   170  738
  1602   190  729
  1620   237  670
  1634   284  588
  1648   368  436
  1723   494  255
  1800   561  203
0078
SEE NOTES 2,7
204000            0
204025    40  167
204046    62  345
204105    76  525
204121    89  694
204138   102  849
204154   115  850
204212   133 1007
204228   166 1123
204235
204307
0079
SEE NOTES 2,7
213100     0    0
213300    21   84
213404    31  319
213500    46  411
213800    61  503
214003    74  587
214200    88  677
214501   109  784
214705   138  795
214800   274  585
214900   391  255
215011   428  234
0080
SEE NOTES 2,7
152500     0    0
152515    17   59
152527    37  162
152536    48  236
152700    55  237
153105    61  238
155000    73  239
162745    92  238
164145   108  240
165200   135  237
165723   154  238
170407   192  239
141400   207  239
171830   370  238
172200   454  238
172500   536  [illegible]
172800   638  242
173011   720  238
0081
SEE NOTES 2,7
182903     0    0
182935    22  161
182951    36  307
183001    43  401
183045    50  401
183217    57  400
183755    66  401
184300    79  401
184705    93  400
184955   114  401
185200   147  401
185310   189  403
185342   224  401
185430   298  403
185517   405  401
185600   559  402
185622   675  400
0082
SEE NOTES 2,7
192500     0    0
192520    37   63
192535    72  163
192835    88  163
194200   101  166
204523   115  166
235715   120  163
```

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TIME  STRAIN STRS
010812   133  166
011500   113    3
073627   112    3
073847   131  164
104248   143  163
142505   156  163
154347   162  166
154843   140    0
0083
SEE NOTES 2,7
185700     0    0
185900     0    2
190100     4   34
190200    20  107
190230    33  162
190300    51  232
190330    70  289
190400    96  321
190430   132  329
190454   169  312
190530   232  251
190600   278  214
190630   321  192
190700   361  188
190730   400  177
190800   439  172
190830   480  171
190900   514  171
0084
SEE NOTES 2,7
194000     0    0
194200    26  111
194330    40  195
194407    64  275
194418    68  299
194500   101  382
194530   128  429
194600   158  450
194630   191  472
194700   232  475
194730   268  454
194817   335  422
194900   396  403
195000   479  388
195330   748  316
0085
SEE NOTES 2,7
205200     0    0
205300    14   56
205330    38   97
205400    70  105
205430   114  105
205500   154  105
205530   194  101
205600   232   95
205630   273   89
205700   311   86
205730   348   82
205800   388   81
205830   426   80
205900   468   77
205930   502   75
210000   540   73
210033   582   73
210100   618   73
210130   654   71
210150   677   71
0086
SEE NOTES 2,7
214400     0    0
214406    11   65
214410    19  143
214415    28  221
214420    36  303
214425    48  386
214430    63  477
214435    69  552
214439    79  613
214443    96  692
214450   123  733
214454   165  721
[illegible]4500   258  523
214505   339  344
214514   411  263
214527   511  225
0087
SEE NOTES 2,7
220800     0    0
220807     1   15
220813    11   57
220820    25  151
220826    36  234
[illegible]    47  317
[illegible]    56  393
220840    65  468
220847    79  566
220852    90  637
220856    97  700
220901   109  756
220905   120  812
220912   139  880
```

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TIME  STRAIN STRS
220917   157  920
220924   190  958
220931   238  958
220937   312  858
220942   709  409
220955   732  487
0088
SEE NOTES 2,7
223900     0    0
223916     6   25
223921    16  100
223926    30  152
223930    46  200
223935    69  232
223939    96  235
223945   140  240
223951   178  208
224000   242  175
224008   293  159
224020   376  143
224035   477  134
224049   567  127
224115   746  120
224147   938  112
224218  1130  110
224248  1326  104
224301  1381  103
224314  1485  100
0089
SEE NOTES 2,7
241300     0    0
241328     1    8
241333    14   55
241340    29  125
241346    42  212
241352    53  295
241357    63  375
241402    71  451
241407    77  531
241411    86  613
241415    92  684
241420   101  756
241425   110  818
241430   127  891
241434   144  925
241437   144  889
241442   262  614
241445   306  531
241515   520  361
0090
SEE NOTES 2,7
161220     0    0
161308     0    1
161316     3   18
161321     7   35
161340    20  104
161405    37  249
161600    53  250
161619    64  249
162520    90  249
162902   107  249
163158   127  247
163358   147  249
163649   187  249
163834   229  250
163953   267  249
164042   307  249
164125   347  247
164155   388  249
164220   431  249
164236   467  249
0091
SEE NOTES 2,7
201600     0    0
201611     8    2
201630    18  169
201652    35  247
201737    52  247
201845    72  247
201926    80  247
202045    98  247
202215   120  247
202330   138  247
202539   161  247
202616   192  247
202802   236  247
203045   280  247
203115   324  249
203230   363  249
203345   408  248
203415   476  249
0092
SEE NOTES 2,7
211444     0    0
211538     0    1
211549    13   50
211611    37  117
211649   169  242
211703   258  238
211711   328  247
211719   417  244
```

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TIME  STRAIN STRS
211727   521  244
211734   621  244
211740   724  246
211752   937  244
211759  1078  244
211807  1261  244
0093
SEE NOTES 2,7
214046     0    0
214100     0    0
214117     8   17
214130    14  101
214152    28  246
214405    35  246
215827    47  246
220433    54  247
222100    71  246
223925    88  246
224850    96  246
231006   120  246
232348   143  246
233445   170  246
234600   215  246
235400   268  247
235900   310  246
240406   363  246
240945   429  246
0094
SEE NOTES 2,7
093230     0    0
093330    14  103
094500    16  103
110800    25  103
130430    36  103
150300    55  103
171400    99  103
174300   123  103
180000   144  103
182100   184  103
183900   233  103
185400   261  103
190600   296  103
191800   329  103
193100   370  103
0095
SEE NOTES 2,7
220830     0    0
220945    65  103
221000    60  103
221019    68  103
221036    81  103
221100   101  103
221115   117  103
221200   163  103
221230   199  103
221300   241  103
221330   287  103
221400   337  103
221430   392  103
221500   452  103
221530   519  103
221600   586  103
221630   656  103
221700   734  103
221730   807  103
221800   880  103
0096
SEE NOTES 2,7
094515     0    0
094645    27  103
095000    39  103
095800    58  103
101045    89  103
102400   127  103
103745   169  103
105445   216  103
110645   253  103
111545   280  103
113850   360  103
114700   378  103
115445   403  103
115700   [illegible]    0
115000   [illegible]    0
0097
SEE NOTES 2,7
193755     0    0
193807     2    6
193900    22   90
194000    44  182
194100    70  262
194200    95  336
194300   123  411
194337   145  442
194416   177  455
194500   239  476
194600   339  352
194700   430  304
194830   547  266
194918   610  250
0098
SEE NOTES 2,7
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TIME   STRAIN STRS
220153      0    0
220159      7   14
220208     18   74
220220     37  173
220230     54  264
220241     69  349
220251     80  423
220300     89  528
220310    102  613
220322    123  698
220326    134  720
220332    160  741
220337    191  741
220343    240  718
220350    314  614
220356    384  528
220412    516  351
220428    552  248
220455    575  191
0099
SEE NOTES 2,7
222855      0    0
222913      6    5
223014     42   76
223116     67  174
223215     88  265
223316    111  351
223425    142  441
223516    180  476
223529    196  474
223600    251  426
223635    325  351
223700    372  312
223730    417  280
223800    461  257
223835    510  239
223907    551  232
223945    596  222
0100
SEE NOTES 2,7
135247      0    0
  5310      4   20
  5322     22  128
  5334     40  238
  5415     48  238
  5545     57  239
140300     73  240
  2240     93  240
  5023    114  239
151828    131  240
  4622    151  239
165352    198  238
181704    248  239
191211    305  240
  5044    329  240
205133    376  239
215045    420  238
222122    439  238
0101
SEE NOTES 2,7
091718      0    0
  1727      5   19
  1802     61  310
  1844     95  398
  1916    118  398
  1930    127  399
  1951    145  398
  2017    164  396
  2035    181  396
  2050    198  398
  2121    243  395
  2143    288  395
  2200    332  397
  2211    377  401
  2223    434  387
  2231    502  370
  2235    561  313
0102
SEE NOTES 2,7
103200      0    0
  3222     19  240
  3500     75  240
  4100     91  241
  4700    105  240
  5902    118  239
112400    144  239
  5808    172  239
125315    218  239
134600    261  239
143600    305  238
152300    350  239
160530    395  239
  4003    439  240
170800    475  238
  1603    451
180200    448
203000    447
0103
SEE NOTES 2,7
105148      0    0
  5200      0    0

TIME   STRAIN STRS
  5230      3   10
  5310     12   59
  5332     20  116
  5400     32  186
  5430     44  266
  5500     58  346
  5530     71  426
  5630    100  576
  5600    185  509
  5700    125  615
  5720    145  631
  5735    167  624
  5800    207  560
  5830    264  461
  5900    314  394
110000    398  322
  0010    407  314
0104
SEE NOTES 2,7
122903      0    0
  2943     13   53
  3015     22  137
  3100     40  252
  3130     57  320
  3200     77  383
  3230     99  428
  3250    117  460
  3301    125  470
  3400    197  477
  3430    240  453
  3500    280  428
  3600    363  396
  3635    409  383
  3700    440  371
  3730    480  365
  3800    517  357
0105
SEE NOTES 2,7
142745      0    0
  2800      0    0
  2820      5   32
  2900     26  137
  2932     45  209
  3000     68  270
  3030     95  316
  3100    128  334
  3130    171  338
  3203    220  327
  3218    241  309
  3230    261  303
  3300    273  283
  3330    274  268
  3401    274  258
  3500    470  243
  3532    530  237
  3600    542  234
  3615    589  229
  3700    644  218
  3713    666  218
0107
SEE NOTES 2,7
155046      0    0
  5100      0    0
  5118      2   23
  5200     18  120
  5230     31  199
  5300     45  285
  5400     77  428
  5430     99  487
  5518    152  514
  5534    173  514
  5600    213  464
  5700    304  375
  5731    348  348
  5801    385  334
  5830    422  327
  5900    458  319
0108
SEE NOTES 2,7
165548      0    0
  5600      0    0
  5612     18  158
  5624     37  372
  5629     47  456
  5635     57  549
  5639     66  626
  5647     85  761
  5653    100  824
  5700    121  894
  5706    156  917
  5711    189  886
  5715    229  780
  5719    299  618
  5723    354  481
  5728    400  390
  5734    447  333
  5738    490  292
  5747    548  260
0109
SEE NOTES 2,7
182703      0    0

TIME   STRAIN STRS
  2720     19   16
  2727     30   83
  2732     41  153
  2737     52  225
  2743     64  310
  2750     82  392
  2756    101  468
  2805    134  531
  2810    161  539
  2815    186  531
  2821    239  468
  2830    304  393
  2838    371  354
  2848    439  321
  2900    510  298
  2909    564  283
0110
SEE NOTES 2,7
193245      0    0
  3303      2    9
  3310     14  114
  3315     23  201
  3320     36  288
  3325     46  368
  3330     61  444
  3336     78  522
  3341     97  589
  3350    133  663
  3358    176  677
  3403    213  664
  3409    261  590
  3416    331  484
  3421    373  443
  3425    409  409
  3434    469  371
  3441    515  348
0111
SEE NOTES 2,7
200645      0    0
  0700      0    0
  0707     10   38
  0713     20  103
  0718     30  181
  0723     42  266
  0729     60  348
  0735     72  424
  0741     96  503
  0746    115  535
  0755    180  539
  0800    224  481
  0805    272  424
  0810    313  385
  0818    372  308
0112
SEE NOTES 2,7
205357      0    0
  5402      0    0
  5410      6   51
  5417     17  109
  5423     29  246
  5451     44  247
  5535     57  247
  5634     67  247
210046     87  247
  0415    108  247
  0945    128  246
  1530    146  247
  2030    165  247
  3200    202  247
  4616    238  247
  5900    280  247
220800    313  247
  1700    350  247
  2750    394  247
  3545    425  246
0113
SEE NOTES 2,7
233443      0    0
  3500      0    3
  3513     11   82
  3528     31  245
  3628     46  245
  3815     57  245
  4531     78  244
240300    101  247
  2653    120  245
011645    167  245
021230    196  244
031535    236  245
042633    284  245
  5437    313  245
061257    370  245
070711    418  245
0114
SEE NOTES 2,7
073734      0    0
  3800      3
  3815     17   84
  3820     22  120
  3830     36  246
  3913     51  246

TIME   STRAIN STRS
  3933     57  246
  3935     68  246
  4315     88  246
  4715    109  246
  5813    150  246
080808    181  246
  2029    222  246
  3047    268  246
  4116    314  246
  5319    380  246
090855    464  246
0115
SEE NOTES 2,7
092400      0
  2430     10  102
  2700     14  102
100900     32  102
122700     50  102
173200     68  102
230000     78  102
114200    104  102
144600    108  102
171100    113  102
  1232     95  100
  3000     93  100
230300     92  100
080350     92  100
0116
SEE NOTES 2,7
103200      0
  3300     16  102
111600     36  102
132900     54  102
162700     75  102
191500     83  102
234030    104  102
081043    139  102
  1230    126    0
  5300    123  100
0117
SEE NOTES 2,7
101855      0    0
  1918     12  102
  2530     31  102
  3400     38  102
120500     57  102
161900     76  102
220600     90  102
082400    112  102
  2515    102    0
  2600     87    0
112200     83    0
0118
SEE NOTES 2,7
151400      0    0
  1458      0    0
  1505      7   42
  1519    169   15
0119
SEE NOTES 2,7
162952      0
  2958      0    0
  3004      6   14
  3008     11   28
  3013     18   42
  3017     22   57
  3020     26   70
  3025     28   84
  3028     31   98
  3031     33  112
  3037     38  142
  3042     42  186
  3050     48  249
  3055     54  279
  3103     63  322
  3113     81  376
0120
SEE NOTES 2,7
192148      0    0
  2200      0    0
  2209      1    2
  2214      1    5
  2218      2    8
  2228      4   15
  2232      5   18
  2243      7   25
  2300     10   36
  2315     13   47
  2331     17   58
  2345     18   69
  2358     22   80
  2422     25   95
  2444     29  112
  2457     31  121
  2530     35  166
  2552     40  199
  2615     43  235
  2710     55  302
  2807     70  370
  2910     90  438
  3022    135  494

TIME   STRAIN STRS
  3035    154  491
  3055    193  472
  3116    255  424
0121
SEE NOTES 2,7
205945      0    1
210004      0    0
  0017      1    6
  0032      4   18
  0044      5   26
  0056      7   35
  0105      9   41
  0120     12   51
  0132     15   60
  0155     21   77
  0220     29   93
  0243     31  110
  0307     36  128
  0330     40  162
  0353     45  196
  0417     49  231
  0545     56  265
  0515     64  299
  0547     76  333
  0624     91  367
  0709    119  400
  0753    157
  0818    193  414
  0915    292  381
  1114    508  294
0122
SEE NOTES 2,7
214547           0
  4610          13
  4616          19
  4621          37
  4627          62
  4635          92
  4640         110
  4644         134
  4652         206
  4700         262
  4705     47
0123
SEE NOTES 2,7
121147      0    0
  1218      1    2
  1345     16  101
  1520     37  244
  1630     53  244
  1740     70  244
  1900     95  244
  2025    127  244
  2320    208  244
  2525    286  244
  2650    356  244
  2733    396  244
  2803    425  244
  2940    540  244
  3035    608  245
  3100    644  245
  3150    712  246
  3240    782  245
  3340    874  244
  3445    973  244
  3600   1085  244
  3730   1166  125
  4605   1228    0
0124
SEE NOTES 2,7
141900      0    0
  2100     56   68
  2205     73  144
  2300     83  245
  3300     95  245
163600    120  245
220915    152  245
083740    198  245
101800    207  245
140200    227  245
204800    268  246
  4830    255    0
211000    252    0
230000    251    0
080900    251    0
0125
SEE NOTES 2,7
132646      0    0
  2700      0    0
  2740      7   51
  2745     19  137
  2750     29  201
  2755     40  265
  2800     59  319
  2805     78  442
  2811    106  393
  2818    150  403
  2825    192  400
  2828    219  383
  2833    253  364
  2839    293  343

TIME   STRAIN STRS
  2845    332  322
  2853    377  305
  2902    430  291
  2910    489  281
  2922    562  271
  2945    705  258
  3004    819  250
  3016    893  246
0126
SEE NOTES 2,7
153000      0    0
  3106      3    3
  3253     10   62
  3650     31  124
  3716     49  180
  3735     65  209
  3756     88  223
  3814    107  227
  3833    133  226
  3842    146  225
  3854    165  220
  3920    203  212
  3947    242  205
  4016    279  194
  4047    320  187
  4115    357  181
  4144    396  175
  4242    472  167
  4341    549  164
  4511    654  162
  4640    780  162
  4810    895  162
0127
SEE NOTES 2,7
132450      0    0
  2502      0    3
  2520      9   85
  2545     23  248
  2607     35  248
  2821     50  248
  3057     69  248
  3330     86  249
  3922    124  247
  4308    164  247
  4517    203  248
  4630    239  247
  4736    280  247
  4811    309  249
  4853    350  247
  4923    383  249
  4951    420  248
  5019    458  248
  5106    533  249
  5250    609  249
0128
SEE NOTES 2,7
181600      0    0
  1616      1    8
  1640     31   82
  1705     58  177
  1732     86  285
  1750    100  358
  1812    121  447
  1835    145  535
  1900    188  587
  1909    219  587
  1915    245  574
  1925    286  533
  1935    358  446
  1947    431  357
  2000    508  266
  2015    598  177
  2035    681  137
  2052    736  121
0129
SEE NOTES 2,7
184200      0    0
  4212     11    0
  4307      4    0
  4315     41   16
  4335    114  323
  4365    148  460
  4405    204  709
  4415    261  717
  4420    307  668
  4427    363  598
  4436    426  515
  4447    507  468
  4458    582  428
  4515    693  372
  4530    807  303
  4600    989  225
  4622   1137  169
0130
SEE NOTES 2,7
104630
  5130      0    0
  5147     16
  5200     45  136
  5208     62  265
  5214     74  351
```

```
TIME   STRAIN STRS
  5220    85  427
  5225   100  513
  5230   120  574
  5240   163  620
  5245   193  618
  5251   243  568
  5300   313  49'
  5310   385  427
  5321   468  392
  5340   586  397
  5352   660  397
  5406   737  396
0131
SEE NOTES 2,7
100530     0    0
  0601     0    4
  0615    23   86
  0626    39  183
  0635    51  273
  0645    64  365
  0655    78  452
  0705    92  539
  0715   116  626
  0730   168  680
  0736   195  676
  0740   238  653
  0743   278  606
  0747   327  535
  0751   407  398
  0755   516  214
  0802   592  127
  0806   620  100
  0814   683   82
0132
SEE NOTES 2,7
120539     0    0
  0608     0   15
  0615    12   96
  0621    27  185
  0627    40  265
  0631    52  346
  0636    64  427
  0641    79  510
  0646    88  574
  0651   105  653
  0658   131  725
  0705   161  756
  0709   189  755
  0713   229  702
  0720   304  570
  0725   372  460
  0735   464  364
  0746   545  320
  0802   657  288
0133
SEE NOTES 2,7
135413          0
140020     0    6
    44    38   16
    47    43   62
    52    51  134
    56    58  207
  0100    65  270
  0106    78  365
  0111    87  442
  0116   100  523
  0120   112  595
  0126   128  675
  0132   143  748
  0139   166  818
  0147   196  880
  0153   227  896
  0157   261  884
  0203   319  803
  0211   415  618
  0226   585  366
  0238   680  299
  0252   766  281
0134
SEE NOTES 2,7
151748     0    0
  1800     0   16
  1807     7   91
  1823    43  336
  1851   132  676
  1857   171  667
  1902   210  616
  1911   282  520
  1925   382  424
  1936   460  377
  1946   532  334
  1959   650  288
  2013   706  249
0135
SEE NOTES 2,7
192655     0    0
  3057     3    5
  3118    19    5
  3138    33   13
  3200    41   81
  3209    44  107
```

```
TIME   STRAIN STRS
  3209    53  160
  3238    58  189
  3255    69  232
  3315    81  271
  3330    92  298
  3420   141  348
  3550   183  344
  3565   254  291
  3625   310  261
  3652   350  249
  3735   408  233
  3810   446  231
  3850   504  226
0136
SEE NOTES 2,7
185452     0    0
  5503     0    7
  5642    17   75
  5719    36  160
  5745    51  230
  5817    71  301
  5900   103  374
  5918   120  388
190000   180  374
    10   195  361
    50   263  305
  0118   303  277
  0215   383  244
  0315   463  238
  0419   543  230
  0453   588  229
  0535   643  222
0137
SEE NOTES 2,7
125123     0    0
  5200     3    2
  5213    22  102
  5221    30  166
  5229    35  251
  5249    42  264
  5350    56  267
  5603    73  262
  5750    88  266
  5910   108  266
130100   143  263
  0600   183  263
  0930   223  265
  1300   291  263
  1530   361  264
  1700   431  249
  1900   527  264
  2100   652  265
  2135   635
0138
SEE NOTES 2,7
092445     0    0
  2500     0   16
  2510     7   67
  2518    14  134
  2525    18  245
  2848    30  244
  3059    33  243
105200    57  246
162900    97  241
205859   122  243
235800   134  242
074034   170  243
102800   187  244
  3030   173
  4100   173
113500   172
0139
SEE NOTES 2,7
183945     0
  4003     0    1
  4022     2   11
  4040     7   23
  4055    11   33
  4124    19   52
  4150    23   71
  4220    30   94
  4245    34  112
  4312    39  133
  4400    48  170
  4448    57  205
  4538    66  243
  4627    75  279
  4745    88  333
  4847    99  375
  5030   121  439
  5230   168  470
  5245   176  466
  5300   186  457
  5420   266  366
  5545   354  280
  5653   408  236
0140
SEE NOTES 2,7
104240     0
  4325          102
  4350   238  102
```

```
TIME   STRAIN STRS
  4504   260  102
  4555   276  102
110700   288  102
  5630   313  102
130000   320  102
140700   327  102
150800   338  102
171900   346  102
185000   356  102
20C700   365  102
211100   370  102
  2736   347    0
  3000   332    0
  4000   330    0
075700   323    0
083600   322    0
0149
SEE NOTES 2,7
190850     0    0
  0900     0    0
  0905     6   25
  0910    16   58
  0915    25   97
  0925    41  174
  0929    48  210
  0933    57  247
  0938    68  283
  0943    79  319
  0948    93  350
  0954   110  387
  1007   159  429
  1013   189  429
  1017   218  411
  1022   264  372
  1031   358  283
  1036   431  229
0150
SEE NOTES 2,7
194751     0    0
  4800     0    1
  4815    31   93
  4823    44  158
  4836    64  241
  4904    87  241
  4940   106  243
  5020   124  243
  5058   143  243
  5136   160  241
  5214   178  238
  5256   215  237
  5312   249  243
  5352   294  224
  5510   362  243
  5642   420  243
  5715   482  243
  5733   552  240
  5755   613  239
0151
SEE NOTES 2,7
210249     0    0
  0300     1   13
  0307    15   91
  0313    35  196
  0319    57  270
  0328    94  350
  0333   117  368
  0338   150  375
  0344   191  372
  0355   280  311
  0411   388  270
  0425   484  249
  0442   594  240
  0500   711  231
  0518   824  223
  0540   977  216
0152
SEE NOTES 2,7
231232     0    0
  1241     9   66
  1251    23  155
  1305    28  155
  1400    37  155
  1800    51  153
  3700    77  155
  5200    92  156
242100   115  155
  5500   140  155
013800   173  155
020300   192  155
  4100   220  155
030300   238  155
042200   298  155
  2307   290
0153
SEE NOTES 2,7
091500     0    0
  1542    21  102
  3800    48  102
103500    68  102
114500    89  102
135100   122  102
```

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TIME   STRAIN STRS
151600   140  102
165100   159  102
180037   176  102
205400   216  102
220000   228  102
241557   258  102
081600   380  102
  3500   386  102
  3032   380
  4900   380
092200   380
  2342   380
0157
SEE NOTES 2,7
144350     0    0
  4402     1    0
  4406    10   55
  4410    23  122
  4415    33  171
  4420    44  262
  4425    58  319
  4429    72  392
  4432    78  436
  4435    87  485
  4439   100  539
  4443   110  589
  4446   130  608
  4449   160  589
  4453   208  479
  4456   264  359
  4500   305  300
  4507   367  188
  4514   424  138
0158
SEE NOTES 2,7
160348     0    0
  0401     0    0
  0406    10   42
  0410    15  100
  0414    23  166
  0418    32  240
  0421    35  284
  0425    47  341
  0429    57  393
  0432    67  439
  0435    77  481
  0440    85  535
  0446   107  587
  0450   126  612
  0454   151  612
  0457   183  573
  0503   265  439
  0512   340  316
  0520   419  250
  0526   462  231
0159
SEE NOTES 2,7
131945     0    0
  2000     0    0
  2005     9   48
  2009    18  105
  2014    30  177
  2018    40  227
  2022    49  278
  2025    58  330
  2029    68  383
  2032    79  429
  2037    96  483
  2042   114  525
  2047   138  561
  2051   166  599
  2100   219  566
  2106   285  483
  2115   377  352
  2125   467  252
  2146   620  178
0160
SEE NOTES 2,7
133620     0    0
  3633    15    0
  3639    49    3
  3643    57   61
  3647    66  114
  3654    83  211
  3659    98  270
  3703   115  305
  3711   147  357
  3717   174  403
  3723   202  428
  3733   262  448
  3741   307  448
  3757   415  446
  3819   560  414
  3845   752  357
  3905   877  308
  3919   972  296
  3934  1071  270
  3947  1161  252
0161
SEE NOTES 2,7
185152     0    0
```

```
TIME   STRAIN STRS
  5200     3   25
  5205    13   92
  5208    20  138
  5212    30  193
  5215    43  235
  5219    58  262
  5222    79  274
  5227   108  278
  5232   147  272
  5238   194  249
  5249   267  225
  5301   342  209
  5312   412  200
  5325   498  189
  5337   575  188
  5356   691  177
  5408   765  178
  5421   844  172
  5438   959  169
  5504  1114  166
0162
SEE NOTES 2,7
194950     0    0
  5202    10    8
  5208    33   25
  5212    40   73
  5215    44  121
  5219    56  185
  5223    70  229
  5229    93  266
  5232   156  266
  5242   183  262
  5251   243  229
  5302   310  207
  5319   407  192
  5333   500  185
  5347   590  175
  5402   681  164
0166
SEE NOTES 2,7
140145     0    0
  0203     0    2
  0207     5   59
  0215    18  177
  0222    33  297
  0230    47  456
  0240    63  647
  0248    77  795
  0257    92  939
  0309   110 1155
0167
SEE NOTES 2,7
150518
  0530     0    0
  0536     7   44
  0542    24  156
  0548    37  245
  0558    56  398
  0607    75  550
  0615    88  663
  0621   100  778
  0632   120  923
  0642   144 1067
  0654   193 1163
  0658   222 1136
  0700   286  926
0168
SEE NOTES 2,7
162545     0    0
  2600     0    0
  2639    21  111
  2705    43  254
175200    81  242
182800    92  242
184100    97  236
203200   140  249
204500   184  249
205900   214  242
211300   250  266
212400   292  249
212408   293  249
213000   329  249
213020   308
214000   301
223800   301
0169
SEE NOTES 2,7
104304
  4345
  4432     0    0
  4445    24  246
  4900    46  246
  5900    63  246
110800    86  246
  1900   107  246
113000   154  246
  3700   [illegible]  246
  4100   [illegible]  246
  4300   [illegible]  246
  4600   315  253
  5100   376  246
```

```
TIME   STRAIN STRS
  5137   356
0170
SEE NOTES 2,7
132000     0    0
  2030    47  248
  2500    83  248
  2800   107  242
  3115   153  248
  3300   203  249
  3400   260  248
  3452   341  248
  3509   379  241
  3532   446  248
  3552   515  249
  3604   572  233
  3615   620  242
  3633   710  251
  3648   813  246
  3702   918  240
  3714  1021  238
  3730  1154  243
  3744  1304  264
  3800  1436  242
  3811  1504  249
  3822  1584  242
  3848  1691  242
0171
SEE NOTES 2,7
145745     0    0
  5759    35  242
  5815    46  241
  5837    62  242
  5925    84  250
150005   119  248
  0152   142  242
  0203   181  246
  0243   223  241
  0313   258  232
  0335   301  244
  0403   377  249
  0421   453  244
0172
SEE NOTES 2,7
155845     0    0
  5905    46  240
  5931    71  240
  5953    88  240
160015   102  240
  0040   116  240
  0125   139  240
  0224   172  240
  0339   209  243
  0459   253  243
  0600   297  250
  0645   330  244
  0747   380  245
  0831   415  239
  0905   450  242
  0920   430    0
0173
SEE NOTES 2,7
163451     0    0
  3502    41  241
  3521    57  248
  3616    76  248
  3715    94  242
  3827   114  261
  3923   133  251
  4059   171  252
  4217   216  244
  4306   249  258
  4355   291  249
  4434   330  249
  4458   364  241
  4527   406  241
  4549   446  248
  4557   421
0174
SEE NOTES 2,7
175600     0    0
  5708    58  232
  5714    92  251
  5719   127  255
  5724   162  251
  5729   208  242
  5733   250  235
  5737   291  251
  5741   340  242
  5743   386  259
  5747   447  259
  5751   523  251
  5755   617  259
  5800   751  251
  5806   732
0175
SEE NOTES 2,7
190300     0    0
  0340     0    0
  0404    41  246
  0409    57  248
  0415    77  252
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TIME  STRAIN STRS
  0420    98  252
  0423   115  252
  0427   137  248
  0432   173  252
  0437   213  256
  0441   249  256
  0445   287  256
  0451   341  232
  0457   403  248
  0500   445  264
  0504   490  281
  0508   538  252
  0512   482
0182
SEE NOTES 2,7
133340     0    0
  3400    20  102
  3442    47  102
  3506    66  102
  3525    85  102
  3545   108  102
  3600   124  102
  3618   143  102
  3645   181  102
  3708   219  102
  3735    62  102
  3755   297  102
  3815   335  102
  3837   378  102
  3853   412  102
  3910   450  102
  3950   543  102
  4030   637  102
  4105   739  102
  4135   835  102
  4235  1031  102
  4315  1075  102
0183
SEE NOTES 2,7
150745     0    0
  0805    32  102
  0840    68  102
  0930    86  102
  1030   111  102
  1145   141  102
  1235   160  102
  1342   183  102
  1515   220  102
  1635   260  102
  1915   350  102
  2130   430  102
  2247   487  102
  2430   567  102
  2535   626  102
  2554   477
  2633   550
0184
SEE NOTES 2,7
163602     0    0
  3904    51  102
  4235    63  102
  5125    96  102
171000   121  102
  3500   123  102
  5200   145  102
184505   180  102
200400   225  102
221600   295  102
  2200   294    0
  3045   272
  3300   261
0187
SEE NOTES 2,7
135604
  5725
  5746     0  102
  5820     8  102
140100    25  102
142700    44  102
143500    65  102
150700    96  102
  3400   178  102
  5200   151  102
160700   182  102
  2200   223  102
  3700   296  102
  4330   341  102
  4800   380  102
  5200   419  102
  5430   465  102
  5730   496  102
170000   535  102
  0300   588  102
  0610   640  102
0188
SEE NOTES 2,7
094300     0    0
  4328    66    0
  4409    50  102
  5015    73  102
100200   108  102
```

```
TIME  STRAIN STRS
  0700   131  102
  1000   150  102
  1300   169  102
  1530   189  102
  1710   208  102
  2030   247  102
  2300   288  102
  2515   323  102
  2730   363  102
  2930   401  102
  3131   439  102
  3330   478  102
  3500   518  102
  3730   594  102
  3930   669  102
  3950   492
  4710   627
0189
SEE NOTES 2,7
212800     0    0
  2805    13   16
  2809    29   36
  2814    44   58
  2818    51   67
  2930    51   68
  4000    55   68
0190
SEE NOTES 2,7
021700     0    0
  1715    15   20
  1732    32   40
  2000    32   40
  2500    35   40
  3000    36   40
  4100    37   40
0191
SEE NOTES 2,7
034830     0    0
  4843    29   20
0192
SEE NOTES 2,7
113233     0    0
  3300    27   29
  3500    30   29
  4400    33   29
120300    35   29
  2300    36   29
  4500    37   29
131500    38   29
141200    39   29
150000    40   29
155600    42   29
165400    43   29
190600    47   29
220900    51   30
020000    56   29
060300    60   29
110000    72   29
170800    86   29
220000   106   29
000600   114   29
073800   135   29
084500   151   29
090000   155   29
091500   163   29
093500   175   29
0193
SEE NOTES 2,7
100310     0    0
  0333    26   33
  0413    31   33
0194
SEE NOTES 2,7
102140     0    0
  2150    23   23
  2200    37   46
  2600    41   46
  4000    44   46
  5900    47   46
112700    50   46
  5600    53   46
123500    57   46
130500    60   46
132500    64   46
140700    70   46
  3800    78   46
150200    97   46
151100   117   46
0196
SEE NOTES 2,7
102900     0    0
  2905    10   26
  2909    19   53
  2913    27   85
  2917    34  115
  2921    40  144
  2924    46  166
  2928    52  199
  2931    58  228
  2935    66  254
  2938    75  280
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TIME  STRAIN STRS
  2945    99  303
  2948   124  290
  2953   185  228
  3004   274  155
  3040   498   90
0197
SEE NOTES 2,7
203939     0    0
  3954    20  153
  3959    27  211
  4002    31  249
  4006    36  296
  4010    40  355
  4013    45  409
  4016    47  448
  4020    53  515
  4023    57  521
  4026    60  605
  4030    66  656
  4037   579  741
0198
SEE NOTES 2,7
225045     0    0
  5052    11   41
  5057    26   90
  5104    49  169
  5111    67  250
  5117    82  329
  5121    94  395
  5125   104  451
  5130   121  457
  5135   141  566
  5140   167  598
  5143   193  566
  5146   230  491
  5157   319  386
0199
SEE NOTES 2,7
224700
  4705     0    0
  4710    16   41
  4716    39   81
  4723    70  137
  4728   100  146
  4733   140  147
  4742   201  132
  4752   264  171
  4800   316  112
  4812   396  103
  4825   482   94
  4836   558   86
  4354   674   78
0200
SEE NOTES 2,7
132200     0    0
132204     4   47
132207    11   96
132211    19  138
132214    29  188
132218    37  232
132223    53  292
132228    71  350
132233    92  390
132239   124  410
132245   165  406
132250   211  390
132259   289  260
132312   380  202
132329   491  168
132345   600  145
0201
SEE NOTES 2,7
115100
115107     0    0
115112    24   31
115117    51   58
115123    80   88
115127   104  104
115131   125  112
115136   148  116
115140   188  114
115147   236  114
115157   304  111
115215   424   98
115230   528   96
115245   626   96
115315   828   90
115330   922   88
0202
SEE NOTES 2,7
154832     0    0
154836     8   38
154840    15   90
154844    31  137
154847    39  169
154853    73  207
154856    93  218
154902   127  225
154912   195  219
154921   255  200
154929   319  182
```

```
TIME  STRAIN STRS
154940   395  160
154957   519  140
0203
SEE NOTES 2,7
170916     0    0
170920     7   39
170925    20   80
170928    31  121
170932    41  164
170935    47  204
170940    59  252
170944    70  324
170949    86  416
170954    96  485
171000   107  599
171004   118  637
171012   135  741
171020   164  849
171024   180  866
171028   218  818
171032   557    0
0204
SEE NOTES 2,7
184132     0    0
184137    12   44
184142    30   90
184148    64  127
184158    80  160
184209   188  168
184228   320  155
184243   424  147
184257   520  138
184313   620  132
184317   648  131
184327   720  130
184343   824  126
184358   920  122
0205
SEE NOTES 2,7
213830     0    0
213901    23  102
214008    37  102
214400    50  102
214500    54  102
215102    49  102
220000    87  102
221102   104  102
222100   118  102
224203   142  102
232400   187  102
235303   214  102
244800   269  102
251752   302  102
260553   356  102
264653   404  102
275145   488  102
275900   492  102
280000   473  102
0206
SEE NOTES 2,7
092100     0    0
092245   156  102
092330   174  102
092400   204  102
092416   219  102
092432   238  102
092500   273  102
092534   320  102
092545   335  102
092600   358  102
092630   408  102
092700   461  102
092730   523  102
092834   623  102
092915   719  102
093054   815  102
093302   915  102
093345  1006  102
093429  1106  102
093507  1198  102
093550  1296  102
0207
SEE NOTES 2,7
122930
123001     0    0
123005    13   21
123009    22   40
123012    29   56
123015    36   87
123018    41  111
123021    48  137
123024    52  152
123027    59  172
123030    63  214
123034    68  247
123038    73  282
123042    80  319
123047    88  353
123051    91  393
123057    99  450
123102   102  498
```

```
TIME  STRAIN STRS
123110   116  571
123122   135  671
123132   185  743
0208
SEE NOTES 2,7
013701     0    0
013705     0   60
013711    11  127
013718    29  206
013721    38  253
013726    48  330
013730    57  400
013735    68  466
013740    80  567
013748    91  633
013751   137  746
013756   120  819
013802   134  887
013810   161  964
013818   198 1013
013822   225 1000
0209
SEE NOTES 2,7
101145     0    0
101202     0    0
101207     9   20
101212    20   57
101224    38  154
101233    52  245
101244    68  334
101254    81  423
101303    94  512
101313   109  598
101324   126  683
101331   144  729
101334   158  738
101337   180  723
0210
SEE NOTES 2,7
120200     0    0
120210     9   60
120217    29  142
120223    45  215
120227    56  266
120232    67  338
120237    77  417
120242    85  500
120246    96  567
120251   103  639
120255   113  717
120301   126  788
120307   144  860
120314   170  901
120317   193  896
120322   247  866
120326   309  818
120340   495  275
0211
SEE NOTES 2,7
041003     0    0
041008     0   61
041012     0  103
041017     4  152
041022    43  198
041028    57  228
041031    78  231
041035   125  228
041040   164  228
041045   190  216
041050   211  200
041056   257  177
041107   346  125
041118   427  101
0212
SEE NOTES 2,7
071540     0    0
071601     0    0
071605         32
071609     4   82
071613    33  135
071618    33  198
071623    40  257
071627    68  325
071632    79  355
071637   106  395
071643   146  432
071653   176  465
071657   220  469
071703   257  462
071710   295  432
071714   331  406
071719   369  377
071724   407  364
071729   444  294
0213
SEE NOTES 2,7
094640     0    0
094702     1    6
094706     9   59
094711    24  119
094715    43  152
```

```
TIME  STRAIN STRS
094719    62  163
094723    72  163
094727   121  152
094740   208  143
094753   285  134
094803   359  127
094816   440  119
094827   517  111
094838   593  107
094851   673  103
094857   719  101
094909   785   98
094920   851   95
094926   900   95
094938   938   95
094951  1053   93
095006  1093   93
095009  1170   91
0214
SEE NOTES 2,7
102248     0    0
102300     0    0
102340     0    0
102345     2   11
102400     9   54
102417    18   95
102439    38  131
102506   107  146
102545   130  144
102624   188  127
102702   204  115
102756   283  103
102851   342   90
102945   437   85
103100   502   78
103207   673   78
103315   768   73
103423   861   72
0215
SEE NOTES 2,7
105638     8    0
105704    24   61
105734    53   97
105806    95  114
105812   103  118
105850   154  118
105855   180  118
105938   224  111
110000   300   97
110030   372
110304   520   73
110400   597   70
110444   654   63
0216
SEE NOTES 2,7
035145     0    0
035201     0    0
035215    37   26
035239    50   65
035304    75  103
035337   120  109
035405   157  101
035437   195   90
035542   271   85
035613   310   85
035715   389   82
035812   467   78
035914   593   77
040020   670   77
040125   701   77
040227   772   77
040330   848   77
0217
SEE NOTES 2,7
070945     0    0
071000     1    9
071009     7   24
071016     9   53
071029    15   97
071055    29   98
071120    39  256
071143    48  332
071205    57  412
071228    65  489
071249    73  562
071312    83  637
071337    95  714
071413   121  765
071428   153  761
071445   202  637
071510   277  464
071553   369  379
0218
SEE NOTES 2,7
101121     0   28
101245     0
101305     8
101800    14
103906    26
125656    52
160413    77
```

```
TIME   STRAIN STRS
180657     83
200804    833
210906     96
260236    115
341330    134
440804    152
481213    160
530557    169
540622    172
560846    172
0218
SEE NOTES 2,7
001000      0    20
160410     77
200805     92
210900     95
221035    102
231108    103
241205    107
251316    110
251345    111
261436
281610    119
281645    120
301810    123
311906    125
322041    130
342230    134
352330    136
440806    154
450935    158
471110    160
481214    161
501412    165
511512    432
521657    168
541815    170
562046    173
572115    173
0219
SEE NOTES 2,7
100245      0     0
100304      0     8
100308      8    55
100313     19   103
100317     30   159
100324     53   237
100331     76   315
100337     95   395
100343    110   479
100348    130   552
100356    160   620
100401    188   650
100405    218   641
100409    263   544
100414    345   355
100420    453   198
0220
SEE NOTES 2,7
091750      0     0
091802      1     0
091810     17    35
091815     37    78
091819     50   118
091825     68   165
091831     93   239
091839    102   320
091847    160   397
091901    225   473
091908    259   494
091913    286   499
091938    394   489
091925    446   427
091944    537   402
0221
SEE NOTES 2,7
111349      0     0
111404      2    11
111409     18    56
111414     49    89
111421     77   132
111427    109   149
111438    191   153
111449    272   143
111501    352   133
111519    469   126
111527    592   121
111546    653   118
111555    716   111
0222
SEE NOTES 2,7
092845      0     0
092902      1     3
092907      8    29
092911     18    41
092916     23   101
092920     31   141
092925     36   160
092932     47   238
092938     53   294
092945     64   357

TIME   STRAIN STRS
092957     83   446
093003    103   477
0223
SEE NOTES 2,7
115745      0     0
115802      0     0
115805      4     8
115809     11    32
115814     17    64
115818     28    94
115823     35   154
115827     42   172
115832     51   217
115839     64   261
115844     75   306
115850     88   350
115858    108   395
115902    126   425
115905    147   397
0224
SEE NOTES 2,7
115101      0     0
115105      9    32
115110     17    89
115114     23   148
115119     39   203
115123     48   260
115127     59   305
115130     70   351
115136     92   400
115139    114   409
115147    170   411
115150    210   345
115157    278   284
0225
SEE NOTES 2,7
014840      0     0
014901      0     0
014908      4     8
014913     14    55
014917     22   103
014920     33   151
014925     48   206
014929     59   261
014933     70   316
014937     84   381
014941     96   432
014949    132   492
014954    166   492
014957    207   418
015001    259   293
0226
SEE NOTES 2,7
112045      0     0
112103      0     0
112111      4    15
112116      8    30
112132     16    79
112148     22   119
112204     30   158
112223     41   198
112237     52   213
112318     95   245
112323    103   230
112350    152   158
112427    200   119
112457    249   103
112547    307    87
112636    364    87
112705    408    84
0228
SEE NOTES 2,7
025341      0     0
025401      0     0
025436      3     6
025438     13    47
025442     29    86
025446     41   134
025451     60   165
025458     95   197
025506    101   204
025511    186   192
025526    278   169
025540    397   148
025553    478   140
025605    558   134
0229
SEE NOTES 2,7
045001      0     0
045006      6    17
045011     11    66
045015     40   104
045020     61   130
045027    116   143
045038    195   108
045048    275    93
045100    355    83
045113    475    73
045125    565    66
0230
SEE NOTES 2,7

TIME   STRAIN STRS
104945      0     0
105006      0     0
105020      4    23
105117     42    71
105146     79    79
105210    130    79
105257    171    71
105326    211    71
105408    268    63
105453    232    63
105536    391    55
105619    452    55
105706    472    55
105806    592    55
105938    712    55
0231
SEE NOTES 2,7
030140      0     0
030201      1     1
030210      2     7
030238     30    41
030332     95    70
030408    142    73
030451    201    76
030551    283    77
030700    370    78
030800    456    80
030900    539    77
031000    627    77
031100    691    83
031210    803    82
031310    882    85
031410    963    87
031509   1042    88
031611   1121    89
031710   1199    92
0232
SEE NOTES 2,7
043301      0     0
043352     23    23
043441     79    39
043528    143    47
043551    183    47
043643    243    47
043744    323    39
043847    403    39
044017    483    39
044111    605    39
044211    686    39
044313    766    39
044412    840    39
0233
SEE NOTES 2,7
095240      0     0
095302      1     3
095306      8    34
095312     16    74
095317     23   116
095321     29   153
095325     33   192
095331     39   244
095336     47   294
095340     48   293
095419     50   285
095620     59   279
095638     67   351
095639     71   422
095646     81   509
095652     90   547
095700    112   587
095703    173   551
0234
SEE NOTES 2,7
110543      0     0
110602      0     0
110613      4    20
110618     16    78
110623     28   139
110627     38   193
110630     45   238
110634     57   290
110641     72   376
110644     95   385
0235
SEE NOTES 2,7
013338      0     0
013402      0     0
013406      6    41
013410     13    84
013414     23   147
013419     35   210
013423     46   273
013428     58   335
013433     78   395
013438     90   429
013441    110   427
013445    195   400
013453    230   313
013459    278   265
013506    328   225
013514    390   126

TIME   STRAIN STRS
0236
SEE NOTES 2,7
031440      0     0
031501      0     0
031509      0     8
031513     11    55
031518     22   103
031521     38   143
031527     52   182
031534     95   203
031540    130   238
031548    176   245
031613    333   285
031630    443   293
031656    548   285
031715    709   262
031721    780   253
0237
SEE NOTES 2,7
030949     00     0
031002     00     8
031006     11    47
031009     19    87
031014     45   103
031017     80    55
031021    119    15
031026    152     8
031033    213     0
031045    291
031057    369
031111    437
031122    567
0238
SEE NOTES 2,7
102749      0     0
102800      2     0
102824      4     8
102841      9    48
102857     20    82
102916     31   124
102934     45   163
102956     61   205
103021     84   240
103038    104   255
103107    140   256
103138    181   231
103212    240   191
103251    301   158
103351    381   154
103505    482   146
103600    554   145
0239
SEE NOTES 2,7
113347      0     0
113400      7     0
113424     15    40
113434     30    71
113454     42   111
113515     59   158
113534     73   198
113558     94   237
113635    135   269
113710    183   261
113752    247   237
113720    283   229
113705    344   213
114003    429   198
114031    460   198
114102    504   190
114132    546   183
114203    535   174
114221    604   174
0240
SEE NOTES 2,7
021247      0     0
021300      0     0
021331      4     8
021355     34    40
021449     87    71
021536    149    71
021618    210    63
021702    273    55
021747    336    47
021817    378    47
021900    441    47
022948    504    47
022038    566    47
022105    608    47
022149    670    47
022239    732    47
022340    815    43
022500    925    39
0241
SEE NOTES 2,7
035648      0     0
035700      0     0
035722      4     8
035742     16    47
035803     35    87
035843     67   166
035920    102   245

TIME   STRAIN STRS
040012    147   325
040043    191   333
040056    215   325
040131    280   245
040157    323   221
040300    419   198
040400    504   162
040430    548   178
040530    624   175
040630    704   166
040659    748   159
0242
SEE NOTES 2,7
061045      0     0
061059      2     3
061120     11    30
061152     23    80
061215     32   117
061235     39   150
061252     45   177
061315     52   212
061338     61   247
061404     71   285
061444     89   337
061520    113   370
061537    129   368
061548    149   352
061559    180   320
061619    229   261
061644    283   212
061714    331   186
061749    377   171
061826    421   164
0243
SEE NOTES 2,7
035901      0    28
035903      1
041500      1
050235      8
070200     11
090200     16
090200     16
120200     19
020214     20
080020     23
120324     28
040328     29
071031     30
102934     31
122936     31
081544     37
020450     40
080056     41
103558     41
081268     42
120472     42
045076     43
103282     49
035887     49
101294     51
0244
SEE NOTES 2,7
033641      0     0
033701      4     0
033705      8    48
033709     22    79
033714     41   119
033718     62   151
033724     95   166
033730    171   166
033735    183   143
033740    219   135
033749    263   127
033750    340   127
033804    384   119
033810    473   119
033816    486   119
033822    500   111
033831    560   111
033839    620   103
033849    683   103
033903    780    95
0245
SEE NOTES 2,7
051146      0     0
051203      0     0
051213      8    48
051217     19    88
051221     27   135
051225     41   166
051233     50   191
051238    123   198
051250    203   198
051258    263   198
051308    323   198
051313    383   198
051327    443   198
051338    521   191
051348    600   183
0246
SEE NOTES 2,7

TIME   STRAIN STRS
101240      0     0
101304      0     0
101311     11    47
101314     22    95
101318     34   135
101323     59   158
101332    119   158
101340    179   151
101348    239   135
101357    300   127
101406    360   119
101412    400   119
101421    456   111
101430    520   111
101443    527   106
101447    641   102
101458    721   102
0247
SEE NOTES 2,7
113440      0     0
113500      0     0
113517      4     8
113537     11    39
113542     19    55
113610     42   103
113617     50   127
113643     67   154
113653     74   198
113733    110   261
113802    143   285
113827    179   285
113909    240   269
113937    280   253
114005    320   245
114049    380   238
114149    460   229
0248
SEE NOTES 2,7
031640      0     0
031701      0     0
031713      0     0
031804      8    39
031821     11    79
031838     30   118
031858     48   158
031915     59   198
031934     74   238
031957     95   277
032017    111   301
032048    151   315
032118    192   309
032158    291   292
032227    592   285
0249
SEE NOTES 2,7
105141      0     0
105205      0     0
105226      4     8
105243     11    39
105312     41    79
105413    115   111
105449    171   111
105529    231   111
105613    291   103
105655    352   103
105738    411    95
105829    480    95
105920    552    95
110003    612    87
110047    672    87
110134    733    87
110216    798    87
0250
SEE NOTES 2,7
095501      0     0
095505      3     9
095516     27    78
095521     36   117
095527     48   176
095532     56   209
095538     62   266
095549     69   354
095554     82   397
095559     93   441
095604    102   508
095612    117   553
095616    130   577
095620    227
0251
SEE NOTES 2,7
034159      0     0
034203     13    63
034206     21   109
034210     28   193
034214     38   250
034217     46   308
034220     52   363
034224     59   423
034227     64   433
034230     70   542
034233     82   596
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TIME   STRAIN STRS
034237    102  654
0252
SEE NOTES 2,7
015223      0    0
015239      7    9
015321     16   39
015345     21   59
 15423     27   88
015512     39  126
015603     49  165
015654     61  202
015748     73  237
015852     89  273
015945    101  288
020010    133  283
020033    153  273
020050    168  264
020107    183  253
020143    213  235
020222    241  220
020322    272  201
020440    341  183
020604    393  167
020728    348  157
0253
SEE NOTE  2,7
071200      0    0
071205      5   19
071210      7   57
071218     21  119
071219     28  177
071229     34  229
071234     40  263
071240     49  319
071243     53  351
071246     59  377
071250     64  407
071255     73  443
071302     91  490
071305    105  499
071309    130  493
0254
SEE NOTES 2,7
180003      0    0
180007     16   63
180010     28  121
180014     37  178
180017     47  232
180021     55  294
180025         312
0255
SEE NOTES 2,7
092355      0    0
092532      4   10
092600     14   34
092631     18   58
092700     21   82
092800     37  126
092900     55  189
093000     70  209
093100     90  225
093130    108  225
093200    125  222
093300    163  215
093430    231  185
093530    281  163
093800    382  145
094100         148
0256
SEE NOTES 2,7
112000      0    0
112005      7   19
112011     19   59
112016     28   99
112022     39  138
112027     48  195
112032     54  236
112038     61  283
112043     69  330
112047     72  358
112050     78  390
112053     83  419
112058     91  460
112102     99  495
112107    109  532
112110         522
0257
SEE NOTES 2,7
103000      0    0
103005     13   56
103008     21  103
103012     29  182
103014     39  233
103018     48  294
103022     55  363
103025     62  415
103028     70  475
103031     78  541
103034     85  597
0258
SEE NOTES 2,7

TIME   STRAIN STRS
102800      0    0
102820      4   17
102915     14   53
103015     31   95
103130     36  147
103255     79  208
103408     91  251
103518    110  316
103637    137  341
103652    148  333
103728    177  307
103810    213  278
103920    271  243
104020    311  225
104130    358  211
104245    405  208
104400    452  200
104520    502  198
104625    538  196
0259
SEE NOTES 2,7
111359      0    0
111500      8   54
111600     15  103
111700     23  167
111800     32  208
111900     43  266
112000     62  295
112014     73  293
112030     96  253
112053    193  109
112115    234   36
112200    277   10
112300    338    2
0260
SEE NOTES 2,7
103506      0    0
103513     13   20
103519     24   86
103525     33  137
103528     39  179
103532     42  215
103536     48  250
103540     51  286
103544     55  322
103548     58  357
103553     62  400
103557     67  441
103602     72  492
103607     75  536
103611     79  570
103614     82  602
103618     89  637
103622     92  671
103626     98  702
0261
SEE NOTES 2,7
025758      0    0
025802     14   46
025806     27  100
025809     36  156
025812     45  208
025815     48  256
025818     59  307
025821     66  366
025824     73  418
025827     81  476
025830     90  532
025833     99  578
025836    111  614
025839    126  159
0262
SEE NOTES 2,7
014651      0    0
014659      9   21
014800     23   69
014900     38  108
015000     51  170
015100     61  223
015200     70  278
015303     80  299
015400     90  378
015500    106  422
015600    132  441
015615    157  437
015645    173  411
015731    237  333
015845    314  263
020000    372  239
020200    451  225
0263
SEE NOTES 2,7
124204      0    0
124212     15   13
124217     31   69
124224     47  126
124230     61  163
124237     77  210
124244     92  254
124251    113  299
124302    152  343

TIME   STRAIN STRS
124306    255  379
0264
SEE NOTES 2,7
032959      0    0
033003     16   50
033007     29  100
033010     41  156
033014     52  212
033017     61  265
033020     70  319
033024     80  393
033027     87  454
033030    100  495
033032
033118
0265
SEE NOTES 2,7
010804      0    0
010846      8   26
010940     20   69
011030     29  111
011100     34  135
011200     45  189
011300     57  234
011400     69  280
011430     76  299
011530     89  338
011645    115  369
011710    127  371
011730    140  367
011820    169  323
011916    247  242
012011    303  217
012112    349  196
012300    381  177
012500    391  174
0266
SEE NOTES 2,7
105145      0    0
105200      1    1
105205     11   33
105211     21   74
105218     32  135
105225     42  193
105230     50  242
105236     57  297
105240     63  339
105245     71  379
105249     75  387
105253     80  422
105256     86  468
0267
SEE NOTES 2,7
092840      0    0
092900      0    0
092905      7   47
092909     20  115
092913     39  193
092918     42  280
092921     65  303
092927     83  400
0268
SEE NOTES 2,7
091302      0    0
091400      7    7
091514     30   43
091640     50  107
091727     60  132
091840     78  195
091945     95  236
092100    117  274
092318    171  322
092347    189  319
092410    206  311
092443    232  290
092515    260  267
092545    289  248
092642    333  225
092750    363  211
092830    367  206
092940    371  200
093130    381  199
093345    393  198
0269
SEE NOTES 2,7
102205      0    0
102210     10   31
102217     25   79
102224     40  129
102230     56  156
102240     84  221
102250    116  268
102257    135  313
102304    157  353
102314    185  396
102320    207  429
102323    223  453
0270
SEE NOTES 2,7
112141      0    0
112200      0    0

TIME   STRAIN STRS
112205     13   45
112209     27   93
112212     38  145
112215     48  196
112220     59  278
112225     71  368
112230     83  459
112235     95  547
112239    106  632
112242    116  683
112245    128  722
0271
SEE NOTES 2,7
200550      0    0
200615      4   19
200641      9   38
200730     18   77
200835     31  146
200922     40  173
201000     48  203
201048     63  229
201110     79  228
201130     95  215
201230    103  200
201400    205  165
201700    310  151
202000    410  151
0272
SEE NOTES 2,7
022744      0    0
022800      0    0
022810     18   43
022818     37  102
022826     52  157
022832     61  207
022842    169  116
022850    187  195
022900    217  223
022903    367  193
0273
SEE NOTES 2,7
213955      0    0
214000     12   53
214003     20  113
214006     25  173
214009     30  227
214012     35  280
214016     40  354
214019     46  421
214022     49  485
214025     53  548
214028     57  603
214031     61  658
0274
SEE NOTES 2,7
141202      0    0
141230      1    5
141242     17   43
141400     31   96
141510     41  149
141600     51  188
141704     62  235
141800     71  274
141913     82  323
142022     94  368
142234    108  413
142347    155  449
142428    188  407
142510    238  329
142630    310  265
142722    344  249
142800    373  242
0275
SEE NOTES 2,7
191040      0    0
191100      0    0
191111     21   11
191118     39   48
191121     53   89
191130     63  145
191135     72  195
191145     81  273
191150     90  318
191155     95  369
191200    101  405
191203    105  434
191209    113  495
191215    121  550
191223    132  623
191227    138  657
191240    155  771
191248         786
0276
SEE NOTES 2,7
100440      0    0
100520    226    3
100527    258   69
100533    302  127
100537    337  149
100542    441   51
100600    535  134

TIME   STRAIN STRS
100608    665  175
100618         172
100622         166
100633         167
0277
SEE NOTES 2,7
193100      0    0
193200      1    1
193240     11   28
193345     29   65
193436     41  100
193533     52  144
193609     60  175
193700     69  217
193734     76  248
193817     80  282
193900     89  318
193943     92  353
194025    103  389
194112    112  425
194201    125  461
194318    150  496
194355    173  496
194407    179  488
194451    240  479
194605    351  264
194900    492  205
0278
SEE NOTES 2,7
212132      0    0
212138     12   38
212144     23   87
212148     32  116
212155     46  180
212200     51  208
212203     56  232
212207     61  266
212210     66  298
212215     70  336
212218     74  371
212224     78  429
212227     82  468
212230     85  502
212235     90  549
212240     95  600
212244     97  633
212250    104  690
212253    108  715
212300    113  780
212310    123  875
212318    135  956
212329    153 1039
212340    170 1120
212350    180 1200
212407        1333
0279
SEE NOTES 2,7
233406      0    0
233410      9   59
233415     17  139
233418     25  200
233421     31  259
233425     37  313
233428     44  365
233431     49  416
233434     53  467
233437     62  530
233440     67  593
233444     75  658
233447     81  712
233451     89  766
233454     98  820
233457    106  872
0280
SEE NOTES 2,7
215400      0    0
215508     18   38
215558     33   77
215746     49  116
215831     57  155
215937     71  212
220043     82  264
220124     91  300
220206    101  336
220248    109  371
220333    119  407
220420    128  443
220513    139  479
220608    161  496
220632    176  496
220703    199  479
220712    240  443
221005    375  389
221548    549  336
0281
SEE NOTES 2,7
073100      0    0
073108     11   41
073115     22   92
073120     30  139
073125     37  190

