for U.S. Nuclear Regulatory Commission

# POSTTEST RELAP4 ANALYSIS OF LOFT

MASTER

# **EXPERIMENT L1-3A**

JAMES R. WHITE

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HEIKKI L. O. HOLMSTROM

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October 1977



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Approved:

L. P. Leach, Acting Manager LOFT Experimental Program Division

L. F. Burdge/, Director LOFT

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## POSTTEST RELAP4 ANALYSIS OF LOFT EXPERIMENT L1-3A

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by

James R. White

and

Heikki L. O. Holmstrom

EG&G Idaho, Inc.

October 1977

PREPARED FOR THE U. S. NUCLEAR REGULATORY COMMISSION AND DEPARTMENT OF ENERGY IDAHO OPERATIONS OFFICE UNDER CONTRACT NO. EY-76-C-07-1570

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## ABSTRACT

This report presents selected results of posttest RELAP4 modeling of LOFT loss-of-coolant experiment L1-3A, a double-ended isothermal cold leg break with lower plenum emergency core coolant injection. Comparisons are presented between the pretest prediction, the posttest analysis, and the experimental data. It is concluded that pressurizer modeling is important for accurately predicting system behavior during the initial portion of saturated blowdown. Using measured initial conditions rather than nominal specified initial conditions did not influence the system model results significantly. Using finer nodalization in the reactor vessel improved the prediction of the system pressure history by minimizing steam condensation effects. Unequal steam condensation between the downcomer and core volumes appear to cause the manometer oscillations observed in both the pretest and posttest RELAP4 analysis.

## ACRONYMS

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ECC	Emergency Core Coolant
ECCS	Emergency Core Cooling System
EOS	Experiment Operating Specification
ESF	Engineered Safety Features
HPIS	High-Pressure Injection System
LOCA	Loss-of-Coolant Accident
LOCE	Loss-of-Coolant Experiment ,
LOFT	Loss of Fluid Test
LPIS	Low-Pressure Injection System
LPWR	Large Pressurized Water Reactor

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#### POSTTEST RELAP4 ANALYSIS OF LOFT EXPERIMENT L1-3A

#### 1.0 INTRODUCTION

The purpose of this report is to document some of the posttest RELAP4 analyses performed for nonnuclear Experiment L1-3A which was conducted in the Loss-of-Fluid Test (LOFT) facility. The various improvements made in modeling the LOFT system and how these improvements have increased the agreement between the calculations and the LOFT experimental data are discussed in this report.

Section 2.0 discusses the changes in RELAP4 calculated results for LOFT Experiment L1-3A due to the following changes in modeling:

- (1) Effects of pressurizer modeling
- (2) Effects of using measured instead of specified initial conditions on early blowdown behavior
- (3) Effects of new reactor vessel nodalization during the emergency core coolant (ECC) injection phase
- (4) Effects of changed ECC modeling
- (5) Effects of code changes
- (6) Overall effects of modeling changes in calculated transient response.

Section 2.0 also contains a description and justification of the modeling changes in the RELAP4 analysis of Experiment L1-3A.

Section 3.0 presents conclusions drawn from the information presented and discusses the need for further modeling improvements.

The appendices contain supplemental information about the RELAP4 analysis presented in this report.

LOFT Experiment L1-3A was a repeat of Experiment L1-3, which was the third in a series of five nonnuclear isothermal blowdown tests conducted by the LOFT Program. For these tests the LOFT system was configured to simulate a loss-of-coolant accident (LOCA) in a large pressurized water reactor (LPWR) resulting from a 200% duuble ended shear break in a cold leg of the primary coolant system. As outlined in Volume 2 of the experiment operating specification  $(EOS)^{[1,2]}$ , the specific objectives of Experiment L1-3A include, in addition to facility checkout, operator training, and procedure checkout:

- (1) Comparison of break flow data with predictions
- (2) Measurement of pump resistance and coastdown characteristics
- (3) Determination of system performance with ECC injection into the lower plenum
- (4) Determination of two-phase flow resistance for various system components
- (5) Evaluation of scaling effects for various primary system components
- (6) Evaluation of effects of intact loop resistance by comparison with corresponding results from Experiment L1-2.

The objectives of the LOFT Experimental Program are:

(1) To provide data required to evaluate the adequacy and improve the analytical methods currently used to predict the LOCA response of LPWRs. The performance of engineered safety features (ESF) with particular emphasis on emergency core cooling systems (ECCS) and the quantitative margins of safety inherent in the performance of the ESF are of primary interest.

(2) To identify and investigate any unexpected event(s) or threshold(s) in the response of either the plant or the ESF and develop analytical techniques that adequately describe and account for such unexpected behavior.

Several series of experiments have been planned to meet the program objectives. The first series of experiments consists of five nonnuclear tests designated LI-1 through LI-5. For Tests LI-1 through LI-4, a core simulator is installed in the reactor vessel to provide a pressure drop representative of the LOFT nuclear core. The nuclear core will be installed for Test LI-5, but it will not be active during the test.

The major purposes of the nonnuclear test series are<sup>[4]</sup>:

- (1) To determine that the equipment/systems function properly
- (2) To demonstrate that the entire test facility can withstand the structural loads of blowdown
- (3) To determine that the blowdown test procedures are adequate
- (4) To provide experience to operators prior to nuclear tests
- (5) To obtain isothermal loss-of-coolant experiment (LOCE) data for comparison with similar data from other experimental programs and to experimentally verify thermal-hydraulic system behavior prior to nuclear blowdown.

Prior to each LOFT experiment, the experiment is modeled and run on the computer using the RELAP4 computer code. This provides a prediction

of LOFT system responses during a LOCE. Some of the more important reasons for doing an experiment prediction are to:

- (1) Determine whether a test will meet its stated objectives
- (2) Evaluate parameters that affect the safety of the facility during the intended test
- (3) Provide input to the operating procedure for event times
- (4) Provide information or possible instrument range adjustments

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(5) Provide information to evaluate the capability of the modeling techniques employed in experiment prediction analysis.

From the data acquired from the experiment prediction analysis, an experiment prediction document is prepared. This document is issued approximately 1 month prior to the experiment, and it provides:

- Comprehensive pretest predictions for those test parameters which are related to the specific objectives of the particular LOCE, and which are illustrative of how these objectives are accomplished
- (2) Detailed pretest predictions for each measurement transducer to be recorded during the LOCE with the exception of strain gages and accelerometers
- (3) A description of the calculational techniques used in performing the pretest predictions.

After an experiment is performed, the data are compared with the predicted data in a quick-look report. The experimental data are then presented fully in an experiment data report. The experimental data are compared extensively to the predicted data, and parametric studies are undertaken to improve the modeling techniques. This is done not in the

sense that code "tuning" is done but to better understand and model the actual physical processes that are observed in the experimental data. The posttest analysis reports document the more important analysis which is done after the test is performed.

A detailed description of the LOFT system can be found in Reference 3. The major components of the LOFT system are shown on Figure 1. Nomenclature for the LOFT instruments is listed in Table I, and locations of the experimental transducers are shown on Figures 2 through 4.



Fig. 1 LOFT major components.

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#### TABLE I

#### NOMENCLATURE FOR LOFT INSTRUMENTATION

The designations for the different types of transducers are as follows: 1. TE Temperature element TT 2. -Temperature transmitter ΡE Pressure transducer 3. РТ 4. Pressure transmitter -5. PdE -Differential pressure element Differential pressure transducer 6. PdT -7. LE Coolant level transducer Level transmitter 8. LT 9. FE Coolant flow transducer 10. FT -Flow transmitter 11. AE -Accelerometer Displacement transducer 12. DiE -13. ME \_ Momentum flux transducer 14. SE -Strain gage 15. Pump speed transducer RpE -16. DE -Densitometer 17. LIT Level indicating transmitter 18. C۷ Control valve The designations for the different systems, except for the core, are as follows: PC Primary coolant intact loop 1. -Blowdown loop 2. BL SG -Steam generator 3. 4. RV Reactor vessel 5. MTA -Test assembly S٧ Suppression tank 6. CS Core simulator 7. UP Upper plenum 8. 9. LP Lower plenum

10. ST - Downcomer stalk





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Fig. 3 LOFT piping and instrument diagram.





Fig. 4 LOFT reactor vessel instrumentation.

## 2.0 POSTTEST MODELING OF LOFT EXPERIMENT L1-3A WITH RELAP4/MOD5

# 2.1 <u>Modeling the LOFT Pressurizer and the Effects of Pressurizer</u> Modeling on Early Blowdown Behavior

This section of the report describes modeling of the LOFT pressurizer using the RELAP4 computer code<sup>[5]</sup>, and how the system transient is affected by changed pressurizer modeling.

After reviewing the results of LOFT Experiment L1-3A<sup>[6]</sup>, it was apparent that the pressurizer in the RELAP4 pretest prediction run tended to empty too fast<sup>[7]</sup>. This was evidenced by comparisons between the RELAP4 predicted and experimentally measured pressurizer pressure and liquid level in the pressurizer. As stated in Reference 6, the pressurizer and surge line are modeled as two volumes, with a single junction connecting the pressurizer to the surge line, and a single junction connecting the surge line to the intact loop hot leg piping.

After checking the inputs to the RELAP4 code, it was apparent that no serious input error was made in the geometric description of the pressurizer and the pressurizer surge line. Various parametric studies were run in which the pressurizer surge line was divided into two and three volumes with the total resistance of the junctions being correspondingly divided. It was found that modeling the surge line with more than one control volume had only a slight effect on the pressurizer outlet flow rate, and the computer running time increased considerably.

Investigation was then made on the effect of Fanning and singlephase form-loss coefficients on calculated pressurizer discharge flow rates. Since a choked flow condition was predicted to exist at the pressurizer surge line to intact loop piping junction, the effect of the critical flow contraction coefficient was also investigated. The result of these investigations led to a new RELAP4 pressurizer model. This new RELAP4 model had the following changes:

- (1) A slight increase in single-phase form losses was made due to losses in the surge line nozzle, including the effects due to turning losses, losses in the surge line nozzle inlet screen, and losses due to expansions and contractions in the surge line nozzle.
- (2) An increase in the form loss was made due to the pipe bends in the pressurizer surge line.
- (3) An increase in the form loss was made due to the difference in Fanning losses between smooth piping and rough piping. RELAP4 uses the Karman-Nikuradase equation for calculating the Fanning friction factor for turbulent flow<sup>[5]</sup>. This relation is strictly applicable to smooth pipes and for long runs of small diameter pipe which leads to an understatement of Fanning losses.
- (4) Separate two-phase multipliers were applied to the Fanning and form loss increases discussed above to account for two-phase effects<sup>[8]</sup>.
- (5) coefficient of 0.75 was applied to the Α contraction pressurizer surge line outlet junction to account for the the final bend on the critical flow rate. effect of Reference 9 discusses critical compressible flow in elbows. Subsequent modeling studies have shown that applying the 0.75 contraction coefficient reduces the flow by only a few percent, not by 25% as was initially expected. Applying the contraction coefficient tends to increase the upstream pressure in such a way as to offset the contraction coefficient change.
- (6) A 30% reduction in the bubble velocity in the bubble rise model in the pressurizer was implemented to account for the lower buoyancy effect due to the higher pressures in the pressurizer.

(7) A slight increase was made in the elevation of the junction between the pressurizer and the pressurizer surge line. This was done to establish the elevation of the pressurizer surge line nozzle above the bottom of the pressurizer.

After the new pressurizer model was developed and incorporated into the RELAP4 model of the LOFT system, a run was made (designated as L135-A23). This run was identical to the pretest prediction run (designated as L135-B5) except for the pressurizer model and the pressurizer initial liquid volume. An input listing and time zero output listing of this run are included in Appendix A. The input to the pretest prediction RELAP4 run may be found in Reference 7.

Figures 5 and 6 show comparisons between the RELAP4 predicted and the measured pressurizer pressure and pressurizer liquid levels. As can be seen from these figures, the pressurizer emptying rate in the new model is much closer, but slightly under the experimental data. The effect of changing the junction elevation of the pressurizer outlet junction can be seen in Figure 6, which shows a discontinuity in the pressurizer level versus time curve at approximately 0.1 metre.



Fig. 5 Comparison of RELAP4 predicted and experimentally measured pressure in pressurizer.



Fig. 6 Comparison of RELAP4 predicted and experimentally measured liquid level in pressurizer.

Figure 7 shows a comparison of the calculated and measured pressures in the intact loop. The differences in primary system pressures in the RELAP4 runs were an unexpected result. Careful analysis of the RELAP4 outputs revealed that the primary system pressures after the end of subcooled blowdown ( $\sim 0.2$  s) tend to be controlled by the saturation pressure of the control volume in the primary system which has the highest temperature. In the two RELAP4 runs, this proved to be the volumes in the intact loop hot leg. Βv reducing the pressurizer discharge flow of high enthalpy fluid, the energy input into the intact loop was decreased and the temperature in the intact loop was lowered.



Fig. 7

Comparison of RELAP4 predicted and experimentally measured pressure in intact loop.

Figures 8, 9, and 10 show comparisons between calculated and measured densities in the intact loop. In essentially every case, changing the pressurizer model has allowed the fluid to begin to flash earlier. This allows for better comparisons between RELAP4 and the experimental data for the first 5 seconds of blowdown. In Figure 9, the agreement between RELAP4 and the experimental data has been markedly improved for the first 4 seconds of blowdown. Analysis of the RELAP4 output shows that a flow reversal takes place in the hot leg at approximately 4.5 seconds after rupture in the RELAP4 run with the new When this occurs, the density of the fluid moving pressurizer model. past the junction at which the density is computed takes a sudden change to a lower value. The experiment behaved in a similar fashion, except the density drop takes place at approximately 6 seconds after rupture.

0.8 MG/M3 0.6 DE-PC-001 0.4 DENSITY 9. Q AVERAGE 0.0 0.0 5.0 10.0 -5.0 15.0 TIME AFTER RUPTURE (SEC) DOT=L1-3AD DATA, SQUARE=PRETEST RELAPH, TRIANGLE=L135-A23 RELAPH





DOT=LI~3A DATA, SQUARE=PRETEST RELAP4, TRIANGLE=L135-A23 RELAP4

Fig. 9 Comparison of RELAP4 predicted and experimentally measured density in intact loop hot leg.



Fig. 10 Comparison of RELAP4 predicted and experimentally measured density in intact loop between steam generator outlet and pump inlet.

Figures 11 and 12 show comparisons of calculated and measured densities in the broken loop. Here again, an earlier flashing of fluid is shown in the RELAP4 run with the new pressurizer model.



Fig. 11 Comparison of RELAP4 predicted and experimentally measured density in broken loop cold leg.



Fig. 12 Comparison of RELAP4 predicted and experimentally measured density in broken loop hot leg.

The behavior in space and time of the RELAP4 calculated density behavior can best be seen in Figures 13 through 17. In this series of figures, the RELAP4 model schematic for both the pretest RELAP4 run and the posttest RELAP4 run with the new pressurizer model (run L135-A23) has been shaded to indicate a range of densities which are calculated to exist in different RELAP4 control volumes. Arrows are used to indicate flow direction from one control volume to another.

Figure 13 shows the density distribution comparisons at t = 0.2 seconds after the break begins to open. Flashing has begun in the intact loop where the pressurizer surge line enters the hot log; at the pump inlet, which is the lowest pressure point in the primary system; and in the control volumes just upstream of the break planes. All flow directions are still in the normal direction.



Fig. 13 RELAP4 model schematic for LOFT cold leg break configuration at t = 0.2 second.

Figure 14 shows the density distribution at 0.4 second into the transient. In the pretest prediction, the pump inlet fluid conditions have become subcooled once again, while the fluid at the pump inlet has begun to flash in the posttest run with the new pressurizer model. The same conditions exist past 0.8 second into the blowdown.


Fig. 14 RELAP4 model schematic for LOFT cold leg break configuration at t = 0.4 second.

In Figure 15, a flow reversal is shown to have taken place in the intact loop hot leg by 1.6 seconds into the transient in the pretest prediction RELAP4 run. The hot fluid from the pressurizer emptied into the hot leg at too fast a rate which made the intact loop hot leg act like a pressurizer. This kept the majority of fluid in the intact loop and the reactor vessel subcooled. In the posttest analysis run with the new pressurizer model, the flow reversal has not yet occurred, and flashing was taking place in the steam generator, pump inlet, broken loop, and reactor vessel.



Fig. 15 RELAP4 model schematic for LOFT cold leg break configuration at t = 1.6 seconds.

At 3 seconds into the transient, as shown on Figure 16, the hot leg flow reversal has not yet taken place in the new RELAP4 run and flashing has taken place to the point that all the fluid in the system is now two-phase. In the pretest prediction RELAP4 run, the flashing front has moved around the intact loop through the steam generator and is now up to the pump inlet.



Note: Arrows Indicate Flow Direction

INEL-A-2450



Fig. 16 RELAP4 model schematic for LOFT cold leg break configuration at t = 3 seconds.

Figure 17 shows that at 5 seconds into the transient the pretest prediction run flashing front has now passed through the pumps and is proceeding around the inlet annulus toward the cold leg break plane. As the density drops at the pump inlet, the pump differential pressure drops rapidly as the pumps cavitate. The flow through the reactor vessel is still in the normal direction, and the fluid in the downcomer, lower plenum, and core simulator is still subcooled. In the posttest analysis run with the new pressurizer model, the flow reversal has taken place in the intact loop hot leg and in the reactor vessel.

At 10 seconds into the transient, the flow through the reactor vessel has reversed, and differences between the two runs are not significant. At 10 seconds into the transient, differences in pressurizer modeling between the two RELAP4 runs do not appear to be significantly controlling the transient.



Fig. 17 RELAP4 model schematic for LOFT cold leg break configuration at t = 5 seconds.

In conclusion, pressurizer modeling of LOFT nonnuclear LOCEs was shown to affect the calculated blowdown behavior during the first 10 seconds of blowdown in subtle ways. Not only was the pressurizer discharge flow and pressurizer affected, as suspected, but in addition, the primary system pressures, flows, and densities were also markedly affected by the pressurizer modeling. The pressurizer liquid, being initially saturated at the primary system pressure, represents a significant source of high-temperature fluid for an isothermal LOCE. Predicting the flow rate of this fluid into the primary system and the flow direction of this fluid once it enters the intact loop hot leg is important for predicting the behavior of LOFT during the early portion of saturated blowdown for an isothermal LOCE.