TIME   STRAIN STRS
073129     42  233
073134     49  278
073139     52  311
073143     58  368
073148     63  412
073153     68  458
073158     72  502
073203     77  545
073207     81  586
073212     85  628
073217     91  670
073222     97  712
073226    103  750
073230    107  790
0282
SEE NOTES 2,7
043751      0    0
043801      1    0
043806     13   56
043810     26  144
043815     39  230
043820     49  319
043825     57  406
043829     66  497
043833     73  583
043838     79  649
043840     86  715
043844     92  776
0283
SEE NOTES 2,7
141005      0    0
141031      5   17
141105     12   45
141250     31  119
141300     46  139
141500     52  228
141600     63  271
141700     72  316
141710     87  358
141844    120  395
141910    136  393
141950    182  289
142016    212  279
142147    250  237
142243    301  216
142320    318  206
142420    336  199
142700    351  193
0284
SEE NOTES 2,7
075357      0    0
075402      9   31
075410     23   83
075416     35  132
075422     42  182
075426     50  226
075431     53  280
075436     60  315
075441     64  361
075445     69  402
075450     74  451
075454     79  493
075459     83  537
075503     87  581
075509     91  623
075513     97  666
075517    101  705
075521    105  743
075525    110  783
075530    114  824
075534    120  705
0285
SEE NOTES 2,7
091900      0    0
091904     10   53
091907     17  111
091911     30  171
091915     37  223
091918     41  271
091922     49  332
091925     71  396
091928     77  447
0286
SEE NOTES 2,7
030401      0    0
030411      7   39
030420     13   75
030428     23  118
030436     30  157
030443     39  192
030448     43  213
030456     52  239
030460     61  264
030465     73  277
0287
SEE NOTE 2
111001      0    0
111010      8   26
111016     16   53
111024     25   82
111030     33  112
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TIME   STRAIN STRS
111038     47  143
111045     51  172
111050     58  200
111057     67  227
111063     75  252
111070     82  278
111076     90  307
111083     98  333
111090    108  361
111098    120  396
111105    136  410
0288
SEE NOTE 2
045475      5    0
045502      0    0
045510      4   18
045525     16   76
045537     26  134
045547     35  193
045556     42  244
045563     48  281
045572     54  328
045580     56  369
045586     62  406
045593     67  442
045603     73  497
045612     82  548
045623     89  600
045630     94  634
045640    107  685
045652    122  721
045657    138  729
0289
SEE NOTE 2
113767      0    0
113799      1   22
113815     21  151
113821     27  197
113830     40  270
113844     60  396
113863     74  468
113865     96  546
113874    120  582
113880    142  587
113885    170  517
113893    220  468
113900    294  316
113907    346  237
0290
SEE NOTE 2
022867      0    0
022901      0    5
022913     15   73
022925     31  159
022935     44  239
022944     60  315
022955     84  389
022963    113  402
022970    151  363
022977    191  315
022993    276  237
023008    347  199
023017    374  186
0291
SEE NOTE 2
073901      0    0
073909     10   37
073916     15   76
073922     35  109
073930     51  149
073937     65  185
073945     86  228
073956    120  267
073968    160  282
073973    184  279
073990    265  223
074007    343  169
074016    378  155
074026    422  149
074045    500  128
0292
SEE NOTE 2
043770      0    0
043800      0    0
043820      9   20
043828     21   77
043837     35  154
043843     46  196
043855     75  275
043860     88  285
043866    110  290
043875    144  284
043885    203  251
043902    279  211
043920    360  187
043930    402  178
043949    479  164
0293
SEE NOTE 2
065570      0    0
065581      0    0
```

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TIME   STRAIN STRS
065606      2   10
065610     15   73
065626     22  119
065632     31  164
065640     42  239
065645     51  279
065650     59  323
065654     66  357
065662     77  433
065673     97  509
065687    133  574
065695    160  583
065704    191  582
065720    265  507
065740    381  356
065755    463  293
0294
SEE NOTE 2
101400      0    0
101408      7   58
101415     16  113
101421     26  152
101427     38  181
101432     56  200
101438     76  206
101445    103  206
101452    132  204
101458    157  196
101475    231  175
101524    423  149
101574    617  133
101625    807  125
101675   1000  117
101726   1192  109
0295
SEE NOTE 2
110313      0    0
110321      3   33
110327     11   78
110333     16  125
110336     21  166
110341     24  210
110346     31  262
110351     38  309
110357     48  364
110363     66  387
110369    135  134
0296
SEE NOTE 2
010305      0    0
010313      0    0
010322     11   57
010328     17  111
010334     26  158
010339     33  205
010345     40  247
010350     48  297
010354     56  343
010359     63  387
010364     71  429
010370     83  468
010377     96  510
010385    120  543
010392    144  545
010399    175  533
010413    252  432
010430    349  316
010455    461  291
010480    544  219
0297
SEE NOTE 2
015800      0    0
015808      7   60
015814     13  117
015820     17  159
015824     23  204
015829     33  243
015833     35  284
015838     42  328
015844     48  380
015849     58  424
015853     64  467
015860     77  514
015865     91  551
015871    102  582
015877    115  595
015883    151  589
015896    218  502
015914    313  386
015920    347  363
015956    510  264
015983    624  233
0298
SEE NOTE 2
035302      0    0
035311      7   31
035317     17   77
035322     25  115
035328     32  148
035335     50  191
035343     71  215
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TIME   STRAIN STRS
035348    102  219
035357    131  214
035381    232  187
035431    424  181
035480    618  140
035531    809  131
035580   1001  125
0299
SEE NOTE 2
034598      0    0
034607      1    6
034613      8   44
034618     13   86
034624     20  131
034630     27  173
034635     31  220
034640     46  263
034646     57  377
034651     71  323
034658     92  349
034665    115  356
034672    139  371
034688    201  371
034710    289  335
034734    386  303
034780    579  256
034829    772  189
0300
SEE NOTE 2
052698      0    0
  2710      1    7
  2716      7   38
  2721     21   73
  2729     29  109
  2735     48  143
  2740     63  157
  2746     84  165
  2752    105  165
  2768    171  163
  2783    234  156
  2808    317  148
  2835    411  142
  2884    597  137
  2936    810  135
  2986   1002  135
0301
SEE NOTE 2
062798      0    0
  2806      3   27
  2813     14   82
  2818     21  126
  2823     29  161
  2828     37  202
  2835     43  272
  2841     51  346
  2848     59  403
  2855     68  469
  2862     75  540
  2870     85  616
  2877     95  669
  2883    105  728
  2888    110  776
  2895    124  822
  2904    149  860
  2911    168  874
  2917    188  870
  2928    256  770
  2943    372  540
  2982    587  312
0302
SEE NOTE 2
083868      0    0
  3901      0    6
  3910     10   81
  3920     21  164
  3925     29  210
  3931     34  259
  3938     44  323
  3946     57  401
  3951     69  438
  3961     84  513
  3965    111  570
  3978    134  582
  3986    158  581
  3992    198  550
  4003    255  477
  4011    307  401
  4017    347  361
  4027    384  322
  4045    447  284
0303
SEE NOTE 2
094870      0    0
  4902      1    1
  4919      1    5
  4933     25   77
  4939     35  125
  4948     48  187
  4955     53  257
  4962     71  315
  4969     84  363
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TIME   STRAIN STRS
  4977     99  408
  4984    118  427
  4990    168  337
  4996    257  103
0304
SEE NOTE 2
111470      0    0
  1502      0    1
  1510     10   37
  1516     21   76
  1525     35  115
  1532     58  153
  1541     86  173
  1547    107  177
  1561    165  177
  1574    217  170
  1581    252  166
  1596    308  156
  1607    350
  1622    408  147
  1633    465  147
0305
SEE NOTE 2
013370      0    0
  3401      0    0
  3410     10   37
  3427     23   77
  3438     42  149
  3448     58  236
  3455     70  276
  3462     84  317
  3480    133  374
  3490    162  389
  3500    203  397
  3516    265  400
  3537    349  383
  3550    410  365
  3565    448  347
0306
SEE NOTE 2
042270
  2300      0    0
  2314      1    6
  2320     16   35
  2332     41   75
  2338     60  107
  2347     87  153
  2357    120  180
  2373    187  182
  2380    213  180
  2396    281  174
  2415    361  169
  2430    424  166
  2445    480  163
  2455    522  162
0307
SEE NOTE 2
113898      0    0
  3906      7   35
  3912     20  130
  3918     32  227
  3925     43  352
  3930     55  467
  3935     62  556
  3940     72  647
  3945     80  741
  3949     89  831
  3953     99  914
  3958    113  995
  3962    125 1061
  3968    149 1125
  3974    189 1131
  3979    302  872
  3987    447  549
  4022    689  429
0308
SEE NOTE 2
115995      0    0
120004     76   63
  0011     27  157
  0017     48  242
  0021     60  315
  0027     75  411
  0032    291  483
  0037    102  563
  0042    115  643
  0048    139  728
  0054    182  795
  0058    213  803
  0065    250  694
  0083    557  280
  0073    407  461
  2215    557  280
  0114    802  143
0309
SEE NOTE 2
011298      0    0
  1305     18   91
  1310     34  175
  1315     62  260
  1320     63  333
```

```
TIME   STRAIN STRS
  1326     86  403
  1331    118  432
  1336    158  427
  1340    214  347
  1348    284  290
  1360    390  229
  1370    471  209
  1395    649  181
  1412    870  172
0310
SEE NOTE 2
023301      0    0
  3309     13   84
  3314     30  153
  3321     65  221
  3326     98  235
  3332    149  239
  3338    192  216
  3348    277  203
  3375    477  188
  2400    653  185
  2428    877  181
  2454   1074  179
0311
SEE NOTE 2
032209      0    0
  2221     55  176
  2231     91  307
  2237    113  371
  2243    147  438
  2250    200  445
  2255    215  380
  2265    371  227
  2278    471  222
  2300    624  260
  2331    804  283
  2367   1047  284
  2383   1243  268
  2409   1452  243
0312
SEE NOTE 2
034295      0    0
042196     79
  2206     84   41
  2211     95  117
  2216    110  197
  2221     84  275
  2226    143  340
  2230    168  377
  2235    197  396
  2239    236  390
  2245    303  327
  2268    431  249
  2275    559  216
042302    760  185
0313
SEE NOTE 2
043697      0    0
  3704     13   89
  3709     31  167
  3715     57  215
  3720     87  240
  3725    120  241
  3729    158  229
  3734    207  209
  3746    318  177
  3775    517  157
  3799    695  150
  3826    917  149
0314
SEE NOTE 2
110171      0    0
  0200      0    0
  0208     14  110
  0215     35  226
  0222     53  353
  0230     80  466
0315
SEE NOTE 2
062810      0    0
  2817     10   53
  2826     38  188
  2833     53  281
  2838     76  371
  2843     92  443
  2848    109  507
  2853    135  575
  2858    167  603
  2864    230  535
0316
SEE NOTE 2
114771      0    0
  4800      0    0
  4808     13   69
  4815     40  134
  4821     77  178
  4828    130  164
  4833    183  124
0317
SEE NOTE 2
020501      0    0
```

```
TIME   STRAIN STRS
  0600      8   13
  0650     20   85
  0690     33  155
  0720     40  209
  0760     55  282
  0800     64  356
  0830     79  402
  0892    110  468
  0930    143  455
  0952    171  426
  1005    332  353
0318
SEE NOTE 2
042270      0    0
  2300      0    6
  2400      3    9
  2420      9   30
  2458     15   70
  2475     19  104
  2512     43  142
  2560     68  211
  2625    108  222
  2760    190  245
  2819    251  245
  2886    308  238
  2939    349  230
  3030    423  211
  3122    501  198
  3215    575  186
  3271    617  180
  3300    643  177
0319
SEE NOTE 2
071380      0    0
  1401      0    0
  1500     10   37
  1544     31   77
  1600     71   91
  1700    154   91
  1800    230   87
  1900    318   86
  2000    404   79
  2100    482   77
  2200    563   77
  2300    645   70
  2400    724   69
  2500    803   70
  2600    881   69
  2700    964   68
0320
SEE NOTE 2
091800      0    0
  1900      8   26
  1950     23   86
  1970     31  115
  1998     40  156
  2026     47  199
  2070     62  268
  2110     75  331
  2161     89  416
  2237    119  506
  2307    167  516
  2410    251  482
  2471    307  442
  2550    375  396
  2630    444  355
  2700    503  336
0321
SEE NOTE 2
083301      0    0
  3369      8   39
  3390     16   63
  3428     28  116
  3461     39  158
  3498     53  197
  3550     83  234
  3600    120  237
  3650    163  220
  3700    171  197
  3800    292  163
  3900    379  143
  4020    463  135
  4100    527  134
  4200    602  127
0322
SEE NOTE 2
115730      0    0
  5800      8   21
  5818     21   45
  5833     33   73
  5900     58  102
  5931     94  153
120017    153  153
  0100    209  153
  0200    283  153
  0300    360  149
  0350    423  149
  0450    500  147
  0553    557  147
  0700    684  147
  0758    732  147
```

```
TIME   STRAIN STRS
  0827    770  147
0323
SEE NOTE 2
142100      0    0
  2151     17   78
  2220     28  155
  2252     48  237
  2329     85  260
  2415    157  240
  2440    170  228
  2444    208  212
  2512    250  181
  2535    281  162
  2539    366  149
  2722    423  146
  2824    443  145
  2836    500  145
  2934    512  145
0324
SEE NOTE 2
110800      0    0
  0814      2   20
  0900     17   43
  0928     29   63
  0942     37   77
  0958     44   90
  0915     52  110
  0990     59  126
  1001     63  137
  1062     90  207
  1106    106  257
  1123    115  275
  1165    139  308
  1200    159  321
  1253    192  316
  1300    238  288
  1372    307  256
  1467    383  235
  1567    462  219
  1663    537  210
  1765    613  205
  1825    658  204
0325
SEE NOTE 2
155635      0    0
  5830      3    0
  5849     12   37
  5918     36   70
160000     83   89
  0100    151   85
  0200    237   84
  0300    300   80
  0412    406   78
  0500    462   78
0326
SEE NOTE 2
131800      0    0
  1830      3    0
  1900      8   60
  1918     18  111
  1930     25  149
  1945     33  197
  1956     35  228
  2020     51  294
  2035     59  333
  2058     76  387
  2138    113  437
  2145    129  429
  2157    168  327
  2208    207  229
  2218    233  189
  2248    282  149
0327
SEE NOTE 2
023850      0    0
  3930      3    5
  3958      8   35
  3990     15   87
  4010     18  124
  4030     19  157
  4050     27  201
  4087     36  274
  4113     41  317
  4141     50  369
  4177     58  429
  4214     75  495
  4254     85  543
  4286    101  585
  4326    121  610
  4355    150  600
  4386    198  503
  4406    232  427
  4436    272  363
  4510    349  292
0328
SEE NOTE 2
042000      0    0
  2030      1   11
  2068      7   35
  2104     21   69
  2158     46   95

TIME   STRAIN STRS
  2191     79  103
  2241    117  103
  2335    190  101
  2386    233  100
  2479    298   98
  2585    389   93
  2685    467   90
  2782    541   90
  2885    622   89
  2982    694   89
  3085    771   89
  3185    847   89
0329
SEE NOTE 2
091900      0    0
  1974     44   38
  2005     60   75
  2030     67  115
  2053     74  156
  2090     89  235
  2132    102  315
  2171    113  393
  2212    127  468
  2254    143  543
  2312    185  570
  2326    197  541
  2356    234  467
  2362    274  393
  2381    310  313
  2446    385  241
  2538    447  234
  2650    549  234
0330
SEE NOTE 2
230003      0    0
  0025      3   37
  0037      8   79
  0051     14  117
  0105     20  156
  0119     27  198
  0130     33  236
  0143     38  275
  0155     45  315
  0209     56  355
  0223     63  395
  0235     69  432
  0248     77  468
  0320    102  544
  0348    132  575
  0357    145  569
  0410    180  505
  0425    230  395
  0456    308  275
  0656    481  352
0331
SEE NOTE 2
122999      0    0
  3035      9   36
  3060     17   77
  3086     27  115
  3115     40  147
  3139     51  177
  3160     67  210
  3190     85  226
  3238    122  242
  3300    217  239
  3353    229  227
  3416    239  196
  3466    426  171
  3489    619  148
0332
SEE NOTE 2
011404      0    0
  1427      6   43
  1449     12   83
  1491     22  157
  1532     35  242
  1571     45  321
  1608     55  400
  1644     67  475
  1661     70  510
  1670     75  551
  1700     83  583
  1715     90  627
  1740     94  663
  1758    102  700
  1811    127  770
  1822    143  747
  1832    180  623
  1865    254  400
  1883    321  271
  1987    422  235
0333
SEE NOTE 2
014102      0    0
  4125      6   29
  4147     11   69
  4179     25  145
  4235     43  222
  4290     69  309
  4355     76  345

TIME   STRAIN STRS
  4378     98  343
  4431    161  266
  4565    345  159
0334
SEE NOTE 2
024884           96
  4899          106
  4925
  4950
  4976
  5000
  5050
  5100
  5200
  5300
  5400
  5600
0335
SEE NOTE 2
101773      0    0
  1800      1    7
  1807     18  111
  1813     35  193
  1820     53  278
  1825     70  361
  1831     90  478
  1838    107  591
  1843    121  776
  1850    140  807
0336
SEE NOTE 2
113673      0    0
  3704      0    0
  3712     14   75
  3718     29  156
  3725     52  253
  3730     70  333
  3735     95  413
  3740    119  469
  3752    182  535
  3757    228  535
  3763    284  503
0337
SEE NOTE 2
115776      0    0
  5870      2    7
  5900      2    7
  5910      7   35
  5915     21   92
  5920     64  149
  5926     75  189
  5931    103  220
  5937    153  220
  5948    238  219
  5957    309  208
  5970    416  206
  5977    466  194
  5983    543  192
  5998    620  189
120010    697  187
0338
SEE NOTE 2
134045      0    0
  4102      0    7
  4105     12   72
  4110     25  164
  4114     39  276
  4121     70  495
  4129    102  722
  4134    132  881
  4139    155  979
  4142    190 1030
  4146    347  988
0339
SEE NOTE 2
142651      0    0
  2704      0    0
  2707      3   30
  2712     32  112
  2716     56  207
  2720     80  292
  2724     98  399
  2727    119  494
  2731    141  571
  2735    180  611
  2740    257  525
  2743    373  288
0340
SEE NOTE 2
033940      0    0
  3969      0    0
  4010      8   51
  4022     41  196
  4030     83  250
  4037    137  250
  4045    202  223
  4054    282  197
  4071    418  168
0341
SEE NOTE 2
042389      0    0

TIME   STRAIN STRS
  2400      1    0
  2409     20   96
  2416     43  214
  2423    177   90
0342
SEE NOTE 2
073761      0    0
  3800      1    1
  3810     22  120
  3816     39  221
  3824     59  315
  3830    255   98
0343
SEE NOTE 2
092099      0    0
  2121     11   50
  2130     28  176
  2138     53  342
  2145     72  455
  2153     98  565
  2160    133  636
  2167    211  540
  2173    314  385
  2180    384  243
  2198    532  210
  2228    706  210
  2250    909  197
0344
SEE NOTE 2
095071           0
  5101      0    0
  5109     19   77
  5116     95   77
  5125    143  113
  5132    201  115
  5150    314  133
  5165    447  133
  5174    526  131
  5190    640  130
0345
SEE NOTE 2
112750      0    0
  2804      2    2
  2810     13   41
  2816     38  115
  2822    196   78
  2830    213   78
0346
SEE NOTE 2
100171      0    0
  0200      0    1
  0209     15   71
  0216     45  168
  0230    275  125
  0271    435  153
  0292    582  175
  0311    720  171
0347
SEE NOTE 2
020770      0    0
  0801      2    3
  0809     18  108
  0813     47  231
  0824     72  330
  0830     90  408
  0836    113  481
  0843    144  550
  0848    170  556
0348
SEE NOTE 2
035071      0    0
  5103      0    0
  5109      0   72
  5116     29  142
  5124     61  231
  5130     94  293
  5137    129  326
0350
SEE NOTE 2
194160      0    0
  4202      0    1
  4210      8   42
  4216     28  107
  4222    113   78
0351
SEE NOTE 2
082076      0    0
  2100      0    2
  2107     15   50
  2115     69   73
  2125    113   81
  2131    187   76
  2142    222   84
0352
SEE NOTE 2
114299      0    0
  4315      2    9
  4322     18   89
  4328     31  167
  4334     51  264
  4340     71  343

TIME   STRAIN STRS
  4345     90  415
  4350    116  453
  4355    151  486
  4361    533  120
0353
SEE NOTE 2
121605      0    0
  1625     40   13
  1647     51   36
  1678     65   52
  1710     93   60
  1750    126   60
  1800    172   62
  1850    209   63
  1900    249   60
  2015    322   60
  2132    440   60
  2253    536   60
  2373    633   58
  2495    729   58
  2618    823   59
  2739    920   59
  2858   1011   59
  2983   1112   59
  3106   1208   59
  3252   1243   35
  3326   1305   22
0354
SEE NOTE 2
005900      0    0
  5914      3    5
  5950      9   21
  5960     13   34
  5976     20   44
010000     39   52
  0020     56   57
  0100    120   57
  0190    200   57
  0262    257   52
  0311    302   51
  0431    400   41
  0547    449   37
  0670    600   35
  0794    701   35
  0912    800   30
0355
SEE NOTE 2
015398      0    0
  5419      3   14
  5428      8   30
  5435      9   42
  5442     12   51
  5451     15   60
  5460     18   72
  5474     25   89
  5487     33  101
  5503     41  113
  5530     58  130
  5569     89  135
  5600    114  133
  5629    139  130
  5753    250  100
  5870    346   90
  5991    446   83
  6008    539   76
  6350    732   76
  6591    922   76
0356
SEE NOTE 2
031892      0    0
  1910      0    0
  1922      1   19
  1932      3   36
  1948     15   59
  1960     18   78
  1981     31   92
  2008     43  110
  2039     52  132
  2074     85  158
  2123    121  180
  2162    153  192
  2192    179  192
  2261    240  191
  2353    320  172
  2475    422  168
  2593    500  168
  2839    720  158
  3202   1021  158
0357
SEE NOTE 2
040800      0    0
  0822      3   13
  0836      7   42
  0848      9   55
  0861     13   75
  0874     22   98
  0899     30  126
  0928     45  160
  0947     57  177
  0978     74  203
  1022    103  227

TIME   STRAIN STRS
  1075    139  250
  1131    181  255
  1161    211  247
  1215    263  203
  1276    323  160
  1346    381  145
  1465    462  135
  1579    575  126
  1824    843  125
0358
SEE NOTE 2
043800      0
  3822      3   12
  3837      8   28
  3857     15   51
  3881     23   86
  3908     33  118
  3926     40  140
  3936     43  157
  3958     53  189
  3983     63  225
  4010     74  263
  4027     83  287
  4053     95  318
  4099    102  357
  4145    152  364
  4187    189  357
  4213    218  246
  4292    302  246
  4491    481  175
  4851    770  157
0359
SEE NOTE 2
021151      0    0
  1203      0    1
  1250      2   10
  1274     11   34
  1324     38   60
  1353     59   75
  1407    101   90
  1440    119   90
  1500    141   90
  1600    233   90
  1700    354   75
  1759    402   74
  1829    458   69
  1900    518   66
0360
SEE NOTE 2
033960      0    0
  4003      0    0
  4054      3   16
  4073     11   41
  4114     48   53
  4212    119   59
  4260    163   58
  4332    219   52
  4407    281   51
  4498    360   47
  4575    420   48
  4700    525   50
  4797    600   47
  4895    680   47
  4995    760   46
  5100    847   46
  5200    888   46
0361
SEE NOTE 2
203100      0    0
  3150      3    8
  3161      8   21
  3170     13   32
  3187     21   46
  3200     28   51
  3225     51   55
  3250     72   55
  3300    113   55
  3400    200   52
  3500    283   49
  3600    365   55
  3750    488   55
  3900    611   55
  4050    732   55
  4100    853   55
  4300   1015   55
  5700   1360   55
0362
SEE NOTE 2
043970      0    0
  4003      0    0
  4020      3   13
  4031      8   35
  4054     15   57
  4068     21   72
  4078     31   91
  4107     43  111
  4131     54  137
  4191     90  190
  4230    135  210
  4270    163  203
  4339    220  165
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TIME  STRAIN STRS
  4440   320  115
  4530   400   97
  4615   440   85
  4725   580   82
0363
SEE NOTE 2
063551     0    0
  1600     1    0
  1615     5   22
  1633     9   40
  1662    22   80
  1691    34  119
  1717    44  159
  1750    60  198
  1780    73  234
  1820    95  273
  1870   126  300
  1900   150  302
  1943   189  293
  1993   204  262
  4055   305  220
  4148   381  195
  4240   460  182
  4332   557  174
  4424   612  167
0364
SEE NOTE 2
071450     0    0
  1502     0    0
  1558     2   10
  1569     7   27
  1586    14   35
  1630    33   74
  1670    52  114
  1700    67  158
  1740    83  205
  1790   113  228
  1871   167  243
  1946   229  226
  2015   245  203
  2088   304  187
  2193   423  182
  2300   460  164
  2393   577  157
  2492   690  155
  2532   798  153
0365
SEE NOTE 2
114991     0    0
  5005     1    1
  5017    78  160
0366
125089     0    0
  5100     0    0
  5108    17   79
  5114    42  139
  5120    83  138
  5126   131  130
  5132   185   98
  5138   241   79
  5153   322   64
  5180   562   67
  5208   763   92
  5235   960  107
  5262  1161  120
0367
SEE NOTE 2
011998     0    0
  2008     1    0
  2015    18   75
  2020    52   87
  2025    95   81
  2042   211   78
  2055   310   70
  2080   500   70
  2107   697   70
  2134   884   68
  2160  1073   68
  2185  1269   68
0369
SEE NOTE 2
021300     0    0
  1310     0    1
  1314     1   20
  1323    28  100
  1331    52  165
  1338    76  248
  1342   103  315
  1349   131  357
0370
SEE NOTE 2
024094     0    0
  4107     0    0
  4114    23   86
  4120    42  165
  4125    53  245
  4131    83  320
  4136   103  394
  4141   125  453
  4147   151  490
  4152   192  473
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TIME  STRAIN STRS
0371
SEE NOTE 2
031470
  1500     0    0
  1508    13   35
  1515    43   90
  1521    75  161
  1526   110  177
  1533   157  177
  1539   213  154
  1549   298  138
  1558   377  130
  1569   460  125
  1578   435  121
  1586   605  121
  1594   668  121
0372
SEE NOTE 2
095698     0    0
  5711     1    7
  5719    26   85
  5725    49  141
  5731    80  203
  5737   115  244
  5742   153  245
  5748   208  215
  5755   270  157
  5765   358  158
  5791   580  142
  5819   760  141
  5845   958  140
  5870  1158  140
0373
SEE NOTE 2
102199     0    0
  2219     1    9
  2221    27   78
  2229    56  149
  2235    90  220
  2241   113  223
  2248   170  182
  2253   239  157
  2270   370  119
  2295   563  101
  2312   758   93
  2349   950   85
  2375  1140   74
0374
SEE NOTE 2
110998     0    0
  1010     5   24
  1017    30  120
  1025    62  201
  1031    95  263
  1039   133  319
  1045   173  349
  1050   219  349
  1055   270  302
  1065   368  202
  1072   434  157
  1091   564  121
  1102   685  140
  1129   882   63
  1154  1082   48
  1180  1283   48
0375
SEE NOTE 2
120659     0    0
  0713     8   10
  0720    18  103
  0725    33  189
  0731    52  272
  0736    68  349
  0741    86  422
  0746   103  483
  0751   133  536
  0758   183  551
  0763   245  478
  0769   307  373
  0775   373  308
  0795   539  229
  0822   752  197
  0837   925  173
  0874  1114  173
  0900  1310  166
0376
SEE NOTE 2
123500     0    0
  3512     3    8
  3525    25   73
  3530    44  160
  3536    65  241
  3541    85  321
  3548   109  386
  3683        395
0377
SEE NOTE 2
102000     0    0
  2050     0    0
  2057    26   68
  2065    48  164
```

```
TIME  STRAIN STRS
  2071    68  253
  2077    89  350
  2082   107  420
  2089   137  487
  2094   168  543
  2105   242  541
  2111   302  518
  2118   367  406
  2126   447  325
  2134   630  283
0378
SEE NOTE 2
103850     0    0
  3900     0    0
  3906    22   48
  3913    50  121
  3920    76  197
  3925   102  261
  3932   122  331
  3939   151  387
  3945   201  408
  3952   253  400
  3959   324  367
  3969   416  280
  3979   501  237
0379
SEE NOTE 2
021351     0    0
  1400     0    0
  1409    26   39
  1416    57  100
  1426   100  197
  1433   153  195
  1439   215  120
0380
SEE NOTE 2
044470     0    0
  4500     0    0
  4507    25   37
  4515    58   93
  4521    88  163
  4528   115  241
  4535   142  323
  4541   173  396
  4548   203  431
  4555   260  431
  4560   313  389
  4572   416  293
  4580   501  240
  4586   552  213
0381
SEE NOTE 2
113943     0    0
  3958     3    9
  3963    22   90
  3969    37  169
  3974    58  249
  3980    80  332
  3985   107  373
  3990   147  372
  3995   195  325
  4002   262  272
  4007   308  247
  4024   423  222
  4051   623  214
  4075   814  214
  4102  1006  204
  4129  1200  191
0382
SEE NOTE 2
031460          0
  1480     0    0
  1505   102   14
  1512   127   92
  1520   155  173
  1527   185  243
  1534   224  285
  1541   270  293
  1548   339  258
  1555   401  220
  1578   537  182
  1604   780  165
  1631   971  157
0383
SEE NOTE 2
033279     0
  3300     0    0
  3306    17   63
  3313    37  154
  3320    61  237
  3325    82  323
  3331   104  397
  3337   129  468
  3343   162  514
  3348   195  529
  3353   236  522
  3359   288  492
  3369   370  444
  3393   567  398
  3420   756  371
  3445   910  338
```

```
TIME  STRAIN STRS
  3457  1146  291
  3504  1417  223
0384
SEE NOTE 2
204075     0    0
  4101     0    0
  4114     6   47
  4122    12   81
  4130    15  114
  4136    19  166
  4142    25  225
  4150    31  292
  4158    38  334
  4164    50  386
  4168    62  442
  4178    77  533
  4188   100  563
  4196   138  668
0385
SEE NOTE 2
155370     0    0
  5408    15   23
  5418    38  157
  5430   115  212
  5437   181  157
  5455   327   78
  5464   404   52
0386
SEE NOTE 2
095172     0    0
  5210    15    0
  5219    46  180
  5228   100  275
  5236   154  275
  5245   230  237
  5254   296  198
  5268   423  158
  5293   615  102
  5308   731   78
0387
SEE NOTE 2
131870     0    0
  1905    12    8
  1913    29  149
  1920    56  237
  1932   115  316
  1938   169  308
  1963   375  198
  1992   615  125
  2008   731  105
  2030   885   92
0388
SEE NOTE 2
160070     0    0
  0105     8   38
  0112    23  141
  0118    42  237
  0128    88  316
  0134   125  322
  0141   192  308
  0148   244  276
  0163   385  237
  0188   577  180
  0216   769  158
  0240   962  149
0389
SEE NOTE 2
090293     0    0
  0300     0    0
  0303    15   77
  0311    35  140
  0320    69  235
  0325    96  276
  0330   135  292
  0338   192  276
  0357   346  212
  0380   538  173
  0408   731  157
  0434   923  140
0390
SEE NOTE 2
150680     0    0
  0702     0    0
  0712    23  117
  0718    42  205
  0726    69  316
  0734   111  371
  0738   154  387
  0745   181  383
  0766   387  280
  0775   461  252
  0800   654  190
  0826   850  140
0391
SEE NOTE 2
165870     0    0
  5903    10   13
  5911    29  118
  5917    42  205
  5924    77  315
  5930    96  395
```

```
TIME  STRAIN STRS
  5936   119  460
  5941   146  513
  5948   188  582
  5958   281  476
  5968   375  395
  5986   535  340
170012   731  316
  0039   923  292
0392
SEE NOTE 2
184870     0    0
  4903     4    0
  4912    24   94
  4921    68  229
  4930   120  198
  4938   182  157
  4950   268  237
  4958   304  355
  4965   356  408
  4971   408  387
  4984   520  284
  5002   680  213
  5019   800  189
  5041  1000  157
  5067  1200  140
0393
SEE NOTE 2
153800     0    0
  3803    15  109
  3810    35  308
  3815    58  514
  3819    85  706
  3824   110  860
  3830   167  947
  3834   300  657
  3840   479  300
  3846   577  197
  3850   658  157
  3855   750  137
0394
SEE NOTE 2
164404     0    0
  4406    11   78
  4408    21  180
  4409    31  285
  4410    38  387
  4412    54  484
  4414    69  627
  4416    77  700
  4418    92  810
  4419   108  896
  4420   131  970
  4421   163  976
  4423   227  874
  4425   330  634
  4427   423  453
  4431   538  331
  4434   613  276
0395
SEE NOTE 2
205202     0    0
  5207    35  220
  5208    46  308
  5210    65  446
  5212    77  551
  5214    88  672
  5215    96  750
  5216   100  817
  5218   111  896
  5219   123  968
  5220   135 1040
  5222   158 1105
0396
SEE NOTE 2
152800     0    0
  2802     8   53
  2803    17  140
  2805    31  230
  2807    37  300
  2808    50  380
  2810    62  470
  2812    69  575
  2813    77  640
  2814    88  730
  2815   102  810
  2817   108  820
  2818   131  990
  2820   152 1033
  2822   194 1025
0397
SEE NOTE 2
160500     0    0
  0501     8   14
  0502    16   62
  0505    19  133
  0507    27  157
  0508    33  216
  0510    38  275
  0511    46  315
  0513    58  395
  0515    65  435
```

```
TIME  STRAIN STRS
  0517    77  498
  0518    90  535
  0520   104  577
  0522   129  600
  0524   146  603
  0525   167  593
  0527   206  550
  0529   250  468
0398
SEE NOTE 2
164800     0    0
  4802     4   33
  4804    12  100
  4806    15  157
  4808    25  217
  4810    33  315
  4812    38  395
  4814    50  468
  4816    58  540
  4818    67  612
  4820    77  700
  4822   102  773
  4825   119  803
  4826   131  820
  4828   165  810
  4829   185  800
0399
SEE NOTE 2
190201     0    0
  0203     8   77
  0206    19  180
  0207    31  245
  0208    38  303
  0209    46  395
  0210    54  468
  0212    62  544
  0213    65  612
  0214    73  695
  0215    81  773
  0216    87  832
  0217    96  900
  0218   108  953
  0220   127 1020
  0221   167 1033
  0222   192  990
0400
SEE NOTE 2
113400     0    0
113401     2   30
113406    96   80
113411    21  157
113416    33  245
113421    48  315
113425    63  353
113428    71  395
113433   110  454
113437   127  460
113441   163  454
113443   183  438
113450   233  395
113456   310  315
113465   387  275
113475   467  237
113500   674  173
0401
SEE NOTE 2
130306     0    0
130308    11   53
130310    23  134
130312    31  213
130315    37  308
130317    46  395
130319    54  445
130320    58  515
130321    65  596
130323    73  673
130325    79  743
130327    90  810
130330   106  878
130333   142  932
130335   173  905
130337   213  840
130338   265  729
130340   342  582
130344   411  475
130350   527  370
130356   611  331
0402
SEE NOTE 2
141200     0    0
141202     4   70
141204    13  150
141206    27  237
141208    31  300
141210    42  387
141211    52  460
141212    62  550
141213    73  612
141215    85  688
141217   100  760
141218   140  818
```

```
TIME   STRAIN STRS
141220 [illegible] 790
141221 [illegible] 730
141222    273  585
141224    346  430
0403
SEE NOTE 2
150401      0    0
150403      4   22
150409     11   77
150413     23  157
150415     27  180
150418     35  237
150421     44  315
150425     54  395
150430     65  468
150433     77  543
150439     96  618
150443    117  665
150445    131  665
150449    154  656
150450    165  640
150453    223  543
150463    338  395
150476    454  315
0404
SEE NOTE
161200      0    0
161202      0   62
161206     13  150
161208     19  198
161210     27  276
161212     38  355
161214     50  430
161216     69  505
161219     88  573
161221    108  603
161223    142  600
161225    173  562
161227    231  426
161235    369  331
161242    500  252
161253    679  190
0405
SEE NOTE 2
170901      0    0
170902     11   62
170904     19  133
170906     27  220
170908     38  300
170909     50  398
170910     58  453
170912     69  540
170913     81  595
170915    100  670
170916    137  694
170917    160  675
170918    200  593
0406
SEE NOTE 2
133502      0    0
                30
133507      8   77
133509     15  121
133512     19  156
133516     31  236
133518     35  272
133521     50  315
133527     75  391
133531     90  420
133534    111  420
133537    138  419
133541    173  391
133548    237  315
133563    377  236
133578    503  215
133592    612  177
0407
SEE NOTE 2
141301      0    0
141305      2   30
141307      6   70
141311     15  150
141313     21  189
141315     24  228
141320     35  308
141324     44  387
141329     58  460
141335     85  528
141337    100  543
141340    123  549
141345    162  536
141349    198  480
141355    265  410
141361    322  371
141373    423  318
141392    579  284
0408
SEE NOTE 2
153000      0    0
153004      6   22
153006      8   77
```

```
TIME   STRAIN STRS
153010     19  125
153012     23  156
153016     31  236
153020     44  315
153024     55  355
153027     65  394
153032     90  454
153038    140  468
153040    154  457
153042    179  427
153046    210  393
153055    308  317
153065    385  276
153079    500  258
153087    556  245
0409
SEE NOTE 2
164400      0    0
164408      6   13
164411     15   77
164415     19  125
164417     25  156
164421     35  236
164424     42  276
164426     48  315
164431     63  394
164436     85  468
164440     98  505
164445    129  535
164447    154  545
164451    181  528
164453    200  505
164459    274  427
164470    385  333
164495    581  276
0410
SEE NOTE 2
132300      0    0
132307     12   50
132311     20   99
132316     28  146
132321     36  193
132325     42  234
132330     48  283
132334     56  328
132338     65  373
132342     75  409
132347     85  444
132351    107  480
132355    123  493
132357    132  496
132359    146  499
132362    164  498
132364    187  493
132366    219  470
132370    247  444
132380    353  373
132391    448  325
132400    509  305
0411
SEE NOTE 2
140800      0    0
140808     13   59
140816     27  131
140822     38  199
140828     46  258
140834     57 1319
140840     70  375
140843     79  406
140848     89  443
140853    109  478
140857    130  497
140860    150  504
140863    171  504
140867    208  486
140870    245  460
140878    344  370
140887    440  285
140906    595  219
0412
SEE NOTE 2
151700      0    0
151706      9   19
151712     21   79
151718     30  138
151724     39  193
151730     49  257
151736     58  318
151741     70  373
151745     78  408
151751     96  462
151756    116  497
151760    134  512
151763    154  516
151768    195  510
151772    226  483
151776    281  444
151784    361  386
151793    448  335
151805    714  304
0413
```

```
TIME   STRAIN STRS
SEE NOTE 2
181600      0    0
181610     20   59
181617     36  135
181622     44  193
181629     54  256
181635     65  317
181640     78  372
181646     91  404
181652    107  461
181656    125  490
181658    134  499
181662    163  513
181666    188  513
181670    215  503
181674    259  478
181684    359  413
181695    447  366
181708    539  339
181719    625  325
0414
SEE NOTE 2
132100
132900      0    0
132908     16   70
132915     25   85
132920     32  195
132926     40  255
132932     48  315
132937     55  370
132943     66  437
132948     77  497
132955     91  550
132965    130  607
132968    151  611
132975    202  609
132981    271  552
132990    369  457
132996    455  377
133001    507  335
0415
SEE NOTE 2
140600
140610      0    0
140617     22  135
140622     27  187
140628    134  257
140633    240  318
140638     46  371
140645     54  446
140649     59  497
140653     67  550
140658     77  599
140662     86  633
140672    114  715
140676    130  730
140680    150  740
140687    214  726
140691    270  665
140698    381  517
140705    459  427
140712    539  359
0416
SEE NOTE 2
151900           0
151908     11   57
151916     23   85
151922     30  195
151928     36  255
151933     43  318
151938     50  373
151944     55  435
151949     63  495
151954     71  550
151957     77  585
151960     84  617
151965     96  668
151970    110  700
151972    118  716
151977    140  734
151980    164  736
151984    196  723
151988    247  690
151992    314  540
151996    371  497
152000    432  424
0417
SEE NOTE 2
163700      0    0
163710     18   57
163718     29  135
163722     36  193
163728     42  249
163734     51  318
163739     59  371
163745     67  428
163750     80  496
163757     94  550
163760    104  583
163765    123  617
163769    141  633
```

```
TIME   STRAIN STRS
163772    156  640
163775    179  643
163778    213  633
163782    251  598
163787    304  550
163792    379  474
163800    464  398
163810    557  335
0420
SEE NOTE 2
192475      0    0
192500      0    0
192512     17  114
192519     38  235
192525     58  315
192533    106  370
192539    154  358
192545    215  300
192556    308  235
192574    462  163
192594    602  100
0421
SEE NOTE 2
143300      0    0
143303      0    0
143308     12   37
143311     18   77
143316     33  156
143321     46  235
143326     60  315
143331     79  395
143337    102  467
143345    142  513
143348    173  513
143351    200  485
143355    246  435
143360    290  395
143380    479  275
143410    692  212
143435    885  173
0422
SEE NOTE 2
090081      0    0
090102      0    0
090112     20   93
090120     40  205
090126     56  309
090133     76  405
090139    100  495
090145    133  550
090157    184  565
090159    260  467
090170    376  370
090178    456  315
090200    640  260
0424
SEE NOTE 2
164400      0    0
164407     11   78
164412     28  158
164421     61  237
164424     80  253
164427    101  268
164432    136  269
164444    232  237
164458    346  190
164481    535  142
0425
SEE NOTE 2
171513      0   27
171523     31  185
171526     40  237
171530     52  284
171532     65  315
171537     88  340
171541    106  400
171545    133  412
171551    190  410
171557    245  363
171565    320  315
171583    490  252
0426
SEE NOTE 2
195300           0
195305      8   46
195308     13   78
195313     27  165
195318     46  276
195324     62  316
195326     73  355
195331     90  394
195335    111  425
195339    140  450
195343    162  455
195347    195  449
195354    270  395
195363    350  343
195385    538  273
0428
SEE NOTE 2
142600      0    0
```

```
TIME   STRAIN STRS
142685     12   23
142722     22   78
142750     32  120
142770     40  153
142839     72  237
142897    110  270
142960    160  273
143001    200  246
143092    280  206
143227    400  173
143371    520  157
143525    640  149
143719    800  143
0429
SEE NOTE 2
154200      0    0
154272     19   78
154298     28  114
154312     88  222
154432    102  236
154547    197  228
154639    280  197
154760    385  168
154890    489  148
155069    640  137
155385    895  125
0430
SEE NOTE 2
181491      0    0
181503      0    0
181540      4   13
181600     18   79
181635     32  134
181665     49  158
181712     80  189
181797    232  193
181937    280  141
182075    399  110
182222    520  102
182414    680   86
0431
SEE NOTE 2
190700      0    0
190742     17   33
190774     30   78
190803     41  115
190835     57  157
190876     81  197
190973    149  226
191021    189  220
191120    377  188
191255    397  157
191450    536  137
191575    657  130
191749    797  125
0432
SEE NOTE 2
141100      0    0
141119      8   37
141142     20  116
141155     28  159
141165     36  198
141188     55  275
141226     91  355
141254    127  380
141291    196  361
141320    246  308
141358    316  254
141451    476  214
141581    680  195
141703    876  181
0433
SEE NOTE 2
153400      0    0
153434      8   10
153452     19   79
153463     24  117
153475     32  158
153486     40  199
153501     50  237
153516     60  275
153533    115  316
153559    120  350
153615    208  365
153624    400  215
153644    600  180
0434
SEE NOTE 2
162200      0    0
162229     12   12
162248     24   78
162277     48  150
162307     81  190
162341    137  197
162396    239  117
162445    317   80
162540    477   48
162622    597   35
0436
SEE NOTE 2
171900      0    0
```

```
TIME   STRAIN STRS
171922      8   30
171943     18  118
171962     30  198
171972     36  238
171982     43  278
171991     49  316
172005     60  358
172018     70  395
172045    100  448
172060    120  461
172082    164  445
172105    212  393
172155    324  275
172169    524  198
172186    724  161
0437
SEE NOTE 2
201000      0    0
201025     22   78
201058     34  110
201073     44  157
201090     58  198
201113     84  237
201138    116  249
201173    176  234
201209    236  193
201281    356  141
201358    476  116
201439    596  105
0439
SEE NOTE 2
144600      0    0
144614     11   32
144623     25  117
144635     42  287
144646     63  316
144661    112  367
14467[illegible]    179  327
1446[illegible]    243  256
144711    359  155
144731    443  119
144773    623   86
144816    799   69
0440
SEE NOTE 2
151200      0    0
151216     14   36
151225     24  117
151230     32  157
151235     40  198
151240     47  240
151245     56  284
151250     63  316
151257     88  355
151264    112  340
151274    164  375
151287    240  266
151301    306  198
151332    521  120
151365    583   86
151408    760   62
151440    920   43
0441
SEE NOTE 2
154800      0    0
154814     12   36
154822     22  117
154832     36  198
154837     44  237
154843     58  276
154850     76  316
154859    108  340
154878    204  340
154895    288  198
154931    440  117
154969    600   85
155021    789   66
0443
SEE NOTE 2
184000      0    0
184010      8   36
184014     15   77
184023     25  157
184028     33  197
184032     40  237
184038     51  277
184043     65  315
184050     85  353
184058    113  370
184064    145  368
184073    190  315
184077    220  284
184089    280  213
184107    370  148
184119    420  125
184145    537  102
184192    745   78
0444
SEE NOTE 2
190500      0    0
190516     16    5
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TIME   STRAIN STRS
190525    26   78
190529    32  117
190534    40  157
190539    48  196
190544    58  238
190549    70  276
190556    88  316
190567   128  359
190570   140  319
190579   168  334
190585   220  276
190604   311  198
190623   396  142
190652   520  102
190699   720   76
0465
SEE NOTE 2
130282     0    0
130285    15   81
130286    29  205
130288    42  318
130290    51  395
130291    65  472
130292    78  545
130294   102  612
130295   131  625
130298   162  566
130300   250  491
130300   296  415
130303   388  310
130307   473  243
130310   554  205
0466
SEE NOTE 2
163900     0    0
163901     8   18
163903    15  101
163905    24  158
153906    33  237
163907    43  311
163909    56  395
163910    73  469
163912    91  517
163913   114  537
163914   152  515
0467
SEE NOTE 2
140800     0    0
140803    10   34
140805    23  157
140807    36  252
140808    46  329
140810    58  397
140811    77
140813   100  529
              534
140815   171  474
140817   221  386
140818   281  273
140820   338  169
140821   379  130
0448
SEE NOTE 2
152300
152303     7   26
152304    16   92
152305    22  157
152306    30  238
152308    37  316
152309    45  400
152310    55  469
152312    64  540
152313    89  614
152315   114  630
152316   145  625
152317   191  520
152318   245  422
152320   314  316
152322   387  230
0452
SEE NOTE 2
134100     0    0
134167    18    0
134218    40   77
134273    80  108
134327   123  108
134438   220   86
134560   316   73
134756   404   72
134905   520   20
135133   688   14
0453
SEE NOTE 2
143300     0    0
143345    12    0
143362    20   33
143382    30   78
143425    55  114
143463    87  128
143495   120  128
143577   280   81

TIME   STRAIN STRS
143604   320   45
143615   419   33
143629   520   28
0456
SEE NOTE 2
153900     0    0
153930    13   33
153940    17   78
153951    21  117
153970    29  158
153980    38  198
153990    53  237
154014    75  268
154035   110  270
154064   171  199
154120   291  119
154135   458   99
154217  1000   96
0457
SEE NOTE 2
162800     0    0
162814    11    0
162822    20   70
162825    25   93
162831    32  137
162840    50  198
162846    68  229
162852    88  237
162860   127  237
162871   186  180
162890   276  117
162923   400   80
162970   600   52
0458
SEE NOTE 2
090600     0    0
090602     7   70
090605    22  225
090605    32  277
090606    38  337
090609    55  476
090610    67  552
090612    74  622
090613    83  695
090614    96  776
090615   110  867
090617   133  905
090618   158  928
090620   208  925
090622   292  925
090624   392  566
090626   488  420
090629   575  335
0459
SEE NOTE 2
083900     0    0
083908    17   77
083913    29  157
083918    46  236
083921    58  276
083925    79  316
083927   100  323
083932   146  323
083935   173  269
083939   225  204
083944   271  157
083947   304  133
083951   342  110
083972   538   53
0461
SEE NOTE 2
135500     0    0
135520     0    0
135565    11   77
135588    19  113
135612    26  158
135644    40  197
                66  236
135735   100  245
135780   142  240
135892   240  229
136057   380  212
136080   400  212
136262   544  204
136422   680  201
0462
SEE NOTE 2
144500     0    0
144550    12   77
144569    19  116
144588    25  157
144608    33  198
144628    38  237
144663    65  261
144670    54  318
144696    66  358
144760    97  432
144813   135  462
144865   177  451
144909   231  404
145069   385  317

TIME   STRAIN STRS
145339   615  287
0463
SEE NOTE 2
161500     0    0
161522     4    7
161561    15   77
161602    27  156
161622    35  198
161645    42  235
161665    53  276
161695    66  315
161740    95  357
161770   119  365
161815   174  355
161975   308  287
162190   500  251
0465
SEE NOTE 2
053000     0    0
053056     5   35
053102    15  115
053146    27  198
053167    33  240
053187    38  280
053213    47  320
053239    55  355
053264    65  395
053295    79  431
053329   100  468
053369   119  476
053415   160  475
053454   198  431
053538   269  375
053650   365  339
053696   481  326
053870   615  320
0466
SEE NOTE 2
071600     0    0
071633     4   37
071657    15  117
071677    29  198
071689    35  240
071700    38  280
071713    46  320
071724    53  358
071737    62  398
071752    74  435
071770    92  468
071799   127  640
071826   170  464
071861   303  395
071927   362  331
072003   460  303
072110   612  288
072191   727  282
072300   881  276
0467
SEE NOTE 2
165900     0    0
165976     6   13
170005    27   77
170027    39  156
170040    47  198
170050    56  237
170060    61  275
170072    68  316
170085    77  360
170097    88  395
170112    97  435
170129   111  467
170150   134  506
170173   165  525
170193   202  521
170230   272  446
170266   346  395
170336   462  340
170466   665  316
170592   846  313
0468
SEE NOTE 2
020600     0    0
020623    11   33
020650    22  117
020670    31  205
020682    38  237
020692    42  280
020703    46  320
020715    50  359
020727    58  395
020738    67  435
020749    73  469
020770    85  543
020783    92  585
020798   104  629
020832   139  670
020865   206  604
020887   269  491
020918   336  400
020980   423  348
021125   654  340

TIME   STRAIN STRS
0469
SEE NOTE 2
014500     0    0
014520    15   77
014530    29  157
014539    38  237
014547    48  317
014556    65  398
014567    88  469
014572   131  544
014599   199  555
014615   269  507
014633   350  431
014658   461  367
014686   577  330
014726   731  311
014767   888  300
0472
SEE NOTE 2
042500     0    0
042511    19   77
042521    27  157
042530    38  240
042538    48  316
042547    60  399
042555    75  472
042563    87  545
042574   106  617
042588   145  683
042599   186  683
042611   242  618
042621   300  543
042659   481  400
042691   615  380
0476
SEE NOTE 2
143950     0    0
144000     0    0
144007    38  221
144013    71  545
144018   107  929
144025   169 1219
0477
SEE NOTE 2
021700     0    0
021708    53  410
021718   127 1051
021742   493  883
021749   687  713
0478
SEE NOTE 2
041825     0    0
041937    12   37
041976    28  117
042035    42  195
042088    65  276
042135   108  316
042168   115  325
042237   174  316
042287   221  278
042438   346  237
042637   500  233
042982   769  231
0481
SEE NOTE 2
050300     0    0
050364     8   35
050404    20  101
050435    30  153
050467    38  198
050479    43  237
050507    52  285
050527    58  316
050555    70  355
050628   106  432
050812   231  491
050896   308  439
051131   500  379
051390   692  360
0483
SEE NOTE 2
175700     0    0
175750     9   37
175797    23  110
175865    38  198
175890    54  277
175962    77  356
176014   127  377
176086   191  365
176222   308  277
176455   500  229
176697   692  207
0484
SEE NOTE 2
135075     0    0
135097     5    8
135109    12   33
135137    26  117
135160    40  198
135184    57  276
135214    78  359

TIME   STRAIN STRS
135232    92  395
135250   115  416
135272   151  420
135347   290  320
135406   385  286
135530   577  237
135650   769  217
0485
SEE NOTE 2
141733     0    0
142050     8   37
142072    20  113
142094    33  198
142116    45  277
142128    53  319
142140    59  355
142163    77  431
142195   107  506
142217   134  527
142242   173  529
142282   251  455
142336   346  387
142455   538  340
142583   731  325
0487
SEE NOTE 2
160000     0    0
160001     6   21
160003    16   85
160005    27  198
160007    39  316
160008    46  395
160010    58  477
160011    68  567
160012    76  638
160013    85  702
160014    92  771
160015   100  853
160017   111  930
160018   120  989
160019   136 1051
160020   148 1109
160022   168 1133
160023   208 1133
160026   385 1105
160030   572  934
160034   683  669
0488
SEE NOTE 2
164000     0    0
164003    10   78
164005    19  155
164006    27  244
164007    33  324
164008    38  409
164010    45  485
164011    52  567
164012    58  639
164013    65  711
164014    71  771
164015    81  845
164016    88  910
164017   100  942
164019   122 1054
164021   156 1076
164030   523 1027
164042   831  272
0490
SEE NOTE 2
051800     0    0
051804    29  157
051805    38  250
051806    45  322
051807    55  401
051809    65  475
051810    71  543
051811    78  622
051813    90  697
051814    98  771
051815   111  875
051817   133  902
051819   190  902
0492
SEE NOTE 2
152000          0
152025     0    7
152028     0   15
152031     1   21
152034     2   27
152037     4   34
0493
SEE NOTE 2
161633     0    0
161665    35  104
172700    53  104
211400    63  104
231700    66  104
080015    82  104
112400    88  104
170300   100  104
202100   104  104

TIME   STRAIN STRS
230633   108  106
0495
SEE NOTE 2
140500     0    0
140618    10   30
140662    23  115
140715    43  198
140755    65  239
140808   105  252
140860   154  229
140900   193  198
140983   273  157
141272   423  133
0496
SEE NOTE 2
133700     0    0
133750     9   37
133808    31  157
133875    58  235
133920    85  260
133993   154  237
134072   231  198
134109   346  162
134253   462  155
134442   654  150
0497
SEE NOTE 2
153000     0    0
153052     8   37
153075    15   77
153098    25  113
153125    34  157
153157    50  193
153185    69  207
153241   115  213
153290   160  198
153369   231  166
153505   346  141
153693   500  125
153887   654  124
153987   735  124
0498
SEE NOTE 2
161900     0    0
161945    12   35
161969    22   77
161991    31  116
162017    42  157
162053    61  198
162140    92  235
162230   212  229
162330   308  209
162498   462  190
162758   692  175
0499
SEE NOTE 2
170300     0    0
170317     8   37
170343    21  117
170353    27  157
170364    33  198
170377    42  236
170395    62  276
170433   115  289
170473   188  236
170523   269  198
170608   404  157
170695   538  135
170827   731  119
0504
124000     0    0
124137    12   41
124160    26  120
124181    34  197
124198    49  236
124224    77  267
124245   110  268
124277   165  245
124333   253  189
124418   388  157
0505
120200     0    0
120235     8   37
120260    23  167
120271    29  207
120285    38  198
120300    52  236
120340    99  270
120385   179  245
120445   265  198
120583   481  157
0506
140200     0    0
140207     7   30
140217    18  116
140226    30  198
140235    43  276
140250    77  355
140255    98  372
140269   154  375
140283   219  316
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TIME   STRAIN STRS
140303    300  270
140330    407  237
140363    538  213
0508
154300      0    0
154312     15   77
154316     20  117
154320     25  156
154325     29  198
154329     34  236
154323     38  275
154337     46  316
154342     54  355
154348     68  395
154357     94  431
154361    108  435
154369    147  430
154377    181  395
154396    273  320
154425    385  275
154473    577  240
154525    769  216
0509
162400      0    0
162408     13   35
162414     17   77
162418     23  110
162424     29  156
162428     34  198
162432     40  237
162436     47  275
162440     52  315
162447     65  355
162452     78  395
162463    115  430
162480    190  395
162499    275  315
162536    426  240
162573    577  210
162615    731  198
162655    885  180
0510
165000      0    0
165002      8   40
165005     21  158
165007     28  200
165008     32  237
165009     38  281
165010     44  317
165011     51  359
165012     59  395
165014     69  431
165015     85  470
165017    100  489
165020    141  483
165021    180  440
165023    213  397
165025    246  362
165034    409  236
0512
172025      0    0
172751      0    3
172766      3   10
172782      4   16
172792      6   21
172304     10   27
172311     12   30
172317     14   33
172517     24   33
172600     31   33
173000     32   33
173700     39   32
174725     45   32
175550     48   32
181200     54   31
183225     56   31
190207     67   31
193250     69   30
201000     75   30
203536     72   30
211400     83   30
211691     74   13
0570
140040      0    0
140077     12   78
140106     31  157
140133     50  237
140160     92  316
140193    158  395
140225    249  469
140264    393  543
140302    626  586
140315    746  589
140334   1040  543
140350   1389  469
140365   1726  400
140390   2184  317
140453   3010  237
140466   3184  233
0571
145473      0    0
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TIME   STRAIN STRS
145510     32   73
145543     70  157
145573    123  236
145607    213  315
145635    411  395
145695    672  431
145720    898  427
145748   1257  431
145796   1910  321
145851   2666  236
145867   2904  220
0572
155275      0    0
155283     22   30
155309     52   78
155333     79  117
155351    107  157
155367    136  198
155385    178  237
155402    223  276
155422    286  317
155448    390  355
155477    562  390
155510    892  379
155525   1078  357
155550   1478  280
155592   2036  197
155610   2387  157
155637   2690  133
0573
165946      0    0
165976     48   37
165995     82   78
166013    111  117
166030    143  157
166046    174  198
166062    218  237
166080    267  277
166100    338  316
166131    466  355
166171    708  395
166205   1012  395
166232   1346  355
166251   1616  316
166270   1910  277
166320   2156  198
166370   2903  157
0574
190313      0    0
190330      7   33
190347     19   73
190363     29  118
190378     45  157
190392     66  198
190410    100  237
190425    141  277
190447    226  316
190480    411  351
190508    686  348
190523    898  316
190540   1157  276
190575   1694  198
190615   2165  157
190651   2524  150
0575
200910      0    0
200992     34   37
201015     96   78
201037    141  117
201054    167  157
201068    188  198
201024    222  238
201100    263  276
201120    324  316
201146    434  355
201173    596  382
201191    758  387
201210    940  380
201225   1138  355
201245   1412  316
201265   1707  276
201291   2058  237
201325   2456  198
201398   3223  157
0576
115981      2    0
115982      5   10
115983     11   25
115984     15   48
115985     21   63
115986     25   82
115987     35  105
115988     36  128
115989     39  148
115990     45  167
115990     50  191
115991     54  208
115992     61  226
115993     69  253
115994     79  280
115995     95  311
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TIME   STRAIN STRS
115997    117  358
115998    135  182
116000    170  424
116002    209  462
116004    265  500
116006    372  539
116009    525  558
116012    737  560
0577
133330
133332
133513      0    0
133528     24   38
133530     40   78
133531     50  102
133532     58  121
133533     69  158
133535     82  190
133536     96  212
133537    110  237
133539    127  268
133540    136  284
133541    156  317
0578
142304      0    0
142305      6   20
142306     12   36
142307     20   61
142309     24   90
142310     29  112
142311     34  130
142312     37  150
142313     41  180
142314     45  203
142315     49  223
142316     57  252
142317     62  281
142318     69  311
142319     80  348
142320     94  380
142321    112  420
142323    130  462
142325    152  495
142327    182  538
142329    214  570
142331    247  603
142333    309  641
142336    430  687
142339    522  700
142343    644  661
142348   1563  446
142349   2450  308
142351   2997  244
0579
152354      0    0
152355     29   21
152357     66   43
152360     84   78
152361     69   97
152362    136  124
152363    167  158
152365    196  184
152366    232  212
152367    258  238
152369    291  277
152371    324  317
152373    364  356
152375    415  400
152377    458  434
152380    520  472
152382    625  512
152385    835  536
152388   1016  532
152390   1359  476
152392   1782  370
152394   2292  229
152395   2585  165
0580
160476      0    0
160481     19   14
160483     26   52
160484     36   78
160485     44  101
160487     50  133
160488     59  158
160489     63  185
160490     72  212
160491     82  237
160492     93  268
160494    116  316
160496    154  356
160498    192  394
160500    227  431
160504    418  465
160507    773  422
160508   1056  362
160511   1590  238
160513   1960  165
160515   2222  150
0581
164403      0    0
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164408     33   59
164409     44   78
164410     58  107
164412     70  133
164413     79  159
164414     89  181
164415     96  212
164416    110  237
164418    124  272
164420    144  317
164422    169  358
164424    192  394
164426    231  438
164428    281  483
164431    389  528
164434    532  547
164436    699  538
0582
131525      0    0
131540     10   18
131549     14   37
131558     24   57
131565     36   78
131576     42   96
131584     47  117
131593     59  136
131600     67  157
131611     79  180
131617     92  198
131628    110  220
131636    120  237
131655    175  276
131677    238  317
131699    318  347
131712    399  375
131739    584  380
131760    770  370
131769    870  356
131781   1072  316
131809   1640  220
131863   2120  180
0583
141787      0    0
141816     21   14
141830     50   38
141853     88   51
141862    100   79
141874    123   92
141882    135  117
141889    160  140
141900    187  157
141916    285  180
141930    306  198
141952    435  215
141978    634  220
142006    910  220
142034   1198  198
142062   1482  176
142088   1767  157
0584
163574      0    0
163595     41   22
163609     78   45
163614    125   65
163638    181   85
163660    290  114
163678    397  125
163703    542  141
163716    669  165
163729    803  180
163775    966  205
163815    964  244
163855    998  284
163897   1626  323
163941   1856  362
163987   2126  401
164052   2542  438
164102   2912  458
164144   3236  458
164185   3594  450
160000   3878  406
164360   5402  323
0585
153611      0    0
153621      9   14
153630     16   37
153640     31   52
153652     50   78
153663     69   97
153670     87  116
153681    121  137
153690    155  157
153707    226  176
153721    296  198
153742    415  216
153760    514  236
153807    787  276
153851   1038  317
153893   1284  355
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TIME   STRAIN STRS
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154084   2134  450
154167   3067  446
154186   3474  420
154252   4212  347
154373   5032  268
0586
163107      0    0
163116      2   19
163124     16   37
163134     36   57
163142     56   78
163154     77   97
163162    104  113
163175    141  137
163183    169  157
163200    232  181
163210    284  198
163235    434  220
163264    658  238
163468   2283  276
163562   3087  276
163626   3643  276
163725   4084  268
163860   5730  249
0587
172884      0    0
172902     25   22
172912     46   47
172925     79   66
172937    117   84
172954    197  106
172969    274  124
173006    506  150
173035    724  165
173072    984  184
173107   1220  212
173155   1528  243
173192   1784  277
173249   2152  300
173300   2572  322
173380   2848  322
173425   3648  316
173513   4500  283
173640   5668  243
0588
135361      0    0
135426     17   13
135436     26   33
135448     47   51
135457     65   77
135471    103   91
135485    151  114
135502    223  132
135521    308  153
135550    463  176
135570    584  197
135595    721  212
135613    811  237
135638    933  258
135655   1024  277
135686   1170  314
135730   1378  360
135774   1602  381
135858   1880  395
135895   2060  436
135951   2390  469
135993   2640  421
140078   3144  455
140146   3675  455
140181   3918  393
140189   3978  387
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150379      0    0
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150385     33   30
150386     48   54
150387     65   78
150388     77  101
150390     88  118
150391     97  136
150392    107  150
150393    121  182
150394    126  196
150396    148  236
150398    181  283
150400    212  317
150402    246  362
150406    288  401
150408    343  437
150410    399  478
150413    250  557
0590
154737      2    8
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154739     17   50
154741     27   74
154743     39   93
154744     62  112
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TIME   STRAIN STRS
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154749    146  220
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154752    233  276
154755    310  317
154759    536  351
154765    917  355
154770   1351  366
154777   1813  363
154790   2828  352
154805   4013  316
154821   5214  295
154841   5548  317
0591
162978      2    7
162980     23   26
162981     42   49
162983     67   79
162984     90   98
162985    123  121
162987    177  145
162989    247  180
162991    329  205
162994    421  237
162998    593  277
163004    792  316
163008    997  360
163013   1261  394
163023   1720  468
163034   2304  546
163041   2688  582
163050   3329  618
163057   3777  634
163064   4228  638
163069   4740  618
163076   5368  544
163090   5406  394
0592
170828      0    0
170830     25   20
170831     45   37
170832     67   56
170834     96   78
170835    128  100
170837    179  130
170839    230  156
170841    281  180
170843    351  209
170846    467  251
170850    604  292
170855    837  356
170862   1118  431
170869   1390  506
170876   1660  582
170884   1980  661
170891   2330  724
170897   2640  756
170900   2880  761
170903   3270  710
0593
173904      2    7
173905     17   30
173907     34   52
173909     50   78
173910     77  100
173912    102  132
173914    122  157
173915    143  181
173917    172  209
173919    202  237
173921    265  281
173924    327  316
173927    433  355
173930    570  395
173937    858  445
173941   1100  487
173948   1416  543
173957   1885  618
173965   2368  694
173973   2730  731
173979   3120  756
173986   3714  747
0594
131852      0    0
131853     15   18
131854     29   38
131855     50   50
131857     76   69
131858    117   88
131860    190  110
131863    379  130
131866    601  132
131871   1047  125
131878   1615  117
131883   2095  116
131890   2677  115
132907   3930  112
132923   5160  109
0595
141827      0    0
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TIME	STRAIN	STRS
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141837	40	47
141838	52	69
141839	65	88
141840	87	108
141841	105	121
141842	130	141
141844	165	161
141845	217	185
141848	320	211
141850	447	223
141852	606	228
141855	845	225
141857	1100	206
141862	1508	181
141867	1941	165
141875	2687	148
141885	3473	133
141898	4242	129
0596		
150264	0	0
150265	13	16
150266	22	29
150267	38	50
150268	51	77
150270	78	93
150271	106	113
150273	137	132
150275	195	152
150276	265	171
150279	447	180
150282	668	180
150286	943	165
150290	1047	141
150295	1833	119
150306	2601	91
150313	3345	72
0597		
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155006	20	10
155007	37	35
155009	53	51
155010	82	73
155011	112	90
155014	183	110
155015	260	121
155017	360	131
155020	570	133
155024	876	130
155030	1288	118
155038	1949	145
155048	2807	78
155053	3216	59
0598		
163327	0	0
163339	16	22
163340	25	37
163341	48	56
163342	61	78
163343	77	90
163345	120	111
163346	164	131
163348	227	148
163350	351	166
163352	497	171
163356	842	166
163362	1290	156
163371	2460	140
163387	3240	131
163403	4380	125
163430	6307	116
0599		
172281	0	0
172287	1	17
172297	12	36
172310	43	54
172320	71	71
172328	110	81
172350	273	91
172367	448	91
172390	703	90
172432	1119	78
172473	1538	71
172516	1957	63
172599	2374	62
172601	2790	60
0600		
132630	2	7
132636	4	10
132640	10	16
132646	16	35
132651	30	42
132657	40	56
132663	60	68
132669	86	78
132680	143	85
132690	268	92
132713	395	93
132803	1069	78
132895	2032	72
132936	2416	68
133002	3047	60
0601		
140410	0	0
140413	1	9
140419	10	20
140425	25	32
140431	45	40
140440	83	57
140448	130	68
140456	197	71
140476	377	76
140514	761	78
140551	1152	69
140589	1538	63
140630	1923	62
140667	2308	60
0602		
145490	2	7
145496	2	9
145502	17	20
145508	28	31
145515	48	44
145522	77	52
145528	107	69
145536	142	76
145544	236	85
145558	432	85
145580	551	85
145632	1090	82
145668	1477	76
145706	1862	73
145768	2221	61
0603		
155243	0	0
155248	4	11
155255	28	21
155260	38	36
155268	71	44
155277	112	62
155283	153	66
155290	206	70
155310	358	77
155326	511	78
155365	896	78
155406	1281	77
155468	1513	69
155508	2283	69
155530	2479	69
155565	2825	69
0604		
163003	0	0
163005	5	9
163008	15	26
163013	32	49
163017	48	69
163021	83	92
163026	129	110
163033	209	123
163041	371	135
163050	636	135
163064	1017	122
163084	1948	108
163100	2331	100
163126	2990	91
163161	3490	85
163210	4644	80
0605		
171352	2	7
171354	5	10
171357	23	29
171360	50	43
171363	69	60
171366	108	76
171374	196	92
171378	293	99
171385	442	107
171401	858	107
171425	1457	97
171455	2260	91
171485	3060	88
171535	4260	85
0606		
134652	0	0
134654	11	37
134656	22	78
134658	34	116
134660	50	157
134662	62	198
134664	71	237
134666	83	276
134668	96	316
134670	123	365
134671	135	395
134675	182	468
134677	251	544
134684	419	618
134688	641	630
0607		
142553	0	0
142557	11	37
142559	23	78
142561	42	116
142564	60	157
142565	81	198
142567	105	237
142570	133	276
142572	173	316
142577	331	395
0608		
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150505	2	30
150508	16	78
150510	28	113
150513	35	157
150515	48	198
150517	54	237
150519	70	280
150520	78	323
150522	91	360
150526	107	398
150528	137	468
150531	176	548
150535	233	622
150539	323	699
150543	499	747
0609		
154967	0	0
154970	19	37
154972	34	78
154975	57	116
154977	75	158
154979	92	198
154982	113	239
154983	179	278
154985	154	316
154987	182	360
154989	204	396
154993	282	468
0610		
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164146	8	11
164150	13	31
164154	34	47
164156	42	66
164158	50	77
164161	73	91
164165	113	109
164169	207	131
164179	318	142
164188	544	146
164198	815	140
164211	1130	127
164216	1522	117
164254	2252	107
164286	3030	100
0611		
172063	0	0
172074	7	16
172078	23	37
172081	46	52
172085	71	69
172086	88	78
172091	141	90
172097	235	99
172110	525	108
172121	794	108
172142	1310	94
172171	2072	92
172203	2843	85
172226	3386	83
172257	4158	77
0612		
151995	0	2
152010	5	77
152014	17	157
152018	33	236
152022	48	315
152025	63	395
152029	74	468
152033	92	544
152036	109	625
152040	137	702
152043	161	773
152048	207	882
152053	304	989
152060	444	1097
152065	636	1163
152067	769	1169
152069	841	1142
152076	1841	695
0613		
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160942	19	77
160946	52	157
160950	73	236
160954	94	315
160957	113	395
160960	139	468
160964	162	544
160968	201	625
160971	245	695
160975	304	780
160979	390	845
160984	535	912
160987	687	950
160991	902	968
160996	1275	953
161000	1827	881
161010	3041	695
161020	4102	566
0614		
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165379		77
165383		157
165387		236
165390		315
165395		416
165398	69	475
165401	127	544
165405	161	623
165409	192	695
165413	240	773
165416	285	846
165421	383	918
165426	547	990
165431	769	1026
165435	1074	1020
165439	1277	961
165444	1336	853
165450	1614	680
165459	1692	544
0615		
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172818	25	77
172822	29	157
172826	79	236
172830	98	315
172834	114	402
172837	126	475
172840	144	551
172844	163	625
172847	177	702
172850	198	773
172853	223	845
172856	253	918
172860	274	989
172863	311	1061
172867	342	1140
172870	377	1205
172875	463	1313
172880	565	1377
172888	870	1485
172890	1079	1478
172893	1563	1377
172896	2368	1162
0616		
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141050	113	157
141056	154	275
141061	186	395
141066	217	505
141072	261	618
141075	287	702
141078	321	773
141081	365	846
141085	426	918
141090	501	990
141095	638	1062
141099	804	1107
141102	1012	1119
141105	1279	1097
141108	1748	1018
141112	2436	875
141118	3490	606
141125	4463	505
0620		
153987	0	0
153995	58	77
153999	92	157
154003	121	236
154007	150	315
154012	174	395
154015	201	468
154019	228	551
154023	265	621
154027	310	698
154031	375	773
154037	506	875
154043	719	943
154048	1126	965
154051	1385	962
154058	2100	846
154065	3065	695
154072	3985	582
0622		
170442	0	0
170446	56	74
170451	107	154
170455	136	235
170458	165	315
170462	183	402
170465	198	478
170467	214	551
170472	236	632
170475	254	695
170478	282	773
170482	309	846
170485	360	910
170490	393	990
170492	451	1061
170496	543	1040
170501	721	1197
170505	923	1213
170508	1321	1155
170511	2018	1061
170515	3053	712
170518	4232	395
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181422	56	77
181427	100	157
181431	133	236
181436	162	315
181439	190	395
181443	221	468
181447	258	544
181450	303	618
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181457	425	773
181462	526	846
181465	622	882
181470	875	940
181474	1069	947
181478	1458	932
181483	2069	853
181490	3341	695
181498	4003	589
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134657	38	77
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134682	110	236
134694	144	315
134705	174	395
134716	212	468
134728	262	544
134740	323	625
134752	411	695
134765	556	773
134775	695	803
134783	878	810
134790	1109	803
134799	1435	760
134810	1964	664
134825	2635	558
134847	3925	446
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145381	0	0
145401	38	77
145415	75	157
145427	102	236
145439	128	315
145450	163	395
145460	197	468
145470	238	544
145482	311	618
145496	438	695
145513	655	759
145527	948	773
145538	1273	763
145550	1755	695
145563	2301	625
145583	3095	570
145608	3877	468
0629		
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161632	125	157
161645	160	236
161655	198	315
161666	232	395
161676	266	468
161687	300	544
161698	342	618
161710	396	695
161720	452	773
161733	539	867
161749	711	919
161758	884	940
161766	1126	932
161775	1505	875
161783	2028	773
161790	2535	656
161805	2915	530
0630		
165950	6	14
165960	12	77
165972	44	157
165982	63	
165991	90	215
170004	120	395
170016	159	468
170028	208	544
170041	304	618
170056	465	695
170067	654	725
170075	819	740
170087	1182	732
170102	1679	672
170120	2370	590
170138	3001	521
170162	3785	468
0631		
131722	0	15
131736	110	77
131749	133	157
131760	167	236
131770	209	315
131782	244	395
131793	285	468
131805	331	544
131816	384	618
131829	457	695
131840	533	773
131854	662	847
131866	829	890
131875	924	910
131883	1217	903
131893	1631	847
131906	2275	717
131918	3057	567
131932	3640	490
131944	4019	453
0632		
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155137	19	77
155148	40	157
155159	60	236
155170	86	315
155180	117	395
155197	179	505
155217	286	618
155242	598	735
155256	891	750
155264	1148	743
155277	1600	687
155295	2386	583
155331	3589	468
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165336	35	77
165349	71	157
165360	94	236
165370	121	315
165380	143	395
165391	171	465
165402	200	544
165420	274	655
165438	405	773
165456	675	839
165465	904	846
165478	1379	788
165491	2076	767
165510	2827	559
165536	3738	468
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180126	76	154
180139	109	236
180150	140	315
180160	167	395
180170	197	468
180180	233	547
180192	307	618
180204	361	695
180218	498	773
180235	767	825
180244	950	832
180250	1104	832
180260	1479	807
180282	2302	695
180311	3339	581
180355	4686	505
0636		
145082	0	0
145125	66	75
145160	116	157
145190	146	236
145220	178	316
145250	211	395
145281	265	468
145314	324	543
145353	436	617
145382	575	664
145421	878	683
145433	1017	672
145453	1396	618
145577	1844	543
145600	2297	468
145641	2911	395
0637		
162686		0

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TIME   STRAIN STRS
162728    23   77
162760    52  157
162792    87  236
162825   125  315
162857   178  395
162893   262  468
162937   412  544
162994   745  567
163036  1053  618
163072  1392  618
163115  1870  582
163161  2404  544
163232  3156  505
163250  4320  468
0639
172964     3    7
172987     3   35
173005    19   73
173036    40  157
173064    67  236
173097    90  315
173129   159  395
173160   239  468
173195   240  539
173242   268  590
173274    17  601
173294  1111  601
173320  1432  582
0640
123150     0    7
123192    12   35
123210    38   77
123245    85  155
123275   119  236
123306   155  315
123337   209  395
123355   249  432
123371   299  468
123393   377  515
123417   494  544
123465   832  582
123513  1295  573
123546  1688  544
123585  2083  502
123642  2863  462
123714  3643  423
0642
131212     0    0
131250    38   77
131282    67  157
131313   104  236
131343   140  315
131371   180  395
131400   220  468
131430   231  544
131458   319  618
131489   384  695
131520   459  773
131558   577  846
131602  1007  874
131613  1025  867
131640  1598  773
131657  2062  657
131672  2592  544
131727  3636  395
0643
152628     0    0
152655    29   78
152685    56  157
152715    83  238
152747   119  316
152773   155  395
152805   212  468
152840   300  543
152880   484  618
152912   720  633
152926   883  626
152948  1216  582
152973  1694  505
153038  2587  416
153103  5709  395
0645
165604     0    0
165644    66   77
165678    98  157
165708   137  236
165739   182  315
165770   207  395
165801   326  468
165841   469  544
165922  1024  611
165943  1233  607
165973  1609  582
166033  2356  505
166137  3614  431
166155  3805  423
0647
183818          0
183841    18   38
183857    31   78
183873    40  116
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TIME   STRAIN STRS
183888    56  157
183904    71  198
183918    81  237
183948   115  317
183976   162  395
184009   235  468
184049   385  543
184085   628  581
184110   915  573
184138  1272  532
184173  1825  461
184234  2613  395
0650
083993     0    0
084030    42   35
084047    73   78
084054   104  113
084068   133  157
084115   190  237
084147   248  317
084170   309  395
084212   370  468
084245   462  542
084262   520  581
084272   596  618
084306   707  656
084357  1108  687
084377  1353  663
084399  1691  618
084431  2219  543
084467  2724  468
084557  3882  393
0651
131561     0    0
131587          78
131595         115
131602         156
131608         198
131614         237
131626         315
131637         394
131649         468
131660         547
131675         622
131690         663
131698         661
131706         633
131716         570
131736         460
131752         412
131778         370
0652
142124     0   11
142139    25   97
142147    40  158
142158    56  237
142168    71  315
142178    90  395
142190   112  468
142201   138  544
142213   171  618
142224   209  694
142235   263  771
142247   338  847
142261   464  918
142279   762  964
142287   975  953
142296  1394  881
142303  1882  771
142313  2573  611
142323  3254  468
0653
152670     0    0
152699    14   38
152707    31   78
152713    38  117
152719    48  158
152730    67  237
152740    94  315
152752   128  395
152763   168  468
152775   233  548
152790   357  618
152812   709  672
152820   931  664
152831  1348  618
152847  2033  521
152863  2665  439
152880  3228  395
0654
162088     0    0
162098    13   36
162105    27   77
162112    37  116
162118    48  157
162124    58  198
162130    65  237
162141    90  315
162151   113  395
162162   142  472
162173   176  546
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TIME   STRAIN STRS
162186   219  618
162196   276  693
162210   357  773
162224   488  846
162237   663  889
162245   833  895
162255  1117  889
162263  1450  846
162278  2072  740
162296  2882  618
162318  3608  543
162356  4740  480
0655
170078     6   15
170083    10   37
170091    37   77
170099    60  117
170105    75  157
170114    97  205
170118   115  239
170130   159  315
170142   228  395
170157   378  468
170173   645  503
170183   822  497
170193  1255  468
170215  1981  402
170242  2732  347
170286  3932  315
0656
155891     0    0
155921     0    0
155944    10   35
155966    24   76
155988    38  117
156008    56  157
156027    75  193
156045    97  237
156063   123  276
156080   156  315
156120   259  396
156144   348  432
156171   502  467
156206   792  487
156233  1092  483
156245  1248  480
156265  1550  453
0657
192844     0    0
192860     6   16
192877    16   44
192898    37   90
192920    40  130
192937    52  169
192954    63  207
192970    75  249
192986    86  288
193002    96  326
193018   109  365
193024   122  405
193030   136  440
193064   148  480
193093   181  557
193123   221  630
193157   279  705
193190   356  785
193232   509  856
193245   587  863
193270   819  863
193285  1125  821
193296  1450  745
193309  1923  630
193329  2373  480
193360  3077  399
0658
150305     0    0
150320     3    2
150340    10   36
150361    21   78
150381    33  116
150400    44  158
150419    58  200
150426    71  237
150462    84  276
150468   100  316
150500   133  395
150533   175  469
150564   230  544
150598   306  619
150646   685  694
150672   887  701
150688  1106  694
150703  1175  654
150720  1567  580
150747  2144  468
150779  2706  394
0659
165946     0    0
165956     1    2
165975    12   33
165997    24   78
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TIME   STRAIN STRS
170020    39  117
170039    57  157
170058    76  198
170074    93  237
170090    97  276
170110   147  317
170150   239  394
170195   422  469
170227   597  505
170291  1137  529
170317  1401  529
170352  1826  491
170405  2686  439
170475  3286  394
170512  3670  386
0660
190800     0    0
190816     0    0
190836    15   33
190858    28   78
190879    41  117
190896    55  157
190916    66  198
190933    79  237
190949    91  276
190964   105  317
190996   138  394
191029   176  469
191059   223  543
191090   290  618
191133   424  693
191159   568  720
191180   789  720
191190   953  699
191210  1376  619
191228  1764  543
191265  2420  431
191295  2595  394
0661
212905     0    0
212925    10   34
212947    27   78
212967    40  117
212985    57  157
213005    76  198
213021    93  237
213039   115  277
213056   144  318
213093   229  394
213136   377  469
213163   508  505
213212   844  543
213230   998  546
213272  1448  541
213309  1890  513
213354  2429  469
213428  3252  423
213510  4119  394
0662
133616     0    0
133629     2    3
133648    12   34
133669    27   78
133690    45  117
133710    63  157
133728    83  198
133746   104  237
133761   125  277
133780   150  318
133814   212  394
133854   317  469
133908   589  541
133937   867  543
133948  1010  537
133972  1377  483
134014  2083  394
134080  2942  318
0663
151602     0    0
151608     2    5
151630    12   38
151655    27   78
151675    43  117
151694    60  157
151715    79  198
151730    94  237
151750   117  277
151766   146  318
151802   217  394
151845   348  469
151870   467  505
151917   767  543
151947  1017  550
151978  1350  542
152015  1800  510
152078  2550  445
152175  3642  394
0664
175923     0    0
175943     3    1
175977    13   36
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TIME   STRAIN STRS
180017    27   78
180051    41  117
180081    56  157
180117    69  198
180148    83  237
180175    95  276
180206   112  317
180263   152  396
180326   202  469
180381   268  543
180446   362  619
180555   652  694
180590   849  694
180610  1011  680
180665  1396  619
180670  1746  544
180720  2361  431
180762  2565  401
0665
091330     0    0
091391    18   35
091435    47   74
091477    75  113
091514   103  158
091549   133  200
091578   160  237
091611   193  276
091647   231  316
091724   348  395
091767   445  431
091820   588  469
091988   817  512
092062  1111  520
092097  1289  533
092168  1677  525
092217  1952  513
092345  2765  461
092435  3259  438
0666
130919     0    0
130930     0    0
130963     8   36
131005    19   78
131040    27  116
131073    39  158
131098    49  200
131127    59  237
131165    76  283
131215   100  356
131249   115  399
131301   152  469
131358   195  544
131417   254  619
131450   290  657
131482   342  696
131575   417  732
131576   581  761
131616   829  757
131642  1131  694
131674  1650  580
131708  2186  468
0667
145812     0    0
145830     2    3
145865    16   36
145903    36   78
145940    59  116
145975    82  158
146012   109  200
146046   142  237
146074   162  276
146126   236  331
146149   274  356
146187   345  395
146233   447  431
146290   607  469
146362   855  507
146439  1172  529
146477  1362  529
146496  1468  529
146549  1757  521
146600  2070  506
146702  2699  468
146870  3670  435
0668
162140     0    0
162280     0    0
162555    48   38
162710    96   78
162955   154  101
163290         133
0669
204787     0    0
204890     3    3
205172    30   53
205430    58   78
205632    86  117
205880   123  157
210040   156  181
210198   193  205
210415   254  229
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TIME   STRAIN STRS
210613   312  253
210707   365  269
211075   485  293
211256   575  326
211490   687  347
211647   769  371
211917   913  387
212255  1115  395
212970  1556  409
213505  2046  412
214270  2717  401
0670
090284     0    0
090410     0    0
090560    13   22
090716    27   38
090980    49   78
091156    62   98
091417    90  133
091558   110  157
091767   133  190
091947   150  220
092100   177  237
092500   226  276
092861   343  316
093380   588  428
093645   758  424
094250   988  300
094450  1286  276
0671
130532     0    0
130587     2    3
130810    12   36
131087    38   78
131365    77  117
131643   126  157
132003   196  198
132688   285  236
133170   458  276
133307   535  317
133617   669  355
134035   965  395
134795  1361  408
135258  1652  412
135705  1994  401
140737  2706  412
142132  3665  470
143022  3990  453
0672
181150     0    0
181195     2    3
181472    38   78
181620    69  117
181763   104  157
181915   144  198
182078   188  236
182220   265  276
182360   288  315
182504   355  355
182654   442  395
182903   519  426
182971   646  423
183072   840  409
183222  1408  355
183417  1846  315
183660  2283  292
0673
205001     0    0
205023     0    3
205127    15   36
205279    46   78
205425    77  116
205563   112  157
205697   152  198
205865   202  236
210028   277  276
210206   366  316
210485   463  355
210685   796  401
210850  1010  431
211264  1431  468
211532  1779  475
211673  1988  477
211790  2363  468
212371  2904  453
213183  3740  415
0674
100263     0    0
100310     1    3
100450    14   36
100587    27   78
100708    35  117
100870    56  157
100920    71  198
101035    90  236
101149   112  276
101260   133  315
101367   160  355
101472   183  395
101610   217  442
101795   240  468
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TIME   STRAIN STRS
101810    275  513
101940    317  544
102069    369  585
102260    479  618
102365    573  618
102450    777  603
102770   2066  555
102915   2969  315
103160   3815  300
0675
095315      0    0
095316     10   31
095319     25   71
095324     56  158
095329     84  237
095333    110  316
095337    131  394
095341    155  473
095345    177  549
095348    200  618
095352    229  700
095355    262  771
095358    296  846
095362    338  910
095366    400  990
095371    496 1061
095375    619 1132
095379    781 1184
095381    879 1190
095384   1128 1195
095387   1421 1170
095389   1725 1104
095391   2186 1010
095393   2758  903
095397   3406  771
0676
131672      0    0
131677     23   70
131681     50  149
131685     73  228
131690     98  308
131693    121  390
131697    150  460
131701    179  537
131705    217  612
131709    270  688
131714    344  766
131718    458  840
131722    590  873
131726    780  907
131729    979  910
131733   1317  895
131737   1733  852
131741   2346  766
131745   2896  688
131752   3760  588
131755   3963  566
0677
143363      0    0
143368     19   78
143373     42  158
143377     60  237
143380     81  316
143384     96  395
143388    112  476
143391    126  551
143394    148  618
143398    169  696
143401    190  772
143405    220  845
143409    254  918
143413    298  989
143417    363 1061
143422    465 1132
143427    660 1209
143430    827 1220
143433   1048 1212
143435   1298 1149
143438   1690 1011
143440   2383  853
143444   3556  597
0678
161003      0    0
161015     24   70
161019     48  149
161023     73  228
161028     96  308
161032    121  386
161036    150  458
161040    179  536
161043    219  612
161047    277  687
161051    354  765
161056    492  838
161060    625  874
161063    792  893
161066   1030  895
161070   1373  881
161073   1836  824
161077   2302  765
161082   2975  664

TIME   STRAIN STRS
161087   3300  581
161092   4144  536
0679
172484      0    0
172489     25   78
172493     48  158
172498     73  237
172502     94  316
172507    113  394
172510    131  468
172514    150  551
172517    170  618
172521    190  702
172525    211  771
172528    235  846
172532    262  918
172535    290  990
172539    327 1061
172543    367 1132
172545    408 1205
172549    457 1283
172552    533 1349
172557    673 1427
172562    942 1463
172565   1311 1441
172568   1823 1298
172569   2229 1162
0679
172486      0    0
172490     26   78
172493     50  158
172498     76  237
172503     98  316
172507    117  401
172510    136  475
172514    156  550
172517    174  627
172521    198  701
172525    218  771
172528    244  847
172532    272  918
172535    302  990
172539    340 1062
172542    362 1132
172545    424 1205
172550    486 1283
172553    556 1355
172557    700 1427
172562    980 1462
172565   1344 1441
172567   1896 1299
172569   2318 1162
0680
193290      0    0
193293      8   36
193298     23   78
193307     46  157
193315     69  236
193321     96  315
193331    125  395
193338    162  468
193346    217  551
193354    300  618
193365    485  695
193375    737  732
193380    935  740
193385   1198  732
193390   1494  710
193400   2031  650
193410   3027  545
193420   3461  512
193290      0    0
193293      8   38
193298     24   78
193307     50  158
193315     72  244
193323    100  316
193330    130  395
193338    170  468
193347    226  550
193356    312  618
193365    506  694
193375    766  732
193380    976  739
193385   1258  732
193390   1554  710
193400   2114  649
193410   3150  544
193420   3602  512
0681
111975      0    0
112000      2    7
112112     24   30
112190     42   52
112272     64   78
112353     86   92
112440    114  124
112510    144  146
112602    176  165
112707    223  192
112809    280  220

TIME   STRAIN STRS
112963    366  252
113145    542  283
113369    810  292
113560   1096  295
113763   1440  280
113907   1682  276
114135   2046  256
114935   3206  251
115585   4126  251
0682
140790      0    0
140828     33   42
140853     57   85
140878     93  117
140904    137  165
140931    193  205
140957    249  245
140980    310  283
141004    379  323
141035    477  362
141066    607  401
141110    829  438
141155   1109  453
141220   1235  445
141258   1475  431
0683
171615      0    0
171620     24   78
171625     46  158
171630     70  237
171635     96  316
171638    126  401
171642    156  476
171646    196  544
171650    248  618
171655    340  701
171659    504  771
171662    626  806
171665    790  824
171669   1096  824
171672   1372  802
171675   1884  723
171680   2648  611
171690   2826  506
0684
101332      0    0
101336     16   78
101360     38  158
101365     70  237
101369     84  316
101374    118  400
101377    150  475
101380    182  544
101385    254  618
101390    360  694
101395    548  771
101398    710  796
101402    956  800
101405   1220  789
101409   1730  710
101413   2314  618
101418   2642  537
0685
142887      0    0
142892     32   78
142897     62  158
142901     92  237
142906    130  316
142910    172  402
142915    226  468
142920    312  550
142925    450  618
142932    804  671
142937   1262  656
142941   1690  603
142946         520
142953   2756  468
0686
160218      0    0
160238     28   70
160243     62  158
160247     88  237
160257    104  316
160255    140  400
160259    172  476
160263    208  551
160267    260  618
160271    344  700
160275    468  771
160280    712  824
160283    882  835
160287   1186  828
160290   1680  771
160295   2432  658
160300   3126  558
160303   3498  505
0687
170813      0    0
170864      6    7
170950     17   30
171032     31   52

TIME   STRAIN STRS
171111     48   78
171189     69  101
171293     96
172665    826  356
172870   1100  380
172962   1214  383
173180   1476  383
0688
092047      0    0
092052     34   78
092056     60  158
092060     84  237
092065    108  316
092069    136  401
092073    168  470
092077    210  552
092080    256  618
092085    322  694
092093    452  771
0690
163100      0    0
163131      0    0
163158     23   30
163187     38   78
163215     56  116
163237     72  158
163285    108  237
163330    148  316
163380    200  395
163424    268  468
163480    392  544
163540    664  581
163560    836  574
163580   1082  544
163600   1458  468
163630   1872  395
0691
171489      0    0
171508      2    0
171532     24   10
171557     67   35
171594    134   78
171623    180  112
171654    230  158
171706    310  237
171760    392  316
171817    502  395
171926    769  468
171945    914  468
171965   1107  449
172017   1773  395
172078   2108  374
172100   2180  374
0693
112794      0    0
112823      4    0
112850     32   34
112877     56   70
112907     81  116
112931    101  150
112976    140  230
113021    178  308
113069    222  395
113114    264  468
113161    320  544
113184    350  581
113200    386  618
113232    428  656
113262    506  694
113306    700  723
113322    829  715
113336    943  694
113356   1251  618
0695
235300      0    0
235340      4
235370     38   38
235405     86   78
235436    126  116
235461    160  158
235512    234  237
235563    334  309
235603    444  355
235642    602  395
235696    826  430
235807   1444  460
235842   1678  462
0696
142750      0    0
142760     11   10
142777     19   35
142804     37   78
142832     60  116
142855     82  158
142904    142  237
142957    231  316
143017    386  395
143100    804  450
143122    990  438
143155   1300  416
143207   1678  395

TIME   STRAIN STRS
163295   2726  292
0697
153754      0    0
153777      7    1
153805     30   35
153835     55   78
153860     80  116
153885    102  158
153935    142  237
153980    182  316
154028    230  395
154075    271  468
154126    381  544
154190    574  618
154222    756  634
154238    858  626
154255   1122  596
154280   1592  506
154328   2422  355
154347   2650  323
0698
170283      0    0
170295      5    3
170325     32   38
170357     66   78
170383     94  116
170409    128  158
170460    202  237
170515    310  316
170603    646  395
170678   1196  383
170711   1528  355
170820   2498  275
0700
203000      0    0
  3029     10    6
  3049     24   38
  3077     48   78
  3102     72  116
  3129    100  158
  3179    172  237
  3236    284  316
  3306    492  395
  3360    702  430
  3435   1090  468
  3488   1444  476
  3580   1966  468
  3680   2944  430
  3815   3982  402
0701
224030      0    0
  4035      2    0
  4087     34   38
  4115     60   78
  4143     90  116
  4170    122  158
  4220    200  237
  4272    312  308
  4330    558  395
  4505   1392  460
  4570   1890  453
  4630   2378  430
  4835   3884  395
  4959   4572  400
0702
130540      0    0
  0572     12    6
  0595     28   38
  0621     48   78
  0649     68  116
  0672     92  158
  0717    132  237
  0765    184  316
  0815    256  395
  0865    354  468
  0967    790  542
  0983    932  540
  1010   1238  506
  1047   1760  415
  1100   2428  340
0703
135755      0    0
  5799      6    3
  5827     32   38
  5855     58   78
  5880     84  116
  5918    122  178
  5953    160  237
140002    190  316
  0055    324  395
  0112    482  468
  0185    674  504
  0205   1064  498
  0230   1346  468
  0269   1854  395
  0337   2568  332
0704
152527      0    0
  2566      8   38
  2600     12   78
  2635     26  116

TIME   STRAIN STRS
  2664     48  158
  2725    128  237
  2787    234  316
  2875    466  395
  2935    738  408
  2985   1122  405
  3006   1354  395
  3045   1820  355
  3199   2320  316
  3284   3132  292
0705
163065      0    0
  3094      8   10
  3118     24   38
  3142     44   78
  3168     60  116
  3200     90  158
  3240    128  237
  3264    148  275
  3287    176  316
  3316    218  355
  3342    264  395
  3373    340  430
  3410    470  468
  3433    588  488
  3456    718  488
  3487    990  468
  3515   1328  430
  3555   1646  395
  3637   2410  316
0710
133200      0    0
  3266      8   18
  3274     34   78
  3283     68  150
  3290     98  229
  3300    134  316
  3308    166  395
  3315    200  468
  3323    242  544
  3332    300  618
  3340    374  694
  3350    498  771
  3362    782  821
  3365    934  821
  3372   1338  771
  3378   1768  654
  3385   2302  581
  3392   2616  506
0711
142121      0    0
  2159     30   38
  2163     52   78
  2172     94  158
  2180    128  237
  2188    162  316
  2197    214  395
  2205    262  468
  2212    288  544
  2221    358  618
  2231    486  694
  2238    769  732
  2246    912  728
  2257   1218  696
  2257   1682  618
  2261   2070  559
  2269   2586  475
0712
151800      0    0
  1837     16   21
  1843     38   69
  1852     76  150
  1860    106  237
  1868    136  316
  1876    164  395
  1884    198  468
  1891    236  544
  1899    286  618
  1908    368  694
  1918    506  771
  1928    776  800
  1931    942  795
  1935   1130  771
  1940   1592  694
  1947   2198  589
  1952   2644  506
0713
162086      0    0
  2140      2    0
  2150     40   78
  2159     72  158
  2167    106  237
  2175    140  316
  2184    182  395
  2172    230  460
  2200    314  544
  2212    506  618
  2222    756  645
  2227    944  640
  2233   1218  618
  2240   1634  566
```

```
TIME   STRAIN STRS
  2251   2360  468
0715
171104      0    0
  1418      6   10
  1428     28   78
  1438     92  158
  1446    134  237
  1455    176  316
  1465    232  395
  1473    284  468
0716
183104      0    0
  3214     22   13
  3223     50   78
  3228     66  116
  3232     82  158
  3237     96  194
  3240    112  230
  3245    134  275
  3250    156  316
  3258    208  395
  3267    282  468
  3277    406  540
  3292    726  618
  3302   1038  634
  3313 [illegible] 626
  3324   2052  581
  3332   2462  544
  3357   3268  458
0717
204190      0    0
  4215     22   42
  4220     34   78
  4230     64  150
  4234     78  198
  4237     88  229
  4243    100  275
  4247    110  316
  4255    136  395
  4263    170  468
  4272    262  544
  4278    364  581
  4285    526  618
  4294    754  641
  4297    840  648
  4302    974  648
  4315   1440  634
  4330   2140  589
  4350   3170  512
  4368   3046  491
0718
214313      0    0
  4330      0    0
  4370      4    3
  4380     56   78
  4389     92  158
  4397    134  237
  4406    180  316
  4415    238  395
  4425    308  468
  4435    418  544
  4443    530  581
  4451    724  618
  4460   1014  641
  4469   1336  633
  4475   1684  611
  4487   2222  566
  4505   3120  498
0719
133560      0    0
  3724     10   18
  3815     22   42
  3948     44   85
  4090     60  125
  4200     80  165
  4340    114  205
  4462    140  243
  4605    172  283
  4739    204  323
  4872    244  362
  5005    282  401
  5145    332  438
  5270    378  475
  5435    460  512
  5677    704  544
  5725    814  537
  5792   1022  500
  5870   1346  438
  6025   1876  362
0721
155580      0    0
  5598     12    7
  5715     37   38
  5862     78   78
  5920     96   78
160030    132  116
  0178    184  149
  0355    254  190
  0498    316  229
  0695    408  275
  0865    494  316
```