Proper pressurizer modeling must include all the important pressure loss phenomenon in the pressurizer surge line. Two-phase multipliers, rough tubing Fanning losses, and modeling of the form losses in the bends in the pressurizer surge line are important considerations in modeling the LOFT pressurizer surge line.

The next sections of the report are concerned with the overall posttest modeling of LOFT LOCE L1-3A. Section 2.2 deals with modeling changes that were made in the posttest RELAP4 analysis of LOFT LOCE L1-3A. Section 2.3 discusses how these modeling changes have affected the calculational results. Comparisons are presented which show the pretest predictions, the experimental data, and a new RELAP4 run (designated as L135-A22), which incorporates the modeling changes discussed in Section 2.2.

## 2.2 Overall Modeling Changes and Justification

2.2.1 <u>Improved Pressurizer Modeling</u>. The pressurizer model, which is discussed in Section 2.1 of this report, was incorporated into the RELAP4 model of the LOFT system and run on the computer for the posttest analysis of LOCE L1-3A. This run, which also incorporates other modeling changes discussed in the following sections of this report, is referred to as the posttest analysis run (L135-A22). 2.2.2 <u>Using Measured Experiment L1-3A Initial Conditions</u>. In the posttest analysis run for LOCE L1-3A, the measured initial pressures, temperatures, flow rates, and liquid level in the pressurizer were used as the initial conditions of the RELAP4 posttest analysis run. This was done to eliminate the uncertainty in how the initial conditions affect the comparisons of calculated and measured blowdown behavior.

2.2.3 <u>RELAP4 Nodalization</u>. The RELAP4 nodalization scheme was changed between the pretest and posttest analysis. Figure 18 shows the RELAP4 schematic of the pretest prediction (Run L135-B5), while Figure 19 shows the schematic of the posttest analysis run (Run L135-A22). Comparison between the two figures reveals that the system model has been renodalized in three areas: the reactor vessel, the broken loop just downstream of the reflood assist bypass piping, and the accumulator.

The accumulator was treated as a fill junction in the posttest analysis run, hence the accumulator has no volume number. ECC modeling is discussed in Section 2.2.4.

A volume was added in the 28.4-cm ID piping (14-inch Schedule 160) in the broken loop hot and cold legs. This was done so that junctions would exist in the broken loop at the location of the drag disc. turbine and densitometer instrument locations. Subsequent analysis revealed that this was unnecessary since the fluid conditions just downstream of these added junctions are essentially identical and are just as useful for data comparisons.

The significant difference between the pretest and posttest RELAP4 nodalization is due to the changes in reactor vessel nodalization. Analysis of the output of the pretest prediction run revealed that when ECC injection began, the lower plenum was only approximately half full. Futhermore, the pressure in the lower plenum tended to follow the saturation pressure of the temperature of the fluid in the lower plenum, until the lower plenum became liquid full. This caused the RELAP4 calculated primary system pressure to follow the lower plenum saturation



Fig. 18 RELAP4 model schematic for the pretest prediction of LOFT Experiment L1-3A.



 $c_{-}$ 

Fig. 19 RELAP4 model schematic for the posttest analysis of LOFT Experiment L1-3A.

ω 3 pressure, which was below the experimental data for the ECC filling period. It was felt that by reducing the volume of the control volume in which ECC flow was being directed, the time period in which this phenomenon occured would be reduced. Therefore, the lower plenum was divided into more volumes, which allow quicker subcooling in the volume in the lower plenum in which ECC was directed.

As soon as the volumes in the lower plenum become liquid full, the fluid conditions in those volumes become subcooled. Thus the fluid conditions at the junctions between the lower plenum and the downcomer and the lower plenum and core volumes become subcooled when the lower plenum becomes liquid full. By dividing the downcomer and core volumes into three volumes each, it was again attempted to minimize the volumes in which steam condensation was occurring and thereby minimize the effect of steam condensation on the depressurization.

Dividing the downcomer and lower plenum into several vertically stacked volumes also provides a better means of (a) tracking temperatures measured at the lower plenum and downcomer temperature probes and (b) damping the large manometer-type oscillations that were observed in the calculated behavior of the downcomer - lower plenum core regions.

2.2.4 <u>ECC Modeling</u>. In the RELAP4 posttest analysis, the measured ECC flows from the experimental data were input in the RELAP4 run as a function of time. This was done to eliminate the uncertainty of how overpredicting ECC flow rates affects system behavior during the refill and reflood portion of the transient.

Accurate calculation of accumulator flow depends strongly on calculating the pressure difference across the accumulator injection line. RELAP4 tended to overpredict (a) accumulator pressure as a function of accumulator liquid volume and (b) depressurization which occurs in the primary system when the subcooled ECC fluid begins to flow. Subsequent modeling activities revealed that RELAP4 tended to expand the accumulator nitrogen as if it were a constant temperature

process. The experimental data suggested that the accumulator nitrogen expansion is more nearly an isentropic process. This led to the development of a polytropic nitrogen expansion model, which was used in the prediction analysis for LOFT Experiment  $L1-4^{[10]}$ . This model was not available in time for the posttest analysis of LOFT LOCE L1-3A.

2.2.5 <u>Code Changes</u>. The posttest RELAP4 analysis was run on a special version of RELAP4/MOD5 (Update 2) which was identical to RELAP4/MOD5 (Update 2) except a steam generator secondary heat transfer model was added which accounts for natural convection heat transfer in the steam generator secondary side.

Detailed input and time zero output listings of the posttest analysis run may be found in Appendix B.

## 2.3 Data Comparisons

This section of the report discusses comparisons of the posttest analysis run with the experimental data and the pretest prediction for various time periods during the LOCE L1-3A blowdown.

2.3.1 Early Blowdown System Behavior. The effects of pressurizer modeling and initial condition differences on early blowdown behavior are discussed with this first series of graphs. Figures 20 through 23 show comparisions between calculated and measured fluid temperatures during early blowdown. In these short-term plots, it should be kept in mind that the uncertainty in the temperature measurements is approximately 2.5°C. The RELAP4 data, both pretest and posttest, are within the uncertainty of the measurement. The posttest initial conditions were found by taking an arithmetic average of different temperatures around the intact loop. The posttest analysis, in general, is in better agreement with the shape of the temperature curves, but tends to differ in magnitude slightly from transducer to transducer.



Fig. 20 Comparison of RELAP4 calculated and experimentally measured fluid temperature in intact loop cold leg.



Fig. 21 Comparison of RELAP4 calculated and experimentally measured fluid temperature in intact loop hot leg.



Fig. 22 Comparison of RELAP4 calculated and experimentally measured fluid temperature in broken loop cold leg.



Fig. 23 Comparison of RELAP4 calculated and experimentally measured , fluid temperature in broken loop hot ley.

The pressures in the intact and broken loops can be seen in Figures 24 and 25. The uncertainty in the measured pressure is approximately 0.26 MPa, and again the pretest and posttest RELAP4 runs are within the uncertainty of the measurements. The primary system pressure is slightly lower for the posttest analysis run primarily due to the effects of the pressurizer modeling. This makes for an overall better agreement with the data.



Fig. 24 Comparison of RELAP4 calculated and experimentally measured pressure in intact loop cold leg.



Fig. 25 Comparison of RELAP4 calculated and experimentally measured pressure in broken loop hot leg.

Figures 26 and 27 show the density behavior in the intact and broken loops during early blowdown. As discussed in Section 2.1, the early blowdown density behavior is improved with the new pressurizer model. In general, the fluid begins flashing sooner in the posttest analysis. In Figure 27, the time that the flow reversal takes place in the intact loop hot leg is better predicted in the posttest analysis run.



Fig. 26 Comparison of RELAP4 calculated and experimentally measured density in intact loop hot leg.



Fig. 27 Comparison of RELAP4 calculated and experimentally measured density in broken loop cold leg.

The next two figures (Figures 28 and 29) show comparisons between calculated and measured differential pressures around the intact loop. In Figure 28 the pump is shown to degrade faster in the posttest analysis run: This can be largely attributed to the faster flashing in the pump inlet, due primarily to the differences in the pressurizer modeling. The pressure across the steam generator is less in the posttest analysis run, while the differential pressure across the reactor vessel is largely unaffected.



Fig. 28 Comparison of RELAP4 calculated and experimentally measured differential pressure across primary coolant pump.



Fig. 29 Comparison of RELAP4 calculated and experimentally measured differential pressure across steam generator.

2.3.2 <u>System Behavior After ECC Injection</u>. In this next series of plots, the differences between the two RELAP4 runs and the experimental data are examined for the time period from just before ECC injection begins to the end of blowdown.

Figures 30 and 31 show the RELAP4 calculated and experimentally measured accumulator and low-pressure injection system (LPIS) flows. The posttest analysis is in good agreement since the ECC flows were input as a function of time and taken from the experimental data. The high-pressure injection system (HPIS) flow, which is not shown, is also in good agreement, both in the pretest and posttest RELAP4 runs. The overprediction of accumulator flow in the pretest prediction is due to the following factors:

- The primary system pressure is underpredicted, especially after ECC injection begins, due primarily to the excessive steam condensation predicted by RELAP4.
- (2) The accumulator pressure is overpredicted as a function of accumulator nitrogen volume, due to the isothermal accumulator nitrogen expansion model in RELAP4/MOD5.
- (3) The line resistance of the accumulator injection line was too low in the pretest RELAP4/MOD5 calculations. This was confirmed by accumulator blowdown tests done after the LI-3 pretest prediction was run.

The LPIS flow is overpredicted in the pretest prediction primarily due to the underprediction of primary system pressure.



Fig. 30 Comparison of RELAP4 calculated and experimentally measured volumetric flow rate from accumulator.



Fig. 31 Comparison of RELAP4 calculated and experimentally measured volumetric flow rate from LPIS.

Figures 32 through 34 show the calculated and measured pressures in the ECC injection line and in the reactor vessel core simulator. The spike in Figure 32 in the pretest prediction data is due to ECC condensation in the ECC injection line. This pressure spike causes the spike in the calculated accumulator flow seen in Figure 30. The pressure in the reactor vessel is shown in both Figures 33 and 34, with the data in Figure 33 coming from a high-range pressure transducer, and the data in Figure 34 coming from a more sensitive low-range pressure transducer.

Both RELAP4 calculations underpredict system pressure primarily due to the excessive steam condensation predicted by RELAP4 for lower plenum ECC injection experiments. The posttest analysis run is closer to the data than the pretest prediction run for two main reasons: (a) the finer nodalization in the reactor vessel tended to allow fluid in some of the control volumes in the reactor vessel to fill up, hence reducing the steam condensation in these volumes and (b) the ECC flow rates were in agreement with the data, instead of being overpredicted as in the pretest prediction run.



Fig. 32 Comparison of RELAP4 calculated and experimentally measured pressure in ECC injection line.



Fig. 33 Comparison of RELAP4 calculated and experimentally measured pressure in core simulator.



Fig. 34

Comparison of RELAP4 calculated and experimentally measured pressure in core simulator.

Figures 35 through 37 show the comparisons of calculated and measured fluid temperatures in the lower plenum, downcomer, and downcomer inlet annulus during the time period following ECC injection. Except for the lowest portion of the lower plenum, the posttest analysis tracks the fluid temperatures in the lower plenum better than the pretest prediction run. This can be attributed to the finer nodalization and the better prediction of primary system pressure response which allows for a better prediction of saturation temperature as a function of time. The data in Figure 38 show the core simulator fluid temperatures, and all the curves closely follow the saturation temperatures.



Fig. 35 Comparison of RELAP4 calculated and experimentally measured fluid temperature in lower plenum at 0.54 meters above reactor vessel bottom.



Fig. 36 Comparison of RELAP4 calculated and experimentally measured fluid temperaure in downcomer at 0.74 meters above reactor vessel bottom.



Fig. 37 Comparison of RELAP4 calculated and experimentally measured fluid temperature in downcomer inlet annulus at 4.81 meters above reactor vessel bottom.



Fig. 38 Comparison of RELAP4 calculated and experimentally measured fluid temperature in core simulator.

Figure 39 shows comparisons between the calculated and measured momentum fluxes in the downcomer. Both the pretest and posttest analyses runs show large manometer-type oscillations beginning after the lower plenum fills which are not observed in the data.

To understand the nature of these oscillations, consider Figures 40 through 42. Figure 40 shows the average lower plenum void fraction from the posttest analysis run, while Figure 41 shows the average downcomer void fraction. Figure 42 shows the average liquid fraction (1-average void fraction) in the lower plenum, downcomer, and inlet annulus. As these graphs show, the oscillations tend to be diverging. Plots of void fraction in the core area tend to have the same oscillation frequency, but are out of phase with the oscillations in the downcomer, indicating a manometer-type oscillation.

The oscillations appear to be driven by unequal steam condensation, which is predicted to occur in the reactor vessel. When the lower plenum fills, the fluid conditions go from saturated to subcooled. Subcooled water thus begins to flow into the downcomer and lower core volumes after the lower plenum fills. Because of the larger flow area and lesser resistance, the flow rate into the core area is higher than Thus more steam is condensed in the the flow rate into the downcomer. core than is condensed in the downcomer. This causes even greater flow into the core region due to the faster depressurization in this volume. When the elevation head in the core area becomes great enough, the flow reverses, which causes subcooled water to flow into the downcomer. Because of the large flow of subcooled liquid in the downcomer, steam condensation begins over again in the downcomer instead of the core Thus unequal steam condensation is the mechanism which causes region. the undamped manometer-type oscillations which are observed in the RELAP4 calculations.

To test this hypothesis, an additional RELAP4 run was made in which the temperature of the ECC fluid was set at nearly saturation conditions during this period of the blowdown (226°C). The oscillations were no longer observed, and the reactor vessel pressure was substantially



Fig. 39 Comparison of RELAP4 calculated and experimentally measured momentum flux in downcomer.



Fig. 40 Volume weighted average void fraction in lower plenum from posttest analysis run.



Fig. 41 Volume weighted average void fraction in downcomer from posttest analysis run.



Fig. 42 Volume weighted liquid fraction in lower plenum, downcomer, and inlet annulus from posttest analysis run.

higher after ECC injection began. Because of the large oscillations observed in the posttest analysis run, it is believed that the finer reactor vessel nodalization was not fully effective in minimizing excessive steam condensation of the ECC fluid due to the homogenizing effect these oscillations had on the fluid conditions in the reactor vessel.

2.3.3 <u>Overall System Behavior</u>. In this section, curves which are representative of the overall system response are discussed in relation to the differences between the pretest and posttest RELAP4 runs.

Figures 43 through 47 show the calculated and measured densities in the intact and broken loops. The erratic density predictions in the cold legs (Figures 43 and 45) are attributable to the reactor vessel oscillations. The underprediction of density in the broken loop hot leg may be an indication of overprediction of hot leg break flow. Overpredicting broken loop cold leg density may be an indication of underpredicting cold leg break or not fully accounting for phase separation or slip effects in the downcomer.

The hump in the calculated density in the broken loop hut leg is attributable to fluid which collects in the inlet plenum of the steam generator and which later flows from the steam generator inlet plenum, through the intact loop hot leg, through the upper plenum, and out the broken loop hot leg. The experimental data suggest that RELAP4 is correctly predicting this subtle phenomenon.



Fig. 43 Comparison of RELAP4 calculated and experimentally measured density in broken loop cold leg.



Fig. 44 Comparison of RELAP4 calculated and experimentally measured density in broken loop hot leg.



Fig. 45 Comparison of RELAP4 calculated and experimentally measured density in intact loop cold leg.



Fig. 46 Comparison of RELAP4 calculated and experimentally measured density in intact loop hot leg.



Fig. 47

' Comparison of RELAP4 calculated and experimentally measured density in intact loop between steam generator outlet and pump inlet.

The next two figures (Figures 48 and 49) show the pressurizer liquid level and pressure. As discussed earlier, there is much better agreement in the parameters between the experimental data and the posttest analysis RELAP4 run. Figure 50 shows an expanded-scale plot of the comparisons of primary system pressure. Agreement is good until just after ECC injection begins.



Fig. 48 Comparison of RELAP4 calculated and experimentally measured liquid level in pressurizer.


Fig. 49 Comparison of RELAP4 calculated and experimentally measured pressure in pressurizer.



Fig. 50 Comparison of RELAP4 calculated and experimentally measured pressure in primary system.

Figures 51 and 52 show comparisons of the steam generator secondary pressure and temperature. The pretest RELAP4 run is in better agreement with the experimental data. The natural convection steam generator heat transfer model used in the posttest analysis calculation apparently overpredicts the heat transfer from the steam generator secondary. The steam generator secondary temperature transducer is located in the downcomer of the steam generator, and may not accurately reflect the true average steam generator secondary fluid temperature. Modeling the LOFT steam generator secondary is presently under review.



Fig. 51 Comparison of RELAP4 calculated and experimentally measured pressure in steam generator secondary side.



Fig. 52 Comparison of RELAP4 calculated and experimentally measured temperature in downcomer in steam generator secondary side.

Figures 53 through 55 show calculated and measured fluid temperatures in the broken and intact loops. The posttest analysis run indicated that superheated steam began to flow from the steam generator outlet at approximately 26 seconds into the blowdown, passed through the pumps, and arrived at Station PC-1 at approximately 28 seconds. The experimental data suggest that this phenomenon may be occurring, but at a later time than predicted by RELAP4. The overall fluid temperature differences are largely attributable to differences in saturation temperatures, due to the differences in system pressures.



Fig. 53 Comparison of RELAP4 calculated and experimentally measured fluid temperature in broken loop cold leg.



DOT=L1-3A DATA, SQUARE=PRETEST RELAP4, TRIANGLE=L135-A22 RELAP4

Fig. 54 Comparison of RELAP4 calculated and experimentally measured fluid temperature in intact loop between steam generator outlet and pump inlet.



Fig. 55 Comparison of RELAP4 calculated and experimentally measured fluid temperature in intact loop cold leg.

Figures 56 and 57 show the primary coolant pump speed and differential pressure. The primary coolant pump in RELAP4 coasts down faster than the experimental data primarily because the effective inertia of the primary coolant pump in RELAP4 is too low at the higher speeds. A variable inertia pump model was developed for the LOFT Experiment L1-4 pretest prediction which accounts for the speedthe LOFT pumps<sup>[10]</sup>. dependent electrical losses of The pump differential pressure is well predicted by RELAP4 which indicates that once the pumps cavitate, the pump head is no longer a strong function of pump speed.