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TIME   STRAIN STRS
  1200    796  355
  1362   1018  362
  1510   1288  355
  1710   1702  331
0722
165530      0    0
  5550     16   21
  5600     31   38
  5695     62   78
  5802    100  110
  5918    150  158
170047    214  198
  0157    286  229
  0358    452  275
  0768    994  305
  0865   1176  300
  1000   1442  283
  1198   1816  269
0724
185943      0    0
190047     14    7
  0150     38   38
  0248     72   78
  0373    112  116
  0484    178  150
  0630    228  193
  0765    304  229
  0960    430  275
  1228    664  316
  1375    846  323
  1672   1326  316
  1930   1796  292
  2595   3510  275
0726
112232      0    0
  2382      4    6
  2515     26   46
  2889     60  105
  2989     78  132
  3144    107  165
  3336    147  205
  3513    204  244
  3675    261  283
  3841    335  322
  4037    441  362
  4396    717  401
  4579    721  401
  4770   1193  387
  4944   1457  362
  5063   1639  340
0728
134325      0    0
  4450      0   10
  4565     16   38
  4803     55   90
  4910     80  121
  5032    115  158
  5250    186  194
  5430    258  224
  5733    420  275
  5855    514  316
140067    713  350
  0120    866  370
  0398   1138  380
  0786   1424  395
  0994   1744  400
  1585   2304  408
  2534   3595  404
  3000         401
0730
160428      0    0
  0497      1    0
  0752     25   38
  0796     56   78
  0938     88  112
  1195    135  158
  1342    196  198
  1487    277  237
  1669    399  275
  1919    599  316
  2203    870  351
  2725   1283  395
  3120   2079  405
  3233   2273  401
  3415   2585  388
  3912   3069  375
0731
151317      0    0
  1357      1    6
  1361     50  121
  1364     94  245
  1366    127  362
  1370    165  468
  1373    217  590
  1376    300  700
  1379    445  810
  1382    709  870
  1385   1038  885
  1388   1531  855
  1392   2226  771
  1396   3070  662
```

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TIME   STRAIN STRS
  1400   3690  567
0732
171830      0    0
  1875      6    9
  1877     56   78
  1880    107  175
  1881    131  232
  1883    162  316
  1885    184  395
  1887    224  468
  1889    265  544
  1892    313  623
  1894    377  694
  1896    478  771
  1898    648  840
  1903   1084  874
  1906   1634  834
  1910   2493  723
  1914   3147  626
0737
143006      0    0
  3060      1   65
  3107     15   65
  3399     22   65
  3659     31   65
  4143     38   65
  5699     50   65
151800     66   65
  4851     81   65
161900     91   65
  5230    102   65
173546    116   65
200034    146   65
220410    165   65
073830    260   65
091054    270   65
132715    311   65
151017    320   65
171589    348   65
194443    369   65
220000    392   65
080000    484   65
120500    532   65
153000    565   65
181400    596   65
203300    617   65
222900    638   55
075600    746   65
115100    792   65
132000    808   65
  2812    808   65
0738
144800      0    0
  4816    102  237
  4870    164  237
  4974    258  237
  5055    316  237
  5190    384  237
  5320    432  237
  5477    488  237
  5670    546  237
150055    656  237
  0300    710  237
  0780    798  237
  1175    880  237
  1660    970  237
  2035   1030  237
  2500   1118  237
  2856   1176  237
  4200   1344  237
  5100   1488  237
160750   1702  237
0739
163500      0    0
  3524    146  316
  3562    264  316
  3600    362  316
  3675    512  316
  3780    652  316
  3925    766  316
  4117    964  316
  4290   1088  316
  4510   1246  316
  4705   1372  316
  4908   1506  316
  5390   1808  316
  6022   2192  316
  6710   2562  316
  7040   2758  316
  7423   2990  316
  7580   3094  316
0740
183300      0    0
  3317     94  153
  3500    216  153
  3850    296  153
190100    480  153
  2600    618  133
200700    778  153
  3700    908  153
  5700   1004  153
```

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TIME   STRAIN STRS
215600   1223  153
224607   1409  153
234100   1580  153
245900   1775  153
  5942   1851  316
010090   2000  316
  0300   2141  316
  0600   2319  316
  0900   2482  316
  1200   2645  316
  1500   2805  316
  1515   2755  153
  2900   2828  153
  4605   2899  153
022700   3079  153
0741
140000      0    0
  0053     10   33
  0063     16   45
  0085     33   85
  0104     52  120
  0123     70  165
  0145     95  205
  0164    117  245
  0181    141  285
  0200    169  323
  0225    217  363
  0250    278  401
  0277    377  439
  0316    575  476
  0371    900  517
  0426   1296  533
  0460   1585  533
  0511   2061  521
  0584   2788  484
0742
144744      0    0
  4760     10   18
  4782     31   52
  4840     62   92
  4862     87  132
  4882    112  180
  4964    170  203
  5021    195  192
163836      0    0
  3874      6    0
  3922     85   65
  3940    112   92
  3959    138  132
  3982    170  185
  4016    222  268
  4035    249  292
  4054    286  331
  4076    342  370
  4100    417  416
  4132    530  450
  4165    678  486
  4211    940  533
  4260   1306  540
  4291   1619  532
  4320   1928  516
  4408   3102  444
0743
154900      0    0
  4945      4    0
  4983     34   52
  4996     46   92
  5017     63  126
  5036     81  172
  5057    100  209
  5076    119  251
  5093    139  291
  5120    170  330
  5142    203  370
  5164    248  408
  5190    321  446
  5221    432  482
  5263    605  520
  5309    874  558
  5352   1170  570
  5388   1514  566
  5448   2140  520
  5491   2510  490
0744
172800      0    0
  2830     10   13
  2853     34   53
  2870     54   94
  2888     78  133
  2903     98  165
  2925    126  212
  2945    150  252
  2963    176  292
  2984    220  331
  3007    268  371
  3032    324  404
  3060    406  447
  3087    504  484
  3120    640  520
  3173    900  560
  3215   1174  573
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TIME   STRAIN STRS
  3290   1766  570
  3357   2408  537
  3637   3282  483
0745
182900      0    0
  3025      6   12
  3112     26   38
  3260     62   77
  3487    110  117
  3614    150  157
  3770    204  198
  3987    290  237
  4170    410  276
  4335    526  292
  4850    706  276
  4930    748  300
  4990    788  317
  5172    950  355
  5522   1342  395
  6100   2128  416
  6665   2978  416
0746
090413
  0434      0    0
  0522     20   34
  0526     36   78
  0534     66  150
  0542     95  237
  0550    124  316
  0558    156  395
  0566    196  468
  0574    254  544
  0584    390  618
  0605    770  688
  0615   1046  691
  0621   1276  688
  0631   1744  660
  0652   2808  592
  0681   4352  487
0747
093380      0    0
  3437      0    0
  3458     12   36
  3483     36   78
  3504     49  116
  3523     64  158
  3546     85  192
  3565    106  237
  3586    128  272
  3609    162  316
  3636    214  355
  3669    304  395
  3715    502  428
  3726    972  468
  3776   1573  474
  3806   1834  472
  3883   2530  446
0748
100855      0    0
  0913      6    3
  0935     31   35
  0952     52   78
  0975     83  112
  0997    119  157
  1020    158  192
  1044    204  232
  1072    280  277
  1102    377  316
  1144    544  355
  1215    736  394
  1276   1350  405
  1346   1916  399
  1415   2510  375
0749
130700      0    0
  0708     31   78
  0716     68  158
  0725    104  232
  0733    152  317
  0742    228  396
  0752    344  469
  0767    712  528
  0775    999  532
  0781   1411  490
  0795   2270  395
0750
134946      0    0
  4973      0    0
  4988     42   91
  4996     76  169
  5004    106  255
  5011    142  339
  5020    174  416
  5028    218  496
  5036    272  572
  5045    350  646
  5049    397  662
  5056    458  640
  5067    665  572
  5076    826  516
0751
```

```
TIME   STRAIN STRS
145292      0    0
  5300      7   18
  5309     30   84
  5316     54  151
  5325     88  243
  5333    134  324
  5342    205  408
  5352    336  482
  5367    738  538
  5374    826  538
  5376   1372  525
  5382   1748  488
  5388   1982  435
0752
154900      0    0
  4910      6    7
  4920     62   92
  4928    100  165
  4937    133  252
  4946    168  330
  4953    209  408
  4961    264  482
  4970    345  570
  4979    473  632
  4987    646  670
  4992    794  685
  4997    999  680
  5005   1292  656
  5017   1802  595
  5027   2250  558
0753
162000      0    0
  2016      4    7
  2026     50   92
  2035     90  172
  2042    131  252
  2050    196  330
  2060    308  408
  2076    690  482
  2081    712  482
  2086   1180  468
  2092   1569  430
  2101   2104  292
0754
172300      0    0
  2311      2    0
  2324     44   92
  2332     82  172
  2340    126  243
  2350    197  330
  2362    362  408
  2374    640  450
  2378    818  446
  2384   1086  430
  2392   1521  394
  2400   1968  355
0755
183729      0    0
  3737     20   38
  3742     50   85
  3746     72  122
  3750     98  163
  3754    120  198
  3758    154  242
  3762    191  280
  3767    262  322
  3773    326  362
  3780    474  401
  3790    776  428
  3800   1198  425
  3805   1684  408
  3815   1966  362
  3837   3040  300
0756
191618      0    0
  1626     20   40
  1631     41   85
  1635     57  125
  1640     76  165
  1643     96  205
  1647    116  245
  1651    142  283
  1655    166  322
  1659    205  362
  1664    256  400
  1669    314  435
  1675    430  475
  1686    762  516
  1692   1021  512
  1698   1360  482
  1706   1744  438
  1712   2122  408
  1719   2198  370
0757
200600      0    0
  0608     18   44
  0612     34   85
  0616     52  124
  0620     68  165
  0625     84  203
  0629    107  244
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TIME   STRAIN STRS
 0633    130   283
 0636    158   322
 0640    197   362
 0646    259   400
 0651    342   438
 0658    482   477
 0665    708   499
 0675   1093   495
 0680   1308   482
 0687   1727   438
 0695   2152   400
 1205   2654   363
0762
 0966      0     0
 0991      3     4
 1029     14    50
 1061     38   101
 1086     49   150
 1124     61   196
 1152     75   240
 1186     94   293
 1205    109   332
 1227    122   373
 1254    145   419
 1280    171   462
 1308    202   508
 1340    241   552
 1351    255   563
 1380    295   594
 1418    367   635
 1471    511   677
 1490    605   686
 1505    710   688
 1513    803   678
 1525    958   657
 1533   1079   636
0763
153054      0     0
  3095     46    48
  3126     78    97
  3156    106   148
  3185    126   194
  3213    155   238
  3243    182   282
  3267    207   330
  3290    231   372
  3320    270   425
  3353    316   480
  3387    373   532
  3425    453   582
  3474    593   633
  3517    851   655
  3535   1029   641
  3567   1206   618
  3594   1331   600
0764
163160      0     0
  3184      2     2
  3225     52    50
  3258     89   100
  3286    120   150
  3331    156   196
  3362    193   240
  3395    237   283
  3420    281   329
  3448    337   374
  3482    422   418
  3534    662   462
  3550    752   465
  3566    878   462
  3587   1080   445
  3606   1268   409
  3616   1362   395
0765
171888      0     0
  1906      1     2
  1952     70    53
  1982    102    98
  2030    138   150
  2060    166   195
  2090    203   242
  2121    245   286
  2147    288   330
  2175    347   373
  2208    467   419
  2255    659   462
  2285    873   472
  2305   1078   470
  2320   1244   458
  2337   1480   436
0766
182980      0     0
  2997      3     2
  3040     78    50
  3073    127    98
  3103    163   147
  3143    205   195
  3173    243   240
  3205    299   284
  3235    364   330
  3270    468   376
```

```
TIME   STRAIN STRS
  3325    753   412
  3363    851   414
  3388   1086   410
  3405   1195   400
0767
193552      0     0
  3597      3     2
  3647     50    61
  3670     69    98
  3700     96   147
  3728    125   195
  3758    158   240
  3790    204   283
  3815    256   330
  3842    316   373
  3878    431   418
  3923    686   453
  3961    835   455
  3995    980   435
  4080   1238   416
0768
085977      0     0
090032      2     2
  0085     71    70
  0105     90    98
  0132    121   147
  0163    154   195
  0192    196   240
  0225    247   283
  0252    300   330
  0283    380   373
  0324    536   418
  0360    748   433
  0382    913   432
  0400   1072   417
  0410   1163   407
  0417   1231   391
0769
091278      0     0
  1290      2     2
  1325     42    43
  1357     81    91
  1387    117   143
  1416    153   190
  1447    199   232
  1480    258   279
  1507    324   325
  1537    410   368
  1575    547   412
  1608    735   440
  1640    890   450
  1664   1216   445
  1678   1415   430
  1691   1622   409
0770
100727      0     0
  0760      4     2
  0782     54    50
  0812     88    97
  0840    119   145
  0871    152   195
  0900    189   238
  0932    240   282
  0959    301   329
  0989    388   372
  1030    565   416
  1059    750   432
  1071    851   432
  1086    995   432
  1102   1173   416
  1120          390
0771
111797      0     0
  1842      0     0
  1938      4     2
  1976     67    39
  2001    102    80
  2025    123   118
  2049    144   158
  2072    163   196
  2100    189   240
  2132    229   287
  2157    268   330
  2185    326   373
  2219    415   420
  2258    545   462
  2306    770   499
  2319    841   500
  2337    953   502
  2364   1121   499
  2400   1354   483
0772
132765      0     0
  2795      0     2
  2840     43    50
  2870     68   100
  2898     95   150
  2933    120   204
  2956    139   240
  2986    170   284
  3010    202   330
```

```
TIME   STRAIN STRS
  3036    246   373
  3065    310   419
  3097    399   462
  3118    467   490
  3145    565   516
  3182    733   542
  3208    882   550
  3227   1017   550
  3252   1195   534
  3277   1391   516
0773
150255      0     0
  0285      2     2
  0332     49    51
  0363     81    98
  0391    106   148
  0420    131   196
  0450    162   240
  0482    205   284
  0510    255   330
  0539    324   374
  0575    430   418
  0618    611   462
  0656    814   480
  0678    960   482
  0692   1068   479
  0716   1200   462
  0737   1509   452
0774
160650      0     0
  0695      4     2
  0740     52    50
  0772     88    98
  0800    118   148
  0830    148   196
  0866    191   243
  0895    240   284
  0924    298   330
  0955    375   373
  0995    499   418
  1060    776   462
  1080    936   470
  1115   1273   462
  1132   1400   459
0775
170883      0     0
  0900      0     2
  0940     41    50
  0973     74    98
  1000    103   147
  1030    135   196
  1060    177   240
  1094    236   284
  1120    294   329
  1155    379   373
  1198    544   417
  1220    650   430
  1242    790   433
  1270    972   432
  1290   1114   428
0776
184585      0     0
  4593      5     3
  4636     62    55
  4665     92    98
  4694    115   147
  4720    138   196
  4750    162   240
  4780    192   283
  4805    221   329
  4832    266   373
  4863    338   418
  4900    467   462
  4915    526   470
  4940    627   478
  4952    672   464
  4977    748   443
  5003    814   428
0777
200007      0     0
  0014      3     2
  0056     62    50
  0090    105    98
  0117    133   148
  0146    156   195
  0175    180   240
  0205    212   284
  0230    243   329
  0256    288   373
  0286    362   418
  0325    485   462
  0365    675   500
  0390    814   510
  0410    955   511
  0435   1130   510
  0470   1383   493
  0505   1633   487
0778
085912      0     0
  5925      1     2
  5967     56    50
```

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TIME   STRAIN STRS
090002     91   101
  0030    113   150
  0057    136   195
  0088    163   241
  0115    196   283
  0142    229   328
  0170    285   373
  0206    390   420
  0262    543   462
  0285    760   470
  0302    876   471
  0330   1070   468
  0352   1222   452
  0362   1255   450
0779
080765      0     0
  0800      1     2
  0843     31    50
  0876     62    99
  0905     99   150
  0935    126   195
  0965    159   240
  0995    200   283
  1020    241   330
  1050    305   373
  1085    406   419
  1110    506   444
  1137    622   462
  1157    719   471
  1187    887   479
  1202    999   477
  1252   1280   466
  1270   1377   466
0780
091530      0     0
  1568      0     0
  1628     81    62
  1650    110    96
  1680    142   145
  1710    174   194
  1740    211   238
  1772    258   282
  1797    306   327
  1825    372   372
  1857    463   416
  1895    608   460
  1925    753   488
  1952    888   500
  1965    978   502
  1982   1092   503
  2000   1246   500
  2038   1540   482
  2070   1784   470
0781
114262      0     0
  4300      2     3
  4342     52    50
  4376     79    99
  4405    137   147
  4438    182   196
  4476    265   240
  4560    728   275
  4583    939   266
  4610   1089   256
  4655   1417   252
0782
134947      0     0
  4976      4     2
  5007     63    40
  5033     95    78
  5057    129   118
  5080    157   157
  5105    191   196
  5131    246   231
  5160    318   266
  5200    488   304
  5220    618   313
  5236    755   317
  5246    850   312
  5264   1031   302
  5281   1231   282
  5300   1440   266
0783
151220      0     0
  1238      4     6
  1270     37    40
  1295     70    78
  1318    101   118
  1343    134   157
  1370    183   196
  1397    255   231
  1435    488   266
  1462    635   282
  1480    849   287
  1495    962   288
  1505   1046   284
  1535   1233   264
  1585   1578   249
0784
161288      0     0
  1312      5     3
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TIME   STRAIN STRS
  1345     41    40
  1371     72    78
  1395    106   118
  1419    147   157
  1445    210   196
  1477    308   231
  1510    451   258
  1550    724   273
  1567    850   273
  1576    933   272
  1614   1282   255
  1642   1532   249
0785
170677      0     0
  0697      2     2
  0732     43    40
  0756     78    78
  0780    106   118
  0805    143   157
  0831    194   196
  0862    275   231
  0895    409   258
  0925    586   270
  0940    711   270
  0950    776   270
  0977   1014   258
  1030   1449   242
0786
183910      0     0
  3910      1     0
  3923      2     2
  3956     69    40
  3986    149    78
  4013    209   118
  4040    269   157
  4067    338   196
  4097    429   231
  4123    474   258
  4145    522   275
  4165    626   294
  4190    768   307
  4202    862   312
  4215    972   314
  4237   1148   312
  4258   1347   304
  4297   1690   283
0787
162837      0     0
  2876     27    20
  2905     76    57
  2930    108    97
  2955    135   135
  2976    168   175
  3006    212   215
  3037    273   255
  3060    328   282
  3082    396   310
  3106    500   332
  3127    538   343
  3146    657   344
  3160    789   341
  3180    997   319
  3212   1394   291
0788
183210      0     0
  3223      9     0
  3257     32    49
  3281     59    77
  3305     82   116
  3326    104   155
  3350    131   194
  3375    159   230
  3391    186   253
  3411    224   282
  3428    264   310
  3447    315   336
  3470          362
  3482          372
  3510          386
  3530          380
  3552          354
  3575          332
0789
091900      0     0
  1960      4     0
  1980      7     1
  2010     44    39
  2035     79    77
  2058    102   116
  2081    125   156
  2103    147   195
  2126    173   228
  2154    210   264
  2177    252   283
  2198    304   336
  2225    381   371
  2269    587   408
  2275    722   408
  2293    870   403
  2318   1036   370
0790
```

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TIME   STRAIN STRS
075895      0     0
  5915     30    20
  5953     98    57
  5980    144    97
080003    163   135
  0036    190   185
  0059    206   210
  0076    244   247
  0106    305   282
  0127    370   310
  0150    458   328
  0173    577   340
  0186    663   339
  0205    781   338
  0235   1096   328
  0306   1606   312
  0340   1940   310
0791
091026      0     0
  1080     38    20
  1108     62    57
  1132     88    97
  1155    108   135
  1177    126   175
  1200    147   210
  1224    171   247
  1249    201   282
  1270    230   318
  1290    269   353
  1315    327   390
  1330    374   407
  1350    471   425
  1372    515   432
  1384    617   431
  1399    771   414
0792
101725      0     0
  1776      2     2
  1792     15    20
  1826     51    67
  1860     88   120
  1880 [illegible] 55
  1905     16    35
  1960     25 [illegible]
  1995 [illegible] [illegible]
  2020    580   292
  2045    796   291
  2054    864   290
  2080   1099   273
0793
132921      0     0
  3444      2     2
  3510     14    20
  3653     45    60
  3744     66    86
  3845    102   120
  3953    129   156
  4031    160   180
  4115    179   200
  4235    263   230
  4370    349   257
  4455    410   273
  4587    535   300
  4722    698   318
  4830    869   327
  4916   1041   330
  4993   1237   316
  5085   1600   276
  5223   1934   263
  5443          239
  5578          230
0794
151405      0     0
  1647     20    20
  1777     21    55
  1899     86    97
  2014    114   135
  2100    138   165
  2193    165   194
  2290    202   220
  2413    236   250
  2551    252   282
  2615    301   300
  2700    380   318
  2800    497   336
  2900    647   345
  2988    931   350
  3047   1033   350
  3111   1103   340
  3224   1332   318
0795
171098      0     0
  1145      3     2
  1195     18    20
  1267    106    57
  1363    147    97
  1412    188   138
  1480    230   175
  1550    280   212
  1628    348   247
  1715    449   282
```

TIME	STRAIN	STRS
1800	[illegible]	318
1856	[illegible]	336
1950	949	349
2000	1156	346
2064	1468	325
2123	1824	295
0796		
2821	0	0
2916	65	20
2996	113	57
3057	150	96
3116	181	135
3175	207	175
3233	235	212
3295	267	247
3364	311	282
3417	353	318
3498	456	362
3553	516	390
3650	727	416
3693	866	418
3730	1070	416
3760	1181	406
3820	1562	372
0797		
085870	0	0
5915	3	2
5920	40	48
5925	63	97
5930	76	145
5934	91	195
5937	103	238
5942	120	292
5945	133	330
5949	146	372
5952	161	417
5956	178	463
5960	198	508
5963	220	550
5967	249	595
5972	283	632
5975	328	680
5980	378	720
5984	445	754
5988	524	782
5990	584	796
5994	771	815
5998	967	820
6003	1302	821
6007	1553	815
0798		
082652	0	0
2660	35	58
2666	59	120
2672	76	174
2677	93	230
2682	108	283
2686	121	338
2690	136	390
2694	155	442
2699	179	500
2703	204	552
2707	238	600
2712	283	650
2718	347	705
2722	421	745
2729	563	796
2733	722	820
2736	865	830
2740	1108	830
2744	1504	810
0799		
212152	0	0
2240	5	20
2312	38	57
2385	45	96
2497	95	145
2577	125	195
2650	163	230
2718	213	264
2797	292	300
2878	406	336
2970	598	362
3060	880	368
3085	989	367
3133	1220	354
3213	1666	318
0800		
102685	0	0
102846	22	19
103030	72	57
103138	94	96
103250	115	137
103350	145	175
103462	163	211
103588	204	247
103732	279	282
103840	361	307
104002	537	341
104189	787	364
104422		390

TIME	STRAIN	STRS
104753	1630	413
105040	1715	318
105108	1933	323
105165	1976	336
105355		365
0801		
130928	0	0
130950	9	19
130956	57	77
130965	107	141
130970	129	195
130975	145	247
130980	162	313
130985	178	370
130989	193	430
130994	211	490
130998	236	550
131004	275	609
131010	337	669
131015	406	715
131018	488	751
131023	622	767
131026	749	807
131030	934	817
131033	1118	818
131035	1350	810
131040	1673	770
0802		
140397	0	0
140468	25	19
140542	65	57
141010	92	96
141176	115	135
141242	139	175
141310	168	211
141388	214	247
141470	278	282
141540	341	318
141615	416	353
141660	463	370
141700	510	390
141770	605	416
141846	723	443
141937	876	471
141998	986	488
142108	1205	515
142205	1338	527
142275	1606	535
142340	1790	538
142500	2304	538
142560	2511	533
142633	2776	523
0803		
154830	0	0
154921	12	19
155053	36	57
155168	58	96
155283	80	135
155400	103	175
155524	132	211
155660	265	247
155813	342	282
155988	472	320
160420	883	390
160797	1322	425
161167	1849	434
161575	2514	434
161882		420
0804		
182137	0	0
182365	38	19
182490	101	57
182560	131	96
182630	162	135
182694	189	175
182780	231	220
182870	289	264
182967	375	310
183063	491	353
183160	645	390
183273	839	425
183397	1085	460
183651	1763	491
183738	2069	489
183815	2384	479
183923	2783	459
0805		
091681	0	0
092494	49	30
092717	94	77
092840	125	116
092958	159	155
093092	197	195
093237	257	230
093415	355	264
093600	490	300
093814	691	336
094142	1064	371
094517	1590	386
094746	1951	387
095061	2470	384

TIME	STRAIN	STRS
095235	2780	383
0806		
081384	0	0
081400	5	6
081408	29	60
081414	76	120
081419	111	175
081425	133	230
081430	154	282
081435	174	338
081438	192	390
081441	215	450
081447	242	500
081452	277	550
081458	347	613
081464	442	670
081467	482	672
081474	541	647
081478	672	630
0807		
090888	0	0
090898	12	19
090905	76	77
090910	115	135
090916	154	195
091239	110	0
091380	154	73
091385	183	151
091390	198	195
091395	214	245
0808		
101480	0	0
101493	8	19
101499	38	77
101505	65	135
101510	98	195
101515	120	255
101520	157	323
101527	195	380
101532	251	433
101538	345	499
101545	505	550
101550	712	575
101553	886	583
101557	1113	583
101560	1358	575
0809		
110854	0	0
110987	29	19
111140	88	57
111290	156	96
111455	253	135
111673	449	175
112094	1191	185
112220	1486	175
112405	1921	160
112590	2341	150
112835	2888	116
0810		
144860	0	0
144865	13	19
144872	68	77
144877	114	138
144882	152	195
144889	204	255
144895	267	321
144900	328	376
144905	411	425
144911	567	485
144918	692	525
144922	978	542
144927	1231	545
144930	1487	543
144934	1807	528
0811		
161245	0	0
161348	26	19
161462	68	48
161567	110	77
161678	159	106
161885	288	155
162050	448	180
162266	775	190
162390	1013	188
162500	1237	183
162653	1548	177
162826	1915	167
162912	2087	165
0812		
195693	0	0
195798	20	19
195865	56	48
195920	83	77
195978	117	106
200034	150	136
200096	211	165
200165	288	195
200267	430	220
200357	578	238
200394	780	238
200440	950	236

TIME	STRAIN	STRS
200538	1371	220
200621	1847	203
0813		
081545	0	0
081610	33	19
081674	78	48
081723	116	77
081785	152	106
081863	214	145
081930	285	175
082003	396	201
082091	565	220
082173	736	226
082212	967	227
082252	1117	224
082398	1723	211
082595	2537	195
082756	3048	187
0814		
141385	0	0
141391	14	19
141396	53	77
141404	86	145
141408	113	195
141413	150	252
141420	202	317
141425	263	374
141431	351	430
141438	525	491
141445	806	525
141449	998	531
141452	1168	529
141455	1440	514
141458	1689	496
0815		
140000	0	0
140026	1	1
140053	30	38
140076	63	77
140098	96	116
140122	150	155
140150	233	195
140176	539	220
140211	751	238
140249		235
0816		
144902	0	0
144979	0	3
144997	14	26
145015	41	58
145035	68	87
145052	96	116
145069	134	145
145088	182	175
145108	346	201
145126	434	220
145136	506	229
145150	683	238
145172	787	247
145186	957	247
145206	1206	245
145234	1572	236
145283	2297	220
0817		
154300	0	0
154315	0	0
154332	8	9
154347	34	28
154365	64	58
154383	90	87
154399	109	116
154417	143	145
154436	180	175
154466	233	203
154480	422	227
154502	559	247
154562	1021	263
154598	1553	261
154632	2045	206
154672	2373	247
0818		
162007	0	0
162025	0	3
162042	33	26
162061	61	58
162080	88	87
162095	111	116
162112	137	145
162130	171	175
162148	216	201
162168	285	226
162186	366	247
162208	500	265
162225	715	273
162255	1622	282
162285	1255	282
162325	1793	270
162352	2056	263
0819		
165800	0	0
165815	1	2

TIME	STRAIN	STRS
165837	49	28
165855	81	58
165873	101	87
165889	121	116
165906	147	145
165923	178	175
165942	225	201
165964	296	230
165993	354	256
170008	463	265
170022	585	271
170046	926	273
170072	1132	271
170108	1673	265
170132	1873	263
0820		
185864	0	0
185899	0	2
185905	40	48
185909	71	96
185914	94	145
185917	116	195
185922	145	238
185926	182	282
185930	222	327
185935	279	371
185940	381	416
185945	555	455
185950	871	480
185954	1035	485
185957	1190	485
185960	1380	480
185964	1708	465
185975	2386	317
0821		
201900	0	0
201930	0	5
201980	14	19
202043	44	38
202113	82	58
202188	131	77
202278	206	96
202380	309	116
202512	559	135
202742	934	155
202921	1296	157
203008	1483	158
203200	1917	153
0822		
204172	0	0
204222	20	19
204226	32	58
204232	55	116
204237	83	175
204240	100	211
204245	120	247
204248	152	282
204252	186	327
204256	235	371
204260	281	407
204263	354	443
204267	445	478
204272	570	510
204276	870	536
204283	1234	550
204287	1469	549
204291	1782	540
204296	2345	514
204300	2564	491
0823		
213996	0	0
214013	19	19
214018	53	67
214024	79	126
214030	101	189
214034	129	230
214039	166	275
214042	199	321
214047	238	363
214049	269	392
214052	312	427
214055	369	460
214060	437	499
214064	535	534
214067	645	560
214073	746	587
214080	949	609
214085	1460	617
214090	1787	622
214097	2127	620
214102	2607	609
214112	3105	550
0824		
103992	0	0
104133	9	9
104218	47	28
104333	112	58
104465	213	85
104666	534	116
104859	767	125
105074	1110	129

TIME	STRAIN	STRS
105380	1861	127
105567	2230	125
0825		
113905	0	0
113963	2	2
114030	16	13
114086	44	28
114135	63	42
114182	82	58
114247	109	77
114311	137	96
114390	179	116
114470	229	137
114563	309	157
114677	442	175
114882	786	183
115053	935	183
115140	1139	175
115267	1818	155
115432	2029	144
0826		
145900	0	0
145907	4	3
145917	45	58
145928	86	116
150002	171	119
150200	270	119
150300	358	119
150400	438	116
150500	606	116
150600	766	116
150900	886	116
151100	1110	116
151300	1241	116
151500	1375	116
151700	1507	116
151900	1636	116
152100	1759	119
152300	1879	116
152500	2007	118
152700	2122	116
152713	2106	2
152725	2073	2
152780	2037	2
153001	1988	0
154600	1932	0
161059	1919	0
0827		
191500	0	0
191506	6	32
191511	17	48
191514	25	58
191517	32	75
191600	102	77
191700	194	75
191900	332	77
192200	630	77
192600	980	77
193000	1138	77
193500	1588	77
194002	1882	77
194020	1865	0
194100	1799	0
194200	1775	0
194412	1757	0
194700	1756	0
0828		
211500	0	0
211536	14	28
211699	29	28
213400	88	28
223200	153	28
225700	172	28
233400	199	28
242800	232	28
100869	562	28
135800	636	28
135806	622	0
140000	617	0
141100	606	0
145700	600	0
0829		
132810	0	0
132828	19	18
132846	50	47
132865	78	75
132883	113	104
132900	160	132
132923	230	162
132949	346	192
132985	603	219
133030	1040	226
133050	1354	228
133086	1725	228
133195	2680	243
133225	3065	249
133270	3237	251
0830		
144700	0	0
144243	30	19
144263	66	49

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TIME    STRAIN STRS
144281     95   77
144300    132  108
144319    186  135
144341    267  165
144371    427  195
144403    683  208
144432    996  211
144460   1416  206
144525   2156  202
144553   2365  202
0831
162117      0    0
162147     18   19
162179     66   67
162197     96   97
162215    129  128
162234    175  155
162261    265  195
162276    330  211
162293    503  230
162315    631  248
162350    791  266
162374   1032  268
162388   1206  268
162423   1862  252
162450   2095  231
162473   2502  217
0832
171617      0    0
171680      4    1
171706     29   19
171725     66   49
171742     92   77
171760    121  108
171780    158  135
171800    206  165
171825    316  195
171852    417  211
171890    886  212
171917   1320  210
171945   1592  201
171967   1880  192
0833
185665      0    0
185690    116   19
185710    151   46
185728    180   77
185740    197   97
185751    213  116
185764    231  135
185775    255  155
185787    280  175
185799    311  195
185811    345  211
185826    397  230
185844    474  248
185868    616  266
185906    968  280
185919   1217  279
185945   1582  264
185972   1859  242
0834
081888      0    0
081957     34   19
081973     72   38
081985    104   58
081998    141   77
082013    187   97
082033    270  125
082052    378  142
082081    612  160
082111    929  164
082130   1140  160
082169   1549  149
082191   2038  139
082236   2506  126
0835
092200      0
092230     52   19
092246    110   38
092260    241   58
092275    280   77
092287    323   97
092300    380  116
092319    452  135
092340    502  155
092379    932  171
092396   1143  169
092432   1600  157
092484   2366  135
0836
101639      0    0
101663     30   19
101693     96   58
101706    124   77
101718    145   97
101733    194  118
101746    239  135
101763    318  155
101788    485  175
101806    648  182
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TIME    STRAIN STRS
101825    866  186
101841   1149  182
101868   1410  172
101906   1964  152
101942   2411  141
0837
131340      0    0
131360     12   19
131368     24   30
131376     29   38
131381     40   49
131387     53   60
131396     67   75
131405     85   87
131419    123  106
131439    201  131
131454    281  148
131471    316  158
131485    444  162
131502    619  168
131518    796  169
131546   1210  168
131602   1917  152
131613   2005  150
0838
144726      0    0
144747     19   19
144755     29   29
144775     59   60
144785     76   77
144797     97   97
144810    127  118
144826    163  139
144836    195  155
144856    286  175
144878    455  195
144895    611  202
144917    736  207
144937   1055  207
144960   1346  201
145003   1854  195
0839
081489      0    0
081522     25   19
081537     46   40
081549     64   61
081561     86   77
081576    110   97
081586    144  116
081600    189  135
081616    255  155
081636    364  175
081653    482  188
081665    580  195
081689    986  200
081721   1253  201
081755   1551  198
081796   2049  195
0840
155684      0    0
155711     63    4
155732    162   19
155745    243   26
155760    338   38
155778    488   48
155806    700   58
155825    721   67
155843    771   78
155879    861   97
155907    964  106
155955   1208  112
0841
184660      0    0
184710     48    8
184723    117   19
184735    186   28
184746    239   38
184757    298   48
184768    360   58
184780    436   67
184795    540   77
184819    732   86
184847   1008   91
184880   1351   93
184910   1688   95
184948   2093   99
184981   2469   99
0842
202099      0    0
202135    133   20
202144    171   27
202153    212   38
202167    270   53
202177    315   66
202186    357   77
202195    406   85
202203    455   97
202216    521  105
202227    597  116
202241    695  128
202261    773  135
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TIME    STRAIN STRS
202283    975  142
202297   1214  145
202326   1520  150
202399   2145  165
202450   2680  172
202471   1976  173
202513         195
0843
101765      0    0
101776     44   10
101786     80   19
101802    164   38
101810    187   48
101816    207   57
101827    240   72
101838    273   86
101850    314  103
101861    363  116
101875    434  131
101891    539  145
101913    712  160
101965   1214  175
102000   1554  180
102031   1876  184
102065   2236  184
102113   2776  186
102140   3068  190
102243         210
102300         226
102450         256
0844
134145      0    0
134187     16   20
134207     25   36
134219     31   48
134227     35   57
134240     43   67
134251     51   77
134267     62   87
134288     80   96
134329    122  102
134400    200  103
134486    296  105
134577    395  120
134685    510  131
134822    657  146
134982    831  162
0845
154006      0    0
154102     11    5
154158     18   10
154211     25   17
154269     34   21
154331     44   29
154399     53   34
154460     63   38
154531     74   46
154633     92   50
154829    129   56
155077    179   57
155275    218   62
155716    304   68
155915    343   70
160703    408   80
161187    593   82
161590    679   82
162048    766   86
162240    803   87
0845A
154000      0    0
1540      116    6
1540      179   11
1542      259   17
1542      344   23
1542      438   28
1544      540   34
1544      630   40
1544      761   46
154630    923   51
154830   1305   57
155030   1804   57
1553     2179   63
1557     3050   69
1559     3532   72
0846
205646      0    0
205712      3    6
205745      6   10
205785     11   19
205817     13   20
205851     17   23
205896     22   33
205930     28   38
205985     36   46
210367     49   51
210302    106   52
210717    186   52
210827    212   51
211020    254   50
211366    323   48
211742    406   48
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TIME    STRAIN STRS
212176    502   46
213008    671   50
0847
142262      0    0
142270     30    8
142280     73   18
142291    124   29
142298    143   37
142308    179   46
142319    241   56
142333    327   65
142355    516   75
142409   1140   75
142443   1561   71
142491   2127   65
142600   3407   59
142759   5210   56
142864   6331   55
0848
165913      0    0
170044    170    9
170081    196   12
170116    245   19
170181    323   27
170249    438   31
170346    627   35
170505    990   34
170575   1144   34
170790   1628   31
171183   3393   30
171836   4804   29
172169   5523   29
0849
190332      0    0
190350     43
190352     79   19
190353    107   30
190355    131   40
190356    156   50
190358    171   59
190359    201   69
190360    222   79
190362    259   89
190363    281   99
190365    334  112
190367    438  128
190372    627  140
190375    869  143
190379   1081  145
190384   1473  139
190391   2011  129
190403   2840  120
190415   3715  115
190434   5052  110
0850
100000      0    0
100018     74   20
100110    138   20
100500    279   20
101000    460   20
101500    688   20
102000   1049   20
103000   1853   20
103500   2291   20
104700   3407   20
105500   4246   20
110500   5362   20
111500   6372   20
112500   7273   20
113500   7934   20
113600   7925    0
114100   7900    0
115000   7899    0
120000   7897    0
131000   7988
0851
133500      0    0
133531     54   12
133600    103   12
134100    429   12
134500    719   12
135000   1143   12
140000   2009   12
141000   3099   12
142000   4041   12
143000   4876   12
145002   6430   12
152100   8207   12
152400   8296    0
152447   8296    0
152600   8296    0
153502   8296    0
154500   8345    0
160000   8408    0
0852
165088      0    0
165115    107
165129    170   19
165137    205   27
165142    214   31
165147    237   38
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TIME    STRAIN STRS
165152    250   43
165160    268   51
165165    281   57
165170    299   66
165176    326   71
165180    339   77
165186    357   84
165195    388   96
165204    411  108
165211    438  116
165220    482  125
165229    527  132
165240    580  148
165252    665  155
165264    737  165
165279    850  175
165301   1040  185
165327   1273  195
165370   1768  193
165452   2733  188
165520   3568  175
0853
094245      0    0
094276     91   10
094278    115   19
094280    145   38
094283    169   57
094285    189   77
094287    213   96
094289    232  116
094292    255  140
094293    277  158
094295    305  175
094297    342  195
094300    386  211
094302    433  229
094305    505  248
094309    627  264
094311    795  271
0854
194571      0    0
194693     73   10
194742    117   19
194785    154   29
194829    188   38
194875    225   49
194922    272   57
194977    331   68
195048    430   77
195200    701   87
195325    953   91
195477   1270   94
195576   1675   96
195840   2011  105
196117   2587  110
196410   3199  116
196630   3681  116
197170   4860  114
197680   5931  116
0855
135360      0    0
135370     27   10
135381     63   19
135390     89   29
135399    107   38
135413    170   52
135426    210   69
135444    281   87
135464    411  106
135489    482  126
135526    875  145
135563   1116  155
135583   1402  165
135645   2036  179
135710   2706  186
135764   3313  187
135819   3902  195
135887   4617  201
135954   5331  207
0856
145155      0    0
145214     36   10
145268     89   19
145319    134   29
145368    179   38
145421    232   49
145480    304   57
145546    384   66
145640    536   77
145805    839   87
145997   1402   96
150270   1759  100
150440   2304  106
150725   2683  111
151041   3335  115
151243   3760  117
0857
160683      0    0
160692     27   10
160695     63   19
160700     89   38
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TIME    STRAIN STRS
160705    107   57
160710    134   77
160714    156   96
160717    156  116
160721    179  135
160725    192  155
160729    205  175
160734    232  198
160736    255  211
160740    265  229
160745    281  248
160748    312  264
160753    335  283
160757    362  302
160763    415  334
160768    473  357
160776    542  381
160780    652  399
160787    832  409
160792    987  411
160797   1210  403
160806   1630  375
160810   1822  351
0858
170277      0    0
170288     18   10
170296     45   19
170312     98   38
170325    134   57
170328    143   77
170350    158   96
170362    183  119
170375    195  138
170385    217  155
170396    235  175
170408    256  195
170420    280  211
170432    311  229
170445    333  248
170460    368  264
170474    411  281
170485    447  300
170504    527  328
0859
092037      0    0
092128     54   10
092175     98   19
092222    134   29
092258    156   38
092300    188   49
092340    219   57
092385    246   68
092427    272   77
092551    366  102
092625    439  116
092710    535  131
092830    661  145
092963    857  155
093170   1241  157
093333   1518  160
0860
094790      0    0
094823     28   19
094826     69   38
094829     98   57
094831    121   79
094833    139   99
094836    159  125
094839    170  155
094841    189  185
094845    212  211
094847    236  238
094850    259  262
094853    292  290
094855    317  320
094858    352  344
094860    393  371
094862    431  390
094865    494  414
094868    576  436
094870    652  451
094872    737  466
094876    906  479
094879   1161  477
094881   1429  452
094885   1759  422
0861
112757      0    0
112773     53   10
112783    104   19
112800    161   39
112813    198   58
112828    235   77
112840    263   97
112855    295  118
112866    328  139
112879    361  155
112891    393  176
112905    429  195
112925    496  220
112950    589  249
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TIME   STRAIN STRS
112976    701  272
113004    877  300
113042   1198  319
113140   1348  319
113182   1895  317
113213   3234  297
113240   3648  272
0862
132058      0    0
132113     34    8
132159     79   19
132202    110   29
132245    138   19
132319    185   58
132392    233   77
132463    259   97
132538    304  116
132612    356  135
132712    448  155
132845    613  174
133030    920  185
133137   1160  185
133252   1415  181
133352   1574  174
133488   1991  165
0863
141725      0    0
141731     40    8
141754     86   19
141757    172   49
141761    213   77
141765    257  116
141770    296  161
141774    341  198
141777    380  229
141781    446  264
141785    519  300
141790    650  336
141794    775  371
141798    924  399
141802   1108  409
141805   1323  408
141808   1704  367
0864
152406      0    0
152426    108   10
152435    137   19
152443    161   27
152450    182   39
152465    222   60
152478    248   77
152490    275   97
152503    297  116
152522    337  145
152528    353  155
152541    375  174
152554    405  195
152565    431  211
152585    484  238
152606    549  264
152625    617  291
152646    697  319
152667    790  344
152692    924  371
152713   1064  390
152743   1295  408
152778   1607  419
152832   2195  421
152847   2375  417
152863   2661  408
0865
165965      0    0
170172     63    9
170225    116   19
170294    160   33
170335    180   46
170390    211   58
170461    246   77
170538    286   94
170615    317  117
170693    374  136
170778    429  156
170830    476  168
170911    542  180
171036    705  195
171257   1013  211
171387   1201  220
171566   1466  229
171765   1771  238
172069   2252  247
172717   3325  252
173114   3978  253
173341   4450  252
0866
203796      0    0
203839     16    9
203840     49   19
203842     68   31
203844     84   40
203846    111   62
203848    117   78
```

```
TIME   STRAIN STRS
203850    127   97
203853    145  126
203855    175  152
203857    188  175
203859    204  196
203862    221  221
203864    254  247
203868    281  272
203870    313  302
203874    369  338
203876    418  371
203880    508  408
203885    639  442
203891    897  479
203895   1104  487
203898   1317  488
203901   1576  482
203906   1875  471
0867
093856      0    0
093880     37    7
093889     56   19
093906     74   29
093915     92   39
093919    122   58
093932    145   77
093945    165   97
093957    196  116
093971    226  135
093983    261  158
093995    301  174
094010    350  195
094023    404  211
094040    466  229
094058    572  247
094104    876  281
094170   1422  319
094218   1928  327
094258   2399  321
094285   2761  312
094305   3050  297
0868
102855      0    0
102908     21    1
102952     54    9
103005    128   19
103065    181   29
103101    209   39
103141    236   48
103179    257   58
103271    335   77
103363    412   97
103460    491  116
103574    607  135
103753    872  155
103984   1248  168
104255   1741  174
104542   2268  178
104896   2942  179
105250   3615  183
105613   4250  195
105715   4427  196
0869
112924      0    0
112991     55   12
112992     79   21
112995    127   39
112997    161   58
113001    215   97
113006    277  138
113011    355  178
113016    496  211
113021    608  247
113027    769  286
113031    915  319
113038   1133  353
113043   1373  381
113048   1598  399
113052   1779  408
113058   2082  420
113066   2580  433
113074   3044  441
113079   3411  444
113087   4000  443
113091   4345  431
113095   4661  418
0870
133000      0    0
133022    152   49
133052    246   97
133300    515   97
133710    846   97
134007   1123   97
134375   1400   97
134757   1868   97
135190   2346   97
135550   2737   97
135915   3114   97
140295   3511   97
140670   3891   97
141135   4361   97
```

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TIME   STRAIN STRS
141500   4757   97
141900   5159   97
142385   5617   97
142675   5900   97
143050   6270   97
143074   6208    0
143600   6146    0
150545   6163    0
0871
154500      0    0
154516    126   49
154540    199   97
154640    592   97
155635    965   97
160090   1378   97
160570   1952  116
160910   2412  116
161578   3140   97
161835   3426   97
162375   4006   97
162815   4488   97
163270   4979   97
163287   4959    0
163600   4895    0
164600   4912    0
165800   4939    0
0872
185970      0    0
190010    113   28
190199    176   28
190499    278   28
192700    860   28
194702   1156   28
201000   1439   28
203045   1611   28
204720   1733   28
221317   2219   28
233700   2615   28
241398   2739   28
014603   3054   28
084353   3875   28
090600   3914   28
090750   3910    0
091400   3898    0
094361   3889    0
102700   3882    0
0873
110000      0    0
110020    177   57
110535    363   58
114504    803   58
120345   1106   58
122900   1498   58
125900   2050   58
131500   2362   58
133100   2777   58
134400   3076   58
140400   3630   58
141500   3935   56
141540   3877    0
141800   3860    0
142900   3835    0
151179   3833    0
0874
160000      0    0
160050     71   20
160400    104   20
161900    299   20
164700    689   20
170200    856   20
172200   1110   20
173795   1348   20
180500   1774   20
183000   2145   20
185500   2577   20
191700   2920   20
194500   3310   20
200000   3570   20
200100   3552    0
200400   3533    0
201400   3521    0
202900   3532    0
0875
210000      0    0
210015     36   13
210100     63   13
210600     98   13
212000    165   13
215500    232   13
222500    467   13
230800    721   13
240000   1031   13
081100   3952   13
085000   4215   13
093000   4499   13
093100   4488    0
093500   4450
094703   4445
101400   4508
0876
103000      0    0
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TIME   STRAIN STRS
103023    185   58
103600    203   58
103655    634   58
111600    879   58
114000   1127   58
120000   1368   58
120700   1453   58
123000   1698   58
130000   2002   58
133000   2404   58
140000   2788   58
140020   2757    0
140700   2724    0
141500   2717    0
143200   2719    0
150000   2759    0
0877
160000      0    0
160050     80   28
160500    179   28
161000    225   28
162000    296   28
164600    421   28
172000    580   28
174900    705   28
181700    840   28
190500   1056   28
213500   1707   28
240000   2328   28
083500   4054   28
090500   4139   28
093000   4233   28
093119   4187    0
093500   4170    0
095500   4165    0
103000   4160    0
0878
143450      0    0
143477     40    9
143485     64   18
143493     80   29
143500     94   38
143507    112   48
143513    120   58
143519    129   67
143525    141   78
143536    156   97
143548    170  117
143560    178  136
143571    191  156
143582    201  175
143596    228  200
143603    244  211
143619    262  236
143625    271  257
143637    284  264
143654    308  292
143668    324  319
143686    356  353
143707    396  392
143725    426  425
143747    500  460
143774    584  497
143801    705  532
143822    839  550
143860   1116  567
143879   1171  571
143929   1677  580
0879
161856      0    0
161900     27    9
161907     52   19
161920     80   38
161933    119   58
161947    132   78
161960    150   97
161976    177  126
161992    210  156
162015    251  195
162040    306  229
162067    386  264
162095    509  304
162122    661  336
162160    956  362
162195   1375  362
162210   1509  353
162235   2000  328
0881
180000      0    0
183620     36    8
183631     68   19
183646    113   38
183660    149   58
183674    163   78
183685    178   97
183696    199  109
183712    222  145
183730    250  175
183748    288  202
183765    319  229
183790    385  264
```

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TIME   STRAIN STRS
183816    490  300
183847    663  336
183878    872  362
183902   1082  373
183955   1623  382
183990   2024  382
184035   2513  383
184090   3230  381
184136   3793  376
184153   4011  371
0882
101563      0    0
101593     17    9
101602     40   19
101610     61   29
101615     73   37
101622     88   48
101634     98   58
101642    121   78
101651    140   97
101665    159  117
101675    180  136
101688    201  156
101700    232  175
101713    263  195
101725    302  211
101740    348  229
101755    411  247
101772    491  264
101793    630  281
101825    947  296
101860   1314  297
101876   1523  291
101919   2081  272
0883
131263      0    0
131283     13    3
131292     40   15
131296     52   19
131305     80   28
131313    110   38
131321    140   48
131330    172   58
131350    264   78
131380    308   97
131407    766  102
131444   1201  102
131471   1540   97
131483   1978   87
0884
142011      0    0
142041      7    7
142049     16   13
142054     36   19
142063     54   29
142070     83   38
142078    104   48
142086    136   58
142095    167   68
142104    211   78
142114    260   87
142126    334   97
142145    491  108
142175    794  113
142201   1105  112
142240   1566  108
142281   2017  107
0885
190550      0    0
190574     19    9
190582     42   19
190597     87   38
190611    126   58
190625    154   78
190639    178   97
190652    206  117
190663    231  136
190675    255  157
190687    291  175
190700    313  195
190719    371  220
190741    446  247
190765    558  273
190788    681  300
190826    956  328
190840   1095  330
190862   1357  329
190874   1519  321
190885   1711  311
0886
093900      0    0
093927     26    8
093936     56   19
093945     76   29
093952     96   38
093966    128   58
093979    154   78
093990    171   97
094002    185  117
094013    208  136
094040    225  164
```

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TIME   STRAIN STRS
094047    255  195
094064    289  220
094087    336  247
094096    371  264
094117    466  291
094137    636  309
094181   1035  321
094195   1215  320
094211   1473  307
094223   1665  291
0887
091193      0    0
091213     38    9
091221     57   19
091231     90   29
091236    121   38
091246    156   48
091255    179   58
091263    216   67
0888
101797      0    0
101836     51    9
101852    125   19
101866    184   29
101877    230   38
101885    255   48
101893    290   58
101910    342   84
101920    364   97
101933    393  117
101945    418  136
101952    429  150
101968    455  175
101979    477  195
101995    509  221
102015    567  247
102038    628  272
102060    725  302
102085    932  314
102100   1131  310
102118   1390  300
0889
104900      0    0
105020     29    9
105060     47   19
105100     65   29
105135     79   38
105170     91   48
105228    114   68
105260    127   78
105294    134
105326    144   97
105388    165  117
105450    186  136
105514    208  156
105578    238  175
105650    266  195
105720    301  211
105795    339  229
105873    393  247
105974    460  264
106088    549  281
106202    697  297
106284    830  299
106347    969  297
106380   1049  291
106445   1246  272
106510   1478  256
0890
120010      0    0
120058     17    9
120061     50   29
120064     79   59
120066     97   86
120070    122  119
120073    138  146
120075    155  175
120077    171  202
120080    186  229
120083    200  256
120085    220  283
120087    235  312
120090    256  340
120092    271  361
120094    319  390
120098    399  425
120103    516  462
120106    688  477
120109    827  479
120111   1056  461
0891
132450      0    0
132468     29   19
132476     50   29
132486     79   38
132493     97   48
132500    106   58
132506    120   67
132511    134   76
132525    152   97
132536    170  115
```

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TIME   STRAIN STRS
132547    188  135
132565    211  165
132581    235  195
132596    259  221
132616    283  248
132631    313  276
132645    332  302
132658    362  328
132672    388  352
132690    422  390
132705    462  416
132721    506  441
132742    573  479
132768    666  514
132793    814  541
132811    974  552
132830   1164  559
132861   1509  558
132870   1619  551
0892
150000      0    0
150045     20    9
150054     39   19
150061     61   28
150068     75   38
150081    108   58
150095    132   76
150106    164   97
150119    186  118
150131    206  135
150144    226  155
150156    262  175
150169    288  195
150180    321  211
150202    374  241
150219    432  264
150238    480  291
150255    542  318
150288    627  352
150302    730  390
150329    864  418
150359   1062  442
150406   1478  463
150435   1810  462
150453   2093  441
150464   2287  425
0893
162750      0    0
162883     32    9
162923     64   19
162971     89   28
163013    116   38
163060    150   49
163105    185   58
163186    245   77
163270    298   97
163355    355  117
163430    408  135
163501    454  155
163580    511  175
163698    598  202
163820    670  229
163910    742  248
164067    884  272
164235   1068  300
164387   1297  311
164506   1518  313
164674   1845  311
164796   2111  310
0894
190777      0    0
190814     29    9
190818     56   39
190822     90   76
190826    110  118
190830    136  157
190835    155  195
190838    172  231
190842    201  264
190845    218  303
190848    249  339
190851    280  371
190855    321  407
190857    380  442
190862    459  480
190865    531  501
190870    722  529
190876   1083  550
190880   1268  552
190884   1515  556
190887   1725  554
0895
092240      0    0
092249     20    9
092257     54   19
092271     86   38
092286    123   58
092298    148   76
092311    165   96
092323    185  116
092335    198  135
```

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TIME   STRAIN STRS
092353    225  165
092371    261  195
092393    297  229
092419    349  264
092440    392  301
092460    443  336
092481    494  371
092502    572  407
092531    687  442
092565    867  480
092595   1103  497
092608   1320  500
092647   1666  497
092663   1873  488
092679   2128  470
0896
085362      0    0
085411     26    9
085457     51   19
085497     83   29
085534     93   36
085605    123   58
085679    160   76
085749    181   96
085820    201  116
085887    227  136
085953    244  155
090029    280  175
090104    320  195
090225    367  224
090366    441  247
090486    538  266
090653    832  281
090770    955  285
090844   1116  284
090898   1233  279
090990   1465  264
0897
102956      0    0
103052     24    9
103055     62   38
103057     87   58
103062    113   96
103065    127  139
103069    156  175
103072    183  211
103076    201  251
103080    228  284
103082    242  320
103085    296  352
103089    340  398
103091    376  427
103095    434  460
103099    497  499
103102    579  532
103107    713  567
103111    880  590
103115   1024  598
103118   1203  600
103121   1400  599
103123   1570  590
0898
113153      0    0
113170     28   19
113180     49   30
113185     58   38
113198     78   58
113218    110   87
113237    137  115
113254    168  145
113273    208  175
113298    263  211
113325    339  248
113356    447  285
113380    555  318
113410    739  353
113470   1219  390
113525   1722  399
113560   2116  398
113570   2262  390
113585   2515  371
0899
132247      0    0
132266     37   19
132274     61   29
132281     88   39
132295    106   57
132308    135   76
132321    159   97
132335    183  118
132346    199  135
132364    231  169
132382    263  199
132400    303  221
132421    360  248
132445    449  271
132469    577  303
132494    735  327
132535   1077  344
132556   1329  342
132572   1930  336
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TIME   STRAIN STRS
132604   1884  319
0900
145580      0    0
145615     17    9
145650     33   19
145683     51   28
145720     79   38
145754     91   48
145782     99   58
145846    126   76
145915    157   96
145981    190  118
150046    220  135
150116    259  155
150190    299  175
150276    352  195
150374    447  211
150425    635  229
150511    635  231
150600   1028  230
150745   1586  221
151069   1931  211
0901
161462      0    0
161519     29    9
161521     62   29
161525     93   58
161528    124   88
161531    151  118
161534    177  148
161537    200  177
161540    223  211
161545    251  247
161549    290  284
161552    325  316
161555    371  355
161558    417  390
161562    465  427
161565    526  464
161569    600  499
161575    770  532
161578    936  541
161582   1187  541
0902
183000      0    0
183018     65   48
183040    106   97
183500    246   97
184500    386   97
191500    710   97
194500    899   97
201500   1011   97
204500   1092   97
211500   1180   97
214600   1247   97
223000   1317   97
232700   1396   97
242700   1472   97
023400   1588   97
045300   1706   97
073600   1822   97
075000   1837   97
075013   1820    0
075100   1810    0
080000   1801    0
082500   1792    0
091500   1782    0
0903
110119      0    0
110130     25    9
110137     38   19
110145     63   29
110152     89   38
110160    110   48
110168    142   58
110176    171   67
110184    206   76
110193    257   86
110202    313   97
110215    411  106
110230    514  115
110258    740  125
110294   1128  131
110342   1662  131
110368   1971  130
110498   2364  125
110547   3286  107
0904
130600      0    0
130705     30    8
130752     60   19
130782     82   23
130807    101   30
130842    131   38
130875    153   42
130905    182   50
130957    244   58
131005    305   62
131180    421   67
131207    650   74
131362    979   76
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TIME   STRAIN STRS
131542   1381   76
131665   1658   73
131963   2337   72
0905
142400      0    0
142407     27    9
142410     49   28
142412     76   48
142415    101   77
142417    119   97
142419    137  118
142421    161  135
142425    210  164
142428    263  195
142430    296  211
142434    370  229
142436    465  248
142440    603  264
142445    760  280
142450   1020  289
142453   1251  291
142456   1447  291
142460   1700  288
142465   2076  282
0906
151500      0    0
151577     38    9
151600     55   14
151643     89   22
151680    129   31
151715    165   37
151765    219   43
151836    321   51
151900    429   57
152026    654   61
152210   1040   62
152360   1440   62
152504   1696   61
152595   1884   61
152900   2567   59
0907
163720      0    0
163776     18    9
163779     54   29
163781     91   50
163784    125   67
163785    165   89
163788    199  109
163790    259  137
163795    325  165
163797    402  184
163800    438  195
163802    518  211
163805    634  229
163810    857  248
163815   1081  257
163819   1306  264
163825   1666  270
163831   2063  271
163840   2576  270
163849   3182  268
163863   3572  248
0908
082900           0
082927          95
083000      0    0
083026    109   95
083182    151   95
085001    398   95
092103    783   95
094200   1080   95
101600   1450   95
104500   1803   95
112100   2178   95
115805   2506   95
132500   2883   95
150000   3146   95
165700   3288   95
200000   3626   95
200071   3575    0
200500   3555    0
201000   3550    0
203000   3534    0
210000   3529    0
0909
105900      0    0
110000    237  164
110400    339  164
112002    496  164
120300    764  164
123100    887  164
130000    982  164
140000   1148  164
150000   1291  164
160200   1396  164
170000   1496  164
181000   1606  164
191000   1693  162
210708   1841  164
210713   1841  164
243706   1988  164
```

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TIME   STRAIN STRS
021300   2123  164
053200   2306  164
081000   2463  164
081031   2438    0
081200   2426    0
082500   2412    0
090000   2403    0
0910
103000      0    0
103039    113   22
103200    244   22
103500    397   22
104000    619   22
105010   1104   22
110000   1565   23
110900   1977   22
112000   2451   22
113000   2816   22
114000   3247   22
115000   3635   22
120000   4009   22
120030   3960    0
120200   3892    0
120500   3867    0
123700   3785    0
130500   3773    0
0911
140000      0    0
140042     23   20
140300     93   20
141000    137   20
142500    219   20
144700    314   20
154500    518   20
164500    710   20
174700    898   20
185000   1050   20
211300   1355   20
224600   1525   20
245200   1743   20
030200   2024   20
074500   2317   20
074800   2290    0
075500   2251    0
082000   2228    0
084600   2228    0
0912
110000      0    0
110079    126   95
110500    366   95
112600    768   95
114500   1127   95
120000   1362   95
123500   1752   95
130000   1921   95
133203   2119   95
140000   2244   95
143000   2359   95
150500   2481   95
154018   2572   95
154047   2562    0
154500   2497    0
160634   2480    0
0913
163000      0    0
163040    220   95
163200    354   95
163500    484   95
164000    610   95
170000    903   95
173300   1218   95
180505   1575   95
184500   2021   95
194700   2592   95
202800   2965   95
210520   3254   95
210573   3360   95
214400   3566   96
222900   3808   95
234600   4160   95
012000   4547   95
012019   4513    0
013700   4422    0
015300   4394    0
060000   4313    0
0923
165690      2    0
165745      0    2
165772      2   10
165806      4   10
165833     12   25
165852     20   25
165882     27   25
165917     37   25
165949     45   25
165981     51   25
170007     56   25
170022     61   25
170047     66   25
170074     72   25
170098     76   25
```