Fig. 56 Comparison of RELAP4 calculated and experimentally measured speed of primary coolant pump 1.



Fig. 57 Comparison of RELAP4 calculated and experimentally measured differential pressure across primary coolant pumps.

Figures 58 through 61 show velocities and momentum fluxes in the intact loop and reactor vessel. Agreement is generally good until 30 seconds into the blowdown, when the oscillations begin in the RELAP4 calculations.



Fig. 58 Comparison of RELAP4 calculated and experimentally measured fluid velocity in intact loop cold leg.



Fig. 59 Comparison of RELAP4 calculated and experimentally measured momentum flux in intact loop cold leg.



Fig. 60 Comparison of RELAP4 calculated and experimentally measured fluid velocity in intact loop between steam generator outlet and pump inlet.



Fig. 61 Comparison of RELAP4 calculated and experimentally measured fluid velocity in reactor vessel downcomer.

The next four figures (Figures 62 through 65) concern the broken loop cold leg. Figure 62 shows the RELAP4 calculated and measured velocity in the broken loop cold leg. The agreement is generally good up to near the end of blowdown. As mentioned earlier, the turbine meter is expected to record higher than average velocities because of the stratified and annular flow regimes which are observed in the experimental data<sup>[6]</sup>. Figure 63 shows a comparison of the calculated and measured mass flows, as recorded from a pair of differential pressure-densitometer measurements. The experimental data show a small uncorrected offset at time zero which is probably attributable to an uncorrected offset in the differential pressure transducer. The data consistency checks also reveal that the experimentally measured mass flow rate for this transducer may be high by approximately 9%<sup>[6]</sup>. The differential pressure across the flow area reducer is underpredicted by RELAP4. The differential pressure across the cold leg break plane is somewhat overpredicted by RELAP4.

For LOFT Experiment L1-4, additional differential pressure and flow instrumentation has been installed to allow a better understanding of the flow phenomenon upstream of the cold leg break plane.



Fig. 62 Comparison of RELAP4 calculated and experimentally measured fluid velocity in broken loop cold leg.



Fig. 63 Comparison of RELAP4 calculated and experimentally measured mass flow rate per system volume in broken loop cold leg.



Fig. 64 Comparison of RELAP4 calculated and experimentally measured differential pressure across broken loop cold leg contraction.



Fig. 65 Comparison of RELAP4 calculated and experimentally measured differential pressure across broken loop cold leg break plane.

Figure 66 indicates that the broken loop hot leg mass flow rate is overpredicted by RELAP4 for the first 10 seconds of blowdown. Subsequent modeling studies have shown that the RELAP4 calculated initial mass flow rate is strongly dependent upon the assumed initial temperature distribution in the broken loop hot leg. In both the pretest and posttest RELAP4 analyses, the initial temperature of the fluid in the broken loop hot leg was set at a lower value than indicated by pressure transducers in the broken loop hot leg at the onset of saturated blowdown.

Figures 67 and 68 show comparisons of differential pressures across the steam generator and pump simulators in the broken loop hot leg. Both the pretest and posttest RELAP4 runs are in good general agreement with the experimental data. One would expect the differential pressures to be overpredicted somewhat if the mass flow rate was being overpredicted.



Fig. 66 Comparison of RELAP4 calculated and experimentally measured mass flow rate per system volume in broken loop hot leg.



Fig. 67 Comparison of RELAP4 calculated and experimentally measured differential pressure across broken loop steam generator simulator.



Fig. 68 Comparison of RELAP4 calculated and experimentally measured differential pressure across broken loop pump simulator.

## 3.0 CONCLUSIONS

Several conclusions can be drawn from the analytical studies that have gone into the preparation of this report. Modeling the pressurizer is important in predicting system behavior during early saturated blowdown for an isothermal LOCE. By more properly modeling the pressurizer, not only can pressurizer pressure and level be more accurately predicted, but early density, pressure, and flow behavior can be more accurately predicted as well. Proper modeling of the LOFT pressurizer must include all important pressure loss ellects in the pressurizer surge line. This includes accounting for rough tubing Fanning friction losses, accounting for the form losses of the bends in the surge line tubing, and accounting for two-phase form losses.

The primary system pressure can be better predicted when ECC flows are not overpredicted, and nodalization in the reactor vessel should be such as to minimize steam condensation effects. ECC flows in the L1-3A pretest prediction were overpredicted due to (a) underprediction of primary system pressure after ECC injection began due to excessive steam condensation, (b) overprediction of accumulator nitrogen pressure due to the isothermal accumulator nitrogen pressure assumption, and (c) failure to account for the total resistance of the accumulator injection line.

Use of measured initial conditions as opposed to EOS nominal initial conditions had a negligible influence on calculated system response. Using finer nodalization in areas where steam condensation was expected to occur was responsible for a better overall prediction of the system pressure history. The manometer oscillations observed between the downcomer and core volumes in both the pretest and posttest calculations were apparently driven by unequal steam condensation. Injecting higher enthalpy fluid eliminated the oscillations, as well as the over depressurization observed in both the pretest and posttest analysis.

## 4.0 **REFERENCES**

- T. K. Samuels, <u>Appendix A to Volume 2, LOFT Experiment Operating</u> <u>Specification, Volume 2, Nonnuclear Test Series L1 Experiment 3,</u> Aerojet Nuclear Company, EOS Volume 2, NNE L1-3, Revision 1 (April 1976).
- T. K. Samuels, <u>Conformed Copy of LOFT Experiment Operating Specification</u>, <u>Volume 2</u>, <u>Nonnuclear Test Series Ll Experiments 3 and 3A</u>, <u>NNE L1-3 and -3A</u>, <u>Aerojet Nuclear Company</u>, EOS Volume 2, <u>NNE L1-3</u> and -3A, Revision 2 (September 1976).
- 3. H. C. Robinson, <u>LOFT System and Test Description (Loss-of-Coolant</u> <u>Experiments Using a Core Simulator</u>), TREE-NUREG-1019 (November 1976).
- J. K. Jacoby, <u>Appendix A to Volume 1, LOFT Experiment Operating</u> <u>Specification, LOFT Nonnuclear Experiment Series L-1</u>, Aerojet Nuclear Company, Revision 2 (August 1974).
- 5. G. L. Singer et al, <u>RELAP4/MOD5 A Computer Program for Transient</u> <u>Thermal-Hydraulic Analysis of Nuclear Reactors and Related Systems-</u> User's Manual, ANCR-NUREG-1335 (September 1976).
- 6. G. M. Millar, <u>Experiment Data Report for LOFT Nonnuclear</u> Test L1-3A, TREE-NUREG-1027 (December 1976).
- 7. J. R. White et al, <u>Experiment Prediction for LOFT Experiment L1-3</u>, Aerojet Nuclear Company, EP L1-3 (June 1976).
- 8. J. G. Collier, <u>Convective Boiling and Condensation</u>, London: McGraw-Hill Book Company, Inc., 1972.

- 9. Society of Automotive Engineers, <u>SAE Aero-Space Applied Thermo-dynamics Manual</u>, Section 1, Part B, "Thermodynamics and Compressible Flow" (1969).
- 10. James R. White et al, <u>Experiment Prediction For LOFT Nonnuclear</u> Experiment L1-4, TREE-NUREG-1086 (April 1977).

## APPENDIX A

INPUT AND TIME = 0.0 LISTING FOR THE NEW PRESSURIZER MODEL RELAP4 RUN (RELAP4 RUN L135-A23)

LISTING OF INPUT DATA FOR CASE 1
1 =LOFT LI35-A23 PRE-TEST PREDICTIONS WITH NEW PRESSURIZER MODEL CONCO=.75
3 - 010002 0.0 1.0 4 020000 AP 41 AP 40 27 4 JH 46 JH 45 JH 46 ML 41_AE 25 AR 28
6 030020 20 10 1 0 0.0005 0.0005 0.8 7 030030 10 20 1 0 0.001 0.0001 2.0
11 030070 5 80 2 0 0.01 0.0005 56.0 12 040020 1 1 0.0 15.0 0 14 END TRIP 54
15 040040 4 1 0 0 22.0 0.0 * HPIS TRIP
$\begin{array}{cccccccccccccccccccccccccccccccccccc$
19 050012 0 2.512 1.788973 20 2050021 0 0 2271.1310 540.0 -11 AS195 1.865 1.665
21 050022 0 2.491 1.314 -2.838 0 540.0 22 050031 0 0 2264.6577 540.0 23 050032 0.932333333 0.932333333 0 0.6827037757 0.932333
$\begin{array}{cccccccccccccccccccccccccccccccccccc$
27 05004346616666670 * 28 050051 0 0 2263.2811 540.0 -1. 3.189863350
$\begin{array}{cccccccccccccccccccccccccccccccccccc$
32 050062 2.421562792 2.421562792 0.9.8955644145 1.067833 33 0500635339166650 *
35 050072 2.500000000 2.500000000 0 7.941248101 1.461496 36 050073 0.3121933630 *
37 050081 0 0 2255.8862 540.0 -1. 10,97689826 38 050082 6.75000000 6.750000000 0. 1.626207149 0.0335
40 1050091 0 2253.7424 540.0 -1. 5.447793949 41 050092 2.005208333 2.005208333 0 1.626207149 0.0335
43 050101 0 0 2254.4704 540.0 -1. 10.97689826 44 050102 6.750000000 6.750000000 0 1.626207149 0.0335
45 050103 2.812193363 * 46 050111 0 0 2255.6291 540.0 0 -1. 11.18238868 47 050112 2.500000000 0 7.961248101 1.461496
48 050113 0.3121933630 * 49 050121 0 0 2250.2685 540.0 -1. 2.057288380
$\begin{array}{cccccccccccccccccccccccccccccccccccc$
53     050132     3.808666667     3.808666667     0.6827037757     0.932333       55     050133     4.295103530     4.4934592374     540.0     -1.44934592374
56 050142 2.174500000 2.174500000 0 0.6827037757 0.932333 57 050143 -4.296103530 *
54     540.0     -1.     3.785608924       59     050152     2.475770200     2.475770200     0.3940626203     0.39406       60