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TIME   STRAIN STRS
170125     80   25
170155     87   25
170183     90   25
170235    100   25
170299    109   25
170352    120   25
170433    127   25
170452    149   25
170695    217   25
170920    220   25
170985    227   15
171006    227   15
171099    227   15
171665    257   15
172262    285   15
172807    310   15
173430    335   15
174274    376   15
174886    402   15
175500    431   15
180167    462   15
180235    469   15
180276    475    0
180316    475    0
181072    476    0
184995    487    0
185498    502    0
185538    502    0
185560    514   15
230698    582   15
231320    616   15
232152    637   15
232179    651   15
232815    655   15
232837    661   26
232875    674   26
232920    682   26
232980    696   26
233037    711   26
233318    757   26
233385    777   26
233461    793   26
233537    805   26
233610    823   26
233690    841   26
233765    861   26
233800    869   26
233872    875    0
233903    875    0
143127    935    0
193733    935    0
0960
163200      0    0
163270     20   36
163295     65   78
163321    136  117
163362    333  163
163387    507  183
163430    808  203
163474   1027  205
163509   1380  198
163565   2107  182
163606   2476  180
163666   3355  174
0962
083786      0    0
083805      3    7
083822      7   13
083847     14   22
083862     21   28
083876     24   33
083894     33   42
083914     42   50
083940     57   60
083958     68   67
084005     98   84
084049    132  100
084088    163  117
084130    241  134
084183    316  151
084227    439  167
084262    536  176
084295    652  214
084410   1288  250
084512   2147  255
084610   2628  256
084690         261
084802         279
0968
171820      0    0
171885      2    4
171901      7   10
171910     14   17
171927     22   25
171953     30   34
171969     40   42
171985     51   50
172001     66   59
172017     80   67
172035     83   76
172052    113   84
```

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TIME   STRAIN STRS
172068   136   92
172085   160  101
172122   222  117
172163   308  134
172204   423  151
172261   624  182
172300   805  200
172346  1030  215
172460  1853  236
172495  2161  237
172637  3189  250
172700  3855  268
172754  4140  281
173105  4940  366
0969
103515     0    0
103575    12   18
103628    20   27
103645    25   34
103664    30   45
103683    39   54
103703    47   64
103723    56   71
103743    68   85
103763    80   95
103781    93  105
103807   111  119
103841   137  134
103874   163  148
103911   201  176
103956   252  197
104009   337  211
104048   419  265
104108   543  299
104172   737  334
104242  1100  350
104268  1290  349
104353  2184  349
104396  2712  343
0971
165900     0    0
165967     2    2
165993    17   13
170012    33   21
170030    49   29
170048    68   38
170062    78   44
170081    88   54
170096    92   62
170112    96   71
170137   102   85
170166   111  101
170200   121  119
170226   126  135
170256   134  152
170287   144  183
170326   160  218
170360   177  252
170395   197  286
170431   219  319
170469   248  354
170506   282  388
170547   326  422
170587   382  456
170619   455  490
170676   559  524
170728   710  558
170786  1024  576
170796  1115  575
170816  1368  565
170902  3270  394
0974
091574          0
091585    10    8
091594    18   16
091603    28   25
091612    38   33
091630    57   50
091649    80   67
091665   105   83
091683   136  100
091700   176  117
091719   255  134
091740   287  150
091762   377  181
091790   541  216
091825   568  250
091862   684  284
091900  1428  318
091946  1706  352
092001  2554  386
092022  2761
092128  2843
092227
0976
111700     0    0
111780   119   65
111797   153  108
111813   242  149
111831   360  187
111863   515  228
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TIME   STRAIN STRS
111951  2055  241
112021  3105  251
112137  4720  272
112178  5120  307
112235  5680  347
112353  7320  380
112442  8800  346
112490  9630  311
0978
031900     0    0
031910    22   55
031916    60   88
031928   148  165
031942   370  253
031968  1188  315
032005  2482  365
032035  3606  404
032067  4862  442
032078  5442  425
032099  6268  411
032113  6874  413
0981
163950     0    0
163970     0   33
163981    47   66
163997    66  117
164004   127  156
164016   161  204
164030   236  240
164045   372  280
164063   503  320
164086   813  355
164103  1060  378
164149  1742  400
164183  2305  402
164203  2708  386
164220  3075  338
164235  3383  313
0982
113799     0    0
113827    20   41
113842    57   91
113853   102  137
113863   134  169
113870   149  203
113881   240  247
113892   270  282
113904   368  321
113917   476  360
113934   572  397
113953   835  434
113986  1323  470
114021  1835  510
114066  2563  523
114077  2790  516
114112  3470  472
114125  3880  434
114147  4370  398
0983
022300     0    0
022310    28   35
022319    92   81
022326   105  135
022334   188  197
022340   217  245
022345   257  286
022353   330  357
022361   411  430
022368   504  485
022375   630  543
022386   882  618
022396  1090  657
022410  1609  724
022432  2295  805
022447  2940  833
022453  3295  830
022460  3717  804
022467  4150  767
0985
035500     0    0
035518    71  227
035532   102  227
035580   173  227
035605   208  227
035637   250  227
035700   286  227
035800   434  227
035902   691  227
040085   834  227
040135   945  227
040223  1192  227
040230  1216  227
040289  1269  227
040325  1298  227
040378  1548  227
040415  1655  227
040446  1739  227
040494  1902  227
040536  2090  227
040557  2128  227
040597  2285  227
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TIME   STRAIN STRS
040622  2382  227
040652  2504  227
040700  2477    0
040900  2441    0
042351  2408    0
044729  2393    0
0991
044200          0
044311    24   25
044362    61   51
044427   102   85
044477   145  109
044525   171  131
044600   290  168
044669   394  192
044757   541  213
044895   840  237
045003  1081  253
045193  1557  277
045270  1779  277
045328  1950  275
045460  2354  261
045610  2836  245
0993
065200     0    0
065394    31   22
065438    51   43
065490    73   77
065536    78  102
065576   120  125
065626   140  158
065664   167  182
065706   192  208
065764   251  239
065812   270  261
065873   360  284
065968   497  307
070038   615  325
070138   775  349
070213   918  374
070338  1172  388
070378  1265  385
070467  1580  365
070561  1880  343
070738  2430  319
071052  3387  276
0995
110900     0    0
110915    32   30
110926    80   89
110934   124  148
110940   189  197
110945   232  235
110951   334  276
110960   482  315
110969   561  348
110979  1142  366
113994  1828  388
111014  2305  426
111029  3069  465
111042  3560  480
111059  4130  538
111100  6060  596
111111  6580  589
111140  7660  589
111160  8830  591
0997
155700     0    0
155843     6   24
155911   134   51
155997   244   83
160086        107
160266   846  119
160625  1722  153
160792  2158  179
160895  2680  211
161115  2962  221
161179  3100  231
161256  3276  243
161418  3634
161575        298
161685  4066  323
161770  4248  337
161957  4576  402
162129  4956  451
0999
153500     0    0
153515    94  227
153531   219  227
153540   318  227
153548   410  227
153555   521  227
153566   683  227
153576   850  227
153584   880  227
153591  1138  227
153600  1271  227
153610  1449  227
153622  1735  227
153630  1816  227
153639  1892  227
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TIME   STRAIN STRS
153645  2104  227
153652  2255  227
153659  2357  227
153665  2501  227
153682  2414    0
153725  2358    0
153810  2312    0
154200  2278    0
154500  2272    0
155000  2263    0
1000
163801     0    0
  0060     0    6
  4025    34    7
  4069    74   24
  4122   162   65
  4565  1336   87
  4792  1794   94
  4949  2392  108
  5093  2746  124
  5230  3066  141
  5366  3370  157
  5565  3926  150
  5645  4178  167
  5797  4598  190
  5890  4866  169
170047  5302  198
  0154  5596  206
1003
075700     0    0
  5770     6   18
  5812    30   44
  5870    90   78
  5923   140  101
  5972   190  125
080050   280  157
  0113   380  182
  0184   510  206
  0298   700  237
  0486   880  251
  0590  1260  300
  0689  1480  316
  0802  1710  335
  0911  1960  355
  0959  2040  363
  1057  2280  375
  1174  2504  389
  1280  2780  396
  1500  3280  401
  1622  3570  398
1004
101399     0    0
  1451     0    0
  1610    34   19
    80    80   44
  1759   158   78
  1834   232  101
    83   328  109
  2018   536  156
  2210   990  175
  2428  1592  180
  2619  2116  187
  2782  2518  205
  2920  2834  223
  3076  3188  238
  3253  3610  261
  3407  3996  285
1005
113200     0    0
    16    52   47
    27   126  134
    33   192  197
    40   228  254
    50   314  341
    58   428  402
    68   576  479
    74   694  515
    81   852  552
    91  1156  590
  2302  1532  621
    12  2032  660
    34  2622  697
    50  3186  720
    70  3956  745
    84  4536  781
    99  5150  781
  3411  5704  761
1006
131951     0    0
  1961    32   33
  1968    66   77
  1976   120  175
  1985   156  267
    93   210  357
  2002   256  443
  2012   366  517
  2020   470  594
  2030   636  670
  2038   796  707
  2046  1026  743
  2057  1340  797
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TIME   STRAIN STRS
  2066  1598  843
  2079  1940  913
    92  2252  988
  2103  2524 1055
  2117  2882 1130
  2134  3400 1188
  2145  3816 1189
  2155  4376 1135
1008
034151     0    0
    58     8    7
    64    20   53
    77   100  163
    85   136  237
    91   162  322
    99   190  401
  3506   201  466
    12   230  543
    19   246  620
    26   274  694
    33   306  788
    40   330  869
    48   382  956
    53   428 1020
    59   462 1072
    64   536 1127
    75   734 1200
    81   894 1218
    85  1110 1205
    90  1446 1151
1011
165099     0    0
  5126     2    0
    43    14   41
    53    26  133
    60    76  207
    68   106  294
    78   128  400
    85   146  475
    91   166  551
    99   196  650
  5210   250  776
    20   308  881
    30   392  991
    38   488 1068
    48   708 1133
    56   970 1120
    61  1652  982
1012
084600     0    0
  5012    16    1
    83    36   31
  5126    58   56
    55    78   69
    92    88   91
  5228    96  113
    60   120  136
  5304   130  167
    40   138  182
    98   152  232
  5452   166  271
  5505   184  309
    63   194  349
  5613   208  387
    86   228  433
  5730   248  460
    91   260  498
  5872   298  546
  0966   346  597
090068   424  649
  0150   584  652
    63   626  648
    90   746  626
  0227   786  569
1013
102324     0    0
    12    16   24
  2609    66   75
    70   110  114
  2724   118  155
    85   132  197
  2845   140  239
    97   172  275
  2964   204  312
  3015   228  353
    75   256  391
  3152   322  430
  3216   364  463
    65   384  480
  3328   562  495
    62   672  490
  3430   924  453
    59  1118  425
  3517  1910  352
1014
101825     0    0
  2017    16   21
  2110    40   73
    70    88  111
  2224   118  152
    85   130  192
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```
TIME   STRAIN STRS
  2365   152  235
    97   172  270
  2455   190  310
  2515   226  350
    75   254  390
  2652   320  428
  2716   374  463
    55   428  478
  2828   556  493
    62   668  487
  2930   946  450
    59  1114  421
  3017  1512  342
1016
111950     0    0
  2667   226    7
  2737   284   38
  2812   392   67
  2904   596   88
  3198  1464   87
  3448  2202   86
  3601  2448   84
  3874  3178   81
  4036  3944   87
  4203  4406   92
  4318  4724   96
  4426  5002  104
  4583  5434  113
  4725  5802  120
1018
135600     0    0
    53     0    0
  5750     2    0
  5811    12    8
    32    52   36
    47    90   63
    60   136   83
    75   190  103
    88   260  121
  5912   418  146
    49   740  157
    78  1068  153
  6030  1604  146
  6117  2536  136
  6215  3556  128
  6330  4786  129
    93  5416  137
  6447  5928  150
  6521  6610  170
  6583  7190  193
  6653  7634  217
  6765  8860  265
  6842  9632  302
1020
032200     0    0
    16    16   18
    25    40   46
    32    64   72
    49   114  111
    63   184  150
    83   358  190
    99   566  204
  2312   746  207
    32  1046  204
    50  1360  201
    72  1752  193
  2426  2636  182
  2507  3960  178
    65  4864  189
    95  5304  200
  2648  6064  222
    82  6576  239
  2752  7646  269
1022
045200     0    0
    38    10    1
    47    60   56
    55   144  117
    60   238  157
    67   570  188
    75   616  215
    83   944  223
    90  1220  217
    98  1600  207
  5311  2152  194
    25  2670  187
    35  3120  189
    48  3738  190
    72  4640  185
    95  5188  182
1027
095000     0    0
100013    16   23
  0152    36   39
  0429   112   68
  0782   196   93
  1096   308  117
  1338   394  136
  1575   490  150
  2006   650  158
  2379   736  167
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TIME   STRAIN STRS
  3021    960  178
  3188   1132  217
  3277   1306  238
  3666   1598  253
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  4063   1986  289
  4203   2110  301
  4463   2338  318
  4662   2530  331
  4976   2820  349
  5457   3284  364
  5795   3572  370
110135   3980  372
  0500   4176  370
1028
020100      0    0
    18      4   13
    41     20   43
    59     44   76
    78     66  101
    96     88  140
  0212    118  173
    23    136  195
    38    164  220
    53    200  245
    56    226  271
    82    276  300
  0300    326  322
    12    386  346
    34    486  370
    68    638  391
  0412    966  410
    72   1424  415
  0537   1952  420
  0620   2854  427
    82   3178  421
  0776   3988  406
  0812          395
1029
153852      0    0
    56     30   27
    58     70   90
    60    106  153
    62    126  212
    63    140  266
    64    150  312
    65    160  352
    66    170  395
    67    180  427
    68    190  472
    69    200  495
    70    210  547
    82    357  428
    84    380  412
1030
141200      0    0
  1811     12   12
  2000     32   44
  2189     38   59
  2776     48   63
  3014     50   60
  3981     40   13
  5142    216  328
  5352    268  367
  5536    332  399
  5790    440  433
150176    690  472
  0320    872  475
  0397    988  463
  0495   1230  425
  0572   1454  390
  0688   1726  343
  0800   2020  317
1031
155851      0    0
    55     20   88
    58     40  165
    60     60  244
    62     80  322
    64    100  401
    65    120  476
    67    150  551
    69    170  627
    70    190  701
    72    210  781
    74    230  852
    75    240  925
    77    260  996
    78    280 1069
    87    580 1428
    90    670 1469
1032
110951      0    0
  1021     20    8
  1140     60   24
  1498    252   45
  2123    806   58
  2318    986   55
  2529   1176   58
         1344   56
  2745   1404   63

TIME   STRAIN STRS
  2910   1568   61
  3186   1788   63
  3457   1842   60
  3700   2252   60
  4100   2598   55
  5151   3508   56
  5400   3734   55
1033
022051      0    0
    56     14   20
    58     20   61
    59     46  106
    61     72  170
    62     98  203
    63    122  250
    65    164  299
    66    204  338
    67    264  388
    69    366  425
    70    440  457
    71    556  485
    73    696  501
    75    886  518
    76   1090  528
    78   1452  533
    79   1648  528
    82   2028  518
    85   2576  506
    88   2954  497
    90   3308  487
    93   3684  475
1036
092000      0    0
    88     12    8
  2102     40   71
    12     56  110
    22     71  150
    32     83  190
    41    104  230
    50    123  268
    60    141  307
    69    164  347
    81    193  401
    95    227  418
  2205    248  493
    16    314  535
    27    358  572
    38    404  612
    50    458  651
    70    647  700
    80    785  707
    90    936  699
  2302   1248  663
    12   1600  610
1037
022100      0    0
  2275      4    2
  2350     20   16
  2422     38   32
  2501     60   55
    92     80   83
  2682     96  103
  2760    118  129
  2848    146  152
  3066    192  176
    86    256  199
  3226    362  213
    92    426  216
  3402    532  220
  3498    618  226
  3587    702  229
  3800    934  233
  4000   1118  240
    91   1212  247
  4267   1404  246
  4434   1590  242
  4500   1658  244
1038
170277      0    0
    84      4   33
    95     20   79
  1501     46  127
    08     74  171
    18    102  231
    26    136  281
    37    170  349
    50    226  425
    62    294  500
    77    434  575
    88    628  605
    93    810  599
  1900   1044  576
    07   1330  536
    15   1704  485
1039
120000      0    0
    25     20    0
    30     40   37
    31     80   77
    32    120  110
    35    160  190

TIME   STRAIN STRS
    36    220  253
    38    240  340
    40    260  387
    41    280  453
    43    300  514
    44    340  574
    45    380  634
    48    420  717
    50    460  796
    51    500  846
    53    600  910
    55    720  968
    57    880  989
    58   1120  976
1041
142800      0    0
  2865      8   16
  2892     44   42
  2936     56   66
  2993     68  100
  3021      8  122
  3058     16  149
  3104    108  177
  3142    128  202
  3195    160  232
  3237    178  257
  3284    212  283
  3327    246  302
  3390    316  325
  3451    404  342
  3498    520  343
  3563    716  327
  3633    906  320
  3693   1062  321
  3780   1250  323
1043
095508      0    0
  5694     22   13
  5734     64   30
  5806    128   60
    67    176   75
    98    244  100
  5950    314  115
100017    420  137
  0113    634  156
  0215    852  174
  0336   1106  195
  0426   1298  213
  0523   1506  228
  0652   1782  252
  0803   2126  274
  0962   2450  298
  1045   2694  306
  1261   2961  313
  1350   3156  321
  1405   3276  314
  1508   3452  314
1044
064583      0    0
  4600      8    1
    20     24    9
    31     30   52
    45     70  129
    55    112  195
    73    198  307
    82    258  365
    94    326  432
  4705    458  478
    12    540  509
    20    666  530
    28    880  541
    38   1066  561
    55   1441  553
    72   1874  580
    93   2410  591
  4810   2850  592
    20   3418  581
    38   3658  565
1045
104653      0    0
    55      0    0
    98     10    0
  4702     40   37
    03     60   93
    05    110  157
    06    160  198
    08    290  229
    10    460  268
    12    540  308
    13    640  347
    15    740  423
    18    840  483
    20    980  567
    23   1100  650
    35   2040  750
         2900  860
1046
095600      0    0
  5763     18    5
  5803     48   28
    43     80   44

TIME   STRAIN STRS
    81    124   60
  5960    220   92
100007    288  110
    49    342  124
  0102    436  140
  0201    632  156
    83    794  171
  0380    994  188
  0462   1158  203
  0553   1344  219
  0631   1502  233
  0730   1706  249
  0818   1904  263
  0900   2084  273
    91   2306  282
  1126   2566  306
  1202   2768  308
    70   2874  315
    75   2906  317
    86   2922  314
  1313   2958  306
    40   2990  296
1047
063452      0    0
  3855     16   16
    90     36   27
  3935     74   42
    80    116   59
  4039    202   75
  4137    412   85
  4259    730   82
  4451   1236   81
  4589   1806   78
  4752   2082   74
1048
071200      0    0
  1657     36    4
  1813    164   12
  1984    226   20
  2046    302   26
  2115    416   35
    66    492   43
  2225    582   51
    96    694   59
  2369    810   67
  2552   1244   73
  2700   1622   72
  4833   1970   70
    49   2228   69
  3100   2642   67
  3300   3150   67
  3400   3392   73
1049
111615      0    0
    22    560   53
    25    660  102
    26    760  133
    28    880  189
    30    980  220
    33   1300  293
    35   1600  308
    38   1880  308
    40   2200  300
    42   2590  292
    45   3100  286
    50   3720  276
1050
103000      0    0
  3473     10    7
  3505     24   22
  3569     54   37
  3609     74   54
  3655     84   72
  3692    116   83
  3708    142   93
    94    252  120
  3849    328  130
    80    410  139
  3988    654  146
  4000    944  148
    99   1200  145
  4199   1490  140
1051
031953      0    0
031963     32   40
031970     54   83
031976     60  123
031981     74  160
031986     86  198
031991     98  240
031996    114  275
032002    124  318
032013    154  393
032014    192  465
032030    248  540
032048    340  616
032061    542  670
032071    754  693
032081   1180  760
032101   1396  765
032111   1652  767

TIME   STRAIN STRS
032119   1880  755
032127   2190  740
1052
040903      0    0
    08           12
    13      8  137
    18    110  196
    20    204  400
    24    314  505
    28    456  619
    31    702  679
    34   1022  712
    37   1416  700
    39   1932  657
1053
073559      0    0
    68     52   33
    76    106   78
    81    158  101
    86    194  127
    95    268  170
  3604    398  202
    15    566  250
    26    736  288
    37    892  323
    50   1126  365
    66   1458  401
    84   1850  432
    92   2042  452
  3727   2840  503
    62   3638  555
    91   4234  582
  3806   4736  588
    13   4984  570
1054
070898      0    0
  0903     12   91
    07     50  228
    09     74  324
    11     94  420
    14    178  520
    16    252  603
    19    384  678
    21    568  740
    24    790  780
    26   1064  807
    30   1408  830
    32   1768  851
    35   1984  856
    38   2592  848
    40   3036  837
    43   3512  835
    54   5372  834
1055
134000      0    0
    14      0    0
    23     30   34
    51     66   34
  4159    128   34
  4419    208   34
  4600    248   34
  5000    316   34
  5300    362   34
  5700    412   34
140200    476   34
  0899    560   34
  1799    662   34
  2599    732   34
  3599    824   34
  4699    930   34
150000   1022   34
  1200   1106   34
  2999   1208   34
  4599   1292   34
160000   1350   34
  1499   1412   34
  2600   1456   34
  3600   1504   34
  5000   1546   34
170500   1610   34
  1500   1626   34
  3500   1704   34
  5999   1788   34
183100   1892   34
190500   1998   34
  0660   1978    0
  0850   1940    0
  1000   1930    0
  1500   1918    0
  2000   1914    0
  4500   1902    0
200000   1906    0
  3000   1902    0
1056
101200      0    0
  1216    270   49
    30    360   49
    64    574   49
    88    682   49
  1316    806   49
    40    890   49

TIME   STRAIN STRS
    65    988   49
  1406   1136   49
    29   1220   49
    55   1318   49
    86   1438   49
  1531   1616   49
    79   1798   49
  1635   1934   49
  1705   2314   49
  1805   2710   49
    93   2996   49
  1957   3228   49
  2036   3564   49
  2116   3912   49
  2200   4294   49
    81   4620   49
  2405   5066   49
    90   5326   49
  2629   5660   49
102795   5996   49
  3027   6374   49
  3300   6680   49
  3500   6880   49
  3800   7180   49
    59   6984    0
  4000   6910    0
104499   6892    0
  4800   6876    0
  5000   6870    0
111000   6868    0
  3000   6870    0
1060
020500      0    0
    30     22   23
  0600     48   23
  0900    100   23
  1500    150   23
  2510    190   23
  4000    246   23
  5500    292   23
031500    346   23
  4500    410   23
041500    504   23
  4500    568   23
051000    630   23
060000    736   23
070000    856   23
080000    960   23
090000   1056   23
100300   1162   23
133000   1494   23
200000   2230   23
210130   2270   23
230000   2420   23
250800   2596   23
254000   2976   23
254221   2972    0
  4352   2976    0
255000   2974    0
260500   2974    0
  4300   2976    0
270000   2972    0
1064
020921      0    0
    29    550   71
    65    798   71
    76    986   71
    86   1106   71
    90   1206   71
    96   1324   71
  1611   1466   71
  1023   1582   71
    40   1722   71
    53   1856   71
    65   1984   71
    84   2170   71
  1106   2362   71
    32   2576   71
    67   2882   71
  1212   3254   71
    43   3496   71
    98   3910   71
  1326   4204   71
    75   4504   71
  1433   4680    0
    76   4682    0
  1652   4816    0
1065
143452      0    0
  3504    220    9
    16    364   83
    23    456  133
    30    642  178
    38    886  211
    47   1258  221
    61   1568  219
    70   2400  216
    81   2936  211
1066
160399      0    0
  0418     96   10
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TIME   STRAIN STRS
    22    128    57
    25    200   114
    30    334   202
    34    464   258
    37    630   293
    42    758   334
    46   1312   337
    49   1878   324
    52   2046   306
    57   2502   290
    61   2868   281
1067
042902      0     0
    27    136    36
    32    250    61
    36    372   177
    39    472   236
    42    584   282
    46    748   329
    49    938   364
    53   1212   399
    57   1512   421
    61   1804   436
    65   2164   448
    70   2508   458
    75     68   463
    80   3534   466
    90   4420   500
    98   5036   543
  3005   5130   570
    14   6252   632
    20   6590   659
    30   7508   691
    38   8046   688
    41   8474   666
1068
065420      0     0
    50     40     1
    75    124    32
    80    200    72
    85    266   110
    89    338   152
    94    398   193
    98    468   231
  5502    540   272
    07    626   312
    11    690   348
    19    878   406
    28   1074   459
    38   1346   515
    50   1748   570
    60   2096   610
    72   2594   643
    82   2494   662
    88   3302   672
    96   3658   672
  5602   4030   666
    11   4474   571
1069
191534      0     0
    51    106     0
    92    416    43
    97    470    97
  1602    528   124
    06    596   162
    11    682   208
    20    862   289
    28    980   361
    38   1146   433
    43   1264   472
    48   1392   510
    54   1552   547
    61   1774   586
    66   1964   605
    75   2308   624
    82   2638   626
    86   2844   622
    95   3298   616
  1704   3780   593
    14   4264   588
1070
085399      0     0
  5900      2    78
    05    112   115
    09    250   244
    12    398   332
    15    472   410
    17    620   481
    20    608   541
    24   1100   605
    27   1406   653
    30   1784   679
    33   2260   679
    36   2704   660
    39   3180   630
    41   3820   601
1072
115720      0     0
    34     42    11
    42     64    71
    50     94    71

TIME   STRAIN STRS
  5816    290    71
  5919    480    71
    90    602    71
120090    754    71
  0175    880    71
  0220    946    71
    67    996    71
  0374   1146    71
  0458   1246    71
  0525   1378    71
  0624   1460    71
  0708   1576    71
    85   1680    71
  0965   1868    71
  1100   2058    71
    25   1988     0
    75   1944     0
  1300   1924     0
1073
092800      0     0
    93     58    23
  2944     92    37
  3004    176    62
  3111    364    71
    98    600    81
  3235    770    82
  3493   1384    90
  3689   1886    91
  3800   2208    91
  3953   2618    91
  4100   3008    92
  4212   3284    90
1074
140705      0     0
    22     56    38
    40      6   118
    50    310   158
    62    488   200
    76    788   220
    83    998   222
    95   1242   223
  0812   1678   224
    35   2260   228
    61   2912   233
    92   3744   232
  0903   4066   228
    19   4500   217
    31   4810   219
1076
030100      0     0
    05     18    36
    07     64    84
    10    104   124
    13    162   176
    16    220   220
    19    276   255
    21    380   292
    24    498   322
    27    648   342
    30    846   356
    32   1030   357
    35   1226   354
    37   1422   350
    40   1646   342
    44   1954   342
    47   2210   342
1077
165000      0     0
    04     26    60
    07     82   180
    12    190   322
    16    528   438
    20   1040   441
    24   1620   427
    27   2094   413
    31   2680   402
1079
084500      0     0
    68     10    12
  4607     30    30
    72     66    60
  4728    150    82
    98    292   101
  4848    404   112
  4918    586   104
    74    768   101
  5058    986   100
  5148   1232    99
  5204   1532    99
  5352   1764   100
1080
091800      0     0
    10     14    15
    15     36    42
    19     54    61
    22     72    80
    27     90   101
    30    106   122
    34    146   183
    37    146   161
    41    164   178

TIME   STRAIN STRS
    45    196   197
    49    238   219
    54    292   237
    58    356   250
    62    428   256
    69    554   264
    75    700   262
    78    812   259
    82    914   252
    88   1066   243
    92   1186   236
1081
105680      0     0
  5700      6    12
    03     58    65
    06    112   108
    08    154   156
    11    194   205
    14    238   252
    17    294   302
    20    368   354
    25    514   400
    29    738   428
    32    944   425
    36   1268   415
    39   1538   400
    43   1992   385
    46   2184   368
1083
114205      0     0
    07     98    44
    08    160    91
    10    240   120
    11    230   170
    12    258   211
    13    284   250
    14    304   292
    15    340   331
    17    404   395
    20    566   458
    21    764   489
    24   1024   489
    25   1256   476
    27   1684   436
    28   1948   416
    30   2260   390
    32   2746   356
1084
020000      0     0
    15     79    71
    26    127    71
    40    180    71
    53    231    71
    72    304    71
    97    394    71
  0139    532    71
    87    706    71
  0236    878    71
  0300   1125    71
    51   1320    71
  0450   1624    71
  0500   1908    71
    50   2114    71
  0600   2320    71
    50   2538    71
    88   2736    71
  0725   2966    71
    69   3196    71
  0851   3635    71
  0935   4122    71
  1023   4558    71
    78   4870    71
  1109   5040    71
    48   5172    71
  1206   5144     0
  1300   5142     0
  1500   5140     0
  1942   5130     0
  2700   5120     0
1085
051650      0     0
    93     16    12
  1728     56    30
    65    104    45
  1828    194    70
    69    260    86
  1938    412   102
  2014    604   111
    83    812   110
  2145    984   108
    98   1182   107
1086
041700      0     0
    10      0    18
    15     22    38
    20     34    61
    23     48    81
    30     76   104
    35    108   137
    39    142   157
    45    202   181

TIME   STRAIN STRS
    49    264   198
    56    354   220
    63    486   237
    70    664   246
    80    888   250
    85   1040   249
    94   1300   244
  1816   1928   230
    32   2358   221
    65   2998   212
1087
043800      0     0
    04     26    45
    07     66    91
    10    106   157
    13    150   213
    17    208   272
    20    282   319
    22    358   356
    25    468   393
    29    646   417
    32    848   424
    35   1054   420
    38   1354   403
    41   1714   382
    45   2078   359
1088
045431      0     0
    50     10     4
    56    156    35
    58    188    84
    60    212   126
    61    236   170
    62    268   213
    64    300   260
    66    354   335
    68    406   400
    69    458   450
    72    578   536
    74    696   587
          924   629
1089
173600      0     0
    17    384    71
    32    464    71
    46    518    71
    62    584    71
    80    656    71
  3702    730    71
    31    810    71
    77    922    71
  3830   1030    71
    92   1128    71
  3990   1272    71
  4092   1400    71
  4195   1544    71
  4292   1680    71
  4391   1822    71
  4497   1976    71
  4592   2100    71
  4692   2236    71
  4790   2326    71
  5091   2556    71
  5593   2818    71
180491   3174    71
  1510   3390    71
  3000   3628    71
  5100   3894    71
192200   4174    71
  5000   4376    71
202000   4556    71
  5000   4704    71
212000   4830    71
215000   4956    71
222200   5072    71
240000   5410    71
010000   5560    71
073800   6406    71
  3952   6346     0
080518   6356     0
081000   6304     0
1090
102420      0     0
    65     14    11
    99     26    24
  2530     44    41
    57     68    53
    86    100    65
  2625    144    81
    65    210    97
  2708    282   109
    81    450   119
  2840    592   122
  2912    774   122
  3009   1024   120
1091
102080      0     0
    87     10     8
    92     22    29
    97     56    44
  2105     96    84

TIME   STRAIN STRS
    13    142   122
    17    178   148
    22    214   170
    29    272   203
    36    356   230
    42    428   259
    48    510   280
    57    680   296
    64    854   308
    77   1146   302
    93   1600   294
  2214   2164   287
1092
115700      0     0
  5707      8    13
    11     64    31
    17    140    79
    21    196   110
    25    248   137
    30    306   170
    32    350   195
    37    438   236
    41    526   272
    48    648   304
    55    898   342
    60   1098   352
    65   1376   353
    72   1696   347
    81   2150   331
    90   2614   319
  5801   3178   307
1093
111230      0     0
    36     12    40
    39     44    88
    42     74   142
    47    138   242
    50    218   313
    52    252   366
    56    440   421
    59    600   472
    63    812   504
    67   1160   519
    72   1556   525
    76   1930   529
    80   2280   520
    87   3010   503
    96   3960   474
  1222   4552   459
1094
062593      0     0
  2600      2     1
    05     20    28
    07     50   109
    10     78   203
    12    116   240
    14    166   362
    16    250   442
    20    372   516
    21    538   577
    25    816   616
    27   1184   623
    30   1616   572
    32   2224   561
    35   2686   526
1095
115800      0     0
    08     14    32
    13     50    82
    17     60   122
    20     74   163
    24     88   200
    28    104   241
    31    116   282
    34    136   321
    37    146   359
    40    160   399
    44    178   447
    47    198   484
    52    234   540
    55    258   587
    60    298   624
    67    348   736
    76    474   848
    90    728   963
  5902   1138  1008
    06   1362  1005
    12   1698   981
    16   1966   950
1096
010900      0     0
    09     20    27
    13     52    69
    17     74   110
    20     92   152
    26    110   211
    30    134   262
    36    150   343
    40    164   384
    45    194   442
    49    210   496

TIME   STRAIN STRS
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    57    252   604
    62    300   691
    68    352   762
    75    452   839
    81    632   872
    85    782   880
    89    944   874
    92   1134   860
    95   1378   830
1097
014380      0     0
    99      0     0
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    07     38   122
    11     64   230
    15     90   313
    18    102   378
    20    126   451
    24    148   539
    27    166   612
    30    190   692
    33    228   779
    36    272   849
    39    324   920
    43    436   989
    47    592  1038
    50    758  1062
    52    988  1068
    56   1534  1008
1098
020300      0     0
    07     20    48
    11     66   119
    15     92   196
    19    114   283
    21    134   361
    25    158   432
    28    172   508
    31    198   590
    34    222   673
    37    250   755
    40    282   828
    42    326   894
    45    370   960
    48    432  1028
    51    550  1095
    55    736  1134
    58    808  1139
    61   1118  1118
    63   1728  1070
1099
022841      0     0
    51      0     1
    57     12    37
    59     48   115
    62     80   202
    63    106   296
    66    126   391
    68    144   482
    70    162   576
    73    194   688
    75    212   812
    78    238   912
    80    266   960
    82    298  1103
    84    312  1196
    86    344  1290
    88    380  1393
    91    418  1600
    94    490  1652
    97    630  1776
1100
030300      0     0
030320      8    27
030324     28   117
030321     48   200
030337     74   278
030342     94   370
030348    114   438
030355    154   518
030360    184   582
030365    238   647
030372    318   716
030391    794   868
030400   1136   894
030410   1630   911
030421   2104   924
030430   2526   926
030438   2914   922
030441   3132   916
030446   3408   897
1101
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040312      2    91
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040322     44   203
040328     72   265
040333    114   322
040340    150   400
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TIME   STRAIN STRS
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040365    404  707
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040377    590  854
040381    716  924
040392    950  996
040400   1258 1037
040406   1474 1042
040410   1678 1044
040415   1928 1036
040420   2158 1022
040425   2472  995
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042958     48   91
042961     78  147
042963     96  205
042966    116  270
042969    132  323
042971    166  392
042975    208  453
042978    248  552
042981    306  635
042984    366  704
042987    462  773
042991    652  840
042995    890  876
042998   1160  889
043002   1502  890
043006   1900  891
043019   2970  907
043027   3740  918
043033   4300  913
043039   4840  897
043043   5328  871
043047   5708  775
1103
045699      0    0
045704      8   43
045707     22  102
045710     42  165
045712     52  232
045715     72  296
045719    102  394
045722    126  470
045726    168  560
045728    214  630
045731    268  696
045735    376  774
045738    556  826
045741    792  849
045745   1082  854
045748   1450  842
045752   1792  826
045755   2112  808
045758   2452  792
1104
051925      0    0
051950      8   16
051953     44  112
051957     98  270
051960    120  366
051962    158  447
051965    202  550
051968    264  702
051970    320  818
051972    394  915
051975    492 1009
051977    624 1077
051980    806 1149
051982   1080 1188
051985   1436 1199
051987   1814 1203
051990   2196 1205
051994   2900 1210
051998   3472 1203
1105
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100044     72   71
100062    100   71
100104    166   71
100179    276   71
100225    342   71
100300    442   71
100404    572   71
100503    696   71
100600    822   71
100700    964   71
100800   1118   71
100900   1278   71
101000   1442   71
101120   1646   71
101500   2212   71
102000   2844   71
103074   3986   71
105055   4998   71
111500   5354   71

TIME   STRAIN STRS
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145000   7096   71
155600   7596   71
162500   7902   71
173000   7956   71
193000   8298   71
220000   8696   71
240400   8916   71
240481   8930   71
075609   9570   71
102600   9738   71
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143000   9912   71
163000   9984   71
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220000  10210   71
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[illegible]1000  10726   71
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081375  10612    0
081600  10580    0
092200  10534    0
110300  10521    0
1106
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094912     18   37
094918     64   97
094923     88  158
094928    118  219
094933    140  278
094940    192  358
094947    246  431
094953    314  563
094958    380  579
094966    508  662
094975    756  734
094982    978  773
094990   1288  810
094999   1582  848
095008   1918  883
095018   2290  924
095026   2572  957
095037   2952 1004
095050   3460 1040
095060   3918 1086
095066   4208 1089
095074   4642 1078
095078   4946 1046
095083   5460  955
095086  12214  813
1107
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150963   5226   71
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151000   5696   71
151082   6420   71
151142   6880   71
151183   7250   71
151320   8322   71
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151549  10182   71
151767  10768   71
151909  11456   71
152200  12532   71
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153000  13928   71
153706  14608   71
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164200  16364   71
173203  16806   71
183000  17002   71
200000  17266   71
215000  17432   71
081000  19396   71
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132512    220   51
132516    286   73
132519    382  101
132523    458  132
132528    640  166
132531    760  185
132535    940  207
132540   1200  219
132545   1460  222
132549   1716  221
132554   2048  221
132559   2400  213
132563   2708  209
132570   3140  206
132578   3676  146
132583   4030  140

TIME   STRAIN STRS
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113710    214   77
113713    302  112
113715    398  152
113717    504  208
113720    686  252
113723    856  295
113725   1092  322
113728   1352  340
113731   1670  356
113735   2120  368
113739   2554  378
113742   3018  380
113747   3576  378
113751   4098  368
113754   4688  357
113760   5214  341
113766   6072  322
                382
1110
120076      0    0
120100     28    3
120105     58   38
120107    158   94
120109    264  236
120111    354  322
120113    566  392
120115    714  439
120117   1372  438
120120   1970  415
120123   2792  406
120126   3372  402
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1111
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140905     20   24
140908     72   82
140910    154  147
140912    204  192
140915    286  243
140918    446  318
140920    606  355
140923    808  387
140926   1066  404
140929   1366  408
140933   1762  395
140937   2506  379
140941   3016  362
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1112
144075      0    0
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144111         341
144114    746  407
144116   1144  438
144119   1718  431
144122   2444  410
144125   3154  402
                461
1113
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164819     46   26
164821    100   50
164825    162   81
164828    230  116
164831    290  145
164833    350  165
164836    406  201
164839    472  220
164842    552  242
164845    690  266
164850    712  281
164853   1120  288
164857   1370  289
164864   1804  289
164874   2472  276
164887   3390  252
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1114
172675      0    0
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172710     60   29
172714    316   61
172716    402  113
172719    462  168
172720    528  215
172723    600  266
172725    690  311
172727    810  356
172730   1018  397
172733   1264  408
172735   1640  408
172738   2094  392
172743   2714  370

TIME   STRAIN STRS
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193308    944  150
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193313   1358  310
193315   1592  389
193318   1906  460
193320   2352  483
193324   3180  476
193327   3900  445
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103076    298   71
103200    516   71
103500    932   71
104000   2242   71
104131   2668   71
104300   3212   71
104500   3822   71
105000   5050   71
110000   6784   71
112000   8296   71
120700   8764   71
130400   8930   71
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150000   9868   71
170200  10578   71
190000  11256   71
241200  12326   71
080000  13584   71
091500  13786   71
115500  14196   71
141000  14498   71
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141100  14474    0
141500  14448    0
141537  14442    0
150300  14442    0
1117
190700      0    0
190754      2    1
190801    122   10
190803    332   28
190820    668   46
190832   1064   53
190842   1468   54
190859   2140   54
190893   3584   54
190921   4708   49
190945   5648   46
190975   6900   41
101212   8486   46
1118
111200      0    0
111217     24   20
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111225    110   62
111230    154   97
111234    186  133
111238    240  170
111244    296  205
111249    366  259
111255    472  299
111260    582  334
111267    754  373
111276   1016  410
111282   1242  426
111288   1490  428
111294   1760  426
111302   2130  412
111308   2442  400
111322   3270  373
1119
115600      0    0
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115662     76   36
115677    130   55
115695    196   82
115715    248  110
115734    308  132
115753    376  163
115770    450  200
115784    504  219
115804    606  241
115830    740  262
115855    912  283
115891   1166  304
115939   1564  309
115982   1978  303
120000   2504  284
120119   3302  271
120190   3984  248
1120
134800      0    0

TIME   STRAIN STRS
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134808     68  109
134812     98  173
134815    154  235
134820    216  296
134823    296  338
134827    416  376
134830    554  410
134835    870  439
134837   1174  442
134843   1498  433
134846   1854  410
134851   2340  380
1121
142480      0    0
142499      0    6
142504      8   10
142506     76   67
142609    192  109
142611    264  219
142614    398  300
142617    618  380
142620    946  423
142624   1356  432
142627   1868  420
142630   2552  386
142642   3360  355
1122
150900      0    0
150910     38    9
150913    118   43
150917    160   86
150920    198  130
150923    224  170
150925    250  214
150928    290  258
150932    392  319
150935    502  367
150939    658  402
150943    884  432
150947   1132  438
150951   1574  430
150956   2054  401
150962   2712  393
                475
1123
152600      0    0
152615     20   33
152618     52   81
152622     86  130
152624    126  168
152627    184  211
152630    224  255
152635    388  320
152638    434  357
152642    830  393
152649   1230  404
152652   1544  397
152656   1926  373
152660   2316  360
152668   3098  322
                408
1124
154300      0    0
154317     22   12
154322     52   68
154325     86  112
154328    126  173
154331    172  218
154336    236  255
154337    328  290
154340    458  330
154346    778  370
154351   1076  378
154355   1440  377
154361   1990  350
154366   2478  326
154379   3670  290
1125
162000      0    0
162045     62   19
162058    100   51
162065    116   74
162073    144  100
162082    172  128
162089    204  152
162098    270  177
162107    292  201
162118    364  230
162129    440  252
162140    532  279
162150    698  309
162176    918  324
162202   1304  334
162225   1702  326
162245   2042  311
162275   2616  286
162310   3270  262
1126
164700      0    0
164824     18    2

TIME   STRAIN STRS
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164910     92   33
164960    150   53
165011    218   72
165071    286  102
165134    376  112
165194    478  141
165265    560  146
165332    708  169
165437    896  196
165533   1094  209
165662   1398  222
165839   1818  229
170063   2408  223
170250   2424  219
170500   3588  210
1127
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083452     52   21
083469    126   45
083484    190   61
083501    274   79
083517    342  100
083534    426  117
083550    504  138
083570    626  157
083597    780  180
083667   1316  204
083748   1980  212
083840   2820  209
083930   3442  198
084033   4598  188
1128
085900      0    0
085909     30   20
085915     92   56
085919    132   82
085925    198  118
085931    294  155
085938    448  195
085947    680  233
085954    900  251
085961   1164  264
085968   1428  272
085974   1864  273
085999   2708  262
090020   3624  250
090044   4640  237
1129
092500      0    0
092504     40   50
092506    116  118
092509    220  198
092511    344  268
092515    600  340
092517    930  379
092521   1396  388
092525   1996  388
092530   2900  372
092535   3420  361
                393
1130
101000      0    0
101004     74   37
101006    322  170
101009    504  243
101011    744  371
101014   1094  375
101017   2010  378
101020   2766  355
101023   3238  323
                393
1131
103800      0    0
103814     58   36
103820    162   70
103825    294  109
103830    450  149
103835    642  200
103838    806  228
103843   1060  268
103851   1546  306
103856   1862  316
103861   2322  316
103868   2798  309
103875   3378  298
103888   4544  276
103898   5408  263
                328
1132
110700      0    0
110827     20    8
110871     64   25
110942    148   49
111012    248   73
111065    364   88
111157    504  104
111235    664  123
111342    970  131
111466   1226  136
111692   1856  130
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TIME    STRAIN STRS
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112118     76   40
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112126    160   85
112131    238  119
112136    300  148
112141    408  172
112147    520  196
112152    690  212
112160    918  228
112166   1160  236
112175   1536  236
112187   2018  236
112207   2794  228
112225   3524  220
112256   4820  205
                236
1134
131000      0    0
131004     26   28
131007      4   95
131010    218  186
131012    386  250
131015    606  306
131019    980  335
131022   1432  347
131026   1962  359
131030   2624  361
131035   3398  339
131039   4100  315
1135
132851      0    0
132985      8   10
133036     86   23
133101    190   40
133185    344   61
133276    530   71
133377    746   89
133479    958  104
133601   1226  120
133701   1438  139
133843   1744  143
133976   2114  147
134210   2698  147
134412   3254  141
134517   3530  138
1136
140050      0    0
140065     50   30
140071    102   52
140076    202   82
140082    330  117
140086    436  129
140091    552  149
140100    780  179
140108   1026  211
140119   1354  229
140125   1554  236
140138   1980  250
140150   2410  255
140165   3036  257
140187   3930  252
140212   4924  246
140239   5990  236
1137
142000      0    0
142007    106   45
142011    224  104
142014    350  162
142016    546  236
142019    790  283
142022   1144  331
142026   1654  355
142031   2184  391
142037   2856  422
142041   3434  440
142046   4140  452
142052   5174  454
142057   5992  440
142061   6600  422
1138
151751      0    0
151851     16    9
151920     50   36
151946     82   49
151982    116   67
152014    146   83
152065    200  104
152107    252  123
152151    314  138
152198    394  151
152267    518  168
152343    658  183
152438    854  200
152527   1072  208
152624   1294  214
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TIME    STRAIN STRS
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153100   2548  202
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154742    196   60
154761    286   91
154774    356  115
154792    474  153
154804    552  173
154821    670  210
154836    776  234
154850    914  255
154877   1230  286
154882   1796  295
154928   1980  287
154941   2200  277
1140
160800           0
160806     44   80
160808    274  265
160810    546  357
160813   1002  427
160816   1702  422
160819   2718  357
160822   3524  310
                432
1141
162100      0    0
162126     18   13
162141     40   31
162161    100   55
162176    148   73
162204    286   92
162231    448  112
162278    780  131
162329   1168  142
162443   2104  149
162539   2920  149
162621   3592  141
162698   4216  138
1142
164000      0    0
164009     16   21
164013     62   53
164018    158  112
164021    274  144
164027    472  200
164034    830  240
164039   1186  260
164044   1572  268
164053   2204  282
164061   2858  283
164069   3480  279
164082   4528  268
164092   5346  261
1143
172550           0
172574     18    0
172580     54    0
172586     68   15
172593    102   38
172600    154   50
172612    240   51
172624    356   90
172640    544  111
172660    808  130
172709   1502  150
172767   2394  150
172786   2738  148
172822   3302  142
172855   3832  138
1144
165551      0    0
165603     12    7
165615     32   17
165631     66   34
165646           50
165657    142   66
165669    184   82
165684    154  106
165712    438  114
165796   1158  127
165874   1818  117
165945   2444  116
170056   3446  110
1145
171350      0    0
171359     54   23
171363     82   69
171366    140  108
171370    228  154
171374    336  190
171378    568  233
171384    894  262
171389   1274  268
171393   1636  262
171398   2050  247
171404   2640  215
```

```
TIME    STRAIN STRS
1146
173800      0    0
173841     20   16
173851     22   37
173858     62   60
173865     82   78
173871    106   93
173878    128  110
173886    166  136
173894    226  152
173904    304  172
173916    426  188
173935    656  206
173946    822  206
173957    990  204
173994   1602  192
1147
085500      0    0
085521     58   71
085534     76   71
085548     94   71
085700    200   71
090000    294   71
090508    384   71
091019    456   71
091500    512   71
092010    570   71
093100    662   71
094200    770   71
100003    874   71
101720    956   71
103200   1026   71
105000   1102   71
111500   1198   71
114500   1314   71
121000   1410   71
130200   1576   71
141800   1768   71
150700   1882   71
160500   2014   71
173000   2198   71
190200   2406   71
220000   2754   71
080000   3650   71
085400   3982   71
085457   3942    0
085500   3330    0
090000   3916    0
1148
102500           0
102620    484
102700    708
103000    708   71
103500    194   71
104121    606   71
104500    862   71
105000   1201   71
105800   1706   71
110505   2110   71
112300   3090   71
114600   4084   71
120000   6584   71
121000   6878   71
121900   7184   71
125500   8300   71
131300   8702   71
132200   8972   71
135100   9402   71
140600   9642   71
141900   9842   71
153078  10620   71
153160  10608    0
153200  10586    0
154500  10560    0
160000  10558    0
1151
114000      0    0
114030    132   72
114045    228   72
114068    320   72
114100    434   72
114158    718   72
114400   1102   72
114900   1670   72
115300   1908   72
115600   2096   72
120101   2334   72
120600   2328   72
121200   2778   72
121500   2882   72
122100   3072   72
125200   3876   72
131100   4244   72
133000   4568   72
134900   4810   72
140300   5024   72
141800   5140   72
153400   5838   72
161300   6164   72
163700   6376   72
173000   6764   72
```

```
TIME    STRAIN STRS
190100   7268   72
201300   7562   72
232556   8014   72
075600   8922   72
090000   9022   72
100000   9114   72
101104   9126   72
101175   9100    0
101199   9092    0
101400   9072    0
102100   9064    0
103500   9054    0
110204   9040    0
111600   9038    0
1153
163100      0    0
163113     50   71
163135     50   71
163200     56   71
163500     70   71
1640       98   71
1655      236   71
1725      314   71
1810      406   71
1909      474   71
2024      556   71
2326      716   71
0755     1030   71
0904     1080   71
1058     1114   71
1105     1168   71
110606   1136    0
110707   1126    0
111010   1122    0
111818   1120    0
132323   1114    0
1157
134500      0    0
134529    140  101
134536    192  101
134600    358  101
134700    556  101
134800    704  101
135000   1034  101
135200   1340  101
135600   1862  101
135800   2466  101
140100   3132  101
140500   3418  101
141200   4078  101
141600   4958  101
141900   5536  101
142300   6256  101
142700   7284  101
143300   8472  101
143900   9650  101
144500  10728  101
145100  11704  101
145700  12558  101
145800  12540    0
145900  12512    0
150100  12482    0
150800  12456    0
153700  12434    0
1158
162000      0    0
162021     36  100
162040    124
162100    206
162300    328
162600    486
162800    554
163000    616
163400    722
163900    828
164500    940
165600   1122
171000   1312
172000   1428
173550   1606
180400   1960
183200   2216
195500   2908
235500   4656
075800   7506
083000   7676
090100   7830
103300   8302
120500   8838
144800   9314
163500  10056
173200  10296
190000  10668
211500  11240
104100  13970
120700  14238
161800  14974
1[illegible]700  15382
221300  16008
080700  17584
080800  17552    0
```

```
TIME    STRAIN STRS
081100  17536    0
081600  17530    0
083000  17520    0
085700  17520    0
091500  17518    0
095700  17516    0
1160
101000      0    0
101043     76  101
101076    134  101
101230    366  101
101500    636  101
101800 [illegible] 101
102100   1212  101
102800   1798  101
104000   2544  101
105500   3562  101
111000   4122  101
113300   4846  101
114800   5272  101
120300   5642  101
124800   6550  101
131800   7028  101
134600   7388  101
143000   7880  101
152500   8202  101
164000   8984  101
173000   9310  101
190300   9850  101
190500   9856  101
211000  10464  101
241400  11162  101
104000  12736  101
121000  12948  101
161500  13406  101
1161
134000         138
134018     72  138
134024     88  138
134072    126  138
134200    216  138
134300    268  138
134600    392  138
135100    534  138
135500    636  138
140500    842  138
141700   1052  138
142800   1198  138
144300   1466  138
151500   1820  138
160000   2468  138
163600   2816  138
172000   2026  138
172100   1956  138
172200   1940  138
142600   1922  138
173300   1908  138
183000   1900  139
1167
093000      0    0
093009     30   29
093022     22   68
093035    534  106
093056   1204  135
093066   1606  141
093080   2118  144
093093   2642  144
093114   3516  144
093136   4292  140
093162   5434  134
093183   6050  129
1168
105000      0    0
105033          71
1170
111300           0
111313      8   18
111318     46   48
111324     94   79
111328    162  105
111333    246  130
111337    338  145
111342    476  157
111347    644  165
111352    838  168
111360   1166  166
111369   1510  160
111381   2040  159
111397   2686  159
111416   3240  160
                168
1171
115000      0    0
115100     58   16
115115     54   30
115130     78   46
115146    130   65
115162    182   81
115181    292   98
115206    452  110
115221    540  115
```

```
TIME    STRAIN STRS
115259    868  123
  4222   1368  132
115419   2166  140
115529   2466  148
115626   3084  148
115708   4606  145
115796   5318  138
                149
1172
131251      0    0
131256     12   10
131260     92  130
131261    192  202
131265    364  266
131268    512  294
131271   1194  281
131275   1752  271
131279   2416  271
131282   2940  264
1173
141300      0    0
141306     12    2
141315    234   91
141318    406  110
141322    678  121
141327   1006  126
141332   1358  130
141337   1804  130
141344   2304  130
141365   3844  144
141384   5372  151
141406   7058  153
                157
1174
153400      0    0
153459      6    7
153470     28   15
153478     54   30
153498    126   46
153513    198   63
153536    326   78
153566    544   88
153583    666   93
153632   1058  102
153709   1648  105
153771   2166  106
153856   2850  121
153970   3828  127
154160   5118  141
154331   6668  151
154470   7824  151
154551   8278  151
1176
162150      0    0
162157     10    4
162160     54   43
162162    120   73
162165    240   94
162168    396  118
162171    584  125
162175    858  131
162180   1228  143
162186   1750  142
162192   2194  145
162204   3090  148
162218   4280  150
162237   5886  147
612270   8220  143
1177
165600      0    0
165604     62   61
165608    268  153
165610    470  204
165613    776  236
165617   1240  254
165620   1730  252
165625   2490  251
165632   3500  250
165636   4140  244
165641   4886  236
165668   5970  228
165653   6540  228
1179
140651      0    0
140763      8   19
140803     20   35
140853     54
140909     94   68
141038    296   76
141115    688   85
141265   1080   92
141473   2024   93
141685   2196   96
142023   3106   97
142336           98
143570   4510   99
1181
151700      0    0
151827     46   12
151900    176   29
151913    418   41
```

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TIME   STRAIN STRS
152130    704   50
152282   1096   55
152414   1458   59
152675   2166   66
152860   2628   67
153220   3596   68
153536   4430   68
                70
1184
162650      0    0
162669    190  110
162672    276  161
162675    456  205
162677    704  238
162680    990  251
162686   1306  255
162687   1782  258
162696   2416  240
162502   3508  234
1185
164750      0    0
164756     62   61
164759    210  193
164761    528  238
164766   1060  236
164768   1686  202
164770   2736  127
118573   3392  155
164771   3392  155
               243
1186
085500          69
085535    276   69
085565    636   69
085590    972   69
085659   1576   69
085760   2174   69
085840   2552   69
085998   3170   69
090125   3592   69
090600   4574   69
090645   5122   69
090900   5632   69
091209   6176   69
091500   6612   69
091800   7032   69
092100   7386   69
093006   8790   69
095600  10048   69
100451  10608   69
115900  11566   69
135900  12820   69
143400  13036   69
155000  13452   69
173300  13966   69
191800  14426   69
221800  15110   69
080000  17118   69
080231  16998   69
080271  16992   69
080300  16978   69
081622  16972   69
084100  16960   69
085600  16962   69
1187
113990      0    0
114000      2    1
114004    246    6
114007    868    5
114010   3036    2
1189
120890      0    0
120903      6    1
120921     60    2
120942    508    5
120951    940    5
120967   1494    6
120980   2050    5
121002   2940    5
121023   3762    5
121058   5192    6
121086   6396    5
121107   9078    1
1190
134550      0    0
134557      2   22
134560     20  118
134563     54  225
1191
160050      0    0
160066     20    4
160072    102   28
160080    296   50
160084    456   59
160090    690   69
160095    856   77
160107   1246   83
160117   1630   98
160133   2166  106
160148   2718  117
160167   3436  130
```

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TIME   STRAIN STRS
160186   4182  138
160211   5160  140
160235   6046  147
160278   7712  149
160315   9220  151
160365  11120  156
               157
1193
162309      0    0
162316     96   10
162331    628   21
162340   1072   33
162352   1926   42
162359   2432   44
162366   2990   48
162378   3878   56
162390   4748   57
162403   5782   63
162416   6816   64
162430   7880   65
162445   9000   66
162461  10276   66
162482  11832   70
1196
165150      0    0
165166     14   12
165169     36   41
165172     82   64
165176    136   86
165180    214  116
165185    296  137
165188    392  157
165194    524  179
165198    632  198
165205    844  209
165211   1074  217
165217   1326  217
165226   1668  216
165235   2036  209
165245   2476  203
165288   2986  196
1197
172400      0    0
172495     28    5
172500    116   27
172505    122   51
172509    166   81
172513    210  111
172517    276  141
172520    346  159
172525    440  181
172530    606  198
172536    818  201
172546   1110  207
172556   1488  205
172567   2010  199
172578   2464  198
172604   3536  191
1198
101800      0    0
101813     62
101829    220    1
101852    458    4
101877    690    4
101906   1676    5
101923   2306    5
101957   3600    6
101982   4616    6
102011   5746    6
                 6
1200
155600      0    0
  5800    186    1
160451   1166    3
  0852   1474    3
  1000   1992    5
  1087   2174    5
  1300   2546    5
    72   2610    5
  1493   2730    5
  1700   2962    4
  1943   3296    6
  2130   3722   10
  2353   4236   13
  2600   4798   16
1201
165051      0    0
  5114    222    3
    77    644    4
  5236    880    3
  5343   1738    6
  5550   2677    7
  5606   4016    5
  5740   5192    5
  5861   6696    5
    95   7216    5
  5926   7494    3
1202
092398      0    0
  2425     36    4
    31    142   12
```

```
TIME   STRAIN STRS
    47    446   26
    51    778   36
    65   1298   50
    78   1728   71
    93   2178   95
  2508   2726  108
    19   3154  112
    41   3980  111
    52   4408  111
    88   5868  109
  2611   6786  107
    23   7242  106
1203
091550      0    0
  1590    -18
  1610    224   12
  1615    512   20
  1620    838   28
  1626   1268   36
  1628   1858   45
  1642   2490   53
  1653   3302   59
  1670   4568   62
  1680   5618   63
  1698   6890   64
  1723   8664   80
1204
093900      0    0
    04    226   16
    08    876   47
    11   1472   73
    15   2282   80
    19   3160   71
    22   3876   58
1207
130726      0    0
  0825     96    3
    47    216   11
    75    392   20
  0902    572   32
    29    758   41
  1003   1332   60
    78   1968   67
  1160   2472   70
  1266   3492   72
  1338   4182   76
1208
141852      0    0
  3937    370    0
    56    468    3
    97    818   23
  4303    946   34
    10   1126   50
    16   1340   67
    25   1618   83
    37   1988   98
    48   2428  106
    61   2946  110
    78   3588  116
    93   4222  116
  4119   5202  124
1209
170300      0    0
    32     40    8
    35    118   28
    39    190   52
    42    264  100
    45    356  130
    50    518  173
    53    738  200
    56   1052  176
    60   1432  159
1210
162200      0    0
    08     20    5
    13     66   14
    15    246   79
    19   1172  143
    26   2496  106
1213
171200      0    0
    76    -20    4
  1307      0    4
    50     22    4
  1420     52    4
  1527    214   17
    72    496   33
  1600    688   45
  1758   1156   57
  1837   1814   63
    67   2282   66
    80   3040   67
  1980   3886   68
  2075   4728   70
  2317   5960   70
1214
081225      0    0
    50     98    8
    55    446   15
    67    626   30
    77    990   37
```

```
TIME   STRAIN STRS
    96   1668   47
  1312   2352   50
    22   3076   55
    58   4088   58
    73   4674   60
  1402   5818   62
    38   7268   61
    61   8170   57
1215
085700      0    0
    33     90   12
    37    304   28
    42    668   31
    49   1146   36
    56   1714   38
    68   2676   39
    75   3016   42
    84   3722   42
    96   4786   39
  5808   5888   38
    17   6652   36
1216
091510      0    0
    15    110    4
    24    216   12
    27    950   19
    32   2140   23
    37   3192   21
    43   4430   22
    47   5162   20
    53   6516   17
    57   7514   10
1218
090900      0    0
    06     10   13
    10     36   36
    14     79   67
    19    106  106
    23    128  141
    32    206  218
    39    252  290
    49    350  372
    59    510  451
    65    630  488
    73    852  520
    78   1020  530
    83   1246  529
    88   1428  522
    92   1616  507
    98   1970  484
1219
116080      0    0
    99      0    0
  4104     12   20
    06     50   42
    08     98  243
    11    168  371
    13    210  507
    16    288  622
    18    434  816
    21    692  905
    23   1254  825
1220
105519      0    0
    72     14    8
    93     96   22
  5625    106   51
    52    146   91
    75    190  129
  5702    234  169
    25    286  209
    50    374  247
    80    452  290
  5816    604  328
    67    916  361
  5915   1298  360
    29   1626  352
    73   1866  319
110041   2306  297
1222
140400      0    0
  0593      8    8
  0641     24   29
  0690     54   51
  0739     64   76
    83     58   98
  0833    150  122
    83    186  147
  0940    238  180
    91    300  196
  1054    442  203
  1115    472  235
    96    600  252
121260    734  259
  1320    860  263
  1402   1038  261
    80   1060  259
  1620   1654  242
  1719   1946  220
1223
150127      0    0
```

```
TIME   STRAIN STRS
  0155     18    9
  0178     94
  0193    130   61
  0204    156   80
  0219    132  116
  0226    210  139
  0244    256  180
  0258    280  219
  0276    322  261
  0287    368  299
  0300    428    1
  0309    498  378
  0332    612  417
  0350    780  452
  0381   1194  471
  0391   1376  460
  0408   1664  437
  0419   1906  411
1224
153089      0    0
  5100      2    1
    06     20   20
    10     36   84
    12     98  173
    16    136  268
    18    184  353
    21    242  460
    25    264   56
    28    358   66
    31    458   73
    35    580  808
    38    800  858
    41   1116  862
    43   1552  820
1225
155690      0
  5700    -12
    03     40    5
    06    178   16
    09    292   27
    11    402   37
    13    516  524
1226
162180      0    0
  2200      0    0
    27     24    5
    49     60   28
    53    148   89
    59    232  192
    64    296  256
    68    344  378
    73    412  469
    77    482  539
    81    564  602
    86    720  669
    90    948  700
    93   1204  696
    96   1512  665
    98   1846  611
1227
165099
  5152      8
  5460     22   10
  5509     52   38
    59    102   50
  5625    176   85
    78    234  105
  5725    290  130
    66    324  145
  5807    366  162
    49    414  190
    87    486  217
  5935    520  231
    83    602  248
170044    656  280
    91    766  285
  0190    956  310
  0323   1036  327
  0451   1592  326
  0501   1712  319
    83   1976  310
1229
092200      0    0
  2394     10    5
  2430     32   16
  2521     96   59
    68    128   81
  2609    152  106
  2760    198  140
  2818    262  155
  2881    338  172
  2996    434  193
  3073    724  202
  3152    924  202
  3218   1110  200
  3342   1458  185
1230
103098      0    0
  3115     46   50
    20     96  121
    24    140  205
```

```
TIME   STRAIN STRS
    28    174  238
    32    208  368
    36    250  450
    40    294  518
    44    368  595
    49    498  673
    53    686  722
    57    988  730
    60   1288  700
    63   1610  660
115498      0    0
  5503     10    2
    06     62  104
    08    166  159
    10    232  345
    12    290  399
    15    366  531
    17    456  591
    20    586  807
    24    818 1004
    28   1108 1100
1233
112431      0    0
    51      2    0
    55      0    0
    59     10    5
    63     38   30
    71    120  118
    74    172  247
    76    230  394
    78    316  522
    81    440  653
    83    628  752
    86   1006  812
    88   1568  792
1234
114883      0    0
    99      2    0
  4933    128   18
    37    298   87
    40    346  160
    43    378  242
    46    414  330
    49    464  420
    52    532  516
    55    634  600
    58    778  675
    62   1088  728
    65   1404  754
    68   1674  752
    72   2056  735
1235
139100      0    0
    26     12   22
    33     56   63
    39     84  145
    45    122  201
    54    186  288
    62    260  360
    71    390  436
    82    654  648
    88    842  510
    95   1114  510
  5200   1328  502
    06   1618  470
    12   1960  471
1236
142700      0    0
  2937     18    6
  3000     70   22
    55    138   40
  3132    224   64
  3213    314   93
    86    414  120
  3373    552  143
  3460    708  160
  3507    812  164
    95   1014  173
  3696   1252  176
  3812   1552  260
    78   1734  184
  3944   1906  178
  4051   2202  168
1239
152851           0
  3281      2    3
  3677      8   11
  3788     25   36
  3893     33   68
  4019     50  122
    60     53  147
  4115     57  177
    58     60  200
  4211     65  228
    78     70  255
  4333     78  280
  4400     86  301
    73     93  326
  4595    113  360
  4663    126  370
```

```
TIME   STRAIN STRS
  4823    158  382
    80    171  380
  4983    199  368
  5060    220  360
1240
162951      0    0
  1281     24    8
  1321    190   39
    58    320   80
    86    420  109
  3411    470  160
    34    544  192
    57    598  233
    85    674  280
  3507    816  319
    33    858  355
    93   1044  435
  3640   1294  470
    72   1530  478
    95   1742  472
  3717   1972  452
    42   2234  419
    73   2562  390
1241
092450      0    0
    77     16   38
    82     40   83
    88     82  140
    94    112  198
    99    138  240
  2503    166  288
    08    182  338
    15    252  407
    20    308  456
    27    382  508
    33    486  561
    40    660  615
    49    864  640
    53   1036  650
    58   1222  641
    62   1476  619
1242
094451      0    0
    65     52   18
    68    170  108
    70    236  253
    73    298  397
    75    370  538
    78    448  668
    80    564  796
    82    752  891
1244
142200      0    0
  2320    212    5
  2839    870    6
  3530   1484    5
  3910   2096    7
  4230   3036   11
  4438   3614   19
  4645   4192   23
  4958   5098   31
  5330   6136   37
  5530   6756   37
  5800   7542   39
150023   8206   39
  0300   9032   40
1245
161000      0    0
    57    276   18
    88    380   30
  1121    580   45
  1211   1106   70
    90   2006   75
  1370   2712   78
  1421   3164   78
    65   3556   79
  1531   4126   76
    66   4356   78
  1660   5072   78
  1827   6808   78
  1991   8252   80
  2075   8998   80
1246
164800      0    0
    37     64   14
    48    166   29
    72    432   51
  4903    830   70
    41   1358   77
  5014   2466   84
    70   3320   82
  5100   3780   82
    47   4476   82
    85   5034   81
  5207   6574   82
  5312   6966   84
1247
093995      0    0
  4002      4    0
    20    206   11
  4126    284   20
```

```
TIME   STRAIN STRS
    38    606   39
    60   1472   51
  4206   3292   70
    35   4400   80
    49   5740   86
  4309   7292   91
    50   8922   96
  4411   1424  101
    59   3321  106
  4513   5472  105
1248
091702      0    0
    41    150    2
    50    324   35
    54    536   50
    63   1234   67
    80   2488   78
  1805   4144   81
    23   5798   80
    57   8442   85
    96    672   90
  1911   2592   91
    37   4556   94
    64   6858   99
1249
103501      0    0
    20    332    8
    25    954   55
    28   1608   78
    32   2360   90
    35   3062   73
1250
143600      0    0
    41     58    5
  3703    198   12
    27    256   19
  4674   2298   78
  5131   4190   80
  5302   4440   72
  5538   5334   71
150680   6374   84
1251
134803      0    0
    30     62   36
    36    376  110
    41    718  101
    46   1160  221
    52   1832  230
    57   2448  245
    63   3204  230
    68   3972  174
1252
140451      0    0
    58    108   47
    62    690  116
    65   1636   78
    70   2896  101
    77   4500   30
1254
132000      0    0
    34     24   10
  2178     86   22
  2218    162   31
  2311    276   40
  2480    582   45
  2503    914   48
  2643   1302   50
  2780   1686   50
  2918   2066   52
  3070   2492   51
  3219   2908   50
  3327   3256   50
  2503   3688   50
1255
105951      0    0
  0000     24    0
  0156    192    6
  0475    276   11
  0574    402   15
    97    546   40
  0625    752   51
    60    952   75
    93   1104   90
  0732   1450  115
    72   1776  124
  0834   2018  123
    92   2816  120
  0936   3298  110
  1020   4050  110
1256
102000      0    0
    07     54   39
    13    134   72
    17    216  105
    25    340  151
    33    618  186
    39    718  202
    50   1148  207
    54   1306  200
    62   1730  186
    74   2258  176
```

```
TIME   STRAIN STRS
    96   3222  167
  2122   4284  150
1257
103900      0    0
    05      4    0
    53     36    0
    58    238   30
    62    444   50
    68   2078   82
    73   3016  122
    82   5084  140
    86   5848  118
    89   6688   99
    92   7368   89
    96   8190   80
1258
14_000      0   34
    21    454   34
    29    552   34
    50    686   34
    76    812   34
  2100    876   34
  2200   1228   34
  2300   1540   34
  2400   1824   34
  2550   2230   34
  2886   3092   34
  3186   3840   34
  3700   5166   34
  4096   6150   34
  4498   7044   34
  4935   8280   34
  5400   9648   34
  5700  10346   34
150000  11062   34
  0174  11492   34
    92  11466   34
  0212  11460   34
  1000  11868   34
  3200  14528   34
  4836  16000   34
1261
105451      0    0
    54     24    9
    57     96   78
    60    190  137
    63    374  198
    67    590  234
    70    864  245
    72   1174  241
    75   1640  224
    78   2002  221
    82   2452  213
1266
101651      0    0
    91     20    6
  1721     40   32
    39     52   41
    73     94   58
  1819    156   79
  1903    268  103
    75    410  120
  2142    794  142
  2335   1292  151
  2496   1694  156
  2620   2042  156
  2990   3060  161
  3186   3666  160
  3433   4444  157
  3630   5068  157
  3677   5224  156
1267
105351      0    0
  5402          31
    27    104   71
    60    244  112
    98    450  150
  5551    830  180
    82   1094  184
  5622   1468  182
    63   1850  175
    82   2036  173
1268
111000      0    0
    22     92   83
    33    308   85
    39    536  122
    47    618  161
    64   1196  201
    71   1512  193
    80   1956  182
1270
141_03      0    0
  1907     20   10
    51     36   25
  2003     56   40
    67     82   67
  2202    152  120
  2251    226  137
  2324    330  159
    76    622  173
```

```
TIME   STRAIN STRS
  2514    708  200
  2707   1196  212
    74   1410  210
  2903   1806  206
1271
132950      0    0
    90      0    4
    92     20   16
    95     40   34
    99     98   57
  3003    154   80
    12    308  120
    20    460  159
    25    546  200
    32    652  238
    40    772  278
    48   1062  304
    56   1346  296
    60   1600  291
    65   1836  289
1272
125551      0    0
    72    166  103
    76    584  192
    78    864  260
1273
135766      0    0
  5800     32   15
    42     72   34
    75     86   50
  5910    126   66
    45    176   83
140055    346  130
  0151    586  150
  0305   1032  165
  0564   1842  166
  0765   2456  162
  0880   2860  160
1274
134300      0    0
    25     30   42
    30     72   81
    35    120  120
    40    182  160
    46    296  200
    52    440  239
    61    716  270
    70   1104  264
    73   1308  258
    78   1530  241
1275
131251      0    0
  1254     16   28
  1257    104  133
1276
145500      0    0
  5694     24    8
  5743     92   22
  5796    200   40
  5862    322   56
  5944    488   83
150025    576  120
    57    616  138
  0134    688  160
    45    752  171
  0218    906  200
  0302   1092  210
  0464   1514  229
  0601   1934  230
  0970   2782  221
1277
152000      0    0
    67     36   36
    77     80   50
  2106    176   77
    26    216   99
    46    260  126
    67    294  138
    75    372  161
    88    418  179
  2214    564  205
  2247    770  220
  2293   1128  235
  2340   1508  238
  2433   2346  229
1278
153300      0    0
  3342     50   19
  3348    220   41
  3358    510   62
  3365    764   81
  3373   1066   97
  3383   1408  122
  3392   1660  145
  3396   1810  160
  3402   1934  181
  3404   1988  200
  3408   2054  220
  3411   2114  240
    14   2158  259
    17   2214  280
```

```
TIME   STRAIN STRS
    23   2340  303
    27   2428  320
    34   2620  335
    43   2948  341
    60   3734  311
    63   3892  307
    67   4086  295
1279
154350      0    0
  4356     32    0
  4359    108    0
  4361    158    7
  4363    194   51
  4366    254  122
  4368    322  190
  4372    462  279
  4374    586  320
  4378    840  350
  4380   1186  351
  4382   1480  333
  4385   1918  300
  4389   2478  257
1280
145298      0    0
  5307      8   26
    09      0  120
    11    126  252
    14     56  357
    16    510  426
    18   1018  706
1283
090150      0    0
  0362    108   35
    87    140   49
  0423    162   60
    84    240   89
  0554    376  109
  0638    540  127
    83    652  131
  0808    992  139
  1040   1644  145
  1326   2372  150
  1621   2862  160
  2060   4076  156
  2100   4208  154
1284
095100      0    0
  5154     20   20
    67     46   40
    80     86   60
    91    120   79
  5204    172   97
    18    250  112
    52    408  155
    70    526  169
  5308    814  191
    58   1252  202
  5408   1758  196
    25   1880  191
1285
101650      0    0
    69     18   14
    72     44   42
    78     90   81
    83    152  120
    87    222  150
    93    340  192
  1700    462  230
    11    796  270
    15    916  277
    20   1110  278
    29   1240  276
    34   1482  276
    43   2082  263
1286
111950      0    0
    55     14   19
    57     96  120
    59    208  249
    61    404  329
1289
084500      0    0
  4656     26   10
  4772    190   38
  4828    280   50
  4933    472   78
  5095    642   90
  5224         100
  5339   1552   97
    91   1726   93
  5409   1778   92
    28   1830   92
1290
100151      0    0
  0204     18   35
    16     40   59
    39     80   80
    39    114   95
    53    164  117
    68    240  134
    83    326  153
```

```
TIME   STRAIN STRS
  0307    490  170
    50    844  [illegible]
    87   1246  177
    98   1370  171
1291
102850      0    0
    71      6    9
    74     26   31
    77     42   59
    83     90  111
    86    120  138
    90    184  167
    92    204  190
    96    262  212
    98    318  230
  2902    380  230
    09    590  271
    14    770  280
    19    936  280
    27   1248  279
    31   1406  278
    37   1660  272
    42   1694  266
    45   2022  262
    50   2262  257
1292
112800      0    0
    09      6   10
    11     46   96
    13     90  102
    14    150  270
    16    242  351
    18   1558   77
1294
125535      0    0
    62      6   11
  5600     40   40
    38     64   61
    90    146   91
  5721    166  110
    98    294  138
  5850    404  156
  5925    634  162
130168   1356  160
    97   1456  157
1295
134600      0    0
    22      8   33
    32     22   50
    42     36   70
    52     58   90
    64     86  110
   588    176  150
  4726    354  189
    69    678  205
    82   1254  200
  4849   1428  196
1296
135900      0    0
    23      6   23
    32     26   44
    41     44   75
    53     80  116
    60    104  138
    64    124  151
    79    198  191
    97    348  230
  6033    834  212
    51   1122  262
    64   1342  236
1297
141650      0    0
  1699     20   30
  1702     62  111
    05    104  171
    06    140  221
    08         270
    10         320
    12         360
    13         397
    16    580  420
    18         438
    27    908  445
    22   1132  441
    25   1464  431
    26   1710  426
    28   1982  421
1299
090150      0    0
  0202    132   10
  0320    342   36
  0449    720   50
  1129   2840   76
  1488   4002   78
  1612   4400   79
1300
095150      0    0
095186     32   19
095206    102   38
095225    198   51
095285    790   78
```

TIME	STRAIN	STRS
095110	1258	83
095181	1552	89
095436	2008	94
095506	2478	96
095611	3606	97
095703	4374	98
095751	4836	98
095803	5292	96
095858	5760	95
095917	6264	95
095976	6790	95
1301		
101699	0	0
101709	14	10
101714	54	39
101718	122	61
101721	178	80
101725	262	95
101733	508	118
101741	836	128
101753	1138	131
101770	2014	132
101779	2416	132
101785	2644	132
101793	3018	131
101800	3302	131
101811	3700	132
101830	4478	135
101840	4876	137
101851	5098	138
101870	6122	137
101881	6546	137
101902	7362	140
1302		
112649	0	0
112665	422	218
112667	918	230
112669	1434	211
112671	1870	229
112676	2410	243
112679	3578	211
112680	4564	0
1304		
084200	0	0
084223	18	17
084273	0	40
084636	684	72
084758	1414	78
084858	1754	77
085137	2352	78
085156	2622	77
085241	3024	79
1305		
094200	0	0
094239	20	20
094261	60	60
094271	98	80
094295	122	97
094298	172	118
094320	294	138
094362	620	150
094402	984	145
094427	1204	141
1306		
100750	0	0
100763	78	28
100772	68	51
100780	112	70
100787	144	86
100800	216	110
100811	284	126
100821	364	146
100832	450	160
100857	698	186
100882	1122	200
100909	1360	195
100928	1622	186
1307		
103700	0	0
103709	8	17
103714	40	51
103720	84	115
103726	122	156
103731	170	196
103736	242	234
103742	374	274
103749	550	296
103752	658	305
103757	868	312
103766	1232	307
103772	1516	295
103778	1776	289
1308		
103899	0	0
103903	44	28
103906	126	60
103908	220	114
103910	334	146
103916	788	195
103920	1276	204
103923	1584	205

TIME	STRAIN	STRS
103927	2024	205
103930	2362	205
103934	2836	204
103940	3584	200
103945	4104	197
103952	5056	196
1309		
132200	0	0
132208	18	35
132210	60	130
132212	182	168
1311		
140657	0	0
140702	8	12
140738	44	34
140767	112	49
140836	784	71
140996	862	68
141083	1266	64
141158	1514	61
141358	2248	59
1312		
135350	0	0
135363	20	12
135366	38	39
135370	72	74
135376	140	112
135383	278	148
135388	464	176
135393	620	183
266696	750	183
135409	1270	183
135423	1658	176
135429	2110	176
135445	2738	177
135454	3160	179
1313		
134000	0	0
134008	22	15
134011	72	75
134013	110	146
134016	144	219
134019	208	295
134021	310	370
134026	648	422
134029	896	412
134031	1444	362
1314		
132950	0	0
132970	214	20
133012	318	35
133015	956	60
133019	1468	82
133024	2542	120
133028	3246	160
133033	3834	235
133035	4110	310
133037	4410	396
133039	4738	432
133041	5180	429
133044	5746	369
1316		
153200	0	0
153235	64	20
153248	164	40
153270	354	79
153290	520	115
153304	670	137
153332	1054	149
153364	1582	
153394	2082	132
153405	2232	130
153436	2732	126
1317		
152200	0	0
152253	36	35
152258	86	71
152264	186	115
152270	286	155
152277	468	196
152282	644	218
152287	812	220
152293	1106	222
152293	1106	222
152311	1784	229
152325	2366	235
152344	2602	235
152356	3672	229
152367	4164	223
152373	5232	219
1318		
155450	0	0
155458	90	135
155460	142	180
155462	220	219
155464	378	244
155466	592	244
155468	1220	150
1319		
160450	0	0
160455	18	25

TIME	STRAIN	STRS
160457	66	108
160458	120	280
160460	278	350
160462	384	300
160463	1038	267
1320		
111512	0	93
111541	76	93
222900	448	93
111828	480	93
113146	1484	93
	3322	93
120115	3322	93
130500	3426	93
140260	3420	93
152330	3470	93
153759	3500	93
153777	3530	93
153789	3546	93
154372	3976	93
170166	5698	93
180990	6066	93
202600	6916	93
224900	7324	93
235200	10740	93
131600	11834	93
140607	11522	93
160000	13540	93
164500	14536	93
164534	14504	93
164600	14484	93
164700	14484	0
192168	14224	0
1321		
102498	0	0
102512	56	64
102521	66	64
102550	100	64
102600	142	64
102700	248	64
103000	382	64
103800	466	64
104400	548	64
105200	634	64
110017	906	64
113271	1082	64
120000	1384	64
130500	1640	64
140300	1880	64
152621	2036	64
181037	2202	64
201807	2238	64
225000	2320	64
230907	2344	64
235300	2344	64
082200	2726	64
150050	3136	64
192230	3658	64
075800	5124	64
091919	5520	64
091996	5504	0
204700	5480	0
1325		
101500	0	0
101600	0	58
101638	66	83
101650	72	93
101662	82	100
101700	122	126
101750	180	159
101800	214	190
101850	294	219
101900	320	249
101950	398	274
102000	480	296
102050	566	314
102100	654	329
102200	900	346
102300	1210	337
102400	1584	313
1326		
103002	0	0
103200	326	36
103250	654	60
103300	1024	90
103350	1330	130
103400	1630	178
103450	1894	229
103500	2152	293
103550	2324	352
103600	2620	390
103618	2730	395
103638	2934	390
103650	3044	386
103660	2944	380
103700	3614	344
1327		
104500	0	0
104564	108	32
104603	460	60
104650	782	72

TIME	STRAIN	STRS
104675	978	139
104700	1160	181
104725	1392	215
104750	1406	261
104775	1830	310
104810	2058	350
104825	2332	371
104850	2506	392
104875	3156	371
104900	3632	331
1328		
100000	0	0
100025	22	0
100030	2	25
100037	68	142
100042	142	152
100050	236	169
100056	284	223
100061	324	265
100065	362	300
100069	390	340
100073	426	380
100077	476	420
100081	514	452
100086	568	492
100090	630	530
100095	690	565
100100	770	600
100108	920	641
100114	1112	660
100117	1220	670
100120	1362	668
100125	1550	651
1329		
010000	0	0
010010	20	15
010013	114	99
010016	214	160
010020	312	230
010023	378	300
010025	432	386
010029	480	460
010031	550	535
010033	618	609
010037	744	681
01004C	948	759
010042	1168	780
010046	1588	761
010049	2190	679
1330		
131500	0	0
131508	48	89
131512	160	270
131515	232	410
131518	326	668
131521	476	749
131525	840	854
131529	1700	790
1331		
153000	0	0
153050	8	10
153100	38	43
153200	142	110
153250	202	144
153300	272	177
153350	366	205
153400	464	226
153500	738	252
153600	1104	246
153625	1204	226
153650	1308	239
1332		
031500	0	0
031525	22	12
031550	88	54
031575	206	90
031600	312	130
031626	410	170
031651	526	210
031676	638	242
031700	792	270
031725	938	290
031751	1142	304
031800	1592	312
031851	2124	300
031900	2672	272
1333		
023000	0	0
023040	84	105
023051	140	146
023063	212	192
023075	294	224
023100	498	282
023125	798	317
023150	1204	319
023175	1716	291
1334		
021600	0	0
021615	42	25
021629	274	68
021650	644	128

TIME	STRAIN	STRS
021658	772	151
021675	1058	213
021691	1324	310
021702	1548	379
021723	2116	446
021728	2292	445
021732	2478	436
021736	2674	422
1335		
140000	0	0
140208	32	5
140212	60	64
140215	114	111
140220	236	185
140226	344	265
140230	424	343
140235	532	413
140240	712	492
140252	1394	564
140255	1628	556
140258	1960	544
140261	2452	525
1336		
014500	0	0
014507	10	19
014510	126	98
014513	260	185
014516	354	262
014518	432	341
014522	570	455
014526	782	568
014530	1154	651
014533	1550	659
014537	2276	607
1337		
133000	0	0
133010	80	135
133012	194	276
133015	280	403
133018	410	537
133020	572	661
133023	874	760
133025	1424	757
133029	2378	609
1338		
041500	0	0
041510	8	28
041515	30	68
041521	76	110
041526	116	151
041533	186	229
041538	230	267
041542	272	305
041546	334	342
041551	422	381
041957	538	419
041566	814	463
041573	1064	479
041580	1284	479
041589	1694	474
041592	2046	469
1339		
034500	0	0
034550	10	15
034600	44	51
034650	98	88
034700	162	121
034750	246	157
034800	338	174
034850	454	196
034900	788	209
035000	924	218
035100	1122	203
1340		
040000	0	0
040050	64	80
040075	102	128
040091	124	161
040108	158	190
040125	204	222
040141	222	250
040160	304	280
040183	414	311
040200	508	326
040225	664	340
040250	864	344
040275	1076	345
040300	1288	349
1341		
080000	0	0
080025	6	12
080050	30	110
080067	74	182
080083	140	245
080100	286	283
080116	334	297
080128	696	296
080150	1172	270
1342		
043000	0	0
043007	34	30

TIME	STRAIN	STRS
043012	106	70
043020	238	109
043025	322	149
043031	392	188
043036	446	229
043040	498	269
043045	554	310
043048	598	345
043052	662	381
043057	698	420
043061	770	456
043066	860	497
043072	978	532
043079	1150	566
043093	1582	608
043100	1812	612
043103	1954	610
043108	2106	607
043113	2338	598
1343		
081500	0	0
081516	10	11
081520	90	81
081523	200	130
081526	320	200
081530	440	268
081533	680	323
081536	880	367
081540	1160	424
081545	1520	459
081549	1930	474
081552	2340	467
081555	2840	459
1344		
083000	0	0
083015	30	12
083018	180	93
083021	414	175
083023	1202	200
083028	1550	283
083031	1930	387
1345		
041500	0	0
041525	18	20
041575	104	46
041600	138	58
041625	174	70
041650	218	84
041700	286	111
041750	354	137
041800	412	165
041900	574	216
042000	810	252
042150	1284	259
042100	1484	250
042200	1114	261
1346		
040000	0	0
040050	16	15
040075	60	59
040100	116	99
040125	182	140
040150	264	181
040166	336	210
040183	404	230
040200	478	252
040211	548	274
040233	636	290
040251	740	307
040268	840	321
040300	1066	331
040316	1224	338
040350	1544	330
040300	2046	317
1347		
034500	0	0
034525	112	10
034541	84	52
034559	194	105
034575	300	150
034591	410	200
034607	526	232
034624	658	270
034642	816	308
034660	984	342
034668	1080	355
034682	1256	376
034700	1468	391
034725	1834	374
034750	2280	384
034776	2758	363
1348		
033000	0	0
033015	0	11
033021	26	56
033031	80	133
033040	154	214
033047	222	291
033055	288	366
033064	400	444
033072	524	518

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TIME  STRAIN STRS
033082   708  593
033095 [illegible] 635
033110  1412  726
033115  1572  734
033126  2042  727
033132  2344  710
1349
031500     0    0
031520     6   15
031523    56   88
031527   122  166
031530   166  246
031532   210  321
031536   268  476
031539   326  510
031541   396  585
031545   486  630
031548   628  738
031552   982  821
031555  1262  831
031557  1646  817
031560  2056  782
031564  2756  708
1350
150000     0    0
150013    50   41
150015   330  160
150018   370  283
150020   460  409
150022   574  540
150025   680  663
150028   976  789
150030  1130  878
150033  1550  912
150035  2200  873
150037  2910  799
150040  3679  710
1351
090000     0    0
090050    20   42
090100    62   71
090150   118  103
090200   194  138
090250   278  160
090300   382  182
090400   640  210
090500   942  219
090600  1298  219
090650  1476  215
1352
103000     0    0
103050    40   50
103067    62   75
103083    90  101
103100   118  127
103116   138  153
103150   210  214
103192   322  290
103215   390  161
103250   516  371
103268   594  391
103283   660  405
103300   792  421
103325   902  434
103350  1100  444
103400  1526  444
103450  1988  432
1353
104500     0    0
104515     2    5
104541    56   46
104560   110  106
104575   156  169
104591   220  230
104607   268  201
104624   354  331
104641   496  377
104658   668  411
104676   884  433
104692  1094  443
104708  1320  449
104723  1556  449
104750  2002  435
1354
110000     0    0
110005    12   30
110009    42   62
110013    58  101
110018    54  148
110024    78  213
110031   112  290
110039   162  368
110046   232  443
110055   330  516
110064   486  592
110075   954  678
110094  1270  764
110098  1410  760
110107  1716  851
110117  2026  800
110132  2362  820
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TIME  STRAIN STRS
110140  2890  825
110147  3194  814
110152  3460  810
1355
010000     0    0
010038    18  100
010041    92   96
010045   198  177
010048   288  252
010050   380  322
010053   484  401
010057   586  479
010061   744  584
010067  1080  742
010070  1332  789
010073  1406  808
010075  1878  810
010079  2412  794
010082  2930  768
1356
011500     0    0
011507   122  170
011509   204  293
011512   280  441
011515   366  590
011518   484  741
011519   640  858
011522   920  923
011526  1468  948
011528  2222  886
1357
030000     0    0
030050    34   35
030100    92   77
030150   162  113
030200   254  143
030250   344  184
030300   458  204
030350   536  228
030400   664  258
030450   798  267
030500   938  280
030600  1286  289
030700  1694  283
1358
023001     0    0
023050    20   54
023100    84   58
023150   252  132
023200   460  197
023250   708  246
023300   986  290
023350  1330  317
023400  1742  320
023450  2204  303
1359
021500     0    0
021536    70   95
021550   124  140
021575   252  220
021600   516  286
021625   624  336
021650   904  376
021660  1050  376
021700  1700  375
021735  2260  356
1360
140000     0    0
140020   138   92
140029   248   93
140035   338  132
140047 [illegible] 212
140058   662  292
140068   852  369
140080  1072  443
140098  1540  517
140110  1956  539
140116  2148  541
140122  2390  536
1361
014500     0    0
014504    16   31
014508    60  103
014514   126  209
014518   188  279
014523   264  360
014530   444  476
014536   628  549
014544  1004  631
014550  1378  676
014558  1926  706
014561  2206  711
014570  2938  695
014572  3298  669
1362
013000     0    0
013007    20    0
013010    54   75
013011    94  152
013015   132  236
013018   188  322
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TIME  STRAIN STRS
013020   218  394
013023   332  501
013026   460  611
013030   660  723
013035  1104  807
013036  1416  840
013040 [illegible] 731
1363
031500     0    0
031552    38   37
031600   126   75
031650   196  113
031700   300  147
031800   456  218
031900   658  278
032000   712  320
032100  1254  338
032200  1900  321
1364
153000     0    0
153051    42   20
153111   166   72
153150   238  111
153200   322  166
153250   422  212
163300   526  262
153400   810  332
153510  1306  358
153600  1868  331
1365
164502     0    0
164532    24   28
164550    50   59
164575    96  105
164600   150  144
164700   514  288
164750   764  340
164800  1114  360
164850  1590  348
1366
160000     0    0
160027    64   73
160048   162  131
160080   518  239
160098   406  290
160128   582  367
160152   810  410
160165   966  421
160182  1272  425
1367
160000     0    0
160015    96   56
160025   228   97
160037   406  167
160043   492  211
160055   694  290
160064   828  368
160076  1010  455
160087        538
160099  1478  595
160110  1844  610
160113  2028  605
1368
161500     0    0
161511   362   81
161519   814  152
161526  1066  233
161537  1230  316
161540  1396  426
161547  1616  539
161557  2056  653
161561  2382  663
161564  2704  638
1369
163002     0    0
163025    16   16
163028   242   95
163053   648  175
163036   902  251
163041  1254  380
163047  1642  513
163051  1998  638
163058  2752  717
163065  4202  588
1370
163000     0    0
163005   200   71
163008   504  142
163011   770  224
163014   966  318
163018  1006  474
163020  1340  610
163024  1706  745
163026  1766  835
163028  2398  837
163030  2996  705
1371         0    0
090000     0    0
090051   226   31
090100   272   68
090151   326  109
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TIME  STRAIN STRS
090200   384  147
090300   476  227
090400   618  296
090450   698  323
090500   800  347
090600  1052  380
090652  1210  388
090700  1394  387
1372         0    0
100000     0    0
100100    74   66
100150   152  128
100201   240  163
100251   312  255
100300   408  310
100350   538  359
100400   706  397
100450   922  413
100500  1210  400
1373         0    0
101500     0    0
101525    50   61
101550   110  150
101575   190  248
101600   282  330
101615   370  378
101635   488  425
101650   624  457
101667   818  479
101678   996  482
101700  1284  457
1374         0    0
094500     0    0
094513   314   60
094525   430  138
094542   574  295
094553   690  410
094570   976  520
094578  1200  547
094584  1442  549
094590  1768  530
1375         0    0
111500     0    0
111506    80   34
111513   404  122
111520   760  243
111524   860  342
111530   976  477
111535  1202  617
111541  1698  675
111545  2258  622
1376         0    0
141500     0    0
141505   188  127
141507   266  249
141510   358  365
141511   460  474
141514   608  573
141517   934  690
141520  1528  605
1377         0    0
091462     0    0
091506    44    3
091600   150   12
091700   508   19
091300   856   28
091900  1094   42
092000  1446   55
092100  1726   72
092400  2510  195
092700  3226  261
093000  4336  254
093059  4590  246
1378         0    0
110000     0    0
110125    64   19
100051   170   34
100100   362   62
100151   596  104
100200   842  148
100300  1060  244
100350  1456  298
100400  1698  353
100500  2250  385
1379         0    0
103000     0    0
103017    56   62
103028   160  138
103038   202  220
103055   546  329
103078  1120  445
103095  1674  480
103102  1924  473
103108  2178  468
1381         0    0
113000     0    0
113030    38   48
113033    84  174
113036   122  288
113039   168  397
113041   240  513
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TIME  STRAIN STRS
113045   368  637
113047   520  701
113050   848  737
113053  1740  608
1382         0    0
140000     0    0
140005   240  156
1400     290
140010   350  450
140012   410  510
140016   430  760
140019   676  842
140021  1140  900
1383         0    0
081500     0    0
081551    26   25
081600    80   61
081650   138  102
081675   170  121
081700   208  143
081750   286  187
081800   366  222
081851   456  257
081899   566  284
081950   698  309
081999   842  326
082051  1024  337
082100  1218  342
082150  1442  337
1384         0    0
080000     0    0
080050    50   50
080075    84   80
080100   122  110
080125 [illegible] 138
080150   220  160
080175   276  188
080200   344  208
080225   416  222
080251   512  240
080275   610  250
080300   708  260
080350   976  269
080400  1268  262
080425  1408  260
1385         0    0
154500     0    0
154550    46   73
154576   140  122
154600   200  171
154625   260  218
154650   344  260
154677   466  299
154700   584  325
154725   718  346
154750   908  355
154776  1138  359
154800  1370  347
1386         0    0
153001     0    0
153025    18   14
153050    84  102
153060   128  138
153075   178  185
153086   230  219
153100   310  260
153113   404  295
153125 [illegible] 319
153135   610 [illegible]
153146   738  342
153157   916  345
153172  1210  330
1387         0    0
151500     0    0
151512    62   88
151526   234  205
151546   768  278
151551   950  270
1388         0    0
150000     0    0
150008    12   56
150014    18  131
150019    32  211
150024    84  291
150029   166  370
150034   276  448
150039   560  518
150046   734  596
150051  1106  620
150057  1636  587
1389         0    0
144500     0    0
144505    16   27
144508    60   97
144510   110  171
144512   168  261
144515   234  365
144518   314  441
144520   404  509
144523   596  590
144526   938  620
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TIME  STRAIN STRS
144529  1870  480
1390         0    0
143000     0    0
143006    16   70
143009    72  128
143011   138  243
143012   208  339
143015   298  438
143017   406  508
143019   684  549
143021  1956  348
1391         0    0
082800     0    0
082898    16   10
082950    88   48
083000   162   83
083050   240  120
083100   336  157
083150   442  183
083200   574  209
083300   886  244
083350  1042  255
083400  1244  260
083450  1452  263
083500  1672  257
1392         0    0
100000     0    0
100024    38   38
100050   104   77
100075   186  129
100100   286  148
100125   402  200
100150   526  233
100175   654  265
100200   788  290
100225   962  315
100250  1144  328
100275  1364  334
100300  1604  335
100325  1868  326
1393         0    0
101500     0    0
101505    10   18
101512    14   59
101516    60   96
101520   100  137
101525   122  177
101530   152  219
101536   230  257
101538   224  295
101543   282  335
101547   330  367
101551   396  407
101557   510  448
101574   714  523
101576  1050  523
101580  1172  519
101563   618  685
101583  1366  510
1394         0    0
113000     0    0
113007    46   69
113009   140  183
113011   238  301
113013   364  412
113007  1382  170
1395         0    0
104500     0    0
104550    18   22
104600    74   57
104650   160   91
104700   218  126
104800   402  193
104900   640  246
105000   912  280
105150 [illegible] 294
105200 [illegible] 283
1396         0    0
101500     0    0
101524    44   49
101550   170  123
101567   282  176
101583   414  216
101603   590  257
101638   956  303
101651  1144  315
101668  1422  315
101688  1790  301
1397         0    0
103002     0    0
103009    34   25
103013    62   50
103023   172  135
103031   230 [illegible]
103040   272  287
103048   348  360
103056   466  440
103070   762  514
103075   926  525
103080  1136  522
103084  1542  507
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```
TIME   STRAIN  STRS
1396
120000      0     0
120008      8    29
120011     82   190
120013    154   330
120019    382   526
120021    798   575
1399        0     0
151197      0     0
184500    302    97
222100    492    97
080700    984    97
100000   1074    97
113000   1154    97
113600   1180    97
113639   1144    97
113658   1140    97
114603   1139    97
125100   1138    97
1400
031500          162
031521     96   162
031535    104   162
031543    146   162
031590    450   162
031726    628   162
032320   2270   162
032377   3496   162
032400   3740   162
032473   5476   162
032512   6432   162
032527   7002   162
032551   7522   162
032600   7776   162
032756   7814   162
03       5930   162
1400
181900            0
181946    264   162
182003    300   162
182300    386   162
183600    500   162
184900    576   162
090600    630   162
110000   1320   162
110508   1936   162
11       1950   162
015600   2178   162
025900   2314   162
030150   2470   162
041500   2670   162
064200   2826   162
064250   3396     0
064300   3386     0
065900   3286     0
091800   3280     0
1401
095000      0     0
095018     52   138
095034     66   138
095110    108   138
095310    198   138
095900    418   138
100319    580   138
100800    864   138
101703   1532   138
103500   3990   138
105000   6000   138
110035   8148   138
110350   8898   138
110373   8998     0
11       8784     0
110500   8664     0
1401
084500            0
084585    386   138
084600    430   138
084700    460   138
084800    650   138
085600   1310   138
090800   3030   138
091500   3626   138
091534   3796   138
091600   3772     0
092600   3530     0
105000   3514     0
1402
022200            0
022210     96   162
022228    156   162
022246    136   162
022276    162   162
022307    190   162
022320    198   162
022370    222   162
022400    242   162
023000    396   162
024050    544   162
032200   1088   162
033400   1170   162
035252   1920   162

TIME   STRAIN  STRS
075651   2682   162
101300   4170   162
112051   5580   162
1403
020000            0
020016     54    97
020051     84    97
020100    122    97
020260    142    97
020321    156    97
020404    174    97
021297    202    97
021500    232    97
021810    218    97
021828    222    97
024200    308    97
030600    352    97
03        378    97
033550    400    97
055200    582    97
075215    692    97
102050    814    97
114300    882    97
120000   1282    97
054800   1460    97
056500   1466    97
083400   1538    97
083600   1916    97
090000   1948    97
090028   1938     0
090600   1910     0
095400   1894     0
095453   1894
1404
132603
132638    270   183
132652    304   183
132900    556   183
133800    856   183
140000   1206   183
163950   3542   183
203900   4132   183
203924   4164   183
204050   4614   183
204395   6176   183
205000   6152     0
222900   6122     0
090000   6118     0
1405
104500            0
104523     46    97
104538     66    97
104700    156    97
105030    250    97
110000    424    97
110500    498    97
112100    704    97
114500   1024    97
012200   2150    97
020104   2492    97
043600   3638    97
084100   5282    97
034256   5264    97
084300   5264    97
084362   5248     0
084951   5230     0
102950   5208     0
085953   5196     0
1406
103500            0
103534     54    80
103550     82    80
103800    196    80
104000    236    80
104550    296    80
110000    376    80
113000    470    80
120000    546    80
125600    636    80
020100    768    80
030810    876    80
040200    944    80
050000   1022    80
065600   1130    80
091900   1236    80
080000   1592    80
120100   1712    80
023000   1806    80
034000   1844    80
034055   1830    80
034062   1826     0
034100   1824     0
034800   1808     0
051150   1796     0
1407
010000            0
010050    780   206
010100    970   206
010200   1170   206
010500   1494   206
011000   1892   206

TIME   STRAIN  STRS
012000   2706   206
014250   5060   206
014285   5950   206
014300   5932     0
015205   5850     0
030850   5840     0
1408
033000          117
033030    202   117
033050    234   117
033100    302   117
033300    498   117
033600    800   117
034100   1362   117
034500   1914   117
035550   3502   117
040000   4158   117
040500   4874   117
041800   6782   117
043000   8454   117
044615  10514   117
044850  10446   117
044876  10386   117
045900  10294   117
065700  10268   117
1409
101500            0
101541    832   162
101605   1056   162
101700   1208   162
101900   1318   162
102515   2518   162
103100   4020   162
103500   5168   162
104000   6594   162
104138   6870     0
104200   6784     0
104507   6702     0
105000   6684     0
1410
011500            0
011578    570   138
011600    676   138
011700    838   138
012000   1074   138
012600   1256   138
013000   1388   138
013500   1498   138
014502   1476   138
015003   1636   138
022900   2338   138
031800   3048   138
033300   3268   138
050751   4266   138
051000   4700   138
051030   4838   138
051080   4812     0
051100   4602     0
051850   4592     0
1411
081000
083037     34    97
083080    232    97
083100    262    97
083200    396    97
083500    614    97
084600    998    97
090300   1354    97
092000   1588    97
095000   1886    97
115100   2640    97
020800   3482    97
030400   3508    97
044505   3884    97
075500   5806    97
035800   6418     0
040625   6400     0
042218   6372     0
060250   6350     0
1412
084000
084085    482   162
084100    504   162
084200    596   162
084500    672   162
090400    860   162
091900    950   162
095100   1122   162
102900   1304   162
115005   1686   162
013716   2298   162
020500   2466   162
030007   2824   162
030115   2756     0
030500   2734     0
042160   2702     0
1413
090000          138
090061     88   138
090100    114   138
102256   1084   138

TIME   STRAIN  STRS
104750 [illegible] 138
112700   1641   138
155700   4480   138
160859   4970   138
160900   4948     0
042100   4920     0
060200   4910     0
1414
101500            0
101561    308    97
101585    338    97
101602    356    97
101900    532    97
102700    552    97
10        556    97
104400    610    97
145708    856    97
150400    920    97
164600    998    97
195500   1142    97
233300   1298    97
23       1674    97
101102   1676    97
150200   1864    97
214100   2088    97
075500   2682    97
090400   2722    97
090450   2492    97
090504   2492     0
092000   2484     0
115700   2474     0
1415
101800            0
102000    272   162
102088    736   162
102100    760   162
102307   1156   162
103300   1382   162
10       1400   162
103300   1538   162
104200   3192   162
113500   5134   162
010300   8180   162
014250   9780   162
014412   9864   162
014450   9774   162
014462   9770     0
014500   9760     0
015705   9712     0
030000   9690     0
1416
090000            0
090045    814   138
090105   1130   138
090200   1220   138
090600   1260   138
092100   1726   138
100900   2860   138
115600   5650   138
012300   7946   138
033805  11550   138
034400  11690   138
034450  11620   138
034500  11620     0
035000  11560     0
044300  11570     0
1417
081500      0     0
081580    434    97
081700    500    97
082008    672    97
083500    758    97
091200    896    97
110100   1094    97
030196   1480    97
041650   1578    97
064500   1784    97
091950   1954    97
081145   2720    97
081200   2738    97
011600   2980    97
015000   3202    97
015172   3190     0
015206   3180     0
020200   3150     0
02       3138     0
032200   3136     0
1418
014500            0
014578    848   138
014600    878   138
014700    974   138
014800   1076   138
015400   1660   138
020150   2492   138
020400   2922   138
021100   3196   138
022000   3528   138
030000   4334   138
042900   5912   138
045400   6306   138

TIME   STRAIN  STRS
064200   7872   138
080100   9068   138
080200   9090   138
080238   9076     0
080300   8994     0
083500   8940     0
08       8938     0
080700   8934     0
1419
090000
090035     84    80
090075    106    80
090098    114    80
090200    120    80
090800    400    80
091700    476    80
092100    686    80
100100    764    80
011300    960    80
024400   1108    80
02       2060    80
075800   2140    80
102100   2224    80
112000   2264    80
112207   2264    80
112247   2242    80
112300   2234     0
113800   2214     0
010200   2204     0
1420
090500      0     0
090546    344   138
090574    378   138
090600    436   138
090700    540   138
091600   1036   138
095400   1834   138
101108   2332   138
101153   2316   138
101300   2278     0
102000   2254     0
103300   2216     0
1421
011800            0
011802    188   183
011900    240   183
012000    376   183
012100    430   183
012800    700   183
013500    870   183
014700   1200   183
015800   1480   183
021500   1920   183
024300   2670   183
030000   3230   183
031900   3758   183
034000   4380   183
040400   5080   183
042900   5810   183
043600   6040   183
050000   6820   183
055500   8830   183
055524   8790     0
05       8676     0
075000   8678     0
1422
010000      0     0
010150     40    27
010200     90    63
010250    142   102
010300    188   140
010350    264   171
010400    344   200
010450    448   226
010500    562   243
010550    702   253
010600    880   255
010650   1088   251
010700   1286   246
010800   1686   237
1423
011500      0     0
011550     80    30
011600    180    69
011650    312   100
011700    462   132
011750    660   150
011800    898   164
011900   1426   171
012000   1980   171
012100   2320   174
012200   2960
1424
020000      0     0
020015    444    20
020050    598    60
020075    618   134
020100    968   120
020150   1068   159
020200   1408   186
020250   1754   218

TIME   STRAIN  STRS
020300   2126   236
020350   2570   240
020400   3048   236
020450   3518   229
020500   3986   224
1425
021500      0     0
021550     62    40
021575    192   102
021600    346   165
021619    432   205
021635    638   232
021650    790   264
021661    906   272
021681   1158   291
021700   1422   299
021719   1712   299
021750   2216   283
021800   3100   260
1426
110000      0     0
110039     16    28
110050     88   123
110060    202   226
110070    348   302
110080    564   372
110090    832   420
110100   1114   446
110110   1416   453
110120   1794   453
110128   2122   448
11 141   2654   442
110160   3538   423
110170   4002   410
1427
010000      0     0
010012     34    40
010018    120   121
010022    172   195
010027    228   277
010031    284   352
010036    346   432
010040    444   509
010045    560   580
010048    670   630
010055    998   698
010059   1324   716
010061   1552   717
010062   1896   714
010071   2220   702
010077   2812   695
1430
010000            0
010100    114    12
010150    258    21
010200    388    32
010300    554    80
010400    658   147
010500    740   230
010600    830   305
010700    936   380
010800   1068   440
010900   1278   478
010950   1452   473
011000   1700   443
1431
090000            0
090100     32     4
090150    168    37
090200    318    67
090300    648   117
090400    962   171
090500   1278   230
090600   1600   280
090700   1828   325
090800   2326   358
090900   2666   372
091000   3248   378
091050   3522   369
091100   3802   354
1432
121500            0
121660    132    80
121700    252   139
121750    390   202
121800    542   250
121850    756   278
121900   1160   282
121951   1636   270
122000   1944   250
1433
120000            0
120053     56    70
120100    192   238
120125    326   307
120150    652   360
120160    724   368
120180   1064   366
120200   1424   350
120250   2368   291
1434
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TIME	STRAIN	STRS
113000		0
113024	52	17
113038	166	118
113051	258	243
113056	320	294
113062	374	355
113066	422	395
113070	484	432
113076	566	467
113081	668	505
113089	848	545
113098	1122	575
113104	1428	575
113111	1622	565
113118	1896	566
1435		
030000		0
030010	16	12
030014	84	71
030019	150	150
030024	212	232
030028	280	317
030033	362	394
030038	472	468
030042	622	548
030048	[illegible]	619
030056	1380	651
030058	1622	649
030062	1902	635
030065	2194	619
030081	3524	544
1436		
090000		0
090010	80	64
090013	148	157
090018	282	313
090023	434	467
090026	684	540
090032	1396	611
090036	1772	626
1437		
110000		0
110011	12	31
110014	174	111
110017	440	213
110020	630	339
110023	768	457
110025	886	580
110028	1022	698
110030	1230	813
110032		843
1438		
021500		0
021600	72	42
021700	208	107
021800	352	167
021900	486	230
022000	628	296
022100	814	347
022282	1072	350
022300	1144	357
022400	1446	300
1439		
093000		0
093060	70	31
093100	208	149
093140	342	294
093150	394	340
093160	422	380
093191	592	481
093210	754	520
093225	986	525
093240	1346	480
093250	1650	433
1440		
023000		0
023034	46	35
023041	146	74
023053	336	155
023065	494	234
023075	640	318
023087	776	420
023091	820	468
023100	916	542
023110	1038	619
023121	1268	691
023130	1518	710
023135	1788	691
023139	2010	663
023142	2240	628
1441		
020000	0	
020052	0	0
020100	36	34
020300	212	181
020400	338	251
020500	496	316
020600	732	347
020650	918	341
020676	1040	330
020700	1192	317

TIME	STRAIN	STRS
1442		
030000	0	0
030050	66	35
030100	464	139
030125	602	211
030140	694	248
030160	820	319
030180	968	378
030200	1144	416
030220	1354	444
030241	1642	450
1443		
024500		0
024532	128	79
024543	280	152
024552	392	231
024561	508	316
024570	642	396
024580	798	468
024595	910	542
024605	1460	560
024616	1922	535
024626	2362	509
024641	3066	467
1444		
100000		0
100100	44	8
100200	276	57
100300	554	110
100400	724	196
100500	892	279
100550	984	318
100600	1102	347
100650	1236	371
100700	1390	392
100750	1560	400
100800	1792	399
100850	2036	385
100900	3120	362
1445		
103000		0
103027	244	76
103037	502	115
103047	738	154
103055	924	195
103061	1072	235
103067	1186	275
103073	1296	317
103079	1384	362
103083	1454	395
103088	1528	432
103093	1598	467
103099	1686	508
103105	1778	543
103110	1876	582
103116	1990	617
103123	2132	657
103137	2550	688
103143	2832	660
103148	3232	619
1452		
090000		0
090081	172	97
090100	172	97
091500	292	97
092600	320	97
093900	352	97
102600	390	97
113400	420	97
145200	460	97
14	656	97
074100	660	97
124800	670	97
163829	710	97
213885	770	97
034905	798	97
075265	816	97
075319	820	97
141525	850	97
195551	916	97
14	942	97
080130	950	97
113600	956	97
145576	1012	97
14	1044	97
080725	1056	97
081926	1056	97
081972	1030	0
082660	1000	0
095071	984	0
1453		
091200		0
091300	160	162
091700	200	162
092500	260	162
094000	304	162
095200	330	162
102500	390	162
110000	436	162
113300	470	162
131300	572	162

TIME	STRAIN	STRS
145300	612	162
164300	740	162
074000	1318	162
125000	1480	162
164100	1600	162
213600	1760	162
035000	1944	162
075200	207[illegible]	162
110200	218[illegible]	162
110300	2130	0
111700	2110	0
121700	2070	0
1459		
144500	262	203
144700	300	203
145500	396	203
151300	492	203
153600	570	203
160900	662	203
164500	752	203
195230	1140	203
081800	2460	203
113700	2872	203
145500	3424	203
150200	3520	203
150230		203
150300	3252	0
150800	3220	0
1460		
134500	0	0
134575	18	12
134600	32	15
134650	62	52
134700	102	80
134750	138	128
134800	174	167
134900	250	247
135000	342	322
135050	388	358
135100	450	391
135150	526	419
135200	614	433
135300	910	454
135334	1006	459
135350	1070	448
135375	1190	440
135400	1296	428
1461		
140608		
140700		1
140713	26	35
140725	116	110
140735	196	192
140743	240	267
140751	284	356
140762	346	467
140769	324	543
140776	428	620
140783	480	691
140790	566	770
140800	674	841
140814	972	910
140817	1138	911
140824	1438	883
140829	1770	847
1462		
	0	0
150440	58	80
150448	100	150
150456	142	234
150464	174	315
150470	210	390
150477	246	465
150485	296	540
	346	615
	416	690
	510	768
150518	678	839
150527	914	874
150530	1036	867
150534	1210	855
150536	1382	838
150539	1564	808
150542	1830	774
1463		
155400	0	0
155411	30	72
155417	90	197
155419	122	293
155421	172	407
155423	228	537
155425	270	644
155427	316	760
155429	340	875
155431	444	975
155433	552	1060
155434	626	1140
155436	790	1225
155438	1100	1257
1464		
104900	0	0

TIME	STRAIN	STRS
104558	800	227
104600	896	227
104700	978	227
104800	1000	227
104900	1032	227
105000	1050	227
110000	1188	227
111200	1260	227
113500	1374	227
130700	1668	227
155700	2160	227
174600	2480	227
210900	3140	227
1466		
151900		
151910	16	72
151916	82	220
151922	156	392
151924	176	457
151926	212	520
151929	246	590
151931	274	676
151934	308	739
151936	362	820
151938	412	880
151941	528	951
151944	608	1009
151946	504	1050
151948	932	319
151950	1024	301
151952	1616	240
151954	2082	157
1468		
135000		0
135023	170	295
135033	198	295
135058	210	295
135100	250	295
135202	312	295
135400	404	295
135500	440	295
140100	638	295
141300	1160	295
142100	2110	295
142200	1060	0
162200	1760	0
1469		
100000		0
100041	100	340
100050	110	340
100076	142	340
100099	166	340
100200	268	340
100300	316	340
100400	374	340
100500	440	340
100800	660	340
100900	752	340
100956	670	0
101000	658	0
101100	596	0
125302	580	0
1471		
030000		0
030022	34	36
030027	86	77
030039	182	130
030047	262	236
030051	298	279
030055	320	311
030059	340	352
030062	366	390
030065	396	430
030070	424	467
030073	456	502
030077	490	550
030084	560	620
030089	604	659
030092	650	690
030096	708	730
030102	792	775
030108	918	810
030119	1214	829
030124	1504	820
030132	1908	772
1472		
031500		0
031543	58	70
031551	124	156
031559	176	230
031566	220	313
031574	242	390
031577	288	430
031581	316	466
031589	366	544
031596	434	617
031600	460	652
031604	516	690
031608	560	730
031613	638	776
031618	720	808

TIME	STRAIN	STRS
031625	850	841
031628	952	856
031632	1062	861
031639	1376	850
031643	1578	828
031646	1816	800
031649	2024	775
1473		
240000		0
240050	4	06
240100	22	40
240150	44	75
240200	78	111
240250	104	151
240300	120	196
240400	204	277
240450	254	313
240500	292	343
240550	332	388
240600	388	418
240650	456	446
240700	536	467
240800	768	490
240850	926	489
240900	1128	475
240950	1346	457
1474		
041500		0
041511	32	69
041515	80	106
041518	130	230
041521	178	340
041526	242	400
041530	296	573
041534	366	690
041537	448	880
041541	560	911
041544	662	982
041547	878	1055
041550	1098	1071
041553	1594	1031
041556	2218	937
1475		
043000		0
043009	4	40
043012	60	160
043015	136	345
043018	180	467
043021	234	670
043023	296	776
043026	406	975
043029	524	1130
1476		
100000	0	0
100051	4	47
100100	30	110
100150	64	174
100200	104	239
100250	158	300
100300	220	368
100350	292	413
100400	380	458
100450	496	493
100500	672	518
100550	934	517
100600	1254	481
1477		
101500	0	0
101525	26	32
101550	50	58
101575	92	102
101600	134	154
101620	164	190
101640	194	228
101660	236	270
101680	276	315
101700	308	355
101730	380	409
101760	450	461
101790	554	513
101800	600	529
101814	680	555
101833	740	568
101850	840	584
101871	1002	591
101900	1304	577
101929	1652	554
1478		
103000	0	0
103025	0	5
103050	78	67
103064	118	113
103075	144	153
103085	174	192
103095	198	233
103105	226	275
103116	258	318
103127	284	356
103138	324	402
103146	354	434
103157	388	466

TIME	STRAIN	STRS
103166	468	510
103176	472	545
103187	540	583
103194	604	619
100216	712	660
100240	1016	690
100249	1172	686
100257	1350	673
100265	1542	650
1479		
010000	0	0
010050	2	15
010100	20	54
010200	90	139
010250	134	177
010300	186	216
010350	258	257
010400	368	277
010450	474	297
010500	582	313
010550	732	318
010600	908	320
010650	1110	317
010700	1308	310
1480		
131500	0	0
131550	6	16
131600	112	91
131650	252	171
131675	320	222
131700	384	270
131725	440	317
131750	512	368
131775	600	409
131800	700	447
131825	830	470
131850	1002	488
131875	1230	488
131892	1310	478
131900	1500	473
1481		
013000	0	0
013030	16	32
013035	42	75
013044	106	150
013048	144	190
013053	186	231
013056	222	267
013060	264	313
013069	336	395
013076	386	464
013085	486	543
013094	586	615
013098	666	655
013105	786	695
013115	1056	733
013120	1214	737
013123	1358	736
013129	1642	717
013134	1866	696
013140	2200	659
1482		
014500	0	0
014513	22	47
014522	64	111
014531	102	187
014539	164	271
014544	196	322
014551	250	395
014559	310	467
014567	406	543
014576	544	615
014594	1028	695
014599	1200	696
014603	1402	696
014608	1574	688
014615	1866	673
014620	2096	657
1483		
140000	0	0
140008	16	32
140010	66	120
140013	118	216
140014	172	318
140017	256	473
140020	348	635
140022	426	760
140025	522	865
140028	786	1012
140030	1184	1069
140033	1786	1031
1484		
040000	0	0
040100	90	15
040142	338	76
040150	390	88
040175	460	144
040200	676	211
040219	766	265
040240	858	312
040260	964	404

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TIME   STRAIN STRS
040280  1104   455
040300  1268   492
040320  1484   510
040331  1636   513
040344  1906   509
040354  2038   490
040361  2180   480
1495
041500     0     0
041508    38    33
041512    94   149
041515   138   229
041518   178   312
041521   216   397
041526   300   567
041530   342   650
041532   392   725
041536   492   840
041539   592   911
041542   778   980
041546  1082  1009
041548  1378  1000
041550  1694   973
041552  2056   930
1488
100000     0     0
100100     0     5
100200    56    51
100300   152   115
100400   238   187
100500   306   253
100600   516   305
100700   776   328
100750   966   325
100776  1078   318
100800  1172   309
1489
020000     0     0
020100    32    15
020150   100    86
020200   180   139
020250   268   192
020300   400   244
020350   540   281
020400   736   308
020450   976   321
020500  1260   325
020550  1550   319
020600  1950   310
1490
023052           0
023150    14    21
023175    38    65
023199    78   104
023214   110   110
023250   154   200
023275   206   248
023299   262   290
023324   334   329
023351   420   369
023357   522   398
023400   644   417
023424   794   430
023450  1000   439
023475  1240   430
023500  1382   410
1491
030000     0     0
030077    18    38
030090    50    78
030102    82   110
030113   120   152
030126   162   193
030138   194   234
030160   284   318
030171   340   355
030183   410   395
030198   512   433
030216   648   468
030242   888   508
030263  1210   523
030283  1514   530
030290  1650   529
030298  1752   523
030309  1928   519
1492
040000     0     0
040029    28    37
040039   102   111
040047   150   187
040051   186   235
040055   212   278
040061   284   355
040068   322   430
040072   354   466
040075   390   503
040079   432   542
040084   486   585
040087   538   617
040091   598   654
040104   854   734

TIME   STRAIN STRS
040118  1340   764
040122  1510   764
040126  1698   758
040131  1912   751
040136  2118   740
1493
033000     0     0
033033    26    37
033037    74    73
033042   138   111
033047   194   150
033050   240   187
033057   298   236
033060   328   270
033065   376   316
033068   414   351
033073   462   397
033080   570   467
033089   690   544
033099   874   619
033119  1440   685
033125  1681   681
033132  2032   660
1494
041500     0     0
041511    36    72
041514    64   127
041516    88   182
041520   112   231
041522   138   283
041525   172   345
041530   212   426
041534   272   500
041536   340   571
041542   438   655
041546   582   730
041555  1042   808
041557  1232   810
041560  1528   797
1495
043002     0     0
043025    18    25
043028   114   142
043031   226   298
043034   278   451
043037   368   635
043045   876  1003
043047  1496  1062
1497
101452     0     0
101491    92    97
101500    96    97
101600   122    97
101700   140    97
101800   164    97
102200   190    97
104500   240    97
125700   350    97
152802   440    97
083000   680    97
132300   740    97
153700   770    97
082805   942    97
125550  1014    97
242745  1134    97
105800  1232    97
205564  1360    97
074911  1420    97
103550  1460    97
214500  1568    97
075100  1662    97
075180  1646     0
075200  1642     0
075950  1614     0
1498
090000           0
090054   298   227
090066   334   227
090078   372   227
090106   424   227
090200   528   227
090300   644   227
090500   830   227
090600   938   227
090700  1078   227
090800  1234   227
090889  1246     0
090900  1238     0
092103  1140     0
100500  1124     0
1499
103500           0
103534   340   252
103544   386   252
103553   412   252
103567   448   252
103579   478   252
103587   496   252
103700   694   252
103800   834   252
103900   976   252

TIME   STRAIN STRS
104000  1140   252
104200  1580   252
104300  1864   252
104339  1844     0
105500  1666     0
125600  1446     0
1500
123000           0
    21     1    84
    28     2    84
    38     2    84
    67     3    84
    76     4    84
  3100     5    84
  3200     8    84
  3300    12    84
  3400    13    84
  3500    15    84
  3700    17    84
  3900    20    84
  4113    20    84
  4300    26    84
  4500    26    84
  4800    28    84
  5100    30    84
  5500    32    84
130000    35    84
  1000    39    84
  3000    43    84
  4711    48    84
    47    48    84
140000    50    84
  4311    55    84
150000    58    84
  4950    65    84
163906    71    84
173100    76    84
183000    86    84
193000    90    84
220900   103    84
  0715   134    84
  0815   142    84
  0935   151    84
  1036   155    84
  1219   161    84
  1400   168    84
  1507   173    84
1502
103000     0     0
    33   160   162
    44   180   162
    60   190   162
  3110   254   162
  3200   310   162
  3300   352   162
  4000   554   162
  4800   810   162
110500   990   162
  1800  1180   162
132100  2360   162
153900  3900   162
161315  4320   162
  1569  4260     0
  3213  4230     0
173760  4120     0
1503
131500     0     0
    50    14    21
  1604    52    43
    50    90    80
  1700   114   115
    50   150   150
  1800   174   190
    50   198   228
  1900   232   267
    50   258   302
  2000   292   341
    50   328   377
  2100   376   407
    50   422   438
  2200   484   459
    50   558   480
  2300   646   496
    50   760   503
  2400   890   504
    37  1032   493
    56  1216   487
1504
113000     0     0
    75    14     5
  3100    82    33
    50   254    98
  3200   382   195
    24   444   247
    50   476   311
    70   502   367
    90   540   413
  3300   556   437
    20   600   477
    41   642   528
    60   698   568

TIME   STRAIN STRS
    80   770   602
  3400   854   633
    20   958   654
    42  1104   667
    57  1270   662
    68  1396   653
    80  1552   633
    86  1652   621
1505
111500     0     0
    35    44    67
    40    68   110
    45    92   150
    52   132   226
    60   162   304
    66   198   385
    73   232   463
    80   264   540
    86   312   612
    91   368   685
  1600   428   773
    08   516   861
    26   944   949
    31  1140   940
    34  1288   926
    39  1594   885
1506
104500     0     0
    15    28    39
    58    64    87
    60    98   136
    63   134   194
    66   164   250
    68   180   300
    70   208   353
    72   228   407
    75   248   451
    76   268   499
    80   308   588
    83   342   641
    85   370   700
    88   414   782
    91   470   830
    93   504   865
    96   572   924
    99   658   980
  4601   760  1005
    05  1010  1028
    08  1292  1006
1507
103200     0     0
    11    32    27
    13   162    97
    15   284   180
    19   406   331
    22   510   514
    25   582   637
    27   654   789
    28   736   861
    30   836   973
    32   992  1078
    35  1224  1155
1508
030000     0     0
    36    26    60
    52    60   123
          88   153
         112   194
         136   230
    90   160   277
  0100   184   315
    10   198   357
    19   218   395
    28   238   431
    38   262   468
    57   318   543
         350   580
         394   617
         441   655
    98   510   695
  0215   660   734
    34   848   758
    38   924   756
    46  1064   739
    53  1258   719
1509
100000     0     0
    46    90    97
    70    96    97
  0100   106    97
  0200   122    97
  0300   126    97
  0900   154    97
  2400   174    97
  5800   200    97
123200   224    97
150506   252    97
160022   262    97
203500   284    97
075700   350    97
152300   390    97

TIME   STRAIN STRS
072100   438    97
102000   460    97
121800   460    97
221000   484    97
072400   520    97
122000   532    97
140000   536    97
203000   560    97
104000   600    97
104100           0
1510
103000     0     0
    40   964   347
    45   992   347
    65  1084   347
    73  1100   347
    78  1112   347
  3186  1280   347
  3200  1238   347
  3300  1416   347
  3400  1478   347
  3500  1546   347
  3800  1750   347
  4500  2594   347
  4600  2856   347
  4650  2734     0
  5700  2626     0
123300  2598     0
1511
125600           0
    53    60   227
    69    72   227
    74    78   227
  5700    96   227
  5800   126   227
  5900   132   227
131500   336   227
150400   446   227
160900   770   227
202400  1162   227
075800  2130   227
101000  2420   227
110629  2518   227
110900  2434     0
111500  2382     0
113343  2314     0
1512
080000           0
    46   204   384
    52   226   384
    55   232   384
  0100   320   384
  0200   488   384
  0300   624   384
  0400   750   384
  0500   880   384
  0848  1050   384
    62  1940   384
    73  2002   384
    80  2058   384
  0962  1976     0
  2303  1914     0
092827  1876     0
1513
101510     0     0
    26   262   220
    50   332   220
  1600   470   220
  1700   612   220
  1800   662   220
  2200   834   220
  3100  1022   220
  4000  1124   220
  5800  1330   220
121600  2020   220
133260  3028   220
141300  3672   220
1514
041500     0     0
    25    16    11
    52    38    26
  1700    80    53
    50   138    87
  1800   262   106
    50   312   124
  1900   426   143
    50   498   162
  2000   580   180
  2100   772   220
  2200   950   252
  2300  1140   286
    30  1402   323
  2500  1566   339
  2600  1778   361
  2700  2026   378
  2900  2646   369
    50  2796   360
1515
020000     0     0
    50   174     3
  0271    18    18

TIME   STRAIN STRS
    76     2    13
    81    36    20
    86    68    25
    92   112    26
  0313   264    32
    30   350    40
    37   388    42
    62   512    62
    71   574    73
    95   658    96
  0432   756   146
    56   810   188
    76   858   225
  0500   904   271
    20   942   311
    61  1044   391
    85  1116   430
  0612  1222   462
    58  1510   491
    68  1592   492
    79  1718   494
    88  1794   479
1516
013000     0     0
    17    14    34
    25    40    71
    32    58   109
    40    80   158
    51   120   232
    63   160   314
    74   210   391
    85   268   466
    98   354   540
  3113   496   614
    28   740   655
    33   870   655
    37   978   646
    41  1174   626
1517
011500     0     0
    3.    36    31
    37   128   106
    42   222   188
    50   350   310
    54   420   391
    58   496   465
    62   572   539
    65   652   614
    69   724   689
    7.   862   771
    79  1136   840
    81  1274   844
    84  1570   821
    86  1998   741
1518
010000     0     0
    21    74    45
    24   330   106
    26   466   182
    30   508   310
    33   696   420
    35   816   525
    37   950   649
    39  1064   808
    42  1196   930
    44  1628  1030
1519
100000     0     0
    50    34    34
  0150   124   102
  0200   168   138
    50   214   172
  0300   262   204
    50   306   239
  0400   358   271
  0500   484   323
    50   558   350
  0600   650   362
    50   750   383
  0700   866   392
    50  1010   394
  0800  1176   392
    50  1132   389
1520
103000     0     0
    27    14    14
    51    56    51
    75   100   101
  3100   154   138
    25   200   182
    50   250   231
    76   306   279
  3200   366   331
    24   438   372
    50   532   411
    75   658   443
  3300   812   457
    25   992   463
    51  1238   456
    75  1512   442
1521
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TIME   STRAIN STRS
040011      0    0
    62    100   33
    81    354   73
  0118    884  156
    39   1140  231
    55   1286  317
    69   1394  400
    80   1478  466
    93   1580  542
  0208   1710  616
    27   1942  692
    38   2136  714
    42   2248  718
    50   2500  710
    55   2624  702
    58   2796  690
1522
030000      0    0
    08     78   72
    14    196  149
    19    286  222
    24    382  310
    29    452  390
    33    530  466
    37    604  551
    41 [illegible] 630
    45    770  691
    49    876  772
    53   1042  836
    60   1478  905
    63   1680  903
    65   1866  892
1523
030019      0    0
    49    102  121
    51    178  193
    53    262  309
    55    378  449
    57    496  561
    59    580  718
    60    682  772
    62    786  874
    64    944  974
    65   1108 1058
    67   1340 1118
    70   1902 1123
    72   2646 1020
1524
130000      0    0
    53     78   98
  0100    120   98
  0200    160   98
  0300    172   98
  1000    258   98
  2700    320   98
145000    430   98
163200    510   98
210015    630   98
080000    830   98
112500    870   98
080400   1100   98
125700   1140   98
215100   1228   98
074300   1304   98
153300   1370   98
091600   1510   98
162600   1558   98
1525
130500           0
    47    914  227
    53    966  227
    65   1038  227
  0600   1180  227
    48   1314  227
  0700   1408  227
  0800   1536  227
  0900   1634  227
131003   2022  227
  2600   2232  227
  4800   2770  227
141200   3478  227
  4800   4872  227
  4902   4918  227
  4937   4820    0
150750   4666    0
163100   4638    0
1526
100000           0
    43    180  296
    62    216  296
    85    252  296
  0100    276  296
    74    368  296
    98    390  296
  0300    496  296
  0400    590  296
  0600    780  296
  0700    876  296
  0800    984  296
  0900   1102  296
  1000   1222  296

TIME   STRAIN STRS
  1100   1356  296
  1200   1504  296
  1250   1422    0
  3124   1258    0
112300   1238    0
1527
153000      0    0
    07      2   97
    12      7   97
    18     12   97
    21     10   97
    24     11   97
    30     12   97
    41     12   97
    51     14   97
    65     15   97
  3100     17   97
  3150     19   97
  3200     22   97
    50     25   97
  3300     25   97
  3400     30   97
  3500     33   97
  3700     38   97
  4000     44   97
  4400     51   97
  5000     58   97
160000     70   97
  1715     85   97
  3615     93   97
170200    105   97
1528
160000      0    0
    16     11  108
    19     11  108
    20     10  108
    23     11  108
    26     11  108
    30     11  108
    37     11  108
    51     11  108
    77     10  108
  0100     11  108
  0200     11  108
  0300     10  108
  0500     13  108
  1000     12  108
  2000     13  108
  4700     16  108
  5900     26  108
173200     58  108
182500     64  108
202500     75  108
225000     80  108
074400     94  108
094100    154  108
103400    164  108
124205    183  108
053203    212  108
142555    220  108
    85    204    0
  2600    202    0
  3932    187    0
1529
100000      0    0
    18      8   90
    21      8
    26      8
    51     12
  0100     11
    50     12
  0200     13
  0300     16
  0500     18
  1000     22
  1500     25
  2000     27
  3100     32
  4800     10
112050     14
  4050     15
124410     20
141200     26
151700     30
161800     34
211900     49
080100     80
110500     89
110544     88    0
  0600     73    0
  2300     61    0
130100     51    0
1530
110000      0    0
    30     48   19
  0100    128   44
  0130    218   69
  0200    318   91
    30    418  116
  0300    532  136
  0400    786  170

TIME   STRAIN STRS
  0500   1126  183
    30   1322  182
  0600   1522  180
    30   1736  175
1531
010005      0    0
    30    142   12
  0100    502   29
    30    864   37
  0200   1352   50
    30   1624   64
  0300   2006   79
    30   2358   91
  0400   2788  103
    50   3112  111
  0500   3504  118
    30   3906  121
  0600   4398  125
    30   4702  127
1532
011502      0    0
    16     20   31
    28     62   85
    42    166  150
    52    278  191
    70    576  231
    78    762  236
    83    886  234
    92   1160  223
  1600   1354  216
1533
013000      0    0
    06     48   41
    12    324   75
    16    474  110
    20    564  150
    22    638  186
    25    706  229
    28    794  267
    32    928  312
    36   1160  348
    39   1500  347
    41   1586  329
    44   1860  303
1534
014500      0    0
    10    104   26
    11    250   72
    14    420  126
    16    594  183
    18    764  242
    20    926  272
    21   1036  400
    23   2546
1535
034503      0    0
    50     28    8
  4650    184   56
  4700    280   80
    50    376  103
  4800    486  130
    50    596  151
  4900    706  175
    50    814  200
  5000    926  220
    50   1040  241
  5100   1164  260
    50   1298  278
  5200   1440  288
    50   1598  297
  5300   1754  310
    51   1920  317
  5400   2090  322
    50   2248  326
  5500   2428  328
    50   2596  331
  5600   2774  330
    50   2954  331
  5700   3124  331
1536
060000      0    0
  0200    254   12
    50    572   40
  0300    930   60
    50   1342   76
  0400   1750   83
  0500   2608   96
    50   3066  100
  0600   3514  103
    50   3958  104
    77   4242  103
1537
013000      0    0
    22     54   38
    25    110   63
    27    194   92
    31    378  123
    36    616  136
    39    824  145
    42   1104  150
    47   1422  159

TIME   STRAIN STRS
    52   1798  164
    55   2062  169
    59   2338  172
    63   2742  173
    68   3072  173
    73   3414  172
    78   3888  172
    82   4174  172
    86   4496  172
    92   5032  171
  3111   6418  172
    20   7062  175
    28   7586  167
1538
103223      0    0
    81   1834   90
    84   2334   90
    86   2812   90
    88   3396   91
    91   4002   91
    94   4634   93
1539
100000      0    0
    51     84    0
  0100    196    1
    50    290    2
  0200    372    2
  0300    534   15
    40    758   37
    50    824   40
  0400   1174   60
    50   1538   78
  0500   1916   90
    60   2354  104
  1100   2660  120
    53   3052  134
  1203   3434  146
    50   3782  160
1540
010006      0    0
    58     46
    69    122    1
    92    234   16
    96    366   50
  0100    530   75
    06    824  106
    10   1048  119
    15   1420  111
    20   2030  105
    24   2174  101
    29   2560   98
1541
020000      0    0
    05    216   83
    07    526   92
    10    938   93
    11   1368   92
    13   2024   90
    16   2320   86
    18   2848   89
    21   3364   74
    22   3830   64
1542
023000      0    0
    25      6    6
    51     32   25
  3100    102   62
    19    132   81
    40    166  102
    75    264  142
  3200    336  173
    19    402  196
    50    530  229
    80    666  257
  3300    790  275
    24    960  287
    51   1144  292
    68   1264  291
    80   1446  289
  3400   1626  280
1543
030000      0    0
    18     78   31
    25    184   75
    31    242  111
    36    298  150
    40    346  192
    45    396  231
    50    428  271
    54    520  311
    59    604  351
    64    704  393
    70    864  431
    82   1220  460
    85   1352  460
    90   1560  460
    93   1740  452
    99   1984  441
1544
033000      0    0
    50     38   20

TIME   STRAIN STRS
    52    184   79
    53    334  140
    55    474  209
    59    822  369
    61   1032  431
    63   1888  313
1545
040000      0    0
  0100     80   14
    71    510   79
  0200    690  102
    24    858  122
    50   1076  136
    76   1304  145
  0300   1534  146
    24   1758  148
    50   2026  151
    76   2276  142
1546
043208      0    0
    34    260   35
    46    596   76
    59    966  118
    65   1172  130
    70   1352  131
    73   1522  131
    78   1730  128
    82   1888  121
1547
090000      0    0
    13     24   37
    15     76  112
    17    130  216
    19    188  304
    20    266  398
1548
010000      0    0
    24      8   10
    27     12   30
    32     30   71
    38     60  131
    43     96  151
    48    132  188
    52    198  230
    58    284  269
    69    624  304
    72    724  302
    75    866  294
    77    986  289
1549
014500      0    0
    30     14   15
    50     62   45
    61    108   60
    70    150   73
    90    254   93
  4600    308  102
    20    418  120
    40    548  137
    75    784  162
  4700    962  176
    25   1138  194
    50   1362  200
    75   1612  204
  4800   1858  200
    24   2098  198
1550
025400      0    0
    11     42   28
    24    148   62
    31    282   80
    39    358  102
    50    520  130
    61    694  153
    75    982  175
    90   1332  186
  5500   1522  198
    15   1876  204
    24   2060  206
    37   2350  207
    60   2950  206
    71   3264  201
1551
030000      0    0
    06     20   31
    09     24   71
    12    112  116
    15    196  148
    18    350  157
    20    538  147
    22    730  132
1552
033000      0    0
    06     24   53
    08     68  129
    09    124  208
    11    210  281
    12    328  350
    14    514  404
    17   1254  379
1553

TIME   STRAIN STRS
034500      0    0
    12     10   10
    23     20   29
    40     44   59
    50     64   77
    60     88   92
    70    114  109
    80    142  126
    90    178  140
  4600    212  157
    20    294  180
    31    346  194
    41    404  204
    50    464  212
    70    612  225
    90    770  231
  4720   1020  235
    37   1184  231
    50   1322  230
1554
110000          58
    09      4   58
    11      8   58
    15      9   58
    21     10   58
    41     12   58
  0100     16   58
    51     18   58
  0200     22   58
  0300     26   58
  0400     30   58
  0500     34   58
  0700     38   58
  1000     45   58
  1200     50   58
  1600     59   58
  1800     64   58
  2000     69   58
  2300     76   58
  2500     80   58
  2700     84   58
  2900     90   58
1555
040000      0    0
    19    104   30
    35    248   68
    50    454  110
    60    608  142
    70    756  166
    90   1106  173
  0100   1304  226
    19   1774  226
    28   2024  218
    33   2168  212
1556
031500      0    0
    05      2   19
    11     66   70
    16    168  111
    20    272  149
    24    390  176
    28    548  204
    31    746  220
    35    974  214
    37   1218  192
1557
033000      0    0
    21     80   40
    24    206   96
    25    326  150
    27    476  201
    30    860  277
1558
041500      0    0
    60     42    4
  1600    124   11
    50    268   22
  1700    320   33
    50    566   42
  1800    712   56
  1900    994   80
  2000   1272  105
  2100   1596  122
  2200   1762  132
  2300   2350  137
  2400   2718  139
  2500   3116  138
    50   3312  137
  2600   3516  136
1559
043000      0    0
    50     12    6
  3100     64   35
    50    126   67
  3200    202   96
    50    294  125
  3300    410  147
    50    542  161
  3400    698  172
    50    874  178
  3500   1060  180
```

```
TIME  STRAIN STRS
  50   1258  180
1600   1464  178
  15   1358  176
1560
090000    0    0
  50     22    4
  75     68   13
0100    116   26
  50    234   44
0200    362   61
  50    502   75
0300    650   86
0400    956  109
0500   1328  117
0600   1736  120
  60   1986  117
0700   2144  117
1561
091500    0    0
  50     10    0
1600     90   17
  50    184   41
1700    272   64
  50    386   86
1800    518  101
  50    682  110
1900    864  112
2000   1276  116
2100   1684  112
2200   2078  115
2300   2470  116
2400   2980  120
2500   3282  121
1562
010000    0    0
  24      8   20
  40     20   46
  50     30   61
  70     72   96
  83    126  116
  91    160  126
0100    198  134
  19    306  149
  50    546  163
  75    762  163
0200    984  163
  24   1200  159
  50   1462  153
1563
011515    0    0
  40     92   11
1600    480   41
  40    744   56
  61    894   66
1700   1190   77
  25   1378   81
  80   1812   90
1800   1958   92
  61   2420  105
1900   2714  114
  50   3110  126
2000   3524  131
  50   3956  141
2100   4386  134
  50   4804  135
2200   5238  137
1564
020000    0    0
  15     22   35
  23     52   68
  30     88   91
  35    134  111
  42    218  139
  50    326  159
  57    468  171
  70    748  180
  78    952  180
  88   1210  180
  97   1454  171
1565
021400    0    0
  21     34   16
  32    108   56
  41    202   79
  56    418  121
  66    618  137
  77    884  141
  90   1214  143
1509   1652  144
  37   2338  139
  50   2648  139
1566
030000    0    0
  08     14   19
  10     36   44
  12     62   70
  15    120  100
  17    192  126
  20    310  149
  24    442  167
  27    616  182
```

```
TIME   STRAIN STRS
    30    820  190
    33   1084  188
    37   1342  182
    39   1564  176
1567
011500      0    0
    15     40   22
    20    118   57
    25    238   91
    30    382  122
    34    562  145
    39    864  161
    45   1172  162
    51   1812  153
    55   2088  150
1568
033000      0    0
    05     38   32
    07    350  105
    10    530  157
    11    722  130
1569
040000      0    0
    08     20   22
    10     90   89
    12    186  159
    14    464  217
    17    972  190
    18   1394  175
1570
000000      0    0
    17    300   32
    50    330   32
    67    384   32
  0100    400   32
  0300    460   32
  0400    508   32
  0500    532   32
  0600    544   32
  0700    560   32
  0800    594   32
  0900    594   32
  1000    612   32
  1100    618   32
  1300    650   32
  1400    660   32
  2400    770   32
  3500    894   32
  6700   1280   32
013400   1954   32
022500   3160   32
028500   3916   32
031000   4240   32
1571
080000      0    0
    10    320   67
    30    420   67
    40    500   67
  0100    640   67
  0115    760   67
  0130    850   67
  0200   1000   67
    30   1200   67
    45   1270   67
  0330   1660   67
  0400   1868   67
  0430   1790   67
  0530   1640    0
  1000   1810    0
091000   1866    0
1572
020000      0    5
    15     14   78
    21     19   78
    28     23   78
    34     28   78
    41     32   78
    48     35   78
    55     41   78
    61           0
1573
040000      0    0
    56     20    5
  0100     86   24
    20    126   32
    60    206   50
  0200    286   67
    50    404   84
  0300    532  100
    50    676  115
  0400    838  125
    51   1022  129
  0500   1204  131
  0700   1958  132
  0800   2334  136
  1000   3100  137
  1100   3468  138
  1200   3848  140
  1300   4226  139
  1500   4988  140
  1600   5376  138
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TIME   STRAIN STRS
[illegible] [illegible] 139
[illegible] [illegible] [illegible]
  1900   6532  135
  2000   6922  134
1574
100000      0    0
    24     64   18
    40    258   46
    61    672   80
    80   1118   88
  0100   1606   88
    10   1882   88
    31   2388   84
    64   3238   82
1575
100000      0    0
    11     18   41
    12    120  103
    14    282  152
    16    530  190
    17    802  221
    20   1174  258
    22   1542  271
    25   1936  276
    27   2468  262
    30   3032  254
1576
000000      0
    50     90   15
    75    116   15
  0100    122   15
  0200    160   15
  0300    202   15
  0400    212   15
  0700    240   15
  0900    272   15
  3500    526   15
  4500    620   15
036000   3820   15
060000   4854   15
014600   7370   15
015050   7490   15
015950   7580   15
017750   7730   15
189000   8936   15
206500   9760   15
226000   0424  15
1577
000000           0
    10     60   15
    30    100   15
    40    122   15
  0100    152   15
  0200    182   15
  0300    202   15
  0400    220   15
  0700    262   15
  2500    430   15
  3000    480   15
  3200    480   15
  3400    492   15
  6000    658   15
  7000    728   15
045500   2040   15
075500   2810   15
161500   4626   15
166000   4690   15
175000   4970   15
193000   5508   15
304500   6100   15
322500   6110   15
1578
130000      0    0
    50     30   14
  0100     96   35
  0200    222   69
  0200    388   98
  0400    576  120
  0500    748  145
  0600   1014  151
  0700   1272  163
  0900   1842  163
  1100   2434  162
  1200   2702  159
1579
011500      0    0
    75     76   26
  1600    116   37
  1700    276   68
  1800    454   94
  1900    622  120
  2000    878  133
  2100   1140  140
  2200   1418  145
  2300   1698  145
  2600   2576  141
  2700   2860  140
1580
133000      0    0
  3100     56   20
    50    126   36
```

```
TIME   STRAIN STRS
  3200    202   45
    50    292   70
  3300    400   80
  3400    572  107
  3500    814  125
    50    918  132
  3600   1048  132
  3700   1322  139
  3800   1602  142
  3900   1888  140
  4300   3030  137
  4400   3324  135
1581
140000      0    0
    51     18   12
    85     64   41
    99     84   50
  0120    118   62
    40    162   78
    76    278   92
  0200    382  105
    51    640  130
  0300    982  148
  0400   1778  159
    50   2198  155
1582
020000      0    0
    23      6    9
    50     30   31
    75     62   55
  0100    104   74
    50    232  101
  0200    502  129
    50    844  141
  0300   1236  142
    50   1660  138
  0400   2106  133
1583
021600      0    0
    01     40   15
    24    104   43
    40    152   62
    50    192   79
    75    310  100
  1700    438  123
    50    754  151
  1800   1150  159
    50   1592  155
  1900   2224  151
1584
023000      0    0
    19     50    6
    33    248   30
    51    514   62
    66    768   97
    78    952  123
    92   1208  147
  0112   1628  168
    25   1900  172
    35   2104  170
    51   2528  169
1585
144500      0    0
    19     52   30
    30    134   68
    40    230   95
    44    282  110
    51    376  129
    57    456  139
    63    538  167
    68    624  181
    75    744  200
    82    876  206
    88   1030  210
  4600   1298  208
    07   1486  204
    16   1718  200
1586
150000      0    0
    08     18   15
    15     54   40
    24    120   71
    35    222  106
    42    312  130
    53    464  160
    60    604  174
    74    902  185
    85   1188  185
  0100   1556  185
1587
150000      0    0
    08     80   31
    10    168   59
    14    258   90
    16    332  120
    19    414  150
    22    508  178
    25    602  204
    27    706  228
    30    900  251
    33   1034  261
```

```
TIME   STRAIN STRS
    36   1246  263
    39   1454  263
    41   1684  255
1588
150000      0    0
    07     52   36
    10     88   67
    12    118  104
    15    202  139
    18    262  178
    21    352  210
    24    484  236
    27    642  250
    30    842  255
    33   1072  250
    36   1306  244
1589
030000      0    0
    07    102   43
    10    174   72
    12    256  102
    15    330  137
    18    474  174
    21    518  207
    24    614  238
    27    732  265
    30    890  283
    32   1110  287
    35   1324  274
    38   1552  256
1590
030000      0    0
    06     40   13
    08    256   65
    10    574   94
    12    852  143
    14   1020  209
1591
030000      0    0
    14     52   64
    15    126  128
    18    286  185
    20    694  189
    21   1296  118
    23   1758  123
1592
150000      0    0
    04    156   19
    07    374   48
    09    492  124
    11    578  170
1594
090000      0    0
    61     46    7
  0100    116   24
    50    212   43
  0200    320   60
    50    428   76
  0300    538   90
    50    670  105
  0400    782  118
  0500   1086  131
  0700   1842  139
  0800   2120  140
  0900   2484  140
  1000   2846  138
  1100   3192  130
  1400   4268  135
  1550   4446  135
1595
110000      0    0
    50     10    7
  0109     60   39
    50    120   57
  0200    202   74
    50    312   97
  0300    432  103
  0400    734  119
  0500   1074  126
  0600   1430  129
  0900   2506  130
    24   2596  131
    50   2690  131
1596
121500      0    0
    50     14    4
    76     74   24
  1600    168   41
    25    290   59
    50    422   73
    71    564   87
  1700    710  101
    41    976  111
    80   1282  119
  1800   1440  120
    50   1838  120
  1900   2236  120
    50   2618  120
  2000   3006  120
    50   3402  120
  2100          118
```

```
TIME   STRAIN STRS
1597
031500      0    0
    14     68   20
    26    150   48
    38    288   79
    52    510   99
    65    736  118
    80   1034  141
  1600   1438  155
    12   1688  155
    39   2308 ,156
    60   2792  152
    84   3358  151
1598
033000      0    0
    08     48   23
    14    124   59
    17    244   90
    20    258  122
    25    480  147
    28    628  168
    30    790  188
    35   1008  199
    38   1258  203
    41   1494  202
    44   1740  200
    47   1994  198
1599
040000      0    0
    03     98   49
    05    410   63
    07    818   63
    09   1268   61
    11   1770   52
    13   2206   45
    15   2708   34
    19   3414   28
1600
150000      0    0
150008     28   19
150010    174   71
150011    490   85
150012    612   99
150015   1168  110
150017   1590  112
150020   2058  115
150022   2550  110
150024   3092   81
1601
040000      0    0
040011     38    8
040013    198   48
040017    446   81
040019    616  108
040021    820  144
040024   1110  166
040026   1450  172
040029   1810  175
040032   2238  176
040034   2600  178
040037   2992  180
040040   3454  177
040043   3870  176
040050   4990  173
040053   5474  168
1602
160000      0    0
160003     58   16
160006    198   37
160008    380   53
160011    568   72
160013    768  102
160015    956  134
160018   1112  166
160020   1374  201
160022   1686  207
160025   2100  169
1603
040000      0    0
040011     46   31
040013    126   78
040016    212  120
040018    350  157
040020    566  170
040021    868  169
040024   1154  161
040025   1462  156
1604
120000      0    0
120025     18    7
120051     58   23
120100    148   42
120150    236   60
120200    290   81
120250    436   97
120300    562  107
120600   1626  107
120650   1824  105
120700   1990  104
1605
120000      0    0
```

```
TIME   STRAIN STRS
120079     66   32
120100    106   42
120125    146   53
120151    194   64
120200    296   82
120251    422   97
120300    550  110
120351    694  121
120400    842  129
120451   1010  135
120500   1164  139
120600   1502  143
120700   1826  149
120800   2170  151
120900   2526  157
121000   2874  158
121100   3220  160
121480   4568  157
121500   4664  157
1606
030000      0    0
030034     22   11
030067     76   52
030103    236   86
030125    346   97
030141    556  105
030161    792  111
030201    886  121
030250   1248  127
030300   1650  128
030341   1990  126
030375   2274  126
030400   2478  122
1607
040200      0    0
040225     10   10
040240     40   27
040285    188   80
040300    248   93
040320    356  112
040350    522  132
040380    744  146
040413    986  148
040460   1380  147
040500   1706  145
1608
040000      0    0
040011     20   19
040017     62   37
040023    110   59
040035    238   97
040041    330  122
040048    412  140
040054    512  160
040062    652  180
040074    912  200
040081   1084  205
040090   1318  205
040100   1562  204
040108   1766  200
040115   1952  199
1609
033000      0    0
033025     54   18
033044    148   72
033054    238  103
033063    338  135
033069    412  151
033074    494  168
033080    612  187
033089    772  202
033095    960  210
033112   1278  217
033127   1672  216
033134   1848  205
1610
040600      0    0
040607     44   19
040611    174   60
040615    296  101
040620    416  140
040625    582  182
040630    848  228
040636   1308  236
040640   1566  230
040642   1800  222
1611
040000           0
040008    108   48
040012    226   86
040017    418  140
040021    530  178
040024    684  207
040028    842  237
040030   1040  247
040034   1252  253
040038   1530  250
040040   1746  244
1612
040000      0    0
040017     36   28
```

```
TIME   STRAIN STRS
040019    120   73
040021    196  128
040024    322  202
040025    500  252
040028    756  299
040030   1068  323
040031   1456  318
040033   1916  290
1613
040000      0    0
040014     44   37
040016    128  101
040018    238  171
040020    360  236
040021    554  287
040023    778  331
040025   1120  349
040027   1596  321
1614
110000      0    0
110030      8    7
110050     28   12
110076     56   22
110100     76   31
110200    224   63
110250    324   79
110300    458   92
110400    786  106
110500   1162  106
110650   1772  101
110670   1860   96
1615
111500      0    0
111561     48    5
111600    160    6
111700    460   34
111751    590   46
111800    728   60
111900    880   89
112000   1244  120
112100   1558  141
112200   1926  147
112300   2328  142
112352   2534  141
1616
130000      0    0
130070     40   13
130100    164   31
130160    470   59
130200    708   77
130241    958   95
130281   1222  111
130300   1366  119
130352   1742  125
130400   2162  127
130430   2422  125
130450   2580  121
1617
010000      0    0
010021      8   14
010037     48   34
010061    108   61
010080    172   99
010100    240  129
010130    400  160
010150    532  178
010180    758  184
010200    944  185
010230   1202  176
010245   1352  174
1618
130000      0    0
130018     28   10
130029    128   39
130037    204   69
130049    310  110
130065    442  182
130078    608  230
130093    868  256
130104   1120  253
130115   1386  249
1619
010000      0    0
010031    190   40
010040    508   60
010061    580  115
010080    716  151
010100   1294  172
010124   1756  184
010153   2450  187
010176   3020  184
010200   3560  180
1620
020000           0
020010     22   10
020014     92   49
020017    160   90
020020    252  118
020025    354  153
020027    462  181
020030    582  209
```

```
TIME   STRAIN STRS
020034    696  232
020036    836  255
020039    984  275
020042   1160  289
020045   1314  293
020048   1560  295
020050   1780  291
020052   2000  281
1621
023000      0    0
023009     10   11
023011     30   35
023015     90   71
023019    156  101
023024    278  136
023029    482  172
023034    728  202
023039    958  241
023043   1178  270
023047   1420  278
023050   1638  268
023052   1876  254
1622
030011    220  304
030013    368  383
030015    650  423
030016   1060  405
030018   1536  351
1623
150000      0    0
150006     20   39
150008    106   72
150010    222  190
150012    454  239
150014    708  272
150016   1182  248
150018   1700  207
1629
080015      0    0
080030      0   15
080100      6   15
080130     22   15
080200     24   15
080500     54   15
080800     74   15
083200    140   15
090000    170   15
101000    240   15
105000    262   15
130000    366   15
151000    480   15
080000    966   15
153000   1292   15
080000    622   15
081000    628    0
093000    668    0
1630
080300      0
080315      0    0
080330     66   15
080400     80   15
080430     90   15
080500    108   15
080800    134   15
083200    220   15
090000    278   15
101000    394   15
105000    448   15
151000    640   15
080000    790   15
153000   1324   15
080000   3612   15
080000   2930   15
080500   2916    0
081500   2914    0
1631
100000      0    0
100050     82   13
100200    538   56
100300    652   93
100500   1186  150
100600   1526  151
100618   1614  150
100650   1734  147
1632
100000      0    0
100030     10   20
100053     40   57
100063     68   74
100074     96   89
100085    138  103
100100    188  126
100125    288  154
100189    620  195
100228   1032  189
100250   1250  178
1633
100000      0    0
100012     14   20
100021     54   56
100030    110   95
```

```
TIME   STRAIN STRS
100037    166  133
100045    240  164
100050    300  189
100061    460  233
100075    730  277
100089   1062  285
100097   1332  280
100110   1612  277
1634
100000      0    0
100007     36   18
100011    168   51
100015    300   82
100020    448  123
100022    520  164
100026    590  216
100029    672  260
100031    754  300
100035    892  342
100038   1036  370
100041   1230  383
100044   1424  385
100046   1656  370
100049   1902  354
1635
100000      0    0
100007      6   10
100010     54   56
100012    162  110
100014    280  161
100016    422  221
100020    600  295
100022    790  331
100025   1166  322
100027   1580  293
1636
090000      0    0
090005     24   29
090007     92   80
090009    150  139
090011    220  199
090013    280  254
090015    400  308
090016    590  336
090018    908  322
090020   1228  298
1637
090000      0    0
090009     38   18
090011    132   65
090012    266  112
090015    404  161
090017    568  218
090020    744  270
090022    944  317
090024   1136  354
090026   1346  389
090030   1802  411
090033   2174  389
090034   2564  351
1638
090000      0    0
090006     14   29
090009     50  108
090011    102  178
090013    160  261
090015    242  327
090017    406  379
090019    710  381
090021   1202  311
1639
090000      0    0
090007     36   19
090010    150   62
090013    280  107
090015    450  152
090018    538  211
090020    634  280
090023    776  352
090026   1002  413
090028   1256  430
090030   1950  304
1640
090000      0    0
090010     18   14
090012     92   90
090014    164  171
090015    254  253
090017    376  360
090020    584  441
090022    870  470
090044   1312  448
090125   1796  408
1641
090000      0    0
090033     20   29
090035     62   79
090037     90  141
090039    134  199
090041    188  264
090043    254  322
```

```
TIME   STRAIN STRS
090045    272  367
090047    204  328
090049    254  360
1643
010000      0    0
010015     10   21
010025     62   61
010034    106   92
010043    172  141
010050    230  174
010058    314  209
010071    500  251
010083    774  262
010091   1002  254
010099   1252  239
1644
130000      0    0
130003    114   46
130006    328  121
130008    504  200
130010    668  268
130012    906  321
130014   1228  334
130015   1618  337
130018   2144  289
1645
000000           0
000030    120   35
000100    168   35
000400    260   35
008000   1160   35
015000   1530   35
030000   1802   35
042000   2262   35
072000   2798   35
147000   3166   35
174000   3522   35
300000   4990   35
318000   5332   35
318005   5300    0
    15   5298    0
336000   5340    0
1646
000030    320   35
000100    380   35
000200    416   35
000500    690   35
008000   1274   35
015000   1632   35
030000   2020   35
042000   2280   35
072000   2920   35
147000   3310   35
174000   3650   35
300000   5390   35
318000   5770   35
3190     5710    0
319015   5720    0
326060   5760    0
1647
000030     20   17
000100     16   17
000300     22   17
002500     52   17
012000    112   17
042000    168   17
117000    194   17
134000    246   17
160000    392   17
178000    410   17
178005    410    0
178015    412    0
184015    412    0
1648
000030     10   32
000100          32
002500     28   32
012000     50   32
042000    112   32
117000    140   32
144000    186   32
270000    356   32
288000    384   32
288015    384    0
294015    390    0
1649
030000      0
030100     36   22
035050    140   50
030200    222   81
030456    648  270
030600    990  430
030800   1550  510
030943   2032  537
030961   2120  522
030984   2267  515
1650
030000           0
030100     50   22
030200    616   78
030500   1310  250
```

```
TIME   STRAIN STRS
030700   1710  382
031000   1990  552
031200   2270  730
031300   2480  785
031460   2684  790
031476   2760  788
031499   2886  775
1651
030000      0    0
030025     26   10
030050     68   29
030075     72   50
030100     90   72
030175    138  142
030200    158  166
030230    176  200
030261    198  230
030300    222  272
030350    250  328
030400    286  385
030500    362  488
030602    450  585
030700    558  669
077777    712  756
079393   1060  750
091010   1136  743
1652
040030     16   12
040057     22   43
040068     60   75
040090     98  111
040114    136  150
040151    184  232
040190    222  317
040228    276  395
040262    324  467
040296    380  543
040335    450  630
040370    540  692
040411    670  775
040458    836  845
040500   1080  882
040514   1200  875
040522   1300  866
1653
070000      0
070035     24   23
070084    110   26
070128    170  186
070160    212  254
070200    276  343
070250    346  450
070300    446  560
070352    560  669
070400    604  774
070450    746  872
070500    958  950
070527   1138  961
070538   1238  951
070543   1318  940
1654
070042     26   18
070070    118   42
070101    298   74
070199    634  178
070251    770  255
070299    834  352
070351    950  467
070399   1020  560
070499   1238  768
070550   1406  840
070599   1690  883
070636   1936  890
070650   2080  874
1655
080019     74   40
080040    314   90
080061    510  177
080080    656  271
080100    758  389
080120    834  505
080140    906  642
080161    998  790
080181   1114  926
080200   1250 1032
080220   1472 1139
080241   1664 1261
080260   1940 1352
080280   2300 1412
080302   2780 1433
080315   3146 1421
080322   3406 1395
1656
090000      0
090035     16   25
090050     60  107
090070     78  212
090093    120  315
090100    164  430
090120    224  560
090151    344  777
```

```
TIME   STRAIN STRS
090180    506  971
090200    650 1078
090230   1096 1170
090242   1454 1140
090250   1678 1112
1657
090000      0
090026     28   35
090042     78   34
090061    130  225
090080    178  355
090100    228  485
090119    298  619
090140    326  758
090161    444  908
090180    484 1010
090200    800 1081
090220   1186 1102
090229   1612 1077
090233   2158 1064
1658
090000      0    0
090015     30   13
090021    154  130
090025    194  143
090031    246  231
090035    284  313
090040    344  505
090046    374  542
090051    408  636
090056    450  710
090060    500  825
090065    556  992
090070    622 1100
090075    676 1205
090078    740 1308
090085    922 1413
1659
010000      0
010007     18   42
010014     66  148
010020    120  268
010028    172  424
010034    208  540
010039    242  652
010043    288  770
010049    334  877
010054    400 1017
010059    458 1130
010063    530 1241
010068    532 1351
1660
090000      0
090043     10   17
090050     44  112
090055     82  221
090060    122  346
090068    176  504
090073    220  618
090080    270  775
090086    318  912
090090    356 1020
090095    406 1132
090102    446 1276
090105    514 1360
090109    578 1454
090112    646 1525
1661
090000      0
090019     22   41
090020     64   80
090023     96  229
090025    132  347
090027    160  460
090028    196  573
090030    222  693
090031    264  815
090034    298  940
090036    346 1053
090038    388 1228
090040    442 1378
090041    500 1500
090043    582 1593
090045    694 1710
1662
090000      0    0
090005      2   11
090016     22   55
090018     46  158
090020    280  269
090023    118  410
090028    226  705
090030    282  838
090032    336  965
090034    392 1100
090036    446 1248
090038    536 1392
090040    640 1518
1663
090000      0
090006      2    4
```

```
TIME   STRAIN STRS
090011      0   49
090015      0  116
090018     34  239
090020    106  362
090023    190  496
090026    312  687
090029    410  838
090031    514  983
1664
090000      0
090012     32   53
090015     90  168
090018    136  347
090021    184  532
090024    230  705
090027    272  871
090029    320 1027
090031    374 1216
090033    426 1395
090036    484 1552
090039    570 1718
1665
100000      0
100006     14   13
100020     40   54
100025    102  175
100027    150  258
100029    216  356
100032    292  465
100035    360  582
100038    434  717
100042    574  905
1666
100000      0
100009    122   31
100016    192   71
100020    222  163
100022    222  255
100027    220  426
100030    218  575
100033    284  725
100037    338  874
100040    390 1018
100043    474 1198
100046    560 1344
100050    666 1488
100051    800 1594
1667
100028     44   93
100032     72  173
100036     96  230
100040    132  341
100047    184  456
100051    226  578
100058    286  720
100063    352  870
100070    446 1020
100077    564 1170
100081    706 1273
100088   1124 1307
100095   1586 1330
100108   2656 1329
100111   3004 1258
1668
110000      0
110029     16   17
110178     64   70
110225     90  162
110260    106  247
110281    146  303
110320    276  414
110351    368  520
110380    496  622
110400    582  688
110450    938  832
110476   1282  843
110482   1460  828
1669
110000      0    0
110030    126   13
110072    254   46
110100    344   86
110150    698  297
110300    792  390
110400    988  555
110500   1234  710
110570   1594  761
110583   1720  750
110591   1806  740
1675
020000      0    0
020061     24   18
020100     58   40
020150     96   71
020200    130  107
020400    240  277
020500    320  363
020700    550  516
020800    690  581
020900    940  602
020966   1100  602
```

```
TIME   STRAIN STRS
021000   1250  599
021018   1310  595
1677
030000      0    0
030016     36   19
030044    180  126
030063    254  236
030070    290  276
030082    340  355
030089    380  394
030100    420  467
030115    490  542
030127    550  617
030139    610  694
030151    716  771
030164    796  840
030178    928  911
030197   1150  985
030211   1364 1025
030232   1744 1046
030241   1990 1032
030248   2170 1019
1678
160000      0    0
160009     20   39
160014     90  110
160020    220  190
160025    320  270
160029    380  356
160035    420  467
160038    480  539
160045    540  691
160052    600  840
160055    640  911
160058    680  982
160062    720 1053
160065    800 1134
160068    900 1204
160073   1060 1279
1683
110000      0    0
110022    200  609
110027    200  609
110048    240  609
110100    260  609
110151    320  609
110200    350  609
110300    380  609
110400    420  609
110500    470  609
110700    500  609
110800    600  609
111100    840  609
111300    980  609
111800   1300  609
112200   3080  609
112235   3340  609
112251   3420  609
112300   3740  609
112350   4040  609
1686
120000      0
120024      8   33
120051     20   87
120100     56  184
120140    136  265
120170    200  326
120200    274  381
120250    504  440
120287    796  455
120300    930  441
1690
120000      0    0
120015     26   30
120020     90  118
120025    150  198
120030    216  277
120035    294  347
120037    352  400
120043    558  467
120050    942  505
120052   1222  485
120055   1540  467
1691
120000      0
120010     20   46
120015     44  118
120021    104  240
120025    146  309
120030    208  394
120035    306  469
120039    434  543
120046    738  617
120050   1096  628
120052   1274  606
120054   1542  582
1692
120000      0    0
120006      8   44
120009     36   90
120013     60  172
```

```
TIME   STRAIN STRS
120016    102  232
120020    208  315
120024    308  395
120025    456  469
120029    644  542
120034   1166  613
120036   1790  608
120037   1896  578
1693
120000      0
120009     64   28
120014    182   75
120020    348  158
120026    404  235
120030    484  305
120035    588  392
120040    744  462
120050   1240  533
120053   1598  551
120057   1988  508
1706
100000      0
  0031     18   27
  0142    262   96
  0321    838  125
  0402   1008  164
  0511   1256  230
  0601   1438  283
  0700   1650  341
  0800   1920  387
  0900   2252  413
  0915   2348  408
  0945   2574  407
  1000   2704  398
1707
090000
    18      0   10
    50     32   52
  0100    100  109
  0139    172  238
  0172    242  319
  0200    258  387
  0272    390  546
  0306    462  626
  0340    554  695
  0386    752  775
  0415    914  782
  0428   1100  775
  0435   1200  760
1708
090000      0    0
    08     30   49
    10     80  128
    12    122  202
    15    164  279
    18    212  405
    20    260  491
    22    300  572
    25    344  724
    26    382  753
    28    432  845
    30    488  931
    33    586 1003
    35    796 1050
    37   1228  994
1709
090000      0    0
    21     80   36
    23    144  141
    25    178  247
    26    238  365
    27          472
    31    364  617
1710
  0000      0
    18    118  505
    23    132  505
    44    206  505
    69    272  505
    99    340  505
  0161    464  505
  0200    562  505
  0300    776  505
  0400    966  505
  0502   1134  505
  0700   1350  505
  0900   1774  505
  1000   2448  505
  1025   2736  505
  1052   3082  505
    75   3482  505
1712
110000      0
    23    186  505
    35    250  505
    45    298  505
  0100    364  505
  0135    526  505
0200      728  505
  0226   1056  505
  0236   1340  505
```

```
TIME   STRAIN STRS
  0300   2460  505
  0316   3418  505
1713
    07     30   37
    09    106  108
    12    186  201
    14    278  308
    16    386  432
    18    424  558
    20    476  685
    22    528  827
    24    582  953
    27    640 1072
    28    724 1230
    32    836 1373
    33   1660
1726
030000
    49           20
  0200     26   45
  0275    150   85
  0350    270  125
  0397    350  156
  0442    436  170
  0500    592  231
  0600    916  209
  0667   1186  190
  0705   1354  200
  0715   1456  198
1728
020000
    10    352  356
    17   1012  508
    20   2325  411
    25   3580  315
    30   5660  176
1729
041986
042000
050000    254  181
    12    460  475
    15    758  640
    20   1754  632
    25   5218  410
    29   4658  251
1730
030007      0
030000      0
    07     26   40
    16    104  110
    25    144  172
    37    318  260
    44    482  340
    60    642  397
    64    828  440
    70   1008  459
    78   1290  469
1731
030000      0
    06      4   12
    17     80   87
    28    220  158
    35    296  209
    42    384  251
    50    522  309
    59    724  355
    65    902  373
    69   1048  381
    73   1192  383
    78   1404  377
    80   1528  370
1732
020000
    09     20   40
    14     62  113
    17     76  150
    19    116  198
    21    132  234
    26    200  317
    31    280  392
    35    408  468
    42    692  542
    45    892  561
    49   1138  565
    51   1340  560
    53   1578  551
    56   1868  531
1733
020000
    12     30   47
    18    166  172
    28    360  309
    35    654  399
    44   1260  432
    51   1898  409
    57   2422  390
1734
030000
    12     76  172
    19    176  277
    25    318  378
```

```
TIME   STRAIN STRS
    30    544  435
    37   1044  438
    43   1680  395
    49   2284  308
1735
070000
    21     20   70
    22     20  165
    25     50  258
    27     90  371
    28    170  468
    30    280  561
    32    400  663
    34    420  702
    36    680  737
    38   1390  702
    39   1010  618
1738
030000
    05           34
    18     56   95
    25     98  150
    30    162  193
    35    224  231
    40    228  272
    46    418  311
    52    550  356
    57    656  356
    60    818  370
    64    965  371
    68   1120  370
    73   1319  361
    75   1495  362
    82   1726  357
    86   1900  355
    90   2120  347
    95   2300  337
1742
070000      0
    05     40  100
    08    120  200
    10    170  309
    12    210  428
    14    250  542
    16    280  672
    18    330  805
    20    370  932
    22    440 1060
    24    500 1195
    26    600 1328
    28    740 1470
    31    900 1565
    32    924 1650
    34   1456 1700
    37   1900 1682
    38   2680 1565
1743
070002
    35           79
    56    200  158
    65    260  317
    70    300  395
    77    400  468
    85    540  543
    94    590  618
  0102    660  658
  0114    860  772
    24   1160  811
    62   3640
1744
070095      0    0
070105     18   12
  0120    282   79
  0121    342  118
  0132    240  200
  0145    350  317
  0152    382  395
  0160    432  468
  0166    494  542
  0175    550  475
  0180    616  695
  0187    678  775
  0195    770  847
  0204    898  915
  0217   1204  986
  0221   1356  987
  0225   1544  972
  0228   1846  918
  0235   2526  775
  0244   3324  630
  0256   4518  475
  0282   5600  395
1746
  0000      0    0
  0050     71   32
  0100     94   32
  0150    106   32
  0200    121   32
  0300    138   32
  1000    253   32
RESET DIALS
```

```
TIME   STRAIN STRS
  5200      0   32
010000    127   32
013000    639   32
020000   1185   32
022500   1663   32
RESET DIALS
033500      0   32
040000    467   32
050000   1433   32
060000   2168   32
071000   2445   32
RESET DIALS
092700      0   32
102300    630   32
113900    838   32
122600   1103   32
131300   1317   32
223100   2346   32
000000      0   32
000050     96   32
000100    128   32
000150    138   32
000200    150   32
001100    189   32
001600    306   32
002600    341   32
003600    384   32
004600    436   32
005600    504   32
012600    613   32
015600    628   32
RESET DIALS
015900      0   32
022100    402   32
RESET DIALS
033100      0   32
035600    448   32
045600   1157   32
055600   1613   32
070600   2054   32
092500   2825   32
102500   3108   32
113100   3384   32
121800          32
RESET DIALS
122000      0   32
131000    169   32
222800   1423   32
224800   1555   32
1747
  0000     00    0
  0005      2   15
  0100      4   15
  0200      4   15
  0250      4   15
  0300      5   15
  0900     11   15
  1400     14   15
  2400     16   15
  3400     22   15
  4400     26   15
  5400     29   15
012400     38   15
015400     46   15
021900     52   15
022300     68   15
025300     76   15
035300     90   15
055300    103   15
070300    114   15
092300    126   15
102300    136   15
RESET DIALS
112800      0   15
121500      7   15
130800     20   15
222600    105   15
224700    108   15
224800    107    0
225300    106    0
235400    105    0
1748
  0000      0    0
  0050    160   15
  0100    234   15
  0150    280   15
  0200    316   15
  0250    352   15
  0400    574   15
  0900    680   15
  1900    948   15
  2900   1234   15
  3900   1380   15
  4900   1552   15
011900   1984   15
014900   2362   15
021400   2658   15
031800   3392   15
034800   3742   15
044800   4508   15
054800   5064   15
```

```
TIME   STRAIN STRS
065800   5726   15
091900   6936   15
102200   7414   15
112400   8086   15
121200   8298   15
130400   8762   15
222100  12284   15
232100  12284   15
236400  12460   15
136500  12404    0
137000  12314    0
143000  12260    0
1749
  0000
    06    264  158
    12    520  398
    16    698  662
    21    820  945
    25    982 1277
    32   1280 1608
    37   2116 1693
1751
  0000      0
  0114    132  720
  0122    324 1014
  0127    580 1370
1752
  0000
    26     56   78
    39     82  159
    54    128  237
    66    174  317
    72    212  395
    89    254  468
  0100    300  543
  0111    350  618
  0124    406  645
  0135    462  775
  0146    520  846
  0158    624  918
  0173    714  989
  0188   1076 1030
  0195   1320 1016
  0203   1666  960
  0208   2000  888
  0211   2312  823
  0216   2716  732
  0220   3082  653
  0229   3714  525
  0244   4564  395
  0275   5680  317
1753
010000
    75     40   20
  0124     60   70
  0175    120  118
  0223    140  165
  0275    200  220
  0351    250  290
  0399    300  340
  0450    390  375
  0500    480  413
  0551    600  440
  0600    740  460
  0675   1010  475
  0730   1380  460
  0800   1720  410
  0850   2140  348
1754
  0750   1080  380
  0800   1170  395
  0850   1640  409
  0900   1322  417
  0950   1444  453
  1000   1630  452
  1050   1780  452
1755
  0000
  0200     44   78
  0400    200  220
  0500    316  262
  0600    518  317
  0800   1032  383
  1000   1556  372
  1100   2188  317
  1400   3256  280
1756
  1200      0    0
    50     60   70
  0100    170  140
    50    320  220
  0200    450  300
    50    580  388
  0300    720  475
    50    870  563
  0400   1040  640
    51   1370  675
    72   1600  655
    84   1970  607
1757
120200    730  150
```