52 05016	2 2.675770	2602.367	2.475770200	0 0 201012 2010	2000764
63 05016	3 -2.121603	530	*		U.39400
64 05017	1 0 0	2278.477	4 540.0	-1. 1.89	5801523
66 05017	3 3541666	670	*	0.0.3990020203	
67 05018	1 0 0	2280.915	3 540.0	-1. 0.693	3519742
69 05018	3 3541666	670	*	0.0.3940020203	0.708333
70 05019	1 0 0	2275.625	7 540.0	-1. 6.28	3527277
72 05019	3 4661666	676	*	0 0.662/03//2/	0.932333
73 05020	2 0 0222222	22,79.210	0 540.0	-1. 3.221	3619939
75 05020	34661666	670	¥ ¥	24.0.602/03//3/	
77 05021	3,435000	2272.611	3 635000000	-1. 7.44	16 0 502222
78 05021	3 -2.351666	670		V. 24201219239	Ve203333
80 05022	1 0 0	2274:860	9 540.0	-1. 17.00	566 0 22222
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83 05023	2 0 5.58	1.518	-16.4 0 23.14	22. 4.15. 4.15	The state of the second second
84 05024	1 0 0 22	73.7242	540.01. 30.24	9.422 .9.422	The manual of the second
86 05025		2273.18	-14.20 540.0	-1. 3.560	566166
87 05025	2 0.9323333	333	0.9323333333	0 0.6827037757	0.932333
89 05026	1 0 0	2273.18	535.0	-1. 2.16	85
90 05026	2 0.9323333	333	0.9323333333	0 0.6827037757 .	0.932333
92 05027		2273.18	530.0	-1. 0.817	5129257
93 05027	2 0.5677500	000	0.5677500000	0 0.2531652931	0.56775
95 05028	1 0 0	2266.66	540.0	-1. 7.	\$4979
96 05028	2 0.9323333	333	0.9323333333	0 0.6827037757	0.932333
98 . 05029	1 0 0	2266.85	538.0	-1. 2.30	453879
100 05029	2 0.9323333	333	C•9323333333	0 0.6827037757	0.932333
101 05030	1 0 0	2266.51	536.0	-1. 0.2890	489032
103 05030	3 - 1692916	670	*	0.0.90037003700.	-01 0.33858
104 05031	1 0 0	2265.35	534.0	-1. 4.58	2558229
106 L 05031	3 2.270833	333	4.282200000	_0_ 1.060795302	1.215833
107 05032	1 0 0	2263.94	532.0	-1. 10.03	3573817
109 05032	3 6.853333	333	* • • • • • • • • • • • • • • • • • • •	V 1.101015380	1.212833
110 05033		2265.35	582500000	-1. 4.58	2558229
112 05033	3 2.270833	334	*	0 1.000799302	1.213033
113 05034	1 0 0	2266.85	528.0	-1. 0.408	180585
115 05034	3 -2.270833	330	*		01 0.00000
110 05035	2 2,174500	2267.95	2.174500000	1 0.6827037757	0.932333
118 05035	3 -4.445333	330	•		
120 05036	2 4.317750	2267.50	4.317750000	0 0.90037003700	-01 0.33858
121 05036	3 -4.148458	330	*		151011
123 05037	2 16.09374	999	9.420000000	0 9.621127503	3.5
124 05037	3 -13.51041	670 20	* 626.0	-1 0 17	AE4442
126 05038	2 2.065083	333	2.065083333	0 0.4175836592	1.25
127 05038	3 0.4661666	667	* 560 0	-1 5 071	445030
120	2 005022	2200.51	2 205022222		407424

127 050392 - 3645833330
131 050401 0 0 2263.17 562.0 -1. 0.3623659179 132 050402 4.035000000 4.035000000 0 0:15559179600-01 0.16075
133 050403 0.4661666667 * 134 050411 3 0 2262.00 -1. 0.0 34.75215346
135 050412 6.713541667 3.5 0 6.007260513 2.7656
137 050421 1 0 0.0 540.0 0.0 281.6 138 050422 16:45 6 897 0 17 1 281.6
139 050423 1.99 * 140 050431 1 0 612.0 90.0 0.0 129.8 9.3056 5.50848
143     050442     0.8411458333     0.8411458333     0.0.55925     0.843833       144     050443    4005729170     *     *     *     *
145 050451 0 0 2266.84 490.0 -1. 3.276254839 146 050452 0.8411458333 0.8411458333 0.8411458333 0.841833
147 050453 4005729170 * 148 050461 0 0 2278.709 5401. 1. 21307 1979 43.79 0
149 050462 0.06681 0.29167 -15.79 150 050471 0 0 2273.18 535.09 -1c 0.1428
151 050472 0#3386 0.3386 0 0.000004 0.#338616930 152 060011 0.8 3.0 *
153 060021 0.8 1000000.0 155 060031 6 2.00
155 080011 2 1 0 0 597.222 0.480973 0.0 0.6480 0.6480 156 080012 0 5 2 0 0.901 0.0 0 0 1.0 0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$
162 080042 8 74486992 0.997.222222 0.6608871601 0.0 162 080042 8 74486992 0.3131 0.3131 1 5 0 6
164 080051 5 0 0 597.2222222 0.3588196284 0.0
170 080071 1.882983179 0 597.2222222 0.556 1.510110030
175 080083 L-438941017 0.0 = 0.6312 0 5 0 C
176 080091 B 9 0 0 597.222222 T 1.626207149 9.562193363 177 080092 3-105385439 0.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
179 080101 9 10 0 0 597.2222222 1.626207149 9.562193363
180 080102 3.105385439 0.056 0.056 0.56 0 5 0 0 181 080103 1.438941017 0.0 0 3 *
183 080112 2.164041222 0.6312 0.357 2.812193363 0 5 0 0
184 080113 1.438941017 0.0 0 1 * 185 080121 11 12 0 0 597.2222222 0.556 1.510110030
$\begin{array}{cccccccccccccccccccccccccccccccccccc$
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191 080141 13 14 0 0 597.2222222 0.6827037757 -3.829936870
193 080143 0.9323333333 0.0 0 4 1 5 0 0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$