```
TIME   STRAIN STRS
  0250    860  220
  0300    950  310
    50   1138  400
  0400   1262  460
    50   1590  507
  0500   1894  543
  0550   2330  560
  0573   2516  541
    89   2750  515
1758
  0000
  0100     36   10
    50    202   52
  0200    376  109
    50    562  176
  0300    684  252
  0353    846  330
  0400    798  409
    50    980  467
  0500   1362  543
    50   1608  588
  0600   1926  617
  0640   2340  617
  0655   2384  607
1759
120000      0    0
    04      0   16
    08     40   70
    12     80  145
    15    110  200
    21    150  310
    25    180  390
    28    220  460
    33    250  550
    37    290  645
    40    320  718
    44    380  828
    48    420  900
    53    520  995
    58    670 1095
    63    834 1155
    67   1142 1175
    72   1720 1096
1760
  0010
    15
    20     40   78
    26    120  158
    32    180  322
    39    200  394
    34    254  475
    36    270  558
    51    340  665
    55    344  775
    58    440  847
    61    500  918
    65    540  997
    69    600 1076
    73    660 1191
    76    760 1262
    80    800 1350
    85    980 1421
    88   1110 1450
    92   1430 1463
    96   1930 1350
  0100
1761
120000           0
    50    100   38
    55    160   90
    59    180  195
    69    260  318
    72    324  432
    76    400  542
    81    510  658
    87    560  775
    91    610  875
    98    740  982
  0104    840 1098
  0111   1060 1205
  0117   1350 1320
1764
  0000
    23    138  328
    30    160  328
    52    166  328
    62    170  328
  0530    286  328
    54    350  328
  1103    498  328
  1573    632  328
  1635    660  328
  2100    890  328
  2300   1120  328
  2500   1560  328
  2653   2258  328
  2700   2444  328
  2750   2762  328
  2808   3220  328
  2852   3604  328
  2898   4078  328
```

```
TIME   STRAIN STRS
  2928   4400  328
  2964   4800  328
1765
010010
    80    404  328
    90    424  328
  0100    464  328
  0110    472  328
  0225    584  328
  0325    638  328
  0425    684  328
  0525    726  328
  0625    780  328
  0825    852  328
  1125   1000  328
  1225   1160  328
  1525   1400  328
1766
  0004     20  324
    28     90  324
    37    262  324
    42    292  324
    47    302  324
    72    412  324
    77    440  324
  0150   1225  324
    64   1276  324
  0200   1312  324
  0300   1390  324
  0400   1438  324
  0509   1486  324
  0600   1578  324
  0851   1652  324
  1000   1798  324
  1200   2034  324
  1350   2148  324
  1375   2220  324
  1400   2234  324
  1415   2372  324
1767
020000      0    0
    22      0    5
    50     40   15
    75     60   38
  0100     80   60
    50    120  100
  0200    200  150
  0300    280  238
  0400    360  324
    50    480  380
  0500    520  410
    50    560  460
    70    580  475
  0600    620  496
  0650    660  535
  0700    780  580
  0640    840  604
    55    880  618
  0800    920  650
    50   1020  680
  0900   1100  700
    50   1308  720
  1026   1500  720
    76   1720  720
  1143   2020  700
1768
120000
  0100     73   30
  0200    250   79
  0300    250  135
  0400    540  170
  0500    812  220
  0600   1060  245
  0700   1500  284
  0800   1880  340
  0950   2310  388
  1075   2750  426
  1200   3250  450
  1325   3730  475
  1375   3880  480
  1525   4120  490
    75   4230  496
    60   4500  565
  1600   4540  615
    25   4570  655
    62   4600  693
    78   4605  718
    85   4610  738
  1718   4610  775
  1772   4610  780
  1834   4630  920
    93   4650  990
  1960   4670 1060
  2012   4675 1133
  2200   4720 1350
  2300   4740 1490
    00   4820 1810
1769
020000      0
    20     46  375
    25     20  617
```

```
TIME   STRAIN STRS
    32     96  880
    41    110 1282
    48    186 1433
    54    246 1558
1770
030000      0    0
    50      0   10
    99     52    5
  0150    125  159
  0198    208  278
  0299    371  450
  0367    482  572
  0324    633  693
    66    724  775
  0416    864  857
    99   1195  970
  0587   1460 1050
  0640   1695 1065
    59   1860 1065
  0799   2010 1015
1771
030000      0
    65     75   20
  0150    323  111
  0275    348  335
  0400    387  576
  0500   1056  760
  0600   1391  909
  0700   1886 1000
  0750   2190 1024
    89   2490 1027
  0805   2640 1023
    30   2900 1000
1772
030000      0    0
    50     44   35
    99     80  115
  0174    244  240
  0215    364  318
030300    522  476
  0400    762  658
    88   1106  775
  0543   1402  810
    90   1768  816
030601   1870  810
    10   2044  800
    50   2384  755
1773
030000      0    0
    15     39   20
    32    102  103
    49    214  196
    72    390  318
    86    528  395
  0101    646  469
  0117    790  545
    41   1030  658
    58   1250  730
  0203   1575  808
    92   1775  847
  0312   2162  880
    24   2410  890
    38   2803  885
    42   2900  874
1774
030000      0
    33    335   62
    75   1000   69
  0110   2145   92
    50   2815  176
    94   3395  324
  0230   3755  470
    70   4145  694
    89   4270  810
  0309   4385  912
    39   5220 1062
    50   4820 1134
    78   5130 1276
    97   4980 1349
 04155   5680 1363
    18   5920 1349
    22   6020 1330
1775
030000      0    0
    70     52   78
    92    177  188
  0125    219  433
  0159    302  611
  0184    522  773
  0202    698  845
  0216   1032  855
  0220   1138  791
1776
030000      0    0
    06     40   70
    11    100  159
    17    160  318
    24    160  363
    30    262  467
    35    300  572
    44    460  720
```

```
TIME   STRAIN STRS
    50    580  845
    56    800  955
    63   1020 1048
    70   1280 1133
    78   1800 1205
    85   2320 1284
1777
030000      0    0
    18     37   70
    25    125  102
    34    246  197
    42    358  300
    51    596  467
    58    787  575
    65   1018  686
    70   1180  770
    80   1930  788
    91   1950 1060
030104   2616 1206
    11   3060 1242
    16   3400 1239
1778
030000      0    0
    07      0    0
    11    102   89
    24    365  287
    31    544  313
    40    738  472
    50    966  615
    57   1200  765
    68   1580  788
    85   2416 1058
    89   2740 1029
    97   3366 1022
  0100   3680 1045
1779
030000      0
    05     11   23
    08     52   86
    10     73  133
    11    125  213
    13    157  284
    15    198  408
    18    292  528
    20    416  693
    23    511  811
    25    646  918
    28    771 1017
    31   1063 1191
    33   1293 1276
    35   1700 1331
    38   2125 1334
    40   2665 1276
1780
030000
    06     63  154
    08    104  273
    10    171  392
    12    184  505
    14    232  617
    16    291  743
    18    317  867
    21    396 1004
    23    437 1152
    25    494 1276
    27    564 1434
    29    625 1552
    31    721 1686
    33    821 1804
    35    939 1920
    37   1090 2023
    39   1310 2116
    41   1570 2172
1781
030000      0    0
    05     52   65
    34    145  140
    36    229  245
    38    312  390
    40    375  505
    43    458  618
    46    584  830
    48    816  950
    50    771 1060
    52    896 1205
    54   1041 1328
    56   1239 1415
    59   1510 1520
1786
060000
    36      4   14
    75     50   37
  0125    136   88
    75    210  102
  0225    320  142
  0300    480  188
  0400    640  261
  0500    720  372
  0600    780  466
  0700    860  582
  0800    920  677
```

```
TIME   STRAIN STRS
 1000   1240   867
 1100   1300  1012
 1200   1490  1018
 1300   1806  1012
   37   1980  1004
   59   2080   996
1788
060000
   50      0
 0175     22     3
 0225     88    23
   75    194    37
 0325    326    44
 0400    596    53
 0500    964    70
 0600   1302    94
 0700   1710   108
 0763   1896   109
 0951   2694   108
 1000   3122   103
1789
070000     0     0
   25     20    14
   51     60    30
 0128    200    78
 0200    260    85
 0245    660    92
 0260    760    85
 0271    800    85
1790
070000     0     0
   50     31    27
 0100    144    78
   30    282   100
   68    566   110
 0200    833   102
   08    946   102
   20   1060   102
1791
070000     0     0
   50     38    25
 0100    222    70
   55    492   102
   77    636   111
 0200    800   119
   50   1192   129
   77   1450   127
 0392   2500   114
1792
070000     0     0
   50     16    27
   85     64    76
 0100    104    93
   26    192   119
   50    460   134
   75    506   139
 0230    974   132
   90   1502   123
1793
070000           0
   21     40    30
   35     92    71
   44    146   108
   56    237   150
   66    338   194
   88    747   230
   99   1005   228
 0108   1240   221
1794
070000           0
   14     52    22
   29    136    86
   42    188   113
   53    263   157
   68    488   188
   91    897   228
 0106   1272   221
 0113   1473   215
1795
070000
   14     18    31
   35    113   120
   45    180   150
   55    293   191
   75    637   231
   95   1157   232
 0106   1465   227
1796
070000
   07      4    22
   13     89   120
   16    111   157
   21    200   237
   28    444   317
   31    577   321
   34    720   347
   36    689   350
   39   1199   347
   41   1378   330
1797
070000     0     0
```

```
TIME   STRAIN STRS
   07     13    25
   12     64    78
   18    165   148
   25    372   231
   30    556   276
   36    775   310
   41   1265   340
   44   1532   338
   47   1798   332
1798
070000
   13      0    18
   17     58    76
   24    192   147
   30    348   238
   36    542   314
   40    708   359
   45    965   394
   49   1168   412
   53   1543   417
   56   1785   417
   59   2055   409
1799
070000
   14     26    50
   17     96   171
   19    162   270
   21    300   351
   23    452   430
   25    650   491
   28    918   552
   30   1230   588
   31   1636   588
   33   2150   560
1800
070000     0
070005    18    62
070007    66   144
070009   140   232
070010   224   316
070012   338   395
070014   464   476
070016   628   537
070018   866   582
070020  1198   611
070021  1560   614
070024  1976   587
1801
070000
070005     0    62
070007    80   141
070010   190   256
070015   566   459
070019   960   519
070020  1480   543
070024  2220   527
070025  2640   476
1803
120000     0     0
120050     0     0
120100    56     0
120150    68     0
120200    92     0
120300   400     0
120350   636     0
120400   786    11
120450   934    28
120550  1166    78
120650  1300   150
120750  1400   237
120850  1480   348
120950  1546   460
121000  1576   520
121050  1612   572
121100  1650   633
121150  1686   685
121200  1736   730
121250  1760   788
121300  1822   803
121350  1870   884
121400  1940   925
121450  1994   969
121550  2184  1032
121650  2404  1075
121746  2704  1098
121800  2988  1061
121850  3330  1004
1804
120000     0     0
120100     8    27
120200    84   119
120300   172   228
120400   258   363
120500   344   450
120700   450   659
120900   814   852
120950   914   887
121050  1020   915
121100  1480   898
121150  1962   875
1805
```

```
TIME   STRAIN STRS
 0100
 0200    220    71
 0397    620   197
 0600    920   395
 0800   1200   573
 1000   1460   788
 1100   1580   861
 1200   1700   954
 1300   1900  1026
 1400   2060  1097
 1500   2280  1162
 1575   2520  1191
 1605   2660  1148
 1650   3620
1806
000000     0     0
000007     0     0
000049    42    36
000084   202    78
000152   298   157
000201   678   240
000256   832   345
000317  1006   464
000384  1182   628
000448  1348   780
000511  1490   850
000578  1662  1067
000656  1990  1212
000664  2036  1221
000676  2200  1220
000686  2270  1207
000691  2342  1192
000696        1171
1807
000000     0     0
  0021    58    18
  0048   180    34
  0087   354    80
  0148   600   160
  0251   942   248
  0322  1160   402
  0382  1312   602
  0453  1538   738
  0567  2068   845
  0608  2430   920
  0613  2494   912
  0618  2826   903
1809
  0300
  0326   104    92
  0353   240   316
  0380   390   417
  0402   456   559
  0422   520   692
  0445   608   852
  0452   630   914
  0493   838  1207
  0515   996  1359
  0539  1188  1490
  0571  1650  1604
  0576  1762  1595
  0580  1930  1571
1810
  0000     0     0
  0048   240    48
  0110   920   251
  1070  1240   615
  0213  1260   910
  0248  1580  1136
  0276  1760  1355
  0300  1960  1510
  0332  2440  1604
  0337  2560  1604
  0370  3300  1627
  0375  3410  1580
  0377  3480  1600
1811
120000     0     4
120050   360   152
120089   696   356
120108   826   467
120132   964   617
120177  1190   913
120213  1418  1137
120242  1720  1284
120271  2282  1355
120277  2618  1347
120281  2628  1301
1812
090000     0     0
090006    52    60
090012   130   150
090020   220   271
090026   270   396
090033   338   542
090037   372   620
090043   424   768
090049   484   911
090055   544  1050
090060   616  1212
090065   672  1347
```

```
TIME   STRAIN STRS
090071   744  1497
090077   820  1628
090083   920  1772
090090  1086  1918
090095  1256  1989
090098  1464  2008
1813
120000     0     0
120008    36    79
120015   138   209
120025   268   394
120033   336   543
120040   398   678
120043   470   875
120055   556  1057
120064   656  1280
120072   764  1491
120078   854  1635
120091  1206  1918
120101  1680  1991
120105  1896  1999
120109  2328  1967
1814
120000     0     0
120027    30    41
120040   188   187
120050   342   395
120061   590   618
120071   754   708
120080   808  1021
120091  1020  1279
120100  1224  1491
1815
010000     0     0
010006    24    21
010010   422   144
010015   700   347
1816
010000     0     0
010008   236    69
010011   662    94
010020  1926   227
010025  2486   399
010029  2740   547
010032  2886   693
010035  3012   852
010038  3156  1047
010040  3260  1257
010043  3352  1425
010045  3426  1557
010049  3566  1776
010050  3666  1882
010051  3784  1989
010053  3892  2082
010055  4020  2170
010056  4258  2235
1817
120000     0
120006    12    50
120009    58   150
120011   104   282
120014   146   475
120016   180   625
120019   210   780
120021   250   943
120026   326  1276
120029   368  1456
120031   404  1620
120033   448  1745
120035   384  1903
120037   552  2060
120039   618  2192
120040   694  2315
120043   806  2458
120045   962  2550
1821
080000        1100
080055   464  1100
080060   514  1100
080074   740  1100
080080   860  1100
080095        1100
080100   896  1100
080113  1524  1100
1823
080000           0
080035   770   974
080038   850   974
080043   890   974
080060  1190   974
080064  1270   974
080068  1360   974
080078  1560   974
080083  1660   974
080098  2450   974
080102  2880   974
080106  3820   974
080110  4100   974
18238
030000    16     0
030100   122    15
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```
TIME   STRAIN STRS
030200   448    45
030252   680    46
030300   912    46
030350  1156    44
030500  1840    30
030600  2300    15
1824
000000     0     0
000030   140    16
000100   262    16
000130   304    16
000200   342    16
000230   384    16
000300   414    16
000400   494    16
000500   526    16
000600   572    16
000700   620    16
000800   670    16
000900   696    16
001000   740    16
002000  1062    16
003000  1302    16
004000  1520    16
005000  1716    16
006000  1958    16
009000  2593    16
012000  3184    16
015000  3770    16
019000  4450    16
046000  5196    16
104800  5938    16
104900  5924     0
113000  5772
1825
000000     0
000030   280    16
000100   324    16
000130   368    16
000200   398    16
000230   438    16
000300   458    16
000400   530    16
000500   586    16
000600   620    16
000700   662    16
003800   718    16
000900   758    16
001000   780    16
002000  1054    16
002700  1196    16
003700  1382    16
004700  1550    16
005700  1730    16
008700  2238    16
011700  2662    16
014700  3054    16
018700  3524    16
045700  5086    16
150500  6528    16
150600  6224     0
156600  6300     0
1826
000000     0     0
000030   100    35
000100   154    35
000130   186    35
000200   220    35
000230   252    35
000300   278    35
000400   322    35
000500   358    35
000600   384    35
000700   414    35
000800   438    35
000900   670    35
001000   696    35
0020     742    35
003000  1000    35
004000  1166    35
005100  1252    35
008100  1568    35
011100          35
1828
000000    12
000050    40    10
000100   164    28
000203   510    44
000300   882    75
000400  1314    78
000500  1742    78
000600  2200    79
003700  2660    78
1829
000000     0
000038    26    24
000060    56    40
000100   146    62
600150   304    73
000200   504    80
000300   936    81
```

```
TIME   STRAIN STRS
000404  1426    81
000500  1862    82
000593  2224    73
1830
000000     0     0
000015    12    35
000025    68    49
000041   198    99
000051   340   122
000077   614   161
000111  1530   164
000123  2046   156
000147  2538   150
1831
030000     0     0
030009     8    20
030024    74    70
030043   270   123
030050   374   142
030075   878   180
030093  1314   180
030110  1728   172
030132  2032   161
030151  2702   161
1832
000000
000010
000019    40    14
000029   100    43
000041   220    78
000056   440    85
000070   740   109
000092  1130   140
000100  1290   144
000116  1620   158
000133  1980   163
000150  2380   163
000176  3000   172
000200  3590   172
000225  4180   172
000262  5060   180
000297  5900   198
000357  7260   228
000433  9180   268
000462  9880   316
000467  9920   371
000471  0000   395
000475  0020   424
000481  0020   467
000488  0070   520
000496  0040   580
1833
030000     0     0
030015     0     0
030020    80   140
030024   402   260
030027   820   322
030031  1410   380
030036  2248   432
030039  2970   460
030042  3716   432
030047  4600   408
1834
030000
030028  2120   446
030039  3480   394
1835
030000     0     0
030010    32    52
030012   130   158
030015   242   292
030018   404   417
030020   648   482
030025  1482   505
1841
070000           0
070150           2
070400   110   104
070500   226   201
070600   382   295
070700   570   380
070800   878.  430
070886  1238   432
070898  1312   426
070910  1380   417
070934  1546   401
1842
070000     0     0
070100    22    23
070172    80    76
070229   102   111
070287   156   152
070400   626   272
070660  1134   316
070833  1930   341
070873  2176   329
1843
040000     0     0
040052    16    20
040065    74    81
040081   132   152
```

```
TIME   STRAIN STRS
040100   200   236
040130 [illegible] 350
040155   862   467
040170  1146   584
040100  1866   555
040120  2314   562
040135  2752   564
040152  3232   562
040157  3384   560
1844
040000
040010     6    14
040021    44    78
040037    96   172
040047   142   243
040063   222   347
040080   286   467
040100   312   572
040106   370   617
040126   854   693
040138  1184   700
040150  1714   640
1845
040000
040022    20
040056    54    79
040077   264   158
040102   466   283
040145  1004   317
040166  1380   443
040187  1756   563
040191  2060   565
040196  2240   558
1846
070000     0     0
070060    40    36
070102   108    69
070167   232   117
070260   408   193
070308   504   232
070358   598   273
070516   736   315
070508  1232   353
070561  1252   356
070597  1448   348
070630  1618   341
1847
040000     0     0
040065    64    37
040070   160   112
040075   208   188
040081   320   316
040086   368   401
040092   480   542
040097   548   617
040105   724   775
040110   954   845
040119  1420   882
1848
040000
040009    40    32
040014   100   109
040022   164   229
040026   232   316
040031   286   394
040034   316   450
040041   490   580
040049   636   692
040053  1040   758
040059  1040   788
040064  1664   802
040066  1964   774
1851
040000     0     0
040005    64    72
040007   128   147
040008   190   228
040010   504   317
040011   462   390
040014   770   445
040016  1098   460
040018  1504   451
040020  1940   433
1852
040000     0     0
040003    56    84
040005   128   177
040007   186   272
040009   254   373
040010   324   473
040012   380   568
040015   540   735
040018   700   854
040020   912   950
040022  1208  1013
040025  1638  1027
040027  2232   979
1855
070000     0
070056    26    10
070085    64    33

TIME   STRAIN STRS
070142   172    74
070200   286   120
070260   398   200
070400   661   317
070500   882   395
070628  1212   469
070800  1712   547
071023  2592   576
071038  2656   574
071051  2732   572
1856
070000     0     0
070147    62    43
070187   116    80
0.0232   170   115
070268   212   156
070310   258   195
070345   298   232
070383   344   275
070425   412   315
070465   472   356
070510   554   395
070558   646   434
070505   744   467
070563   868   507
070730  1030   543
070800  1226   582
070887  1502   618
070902  1546   625
071105  2306   657
071190  2690   650
071212  2790   642
1857
070000     0     0
070028    20    14
070047    28    30
070240   198   230
070377   418   355
070438   556   398
070497   606   436
070558   874   466
070700  1262   545
070800  1556   589
070936  2016   625
071080  2584   642
071288  3048   637
1858
070000     0     0
070020    16    42
070027    30    77
070036    50   120
070042    74   152
070050    98   196
070056   124   232
070062   148   273
070068   180   313
070075   214   355
070081   246   395
070087   282   432
070094   308   470
070100   382   507
070107   400   543
070113   446   581
070120   498   619
070127   546   654
070135   622   693
070143   702   730
070185  1292   831
070210  1840   900
1859
070000     0     0
070046    86   115
070058   140   183
070068   202   240
070080   238   306
070094   322   464
070108   410   451
070121   512   525
070136   648   595
070147   778   635
070161   922   689
070175  1206   729
070215  2028   782
070226  2314   770
070235  2738   747
1860
060000     0     0
060019    60    57
060060   474   224
060091   722   405
060120   840   576
060141   946   715
060158  1042   838
060170  1130   918
060183  1244   989
060220  1720  1132
060228  1854  1144
060222  1958  1144
060239  2136  1132
1861
060000     0     0

TIME   STRAIN STRS
060009    50    78
060012   120   276
060015   220   457
060020   280   677
060022   370   860
060025   400  1068
060030   490  1327
060033   560  1565
060036   730  1776
1862
060000     0     0
060007    18    32
060010    44   125
060011    81   252
060014   130   410
060018   210   618
060021   278   812
060024   350  1008
060026   384  1160
060028   462  1300
060031   530  1450
060033   590  1584
060035   732  1730
060037   168  1875
1863
060000     0     0
060007   196    93
060010   240   212
060012   246   330
060015   280   490
060017   304   466
060019   356   738
060021   414   890
060024   480  1040
060027   566  1220
060029   634  1387
060031   688  1537
060034   756  1691
060036   840  1853
060039   946  2027
1867
060000     0     0
060013    20    36
060025   244   171
060070   386   328
060192   478   481
060118   574   649
060140   664   808
060160   760   950
060188   926  1133
060212  1148  1280
060233  1408  1354
060240  1572  1363
060250  1884  1339
1868
060000     0     0
060023    30    60
060040    84   124
060070   162   319
060197   244   510
060125   322   794
060156   428   918
060189   580  1160
060220   810  1356
060235  1042  1400
060241  1250  1385
1869
070000     0     0
070033    22    23
070058   134   150
070100   308   415
070131   414   620
070153   502   778
070173   608   912
070200   780  1060
070232  1152  1102
070245  1400  1222
070258  1748  1215
070267  2042  1189
1870
120000     0     0
120100    41    15
120300    57
120900    93
121600   124
123000   160
134000   310
135500   343
140200   356
141400   385
142300   405
142900   417
153600   613
160000   691
160000   690
162000   670
171500   671
1871
120800     0     0
120900    66    32
121800   288

TIME   STRAIN STRS
123000   420
134000  3778
135500  4310
1872
120500     0     0
120700   156    32
120900   249
121800   571
123000   786
135000  1432
135500  1672
140300  1904
141400  2072
142100  2080
123000  2023
143100  2020
1873
100000     0    48
100030   100
100042   128
100300   552
100900  1636
101300  2780
101400  3086
101500  3430
101600  3780
101800  4460
101820  4756
102200  5982
102300  6030
1874
110000     0    48
110016    60
110332   524
110800  1546
111700  3300
111900  3882
112200  4560
112700  5550
113052  5940
113600  6628
1875
100000     0
100028   134    71
100057   276
100300  1450
100713  3664
100900  4654
101500  7442
101906  8712
102200  9354
1876
080000     0
080018   120    71
080026   210
080052   340
080070   480
080083   508
080116   760
080162   900
080200  1120
080250  1360
080300  1640
080620  2880
080700  3700
080950  5140
081150  6800
081200  7080
081500  8300
1877
120000     0     0
120100    60    17
120150   180    37
120200   780    65
120266   500    70
120300   640    78
120353   890    78
120400  1140    65
1879
120000           0
120023    24    19
120083   280    85
120100   382    95
120133   614   109
120200  1256   117
120248  1510   117
1880
120000     0     0
120019     2    11
120040    44    35
120077   174    76
120100   300    95
120140   384   108
120169   880   119
120187  1020   118
120200  1172   116
1881
010000     0     0
010010     0     7
010020    20    35
010033    70    73

TIME   STRAIN STRS
010050   238   119
010066   528   157
010082   992   164
010111  1640   157
1882
120000     0     0
120007    18    10
120011    60    70
120015   114   117
120022   218   191
120030   446   268
120037   768   317
120041  1060   328
120045  1382   331
120050  1704   325
120055  2154   298
1883
120000     0     0
120010     0    23
120014     0    55
120016     0    77
120019     0    95
120020    20   119
120024    64   141
120025   130   164
120029   226   189
120034   470   230
120041   806   276
120045   970   283
120048  1210   290
120051  1470   284
120065  1700   283
1884
060000     0     0
060007    10    13
060018   180   157
060027   480   237
060037   980   299
060045  1470   317
060050  1790   317
060054  2150   317
1885
060000     0     0
060005    18    40
060008    60    54
060010   112   152
060011   166   206
060013   252   267
060015   340   317
060018   466   367
060020   636   409
060022   880   430
060024  1168   431
060026  1494   427
1886
060000     0     0
060005    20    46
060007    50   114
060010    98   204
060011   160   277
060014   260   340
060016   428   389
060019   782   413
060021  1084   402
060023  1414   388
1887
060000     0     0
060010    14    20
060011    68    80
060015   164   127
060017   242   180
060019   382   232
060021   524   297
060024   656   347
060026   794   387
060027   984   413
060030  1044   471
060031  1526   416
060033  1860   403
1888
060000     0     0
060005     8    23
060006    38    83
060008    92   141
060010   190   204
060010   294   258
060012   414   310
060014   572   351
060019  1166   453
060020  1442   460
060021  1764   455
060025  2356   433
1889
120000     0
120100    33     9
120200    40     9
121500    56     9
180000   110     9
191000   206     9
243010   224     9
360000   310     9

TIME   STRAIN STRS
360000   518     9
400000   652     9
430030   750     9
683030   774     9
831230   778     9
860030   852     9
880030   886     9
894530   942     9
912030   976     9
084530  1238     9
153030  1376     9
354530  1712     9
403030  1774     9
560030  1960     9
700030  2080     9
701030  2080     9
710030  2074     9
1890
120200     0
120300    28     9
120400    36     9
120500    41     9
124000   104     9
180000   211     9
191000   224     9
243000   286     9
360000   418     9
400000   146     9
403000   622     9
683000   910     9
831200  1136     9
860000  1228     9
880000  1258     9
894500  1284     9
912000  1308     9
964500  1540     9
031000  1662     9
154500  1722     9
163000  1770     9
200000  1910     9
240000  2032     9
241000  2030     9
250000  2026     9
1891
000000     0
000100    32    61
003600   158    61
055600   464    61
070600   502    61
122600   660    61
144000   780    61
168000   830    61
188600   882    61
339000  1018    61
432800  1070    61
443600  1126    61
455600  1140    61
466100  1164    61
475600  1194    61
586100  1300    61
1892
070000     0   502
070025   272   502
070042   456   502
070065   702   502
070100  1148   502
070150  1588   502
070214  2064   502
070250  2308   502
070300  2652   502
070368  3158   502
070400  3426   502
070450  4100   502
070481  4954   502
070492  5744   502
1893
070000     0
070031   296   502
070050   462   502
070075   734   502
070100   992   502
070125  1294   502
070150  1632   502
070200  2276   502
070240  2960   502
070269  3656   502
070283  4084   502
1894
170000     0     0
170027    52    31
170142   610   162
170200   882   237
170260  1160   317
170319  1388   395
170400  1682   588
170488  2026   627
170549  2274   693
170538  2592   772
170700  3050   793
170733  3380   783
1895
```

```
TIME   STRAIN STRS
120000     0     0
120026    32    32
120057   122    80
120098   240   151
120138   334   233
120171   380   317
120207   450   400
120272   594   446
120308   686   608
120346   820   693
120391  1016   772
120495  1762   838
120510  1912   830
1896
120000     0     0
120046    16    29
120075    28    80
120113    92   153
120152   162   235
120180   236   316
120227   308   396
120263   398   425
120302   524   558
120337   616   623
120378   776   695
120426   994   773
120487  1334   845
120573  1964   898
120607  2282   887
1897
120000     0     0
120015    58    69
120022   108   156
120026   162   228
120035   322   393
120040   364   467
120043   444   544
120048   522   619
120055   710   722
120060   918   843
120065  1182   910
120074  1638   985
120081  2188  1012
120085  2474  1004
1898
120000     0     0
120004     6    37
120009    30   111
120015    72   229
120020   108   306
120024   148   395
120028   192   467
120032   246   547
120035   320   609
120039   394   732
120044   520   778
120050   744   842
120057  1200   910
120064  1690   943
120069  2042   956
120072  2310   957
120077  2716   935
1899
120000     0     0
120012    48    72
120023   162   227
120035   434   395
120046   816   544
120055  1302   629
120063  1876   664
120075  2676   690
120078  2972   702
120081  3310   672
1900
120000     0     0
    05     0    35
    11   172   212
    16   266   390
    20   396   542
    25   538   693
    32   980   902
    38  1614  1016
    49  2970  1100
    51  3404  1097
    53  4364   980
1901
120000     0     0
    04    28    29
    10   198   225
    17   336   417
    23   472   788
    27   602   839
    30   742   976
    34   898  1128
    36  1070  1191
    38  1204  1253
    42  1614  1345
    45  1976  1383
    47  2346  1357
1902
120000     0     0
```

```
TIME   STRAIN STRS
    05     6    23
    08    30    86
    11    82   226
    16   146   395
    20   200   543
    24   284   687
    29   450   918
    33   586  1054
    37   828  1205
    43  1448  1348
    46  1764  1363
    48  2128  1333
1903
060000     0     0
    10    34    41
    12    84    78
    15   124   157
    20   140   308
    25   208   459
    28   760   735
1904
120000     0     0
    03    26    79
    05    38   181
    07    80   280
    09   118   379
    10   162   482
    15   270   693
    18   410   910
    21   588  1083
    26  1136  1267
    28  1498  1283
    30  2032  1225
1905
120000     0     0
    00     4    20
    00    16   108
    00    32   204
    00    50   299
    00    86   463
    00   112   521
    00   144   695
1907
070000     0   276
    34   294
    53   400
  0100   644
    40   880
    75  1098
  0224  1386
    50  1550
  0300  1820
    33  1964
    66  2190
  0400  2580
    52  2754
  0500  3136
    76  3878
  0632  4630
    62  5202
    85  5674
  0700  6012
1908
120000           0
    25    26    34
    50    66    83
  0100   196   169
    50   402   248
  0200   688   311
    50  1066   348
  0300  1548   356
    21  1798   347
1909
120000     0     0
    25    16    35
    48    52    75
  0100   178   168
    50   332   266
  0200   428   354
    50   780   411
    95  1256   419
  0305  1374   409
1910
120000     0     0
    33    16    37
    53    46    76
  0100   152   157
    50   330   237
    73   440   273
  0200   568   293
    50   980   335
  0312  1532   347
    30  1722   343
1911
120000     0     0
    05    14    22
    10    66    95
    18   152   229
    22   210   310
    27   280   395
    31   350   467
```

```
TIME   STRAIN STRS
    35   438   543
    40   564   620
    49  1050   715
    51  1476   517
1912
120000     0     0
    05    32    73
    09    80   159
    11   114   260
    15   232   351
    19   350   477
    21   482   587
    25   660   686
    30   952   813
    35  1506   895
    38  2214   816
1913
120000     0     0
    10     0     0
    18    22    71
    31    70   183
    35   152   313
    39   248   471
    43   388   617
    49   906   734
    51  1348   726
1914
120000     0     0
    05     4    13
    08     6    70
    11    98    86
    15   186   287
    19   278   421
    21   344   523
    25   416   613
    27   504   734
    30   602   840
    33   762  1035
    36   948  1055
    40  1464  1132
    43  2156  1043
1915
120000     0     0
    05    72    20
    07   150   182
    08   242   255
    10   352   357
    11   446   439
    14   510   535
    17   542   691
    20   776   830
    22   996   975
    25  1278  1042
    26  1624  1033
    28  2204   937
1923
080000     0  1054
    41   244
    44   248
    60   314
    76   356
    79   382
  0120   460
    38   494
    55   542
  0204   726
    29   890
    45  1098
    53  1286
    58  1490
    63  1812
    67  2238
1924
120000     0     0
    50     2    32
    95    28   135
  0151    64   227
  0200    78   405
    50   134   540
  0300   174   679
    50   216   820
  0400   266   955
    50   322  1093
  0500   366  1223
    57   450  1307
    60   710  1298
    65   804  1280
1925
120000     0     0
    50    80    20
  0100   284    51
    50   520    96
  0200   678   147
  0300  1202   279
  0400  1460   468
  0500  1630   683
  0600  1874   820
  0700  2160  1113
    90  2710  1181
  0803  2828  1169
    11  2920  1167
```

```
TIME   STRAIN STRS
1926
120000     0     0
    50    18    37
  0100    64   131
  0200   144   363
  0300   196   603
  0400   582   780
  0500  1260   837
    10  1414   816
1927
010000     0     0
    27    66    53
    51   316    75
    82  1060   155
  0100  1280   207
    43  1956   334
    79  2468   423
  0211  2842   630
    38  3126   722
    75  3770   920
    79  3926   902
1928
120000     0     0
    20    42    72
    37    90   160
    50   124   235
    61   174   316
    82   194   467
    92   244   545
  0111   288   693
    30   344   841
    43   364   945
    57   430  1050
    73   516  1204
    83   568  1277
    93   638  1353
  0211   830  1455
    18   968  1463
    23  1134  1448
    26  1316  1410
1929
120000     0     0
    21    14    33
    39    86   118
    53   148   190
    66   218   276
    82   260   395
  0102   302   541
    33   386   772
    51   460   913
    70   570  1062
    86   716  1171
    95   850  1209
  0200   924  1223
    05  1038  1225
    10  1156  1223
    29  1682  1200
1930
120000     0     0
    10    44    37
    20   244   149
    28   360   263
    35   484   395
    41   602   433
    51   780   693
    62  1072   908
    75  1564  1126
    84  2118  1249
    90  2552  1260
    92  2932  1215
1931
120000           0
    09    10    39
    16    82   144
    23   136   270
    29   182   393
    34   226   583
    39   260   619
    46   318   769
    50   368   876
    55   410   983
    59   480  1086
    63   518  1205
    68   480  1313
    73   518  1495
    81   520  1559
    85   866  1573
    87  1042  1561
    90  1300  1523
1932
120000     0     0
    10    26    46
    15    70   149
    21   116   268
    30   168   431
    35   198   447
    39   232   655
    43   268   760
    49   318   874
    53   366   983
    57   436  1092
```

```
TIME   STRAIN STRS
    61   534  1205
    65   648  1281
    72   886  1383
    85  1696  1484
    88  2098  1487
    91  2142  1490
    95  2400  1480
  0100  2806  1457
1933
120000     0     0
    08     6    50
    10    22   123
    11    40   202
    14    58   293
    18   100   465
    21   140   622
    26   212   905
    29   280   975
    33   370  1125
    36   504  1275
    40   768  1414
    42  1062  1445
    45  1320  1454
    46  1662  1461
    49  2026  1452
1934
120000     0     0
    13    24    62
    15    54   147
    19    84   283
    24   126   491
    27   152   617
    30   178   767
    33   206   914
    39   266  1198
    41   304  1348
    43   340  1484
    47   384  1624
    50   424  1775
    52   506  1945
1935
050000     0     0
    24   128   318
    50   180
  0100   236
    50   288
  0200   336
    50   384
  0300   418
  0500   536
  0600   598
  0800   682
  1000   754
  2000   962
  2600  1146
  3800  1356
  5300  1470
061700  1894
091400  3264
1936
090000     0     0
    36   288   318
    61   326
  0100   406
  0200   536
045050   736
  3700  1754
125400  3296
024200  4268
052290  6776
1937
050000     0     0
    33   314   182
    64   368
  0100   432
    50   474
  0200   510
  0504   624
053800  2000
064720  5906
070485  9500
070490
1938
080000     0     0
    30    56   182
    50   296
    75   340
  0100   354
  0200   408
  0300   444
  0835  1108
  5315  1480
100300  2446
  2900  3786
1957
140000           0
140100    26    65
140400    38    65
140900    58    65
145500   117    65
162000   177    65
```

```
TIME   STRAIN STRS
080000   546    65
113000   642    65
163000   806    65
081500  1600    65
111500  1704    65
131500  1765    65
160000  1854    65
091500  2277    65
131500  2407    65
151500  2447    65
1958
140400     0     0
140500    30    65
140900    66    65
145500   162    65
162000   243    65
080000  1029    65
113000  1239    65
163000  1645    65
081500  2762    65
111500  2818    65
131500  3062    65
160000  3217    65
091500  4391    65
131500  5212    65
151500  5814    65
1859
140600     0     0
140700     3    13
140900    11    13
145500    58    13
162000    84    13
080000   186    13
113000   200    13
163000   226    13
081500   303    13
111500   338    13
131500   350    13
160000   369    13
091500   514    13
131500   566    13
151500   573    13
1960
140800     0     0
  0900    90    13
  1100    98    13
  5500   152
162000   170
080000   274
113000   288
163000   312
081500   410
111500   450
131500   460
160000   488
091500   702
131500   762
151500   798
153000   796
1961
090000     0     0
    24    10    13
    85    74    73
  0140   142   145
    83   200   197
  0217   254   236
    52   324   275
  0333   496   360
  0415   514   433
    70   698   467
  0511  1070   463
    67  1314   477
  0650  1794   473
    60  1876   471
1962
021500     0     0
    63    80    13
  1600   174    39
    40   270    73
    97   404   123
  1816   706   236
  1923  1026   316
  2155  2100   395
  2240  2554   393
  2349  3196   395
    73  3350   390
1963
093000     0     0
    25     6    14
    74    58    72
  3140   130   154
  3204   220   233
    77   360   316
  3367   606   395
  3539  1320   467
    82  1538   475
  3620  1752   475
  3653  1970   471
1964
100000     0     0
    50    18    30
```

```
TIME   STRAIN STRS
    81     70   79
  0107    118  116
    33    160  159
    83    272  238
  0236    486  320
  0300    668  402
    76   1072  466
  0431   1456  493
    63   1702  493
    77   1820  487
1965
100000      0    0
    61     76   34
    83    122   76
  0135    230  155
    79    262  235
  0202    306  275
    25    360  317
    73    468  398
    96    542  435
  0321    632  470
    48    724  505
    82    872  545
  0482   1456  620
  0525   1782  630
    65   2118  621
1967
080000      0    0
    18     34   72
    22     64  123
    29    126  226
    40    228  387
    45    278  466
    55    420  618
    65    624  781
    82   1196  913
    90   1580  949
    95   1932  954
    98   2200  939
1968
080000      0    0
    37     28   28
    47     94   71
    59    206  116
    70    328  152
    92    606  234
  0105    734  280
    12    820  317
    31   1018  401
    47   1220  467
    66   1488  543
    93   1974  631
  0230   2682  676
    43   3018  677
    51   3214  671
    55   3324  663
1969
080000      0    0
    35     62   13
    60    300   72
    70    390  107
    82    484  152
    97    576  235
  0114    684  320
    17    764  397
    40    864  470
  0235   1294  595
    52   1416  697
    66   1554  772
    84   1752  853
  0305   2082  924
    41   2826  977
    52   3094  973
    60   3324  961
1970
120000      0    0
    34     14   27
    38     34  103
    45     84  236
    52    160  384
    60    294  545
    69    546  703
    77    916  772
    83   1320  801
    86   1532  806
    90   1910  799
    94   2244  780
1971
120000      0    0
    11     46   70
    19     92  148
    23    122  229
    28    158  312
    32    196  392
    36    240  461
    40    292  549
    43    362  616
    47    448  719
    51    564  766
    57    802  840
    68   1472  912
```

```
TIME   STRAIN STRS
    72   1824  913
    75   2122  903
    79   2394  888
1972
120000      0    0
    12      8   27
    15     26   69
    20     58  151
    24     94  226
    29    130  313
    33    166  390
    37    204  466
    40    252  543
    43    304  615
    47    372  733
    51    472  770
    55    622  839
    60    808  907
    66   1114  983
    75   1572 1055
    86   2296 1136
    96   2966 1163
  0100   3244 1162
    03   3504 1151
1973
120000      0    0
    07     20   53
    10     62  140
    11    102  227
    14    132  301
    16    170  387
    18    216  455
    20    274  543
    25    432  648
    27    570  764
    30    794  839
    34   1086  909
    41   2152  968
    44   2652  950
1974
120000      0    0
    05     30   53
    08     82  154
    12    168  320
    14    216  384
    15    232  437
    17    266  491
    19    312  551
    20    358  603
    22    448  649
    25    582  770
    28    774  838
    32   1238  908
    37   1884  933
    39   2142  947
    41   2496  967
    45   2964  988
    49   3294 1004
    51   3916 1007
    53   4304  992
1975
120000      0    0
    09     52   70
    25    288  327
    27    358  467
    30    462  591
    36    772  768
    42   1370  903
    49   2222  971
    51   2600  961
    53   3040  926
1976
120000      0    0
    19     32   73
    21     84  175
    25    164  333
    26    254  445
    31    596  708
    35    948  817
    37   1290  869
    40   1778  905
    41   2162  923
    45   2882  919
    48   3512  856
1977
120000      0    0
    08      2   20
    10     34   49
    12     74  193
    15    230  368
    18    324  456
    20    462  544
    25    942  680
    27   1318  730
    29   1766  763
    32   2232  767
    34   2780  731
    36   4102  449
1978
120000      0    0
    04     16   49
```

```
TIME   STRAIN STRS
    06     54  146
    08     92  230
    10    146  335
    11    192  413
    12    244  473
    15    420  629
    17    510  693
    19    694  763
    21   1208  804
    29   2392  902
    31   2868  901
    33   3372  877
1988
1988
120000      0
    22    382  356
    38    612
    60    866
    78   1026
  0100   1166
    30   1342
    50   1444
  0200   1662
    50   1836
  0300   1984
    53   2140
  0400   2264
  0500   2494
  0600   2688
  0710   2888
  0800   3014
  0900   3182
  1000   3312
  1500   3902
1989
020000      0
    34    642  356
    50    866
    75   1128
  0125   1464
  0300   2140
  0500   2676
  0725   3130
  0950   3452
  1015   3534
  1102   3644
  1400   3986
  2200   4792
  3041   5808
1990
040000      0    0
    50      4   26
  0100     22   69
    50     38  107
  0200     88  137
  0250    160  166
  0300    240  197
  0400    536  285
  0500    946  357
  0600   1436  397
  0700   2000  413
  0800   2650  440
1991
040000      0    0
  0100    104   95
  0200    414  198
  0300    764  287
  0400   1314  362
  0500   1778  419
  0600   2304  451
  0700   2880  474
  0800   3430  506
  0900   4030  531
  1000   4652  550
  1100   5286  537
  1200   5916  533
1992
120000      0    0
    52      8   17
    97     40   78
  0134     90  117
  0230    256  236
  0300    366  309
  0400    962  393
  0500   1442  449
  0600   1984  474
    34   2400  465
1993
120000      0    0
    78     54   28
  0103    218  130
    30    496  232
    55    904  318
    72   1232  360
    91   1624  397
  0247   2834  457
    65   3324  467
    81   3742  464
    90   4000  460
1994
120000      0    0
```

```
TIME   STRAIN STRS
    12      2   33
    20     16   72
    33     42  152
    46    100  237
    60    194  325
    73    314  397
    90    526  467
  0111    826  546
    37   1282  620
    65   1856  665
    80   2276  673
    91   2596  661
1995
120000      0    0
    71     12    6
  0162     74   77
  0264    196  156
  0328    308  200
  0419    554  240
    90    802  255
  0571   1176  253
1996
010000      0    0
  0100     70   22
  0261    464   79
  0405    784  149
  0720   1982  204
    51   2146  201
1997
120000      0    0
    60     50   35
  0120    162   80
  0207    260  147
  0315    478  215
  0405    774  243
    50    970  243
  0550   1444  233
1998
120000      0    0
    35     42   17
  0120    202  132
    80    396  210
  0211    510  247
    46    674  276
    89    976  287
  0311   1166  283
1999
120000      0    0
    53     48   25
  0117    194  103
  0200    476  204
    76    936  246
  0311   1230  242
2000
120000      0    0
    40     36   66
    69     84  110
  0118    192  185
    53    314  240
  0216    648  276
    55    966  270
2014
120000      0    0
    21     10   19
    34     38   75
    50     88  157
    62    146  231
    77    238  308
    93    376  397
  0111    586  471
    33    940  522
    40   1154  522
    49   1406  506
2015
120000      0    0
    20     22   16
    38     76   95
    55    158  187
    70    262  275
    95    318  396
  0125    996  469
    35   1222  467
    39   1340  468
2016
120000      0    0
    33     14   40
    38     22   72
    51     66  149
    60    110  203
    66    136  232
    73    186  273
    81    252  317
    98    414  397
  0108    722  433
    24    796  469
    30    948  472
    36   1140  459
2017
120000      0    0
    08     20   37
    11     72   74
```

```
TIME   STRAIN STRS
    15    192  113
    18    280  151
    25    432  231
    30    562  313
    35    650  392
    39    752  500
    44    894  553
    49   1044  617
    57   1444  693
    59   1658  685
    61   1882  667
2018
120002      0    0
    09     14   17
    14     60   90
    18    134  149
    24    264  228
    30    642  313
    38    738  394
    45   1436  412
    49   1624  393
2019
120000      0    0
    20     50   35
    25    124   83
    30    216  150
    35    312  229
    40    400  313
    45    486  394
    50    586  467
    54    730  544
    60    984  615
    66   1390  637
    70   1666  626
    72   2006  598
2020
120050      0    0
    56     24   34
    58     84  111
    60    144  204
    61    236  314
    64    356  423
    65    456  516
    68    614  605
    70    804  762
    71   1082  725
    73   1474  725
    75   2030  675
2021
120000      0    0
    18      6   44
    20     40  141
    23    106  292
    25    152  382
    26    218  469
    28    340  563
    30    464  654
    32    710  724
    35   1094  754
    36   1506  747
    39   2032  714
2022
120000      0    0
    03     26   43
    07     76  160
    08    112  252
    10    164  345
    12    246  474
    14    344  564
2023
120000      0    0
    31    110  204
    47    146  204
  0124    244  204
  0200    324  204
    50    366  204
  0302    414  204
    50    456  204
  0400    492  204
  0500    616  204
  0600    664  204
  1615    828  204
    43   1256  204
    60   1660  204
2024
120000      0    0
    30    294  204
    40    320  204
  0155    558  204
  0200    630  204
    50    668  204
  0300    694  204
  0600    930  204
  0800   1232  204
  0900   1604  204
    50   2042  204
  1000   2616  204
2025
120000      0    0
    23     20   06
  0192    682   39
```

```
TIME   STRAIN STRS
  0300   1208   36
    40   1398   36
2026
120000      0    0
    29      8    6
    51     38   12
    76     84   19
  0120    208   36
    75    448   40
  0200    572   39
2027
120000      0    0
    39     46    7
    60    118   27
    80    196   35
  0119    390   50
    57    658   53
    74    796   51
2028
120000      0    0
    37     16   10
    60     68   30
    78    126   44
  0103    224   62
    68    646   73
    81    760   72
2029
120000      0    0
    07      0    4
    10     14   18
    12     46   41
    28    150   72
    35    242   90
    45    386  108
    61    700  121
    70    872  131
    83   1226  130
    91   1446  126
2030
120000      0    0
    26     22    9
    34     82   28
    42    184   52
    51    270   77
    61    382  100
    75    618  126
    86    866  134
  0100   1176  133
    15   1548  134
    46   2260  130
2031
120000      0    0
    04      4    8
    07      0   37
    09     12   55
    11     20   83
    14     74  103
    17    132  129
    20    220  149
    23    266  174
    27    556  198
    31    802  210
    34   1006  210
    38   1322  207
    40   1504  203
2032
120000      0    0
    05      0   13
    07     18   43
    10     42   71
    12     88  106
    15    160  148
    18    240  166
    21    434  196
    24    596  198
    26    752  196
    39    966  188
2033
120000      0    0
    05     14   40
    07     46  100
    08     92  173
    10    180  243
    11    320  293
    12    542  320
    14    864  322
    15   1222  317
    18   1774  304
2034
120000      0    0
    05     16   28
    07     62   94
    08    156  150
    15    848  309
    16   1238  307
    19   1678  293
2035
000000      0    0
    50    200   39
  0100    310   39
  0200    440   39
```

```
TIME   STRAIN STRS
  0300   590   39
  0400   704   39
  1000  1510   39
  1700  2210   39
  3000  3500   39
  4400  4704   39
  6000  6220   39
013000  8340   39
024000  9240   39
2036
120000     0    0
    31     2    1
    35     6   12
    37    40   44
    40   146  123
    41   250  164
    45   528  224
    47   810  243
    49  1096  244
  0150  1398  237
2037
120000     0    0
    05    20   15
    08    30   63
    10   110  112
    12   228  160
    15   416  208
    19   718  255
    21   833  275
    24  1378  276
    26  1718  263
2045
070005     0    0
    77    14   13
  0114    30   34
  0214   112  102
  0320   202  203
    66   240  235
  0411   282  277
    54   318  316
  0539   358  397
    78   420  434
  0624   454  469
  0708   540  547
  0800   624  623
    93   722  693
  1005   918  770
    88  1100  811
  1178  1380  825
  1200  1442  823
2046
080000     0    0
    46    10   33
  0130    56  116
    63    74  151
  0250   136  231
  0341   214  317
  0428   298  397
  0626   556  545
  0761   816  621
  0952  1334  671
  1018  1564  665
2047
080000     0    0
  0114    58   81
  0314   182  280
  0510   312  467
  0677   448  628
  0865   678  778
  0965   832  838
  1100  1086  925
  1228  1366  970
    75  1504  980
    85  1530  974
2048
120000     0    0
    28    48   37
    49    46  153
    65   120  275
  0102   186  551
    37   264  817
    68   362 1046
    91   468 1224
  0221   636 1443
    33   754 1503
    40   870 1523
    45  1014 1516
    49  1170 1487
2049
120000     0    0
    19    32   39
    29   116   52
    49   178  153
    70   424  277
    86   498  397
  0109   584  545
    31   680  693
  0251   770  841
    72   874  986
    95   994 1137
  0320  1210 1277
```

```
TIME   STRAIN STRS
    34  1400 1314
    38  1500 1311
    43  1696 1283
2050
120000     0    0
    18    14   37
    30    36   78
    45    74  166
    65   126  323
    84   162  474
  0103   196  619
    22   238  772
    42   288  927
    60   352 1069
    80   440 1209
  0202   608 1350
    11   762 1372
    15   862 1363
2051
100000     0    0
    11    24   49
    13    72  156
    16   118  303
    20   180  519
    22   218  717
    25   270  835
    27   320  998
    30   380 1230
    32   446 1339
    35   52C 1489
    38   666 1683
    40   864 1830
    42  1154 1906
    44  1678 1943
2052
100000     0    0
    09     8   40
    12    44  198
    15    74  340
    18   112  534
    21   154  770
    24   184  917
    25   212 1043
    28   240 1196
    30   266 1310
    31   300 1484
    34   338 1622
    35   372 1768
    38   420 1903
    40   470 2063
    41   530 2185
    44   610 2324
    46   758 2393
    48  1022 2507
2053
100000     0    0
    11    10    9
    18    10   62
    20    10  180
    23   100  317
    26   130  504
    30   220  708
    35   300 1061
    40   404 1426
    42   368 1635
    46   580 1840
    49   710 2030
    50   944 2208
    55  1700 2216
2060
080000     0    0
    70    30    9
  0133   100   32
  0353   220  236
  0514   276  431
  0628   326  539
  0769   400  693
  0851   470  772
  0983   750  823
    91   800  817
2061
080000     0    0
    20     4   20
    69    24   73
  0400   172  449
  0723   394  770
  0849   680  829
  0961   746  823
2062
080000     0    0
    10    20    8
    48    32   49
    82    50   73
  0302   152  317
  0439   224  467
  0653   424  675
  0847   930  744
  0861  1006  737
2063
070000     0    0
    88    26   33
```

```
TIME   STRAIN STRS
  0106    86  115
    44   190  340
    74   264  551
  0205   368  772
    18   466  918
    52   594 1054
    80   826 1204
  0305  1212 1281
    12  1418 1269
2064
070000     0    0
    89    38   72
  0120   160  238
    51   286  506
    68   370  543
  0202   542  772
    26   680  920
    51   840 1062
    78  1068 1204
  0310  1464 1353
    30  1792 1397
    36  1942 1398
2065
070000     0    0
    12    16   57
    26    40  131
    42    78  236
    53   100  313
    77   148  485
    95   190  632
  0114   232  770
    33   290  903
    54   370 1061
    75   472 1204
    95   602 1353
  0218   784 1494
    45  1080 1637
    76  1628 1736
2066
070000     0    0
    11     8   37
    14    38  130
    37   122  272
    39   142  373
    43   202  619
    45   232  766
    48   280  965
    50   320 1126
    53   372 1411
    55   420 1599
    59   480 1843
    61   590 2048
    63   634 2192
2067
060000     0    0
    11    26   29
    14   120  136
    16   220  765
    20   332  420
    23   434  616
    27   502  777
    30   560  980
    33   630 1225
    36   704 1503
    40   760 1722
    45   846 2053
    47   914 2205
    49  1002 2386
2075
080000     0    0
    61    22   32
  0115    90   72
  0364  1002  108
  0410  1220  102
2076
080000     0    0
    15     0    3
    40    18   20
    74    52   47
  0110    98   74
  0215   370  126
  0308   712  117
2077
100000     0    0
    10    10   25
    20    38   69
    29    74  109
    36   122  145
    45   182  190
    56   276  243
    68   408  289
    80   572  323
    95   704  343
  0107  1360  335
2078
100000     0    0
    32    10   15
    42    20   70
    50    36  108
    57    68  155
    72   144  236
```

```
TIME   STRAIN STRS
    80   224  275
    81   348  317
  0100   524  331
    08   648  335
    19   906  327
2079
100000     0    0
    07    26   43
    10    62  125
    11   116  226
    15   224  375
    18   380  525
    21   542  703
    25   786  829
    27  1078  903
    30  1468  926
    32  2150  886
2080
100000     0    0
    05     6   44
    06     8  106
    08    50  197
    10    9.  299
    12   351  473
    15   416  509
    16   282  611
    18   356  704
    20   470  808
    22   616  890
    25   836  954
    27  1192  983
2087
100000     0    0
    20   148  227
    34   252  227
    52   452  227
    75   726  227
  0100  1058  227
    10  1216  227
    19  1358  227
    40  1704  227
    59  1964  227
  0200  2652  227
    33  3148  227
    61  3690  227
  0300  4402  227
    43  5338  227
  0400  5998  227
    30  6422  227
    69  6934  227
  0500  7334  227
    30  7960  227
    65  8376  227
  0600  8774  227
    33  9172  227
2088
100000     0    0
    39   100   94
    60   144   94
    80   180   94
  0100   222   94
  0458   776   94
  1262  2102   94
  1778  3570   94
  2442  4796   94
  3300  5870   94
112824  6956   94
121500  7272   94
2090
020000     0    0
    43     0   13
  0102   132   50
  0410   746  287
    48   830  317
  0510  1000  354
    67  1194  352
    78  1246  359
2091
020000     0    0
    53    56   11
  0293   510  204
  0422   784  304
    81   976  330
  0511  1098  334
  0619  1126  331
2092
020000     0    0
    50     5    7
  0108   146   19
  0391   736  239
  0570  1246  341
    92  1306  341
2093
020005     0    0
    05     0    0
    39    50   13
    76   250   37
  0300  1240  267
    50  1450  317
2094
020000     0    0
```

```
TIME   STRAIN STAS
    29    34   22
    57   106   78
  0185   500  286
  0255   830  367
    92  1348  356
2095
020005     0    0
    50    60   35
    74   104   77
  0120   200  157
    63   286  213
  0221   540  316
  0305  1040  387
    16  1150  386
2096
120000     0    0
    01     8   31
    12    70  113
    22   108  163
    36   260  233
    50   316  319
    65   412  399
    81   560  470
    95   772  509
  0102   956  513
    09  1136  507
2097
120000     0    0
    15    12   23
    30    68   87
    44   134  148
    57   210  230
    71   290  317
    83   376  397
    98   506  465
  0119   818  531
    24   940  530
    39  1108  514
2098
120000     0    0
    20    16   2[illegible]
    33    50   74
    41    90  113
    50   138  160
    57   170  195
    65   222  241
    78   290  315
    91   380  398
  0108   506  477
    23   674  546
    41  1034  574
    58  1266  551
2099
120000     0    0
    06     6   31
    14    82  149
    18   122  227
    22   178  314
    26   204  393
    30   256  464
    34   326  540
    38   424  616
    43   618  694
    48   864  712
    51  1214  741
2100
010000     0    0
    03    22   41
    07    62   99
    12   132  188
    15   174  231
    20   244  319
    24   314  397
    28   394  467
    33   472  543
    38   634  618
    46  1076  687
    48  1286  677
    51  1618  644
2101
010000     0    0
    05     0   47
    10    44  146
    16    90  270
    20   166  353
    26   206  467
    30   324  549
    36   448  623
    41   592  665
    45  1168  633
2102
120000     0    0
    10     2  [illegible]
    11    60   79
    15   118  185
    19   184  308
    23   290  467
    27   438  617
    33   774  772
    35  1084  781
    37  1564  719
```

```
TIME   STRAIN STRS
2103
000000     0    0
  0100  2200   32
000200  2420   32
000700  2710   32
000900  2760   32
002500  3050   32
014500  3560   32
094000  3980   32
200000  4250   32
270000  4680  [illegible]
2104
000000     0    0
000100  1360   32
000600  1780   32
000800  1830   32
002400  2100   32
014400  2620   32
094000  3080   32
200000  3378   32
270000  3650   32
2105
000000     0    0
000100  1540   32
000300  1750   32
001900  2292   32
023900  3070   32
093600  3580   32
195400  3906   32
265400  4124   32
2107
120000     0
    30   132  118
    50   148
  0100   176
  0300   226
  0400   248
  0900   314
011500   818
014500   716
0314[illegible]  1214
085825  1696
071160  2236
071200  2184
  3300  2148
2116
090000     0    0
    11     2   72
    14    48  190
    16    88  344
    19   140  473
    20   220  622
    24   362  761
    26   794  830
    28  1378  736
    30  2442  483
2117
090050     0    0
    60    46  151
    61   168  252
    63   130  367
    65   190  480
    66   274  599
    68   376  700
    70   554  798
    72   978  805
    74  1986  570
2118
100000     0    0
    00    12   51
    00    56  146
    00   120  253
    00   198  369
    00   308  487
    00   450  613
    00   608  713
    00   852  785
    00  1208  802
2119
120000     0    0
    07    38  106
    11   126  250
    15   238  414
    19   344  546
    22   482  658
    27   732  772
    30  1088  802
    31  1662  722
2120
120000     0    0
    11    46  [illegible]
    14   116  176
    17   196  [illegible]
    20   298  362
    29   732  617
    33  1120  703
    36  1596  693
2121
120000     0    0
    33     0   09
    50     0   20
```

```
TIME  STRAIN STRS
  0100     10    49
    53     42    79
  0311    218   157
  0400    398   197
  0500    670   223
  0659    862   226
    83    964   223
2122
120000      0     0
    55     32    34
    40    128    90
  0156    144   101
  0234    254   155
  0350    478   218
  0400    618   235
    53    780   240
    59    806   239
2123
120000      0     0
    27     16    08
    45     36    20
  0238    380   120
    90    476   149
  0340    588   173
  0400    746   200
    51    906   209
  0500   1096   211
    10   1134   204
2124
120000      0     0
    17     12    15
    27     20    32
  0234    704   266
    61    928   260
2125
120000      0     0
    10      0     0
    38     26     5
    84    130    72
  0130    262   126
  0200    534   195
    64    872   230
    88   1054   231
    94   1100   228
2126
120000      0     0
    14      6    21
    50     52    81
  0100    182   141
    50    440   167
    80    680   164
2127
120000      0     0
    10     18    24
    20     56    70
    29    106   117
    45    200   198
    53    274   243
    68    432   317
    80    588   355
    92    832   365
    96    914   363
2128
120000      0     0
    11     14    21
    38     60   109
    49    104   152
    64    120   211
    71    148   241
    90    152   316
  0102    362   360
    18    566   395
    27    752   403
    32   1086   397
2129
120000      0     0
    40    214    37
    65    606    74
    69    786   113
    83    962   157
  0104   1228   231
    37   1616   317
    52   1946   356
    67   2262   363
    72   2390   358
2130
120000      0     0
    05      6    19
    10           85
    17     36   175
    24    170   280
    30    384   378
    38    670   467
    47   1142   524
    51   1480   514
2131
120000      0     0
    03      4    10
    07     36    66
    12    110   150
    18    212   256
```

```
TIME  STRAIN STRS
    21    266   315
    27    364   394
    33    528   467
    40    834   543
    50   1478   577
    52   1756   563
    56   2072   551
2132
120000      0     0
    08      4    35
    11     26   103
    18     74   227
    22    134   317
    33    394   467
    38    692   500
    41    930   495
    45   1252   493
2133
120000      0     0
    00     22    39
    00    104   140
    00    170   229
    00    222   334
    00    278   441
    00    410   596
    00    726   750
    00   1174   754
    00   2006   647
2134
120000      0     0
    07      0     0
    08     36    99
    10     96   225
    12    160   343
    15    242   459
    17    366   562
    19    618   646
    21   1062   630
2135
120000      0     0
    03     12    52
    06     52   159
    08    104   274
    10    196   402
    13    422   521
    15    790   522
    17   1256   513
2136
120000      0     0
    06      2    23
    08     34    94
    10     86   170
    12    118   271
    15    170   354
    18    246   470
    20    364   557
    23    660   610
2137
120000      0     0
    03     20    37
    07     44   148
    11    126   314
    15    156   432
    19    436   540
    23    894   611
    27   1494   617
2138
120000      0     0
    00      4    20
    00     44    93
    00    116   185
    00    184   283
    00    264   383
    00    368   493
    00    572   616
    00    920   689
    00   1316   705
    00   1878   674
2147
060000      0     0
    24      6    24
    62     42    72
  0102     86   110
    44    158   145
    80    238   157
  0230    400   193
    67    564   180
2148
120000      0     0
    42     30     5
    60     62    11
  0268    626   125
  0304    728   143
    58    940   137
    72    998   131
2149
120000      0     0
    39     42    14
    63     76    30
  0110    152    70
    47    206    97
```

```
TIME  STRAIN STRS
    86    304   127
  0240    428   153
  0317    738   167
    30    800   163
2150
120000      0     0
    18      8    10
    47     72    53
    61    114    77
    90    220   117
  0127    394   150
    79    740   173
    93    860   165
2151
060000      0     0
    28     36    22
    54     96    57
    92    214   112
  0121    296   150
    51    398   191
  0200    646   236
    26    830   238
    38    936   236
2152
060000      0     0
    22      0    12
    68     96    84
    96    200   134
  0111    260   150
    50    480   176
    70    644   176
    77    698   173
2153
060000      0     0
    10     12    30
    17     48    76
    27    104   127
    32    144   149
    52    382   232
    70    746   261
    94   1144   251
2154
060000      0     0
    17     60    37
    24     86    60
    40    220   116
    51    306   153
    65    458   192
    80    664   236
  0100   1052   258
    07   1236   252
2155
060000      0     0
    08     10     9
    17     24    49
    30     96   109
    39    142   157
    53    248   230
    60    316   270
    75    520   316
    80    612   325
    91    930   319
2156
060000      0     0
    00     10    13
    00     34    79
    00     86   133
    00     94   165
    00    224   227
    00    272   274
    00    342   317
    00    410   353
    00    576   397
    00    794   423
    00    954   426
    00   1148   424
    00   1404   417
2157
060000      0     0
    07      0     1
    10     66    60
    20    334   167
    27    610   227
    38   1062   317
    43   1396   334
    47   1716   323
2158
060000      0     0
    10      8    12
    13     20    80
    15     54   130
    19     82   194
    21    116   228
    26    204   308
    35    528   395
    37    716   397
    39    898   389
2159
080000      0     0
    11      4    37
    13     34   120
```

```
TIME  STRAIN STRS
    15     78   254
    18    146   331
    20    262   447
    21    466   527
    23    830   519
2160
080000      0     0
    14     52   102
    17    144   255
    19    228   353
    21    342   436
    23    570   516
    25   1042   483
2161
080000      0     0
    10     10    53
    12     54   188
    14    112   296
    16    202   400
    18    320   476
    20    604   524
    22   1170   505
2162
080000      0     0
    04     44    37
    07    148   126
    10    256   187
    12    400   264
    15    564   353
    18    730   433
    20    980   489
    23   1396   477
2163
080000      0     0
    05     14    36
    07     50    93
    10    138   172
    11    200   228
    14    302   319
    16    400   390
    20    760   456
    21   1050   439
2164
080000      0     0
    09     14    51
    13    248   200
    15    354   249
    18    548   310
    21    780   370
    24   1092   397
    25   1364   386
2165
  0000      0    55
    01    680
    02    754
    37   1674
  0147   2268
  1262   3930
  1317   4134
  1407   4290
  1737   4878
  1992   5150
2166
  0000      0    55
    01    280
    04    370
    40    572
  0150    590
  1265    950
  1320    976
  1410   1010
  1740   1116
  1995   1170
2176
070000      0     0
  0250     24     4
  0335    130    53
    86    204   102
  0464    370   157
  0534    530   197
  0607    760   228
    80   1044   228
  0760   1418   220
2177
070000      0     0
    33     20     4
    68     70    13
  0355    902   126
  0450   1220   153
  0623   1838   193
  0742   2292   207
    50   2328   204
2178
070000      0     0
    58     42    13
    86     86    31
  0325    598   177
  0433    986   203
    81   1276   187
  0548   1560   180
2179
```

```
TIME  STRAIN STRS
120000      0     0
  0193    136    77
  0260    266   109
  0450    796   195
  0500    950   207
    82   1242   217
    97   1312   221
2180
120000      0     0
    30     18    29
    45     48    60
    58     70    87
    70    108   113
    92    184   153
  0120    276   193
    57    498   232
  0200    816   239
    10    922   236
2181
120000      0     0
    36     62    50
    59    120    92
    93    240   150
  0139    476   213
    58    510   233
  0200    828   257
    25   1018   257
    38   1144   253
2182
120000      0     0
    51     58    40
    83    142    86
  0102    216   126
    41    350   164
  0231    886   244
    92   1390   247
  0300   1458   245
2183
120000      0     0
    30     36    41
    53     86    87
    91    206   151
  0122    338   190
    70    608   230
  0205    886   237
    18    994   235
2184
120000      0     0
    10      0     3
    30     30    43
    39     62    71
    50    156   111
    59    200   149
    68    286   192
    77    366   233
    96    566   320
  0109    726   364
    30   1140   386
    42   1706   363
2185
120000      0     0
    20     62    87
    28    114   126
    41    222   185
    52    344   241
    71    616   317
    91   1014   345
    96   1142   342
2186
120000      0     0
    05     10    23
    10     22    73
    16    120   134
    21    256   192
    34    666   327
    40    962   384
    44   1222   389
    47   1510   374
2187
120000      0     0
    05      6    20
    09           93
    16     42   148
    23    224   230
    31    500   313
    37    806   370
    45   1284   394
    59   1642   378
2188
120000      0     0
    09     14    10
    13     86    72
    20    184   163
    23    262   224
    29    390   314
    35    598   394
    41    916   433
    46   1462   423
    49   1638   393
2189
120000      0     0
```

```
TIME  STRAIN STRS
    05      4    26
    07     34   113
    08     66   204
    10    112   296
    11    164   385
    12    242   465
    14    356   536
    15    466   579
    17   1050   508
2190
120000      0     0
    06      2    36
    08     32    55
    10     86   268
    11    152   377
    15    390   530
    17    724   560
    19   1308   468
2191
120000      0     0
    04     14    18
    07     66    87
    08    168   148
    10    298   213
    11    418   277
    12    550   343
    14    714   406
    17   1027   468
2192
120002      0     0
    11     38    60
    13     70   140
    15    112   227
    17    164   307
    20    246   494
    23    370   472
    25    560   520
    27    868   518
    29   1308   417
2193
120000      0     0
    05      0     0
    08     20    28
    10    100    87
    12    178   152
    14    246   231
    17    310   322
    19    386   393
    21    512   461
    24    758   506
    27   1104   492
2194
120000      0     0
    07      2    17
    11     20    37
    18     70    72
    37    225   152
    41    294   172
    48    376   199
    57    502   236
    69    696   273
    85    892   317
  0100   1288   333
    12   1544   374
2195
120000      0     0
    06      6     7
    08     72    73
    11    162   149
    13    246   232
    16    330   314
    29    450   491
  0125   1046   533
    28   1518   494
2209
120000      0     0
120027     14     7
120064     98    37
120100    170    44
120167    340    72
120213    488    87
120300    820   102
120350   1040   119
120361   1088   103
2210
120000      0     0
120069     50    44
120104    104    66
120150    208    97
120212    406   116
120297    796   129
120305    824   123
2211
120000      0     0
120075    122    31
120195    458    78
120270    672   110
120300    780   117
120378   1090   133
120439   1356   126
120448   1404   122
```

```
TIME   STRAIN STRS
2212
120000      0      0
120036     80     31
120058    166     51
120125    506    113
120140    586    133
120192    916    164
120240   1290    173
120260   1408    164
2213
120000      0      0
120017     36     10
120124    686     79
1202 1   1336    135
120265   1706    137
120328   2260    137
120341   2358    135
2214
120000      0      0
120013     18      4
120061    196     53
120197   1026    157
120241   1430    146
120248   1488    144
2215
120000      0      0
120075    114     32
120178    268    100
120267   1086    123
120298   1364    117
2216
120000      0      0
120010     14     17
120018     60     47
120031    182     84
120043    424    149
120062    660    200
120083   1088    216
120089   1242    219
120102   1576    .14
2217
120000      0      0
120022     20     21
120038    118     77
120047    200    115
120059    326    156
120071    520    192
120090    960    206
120096   1152    200
2218
120000      0      0
120018    102     29
120037    340     80
120050    506    120
120061    690    154
120079   1020    191
120091   1374    196
120097   1460    193
2219
120000      0      0
120009     14     13
120011     50     32
120016    272     72
120020    446    108
120025    596    151
120029    732    197
120031    842    231
120033   1144    276
120040   1318    284
120042   1504    283
120047   1780    277
2220
120000      0      0
120033     16     37
120037     92    111
120040    170    152
120043    290    191
120048    594    214
120051    842    211
120054   1106    197
2221
120000      0      0
120006     24     10
120008     56     36
120011    174     73
120014    198    112
120017    278    147
120021    396    194
120024    492    231
120028    688    277
120032    884    301
120039   1364    310
120042   1600    310
120047   1968    304
2222
120000      0      0
120005     22     22
120007     72     93
120008    160    160
120010    316    217
120011    570    253
```

```
TIME   STRAIN STRS
120013    916    259
120015   1418    227
2223
120000      0      0
120005     24      9
120007     70    109
120009    166    198
120010    298    261
120011    610    277
120014   1052    245
2224
120000      0      0
120017     36     39
120019    142    103
120021    300    167
120022    510    270
120026   1112    247
120028   1538    214
2225
120005      0      0
120016     44     39
120018     96    107
120020    164    166
120022    348    205
120024    732    214
2226
120000      0      0
120007     34     24
120010     94     81
120011    168    152
120014    292    229
120018    610    305
120020    888    347
120023   1466    247
2227
120000      0      0
120008     18     14
120011     80     70
120016    470    148
120021   1050    184
120024   1518    161
2228
120000      0      0
120029     14     20
120047     86     73
120050    134    106
120078    282    131
120085    508    232
120088    714    253
120091    960    253
120097   1422    233
2229
  0000      0     55
  0100    120     55
  0300    180     55
  4500    366     55
022000    208     55
095000   1164     55
240000   1293     55
314000   1325     55
450000   1626     55
490500   1761     55
513000   1903     55
573000   2069     55
700000   2226     55
2231
120000      0      0
120020     10     13
120025     12     36
120033     54     79
120041     86    120
120047    120    157
120052    142    190
120059    196    237
120065    230    275
120070    266    317
120079    338    356
120086    406    395
120094    480    435
120102    594    469
120122    834    545
120146   1258    625
120176   1956    659
120188   2292    648
2232
120000      0      0
120020     16     20
120040     92    120
120048    134    155
120059    208    236
120072    310    317
120088    462    396
120107    670    469
120132   1056    546
120168   1764    619
120215   2894    653
120237   3436    647
2244
120000      0      0
120067     24     47
120085     32     60
```

```
TIME   STRAIN STRS
120139     80     96
120206    170    133
120368    514    191
120405    620    203
120454    762    196
120496    900    191
2245
120000      0      0
120075     38     37
120215    238    113
224574    344    137
120274    344    137
120337    480    158
120422    710    170
120516   1020    172
120526   1038    167
2246
120000      0      0
120169     24     83
120241    346    117
120302    468    140
120393    670    167
120490    936    183
120550   1120    186
120570   1186    183
2247
120000      0      0
120067     46     19
120193    218     61
120261    320     90
120339    446    114
120439    646    150
120503    802    166
120554    932    173
120587   1028    174
120655   1216    171
120668   1244    166
2248
120000      0      0
120062     70     13
120140    412     49
120202    648    131
120255    876    182
120308   1108    232
120366   1470    254
120397   1732    245
2249
120000      0      0
120038     60     42
120062    126     77
120150    454    184
120192    732    207
120225    970    206
2250
120000      0      0
120019     24     17
120078    160    109
120094    214    131
120120    314    160
120172    596    205
120209    864    210
120237   1084    207
2251
120000      0      0
120040     56     54
120065    126     91
120083    198    111
120150    532    169
120212   1014    173
2252
120000      0      0
120003      0     23
120013     30     27
120029    186     83
120036    274    106
120051    466    155
120060    602    203
2253
120000      0      0
120018     16     13
120030     68     70
120061    318    213
120075    516    245
120096    984    269
120006   1244    254
2254
120000      0      0
120009      0     14
120018     44     56
120030    106    112
120039    192    153
120049    294    191
120060    458    241
120073    700    248
120083    984    245
120088   1110    239
2255
120000      0      0
120018     36     41
120020     46     70
120023    108    114
```

```
TIME   STRAIN STRS
120025    148    145
120028    212    190
120031    306    232
120034    382    270
120038    524    314
120041    778    340
120045    978    333
2256
120000      0      0
120010      6      0
120016     18     26
120020     46     77
120024    100    155
120029    180    236
120033    286    316
120037    422    364
120040    600    393
120043    826    390
120047   1228    358
2257
120000      0      0
120025     30     22
120028     74     52
120032    158    128
120037    246    186
120039    326    232
120042    406    269
120046    528    315
120052    706    355
120054   1134    345
2258
120000      0      0
120011     16     23
120013     82     89
120014    142    167
120018    252    329
120019    362    409
2259
120009      0      0
120021     38     53
120023    120    168
120025    186    250
120027    278    327
120028    482    369
2260
120000      0      0
120004     54     55
120006    108    123
120008    172    203
120010    274    267
120011    422    339
120013    792    382
120014    810    417
120016   1158    408
2261
120000      0      0
120005     20     34
120010    120    190
120012    178    258
120013    250    316
120015    330    374
120017    472    412
120019    730    412
120021   1186    348
2262
120000      0      0
120006     14      6
120010     87     63
120011    156    119
120014    240    187
120016    314    243
120018    470    316
120020    612    374
120023    844    394
120025   1446    389
2263
120000      0      0
120018     20     13
120020     68     71
120022     96    133
120025    152    199
120027    236    263
120029    338    317
120031    534    370
120033    760    387
120035   1104    365
2276
120000      0      0
120024    150     72
120048    282     72
120081    530     72
120100    658     72
120136    922     72
120224   1568     72
120251   1782     72
120300   2174     72
120400   2916     72
120550   4034     72
120654   4756     72
120673   4898     72
120700   5098     72
```

```
TIME   STRAIN STRS
120752   5408     72
121000   6624     72
2277
120000      0      0
120018    176     72
120025    228     72
120051    402     72
120171   1396     72
120286   2452     72
120431   3868     72
120471   4302     72
120539   4954     72
120575   5268     72
120600   5494     72
2278
120000      0      0
120012      4      6
120022      8     27
120055     30     60
120072     14     78
120100     50    109
120157     92    164
120200    116
120300    200    307
120351    242    357
120400    300    399
120600    460    469
120600    790    484
120610    832    479
2279
120000      0      0
120024      0     07
120052     20     23
120127     84     80
120205    146    150
120416    360    347
120451    384    384
120500    456    417
120600    632    469
120663    894    472
120673    940    469
2280
120000      0      0
120093    120     52
120132    184     78
120200    280    129
120251    342    169
120300    390    216
120444    524    348
120500    592    393
120600    752    463
120676    950    491
120722   1108    493
120743   1196    487
2281
120000      0      0
120107     66     33
120156    158     67
120300    258     90
120305    454    157
120400    604    231
120500    754    308
120600    930    383
120800   1508    441
120847   1736    420
120853   1766    414
2282
120000      0      0
120034     14     13
120070     70     61
120134    178    173
120200    288    314
120242    354    393
120318    558    573
120372    870    568
120385    988    562
2283
120000      0      0
120041     36     38
120077    102    110
120100    134    153
120188    332    309
120253    536    409
120300    744    457
120350   1100    469
2284
120000      0      0
120036     22     21
120076    110     79
120170    246    255
120252    368    423
120293    468    495
120330    590    548
120387    988    570
2286
120000      0      0
120015     10     45
120028     34    120
120050    122    244
120078    150    429
120085    182    473
```

```
TIME   STRAIN STRS
120097    350    551
120108    424    625
120121    564    703
120141    920    747
120147   1092    731
2287
120000      0      0
120045     10     35
120105     92    223
120137    170    416
120154    448    510
120186   1006    539
120193   1224    580
2288
120000      0      0
120020     10     35
120033     42    117
120049     78    235
120072    202    395
120092    324    503
120117    586    625
120126    902    634
120131    944    620
2289
120000      0      0
120010     10     23
120020     98    236
120025    160    317
120030    216    469
120036    298    531
120041    388    697
120045    478    767
120049    614    846
120056    988    900
120058   1296    877
2290
120000      0      0
120010     12     34
120016    120    115
120020    204    158
120025    348    237
120030    498    318
120036    640    394
120040    800    469
120047   1018    546
120052   1134    671
120057   1480    697
120067   2098    759
120071   2474    727
2291
120000      0      0
120008     14     35
120012     38    105
120014     54    160
120018     74    243
120021    100    310
120025    126    393
120028    156    463
120035    228    622
120038    264    688
120041    352    763
120046    424    840
120051    646    915
120054    846    923
120057   1402    884
2292
120000      0      0
120000      2     29
120000     48    196
120000     86    438
120000    136    536
120000    186    687
120000    248    835
120000    348    979
120000    487   1124
120000    520   1177
2293
120000      0      0
120008     24     57
120010     76    156
120011    126    257
120015    216    470
120017    282    627
120020    334    766
120022    414    910
120025    534   1053
120028    896   1153
2294
120000      0      0
120006      8     43
120008     64    174
120010    134    307
120013    212    460
120015    284    617
120018    352    753
120020    506    910
120023    804    995
2295
120000      0      0
120007      2     38
120010     22    147
```

```
TIME   STRAIN STRS
120015 [illegible]  317
120020          469
120024 [illegible]  619
120029   696  770
120033  1004  841
120036  1330  858
120037  1908  834
2296
120000     0    0
120006    16   55
120008    82  150
120011   138  243
120013   212  350
120016   284  459
120020   390  621
120023   496  772
120026   574  851
120028   704  943
120031   892 1013
120034  1196 1040
120036  1552 1008
2297
120000     0    0
120006    14   33
120008    60  106
120011    74  230
2310
120000          0
    08    22    9
  0120   230   63
  0349   554  183
  0460   814  238
  0537  1000  275
  0693  1504  313
  0714  1614  307
2311
120000     0    0
    19     4    7
  0233   290  175
    57   330  190
  0317   454  233
    50   528  250
  0438   784  288
  0500  1008  297
    81  1340  300
    87  1376  293
2312
120000     0    0
    97   122   23
  0100   354   63
  0307   562  117
  0587  1138  271
  0702  1462  336
    88  1642  368
  0957  2294  378
2313
120000     0    0
    77    66   32
    76   160   89
  0192   322  168
  0401   504  235
  0587  1062  286
2314
120000     0    0
    43    26   51
    63    50   89
    99   120  160
  0120   168  197
    49   248  240
    78   378  276
  0249   616  309
    74  1034  302
2315
120000     0    0
    45   110   42
  0147   582   83
    77   706  158
  0204   812  194
    37   940  233
    77  1118  277
  0328  1392  317
    94  1842  330
  0403  1912  327
2316
120000     0    0
    65    78   53
  0104   152  118
    26   190  156
    47   232  193
    69   292  240
  0200   390  278
    38   566  317
    73   800  323
  0300  1028  320
2317
120000     0    0
    17     4   13
    31    20   36
    53    52   77
    75    82  119
  0105   142  173
```

```
TIME   STRAIN STRS
    41   240  234
    72   350  278
  0224   658  315
    46   816  317
    66  1008  314
2318
120000     0    0
    17    18   33
    40    96  173
    50   130  234
    63   218  321
    78   362  394
  0100   700  470
    06   848  478
    13  1010  477
    18  1146  477
2319
120000     0    0
    18    46   24
    28   120   70
    45   204  151
    60   320  236
    74   432  312
     9   584  393
  01 1   922  472
     0  1120  484
    28  1120  484
    36  1520  476
2320
120000     0    0
    48    12   21
    57    48   71
    63    90  119
    76   160  205
    80   186  237
    92   246  316
  0105   348  393
    23   542  473
    37   780  509
    54  1170  516
    58  1298  511
2321
120000     0    0
    07     4   51
    10    42  112
    17   138  232
    21   222  310
    26   354  393
    34   644  475
    41  1062  510
    49  1576  533
    52  1976  532
2322
120000     0    0
    08    46   44
    12   126  109
    15   168  153
    20   246  236
    25   334  318
    28   396  393
    33   460  469
    37   544  547
    41   650  624
    46   820  695
    51  1180  718
    54  1492  697
2323
120000     0    0
    10     8   27
    15    40  111
    21   120  193
    27   250  273
    43   610  489
    48  1064  558
    56  1438  620
    60  1768  643
    64  2074  640
2324
120000     0    0
    08    74  108
    11   140  254
    14   202  496
    16   292  539
    19   390  673
    20   490  768
    22   618  840
    23   808  898
    25  1094  907
    27  1688  840
2325
120000     0    0
120013   184  314
120015   228  390
120019   306  546
120022   388  691
120026   504  838
120029   658  938
120031   834  987
120033  1146  983
    17    12   27
    18    72  126
```

```
TIME   STRAIN STRS
    20   140  230
    23   192  353
    26   288  540
    28   362  657
    30   450  762
    32   488  853
    34   884  91
2326
120000     0    0
    09    40   91
    10     8  195
    13   150  363
    15   238  540
    19   340  637
    21   484  830
    23   544  908
    25   882  961
    27  1186  973
2327
120000     0    0
    17    70  102
    20   140  227
    24   264  386
    29   448  543
    33   616  695
    36   818  768
    38  1052  830
    41  1348  852
    43  1756  830
2328
120000     0    0
    07    12   43
    10    84  136
    13   180  183
    18   320  423
    20   442  543
    23   554  623
    28   838  749
    31  1138  811
    33  1458  828
    35  1784  819
2329
010000     0    0
    07    30   44
    10    66  112
    11   124  199
    17   272  390
    20   432  539
    24   582  621
    27   798  690
    31  1274  747
    33  1616  747
    36  2310  725
2342
120000     0    0
    78    10    5
  0116    44   37
    60   104   73
  0210   174  118
    51   258  150
  0300   382  173
  0410   810  197
2343
120000     0    0
    54    24   30
    82    48   60
  0100    66   75
    23    90   97
    45   108  121
    83   170  157
  0233   262  198
  0300   444  233
    78   738  250
  0457  1074  256
  0500  1264  257
    44  1454  258
    53  1488  255
2344
120000     0    0
    56    24   33
    82    54   53
  0100    62   65
    51   122   93
    91   200  113
  0302   262  158
    71   468  177
  0400   766  183
    51   952  187
    74  1040  183
2345
120000     0    0
    18    16   23
    34    32   40
    74    62   79
  0102   116  103
  0221   348  199
    50   434  212
  0300   598  228
    50   782  235
    04  1000  239
    13  1054  237
```

```
TIME   STRAIN STRS
2346
120000     0    0
    24    18   23
    53    44   77
    71    82  118
  0103   146  163
    35   222  213
    52   262  237
    82   416  277
  0233   694  316
  0300  1168  337
  0400  1942  350
  0500  2704  379
  0600  3490  402
  0700  4498  425
  0800  5086  453
  0904  5826  492
  1000  6500  517
  1100  7268  530
  1154  7662  525
2347
120000     0    0
    19    10   17
    37    46   52
    53    74   79
    77   146  117
  0100   218  150
    10   248  160
    42   386  196
  0200   738  235
  0300  1472  253
  0450  2624  273
  0643  3944  319
  0950  6144  447
  1207  8120  456
    37  8352  454
2348
120000     0    0
    26    54   39
    50    84   79
    74   140  123
    94   194  157
  0121   294  199
    51   592  237
  0450  2630  269
  0500  3010  279
  0953  6638  368
  1032  7412  367
2349
120000     0    0
    22    14   21
    37    22   50
    52    34   79
    80    94  130
  0100   146  157
  0400        347
  0600        417
  0700        420
    35        419
2350
120000     0    0
    14     4   26
    21    28   76
    29    56  118
    34    86  157
    40   122  195
    47   162  235
    60   288  316
    78   484  395
  0116  1198  469
    50  2406  484
  0200  3170  519
    20  3658  519
2351
120000     0    0
    24    52   42
    45   226  147
    61   392  228
    73   566  273
  0100  1322  314
    15  1486  310
2352
120000     0    0
    39   124  145
    49   214  195
    57   310  235
    78   606  317
    94   866  360
  0123  1512  378
2353
120000     0    0
    23    26   30
    28    88  111
    32   160  194
    37   226  268
    39   276  314
    43   390  394
    49   576  471
    59  1126  544
    63  1460  529
2354
```

```
TIME   STRAIN STRS
120000     0    0
    09    14    4
    13   134   60
    20   332  153
    25   404  230
    30   490  313
    34   586  394
    39   682  471
    42   760  520
    45   860  583
    49   972  632
    55  1336  697
    60  1610  710
    64  2018  706
2355
120000     0    0
    15     4   23
    18    24   93
    22    56  157
    26    80  238
    30   120  319
    33   168  394
    37   246  474
    41   320  555
    46   434  622
    52   736  697
    57  1104  710
    62  1526  704
2356
120000     0    0
    27   126  111
    29   276  203
    30   386  290
    32   478  382
    34   588  480
    36   722  583
    37   826  677
    39   962  757
    41  1200  812
2357
120000     0    0
    00    10   41
    00    48  150
    00   104  307
    00   162  428
    00   244  547
    00   342  653
    00   480  757
    00  1198  871
2358
120000     0    0
    11    34   61
    14   110  180
    17   200  333
    19   316  457
    22   496  581
    25   826  640
    27  1208  607
2359
120000     0    0
    00    10   49
    15    46  158
    17    76  263
    19   106  358
    22   176  475
    25   240  581
    27   304  659
    30   460  763
    33   532  847
    36  1052  870
    38  1360  873
    41  1854  857
2360
120000     0    0
    10    14   28
    13    88  147
    19   286  317
    23   450  464
    28   662  621
    33  1014  770
    37  1364  867
    40  1732  882
    43  2244  896
    50  3282  938
    53  3538  966
    57  4094  999
    60  2620 1040
    65  5232 1100
    70  5784 1151
    73  6518 1186
    78  6918 1204
    82  7498 1219
2374
120000     0    0
  0100    36   30
    50   110   55
  0210   230   93
  0300   518  110
  0400   888  107
    51  1078  104
2375
```

```
TIME   STRAIN STRS
120000     0    0
    65    36   33
  0100    90   52
  0200   338   87
  0300   684   89
  0400  1074   89
    18  1136   83
2376
120000     0    0
    50    24   13
  0200 [illegible]   87
    50   396  103
  0352   726  119
  0500 [illegible]  123
  0550  1458  125
  0600  1614  137
  0700  1928  148
  0800  2282  154
  1000  3006  160
    63  3246  163
    95  3328  158
2377
120000     0    0
    50    26   27
  0100   102   56
    51   200   79
  0200   334   94
  0300   854  107
  0400  1130  106
  0500  1420  103
2378
120000     0    0
    75    34   16
  0118   118   67
    50   224  100
  0200   450  140
  0300  1078  182
    50  1498  180
2379
120000     0    0
    50    52   54
    76   128   89
  0100   222  115
    62   532  164
  0202   800  180
    52  1178  188
  0355  1960  207
  0400  2330  215
  0502  3202  223
  0700  5286  233
    30  5514  229
2380
120000     0    0
    60    84   63
  0100   234  110
    24   350  133
  0208   972  143
    50  1298  142
  0301  1734  141
2381
120000     0    0
    50    50   38
    75   100   63
  0100   150   89
    52        133
  0200   510  169
  0300  1128  206
    75  1672  222
  0600  3616  210
2382
120000     0    0
    19    36   53
    31   118  113
    42   248  152
    57   508  195
    82   974  237
  0120  1862  253
    52  2674  253
  0200  3864  286
    22  4292  316
    87  5630  403
  0311  6792  447
  0400  8142  505
    86 10176  542
2383
120000     0    0
    16    30   49
    30   120  113
    39   196  153
    48   296  193
    59   430  235
    72   642  277
    95  1058  317
  0150  2318  350
  0202  3504  364
    23  4006  362
2384
120000     0    0
    12    16   33
    20    54   73
    30   106  118
```

```
TIME   STRAIN STRS
    36    158  151
    45    250  193
    57    400  237
    79    848  268
  0100   1316  277
    50   2520  279
    61   2778  280
2385
120000      0    0
    06      2   24
    10     28   72
    12     58  112
    14     96  149
    17    142  190
    20    208  231
    22    286  270
    27    438  314
    33    816  334
    36   1070  329
    38   1280  318
2386
120000      0    0
    05      8   40
    08     42   93
    11     98  153
    14    148  197
    17    196  237
    19    268  276
    22    358  319
    26    524  357
    31    644  385
    35   1098  385
    39   1466  382
    43   1720  379
    59   3030  390
    63   3362  394
    70   3912  405
    79   4502  420
    85   4[illegible]9  431
    94   57[illegible]  450
  0100   6000  460
    06   6408  469
    11   6744  479
2387
120000      0    0
    06     28   48
    10     88  114
    15    192  187
    18    306  237
    21    474  273
    30    928  304
    40   1772  305
    51   2620  305
    66   3806  302
    82   5018  311
  0100   6230  343
    10   6896  347
    20   7686  356
    36   8640  393
    48   9660  423
2388
120000      0    0
    08      2   24
    11     90  192
    13    164  283
    14    275  355
2389
170000      0    0
    17   1630  260
    19   2036  328
    22   2634  348
    25   3280  426
    28   3932  372
    32   4600  385
    35   5220  394
    39   5950  421
    43   7008  441
    45   7526  484
2391
120000      0    0
    07      0    0
    10     28   24
    14    152   79
    17    216  149
    20    290  233
    25    450  326
    28    648  391
    34   1274  469
    37   1684  469
    45   2922  453
    58   5104  450
    71   7162  443
2392
120000      0    0
    23      0    0
    28     52   43
    30    112  122
    33    184  200
    35    252  270
    37    330  326
    39    480  388
```

```
TIME   STRAIN STRS
    40    672  421
    42    972  417
    45   1372  384
2394
120000      0    0
    09     20   24
    10     82  165
    12    138  195
    13    204  283
    15    280  443
    17    384  447
    19    570  503
    20    940  514
    23   1374  442
    25   1836  462
2408
120000      0    0
    31     16   46
    36     88  149
    45    328  319
    50    494  395
    61    946  542
    70   1442  625
    80   2096  649
    94   3260  627
2410
120000      0    0
    18     24   71
    22     56  153
    26     86  234
    33    150  394
    40    232  545
    43    276  620
    50    422  772
    60    886  883
    63   1224  853
    66   1540  822
2411
120000      0    0
    08     18   32
    10    240   86
    21    440  780
    30   1100 1300
2412
120000      0    0
    04     22  137
    07    118  235
    10    186  394
    12    242  536
    15    308  703
    17    364  836
    20    458  984
    21    596 1128
    25   1030 1245
    27   1582 1132
2414
120000      0    0
    05     30   46
    09    146  230
    11    222  387
    13    302  539
    17    392  697
    19    490  832
    22    648  972
    23    850 1080
    26   1170 1129
2416
120000      0    0
    20     82  157
    22    104  250
    28    166  463
    31    216  617
    34    270  768
    37    344  904
    40    456 1057
    46    818 1204
    47   1214 1191
  0100   1532 1162
2417
120000      0    0
    05     12   47
    07     16  120
    25    400  962
    28    620 1076
    34   1192 1049
2418
120000      0    0
    07     46   53
    09    132  141
    13    258  319
    18    372  469
    23    564  703
    27    690  842
    31    876  988
    36   1160 1133
    39   1592 1181
2419
120000      0    0
    42     10   21
  0100     50   74
    52     90  121
```

```
TIME   STRAIN STRS
  0200    124  166
  0300    222  253
  0400    362  326
  0500    594  365
    80    856  355
2420
120000      0    0
    59     18   38
    87     40   63
  0100     48   78
    60    110  133
  0210    156  175
  0300    258  254
  0400    380  327
  0500    536  387
  0600    790  418
    50    956  416
2421
120000      0    0
    34      8   18
  0100     42   76
  0200    122  165
  0300    220  246
  0400    380  313
  0500    536  339
    57    868  328
2422
120000      0    0
  0152     96   39
  0250    266   90
  0300    346  117
  0400    504  182
  0500    664  247
  0700   1108  341
  0759   1322  336
2423
120000      0    0
    32      0   17
    50     10   46
  0100     86  143
    50    212  230
  0200    394  300
    50    658  344
  0300   1050  352
    14   1162  337
2424
120000      0    0
  0100     36   36
    54    108  124
  0234    250  270
  0300    434  383
    58    674  447
  0405    996  462
    27   1174  458
2425
120000      0    0
    53     20   10
  0100    142   70
    50    254  147
  0200    374  229
  0300    766  357
  0400   1362  417
    49   1758  407
2426
120000      0    0
    24      0   13
    82     74  123
  0118    120  197
  0150    176  261
  0250    270  423
  0300    746  456
    27    952  455
    36   1036  453
2427
120000      0    0
    11      4   33
    19     20   79
    32     42  164
    43     98  237
    55    166  316
    68    248  397
    83    380  468
  0103    626  549
    23   1094  576
    32   1256  569
2428
120000      0    0
    25     64  107
    33     88  158
    46    156  238
    64    268  356
    80    396  507
  0100    676  509
    17   1028  520
    25   1268  580
2429
120000      0    0
    12      6   38
    27     28  118
    34     68  154
    47    110  238
```

```
TIME   STRAIN STRS
    60    194  321
    73    280  398
    87    420  473
  0108    654  548
    27   1040  567
    35   1250  562
2430
120000      0    0
    10      0   27
    13     28  107
    17     46  191
    22     94  313
    25    126  396
    30    174  477
    36    278  621
    45    554  772
    51    914  814
    55   1260  826
2431
120000      0    0
    12     36   74
    20    112  234
    29    188  404
    35    252  536
    42    348  697
    49    492  844
    60    594  988
    64   1378  966
2432
120000      0    0
    24      2   39
    28     22  123
    33     58  238
    40    110  393
    47    200  549
    53    360  697
    59    588  772
    64    952  793
    69   1436  749
2433
120000      0    0
    07      6   53
    10     50  231
    12    100  390
    15    150  551
    17    206  700
    20    276  916
    22    388  988
    25    564 1124
    27    970 1183
2434
120000      0    0
    07     18   45
    10     68  194
    12    146  389
    15    232  564
    19    366  772
2435
120000      0    0
    06     34   70
    09    118  233
    12    196  403
    14    292  560
    18    446  778
    20    602  907
    24   1020 1014
2436
120000      0    0
    18     70  236
    20    114  331
    23    166  438
    27    258  620
    31    386  765
    34    538  859
    38    958  924
    40   1528  869
2437
120000      0    0
    11     24   56
    13     68  153
    17    140  324
    21    210  476
    25    318  628
    29    498  772
    33    800  870
    36   1184  903
    39   1718  873
2438
120000      0    0
    12     30   63
    15     64  152
    18    126  314
    22    204  469
    25    276  622
    29    382  772
    32    532  930
    35    716  981
    37   1058  989
2439
120000      0    0
    07      8   63
```

```
TIME   STRAIN STRS
    09     56  244
    11    106  395
    13    158  549
    16    216  705
    19    310  869
    21    460 1000
2452
120000      0    0
    83     48   71
  0118     92  101
    52    158  125
  0205    292  149
  0300    632  153
  0450    890  144
2453
120000      0    0
    58     42   27
  0100     94   67
  0160    198   99
  0257    464  125
  0300    630  129
  0357    862  120
2454
120000      0    0
    26      0   13
    61     12   50
    91     44   83
  0144    114  136
  0200    236  159
    55    406  172
  0300    566  173
    50    780  169
2455
120000      0    0
    38     20   21
    58     36   38
  0100     90   69
    53    166  103
  0200    266  131
    50    394  146
  0330    656  157
    62    794  153
    75    842  150
2456
120000           0
    77      6   13
  0100     42   43
    65    178  133
  0200    300  171
    40    462  213
  0303    754  270
  0400   1362  309
  0551   2428  318
  0700   3368  319
    08   7642  310
2457
120000      0    0
    55     62   55
  0100    190  113
    50    396  163
  0200    500  183
  0409   2296  140
2458
120000      0    0
    29      0   13
    50     20   53
    86     86  114
  0157    306  210
  0207    528  260
    51    774  283
  0334   1356  295
    73   1652  299
  0550   2982  313
    64   3056  308
2459
120000      0    0
  0182     38   29
  0200     50   54
    50    142  138
  0300    304  208
    50    400  229
    73    778  226
2460
120000      0    0
    36     32   49
    51    112  153
    65    222  240
    80    390  319
    91    572  361
  0116   1134  379
    29   1522  363
2461
120000      0    0
    18      8   17
    28     44   77
    40    101  156
    52    192  234
    68    398  317
    91    898  350
  0107   1324  343
2462
```

```
TIME   STRAIN STR,
120000      0    0
    19    126   59
    32    248  119
    40    302  159
    45    348  193
    51    402  236
    58    452  276
    66    528  319
    73    620  356
    82    760  394
    96   1004  432
  0131   1806  471
    69   2670  547
    91   3166  583
  0238   4352  600
    46   4594  584
2463
120000      0    0
    31     22   20
    53     62   77
    60     92  116
    66    136  155
    80    236  235
    88    324  277
    98    458  319
  0122    986  347
    29   1186  343
    33   1298  337
2464
120000      0    0
    09     32   20
    13     74   78
    17    146  154
    21    210  255
    25    268  314
    29    344  394
    33    424  470
    38    540  546
    43    740  618
    49   1048  648
    51   1282  641
    54   1542  628
2465
120000      0    0
    09     36   36
    13     76  111
    18    122  153
    20    188  231
    24    272  313
    28    366  390
    33    490  469
    39    668  543
    45    846  585
    51   1090  594
    57   1148  587
    60   1198  578
2466
120000      0    0
    17     18   32
    19     44   76
    23     92  153
    27    158  237
    31    224  316
    37    352  400
    45    752  469
    50   1114  470
    54   1532  455
2467
120000      0    0
    26     16  103
    29    104  328
    32    196  476
    35    376  625
    37    720  713
    39   1246  703
    42   1830  676
2468
120000      0    0
    06     22   53
    08     72  170
    11          341
    13    266  448
    16    508  573
    18    696  627
    20    920  635
    22   1256  610
    25   1850  557
2469
120000      0    0
    09     28   51
    11     66  275
    13    128  416
    15    230  539
    18    434  645
    20    746  719
    23   1072  809
    26   1426  888
    29   1946  952
    32   2518  983
    36   3272  982
2470
```

```
TIME    STRAIN STRS
120000      0    0
    06     32   57
    08    102  166
    12    250  316
    18    574  469
    22    806  529
    27   1208  523
    29   1598  499
2471
120000      0    0
    27      8   17
    30     42   70
    31    108  150
    34    174  233
    37    234  315
    38    288  403
    42    388  545
    46    536  697
    51    924  842
    53   1284  862
    56   1770  843
2472
120000      0    0
    06     12   26
    10     80  207
    15 [illegible] 385
    21 [illegible] 535
    25   1258 [illegible]
    30   2132  507
2473
120000      0    0
    43     38   37
    73    110   77
  0105    216  117
    46    300  157
  0200    436  209
    43    572  236
  0332    998  250
    39   1056  247
2485
120000      0    0
    58     52   13
  0132    224   43
  0244    584   53
  0370   1066   50
2486
120000      0    0
    37      8   25
    75     66   53
  0100    106   65
  0200    364   97
  0300    702  101
  0450   1228  103
  0587   1734  104
  0602   1778  102
2487
120000      0    0
    68     56   17
  0100    116   33
    39    204   47
  0200    296   59
  0300    452   67
  0600    822   78
  0700   2858   89
  0900   3416   93
    67   3606   94
2488
120000      0    0
    50     20   13
  0100     82   50
    51    168   80
  0200    284  102
  0300    576  125
  0400    892  135
  0500   1102  143
  0600   1296  148
  0700   1462  153
  0800   1594  157
  1050   1856  160
  1100   1962  159
2489
120000      0    0
    23     28   22
    57    112   71
  0100    344  108
    52    562  116
  0300   1270  116
    52   1730  113
2490
120000      0    0
    41     88   28
    73    228   53
  0103    340   80
    51    576  116
  0200    906  135
    30   1136  131
2491
120000      0    0
  0114     36   63
  0200    668  120
  0278   1522  128
```

```
TIME    STRAIN STRS
2492
120000      0    0
    71    170   55
  0101    294   84
    50    542  128
  0200    868  157
  0300   1624  186
  0451   2652  220
  0734   4412  212
2493
120000      0    0
    08     14   20
    21    110   73
    36    274  121
    51    534  153
    72   1026  162
    87   1608  165
2494
120000      0    0
    10     34   18
    30    234   76
    44    430  113
[illegible] 752  156
[illegible] 1292 172
[illegible] 1728 118
    15   1928  117
2495
120000      0    0
    15     32   40
    28    166   86
    51    498  157
    68    860  179
    84   1238  185
  0100   1574  187
    60   2980  198
    70   3254  193
2496
120000      0    0
    12     22   69
    16     80  145
    21    204  227
    25    342  273
    30    718  290
    33    910  288
2497
120000      0    0
    14     46   49
    17     88   73
    20    166  125
    22    210  160
    25    250  194
    28    296  223
    30    348  274
    33    400  314
    37    496  356
    41    624  394
    49    908  433
    57   1328  446
    64   1920  443
    69   2246  438
2498
120000      0    0
    08      6   33
    12     66  111
    14    104  152
    20    228  239
    26    432  316
    31    734  355
    33    910  360
    67   1222  364
    41   1500  355
2499
120000      0    0
    07     14   21
    08    116  103
    10    222  185
    12    438  307
    15    758  333
    17   1356  357
    22   2067  387
    25   2744  390
    29   3535  385
    33   4320  382
    38   5222  379
    42   6028  368
    46   7122  357
2500
120000      0    0
  0007     66   69
  0009    174  182
  0011    404  262
  0013    766  287
  1515   1256  291
  0021   2350  316
  0028   3826  327
  0032   4434  316
  0036   5126  311
  0043   6394  323
  0049   7868  315
2501
120000      0    0
```

```
TIME    STRAIN STRS
  0007     24   67
  0009    516  188
  0012    382  263
  0014    806  297
  0017   1304  310
  0019   1622  315
  0022   2502  315
  0025   3056  293
2502
120000      0    0
  0006      8   25
  0009    150  124
  0011    246  173
  0013    374  237
  0016    572  315
  1818    752  356
  2323   1192  427
  3333   2496  475
  0034   2816  469
  0037   3288  457
2503
120000      0    0
  0017      4   40
  0021     54  147
  0022    114  226
  0024    230  310
  0028    618  385
  0030    908  376
  0032   1218  373
2504
120000      0    0
  0005     78   67
  0008    180  151
  0011    296  235
  0013    444  311
  0015    644  363
  0019    908  394
  0021   1238  417
  0023   1546  425
  0028   2286  430
  0036   3354  454
  0038   3674  465
  0046   4872  488
  0051   5936  492
  0055   6608  484
  0061   7720  463
2519
120000      0    0
  0024     24   22
  0080     48   89
  0113     66  126
  0253     86  159
  0293    102  206
  0334    134  250
  0360    148  278
  9393    168  316
  0470    220  402
  0506    242  432
  0638    346  564
  0700    394  628
  0812    516  724
  0858    568  772
  0957    634  846
  1139    994  953
  1259   1236  988
  1390   1570 1012
  1484   1900 1004
  1493   1914 1004
2520
120000      0    0
  0078     18   18
  0165     66   71
  0358    124  153
  0442    200  236
  0700    432  426
  0798    542  565
  1076    780  704
  1080    932  784
  1380   1450  960
  1538   1800 1022
  1750   2378 1039
  1767   2640 1036
2521
120000      0    0
  0063     34   38
  0103     64   78
  0140     94  118
  0170    112  153
  0482    286  502
  0808    500  848
  0941    634  950
  1200   1056 1091
  1419   1720 1097
  1440   1790 1087
2522
120000      0    0
  0058     24   36
  0094     42   73
  0313    164  324
  0445    236  469
  0695    390  723
```

```
TIME    STRAIN STRS
  0918    640  911
  1206   1244 1013
  1350   1378 1017
2523
120100      0    0
  0140      6   41
  5353     18   77
  8282     42  160
  0256     90  356
  0298    128  473
  0356    184  625
  0411    244  772
  0474    344  916
  0549    502 1066
  0658    920 1228
  0765   1494 1277
  0790   1800 1263
2524
120000      0    0
  3737     56   40
  5858     98   79
  0170    284  321
  0207    340  406
  0370    742  736
  0494   1239  923
  0591   1578 1064
  0700   1954 1205
  0803   2376 1284
  0854   2704 1266
2525
120000      0    0
  0060    166   40
  0098    380   73
  0200    868  160
  0441   2538  262
  0775   3810  753
  0906   4274  962
  1068   5094 1046
  1079   5150 1039
2526
120000      0    0
  0068     60  121
  0100     98  197
  0182    184  393
  0290    390  630
  0377    712  772
  0591   1582  992
  0723   2140 1078
  0948   3016 1107
  0956   3098 1112
2527
120000      0    0
  0024     34   75
  0036     96  158
  0060    240  324
  0083    398  477
  0109    600  766
  0135    824  777
  0160   1100  918
  0192   1510 1062
  0234   1836 1210
  0295   2582 1339
  0300   2714 1333
  0305   2818 1323
2528
120000      0    0
  0028     52   72
  0041    138  158
  0067    342  321
  0091    520  475
  0114    664  624
  0137    794  780
  0155    896  917
  0175   1028 1066
  0195   1126 1212
  0118   1254 1372
  0230   1374 1444
  0261   1590 1635
  0294   1992 1777
  0328   2636 1873
  0335   2822 1799
2529
120000      0    0
  0017     16   38
  0106     52   80
  0118    110  153
  0142    222  318
  0163    298  479
  0180    346  624
  0198    400  772
  0220    476  924
  0239    556 1066
  0258    660 1213
  0278    798 1354
  0301    990 1494
  0331   1292 1635
  0370   1920 1776
  0382   2220 1769
  0387   2394 1747
2530
120000      0    0
```

```
TIME    STRAIN STRS
  0019     16   80
  0039     48  235
  0050     78  317
  0068    124  471
  0087    168  620
  0107    254  772
  0127    338  911
  0148    476 1062
  0170    656 1205
  0197    972 1348
  0335   1626 1437
  0340   1760 1430
2531
120000      0    0
  0009     14   35
  0016    144  375
  0019    224  635
  0022    280  800
  0024    400  978
  0028    602 1197
  0030    786 1349
  0033   1174 1484
  0036   1692 1530
  0038   2420 1508
2532
120000      0    0
  0028     18   89
  0033     52  209
  0041    112  396
  0050    186  625
  0055    224  772
  0063    298  989
  0072    366 1207
  0078    420 1353
  0082    480 1487
  0089    560 1630
  0095    650 1774
  0102    762 1918
  0108    866 2053
  0114    992 2195
  0120   1114 2326
  0130   1330 2526
  0140   1576 2728
  0147   1760 2860
  0153   1992 2980
2533
120100      0    0
  0005     14   43
  0014     66  174
  0018    184  469
  0021    280  697
  0025    384  918
  0028    490 1127
  0031    636 1337
  0033    796 1502
  0037   1156 1698
  0041   1630 1813
  0044   2182 1833
2534
120000      0    0
  0008      6   30
  0014     50   42
  0020     94  232
  0023    118  310
  0030    162  472
  0036    212  623
  0042    250  772
  0053    378 1062
  0062    520 1270
  0072    778 1487
  0081   1218 1616
  0085   1506 1623
2535
  0000      0    0
  0053      8  140
  0057    124  236
  0060    164  307
  0067    232  469
  0078    342  770
  0084    402  913
  0090    460 1062
  0097    524 1205
  0102    592 1344
  0109    680 1498
  0113    778 1626
  0123    936 1775
  0131   1178 1917
  0137   1396 1990
  0142   1700 2025
2536
120000      0    0
  0010     12   72
  0014     42  151
  0022    104  315
  0035    224  695
  0047    358  920
  0058    540 1207
  0070    854 1490
  0078   1126 1629
  0083   1344 1705
  0089   1608 1773
```

```
TIME    STRAIN STRS
  0095   1902 1847
2537
120000      0    0
  0013      0   29
  0018     32   92
  0021     12  231
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  0030    270  537
  0035    379  772
  0038    452  915
  0041    516 1055
  0044    612 1269
  0047    706 1347
  0050    836 1489
  0053   1016 1635
  0057   1238 1775
  0062   1568 1923
  0066   1924 2060
  0070   2302 2196
  0075   2732 2330
  0080   3270 2461
  0084   3756 2530
  0088   4232 2567
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  0047    268 1053
  0052    348 1345
  0054    390 1480
  0060    482 1776
  0065    628 2063
  0067    692 2200
  0070    794 2330
  0073    918 2455
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  0147    128   78
  0190    204  104
  0236    288  131
  0407    808  178
  0457    994  175
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  0216    300  120
  0398    768  182
  0471   1036  184
  0478   1078  180
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  0310    506  128
  0387    762  136
  0526   1244  148
  0605   1348  157
  0938   2416  173
  0970   2544  168
2554
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  0035     24   34
  0060     76   73
  0087    148  114
  0118    230  160
  0160    334  204
  0188    544  235
  0250    998  243
  0060   1116  240
2555
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  0067     72   88
  0119    206  159
  0155    350  200
  0209    660  237
  0259   1036  243
  0302   1380  240
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  0044     66   38
  0093    212  100
  0155    468  154
  0263    916  220
  0368   1956  215
  0410   2300  213
2557
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  0019     24   38
  0031     78   78
  0049    224  154
  0064    348  240
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  0103    850  394
  0151   1897  432
  0261   4340  456
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  0360   6678  548
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  0074    614  319
  0086    796  357
  0107   1160  396
  0122   1496  403
  0146   1850  412
  0198   1414  412
  0227   2066  406
2559
120000      0    0
  0015     16   43
  0021     38   72
  0035     90  160
  0047    160  239
  0062    304  319
  0084    646  398
  0108   1202  412
  0117   1414  403
  0124   1588  400
2560
120000      0    0
  0012     20   60
  0017    114  317
  0020    200  553
  0023    374  766
  0027    550  977
  0032   1176 1127
  0034   1780 1142
2561
120000      0    0
  0006     56  117
  0008     94  140
  0011    164  385
  0013    262  542
  0017    374  755
  0019    508  909
  0021    750 1053
  0023   1052 1127
  0027   1474 1154
  0028   2028 1133
  0030   2630 1080
2562
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  0010     46  105
  0012    104  243
  0015    162  394
  0018    266  630
  0020    352  770
  0022    488  913
  0025    728 1062
  0028   1046 1155
  0031   1780 1205
  0034   2390 1197
2563
120000      0    0
  0021     56  120
  0028    100  237
  0031    136  319
  0039    444  488
  0046    418  623
  0060   1200  772
  0064   1632  772
  0068   1962  763
  0071   2232  753
2564
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  0010     16   42
  0013     30   73
  0019     80  158
  0029    238  314
  0032    504  454
  0044    698  544
  0051   1054  620
  0057   1446  645
  0061   2064  647
  0066   2330  636
2565
120000      0    0
  0007     10   45
  0011     56  118
  0015    100  155
  0024    292  315
  0030    416  394
  0034    542  465
  0039    714  543
  0045    950  621
  0057   1956  697
  0060   2024  696
  0063   2318  688
  0067   2824  683
2566
120000      0    0
  0012    286   49
  0016    350  315
  0022    482  548
  0026    612  686
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```
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  0039   2004  890
  0042   2628  850
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  0019     16   90
  0022     68  227
  0026    114  368
  0030    220  544
  0037    462  768
  0043   1096  903
  0047   1652  898
2568
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  0012     14   27
  0016    100  148
  0020    188  315
  0025    280  479
  0028    366  620
  0032    506  767
  0037    824  915
  0039   1118  957
  0042   1488  968
  0045   1936  959
  0048   2418  937
2569
120000      0    0
  0034     12   18
  0057     24   34
  0108     70   73
  0198    198  140
  0305    446  194
  0591   1490  222
  0818   2292  226
  0939   2418  223
2582
  0000      0    0
  0120    108  165
  0468    226  400
  0746    406  647
  0904    584  761
  0957    672  783
  1031    878  793
  1042    914  783
2583
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  0148     48  103
  0348    120  290
  0659    308  569
  0861    598  702
  0897    724  699
2584
  0000      0    0
  0134     34   47
  0159     44   73
  0371    176  253
  0438    232  317
  0577    346  451
  0812    566  649
  1164   1040  763
  1173   1078  759
2585
  0000      0    0
  0053      2   34
  0095     22   78
  0465    160  324
  0765    468  561
2586
  0000      0    0
  0051     10   44
  0082     16   78
  0114     46  153
  0147     68  238
  0209    134  396
  0270    200  547
  0368    372  788
  0429    498  917
  0528   1018 1026
2587
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  0051     26   84
  0080     56  156
  0115     84  237
  0218    188  486
  0271    260  620
  0336    380  772
  0408    578  915
  0474    934  985
  0515   1272  990
  0522   1344  986
2588
  0000      0    0
  0018      4   22
  0108     56  204
  0153    100  319
  0183    130  397
  0247    222  548
  0307    342  698
  0343    428  772
  0375    528  846
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TIME   STRAIN STRS
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  0470    922  989
  0505   1156 1004
  0519   1292  996
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  0071    208   78
  0195    546  316
  0120    830  583
  0405   1028  772
  0523   1194  988
  0588   1792 1039
  0603   1944 1030
2590
  0000      0    0
  0018     22   77
  0037     50  157
  0047     78  235
  0067    138  395
  0087    198  547
  0116    294  772
  0136    366  915
  0165    446 1062
  0172    544 1205
  0196    724 1357
  0219   1074 1420
  0228   1442 1354
2591
  0000      0    0
  0029     36   82
  0040     62  157
  0051     96  236
  0072    164  393
  0093    206  545
  0126    216  772
  0147    250  912
  0180    382 1133
  0197    542 1205
  0225    978 1266
  0237   1244 1215
2592
  0000      0    0
  0012     18   39
  0020     28  089
  0042     78  238
  0052    102  317
  0062    128  394
  0081    186  547
  0100    240  699
  0110    276  772
  0131    344  918
  0259    480 1133
  0280    668 1279
  0302   1072 1315
  0310   1342 1281
2593
  0000      0    0
  0012     16   71
  0017     48  150
  0025     98  317
  0035    166  546
  0044    234  767
  0052    302  916
  0057    358 1131
  0062    400 1273
  0072    500 1492
  0077    578 1633
  0083    686 1779
  0097   1004 1990
  0100   1248 2015
  0104   1696 1938
2594
120000      0    0
  0008     20   65
  0017     74  234
  0024    122  393
  0030    154  547
  0037    216  706
  0041    252  837
  0048    304  989
  0053    370 1137
  0062    484 1349
  0067    574 1493
  0073    712 1627
  0083   1154 1747
  0090   2030 2180
2595
  0000      0    0
  0010     18   69
  0014     46  149
  0023     90  315
  0034    166  546
  0043    256  772
  0049    332  910
  0054    414 1057
  0063    506 1279
  0071    658 1500
  0077    808 1630
  0081    970 1706
  0087   1270 1735
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TIME   STRAIN STRS
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  0025    122  394
  0029    168  604
  0031    216  792
  0035    260  983
  0037    310 1206
  0042    388 1500
  0046    460 1768
  0050    574 2057
  0051    658 2203
  0053    754 2333
2597
120000      0    0
  0017     20   88
  0019     42  183
  0021     70  282
  0023    102  410
  0026    140  568
  0029    180  772
  0031    210  917
  0034    262 1132
  0037    320 1354
  0039    362 1503
  0043    452 1773
  0047    544 1979
  0050    686 2200
  0053    962 2390
2598
120000      0    0
  0021      4   57
  0024     40  230
  0027     68  388
  0030    116  620
  0032    152  772
  0036    200  983
  0038    244 1133
  0040    300 1328
  0042    360 1474
  0048    570 1862
  0051    886 2051
2599
  0000      0    0
  0041     48  143
  0045     88  306
  0043    118  457
  0051    136  680
  0055    160  764
  0060    248 1062
  0066    340 1377
  0071    416 1629
  0077    544 1917
  0079    640 2065
  0083    764 2200
2600
  0000      0    0
  0024      8   53
  0031     70  313
  0037    150  620
  0041    200  838
  0046    268 1082
  0051    330 1350
  0055    400 1561
  0059    506 1776
  0065    802 2057
  0068   1138 2113
2601
120000      0    0
  0025     16   74
  0029     54  223
  0033     92  391
  0037    130  550
  0041    178  676
  0046    234  982
  0049    280 1134
  0063    334 1353
  0065    406 1486
  0068    462 1627
  0062    578 1847
  0067    728 2063
  0070    870 2200
  0073   1136 2130
  0076   1450 2351
2626
  0000      0    0
  0200   1982  508
  0500   2020  508
  3000   2040  508
013000   2070  508
030000   2310  508
050700   2356  508
080000   2390  508
100000   2420  508
310000         508
510000   3350  508
583000   3680  508
803000   4600  508
860000   5000  508
861000   4940    0
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TIME   STRAIN STRS
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  0400     12  508
  2900     40  508
012900     50  508
025900    142  508
045900    130  508
075900    110  508
095900    110  508
305900    206  508
505900    360  508
582900    470  508
802900   1450  508
855900   2080  508
855900   1910  508
860900   1840    0
2628
  0000      0    0
  0048      2   35
  0079     18   73
  0115     36  115
  0151     48  154
  0228     88  236
  0307    124  319
  0390    178  394
  0543    326  513
  0593    388  549
  0808    728  655
  0949   1078  697
  1172   1460  703
  1184   1500  702
2629
  0000      0    0
  0050      4   19
  0065     14   16
  0234     80  206
  0434    170  410
  0690    348  659
  0888    560  813
  1088    912  909
  1360   1314  950
  1404   1452  948
  1412   1474  946
2630
  0000      0    0
  0102     18    4
  0278     76  160
  0425    204  367
  0677    372  469
  0888    702  572
  1260   1342  619
  1278   1430  607
2632
  0000      0    0
  0048     10   68
  0096     50   87
  0174    130  236
  0258    232  394
  0371    412  620
  0465    696  777
  0530    922  832
  0620   1416  920
  0697   1878  936
  0712   2000  930
2633
  0000      0    0
  0145      4   22
  0247     98  215
  0355    248  417
  0453    520  614
  0518    792  797
  0622   1320  803
  0726   2038  831
  0734   2122  830
2634
  0000      0    0
  0140    196  132
  0273    380  403
  0400    774  657
  0576   1116  907
  0673   1696  950
  0685   1986  946
2635
  0000      0    0
  0028      8   30
  0130    110  247
  0336    268  653
  0458    308  736
  0513    388  852
  0547    456  917
  0615    658 1030
  0693   1108 1095
  0713   1238 1095
  0720   1298 1089
2636
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  0069     56  250
  0090     88  396
  0114    128  551
```

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TIME   STRAIN STRS
  0147    202  780
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  0182    338 1063
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  0241    446 1420
  0356    614 1494
  0375    756 1560
  0387    846 1570
  0392    920 1559
2637
  0000      0    0
  0028     24   78
  0049          230
  0070    100  394
  0102    168  621
  0223    222  772
  0253    346  900
  0202    710 1277
  0245   1310 1420
  0355   1446 1423
  0360   1704 1420
2638
  0000      0    0
  0008      2   76
  0020     48  315
  0030     94  547
  0038    140  772
  0047    198  988
  0057    276 1204
  0064    394 1420
  0075    610 1632
  0084    932 1777
  0091   1446 1816
  0096   1774 1762
2639
  0000      0    0
  0025      8   73
  0044     46  173
  0078    136  397
  0100    194  546
  0131    278  772
  0150    342  906
  0193    544 1204
  0219    730 1349
  0250   1164 1457
  0261   1458 1448
2640
  0000      0    0
  0008     26   69
  0017     64  238
  0023    102  394
  0034    162  622
  0039    204  772
  0053    370 1133
  0063    504 1348
  0070    678 1500
  0078    876 1630
  0089   1198 1693
  0093   1254 1686
2641
  0000      0    0
  0018     24   86
  0025     86  230
  0033    146  467
  0042    208  624
  0048    240  772
  0057    300  983
  0064    376 1204
  0073    478 1414
  0077    524 1487
  0083    622 1586
  0090    770 1777
  0098    990 1918
  0111   1794 2060
  0117   1804 2084
2642
  0000      0    0
  0008      8   91
  0011     42  307
  0014     64  514
  0017    100  763
  0021    148 1050
  0026    188 1340
  0028    250 1493
  0031    378 1768
  0037   1426 2153
2643
  0000      0    0
  0011      8   72
  0013     42  222
  0015     70  370
  0018    118  548
  0021    174  780
  0023    210  918
  0027    264 1130
  0029    336 1343
  0032    384 1493
  0033    440 1633
  0036    404 1767
  0040    724 2057
  0042    928 2145
```

```
TIME   STRAIN STRS
2644
  0000      0    0
  0007      0   83
  0041    138  133
  0044    160  213
  0045    180 1103
  0052    304 1649
  0053    350 1796
  0057    426 1982
  0059    538 2200
  0062    662 2349
  0065    908 2530
2645
  0000      0    0
  0010      4   54
  0013     26  146
  0015     58  250
  0018     84  363
  0023    134  615
  0028    190  845
  0035    278 1135
  0041    372 1347
  0047    560 1633
  0055    982 1917
  0061   1770 2055
2646
  0000      0    0
  0007     16  148
  0010     58  315
  0016     98  548
  0030    168  907
  0036    242 1207
  0041    328 1500
  0047    464 1773
  0053    674 2057
  0057    888 2194
2647
  0000      0    0
  0016     14   72
  0021     42  316
  0028    124  624
  0031    164  793
  0037    240 1057
  0042    338 1340
  0048    512 1634
  0053    730 1867
  0059   1122 2060
  0064   1866 2194
2648
  0000           0
  0000         442
  0100         442
  0700         442
  3000         442
010000         442
030000         442
050000         442
260000         442
460000         442
533000         442
753000         442
810000         442
810000           0
811000           0
2649
  0000           0
  0000         442
  0200         442
  0500         442
  2500         442
  5500         442
025500         442
045500         442
255500         442
465500         442
533500         442
702500         442
805500           0
805500           0
2650
  0000      0    0
  0114     76   72
  0127    384  233
  0143    816  486
  0157   1076  763
  0168   1166  995
  0177   1578 1168
  0190   2158 1277
  0195   2508 1283
2651
  0000      0    0
  0085     32   49
  0142     54   78
  0203     90  141
  0260    142  194
  0332    202  257
  0410    278  327
  0450    318  363
  0500    396  401
  0548    466  433
  0620    598  475
```

```
TIME   STRAIN STRS
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2652
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  0313    264  167
  0428    460  234
  0582    788  317
  0719   1222  347
  0730   1264  344
2653
  0000      0    0
  0145     10   21
  0257    132  112
  0409    430  317
  0482    552  367
  0637    656  397
  076[illegible]   1344  455
  0873   1356  453
2654
  0000      0    0
  0137     54   97
  0322    202  257
  0428    344  329
  0658    984  394
  0770   1368  396
  0777   1394  394
2655
  0000      0    0
  0027     26   29
  0140     60   47
  0252    396  139
  0319    716  430
  0408    984  563
  0529   1802  585
  0534   1848  582
2656
  0000      0    0
  0120    150  103
  0251    374  346
  0336    574  486
  0439   1102  590
  0491   1466  589
  0497   1514  587
2657
  0100      0    0
  0122      6   17
  0132     20   33
  0154     60   74
  0246    252  223
  0364    538  423
  0467    880  571
  0535   1166  645
  0629   1784  673
2658
  0000      0    0
  0126    296   63
  0290    592  229
  0402   1524  344
  0527   1842  537
  0586   2010  647
  0628   2212  684
  0742   2328  680
2659
  0000      0    0
  0018     14   33
  0025     28   77
  0036     52  157
  0047     80  237
  0058    106  317
  0067    132  394
  0090    202  551
  0122    336  772
  0133    398  846
  0146    504  916
  0163    740  998
  0172    940  999
  0180   1166  980
2660
  0000      0    0
  0026     18   73
  0037     40  153
  0059     96  319
  0102    262  621
  0142    570  848
  0158    880  890
  0164   1076  873
2661
  0000      0    0
  0033     48  103
  0052    122  237
  0110    322  626
  0143    496  843
  0157    630  923
  0175    882  994
  0187   1170  997
2662
  0000      0    0
  0014      0   33
  0028      8   78
  0057     92  319
  0080    170  476
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TIME   STRAIN STRS
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  0145    584  881
  0160    922  905
  0167   1136  887
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  0016     38  236
  0023     70  374
  0030    120  549
  0036    176  703
  0041    232  842
  0049    338  989
  0055    492 1132
  0064    862 1276
  0073   1376 1305
  0077   1662 1285
2664
  0000      0    0
  0011      4   85
  0018     36  230
  0025     68  394
  0035    126  628
  0043    210  842
  0050    300  938
  0060    526 1212
  0068    960 1307
  0071   1232 1282
2665
  0000      0    0
  0010     14   86
  0017     28  231
  0025     70  394
  0035    130  630
  0040    172  772
  0047    234  912
  0052    328 1058
  0060    488 1205
  0070    902 1350
  0077   1390 1383
  0082   1846 1375
2666
  0000      0    0
  0004      0   48
  0008     32  228
  0010     74  386
  0014    134  613
  0016    180  768
  0019    226  910
  0024    280 1055
  0027    410 1264
  0030    568 1412
  0033    814 1510
  0035   1064 1463
2667
  0000      0    0
  0012     10   85
  0015     46  218
  0018     90  396
  0022    166  633
  0024    216  772
  0026    278  913
  0030    430 1133
  0034    778 1349
  0038   1322 1455
  0039   1774 1471
  0041   2344 1452
2668
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  0020      2   87
  0024     76  317
  0027    126  467
  0029    194  623
  0031    258  772
  0037    488 1066
  0039    694 1200
  0041    950 1275
  0043   1358 1305
  0045   1834 1280
2669
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  0007     16   86
  0010     44  229
  0013     82  394
  0036    374  757
  0038    464  909
  0040    616  995
  0043    988 1102
  0046   2104  941
2670
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  0008     24  150
  0013     90  400
  0017    142  543
  0022    196  772
  0025    222  910
  0028    274 1060
  0033    384 1269
  0037    548 1496
  0041    800 1632
  0044   1170 1667
```

```
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  0013    344  416
  0018    500  467
  0021    612  622
  0025    744  772
  0029    864  912
  0033   1128 1055
  0037   1582 1094
  0040   2958  787
2672
  0000      0    0
  0021     72  150
  0028    168  392
  0032    260  621
  0036    304  767
  0040    392  984
  0045    540 1206
  0048    728 1351
  0053   1262 1443
  0057   2102 1300
2673
  0000      0    0
  0008     28   94
  0011     60  226
  0015    118  395
  0021    180  621
  0023    228  759
  0027    286  917
  0031    390 1130
  0037    616 1353
  0042   1276 1436
  0046   1322 1244
2688
  0000      0    0
  0047     44   22
  0067     72   36
  0249    546   80
  0300    668   80
  0331    832   79
2689
  0000      0    0
  0145    274   40
  0177    334   53
  0200    394   59
  0251    546   63
  0302    708   70
  0358    918   67
  0368          66
2690
  0000      0    0
  0030     10   12
  0051     26   26
  0100     78   54
  0152    170   77
  0200    294   89
  0262    508   89
  0218    714   86
2691
  0000      0    0
  0061     54   32
  0080    108   41
  0121    196   55
  0200    438   63
  0300    764   70
  0451    930   71
  0500   1096   78
  0551   1252   80
  0569   1304   78
2692
  0000      0    0
  0028     40   35
  0053    124   78
  0071    206   97
  0100    368  118
  0139    668  120
  0150    762  119
2693
  0000      0    0
  0030 [illegible]   10
  0046 [illegible]   33
  0060     74   60
  0078    130   89
  0100    222  119
  0150    460  157
  0200    818  173
  0240   1136  170
  0248   1206  170
2694
  0000      0    0
  0029     14   38
  0051     46   74
  0074    104  116
  0108    218  157
  0200    872  186
  0212    960  185
  0219   1018  183
2695
  0000      0    0
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```
TIME   STRAIN STRS
  0028      4   13
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  0059     52   73
  0077    124  115
  0100    222  137
  0150    576  150
  0174    792  143
2696
  0000      0    0
  0013     40   18
  0030    150   75
  0041    240 [illegible]
  0050    320  156
  0096    694  238
  0100   1162  261
  0114   1470  259
2697
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  0021     24   38
  0029     48   74
  0036     68  114
  0044    122  153
  0070    476  237
  0085    826  234
  0090   1132  230
2698
  0000      0    0
  0008     10   22
  0017     28   77
  0024     50  116
  0037     80  156
  0048    240  238
  0067    578  272
  0082   1106  266
2699
  0000      0    0
  0006     10   41
  0010     34  113
  0014     82  193
  0019    154  274
  0025    286  355
  0032    528  431
  0040   1060  469
  0046   1450  463
2700
  0000      0    0
  0010     24   53
  0012     44  113
  0017     80  272
  0023    174  317
  0029    336  396
  0037    576  434
  0041   1142  424
2701
  0000      0    0
  0007      8   41
  0014     68  153
  0023    242  318
  0029    400  393
  0037    788  443
  0041   1154  442
  0044   1440  440
2702
  0000      0    0
  0007     28  103
  0008     64  300
  0010    118  330
  0013    204  462
  0015    328  573
  0022   1466  695
  0024   1930  670
2703
  0000      0    0
  0006     24  160
  0008     48  277
  0011    140  476
  0014    270  621
  0016    494  717
  0019    938  767
  0022   1444  763
  0024   1990  739
2704
  0000      0    0
  0006     28   78
  0009    102  238
  0012    198  396
  0015    310  554
  0018    514  689
  0021    920  757
  0023   1466  750
  0076   2108  707
2705
  0000      0    0
  0019     86   82
  0021    164  146
  0024    258  228
  0026    290  310
  0031    492  469
  0037   1098  614
  0040   1586  613
  0044   2202  612
```

```
TIME   STRAIN STRS
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  0008     94  154
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  0012    224  316
  0015    296  399
  0020    516  547
  0023    812  627
  0034   1394  645
  0037   1796  633
2707
  0000      0    0
  0004     16   68
  0009     88  238
  0013    184  398
  0018    376  543
  0021    616  676
  0031   1106  658
  0035   1774  640
2722
  0000      0    0
  0000      4    6
  0085     28   35
  0102     38   47
  0152     76   89
  0202    120  140
  0251    180  179
  0300    204  231
  0400    284  323
  0452    326  365
  0577    424  460
  0700    552  543
  0800    698  605
  0900    846  658
  1000   1016  699
  1100   1176  733
  1207   1406  768
  1300   1620  787
  1400   1880  793
  1459   2052  793
2723
  0000      0    0
  0258    216  139
  0321    280  190
  0381    352  240
  0538    544  355
  0812    982  517
  1116   1626  624
  1451   2676  600
2724
  0000      0    0
  0238    186  172
  0407    400  315
  0678    954  445
  0895   1568  485
  1019   1968  486
  1030   2002  484
2725
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  0175    168   48
  0362    364  173
  0637    650  363
  0958   1224  596
  1200   1798  553
  1422   2398  545
  1708   3240  540
2743
  0000      0    0
  0050     14   68
  0071     30  120
  0100     58  195
  0140    104  279
  0190    184  398
  0267    340  549
  0307    456  627
  0350    608  699
  0410    904  767
  0438   1082  780
  0458   1248  778
2744
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  0056     28   16
  0067     66   38
  0129    146  153
  0282    512  456
  0407   1010  646
  0531   1678  754
  0617   2292  776
  0629   2390  772
2745
  0000      0    0
  0041     68   33
  0097    144   89
  0138    222  158
  0175    288  237
  0246    432  366
  0311    622  471
  0413   1020  615
  0581   1656  719
  0599   2190  640
```

```
TIME   STRAIN STRS
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  0179    242  276
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  0368    818  587
  0555   1690  790
  0749   2548  995
  0893   3420 1079
  0900   3452 1073
2747
  0006      0    0
  0014     34   36
  0020     72   73
  0044    140  157
  0068    264  320
  0093    424  472
  0120    644  621
  0155   1092  772
  0189   1830  812
  0193   1950  802
2748
  0000      0    0
  0017     24   38
  0034     80   72
  0049    180  152
  0063    296  237
  0077    394  319
  0103    570  471
  0128    720  623
  0151    778  772
  0162    986  840
  0176   1130  914
  0218   1666 1065
  0251   2350 1120
  0258        1113
2749
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  0016     24   33
  0030     60   74
  0043    124  154
  0067    212  320
  0088    292  472
  0110    390  623
  0133    514  772
  0144    590  842
  0167    798  988
  0181    936 1062
  0197   1104 1134
  0238   1858 1258
  0250   2096 1302
  0253   2192 1242
2750
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  0007     30   71
  0014     84  150
  0023    180  319
  0030    258  469
  0037    326  620
  0043    410  780
  0049    506  913
  0057    690 1061
  0065   1030 1204
  0073   1394 1259
  0078   1952 1250
2751
  0000      0    0
  0009     26   32
  0014     64   72
  0019    152  157
  0028    258  317
  0035    320  473
  0041    378  621
  0047    462  767
  0060    720 1057
  0068    936 1204
  0077   1352 1348
  0088   1942 1422
  0092   2260 1425
  0096   2550 1413
2752
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  0009     30   32
  0015     90   71
  0025    190  230
  0035    346  406
  0047    798  621
  0054   1028  772
  0063   1338  913
  0074   1752 1059
  0084   2288 1122
  0088   2650 1107
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  0010    116  390
  0013    206  620
  0016    280  763
  0020    432  984
  0023    698 1197

TIME   STRAIN STRS
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  0037   2640 1554
  0038   3140 1520
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  0003     12   33
  0007    152  229
  0010    234  387
  0013    312  543
  0017    414  772
  0020    506  978
  0025    680 1277
  0029    918 1507
  0031   1118 1620
  0037   1756 1778
  0038   2148 1883
  0040   2540 1803
2755
  0000      0    0
  0006      6   61
  0010     66  244
  0014    138  467
  0020    238  772
  0023    328  984
  0026    480 1204
  0033    934 1493
  0036   1402 1598
  0037   1916 1613
2756
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  0006     72   86
  0010    190  230
  0014    276  396
  0020    384  623
  0025    574  838
  0030    634 1056
  0035    842 1275
  0039   1098 1384
  0047   2158 1494
  0081   2754 1467
2757
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  0016    128  543
  0022    230  813
  0028    404 1056
  0033    656 1276
  0040   1234 1420
  0044   1834 1433
  0047   2368 1390
2758
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  0003     34   97
  0009    122  317
  0015    208  547
  0020    288  772
  0028    364  987
  0029    472 1200
  0033    578 1345
  0037    740 1494
  0041   1062 1630
2772
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  0080     14    1
  0124     82    9
  0214    150   37
  0272    370   53
  0365    588   78
  0553   1066  122
  0700   1566  136
  0852   2114  153
  1100   3044  188
  1300   3874  226
  1440   4030  217
2773
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  0300    410   39
  0438   1102   33
  0838   2490   29
  0890   2680   27
2774
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  0023    160   53
  0315    808   54
  0350    928   50
2775
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  0038     34    7
  0077    100   17
  0109    164   35
  0156    278   47
  0220    450   61
  0282    622   73
  0451   1032   87
  0568   1508   92
  0588   1578   93
2776
  0000      0    0
  0077     24   10

TIME   STRAIN STRS
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  0415   1802  101
  0437   2046   97
2777
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  0029     62   23
  0061    202   47
  0085    316   53
  0131    428   89
  0200    966  115
  0305   1634  137
  0400   2260  153
  0582   3538  199
  0671   4116  238
  0700   5028  294
  0952   3322  372
  1088   7066  469
2778
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  0098     84   77
  0136    224  119
  0183    578  137
  0237    816  139
  0284   1414  135
2779
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  0040     64   53
  0059    122   73
  0098    344  103
  0172    562  103
  0191   1130   99
2780
  0000      0    0
  0015     24   35
  0025     74   73
  0035    136  112
  0047    248  156
  0060    432  194
  0084    912  217
  0104   1352  216
  0110   1488  215
2781
  0000      0    0
  0007     28   13
  0014     64   35
  0027    164   72
  0041    298  114
  0056    484  157
  0077    884  194
  0130   1948  209
  0164   2762  215
  0191   3374  217
  0233   4280  213
2782
  0000      0    0
  0010      2   24
  0020     26   72
  0028     52  113
  0037    116  154
  0048    198  193
  0066    608  208
  0070    746  200
  0075    860  197
2783
  0000      0    0
  0018     38   47
  0024    194  113
  0028    340  150
  0037    654  237
  0045   1076  315
  0057   1840  335
  0062   2364  329
2784
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  0007     10   45
  0010     48  112
  0019    196  240
  0026    428  315
  0031    724  340
  0036   1068  339
  0039   1278  329
2785
  0000      0    0
  0007     46   21
  0014    132  116
  0017    226  154
  0021    376  195
  0027    608  232
  0037   1178  277
  0062   3258  303
  0087   5104  364
  0103   6200  432
  0113   6730  472
  0127   7603  547
  0133   8076  584
2786
  0000      0    0
  0003      0   70

TIME   STRAIN STRS
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  0009     48  230
  0011    136  308
  0014    302  396
  0017    536  466
  0020    974  548
  0023   1380  580
  0026   1782  584
  0028   2282  589
  0031   2812  590
  0034         605
  0042         697
  0047   4102  765
  0049   4496  801
  0051   4878  852
  0054   5402  903
2787
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  0007     60   77
  0009    164  234
  0012    368  396
  0017    740  507
  0019   1196  534
  0022   1882  525
  0025   2420  524
  0027   2938  516
2788
  0000      0    0
  0013    114  140
  0016    210  236
  0019    450  387
  0021    632  463
  0025   1180  537
  0028   1644  550
  0030   2136  528
  0031   2600  514
2789
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  0026     10   38
  0030     86  172
  0031    162  250
  0034    264  317
  0037    508  400
  0039    710  432
  0042   1118  469
  0046   1512  480
  0048   1868  480
  0051   2466  469
2790
  0000      0    0
  0004     32    8
  0007     94   74
  0011    302  191
  0016    534  317
  0020    812  395
  0025   1220  469
  0028   1568  509
  0033   2370  543
  0038   3310  547
  0043   3692  577
  0049   4720  624
  0057   5586  713
  0066   7026  838
  0072   8040  914
  0078   8938  933
2791
  0000      0    0
  0005     16   39
  0010     54  168
  0013    194  309
  0016    330  396
  0021    648  472
  0023   1136  469
  0026   1458  461
  0028   1900  451
2792
279200      0    0
  0000      0    0
  0015     20   27
  0019     72  149
  0024    200  311
  0027    340  396
  0031    704  468
  0035   1268  475
  0038   1758  453
2809
000000      0    0
  0183     76   93
  0360    248  244
  0616    580  326
  0652   1120  323
    60   1162  321
2810
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  0409    494  206
  0843   1042  400
  1120   2322  273
2811
000000      0    0
    35     24   20

TIME   STRAIN STRS
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  0510    684  261
  0752   1134  342
  1000   1716  388
    44   1856  387
    55   1886  384
2812
000000      0    0
  0164     72   69
  0365    270  197
  0646    496  290
  0807    804  340
  0875    970  348
  1002   1334  344
  1202   1940  328
2813
000000      0    0
    60     26   50
  0118    126  163
  0200    340  316
  0300    628  488
  0445   1398  612
2814
000000      0    0
    45      2   11
    58     10   36
  0169    152  263
  0295    256  487
  0393   1064  532
2815
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    85     96  156
  0174    302  325
  0257    620  432
  0300    724  467
    29    778  469
    50    942  464
2816
000000      0    0
    74     42   55
  0207    420  271
  0348   1114  403
  0400   1462  411
    28   1508  409
    32   1736  409
2817
000000      0    0
    16      2   37
    30     20   77
    40     42  154
    61     98  319
    72    134  396
    83    196  469
    97    272  546
  0122    514  697
    50   1062  792
    58   1332  774
2818
000000      0    0
    46     50   40
    51     82   72
    57    118  113
    78    334  220
  0103    542  353
    30    836  469
    45   1108  514
    68   1644  547
    92   2278  543
  0302   2530  539
2819
000000      0    0
    40      8   67
    47     24  120
    52     36  149
    57     56  193
    88    148  132
  0100    240  198
    17    430  472
    28    598  510
    51   1032  577
    82   1386  639
  0210   2440  642
    16   2580  635
2820
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    20      0   33
    27     10   76
    33     28  119
    38     46  156
    49     80  237
    60    136  316
    71    210  396
    84    322  469
    93    420  509
  0106    574  544
  0131    964  583
    57   1588  590
    61   1734  575
2821
000000      0    0

TIME   STRAIN STRS
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    23     36  153
    27     64  237
    32    122  356
    38    226  471
    47    400  621
    58    916  767
    66   1404  841
    73   1920  877
    78   2294  882
    82   2644  873
2822
000000      0    0
    21     18   50
    26     52  111
    35    110  243
    42    202  397
    59    310  542
    60    678  772
    68   1504  900
    71   1836  889
2823
000000      0    0
    05     10   45
    10     30  109
    17     94  233
    27    212  398
    35    432  547
    48   1122  672
    53   1538  670
2824
000000      0    0
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    21     82  152
    30    182  327
    37    274  470
    43    402  622
    51    620  667
    57    846  843
    63   1210  882
    67   1528  873
2825
000000      0    0
    17     14   67
    20     62  231
    23    166  396
    26    244  543
    30    510  772
    34    908  911
    38   1606  979
    40   1986  978
    42   2494  949
2826
000000      0    0
    15     28   90
    18     58  238
    21    114  396
    23    164  546
    27    238  768
    29    292  914
    32    376 1063
    34    488 1203
    37    700 1352
    40   1080 1485
    43   1730 1549
    46   2400 1494
    48   3512 1246
2827
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    13     66   41
    19    188  187
    24    220  319
    31    666  469
    36    956  621
    46   1790  873
    51   2556  950
2828
000000      0    0
    08     22   72
    12    100  243
    16    178  396
    20    272  542
    25    418  766
    28    568  903
    34    864 1062
    38   1330 1110
    40   1796 1106
    43   2236 1083
2829
000000      0    0
    08     14   67
    11     62  234
    16    118  400
    19    150  543
    24    278  767
    28         907
    31    526 1062
    37   1056 1179
    40   1456 1148
2830
000000      0    0
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  TIME  STRAIN STRS
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    27    238  395
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    37    528  772
    40    680  909
    46   1118 1050
    50   1648 1104
    53   2294 1082
2831
000000      0    0
    17     56  103
    21    160  312
    23    232  467
    27    314  610
    29    438  772
    31    562  907
    35    840 1053
    38   1280 1125
    40   1744 1120
2832
000000      0    0
    12     20   64
    13     38  175
    18     26  475
    21    150  620
    23    228  772
    25    306  907
    28    430 1059
    31    574 1204
    33    770 1301
    35   1086 1366
    37   1504 1386
    39   1952 1384
    41   2628 1293
2839
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  1650   2612  535
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    30   2426  363
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    40   2836  412
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    21    938  447
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    25   1760  437
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    21   1738  453
    23   2342  470
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    33   4136  509
    38   4972  555
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  TIME  STRAIN STRS
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  0700   2132  143
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  0861   2964  323
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  0155    384  176
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  0477   2660  327
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  TIME  STRAIN STRS
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2932
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    20     92  317
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    20    252  627
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    28   2456  647
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    38   4594  670
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TIME  STRAIN STRS
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   18  1714  487
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 0400   254  450
 0500   308  577
 0603   410  703
 0800   796  862
 0888  1570  710
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 0261   350  194
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 0663   704  688
 0751   810  772
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 0945  1500  807
2957
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 0537  1016  392
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2959
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 0700  1916  748
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2960
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 0564  1402  751
296
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 0444   714  763
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 0545   988  920
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2962
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 0638  1984  791
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2963
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   28    16   73
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   91  1182 1113
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TIME  STRAIN STRS
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   72   138  469
   92   212  623
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   40   592  915
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   75  1434  947
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   41   212  772
   47   260  907
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   62   942 1062
   70  1540 1132
   85  2502 1205
   98  3314 1280
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   26   282 1004
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   30   218  903
   36   352 1217
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   47  1044 1573
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   47   394 1059
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2972
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TIME  STRAIN STRS
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   25   614 1061
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   84  3040 1229
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2981
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 0759   988 1417
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2982
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2983
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 0363   444  655
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 0842  3424  835
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2985
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TIME  STRAIN STRS
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   73  1370 1727
   78  1524 1713
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2987
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   78   454 1849
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   98   636 2328
 0112   988 2595
2989
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   65   422 1630
   76   504 1918
   84   582 2125
   97   742 2397
2990
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   18   196  772
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   28   270 1271
   32   302 1487
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   43   380 2053
   46   400 2207
2991
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   11    96  403
   16   136  630
   20   190  854
   25   238 1068
   29   286 1283
   36   348 1640
   40   404 1852
   47   506 2207
   49   554 2347
   53   660 2547
   58   804 2735
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   19    90  314
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   33   264  987
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   52   574 2658
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TIME  STRAIN STRS
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   73   406 1623
   79   486 1924
   84   552 2200
   88   624 2397
   96   770 2720
   99   870 2847
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   22   346 1205
   30   456 1635
   33   522 1912
   37   598 2200
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2995
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   19   432 1004
   23   486 1291
   27   563 1521
   32   678 1932
   36   836 2207
   40  1000 2462
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3022
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   57     0    5
 0129    24  113
   98    50  210
 0277    84  326
 0500   202  648
 0756   306  853
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   49   804 1110
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 0500   316  450
 0712   456  686
 1468  2698  675
3024
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 0511   380  710
 0865  1018  902
 0900  1360  894
3025
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 0685   436  837
 0771   540  988
 0875   822 1050
3026
 0000     0    0
 0164   138  245
 0300   236  559
   90   320  772
 0500   494  987
 0623  1026 1107
   29  1078 1103
3027
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 0252  1124  169
 0586  2516  571
 0936  3332 1165
 1054  3490 1157
   59  3538 1152
3028
 0000     0    0
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 0271   224  473
 0437   410  823
 0600   812 1080
   30  1002 1083
   38  1066 1079
3029
 0000     0    0
 0151    84  240
 0321   240  621
 0525   652  988
   61   864 1003
   69   940  997
3030
 0000     0    0
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   30    38   73
   51   104  241
   71   158  400
 0100   238  628
 0219   288  772
   50   416  988
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```
TIME  STRAIN STRS
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   43  1496 1441
   50  1690 1437
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   51   116  240
   91   216  551
 0123   290  789
   60   404 1068
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   19   936 1393
   22  1056 1380
   26  1208 1358
3032
 0000     0    0
   16    22   41
   38    74  157
   85   224  509
 0120   338  770
   72   602 1097
 0213  1130 1279
   33  1500 1307
   38  1604 1300
   43  1854 1273
3033
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   20    50   71
   56   148  238
   77   190  400
 0120   300  700
   51   422  918
   81   600 1135
 0223   952 1354
   33  1140 1364
   37  1314 1343
3034
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   12    16   45
   17    38   73
   26   134  236
   36   214  469
   42   264  626
   48   312  772
   57   384  983
   65   468 1205
   70   540 1348
   77   630 1490
   87   872 1703
   93  1054 1775
   98  1310 1803
3035
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   22   104  152
   30   164  319
   40   216  548
   49   262  847
   57   306  985
   65   356 1208
   73   410 1422
   81   466 1632
   87   518 1779
   97   618 1987
 0107   792 2198
3036
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   09    70   74
   13   130  150
   22   220  315
   33   314  547
   42   396  769
   51   478  985
   64   620 1279
   73   676 1499
   87  1164 1704
3037
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   06    66   39
   11   160  315
   18   308  617
   24   418  842
3038
 0000     0    0
   04    32   72
   08   124  231
   12   198  393
   17   258  620
   21   320  840
   27   374 1062
   32   440 1340
   37   526 1564
   42   652 1847
   50   926 2128
3039
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   13   194  323
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TIME  STRAIN STRS
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    47   894 1773
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    09    90  392
    13   150  621
    16   204  840
    20   296 1057
    24   340 1343
    27   408 1564
    30   490 1768
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    09   136  396
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    17   278  920
    21   356 1210
    26   466 1486
    30    40 1773
    33   854 1925
3042
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    07   116  319
    12   176  633
    16   230  899
    20   288 1205
    24   346 1490
    29   420 1775
    31   476 1945
    33   542 2133
    37   630 2327
3043
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    05    12   72
    09    50  231
    15    92  475
    22   156  768
    27   220  989
    34   304 1277
    38   382 1487
3044
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  0133    68  120
  0200    88  200
  0477   204  519
  0779   332  854
  1041   444 1119
  1512  1058 1483
3045
  0000          0
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  0224   146  240
  0626   404  699
  0889   592  976
  1100   790 1179
  1267   996 1287
  1593  2200 1180
3046
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  0354   112  339
  0494   190  501
  1000   250 1074
  1255   326 1350
  1400   378 1495
  1669   456 1651
  1800   650 1787
  2036   714 1997
  2141   852 1960
3047
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  0382   180  410
  0865   318  783
  1029   434  936
  1266   644 1223
  1577  1248 1373
  1589  1304 1365
3048
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  0500   264 1082
  0652   356 1427
  0751   440 1632
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3049
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  0350   266  703
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TIME  STRAIN STRS
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  0651   462 1353
  0800   630 1637
  0894   776 1727
  0910  1114 1708
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  0127   270  152
  0232   456  350
  0448   604  588
  0559   724  832
  0762   930 1282
3052
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    28     0  107
    58    30  337
    83   100  544
  0111   140  772
  0140   164  989
  0174   230 1273
  0202   264 1495
  0233   316 1705
  0268   370 1993
  0293   414 2200
  0335   438 2476
  0366   652 2667
  0378   948 2744
  0383  1162 2723
3053
  0000     0    0
    14    12   40
    56   100  320
    86   156  548
  0115   214  772
  0145   260  938
  0181   322 1278
  0210   372 1493
  0251   454 1778
  0278   520 1990
  0305   588 2200
    36   696 2398
    63   994 2530
    69  1044 2530
3054
  0000     0    0
    22    22   73
    38    56  153
    51    64  239
    87   144  547
  0116   188  772
  0164   268 1099
  0181   322 1298
  0209   374 1493
  0240   470 1708
  0288   856 2057
  0325   942 2246
  0330  1014 2246
3055
  0000     0    0
    12    24   47
    19    38   77
    32    58  157
    44    84  238
    76   146  472
  0118   228  772
    49   284  988
    87   358 1279
  0217   416 1495
    48   488 1705
    78   590 1918
  0326   962 2162
    30  1038 2163
    37  1186 2143
3056
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    17    40  103
    24    90  233
    31   150  396
    38   210  547
    47   276  780
    57   336 1060
    68   396 1348
    78   432 1630
    90   504 1917
  0100   558 2200
    12   624 2465
    23   712 2725
    29   768 2877
    40   922 3119
3057
  0000     0    0
    12    86  150
    15   214  427
    38   316  772
    50   422 1072
    60   498 1349
    71   564 1633
    87   678 2063
    99   766 2343
  0110   852 2596
```

```
TIME  STRAIN STRS
    21   984 2859
    28  1106 2981
    37  1188 3103
    40  1570 3119
3058
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    07     4   73
    14    24  237
    24    58  469
    36   106  772
    44   150  989
    52   186 1205
    62   236 1495
    71   284 1709
    78   334 1918
    89   404 2196
    97   462 2400
  0109   564 2664
    18   674 2857
    24   782 2952
    33  1050 3116
3059
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    37    16   35
    41    64  240
    46   104  471
    51   158  767
    55   208  990
    59   234 1297
    64   292 1495
    71   358 1847
    77   424 2200
    83   490 2529
    89   572 2860
    94   656 3125
3060
  0000     0    0
    06    22  158
    12    80  403
    26   216 1007
    31   276 1350
    37   326 1634
    42   390 1917
    48   466 2200
    52   502 2400
    55   624 2594
    60   762 2860
    64   886 3056
    70  1186 3317
3061
  0000     0    0
    07    38  169
    14   106  469
    21   162  775
    27   210 1058
    32   256 1349
    37   306 1625
    44   382 1988
    49   450 2238
    56   570 2694
    61   664 2895
    67   814 3188
    72  1002 3503
3062
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    08    12  140
    26   108  475
    33   234  980
    38   308 1354
    43   392 1703
    48   468 2054
    52   562 2394
    57   662 2761
    60   740 2975
3063
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    10    10  161
    17    78  640
    20   124  905
    24   168 1197
    28   218 1483
    32   260 1776
    37   312 2070
    39   412 2328
    43   492 2598
    47   580 2860
    59  2708 3073
3064
  0000     0    0
    06    74  164
    10   158  420
    19   288 1062
    23   340 1350
    28   484 1632
    33   452 1996
    36   492 2205
    39   542 2467
    42   598 2725
    45   644 2919
    48   688 3119
    51   762 3378
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TIME  STRAIN STRS
    55   856 3643
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    18   106  396
    21   176  622
    25   250  918
    31   350 1348
    35   416 1629
    38   466 1853
    43   542 2200
3065
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    31    34  183
    35    70  396
    38   114  624
    41   158  843
    45   200 1169
    50   258 1500
    52   288 1697
    55   326 1927
    58   368 2214
    62   424 2465
    66   498 2855
    70   568 3113
    73   634 3380
    75   670 3515
    80   828 3842
3087
  0000     0    0
  0130    88  110
  0277   170  233
  0467   364  436
  0562   546  509
  0616   726  523
  0630   788  517
3088
  0000     0    0
    34    22   60
  0357   436  267
  0530   682  415
    38   694  421
  0718  1058  530
    34  1080  537
3089
  0000     0    0
  0147   112   79
  0285   206  194
  0516   498  337
  0852  1996  247
3090
  0000     0    0
    38    14   37
    60    48   76
    78    78  110
  0137   144  162
  0194   236  279
032626   534  509
  0397   944  556
  0407  1040  548
3091
  0000     0    0
    60    74   78
  0111   116  177
    80   196  317
  0227   256  403
  0334   520  573
  0432  1290  553
3092
  0000     0    0
    29     8   34
    50    26   74
    69    44  112
  0311    72  537
    49   344  568
  0462   444  573
    70   496  585
3093
  0000     0    0
    31    14   27
    38    32   73
    50    56  157
    61    82  237
    80   134  347
  0102   192  469
    26   304  621
    50   488  771
    66   806  823
    73   996  800
3094
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    11     4   33
    18    24   72
    24    40  114
    33    58  173
    53   118  319
    74   200  471
    96   306  621
  0120   460  772
    34   580  840
    58   976  913
    64  1192  896
```