- 176 - 282194 -+	7 10 -4 V	607.2		-2.121043734
199 080163 0.	70833333333	0.0	0.2230	
200 080171 1	5 17 1 0	307.7222222 (	. 3940626203	0.0
202 080173 0.	20833333333	0.1020	0.1656	0 5 0 0
203 080181 1	6 18 2 0	289.5	. 3940626203	0.0
205 080182 1	70833333333	0.21	0.21	0
206 080191 1	1 12 0 0	307.7222222	3940626203	0.0
	2.85037548	0.6613	0.69	1 5 0 0
209 080201 1	8 19 0:0	289.5	. 3940626203	0.0
210 080202 8	• 978633689 70833333333	2.58	1.20	1
1 112080 213	9 20 0 0	597.2222222 (	. 6608871601	0.0
213 080212 1	0.20968122	0.8150	0.8150	1 5 0 0
215 080221 2	0 21 0 0	597 2222222 22	0.6827037757	0.0
2161 080222 3	.947755404	1.895	1.895	1.53.0.047
218 080231 2	1 22 0 0 59	1.2222 3.30496	-2.35166667 0.1	The second s
219 080232 0	.0644 0.0647	0 5 2 0 0.911	45 0.0 0 0	•0 0
221 080242 0	908 0.908 0	5 2 0 1.2889	-13.4032833 0.1 0.0 0 0 1.0	la get
222 080251-2	3 24 0 0 59	7.2222 1.056 -	2.26 0.0	The second s
224 080261 22	4 2 0 0 597	272 0.7854 -2.	0.0 0 0 1.0	0 0.5120
225 080262 0	5 2 0 1.00	0.0 0 0 1.0	0	
227 080272 3	916834321	0.8040	1.3302	0.0
228 080273 0.	9323333333	0.0	0 0 +	and the second of the second
229 080281 2	5 26 0 0 0	h max	0.6827037757	0.0
the sale of the supervised of the factor for the	The second s			
231 080283 0.	9323333333	0.0	0 0 *	a and a set of the set
231 080283 0. 232 080291 2	9323333333	0.0 • 0 754	0.090037	0.0
231 080283 0. 232 080291 2 233 080292 234 080293 0.	9323333333 6 47 0 0 0 11.11 0.260	0.0 •0 0.754	0.090037	0.0
231 080263 0. 232 080291 2 233 080292 234 080292 235 080301 2	9323333333 6 47 0 0 0 11.11 0.260 3386 7 44 0 0 0	0.0 •0 •0.754	0.090037**	0.0 <u>1 5 0 0</u>
231 080263 0. 232 080291 2 233 080292 234 080292 235 080301 2 236 080302 1 237 080303 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.0 0.754 0.29956	0.090037 0.090037 0.25316 0.24629	0.0 1 5 0 0 0.0 1 0 0 0
231 080263 0. 232 080291 2 233 080292 234 080293 0 235 080301 2 236 080302 1 237 080303 0 238 080311 2 230 080311 2 230 080312 2 230 08030 0 230 08030 2 230 08030 0 230 08030 2 230 08030 0 230 0 200 0 230 0 200	9323333333 47 0 0 0 0 1111 0.260 1411 0.260 7 44 0 0 0 56775 0.6 56775 0.6	0.0 0.754 0.29956	0.090037 0.25316 0.24629	$\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
231 080263 0. 232 080291 2 233 080292 234 080293 0 235 080301 2 236 080302 1 237 080303 0 238 080312 2 239 080312 2 240 080313 0	9323333333 47 0 0 0 11.11 0.260 346 7 44 0 0 0 .61377 .56775 0.6 5.25554003 .843833 0.6.1	0.0 0.754 0.29956	0.090037 0.25316 0.24629 1.55925 0.537	$\begin{array}{c} 0.0 \\ 1 & 5 & 0 \\ 0.0 \\ 1 & 0 & 0 \\ 0.0 \\ 1 & 0 & 0 \end{array}$
231 080263 0. 232 080291 2 233 080292 234 080292 235 080301 2 236 080302 1 237 080303 0 238 080312 2 239 080312 2 240 080312 2	9323333333 47 0 0 0 11.11 0.260 7 44 0 0 0 56775 0.6 5.25554003 843639 0.6 1 843639 0.6 1 84363 0.6 1 8436 0.0 0	0.0 0.754 0.29956 1.037 1.037 0	0.090037 0.25316 0.24629 1.55925 0.537 0.6827037757	$\begin{array}{c} 0.0 \\ 1 & 5 & 0 \\ 0.0 \\ 1 & 0 & 0 \\ 0.0 \\ 1 & 0 & 0 \\ 0.0 \end{array}$
231 080263 0. 232 080291 2 233 080292 234 080292 235 080301 2 236 080302 1 237 080303 0 288 08031 2 239 080312 2 240 080313 0 241 080321 2 242 080323 0.	9323333333 47 0 0 0 11.11 0.260 346 7 44 0 0 0 56775 0.6 37 0 10 5.25554003 84383 0.6 18 29 0 0 7 275840 932333333	0.0 0.754 0.29956 1.037 1.037 0 0 0 0 0 0 0 0 0 0 0 0 0	0.090037: 0.25316 0.24629 1.55925 0.537 0.6827037757 0.1005 *	$\begin{array}{c} 0.0 \\ 1 & 5 & 0 \\ 0.0 \\ 1 & 0 & 0 \\ 0.0 \\ 1 & 0 & 0 \\ 0.0 \\ 0.0 \\ 1 & 5 & 0 \\ 0 \end{array}$
231 080263 0. 232 080291 2 233 080292 234 080293 0 235 080301 2 236 080302 1 237 080303 0 288 08031 2 239 080312 2 240 080313 0 241 080321 2 242 080323 0. 243 080323 0.	932 3333333 47 0 0 0 11 11 0.260 346 7 44 0 0 0 56775 0.6 437 0 10 5.25554003 643833 0.6 18 9 32 333333 9 30 0 0 0 0 10 0	0.0 0.754 0.29956 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.090037 0.25316 0.24629 1.55925 0.537 0.6827037757 0.1005 0.090037	$\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
231 080263 0. 232 080291 2 233 080292 234 080293 0 235 080301 2 236 080302 1 237 080302 0 239 080312 2 240 080313 0 241 080321 2 242 08032 2 243 08032 3 0. 244 080323 0.	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.0 0.754 0.29956 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.090037: 0.25316 0.24629 0.55925 0.537 0.6827037757 0.6827037757 0.005 0.090037 0.75363	$\begin{array}{c} 0 \cdot 0 \\ 1 & 5 & 0 & 0 \\ \hline 0 \cdot 0 \\ 1 & 0 & 0 & 0 \\ \hline 0 \cdot 0 \\ 1 & 0 & 0 & 0 \\ \hline 0 \cdot 0 \\ 1 & 5 & 0 & 0 \\ \hline 0 \cdot 0 \\ 1 & 5 & 0 & 0 \end{array}$
231   080263 0.     232   080291 2.     233   080292 2.     234   080293 0.     235   080301 2.     236   080302 0.     237   080303 0.     239   080312 2.     240   080312 2.     240   080312 2.     242   080321 2.     243   080321 2.     243   080322 3.     243   080323 0.     244.   080323 0.     245.   080323 0.     245.   08032 3.     246.   08032 3.     245.   08032 3.     246.   08032 3.     246.   08032 3.     246.   08032 3.	9323333333     6   47   0   0     11.11   0.260     3366   0   0     346   0   0   0     346   0   0   0     346   0   0   0     346   0   0   0     56775   0.6   0   0     5.25554003   0.46   1     6.43833   0.46   1     7   0.64   0   0     9323333333   0   0   0     9323333333   0   0   0     9323333333   0   0   0     0   30   0   0     0   31   0   0	0.0 0.754 0.29956 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.090037: 0.25316 0.24629 0.55925 0.537 0.6827037757 0.005 0.75363 0.75363 0.9003700-01	$\begin{array}{c} 0.0 \\ 1 & 5 & 0 & 0 \\ \hline 0.0 \\ 1 & 0 & 0 & 0 \\ \hline 0.0 \\ 1 & 0 & 0 & 0 \\ \hline 0.0 \\ 1 & 5 & 0 & 0 \\ \hline 0.0 \\ 1 & 5 & 0 & 0 \\ \hline 0.0 \\ 1 & 5 & 0 & 0 \\ \hline 2.270833333 \end{array}$
231   080263 0.     232   080291 7     233   080291 7     234   080291 7     235   080301 2     236   080302 1     237   080303 0     238   080311 2     239   080312 2     240   080313 0     241   080321 2     243   080321 2     243   080321 2     243   080321 2     243   080321 2     245   080321 2     246   080321 2     245   080321 2     246   080321 2     246   080321 2     246   080321 2     246   080321 2     246   080321 2     246   080321 2     246   080321 2	932 33 33 33 47 0 0 0 11 11 0.260 346 7 44 0 0 0 56775 0.6 4 37 0 10 55775 0.6 4 37 0 10 5 25555403 6 43833 0.6 9 2 7 5 86 9 3 2 33 33 33 9 3 0 0 0 9 2 7 5 86 0 3 1 0 0 0 9 3 9 0 0 42 23 3 5 9 4 16 666 7 1 1 1 0 0 0 9 3 9 0 0 42 23 3 5 9 4 16 666 7 1 1 1 0 0 0 9 3 9 0 0 42 23 3 5 9 4 16 666 7 1 1 1 0 0 0 9 3 9 0 0 42 23 3 5 9 4 16 666 7 1 1 1 0 0 0 9 3 9 0 0 42 23 3 5 9 4 16 666 7 1 1 1 0 0 0 9 3 9 0 0 42 23 3 5 9 4 16 666 7 1 1 1 0 0 0 1 1 1 1 0 0 0 1 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 1 0 1 1 1 1 0 1 1 1 1 0 1 1 1 1 0 1 1 1 0 1 1 1 1 1 0 1 1 1 1 1 0 1 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.0 0.754 0.754 0.29956 1.037 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.090037: 0.25316 0.24629 1.55925 0.537 0.6827037757 0.005 0.75363 0.75363 0.9003700370D-01 93596 0.4	$\begin{array}{c} 0.0 \\ 1 & 5 & 0 & 0 \\ \hline 0.0 \\ 1 & 0 & 0 & 0 \\ \hline 0.0 \\ 1 & 0 & 0 & 0 \\ \hline 0.0 \\ 1 & 5 & 0 & 0 \\ \hline 0.0 \\ 1 & 5 & 0 & 0 \\ \hline 0.0 \\ 1 & 5 & 0 & 0 \\ \hline 0.0 \\ 1 & 5 & 0 & 0 \\ \hline 0.0 \\ 2.270833333 \\ 0 & 5 & 0 & 0 \end{array}$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	932333333     47   0   0     1111   0.260     346   0   0     346   0   0     346   0   0     346   0   0     346   0   0     346   0   0     346   0   0     56775   0.6   0     52555403   0   0     643833   0.40   0     9277686   0   0     9277686   0   0     9323333333   0   0   0     9323333333   0   0   0     9323333333   0   0   0     9323333333   0   0   0     9323333333   0   0   0     9323333333   0   0   0     0   0   0   0     0   31   0   0     0   0   0   0     359416667   0   0     0   0   0 </td <td>0.0 0.754 0.754 0.29956 1.037 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</td> <td>0.090037: 0.25316 0.24629 1.55925 0.537 0.6827037757 0.005 0.75363 0.75363 0.9003700370D-01 93596 0.260339789</td> <td><math display="block">\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0</math></td>	0.0 0.754 0.754 0.29956 1.037 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.090037: 0.25316 0.24629 1.55925 0.537 0.6827037757 0.005 0.75363 0.75363 0.9003700370D-01 93596 0.260339789	$\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