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TIME  STRAIN STRS
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    15    38   75
    30    98  158
    50   162  237
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    84   324  471
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    39  1006  688
    48  1262  678
    52  1436  655
3096
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    18    14   68
    28    60  236
    39   126  469
    48   240  696
    55   348  840
    62   552  988
    70   920 1092
    73  1238 1068
3097
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    07    60   78
    19   194  238
    31   326  470
    38   438  621
    46   634  772
    52   900  844
    55  1172  847
    57  1436  817
3098
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    08    30   73
    19    90  232
    27   144  469
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    40   302  768
    48   444  917
    57   738 1063
    61  1006 1090
    64  1356 1053
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    09    44  239
    15   132  469
    21   268  697
    24   424  833
    31   954  957
    33  1600  880
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000000     0    0
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    12    74  238
    17    90  396
    22    78  625
    27    48  844
    31   126  989
    37   350 1206
    41   782 1295
    43  1356 1212
3101
000000     0    0
    08    40  231
    11    86  400
    17   186  622
    21   280  772
    25   454  913
    31  1010 1006
    33  1620  902
3102
000000     0    0
    05    12   93
    08    52  313
    12   110  540
    16   204  772
    20   344  984
    24   412 1200
    28  1148 1294
    30  1578 1276
3103
000000     0    0
    06    22   94
    09    76  317
    13   154  549
    17   244  776
    21   382  986
    26   714 1201
    27  1060 1232
    29  1620 1162
3104
000000     0    0
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    09    30  143
    12    56  310
    16   120  547
    19   192  767
    23   290  987
    28   920 1276
```

```
TIME  STRAIN STRS
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3105
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    08    68  182
    14   192  60C
    17   282  782
    21   450  977
    26  1000 1153
    28  1592 1028
3120
000000     0    0
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  0397   624  275
  1027  2890  456
  1138  3704  449
3121
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    40     2   13
    80    36  113
  0310   102  248
  0464   192  404
  0702   458  603
  0808   642  672
  1113  1476  754
  1134  1542  754
3122
000000     0    0
  0132   100   40
  0285   260  163
  C490   514  277
  0741  1176  403
  0910  1680  412
  1291  2538  450
  1340  2686  449
3123
000000     0    0
    30    20   32
  0165   186  236
  0274   500  433
  0408  1124  569
  0540  1952  672
  0633  2402  700
  0708  2930  707
    21  3020  700
3124
000000     0    0
    30    22   35
    52    36   73
  0158   156  243
  0310   414  447
  0433   866  721
  0577  1576  757
  0553  1716  749
3125
000000     0    0
    27    28   38
  0163   154  232
  0367   364  570
  0472   968  686
  0635  1834  764
    74  2120  763
3126
000006     0    0
    21    14   73
    35    34  120
    54    78  240
    87   194  471
  0129   496  697
    57  1002  772
    62  1178  772
    71  1516  759
3127
000000     0    0
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    58   150  290
    72   218  396
    90   348  549
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    41   742  769
    87  1530  824
  0207  1800  849
3128
000C00     0    0
    08    22   36
    22    52   37
    37    82  157
    71   220  397
    84   340  547
  0132   596  772
    61   950  914
    78  1192  985
  0238  2282 1122
    50  2600 1110
3129
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    97   110  240
  0107   188  469
    14   268  630
  0122   364  772
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TIME   STRAIN STRS
    32    584  949
    40    896 1062
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    59   2220 1127
3130
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    22    128  205
    32    242  400
    43    426  621
    51    600  772
    58    878  882
    71   1536 1025
    81   2098 1100
    90   2700 1113
    96   3208 1093
3131
000000      0    0
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    17     70  238
    31    162  547
    41    244  780
    53    420 1067
    64    694 1280
    76   1274 1420
    80   1552 1436
    86   2098 1410
3132
000000      0    0
    06     36  107
    09    120  316
    13    236  547
    17    335  775
    21    474 1056
    27    732 1348
    31   1024 1490
    33   1518 1560
    37   2092 1547
3133
000000      0    0
    07     12   49
    10     70  226
    14    142  469
    18    200  688
    21    280  907
    25    390 1132
    29    564 1348
    33    874 1564
    37   1294 1702
    40   1774 1776
    43   2290 1771
3134
000000      0    0
    07     36  114
    11     94  319
    15    176  447
    19    256  772
    22    380  986
    27    618 1217
    31   1092 1387
    34   1584 1443
    36   2194 1415
3135
000000      0    0
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    10    130  227
    14    212  397
    19    304  551
    25    508  772
    31    926  911
    34   1412  918
3136
000000      0    0
    05     20   93
    08     52  232
    12     92  390
    16    152  540
    19    226  696
    22    302  839
    26    408  983
    32    690 1204
    36    896 1283
    39   1288 1348
    41   1672 1370
    46   2292 1360
3137
000000      0    0
    08     74  199
    17    222  449
    22    386  621
    27    730  764
    31   1110  822
    34   1550  838
    37   2020  838
    42   2920  809
3152
000000      0    0
  0100    148   29
  0267    784   36
  0367   1214   27
3153

TIME   STRAIN STRS
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    81    110   46
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  0219    576   67
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3154
000000      0    0
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    71    176   23
  0151    470   30
  0315   1190   24
3155
000000      0    0
    49     26   22
    71     58   41
  0100    112   55
  0249    276   70
  0335    634   71
  0430   1076   70
3156
000000      0    0
    53    138   28
    67    218   39
  0144    792   47
  0200   1252   41
3157
000000      0    0
    11     12   13
    27     28   33
    47     84   51
    70    356   89
  0127    542  104
  0165    826  105
  0190   1056  104
3158
000000      0    0
    17     54   19
    28     82   33
    78    356   71
  0100    518   73
    37   1010   67
3159
000000      0    0
    09      6   15
    16     38   49
    27    106   96
    47    380  154
    58    646  157
    65    834  152
3160
000000      0    0
    06     22   20
    14     58   55
    18     84   73
    30    200  114
    54    642  157
    70    874  143
    75   1236  143
3161
000000      0    0
    07     16   22
    13     32   54
    18     54   73
    27    122  114
    39    204  153
    57    696  162
    62    842  160
3162
000000      0    0
    05     22   12
    11     46   35
    19    120   74
    31    226  117
    43    410  156
    65    836  173
    72   1004  169
3163
000000      0    0
    04     24   21
    08     70   71
    14    248  151
    22    302  234
    28    796  266
    32   1112  266
    36   1442  252
3164
000000      0    0
    03     16   21
    07     64   80
    09     72  114
    11    108  153
    16    206  232
    38   1046  286
    40   1250  287
    45   1824  279
3165
000000      0    0
    05     30   17
    08    104   74

TIME   STRAIN STRS
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    14    264  155
    21    506  234
    27    586  274
    32   1104  291
    37   1554  287
3166
000000      0    0
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    04     44   92
    06     84  152
    08    154  227
    12    390  320
    15    684  344
    17    998  341
3167
000000      0    0
    05     22   45
    07     46  115
    09    114  200
    12    236  277
    16    484  354
    19    916  373
    21   1286  351
3168
000000      0    0
    04     20   67
    08    158  308
    12    356  313
    15    558  354
    18   1198  347
    21   1566  331
3169
000000      0    0
    11     12   79
    14     84  232
    18    276  396
    20    600  462
    23   1044  467
    24   1544  439
3170
000000      0    0
    03     20   60
    04     66  150
    07    198  303
    09    368  382
    12    704  431
    14   1124  428
3171
000000      0    0
    13     26   22
    17     98  150
    20    314  312
    23    710  381
    25   1134  385
    27   1674  365
3172
000000      0    0
    03     20   69
    05     50  161
    07    102  259
    10    230  390
    11    430  462
    14    722  492
    16   1094  487
    17   1498  469
3186
000000      0    0
  0108     44   48
  0288    146  230
  0372    189  322
  0439    238  396
  0515    284  472
  0645    404  583
  0730    590  630
  0747    632  621
3187
000000      0    0
  0156     56   78
  0329    144  238
  0510    262  399
  0627    422  463
  0650    520  459
3188
000000      0    0
  0133     82   21
  0317    272  152
  0485    498  268
  0674    518  359
  0735   1122  361
    48   1174  360
3189
000000      0    0
  0111    178  100
  0256    352  372
  0384    604  514
  0408    758  591
    15    810  585
3190
000000      0    0
  0134     40   48

TIME   STRAIN STRS
  0278    120  168
  0407    174  287
  0479    216  354
  0607    312  472
  0700    398  548
  0754    526  564
  0762    594  553
3191
000000      0    0
  0140    114   74
  0283    262  432
  0400    466  640
    50    730  664
    58    992  658
3192
000000      0    0
    31     30   79
    48     72  194
    63    116  317
    84    170  471
  0106    242  622
    28 [illegible]  722
    41 [illegible]  843
    51    654  854
    54    826  833
3193
000000      0    0
    32      8   19
    32     78  130
  0213    156  287
  0327    290  503
  0409    498  625
    38    678  629
    49    774  616
3194
000000      0    0
    12     12   38
    35     40  119
    42     60  163
    53     84  240
    76    158  378
  0118    342  621
  0146    732  704
  0159   1160  685
3195
000000      0    0
    21     32   65
    44     90  160
    70    126  316
    94    168  470
  0120    238  623
    52    386  778
    57    494  770
    61    668  745
3196
000000      0    0
    15     22   33
    32     38   77
    46     66  155
    68    114  316
    89    158  472
  0112    218  623
    33    298  772
    55    418  917
    70    570  988
    75    702  993
    81    908  973
3197
000000      0    0
    09     70   73
    14    110  154
    27    192  396
    38    272  621
    47    284  845
    53    270  989
    59    258 1132
    67    212 1253
    71    832 1150
3198
000000      0    0
    08     12   78
    16     42  231
    23     90  398
    33    162  621
    39    208  772
    49    306  983
    55    410 1133
3199
000000      0    0
    07     36   74
    15     74  237
    23    128  398
    33    208  625
    42    296  843
    52    414 1063
    59    582 1204
    62    724 1231
3200
000000      0    0
    04      4   70
    07     22  189

TIME   STRAIN STRS
    10     48  323
    15     94  546
    23    102  923
    28    278 1137
    33    424 1348
3201
000000      0    0
    03     16   63
    11    100  319
    15    182  545
    20    260  772
    25    356  984
    30    510 1205
    34   2174 1446
3202
000000      0    0
    05     10   69
    09     60  234
    14    112  469
    20    176  707
    24    250  920
    31    384 1209
    37   1584 1374
3203
000000      0    0
    04     14   78
    07     60  229
    11    132  469
    16    222  767
    19    294  983
    22    366 1200
    26    470 1407
3204
000000      0    0
    07    140   53
    09    196  149
    13    256  313
    18    352  630
    21    410  840
    26    504 1143
    31    672 1494
    34   1546 2095
3205
000000      0    0
    04     32  129
    07     88  283
    14    264  779
    18    330  988
    23    680 1273
3206
000000      0    0
    04     14   78
    07     58  246
    11    108  471
    17    208  885
    20    260 1063
    24    360 1349
    28    472 1564
3207
000000      0    0
    05      4   75
    09     54  239
    15    122  470
    20    202  710
    25    270  912
    32    400 1207
    36    778 1356
3234
000000      0    0
    08      4   15
    19     24   76
    27     46  119
    32     62  157
    44     92  237
    57    132  319
    67    180  398
    77    228  469
  0107    490  622
    17    692  642
    25    952  622
3235
000000      0    0
    11      6   35
    15     18   78
    38     44  157
    60    120  318
    83    264  469
  0102    500  520
    10    716  514
3236
000000      0    0
    18     16   43
    23     34   78
    37     70  157
    49    116  238
    71    220  401
    89    350  510
  0102    552  545
    08    760  524
3237
000000      0    0

TIME   STRAIN STRS
    21     18   35
    28     40   77
    35     64  113
    42     98  156
    53    142  237
    64    204  316
    76    268  402
    88    352  469
  0106    578  532
    10    748  513
3238
000000      0    0
    26     40   36
    33     50   76
    40     78  114
    47     92  157
    58    150  238
    81    264  398
    94    336  469
  0112    502  547
    21    692  557
    28   1104  540
3239
000000      0    0
    18     20   35
    34     80  119
    53    140  244
    75    302  401
    93    398  509
  0116    618  621
    26    790  643
    34   1030  633
3240
000000      0    0
    21     38   33
    30     60   78
    44    128  157
    62    224  279
    73    272  358
    86    372  433
  0102    496  509
    16    786  544
    23    936  526
3241
000000      0    0
    21     20   42
    28     46   80
    43    108  165
    55    146  253
    66    196  327
    77    246  403
    89    330  479
  0118    690  580
    22    874  560
3242
000000      0    0
    12     60   13
    18    126   35
    24    194   51
    40    346   61
    53    590   90
    64    866   94
    82   1396   87
3243
000000      0    0
    09     14   18
    16     22   37
    28    166   75
    33    250   90
    47    538   99
    61    924   97
    68   1120   94
3244
000000      0    0
    08     30   10
    15     84   35
    22    144   61
    28    210   77
    41    474   96
    62   1044   87
3245
000000      0    0
    09     24   14
    14     58   36
    21    110   63
    26    158   78
    40    348  114
    53    638  129
    67   1054  128
    79   1398  123
3246
000000      0    0
    11     68   15
    16    116   35
    27    196   61
    33    316   79
    41    460   90
    52    802   93
    64   1102   90
    74   1380   89
3247
```

```
TIME  STRAIN STRS
000000     0    0
    11    30   25
    20    82   57
    25   122   77
    35   242  102
    42   384  117
    51   598  122
    63   950  120
    70  1138  115
3248
000000     0    0
    12    82   14
    19   162   36
    29   294   67
    42   532   87
    50   726   89
    65  1158 [illegible]
3249
000000 [illegible] [illegible]
    09 [illegible] [illegible]
    14 [illegible] [illegible]
    21 [illegible] [illegible]
    27 [illegible] [illegible]
    42 [illegible] [illegible]
    59 [illegible] [illegible]
    78 [illegible] [illegible]
3262
000000     0    0
    09    34   35
    24    56  112
    31    88  158
    45   184  236
    76   480  398
    98   800  469
  0119  1260  493
    28  1502  488
3263
000000     0    0
    16     2   21
    22    10   53
    27    20   75
    35    44  117
    42    90  157
    57   174  237
    71   306  316
    97   584  358
  0129  1128  509
    40  1402  512
    44  1540  505
3264
000000     0    0
    23     0   21
    28    10   75
    40    30  157
    52    74  238
    64   110  316
    74   176  397
    88   272  473
  0107   512  548
  0131  1050  577
  0137  1170  568
3265
000000     0    0
    20    18   49
    27    48   78
    41   128  157
    54   192  238
    68   294  319
    84   630  396
  0106   872  450
    32  1500  468
    38  1686  484
3266
000000     0    0
    09     2   38
    23    18   72
    37    48  157
    49    92  236
    61   162  316
    74   248  396
    88   418  469
  0119  1056  540
    37  1144  532
3267
000000     0    0
    12    44   36
    29   108   78
    45   202  157
    59   314  238
    77   524  317
  0102   958  372
    13  1214  372
    23  1518  363
3268
000000     0    0
    17    14   37
    32    78   76
    40   114  114
    47   164  158
    61   252  238
    75   362  317
```

```
TIME  STRAIN STRS
    92   536  396
  0104   700  433
    27  1192  458
    32  1325  453
3269
000000     0    0
    23    48   36
    31    84   79
    46   200  158
    61   340  237
    77   512  317
    97   746  398
  0117  1006  433
    28  1400  443
    35  1592  432
3270
000000     0    0
    19    10   35
  0120  1044  493
    31  1304  498
    45  1666  493
3271
000000     0    0
    18    50   39
    24    64   75
    39   134  157
    52   248  237
    69   438  319
    92   758  398
  0124  1314  471
    66  2154  550
  0242  3816  621
    61  4346  617
3272
000000     0    0
    14    24   49
    29    64   78
    45   160  157
    66   350  279
    95   694  398
  0135  1358  509
    85  2308  625
  0226  3132  697
  0302  4894  759
    40  5828  758
3273
000000     0    0
    32    76   83
    57   176  156
    62   320  239
    94   646  398
  0128   952  471
    48  1518  547
    94  2460  625
  0248  3666  671
    76  4378  672
    97  4922  667
3274
000000     0    0
    18    10   47
    23    20   75
    38    84  157
    51   156  237
    80   420  396
  0132  1202  547
    77  2176  625
  0221  3158  655
    34  3466  646
3275
000000     0    0
    23    40   33
    33   176   74
    64   440  232
  0102   870  402
    50  1716  522
    97  2750  583
  0256  4114  620
    89  4996  613
3276
000000     0    0
    12    20   33
    28    48   75
    36    76  113
    43   124  155
    84   568  351
  0144  1670  471
    98  2804  547
  0266  4418  584
    87 [illegible]  579
3277
000000     0    0
    24    86   50
    30   120   79
    47   472  156
  0110  1078  411
    84  2576  540
  0292  5250  567
3278
000000     0    0
    25    82   35
    33   146   77
```

```
TIME  STRAIN STRS
    68   452  261
  0157  1928  512
  0208  2844  583
    84  4732  610
    96  5036  603
3291
000000     0    0
    21    10   18
    42    12   36
    77    32   72
    99    42   93
  0151    76  143
    99   110  189
  0252   168  244
  0300   236  291
  0400   320  390
  0600   596  543
  0743  1020  581
  0760  2096  579
3292
000000     0    0
    66    26   09
    99    60   33
  0124    86   53
    51   110   76
    76   124   97
  0200   158  118
  0324   190  232
  0500   478  403
  0600   658  489
  0700   770  557
  0825  1114  587
  0951  1222  583
3293
000000     0    0
    61    48   17
    76    62   28
    99    90   46
  0124   124   63
    51   162   84
    77   202  100
    99   228  117
  0325   384  214
  0453   546  327
  0552   694  400
  0792  1380  476
  0808  1446  472
3294
000000     0    0
    86    52   28
    99    74   49
  0124   112   83
    51   160  151
    76   208  166
    99   254  200
  0252   286  287
  0300   542  356
  0400   992  457
  0536  1984  463
3295
000000     0    0
    51    32   24
    65    58   48
    77    74   53
    99   118   94
  0124   166  129
    45   208  159
  0251   556  283
  0400  1542  313
    37  1804  305
3296
000000     0    0
    51    42   24
    70    72   54
    99   116  100
  0131   150  154
  0233   292  356
  0446  1128  603
    59  1260  593
3297
000000     0    0
    16    48   33
    31   128   53
    37   186   75
    47   294  115
    56   354  155
    76   448  277
    93   506  396
  0118   598  548
    39   690  797
    62   828  843
    96  1136  987
  0205  1364  999
    10  1534  979
3298
000000     0    0
    09    22   38
    46   298  131
    75   670  237
    98   964  317
  0136  1324  471
```

```
TIME  STRAIN STRS
    65  1610  622
  0200  2004  772
    51  2774  924
    65  3158  926
    72  3410  879
3299
000000     0    0
    08    40   29
    30   162   73
    40   274  113
    50   344  153
    64   422  240
    74   478  319
  0115   668  560
    41   888  702
    71  1264  843
    99  1748  897
  0206  1962  880
3300
000000     0    0
    10     6   38
    12    28   86
    17    46  156
    24    88  319
    34   184  545
    44   306  772
    51   522  913
    59   632 1062
    68  1092 1186
    73  1648 1160
3301
000000     0    0
    07    10   32
    10    24   75
    14    40  154
    22   130  317
    30   200  469
    36   296  619
    42   374  767
    49   498  911
    61   826 1133
    75  1478 1315
    80  1824 1335
    84  2220 1319
3302
000000     0    0
    07    18   35
    12    40   78
    17    72  157
    21   100  238
    28   150  396
    36   220  550
    44   324  767
    51   414  917
    58   544 1057
    64   758 1169
3303
000000     0    0
    04     6   73
    10    86  319
    16   202  547
    21   378  772
    26   592  913
    31  1006 1063
    37  1574 1205
    42  2168 1279
    47  2676 1297
    49  3264 1267
3304
000000     0    0
    07    30   72
    10    72  199
    12   116  320
    16   166  475
    21   234  696
    28   332  992
    31   452 1137
    35   584 1285
    41   960 1495
    44  1354 1563
    47  1742 1564
3305
000000     0    0
    06    28   61
    11   108  240
    18   244  539
    23   380  768
    27   486  914
    33   750 1137
    38  1112 1280
    45  1876 1387
    49  2478 1393
    52  3192 1325
3306
000000     0    0
    02    26   63
    07   260  233
    11   504  480
    15   644  697
    19   794  911
    22   936 1144
```

```
TIME  STRAIN STRS
    27  1150 1410
    30  1378 1610
    33  1816 1635
3307
000000     0    0
    05    44  143
    08   120  319
    12   214  550
    15   296  774
    19   426  995
    23   586 1230
    27   824 1427
    30  1194 1537
3308
000000     0    0
    05     2   60
    30    24  243
    32    76  420
    36   150  642
    39   262  846
    43   472 1063
    48  1014 1264
    50  1398 1282
    55  2104 1172
3317
000000     0    0
    44     6   13
    77    22   35
  0108    48   56
    37    60   74
    62        165
  0400   304  269
  0540   420  360
  0700  1074  417
  0954  1360  404
    68  1406  403
3318
000000     0    0
  0161     2   78
  0271    30  159
  0406   112  267
  0544   224  377
  0637   342  43
  0708   446 [illegible]
  0824   710  508
    77   898  502
3319
000000     0    0
    68    28    7
  0106    64   23
  0140   124   37
  0250   256   93
  0408   470  172
  0602   764  261
  0904  1292  390
    20  1298  396
  1100  1724  426
    35  1828  424
3320
000000     0    0
    42    24   21
    49    36   33
    72    70   73
    98   122  115
  0122   172  153
    44   218  197
    64   260  237
  0262   504  409
  0406  1208  543
    36  1460  540
3321
000000     0    0
    51    34   23
    60    48   37
    87    88   77
  0113   122  114
    42   170  163
  0234   354  330
  0368   848  510
  0532  2098  505
    37  2158  500
3322
000000     0    0
    40    16   15
    53    30   39
    69    44   60
    80    52   78
  0108    96  126
    25   120  159
  0237   376  355
  0382  1122  475
  0465  1696  494
  0488  1882  493
3323
000000     0    0
    08     0   24
    27    20   77
    40    56  159
    53   108  237
    64   170  316
    93   366  485
```

```
TIME  STRAIN STRS
  0148  1056  699
    65  1446  710
    74  1700  697
3324
000000     0    0
    17     2   19
    23     8   53
    35    32  122
    40    40  157
    51    62  235
    62    96  320
    84   168  471
  0108   276  623
    31   426  772
    58   652  920
    91   984 1099
  0220  1378 1207
    30  1420 1210
    34  1760 1197
3325
000000     0    0
    17    24   33
    26    52   74
    41   124  155
    54   190  236
    68   276  317
    97   454  471
  0126   690  625
    57  1162  746
    62  1320  746
    72  1602  733
3326
000000     0    0
    07    14   33
    10    28   78
    15    60  150
    24   182  315
    38   516  546
    49   668  696
    61  1448  862
    72  2144  914
    76  2414  917
    81  2844  913
3327
000000     0    0
    07    60   33
    10    98   76
    16   238  151
    26   436  316
    34   614  469
    42   800  625
    50  1000  772
    58  1242  914
    68  1584 1057
    75  1920 1132
    80  2334 1153
    84  2866 1133
3328
000000     0    0
    08    12   19
    12    30   85
    16    56  157
    23   108  316
    31   182  475
    41   306  695
    47   432  840
    55   618  985
    63   950 1095
    68  1334 1124
    72  1664 1115
3329
000000     0    0
    04    16   33
    07    52  111
    10    90  238
    13   142  399
    18   220  579
    23   312  840
    28   454 1062
    32   600 1205
    37   892 1348
    40  1254 1376
    42  1666 1353
3331
000000     0    0
    05    10   29
    09    30  155
    12    74  316
    18   164  547
    23   262  774
    29   416  987
    34   702 1204
    39  1146 1314
    41  1536 1318
    44  2256 1280
3332
000000     0    0
    08    40  200
    11    86  317
    13   164  466
    17   260  697
```

```
TIME  STRAIN STRS
    22   408  982
    26   536 1203
    28   650 1330
    31   624 1396
    33   834 1410
    35  1192 1390
3333
000000     0    0
    07    72  152
    09   178  321
    12   266  375
    16   388  697
    20   550  921
    23   758 1139
    28  1126 1348
    31  1650 1410
3334
000000     0    0
    02     0   41
    06    22  160
    10   120  396
    13   210  619
    17   340  772
    19   430  913
    23   574 1163
    26   740 1275
    30  1046 1404
    31  1308 1390
3356
000000     0    0
    10     0   20
    15     4   53
    21    22   77
    28    40  116
    35    80  158
    47   100  234
    60   156  321
    74   256  399
    91   424  469
  0103   562  515
    35   974  622
  0183  1814  762
    97  2132  768
  0207  2370  760
3357
000000     0    0
    26    20   25
    36    46   78
    51   174  158
    77   410  295
  0115   882  433
    47  1524  483
    61  1936  486
    72  2184  479
3358
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    32   288   49
    45   462   79
    70   788  158
  0127  1252  425
    55  1508  577
    95  1798  735
  0213  2110  844
    46  2666  903
    92  2862  897
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    28   130   90
    33   170  120
    40   198  155
    64   320  315
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    34   884  664
    60  1268  772
    77  1604  795
    82  1744  787
3360
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    27   152   75
    54   454  170
  0109  1038  387
    52  1680  509
    82  2384  535
    90  2606  526
3361
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    38   222  153
    70   490  317
  0106   888  447
    43  1650  498
    60  2262  493
3362
000000     0    0
    13     6   53
    18    14   79
    23    50  159
    60   196  403

TIME  STRAIN STRS
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    83  1776  777
3363
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    22    24   77
    37    62  161
    54   184  277
    80   266  433
    36   846  530
  0170  1456  761
    76  1594  757
3364
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    21    40   75
    42   146  191
    60   212  325
    87   286  475
  0142  1110  670
    60  1506  694
    81  2080  686
3365
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    25    58   86
    42   160  168
    77   600  317
  0103  1030  357
    47  2116  392
    64  2480  391
    70  2636  387
3366
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    38   356   81
    56   578  133
    87  1036  217
  0120  1632  276
    52  2290  317
    96  3226  342
  0214  3694  333
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    39   220  130
    64   488  238
    88   968  271
  0104  1384  267
3368
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    30   216   75
    62   572  176
  0198  1058  290
  0227  1580  330
    44  1972  333
3369
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    32   154   53
    46   534   78
    72   896  139
    97  1182  214
  0143  1960  297
    87  2980  315
  0211  3582  316
    52  4454  342
  0300  5554  360
    14  5904  356
3370
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    19    58   67
    27    96  102
    41   204  162
    58   376  241
    71   562  297
  0104  1122  351
    35  1956  321
3371
000000     0    0
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    30   156   79
    49   308  158
    66   484  234
    91   816  317
  0122  1366  369
    44  1842  390
    57  2126  390
    67  2504  383
3372
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    34   170   69
    63   380  220
    93   764  319
  0139  1736  347
    53  2122  342
3385

TIME  STRAIN STRS
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    19    40   75
    29    86  119
    37   144  160
    54   318  237
    90   956  316
  0117  1456  356
    57  2392  386
    66  2614  379
3386
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    39   364  118
    64   848  163
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    50  2566  279
    75  3176  287
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    41   304   80
    69   616  158
  0120  1636  192
    86  2758  242
  0238  3970  236
3388
000000     0    0
    23    78   81
    33   144  119
    42   224  157
    65   570  236
  0100  1458  244
    59  2944  215
3389
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    13    14   32
    24    60   79
    46   222  173
    62   384  244
    81   624  320
  0100   864  365
    42  1734  406
    71  2680  383
3390
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    20    76   74
    40   256  157
    68   760  219
    93  1330  229
  0131  2278  209
3391
000000     0    0
    10    12   25
    29    56  113
    45   182  197
    54   274  237
    90   902  316
  0123  1654  335
    53  2436  330
    60  2680  324
3392
000000     0    0
    14    48   40
    40   256  142
    59   564  193
  0100  1540  190
    18  1986  187
    54  2820  202
    67  3186  197
3393
000000     0    0
    22    58   83
    37   148  153
    56   360  236
    85   864  302
  0100  1140  317
    35  1886  356
    49  2250  345
3394
000000     0    0
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    23    70   78
    38   180  153
    49   314  195
    68   666  234
  0141  2054  317
    68  2618  358
  0200  3276  396
    48  4258  478
  0335  6016  584
3395
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    15    66   53
    20    86   75
    38   246  158
    78  1020  230

TIME  STRAIN STRS
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  0205  3800  319
    35  4394  360
    85  5494  434
  0317  6140  471
    78  7510  526
3396
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    24    76   75
    44   232  164
    66   546  237
    92  1056  275
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  0270  2860  301
3397
000000     0    0
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    37   478   80
    53   770  164
    87  1126  242
  0155  2520  306
    71  2952  302
3398
000000     0    0
    23   198   39
    36   316   80
    55   500  156
    76   686  246
  0109  1032  372
    38  1496  432
    79  2418  455
    98  2856  451
3399
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    51   260  118
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    90   686  276
  0133  1574  339
  0175  2578  337
  0193  2790  334
3400
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000045   252  160
000074   766  226
000100  1312  260
000163  2756  277
000220  2960  316
000283  5460  396
000300  5686  419
3401
SEE NOTES 3,5
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000052 20200  380
000088 20360  737
000175 21080 1537
000230 21500 1997
000321 22740 2686
000431 25480 3027
3402
SEE NOTES 3,5
000047   340  269
000069   560  459
000114  1040  808
000217  2240 1616
000339  4060 2377
000447  7220 2781
000481  8500 2765
3403
SEE NOTES 3,5
000057   640  142
000097  1420  380
000135  2240  570
3404
SEE NOTES 3,5
000024  0240  158
000044  0460  356
000071  0760  610
000092  1000  792
000217  3360 1640
000313  6660 1894
000351  8260 1886
000370  9280 1846
3405
SEE NOTES 3,5
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000037   140  356
000058   380  768
000082   580 1188
000104   820 1553
000148  1540 2361
000172  2000 2781
000218  2920 3566
000243  3480 4000
000300  5400 4731
000363  8920 5010
000371  9680 4964
3406

TIME  STRAIN STRS
SEE NOTES 3,5
000023   220  237
000053   680  752
000074  1040 1125
000098  1440 1569
000182  3700 2837
000263  8460 3233
000278  9740 3170
3407
SEE NOTES 3,5
000023    60  253
000031    80  396
000050   280  776
000074   580 1244
000091   800 1577
000134  1320 2377
000172  2040 3170
000219  3020 3962
000248  3880 4354
000287  5760 4716
000309  7200 4731
000316  7740 4716
3408
SEE NOTES 3,5
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000064   460  760
000088   760 1149
000135  1360 1957
000157  1780 2377
000202  2540 3170
000252  3740 3977
000319  6520 4640
000344  8000 4716
000359  9340 4655
3409
SEE NOTES 3,5
000009     0  221
000018   140  752
000030   360 1545
000040   600 2337
000051   960 3185
000061  1420 3962
000071  2060 4716
000084  3080 5484
000106  6540 6110
000111  8300 5989
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SEE NOTES 3,5
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000029  2260 1371
000051  4220 2623
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000081  8260 3764
000101 12020 4151
000121 16620 4286
000130 19180 4226
3411
SEE NOTES 3,5
000012    60  356
000019   260  792
000031   520 1569
000043   880 2377
000054  1380 3185
000065  2040 3962
000084  3600 5092
000111  7820 5793
3412
SEE NOTES 3,5
000012    60  356
000019   320  713
000026   580 1117
000022   800 1553
000044  1240 2345
000055  1840 3170
000067  2480 3970
000078  3320 4716
000092  4600 5530
000108  6320 6223
000119  8300 6471
000126 10380 6411
3413
SEE NOTES 3,5
000004  0120  317
000008  0440  840
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000020  2340 2853
000026  3280 3837
000033  4720 5092
000040  8020 5838
000043  1860 5484
3414
SEE NOTES 3,5
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000010   740  760
000016  1700 1585
000026  3100 3185
000029  3760 3962
000039  6620 5462

TIME  STRAIN STRS
000044  9500 5733
000046 13660 5486
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SEE NOTES 3,5
000006   520  309
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000014  3380 1125
000017  4020 1545
000022  4820 2377
000028  5600 3550
000033  6470 4716
000040  7300 6260
000047  8380 7715
000052  9740 8833
000057 11880 9559
000061 14200 9618
000063 17020 9204
3416
SEE NOTES 3,5
000006   500 1505
000008   780 2448
000011  1280 4279
000014  2040 4761
000018  3420 6268
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SEE NOTES 3,5
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000024  2480 9196
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000031   450012146
000035   728013455
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3418
SEE NOTES 3,5
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000024  1340 5047
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000032  2980 8485
000037   480010692
000039   600011403
000041   862011942
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3419
SEE NOTES 3,5
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000007   460 3138
000011  1120 5552
000014  1880 7692
000017  2480 8944
000018   316010144
000021   434011513
000023   598012509
000025   894012902
3420
SEE NOTES 3,5
000006   140  150
000033   580 1252
000037  1300 3185
000040  2580 5514
3421
SEE NOTES 3,5
000003    40  649
000005   300 1632
000007   720 3170
000011  1780 5469
3422
SEE NOTES 3,5
000014     0  213
000017   400 1561
000020  1300 3185
000023  3940 4399
3430
SEE NOTES 3,5
000009    60  332
000016   300  729
000024   860 1149
000033  1500 1577
000041  2040 1969
000047  2600 2345
000062  3940 3170
000075  5120 3977
000089  6320 4716
000111  9160 5469
000122 11540 5567
000134 15040 5409
3431
SEE NOTES 3,5
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000007   200 1101
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000014   840 2377
000018  1240 3170
000024  2200 4326
000031  3640 5469
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TIME  STRAIN STRS
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000044 11160 6464
3440
SEE NOTES 3,5
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000063   180  618
000078   200  768
000103   340  990
000122   440 1180
000160   760 1569
000202  1120 1989
000241  1560 2377
000282  1960 2773
000328  2420 3170
000433  4040 3962
000604  7720 4851
000821 14880 5100
000951 16180 5085
3441
SEE NOTES 3,5
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000064   480  380
000080   880  776
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000200  1760 1672
000350  3280 3217
000467  4780 4339
000560  6700 5115
000664  8200 5891
000794 11320 6607
000892 14140 6976
001030 18880 7157
001061 20060 7127
3442
SEE NOTES 3,5
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000044   500  396
000063   700  610
000082   920  792
000123  1420 1172
000160  1960 1585
000338  5020 3320
000474  9360 4196
000691 16640 5092
000938 26740 5454
3443
SEE NOTES 3,5
000012   160  166
000042   400  380
000065   620  634
000078   800  760
000120  1220 1180
000160  1680 1600
000293  3560 2987
000474  8300 4022
000761 20580 4022
000777 21400 3985
3444
SEE NOTES 3,5
000037   280  301
000052   440  546
000065   600  776
000091   960 1172
000116  1360 1577
000239  3980 3526
000330  2640 4784
000476 13820 5854
000538 17440 5959
000582 20780 5914
3445
SEE NOTES 3,5
000026   100  150
000040   320  372
000066   640  792
000091  1080 1172
000119  1520 1585
000144  2080 1973
000241  5280 3185
000380 13420 3732
000427 16740 3716
3446
SEE NOTES 3,5
000020   400  221
000030   600  380
000047   980  618
000057  1300  760
000087  2080 1180
000117  2940 1585
000168  4540 2377
000286  8920 3899
000377 12880 4829
000467 17760 5507
000566 24320 5771
000597 26680 5741
3447
SEE NOTES 3,5
000022    40  253
000031   300  308
000044   440  610
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TIME  STRAIN STRS
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000100  1280 1569
000234  4560 3724
000406 13240 5070
000459 17020 5085
3448
SEE NOTES 3,5
000010   100  332
000018   260  729
000024   420 1109
000031   620 1521
000045  1080 2361
000058  1700 3170
000087  3620 4716
000131  9520 6253
000181 20640 6984
000194 22040 7022
000208 25460 6976
3449
SEE NOTES 3,5
000009   100  364
000016   360  737
000020   500 1212
000028   640 1569
000042  1220 2361
000055  2040 3185
000089  6140 4716
000108 10560 4874
000115 12160 4829
3450
SEE NOTES 3,5
000007    80  158
000011   220  364
000018   420  729
000024   600 1149
000031   780 1569
000042  1160 2377
000054  1540 3170
000076  2620 4723
000100  4480 6223
000137  8820 7730
000152 11560 8100
000171 16140 8271
000179 18600 8952
3451
SEE NOTES 3,5
000008     0   87
000014    80  388
000020   320  729
000028   560 1125
000034   800 1553
000047  1320 2369
000058  1940 3170
000071  2820 3962
000084  3940 4716
000101  5740 5469
000122  8720 6238
000175 18820 7670
000208 26440 7848
000239 27060 7834
3452
SEE NOTES 3,5
000008   160  388
000014   300  721
000021   480 1125
000027   720 1537
000041  1260 2361
000054  2020 3185
000067  3080 3962
000082  4660 4731
000128 12040 6245
000172 21660 7014
000212 31220 7157
3453
SEE NOTES 3,5
000008   160 1069
000011   320 1553
000016   620 2377
000024  1340 3977
000031  2400 5454
000039  4140 6946
000048  7940 8085
000053 12320 8322
000058 15480 8219
3454
SEE NOTES 3,5
000007   360  713
000010   620 1497
000015  1100 2369
000024  2520 4000
000034  5600 5469
000042 10880 6110
000046 13980 6147
000051 18440 6065
3455
SEE NOTES 3,5
000004   200  340
000007   460  713
000010   800 1125
000012  1200 1505
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TIME  STRAIN STRS
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000023  3160 3257
000027  3880 3977
000036  5640 5469
000044  8140 7006
000052 11880 7730
000058 16260 7848
000061 19360 7789
3456
SEE NOTES 3,5
000007    80  435
000011   360 1172
000014   560 1902
000021   960 3154
000028  1680 4731
000036  2780 6223
000043  4500 7677
000049  6560 8433
000054 10120 8796
000059 13780 8781
000062 16220 8633
3457
SEE NOTES 3,5
000002    60  435
000004   480 1180
000006   960 2314
000009  1340 4000
000013  2800 6200
000017  5060 7670
000019  7300 7745
3458
SEE NOTES 3,5
000006   380  570
000008   940 1585
000011  1600 2781
000013  2260 3985
000016  3360 5492
000019  4560 6976
000020  5640 7804
000023  8140 9344
000028 1320010618
000030 1702010663
3459
SEE NOTES 3,5
000003   180  515
000005   400  626
000008  1000 3185
000011  1580 4768
000013  2140 6155
000016  3020 7730
000019  4080 9137
000021  580010692
000024  840011796
000027 1200012095
000028 1572012037
000030 2052011527
3460
SEE NOTES 3,5
000006   160  554
000007   400 1680
000010   680 3185
000013  1200 4987
000019  2320 7945
000023  4080 9878
000026  546010240
000028 1084010114
000030 16260 9759
3461
SEE NOTES 3,5
000041   200  752
000043   360 1600
000046   600 2686
000048   920 3946
000051  1260 5514
000057  1940 7745
000059  2740 9226
000062  380010707
000066  536012102
000070  832013615
000076 1422014678
000078 1710014714
000079 2056014401
3462
SEE NOTES 3,5
000007   100  372
000009   680 1188
000012  1240 2361
000017  2080 4000
000020  3080 5462
000024  4520 6991
000029  7360 8398
000032  9960 9004
000036 14400 9552
000039 18640 9759
000042 23740 9766
000045 28100 9463
3463
SEE NOTES 3,5
000002    60  673
000005   240  705
000006   340 2298
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TIME  STRAIN STRS
000009   640 3170
000011   860 3962
000014  1300 5454
000018  1880 6976
000022  2800 8463
000025  2140 9937
000030  900011447
000034 1134012160
000036 1432012233
3464
SEE NOTES 3,5
000004   280   79
000007   620 1680
000011  1240 3265
000015  1740 4784
000018  2380 6230
000022  3,60 7730
000024  3580 8500
000027  4600 9915
000031  602011513
000035  808012975
000039 1076014328
000045 1646015386
3471
SEE NOTES 3,5
000029   280  213
000045   820  301
000062  1360  404
000082  2080  483
000099  2800  515
000135  4480  530
000177  7140  515
3472
SEE NOTES 3,5
000021   400  158
000041  1040  237
000072  2200  324
000092  3100  340
000140  5420  364
000235 10320  372
3473
SEE NOTES 3,5
000023   100   71
000044   420  245
000059   760  372
000084  1500  530
000131  3380  634
000183  6100  634
000213  7560  618
3474
SEE NOTES 3,5
000018  0320   15
000052  0800  134
000083  1300  301
000146  3240  554
000205  5340  721
000274  8760  729
000304  0240  729
3479
SEE NOTES 3,5
000025    40   63
000042   400  301
000059   720  546
000072  1180  689
000100  2460  855
000125  4700  895
000143  5460  879
3480
SEE NOTES 3,5
000020  0660   10
000046  1660   30
000072  3100   35
000100  4840   50
000154  9200   51
000176 11100   50
3481
SEE NOTES 3,5
000027   220  134
000047   760  324
000067  1520  475
000102  3080  705
000120  4020  792
000182  8360  895
000192  9200  887
3482
SEE NOTES 3,5
000017   700  118
000038  1520  301
000069  3520  451
000109  6460  447
000122  7480  451
3483
SEE NOTES 3,5
000007   100  103
000013   280  380
000021   600  744
000026   860  974
000030  1200 1157
000042  2740 1585
000051  4680 1680
3484
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TIME  STRAIN STRS
SEE NOTES 3,5
000012  0340  174
000017  0580  380
000022  0820  594
000027  1220  752
000036  2160 1046
000039  2700 1165
000062  7220 1378
000071  9680 1363
3485
SEE NOTES 3,5
000008  0180  277
000012  0360  459
000018  0660  713
000022  0920  871
000033  2120 1236
000045  4520 1363
000053  6600 1339
3486
SEE NOTES 3,5
000009   320  158
000014   620  364
000020  1080  594
000032  2160  990
000043  3760 1339
000063  7580 1513
000076 10860 1497
3487
SEE NOTES 3,5
000003 20020  118
000006 20200  459
000010 20460 1157
000012 20860 1529
000016 21340 2020
000018 21820 2377
000022 22940 2765
000025 24440 3019
000028 26640 3106
000031 28900 3098
000034 31160 3027
3488
SEE NOTES 3,5
000003   340  142
000007   760  752
000010  1080 1133
000013  1700 1577
000020  4420 2385
000027  8160 2567
000030 10460 2575
000034 14440 2504
3489
SEE NOTES 3,5
000003  0080  253
000006  0500  729
000009  0940 1149
000011  1560 1553
000018  3300 2361
000026  6660 2932
000029  9260 2987
000034 13000 2916
3490
SEE NOTES 3,5
000006   480  245
000008  0840  721
000012  1400 1172
000014  1940 1545
000018  3080 1917
000023  5720 2227
000027  8460 2227
000330 11100 2139
3491
SEE NOTES 3,5
000004     0  134
000006   120  713
000008   600 1513
000010  1160 2298
000130  2200 3170
000017  4320 3938
000019  7120 4188
000021 10400 4173
000023 13860 4037
3492
SEE NOTES 3,5
000010  1980 1561
000013  3900 2377
000018  5000 2908
000020 11380 2948
000022 15800 2908
000024 19280 2813
3493
SEE NOTES 3,5
000009   720 1117
000011  1400 1894
000012  1980 2393
000016  3940 3106
000018  6120 3360
000020  8560 3407
000022 12600 3328
3494
SEE NOTES 3,5
000005  0400  134
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TIME  STRAIN STRS
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000011  2460 3019
000012  4080 3716
000015  7360 4196
000017  1460 4226
000018  6700 4022
000021 21740 3843
3495
SEE NOTES 3,5
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000006   500 1125
000007   980 1933
000009  1720 2757
000011  2900 3510
000012  4800 4053
000014  7760 4279
000017 11820 4248
000018 15680 4075
3496
SEE NOTES 3,5
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000005  0700 1299
000007  1400 2440
000008  2400 3090
000011  4100 3819
000012  6640 4233
000015  8860 4271
000017 17200 4045
3525
SEE NOTES 3,5
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      51   380  562
      64   480  729
      98   840 1149
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    0376  2820 4716
    0543  4500 6592
    0671  7300 7029
    0678  7860 7293
3526
SEE NOTES 3,5
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      77  1300  356
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    0382  5380 3637
    0646 12160 5597
    0652 12970 5138
3527
SEE NOTES 3,5
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      47   200  348
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    0307  1600 2179
    0553  3860 7112
    0620  5040 7730
    0652  6200 7782
    0661 16620 7745
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SEE NOTES 3,5
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      90   580  721
    0228  1480 2171
    0371  2280 3740
    0461  2940 4716
    0578  3840 5854
    0668  4620 6607
    0827  6960 7413
    0832  7160 7346
3529
SEE NOTES 3,5
      21   140  253
      31   300  729
      38   400 1149
      46   480 1553
      57   660 2377
      67   880 3178
      87  1340 4716
    0108  1840 6238
    0128  2440 7730
    0158  3880 9952
    0191  606011796
    0202  804011920
    0213 1438011796
3530
SEE NOTES 3,5
      12   160  150
      16   260  348
      23   400  729
      30   640 1117
      38   840 1521
      52  1240 2369
      64  1520 3170
      99  2620 4723
    0121  3460 6260
    0145  4720 7730
    0169 16960 9159
3532
SEE NOTES 3,5
```

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TIME  STRAIN STRS
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   19   220  729
   25   360 1109
   32   440 1545
   44   760 2393
   56  1040 3185
   77  1800 4716
 0100  2780 6230
 0125  4060 7730
 0151  6360 9196
 0167  8980 9663
 0172 10360 9670
 0177 11620 9574
3533
SEE NOTES 3,5
   08   240  332
   15   440  729
   22   600 1177
   28   780 1569
   39  1140 2369
   51  1520 3185
   71  3320 4716
   94  3140 6223
 0117  4340 7730
 0143  6360 9196
 0159  7060 9729
 0163 10220 9729
 0167 11420 9611
3534
SEE NOTES 3,5
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   18   620 1973
   22  1240 4053
   25  1840 6268
   29  2480 8485
   32  324010714
3535
SEE NOTES 3,5
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   16   320  562
   18   580 2440
   20   840 3439
   22  1180 4848
   24  1660 6215
   27  2200 7878
3536
SEE NOTES 3,5
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   08   780 2282
   11  3340 2886
   13  4600 4708
   17 17240 5786
3537
SEE NOTES 3,5
   03   100  317
   06   320 1529
   08   700 3233
   12  1160 5522
   16  1660 7730
   18  2060 9159
   20  246010781
   23  306012939
   27  396015127
   29  472016460
3538
SEE NOTES 3,5
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   08   700 1870
   12  1220 3185
   14  1700 4791
   18  2420 7074
   20  2840 8545
   24  350010899
   27  416013157
   31  502015716
   34 1612017968
3539
SEE NOTES 3,5
   41    80  229
   63   180  475
   90   300  792
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 0467  1760 4256
 0656  2160 5565
 0768  3100 8041
 0913  3900 9552
 1115 1596014896
 1122 1846014074
3540
SEE NOTES 3,5
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   62   400  396
 0102   640  752
 0143   740 1125
 0184   960 1545
 0364  1780 3306
 0552  2760 5100
 0729  3860 6713
 0953  6220 8196
 1104  9180 8485

TIME  STRAIN STRS
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3541
SEE NOTES 3,5
   31   520  166
   68  1200  388
 0131  2740  729
 0313  5720 1973
 0477  7260 3479
 0643  8220 5070
 0904 10700 7338
3542
SEE NOTES 3,5
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   77    60  380
 0109   160  744
 0231   620 2219
 0418  1480 4414
 0475  1720 5092
 0677  2900 7542
 0764  3520 8463
 0867  4880 9196
 0907  5900 9278
 0919  6340 9226
3543
SEE NOTES 3,5
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   16   360  729
   22   580 1149
   28   780 1545
   41   296 2361
   52  1580 3170
   74  2260 4731
   94  2920 6238
 0114  3580 7730
 0135  4240 9204
 0153  502010707
 0172  608012160
 0197  800013637
 0223 1180014561
 0229 1352014459
3544
SEE NOTES 3,5
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   34   180  800
   47   540 1577
   59   800 2393
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   90  1540 4731
 0111  1920 6223
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 0189  374012189
 0208  428013615
 0227  504015071
 0253  766016158
 0257  886016137
3545
SEE NOTES 3,5
   12   240  348
   20   660  752
   28  1120 1149
   36  1600 1545
   50  2220 2377
   62  2580 3185
   82  3240 4716
 0105  3760 6238
 0129  4420 7752
 0158  5560 9952
 0195  752012160
 0213 1024012670
 0219 1148012604
3546
SEE NOTES 3,5
   11    40  356
   18    80  729
   24   160 1165
   30   260 1521
   41   490 2345
   53   760 3178
   72  1180 4738
   92  1640 6238
 0113  2050 7730
 0141  2820 9944
 0161  344011447
 0190  466013615
 0216  658015071
 0226  830015309
 0231  958015225
3547
SEE NOTES 3,5
   14   180  348
   20   360  729
   28   640 1188
   35   820 1521
   49  1140 2393
 0160  1440 3170
 0182  2000 4716
 0103  2500 6238
 0125  3200 7730
 0253  4720 9937
 0277  550011447

TIME  STRAIN STRS
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 0305  884012466
 0310 1098012357
3548
SEE NOTES 3,5
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   07   480 2425
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   12  1280 5552
   16  1780 7730
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   27  348015134
   28  384016607
3549
SEE NOTES 3,5
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   10  1820 3185
   13  2340 5469
   17  2700 6976
   19  3240 9211
   22  372011498
   26  444013659
   28  516015744
   32 1628017961
3550
SEE NOTES 3,5
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   16  1140 6901
   18  1400 8383
   21  182010737
   24  222013004
   27  252015041
   30  300017224
   33  340019342
   36  378021348
   38  424023125
3551
SEE NOTES 3,5
   14  1260 1196
   19  3000 3154
   24  4160 6223
   27  4680 8063
3552
SEE NOTES 3,5
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   31   420  372
   55   800  752
   76  1180 1125
 0100  1600 1545
 0213  2840 3685
 0296  3900 5303
 0447  7020 7715
 0518 10260 8285
   52       8233
3553
SEE NOTES 3,5
   44   540  372
   65   900  713
   91  1320 1157
 0115  1760 1545
 0139  2120 1957
 0247  4180 3891
 0390  9800 5635
 0432 12960 5590
3554
SEE NOTES 3,5
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   84  2120  808
 0109  2700 1165
 0136  3300 1545
 0226  4840 2742
 0319  6620 4490
 0432  8700 6479
 0502 11280 7346
 0536 13220 7474
   55       7444
3555
SEE NOTES 3,5
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   43   500  729
 0140  2080 2647
 0230  4260 4354
 0407 16340 5153
 0431 18400 5092
3556
SEE NOTES 3,5
   04     0  317
   06    80  760
   08   180 1149
   10   240 1521
   14   420 2393
   18   600 3170
   26   980 4716
   32  1460 6276
   39  2000 7745
   46  2580 9196

TIME  STRAIN STRS
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   67  736013615
3557
SEE NOTES 3,5
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   06   755 2441
   15  1031 3966
   26  1340 6889
   35  1744 9780
   45  238212437
   51  303114341
   58  405316367
   62  468017079
   67  591418293
   69 1942517025
3558
SEE NOTES 3,5
   01     0  309
   06    80  705
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   15   740 2314
   19  1120 3170
   27  1860 4723
   33  2560 6215
   39  3240 7730
   46  4055 9226
   53 1556010707
3559
SEE NOTES 3,5
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   07   200  729
   11   440 1553
   16   680 2377
   20   920 3273
   26  1340 4716
   33  1820 6223
   39  2400 7730
   44  3100 9211
   51  418010672
   58  614012160
   63  906012684
   66 1130012604
3560
SEE NOTES 3,5
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   20  2040 7700
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3561
SEE NOTES 3,5
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   09   900 3185
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   18  2380 7022
   22  2840 8485
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3562
SEE NOTES 3,5
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   14   560 4784
   18   900 6313
   20  1160 7670
   23  1400 9130
   26  180010722
   31  240012953
   32  240015071
   38  446016474
   42  594017877
   44  800018687
   46 1544016902
3563
SEE NOTES 3,5
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   07   200 1212
   11   540 2385
   14   940 4030
   18  1360 5499
   23  1880 7760
   28  2400 9944
   32  314012226
   37  400014343
   41 1504016418
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SEE NOTES 3,5
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 0292  3700 4957
 0400  3460 7346
 0466  6960 8470

TIME  STRAIN STRS
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 0647 1366010692
3566
SEE NOTES 3,5
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   57   460  752
   78   660 1180
 0108   800 1537
 0202  1640 3645
 0294  2480 5801
 0377  3300 7730
 0445  4280 9211
 0520  690010240
 0538 1042010114
3567
SEE NOTES 3,5
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   54   440  721
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   98   860 1537
 0120  1080 1949
 0212  2050 3804
 0282  2880 5311
 0369  3940 7037
 0493  6400 9152
 0563  9120 9833
 0581 10540 9774
3568
SEE NOTES 3,5
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   07   100  713
   08   260 1109
   11   280 1505
   16   620 2393
   19   960 3170
   27  1440 4753
   34  1960 6487
   39  2340 7730
   48  2980 9937
   57  370012160
   65  454014343
   74  558016418
   85  770018578
3569
SEE NOTES 3,5
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   10   400 1157
   13   580 1600
   17   860 2345
   21  1060 3170
   28  1440 4768
   34  1880 6185
   41  2260 7745
   49  2860 9937
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   67  466014321
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3570
SEE NOTES 3,5
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   21   560 2330
   25   760 3138
   35  1200 5469
   41  1520 6976
   48  1960 8411
   59  298011433
   68  436013615
   74 1544015036
3571
SEE NOTES 3,5
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   08   340 1054
   11   500 1489
   15   860 2377
   19  1080 3201
   30  1720 5469
   39  2460 7730
   46  2860 9278
   51  316010707
   59  408012910
   68  530015071
   75  676016404
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SEE NOTES 3,5
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   26  3840 7730
   31  4580 9944
   35  532012189
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   43  672016474
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SEE NOTES 3,5
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   11   880 4015

TIME  STRAIN STRS
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   21  1760 8441
   26  2300 9952
   31  280013652
   36  338015786
   39  394017919
   43  470019943
   48  578021916
3574
SEE NOTES 3,5
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   08    80  792
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   46   720 3154
   49  1120 4716
   53  1660 6976
   59  2280 9152
   61  268010766
   65  346012946
   69  410015071
   73  500017189
   77  594019234
3575
SEE NOTES 3,5
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   16   820 3977
   21  1380 6260
   23  1600 7210
   27  2000 9152
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   40  374015772
   44  456017877
   48 1566019377
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SEE NOTES 3,5
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000147 12140 5469
000152 13920 5356
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SEE NOTES 3,5
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000045  1580 1719
000070  3990 2773
000099  8800 3392
000114 13700 3098
3604
SEE NOTES 3,5
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000014   300  372
000023   640  760
000040  1300 1577
000054  1920 2369
000068  2560 3185
000082  3200 4015
000114  5300 5484
000140  8960 6208
000147 10820 6125
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SEE NOTES 3,5
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000032   420 1585
000044   840 2369
000057  1300 3178
000069  1980 4000
000083  2960 4716
000110  6460 5484
000118  8580 5462
3606
SEE NOTES 3,5
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000015   300  388
000023   640  784
000032   880 1149
000039  1280 1553
000054  1740 2377
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000080  2980 3962
000096  4000 4731
000115  5660 5469
000138  9320 6019
000146 11660 5891
3607
SEE NOTES 3,5
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000018 20120  372
000026 20320  792
000034 20500 1172
000043 20720 1592
000057 21220 2377
000071 21740 3185
000085 22320 3962
000100 23100 4731
000116 24140 5484
000133 25880 6223
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TIME  STRAIN STRS
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000175 34220 6773
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SEE NOTES 3,5
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000019 20440  744
000029 20680 1149
000037 20920 1577
000052 21500 2401
000072 22520 3582
000095 24080 4716
000124 26740 5854
000135 28180 6245
000165 33380 6976
000176 36380 6916
3609
SEE NOTES 3,5
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000018   360  792
000031   700 1545
000039   980 2052
000057  1620 3185
000069       3962
000081  2820 4716
000095  3800 5469
000111  5260 6223
000133  8700 6811
000143 11380 6765
3610
SEE NOTES 3,5
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000019   380  752
000027   560 1141
000034   780 1585
000047  1120 2377
000058  1520 3185
000069  1940 3977
000081  2480 4723
000094  3180 5484
000108  3980 6223
000122  5100 6976
000141  7400 7730
000149  9340 7804
000155 11000 7730
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SEE NOTES 3,5
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000052   240 1149
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000064   520 1973
000070   640 2377
000082  1060 3170
000110  2420 4716
000127  3460 5484
000146  6120 6223
000169 10420 6976
000194 15080 7436
000208 18680 7391
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SEE NOTES 3,5
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000019   560  752
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000035  1200 1561
000050  1880 2393
000062  2580 3170
000091  4960 4716
000116  8340 5477
000131 11640 5627
000139 14000 5507
3613
SEE NOTES 3,5
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000022   320  832
000029   440 1228
000036   600 1640
000047   920 2433
000059  1420 3288
000069  1820 4015
000081  2260 4768
000094  2840 5537
000107  3420 6313
000134  5200 7782
000151  7100 8507
000167 10500 8826
000177 13580 8722
3614
SEE NOTES 3,5
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000022   220  776
000030   440 1204
000036   600 1585
000048  1000 2377
000059  1420 3170
000082  2340 4731
000108  3480 6238
000134  4900 7730
000147  6180 8433
000168  9880 9078
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TIME  STRAIN STRS
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SEE NOTES 3,5
000014    60  380
000022   200  760
000029   340 1165
000036   480 1585
000041   720 1917
000048   900 2393
000060  1340 3170
000084  2420 4716
000098  3260 5484
000112  4280 6245
000129  6000 6976
000146  9140 7436
000159 12680 7346
3616
SEE NOTES 3,5
000018   280  752
000031   500 1521
000044   860 2393
000054  1180 3170
000076  1940 4716
000100  2740 6238
000126  4080 7730
000150  6320 9196
000172 10160 9885
000279 12600 9729
3629
SEE NOTES 3,5
000012   260  364
000021   440  760
000030   740 1165
000037  1120 1545
000052  1960 2377
000067  2900 3178
000104  7220 4716
000122  9840 5138
000157 17080 5575
000178 21180 5605
000184 23700 5530
3630
SEE NOTES 3,5
000014   380  309
000024   860  760
000034  1320 1172
000042  1780 1585
000050  2360 1973
000059  3000 2425
000072  4020 3185
000089  5340 3962
000107  7260 4716
000136 11220 5484
000176 20020 5929
000189 23240 5869
3631
SEE NOTES 3,5
000013   160  356
000021   320  737
000028   480 1157
000035   740 1553
000050  1440 2377
000063  2440 3185
000080  4100 3962
000107  8160 4716
000147 15960 5469
000210 29040 6253
000264 41340 6645
000277 44540 6577
3632
SEE NOTES 3,5
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000040   100  372
000052   240  594
000062   500  776
000086   920 1157
000118  2160 1585
000159 12800 1925
000202 24580 2116
000264 29300 2092
3633
SEE NOTES 3,5
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000043   200  364
000063   520  776
000086   940 1188
000108  1400 1577
000167  3760 2377
000207  6660 2496
000223  8260 2433
3634
SEE NOTES 3,5
000034   500  206
000048   720  388
000072  1320  744
000102  2260 1157
000137  3540 1569
000242  9940 2139
000278 13360 2123
3635
SEE NOTES 3,5
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TIME  STRAIN STRS
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000098   860 1196
000188  2420 2757
000220  3160 3233
000282  5980 3962
000314  8240 4037
000331  9740 3985
3636
SEE NOTES 3,5
000013   520  388
000022   880  760
000034  1600 1157
000044  2540 1569
000055  3560 1997
000065  4640 2377
000088  8140 3185
000124 14620 3637
000131 16420 3558
3637
SEE NOTES 3,5
000008    80  206
000011   160  396
000018   660  729
000026  1800 1157
000033  3300 1569
000040  4980 1973
000047  7720 2377
000059 12100 3170
000072 17640 3962
000091 25200 4716
000126 30600 5492
000147 35740 5605
000158 39140 5484
3638
SEE NOTES 3,5
000010   180  198
000013   300  388
000021   640  752
000034  1780 1585
000056  3920 2377
000075  7440 2615
000100 13640 2551
3639
SEE NOTES 3,5
000011    20  221
000013   120  372
000021   260  776
000029   460 1188
000035   680 1585
000049  1320 2377
000057  1740 2781
000063  2360 3185
000081  4400 3962
000097  7480 4143
000106  9920 4030
3640
SEE NOTES 3,5
000006   300  356
000008   560  729
000013  1280 1696
000018  1940 2425
000025  3440 3550
000033  6820 4279
000036  9200 4324
000044 17180 4211
3641
SEE NOTES 3,5
000006   140  182
000008   300  523
000012   640 1149
000014   860 1553
000019  1360 2377
000024  1880 3170
000028  2560 3962
000032  3400 4716
000037  4960 5469
000044  9000 6012
000050 14640 5786
3642
SEE NOTES 3,5
000006   140  293
000009   400  792
000012   580 1196
000016  1060 1965
000023  2060 3170
000028  3380 3962
3643
SEE NOTES 3,5
000003   100  388
000005   100  713
000007   360 1149
000010   400 1521
000015  1360 2377
3644
SEE NOTES 3,5
000003   300   39
000006   720 1941
000008  1440 3090
000010  2640 4120
000012  4200 5062
```

```
TIME  STRAIN STRS
000015  6160 5929
000017  9080 6524
000019 13980 6517
3645
SEE NOTES 3,5
000002   100  396
000004   220 1268
000006   440 2298
000008   860 3415
000010  1320 4625
000012  1900 5643
000014  2580 6765
000016  3320 7834
000018  4840 8952
000020  7040 9715
000022 11280 9655
3646
SEE NOTES 3,5
000003   520  570
000005  2260 1204
000007  5440 1569
000009 10160 1347
000017 24000 1569
000019 29600 1743
000023 36360 1981
000027 46840 2242
000031 51080 2393
000034 58840 2559
000039 68420 2718
3647
SEE NOTES 3,5
000002     0  467
000004   400 1291
000007  7960 2314
3664
SEE NOTES 3,5
000031    40   55
000049   240  237
000067   640  388
000099  1660  554
000130  3120  626
000170  5600  634
000194  6960  554
3665
SEE NOTES 3,5
000021   100   71
000041   380  245
000057   920  380
000092  2400  515
000137  4780
000160  6160  515
3668
SEE NOTES 3,5
000023    40   71
000037   380  237
000049   800  364
000088  3320  554
000131  6520  570
000180 10680  554
3669
SEE NOTES 3,5
000020   400   71
000043  1180  293
000073  2940  451
000131  7080  491
000151  8820  475
3670
SEE NOTES 3,5
000017   180   79
000033   540  245
000047  1000  364
000075  2440  538
000100  2920  586
000150  8040  594
000167  9500  570
3671
SEE NOTES 3,5
000033   960  150
000052  1880  269
000088  4320  404
000132  7480  396
3672
SEE NOTES 3,5
000006    60   87
000012   280  332
000019   760  594
000023  1260  760
000031  2340  911
000039  4040 1006
000096  8300  990
3673
SEE NOTES 3,5
000011   460  142
000017   900  356
000027  2180  594
000036  3660  673
000047  6380  689
000058  9620  649
3674
SEE NOTES 3,5
000006   180  158
```

```
TIME  STRAIN STRS
000011   360  332
000016   700  523
000022  1420  729
000031  2680  911
000040  4560 1014
000056  7640  974
3675
SEE NOTES 3,5
000011   240  126
000016   580  356
000022  1060  594
000027  1400  752
000032  1940  935
000039  2840 1133
000049  4580 1299
000056  6340 1355
3676
SEE NOTES 3,5
000009   160  134
000016   540  356
000023  1060  570
000028  1680  729
000037  3100  887
000048  5400  935
000062  9220  919
000070 11220  903
3677
SEE NOTES 3,5
000005   200  158
000007   520  467
000012  1540 1180
000016  2440 1569
000020  4400 1973
000026  8040 2155
000032 12820 2084
000036 16360 1989
3678
SEE NOTES 3,5
000003    40   39
000006   280  356
000008   600  729
000011  1000 1149
000014  1580 1521
000023  6240 2266
000027  7820 2290
000031 11380 2219
3679
SEE NOTES 3,5
000003   280  253
000007   860  776
000011  1900 1188
000016  3960 1529
000021  7220 1624
000026 11220 1585
000031 14860 1521
3680
SEE NOTES 3,5
000002   280  126
000006   840  530
000008  1340  752
000012  3000 1133
000019  6840 1450
000022  9180 1466
000028 13040 1474
000038 21160 1426
3681
SEE NOTES 3,5
000031  1060 1038
000033  1980 1703
000036  3400 2227
000038  5920 2536
000041 10760 2647
000044 15740 2 15
000048 20760 2536
3682
SEE NOTES 3,5
000004   100  213
000007   620  887
000009  1440 1569
000011  3180 2116
000014  6020 2330
000016  9240 2345
000019 13540 2314
000022 18260 2266
3683
SEE NOTES 3,5
000005   160  253
000007   880  705
000012  2900 1489
000014  4740 1925
000018  8960 2219
000023 17620 2227
000029 26580 2219
000034 33400 2147
3684
SEE NOTES 3,5
000011   280  309
000013  1760  649
000016  3720 1640
000018  5840 2290
000021 10400 2504
```

```
TIME  STRAIN STRS
000023 16080 2496
000026 23040 2464
000028 28160 2314
3685
SEE NOTES 3,5
000006   200  293
000008  1020 1220
000011  3500 2290
000014  8120 2528
000017 14480 2544
000020 21020 2504
000023 27260 2393
3686
SEE NOTES 3,5
000006   260  475
000008  1120 1585
000010  2480 2528
000013  5220 3170
000015  9220 3320
000018 15700 3138
3687
SEE NOTES 3,5
000004   160  317
000006   980 1204
000008  2200 1981
000010  4400 2520
000012  8180 2623
000014 13570 2536
000017 17740 2448
3688
SEE NOTES 3,5
000004     0   95
000006   660  776
000008  1360 1204
000011  3000 1909
000016  7260 2314
000018 10740 2211
3706
SEE NOTES 3,5
    34   200  356
    68   720  729
  0112  1560 1133
  0167  5300 1521
  0260  7820 1751
  0281  9180 1743
3707
SEE NOTES 3,5
    24   260   71
    58   920  388
    80  1340  570
  0100  1680  752
  0142  2440 1149
  0235  4440 1989
  0326  8200 2314
  0344  9240 2282
3708
SEE NOTES 3,5
    26   140  229
    37   240  372
    55   440  602
    68   680  776
  0106  1400 1165
  0131  1920 1466
  0148  2360 1569
  0198  3900 1941
  0281  7400 2282
  0350 11040 2322
  0385 13220 2290
3709
SEE NOTES 3,5
    34   340  136
    58   920  372
    88  1620  610
  0109  2140  760
  0166  3920 1157
  0237  6380 1569
  0343 11220 1941
  0536 21300 2203
  0600 25180 2187
3710
SEE NOTES 3,5
    28   100  118
    53   520  388
    68   900  618
    79  1100  792
  0106  1780 1172
  0134  2780 1569
  0166  4300 1949
  0211  7700 2155
  0249 11460 2100
3711
SEE NOTES 3,5
    26   620  237
    36   980  356
    55  1780  610
    68  2240  792
  0100  3480 1188
  0132  4760 1569
  0162  6120 1949
  02 2  8080 2361
  02 3 10900 2757
```

```
TIME  STRAIN STRS
 0353 18100 3067
 0385 20780 3051
 0408 22660 3320
3712
SEE NOTES 3,5
   12    20  182
   21   120  364
   34   240  610
   41   360  737
   62   700 1157
   83  1220 1553
 0109   432 1965
 0141  3320 2361
 0189  6240 2773
 0278 12740 2971
 0330 16560 3035
 0384 21120 3075
 0441 25760 3067
 0454 26980 3051
3713
SEE NOTES 3,5
   37   540  253
   44   720  380
   66  1200  776
   91  1960 1188
 0155  2900 1965
 0211  8400 2266
 0256 12920 2227
3714
SEE NOTES 3,5
   08     0  174
   11     0  364
   18   200  744
   26   480 1165
   33   780 1529
   40  1260 1949
   49  2020 2377
   57  2980 2773
   68  4400 3178
   83  7180 3495
 0111 13060 3756
 0118 15060 3685
3715
SEE NOTES 3,5
   08   400  388
   15   640  760
   23   920 1165
   30  1240 1545
   37  1600 1973
   44  2100 2393
   51  2660 2757
   71  4860 3574
   91  8640 3977
 0106 12420 3899
3716
SEE NOTES 3,5
   10   120  142
   17   500  364
   33  1560  784
   42  2460 1172
   51  3320 1569
   60  4380 1989
   70  5640 2377
   81  7160 2773
   93  8660 3185
 0107 10560 3582
 0144 17980 3970
 0154 20800 3883
3717
SEE NOTES 3,5
   09   260  356
   17   640  752
   24   960 1172
   38  1760 1941
   46  2280 2433
   58  3240 3170
   67  4060 3558
   77  5620 3977
   98  9620 4271
 0109 12340 4196
3718
SEE NOTES 3,5
   10   200  364
   18   460  808
   26   800 1149
   32  1320 1521
   40  1980 1949
   50  3120 2369
   62  4600 2781
   74  6940 3185
 0100 11800 3566
 0147 22860 3724
 0153 27000 3693
3719
SEE NOTES 3,5
   03   200  317
   07   540  816
   09   760 1165
   11  1080 1600
   16  1640 2385
   20  2280 3233

TIME  STRAIN STRS
   26  3000 4022
   34  5540 5484
   39  9060 5914
   43 12160 5718
3720
SEE NOTES 3,5
   03    60  269
   06   320  760
   08   660 1149
   11  1060 1545
   17  1280 2139
   19  6580 1814
3721
SEE NOTES 3,5
   06    80  245
   08   300  776
   12   720 1545
   17  1220 2369
   21  1660 3170
   30  3120 4716
   35  4480 5469
   42  8220 6065
   46 12380 5725
3722
SEE NOTES 3,5
   02     0  158
   06   220  737
   11   600 1569
   15   820 2385
   19  1240 3098
   23  1860 3946
   28  2780 4716
   32  3860 5085
   39  7720 5409
   46 14500 5213
3723
SEE NOTES 3,5
   11     0  198
   14   360 1196
   16   760 1624
   18  1580 2322
   21  3800 2995
   25  9080 3051
   28 13620 3051
   32 21040 3059
   36 26880 2971
   38 30380 2892
3724
SEE NOTES 3,5
   05   140  253
   07   580 1125
   11  1240 2361
   16  2420 4015
   20  5140 5462
   23  9120 5582
   26 14380 5077
3725
SEE NOTES 3,5
   02   160  213
   06   940  895
   08  1940 2020
   12  3500 3162
   16  6680 3954
   19 11440 3977
3726
SEE NOTES 3,5
   04    20  388
   07   380 1521
   09   940 2686
   11  1880 3724
   13  3400 4640
   15  6180 5077
3727
SEE NOTES 3,5
   07   400  499
   09  1220 1513
3728
SEE NOTES 3,5
   03     0  261
   05   240 1252
   07   640 2361
   09  1300 3621
   11  2120 4716
   13  3620 5627
   16  5920 5884
   18 11460 5952
3729
SEE NOTES 3,5
   04   100  118
   06  1020  879
   08  1880 1997
   11  2860 3249
   14  4240 4791
   18  6500 6260
   20  8880 7067
3730
SEE NOTES 3,5
   03   500  340
   06  1100  792
   10  1600 1180
   12  1880 1585

TIME  STRAIN STRS
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   21  2820 3185
   29  4000 4716
   36  5390 5424
   41  7400 6223
   48 11760 6607
   53 17540 6411
3731
SEE NOTES 3,5
   03   260  110
   07  1280  729
   11  2640 1909
   14  3500 3170
   19  5180 4746
   23  6720 6268
   27 11200 7006
   30 16120 7120
   36 22460 6750
3732
SEE NOTES 3,5
   31   320  221
   43   440  364
 0112  1380 1165
 0146  1920 1521
 0182  2640 1965
 0267  4660 2757
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 0428  9520 3812
 0600 16680 4271
 0676 20680 4256
3733
SEE NOTES 3,5
   32   340  221
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   81   840  752
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 0400  7840 3027
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 0600 15880 3502
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SEE NOTES 3,5
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   65   960  554
   86  1280  737
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 0174  2880 1545
 0278  5140 2377
 0377  7960 3011
 0525 13060 3574
 0700 20420 3930
 0813 25340 4037
 0930 29120 4068
 0914 29680 4045
3735
SEE NOTES 3,5
   36   320  166
   55   560  356
   94  1100  729
 0141  1820  966
 0168  2280 1157
 0270  4500 2100
 0379  7920 2789
 0471 11420 3170
 0802 26420 3574
 0838 28220 3574
3736
SEE NOTES 3,5
   26   500  142
   45   920  364
   66  1660  610
   80  2100  752
 0136  2840  976
 0149  4080 1149
 0180  5040 1577
 0279  8540 2702
 0383 13760 3415
 0600 28000 3796
 0628 29960 3788
3737
SEE NOTES 3,5
   29   380  213
   41   600  356
   55  1100  554
   69  1500  729
   88  2080  974
 0101  2680 1141
 0133  3600 1553
 0193  5900 2361
 0297 10320 3455
 0392 15360 4188
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 0700 36200 4844
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3738
SEE NOTES 3,5
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TIME  STRAIN STRS
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 0277  9540 2726
 0377 15140 3384
 0500 23320 3899
 0700 34000 4505
 0900 50520 4716
3739
SEE NOTES 3,5
   20   180  158
   33   400  388
   46   640  626
   53   800  776
   67  1040  998
   76  1280 1165
   98  1780 1569
 0122  2260 1989
 0145  2900 2393
 0239  6240 3685
 0353 12760 4535
 0489 22400 4912
 0578 29440 4927
3740
SEE NOTES 3,5
   06   100  309
   08   680 1157
   10  1500 2044
   12  2900 3185
   14  4580 3566
   17  7900 3962
   18 12140 4000
   21 16840 4256
   27 26560 4708
   32 37920 4836
   36 45900 4962
   39 53940 4972
   44 65940 4836
3741
SEE NOTES 3,5
   03   400  951
   05   920 2005
   07  1700 3043
   09  2880 3724
   12  5060 4452
   14  8780 4640
   16 13840 4648
   18 19140 4505
   21 24460 4369
3742
SEE NOTES 3,5
   03   100  237
   06   480 1188
   08  1360 2377
   11  2820 3479
   14  6000 4309
   17 10500 5062
   21 15820 5552
   23 21870 5560
   28 29880 5620
   32 39620 5620
   35 48100 5138
3743
SEE NOTES 3,5
   05   200  301
   07   920 1252
   11  2040 3019
   13  3060 4083
   15  4780 5130
   18  7400 5936
   21 11440 6517
   23 16140 6735
   26 21540 6765
   29 28800 6765
   32 35460 6471
3760
SEE NOTES 3,5
   18   400  158
   15   860  356
   20  1260  562
   25  1500  729
   35  2240 1141
   43  2980 1529
   63  3880 1961
   83  6980 2369
   91  8860 3170
 0120 14000 3574
 0189 29540 3804
 0243 41400 3891
 0320 59440 3962
 0341 63800 3946
3761
SEE NOTES 3,5
   11     0  134
   17    60  372
   24   280  729
   33   640 1125
   41  1120 1537
   49  1880 1957
   58  2940 2377

TIME  STRAIN STRS
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   72  4600 2785
   96  9200 3185
 0141 18240 3566
 0192 29220 3962
 0252 41680 4422
 0300 52060 4686
 0368 68180 4829
3762
SEE NOTES 3,5
   09   200  134
   16   480  356
   23  1000  729
   32  1460 1125
   40  2020 1921
   48  2550 1941
   56  3220 2345
   72  4700 3185
   91  6580 3977
 0120 10300 4716
 0138 13780 4904
 0165 20080 4904

TIME  STRAIN STRS
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(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)
University of Alaska
Geophysical Institute

2a. REPORT SECURITY CLASSIFICATION
Unclassified

2b. GROUP

3. REPORT TITLE
Sea Ice Strength

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)
Final Report (1958-65)

5. AUTHOR(S) (Last name, first name, initial)
Peyton, Harold R.

6. REPORT DATE
December 1966

7a. TOTAL NO. OF PAGES
285

7b. NO. OF REFS
47

8a. CONTRACT OR GRANT NO.
Nonr-2601(01)

b. PROJECT NO.

c.

d.

9a. ORIGINATOR'S REPORT NUMBER(S)
UAG-R 182

9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)

10. AVAILABILITY/LIMITATION NOTICES
Unlimited

11. SUPPLEMENTARY NOTES

12. SPONSORING MILITARY ACTIVITY
Office of Naval Research
Arctic Project

13. ABSTRACT

This report contains the results from a study of the mechanical and structural properties of sea ice; the study commenced in 1958 and was completed in late 1965. Most of the experimental work is based upon stress-strain tests in both direct compression and direct tension. Approximately 3800 of these tests were made.

Those parameters anticipated to have significant effect upon strength were measured: temperature, salinity, rate of loading, crystal size, crsytallographic orientation, history of the ice and depth in the ice sheet. All of these are found to be significant except that the history factor itself tended to be determined by the other parameters.

The analysis was accomplished primarily by testing models by linear multiple regression. The models selected yield good results with multiple correlation coefficients between 0.70 and 0.98 over a range of petrofabric types.

Additional work accomplished in conjunction with construction of offshore oil drilling platforms had provided significant information concerning oscillatory failure of sea ice in compression and strength reduction at very high load rates. The ice failure force oscillation is an ice property and is not primarily a function of the response of the structure. The magnitude of oscillation is large and at a frequency in the range of most space frame structures. The failing ice may cause forced resonant vibration in structures, and the forces are large enough to resonantly vibrate structure weighing several thousand tons.

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Oceans						
Ice						
Sea Ice						
Ice Strength						
Ice Properties						

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It is highly desirable that the abstract of classified reports be unclassified. Each paragraph of the abstract shall end with an indication of the military security classification of the information in the paragraph, represented as *(TS)*, *(S)*, *(C)*, or *(U)*.

There is no limitation on the length of the abstract. However, the suggested length is from 150 to 225 words.

14. **KEY WORDS:** Key words are technically meaningful terms or short phrases that characterize a report and may be used as index entries for cataloging the report. Key words must be selected so that no security classification is required. Identifiers, such as equipment model designation, trade name, military project code name, geographic location, may be used as key words but will be followed by an indication of technical context. The assignment of links, roles, and weights is optional.