231 080263 0. 232 080291 2 233 080292 234 080293 0 235 080301 2 236 080302 1 237 080303 0 238 080312 2 240 080312 2 240 080313 0 241 080321 2 243 080323 0. 244 080331 2 243 080323 0. 244 080331 2 243 080323 0. 244 080331 2 245 080351 2 245 080351 2 245 080351 2 249 080341 3 248 080341 3 248 080341 3 249 080343 0. 250 080352 5 252 080352 0	932 33 33 33 47 0 0 0 11 11 0.260 346 7 44 0 0 0 56775 0.6 4 37 0 10 5.2555403 643833 0.6 16 29 0 0 92 76864 932 333333 9 30 0 0 0 20,32960 0 31 0 0 0 9.90104223 3594166667 1 42 0 0 0 758748039	0.0 0.754 0.754 0.29956 1.037 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.090037: 0.25316 0.24629 1.55925 0.537 0.6827037757 0.005 0.75363 0.90037003700-01 93596 0.2060339789 5.81834 *	$\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	932333333     6   47   0   0   0     3366   -   -   260     3366   -   -   260     3366   -   -   260     3366   -   -   0   0     366   -   -   0   0     366   -   -   0   0     56775   0.6   -   -   0     525555403   -   -   0   0     643833   0.6   1   0   0     9323333333   -   -   0   0     9323333333   -   -   0   0     932333333   -   -   0   0     932333333   -   -   0   0     932333333   -   -   0   0     932333333   -   -   0   0     9323333333   -   -   0   0     930   0   0   0   0     930   0   0	0.0 0.754 0.754 0.29956 1.037 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.39605 0.93596 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.090037: 0.25316 0.24629 1.55925 0.537 0.6827037757 0.005 0.75363 0.9003700370D-01 93596 0.2060339789 5.81834 0.2060339789	$\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
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$\begin{array}{c} 231 & 080263 \\ 232 & 080291 \\ 233 & 080291 \\ 233 & 080292 \\ 234 & 080292 \\ 235 & 080301 \\ 235 & 080301 \\ 235 & 080302 \\ 1237 & 080301 \\ 237 & 080311 \\ 239 & 080311 \\ 239 & 080312 \\ 240 & 080312 \\ 240 & 080312 \\ 244 & 08032 \\ 243 & 08032 \\ 244 & 080332 \\ 244 & 080332 \\ 245 & 080332 \\ 246 & 080332 \\ 246 & 080332 \\ 246 & 080332 \\ 246 & 080332 \\ 246 & 080332 \\ 246 & 080332 \\ 255 & 080352 \\ 525 & 080352 \\ 525 & 080352 \\ 255 & 080363 \\ 080362 \\ 525 & 080363 \\ 080362 \\ 525 & 080363 \\ 080362 \\ 525 & 080363 \\ 080362 \\ 525 & 080363 \\ 08036 $	932 33 33 33 47 0 0 0 11 11 0.260 346 7 44 0 0 0 56775 0.6 4 37 0 10 5.2555403 643833 0.6 16 92 76864 932 333333 9 30 0 0 92 76864 0 31 0 0 0 9.90104223 3594166667 1 32 0 0 0 7.58748039 5276189198 2 33 0 0 0 758748039 5278189198 3 34 0 0 0	0.0 0.754 0.754 0.29956 1.037 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.0 0.39605 0.93596 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.090037: 0.25316 0.24629 1.55925 0.537 0.6827037757 0.005 0.75363 0.9003700370D-01 93596 0.2060339789 5.81834 0.2060339789 5.81834 0.2060339789 5.81834 0.9003700370D-01	$\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
$\begin{array}{c} 231 \\ 232 \\ 233 \\ 080291 \\ 233 \\ 080291 \\ 235 \\ 080301 \\ 235 \\ 080302 \\ 236 \\ 080302 \\ 12 \\ 236 \\ 080302 \\ 12 \\ 237 \\ 080301 \\ 237 \\ 080302 \\ 12 \\ 239 \\ 080312 \\ 239 \\ 080312 \\ 224 \\ 080312 \\ 224 \\ 080312 \\ 224 \\ 080312 \\ 224 \\ 080312 \\ 22 \\ 243 \\ 08032 \\ 244 \\ 08032 \\ 25 \\ 080332 \\ 244 \\ 080342 \\ 13 \\ 248 \\ 080342 \\ 13 \\ 248 \\ 080342 \\ 13 \\ 251 \\ 080352 \\ 5 \\ 252 \\ 080352 \\ 5 \\ 255 \\ 080362 \\ 3 \\ 256 \\ 080371 \\ 3 \\ 256 \\ 080372 \\ 2 \\ 256 \\ 080372 \\ 2 \\ 256 \\ 080372 \\ 2 \\ 2 \\ 080372 \\ 2 \\ 2 \\ 2 \\ 080372 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\$	932333333     6   47   0   0.260     346   0.260   346     7   44   0   0.0     16157   0.6   3     556775   0.6   3     5555403   643833   0.6   1     6   37   0.6   1     7   9.0   0   0     932333333   0.46   1     9323333333   9   0.0   0     9323333333   9   0.0   0     9323333333   9   0.0   0     9323333333   9   0.0   0     9323333333   9   0.0   0     932333333   9   0.0   0     932333333   9   0.0   0     932333333   9   0.0   0     932333333   9   0.0   0     932400   0   0   0     9354166667   1   0.0   0     758748039   2   0.0   0.0     758169198   3.4 <td>0.0 0.754 0.754 0.29956 1.037 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.39605 0.93596 0.0 0.5.81834 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</td> <td>0.090037: 0.25316 0.24629 1.55925 0.537 0.6827037757 0.005 0.75363 0.9003700370D-01 93596 0.2060339789 5.81834 0.2060339789 5.81834 0.2060339789 5.81834 0.9003700370D-01 0.23025</td> <td><math display="block">\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0</math></td>	0.0 0.754 0.754 0.29956 1.037 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.39605 0.93596 0.0 0.5.81834 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.090037: 0.25316 0.24629 1.55925 0.537 0.6827037757 0.005 0.75363 0.9003700370D-01 93596 0.2060339789 5.81834 0.2060339789 5.81834 0.2060339789 5.81834 0.9003700370D-01 0.23025	$\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.0 0.754 0.754 0.29956 1.037 1.037 1.037 0.0 0.0 0.0 0.0 0.0 0.39605 0.93596 0.0 0.5.81834 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.090037: 0.25316 0.24629 1.55925 0.537 0.6827037757 0.005 0.75363 0.90037003700-01 93596 0.2060339789 5.81834 0.2060339789 5.81834 0.90037003700-01 0.23025 0.90037003700-01	$\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
$\begin{array}{c} 231 \\ 232 \\ 233 \\ 233 \\ 080291 \\ 233 \\ 080291 \\ 235 \\ 080301 \\ 235 \\ 080302 \\ 12 \\ 236 \\ 080302 \\ 12 \\ 236 \\ 080302 \\ 12 \\ 237 \\ 080302 \\ 12 \\ 239 \\ 080312 \\ 239 \\ 080312 \\ 22 \\ 240 \\ 080312 \\ 22 \\ 240 \\ 080312 \\ 22 \\ 240 \\ 080312 \\ 22 \\ 244 \\ 08032 \\ 12 \\ 243 \\ 08032 \\ 23 \\ 244 \\ 08032 \\ 12 \\ 244 \\ 08032 \\ 12 \\ 244 \\ 08032 \\ 12 \\ 244 \\ 08033 \\ 25 \\ 08033 \\ 25 \\ 08034 \\ 13 \\ 251 \\ 08035 \\ 13 \\ 251 \\ 08035 \\ 13 \\ 251 \\ 08035 \\ 13 \\ 251 \\ 08035 \\ 13 \\ 251 \\ 08035 \\ 13 \\ 251 \\ 08035 \\ 13 \\ 251 \\ 08035 \\ 13 \\ 251 \\ 08035 \\ 13 \\ 251 \\ 08035 \\ 13 \\ 255 \\ 08036 \\ 3 \\ 255 \\ 08036 \\ 3 \\ 256 \\ 08037 \\ 13 \\ 256 \\ 08037 \\ 13 \\ 256 \\ 08038 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ $	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.0 0.754 0.754 0.29956 1.037 1.037 1.037 0.0 0.0 0.0 0.0 0.39605 0.93596 0.0 0.5.81834 0.0 0.5.81834 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.090037: 0.25316 0.24629 1.55925 0.537 0.6827037757 0.75363 0.9003700370D-01 93596 0.2060339789 5.81834 0.2060339789 5.81834 0.9003700370D-01 0.23025 0.9003700370D-01 0.90037003700370D-01 0.9003700370D-01 0.9003700370D-01 0.9003700370D-01 0.90037003700000000000000000000000000000	$\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
$\begin{array}{c} 231 & 080263 \\ 232 & 080291 \\ 233 & 080291 \\ 233 & 080292 \\ 234 & 080293 \\ 235 & 080301 \\ 235 & 080302 \\ 236 & 080302 \\ 237 & 080312 \\ 239 & 080312 \\ 239 & 080312 \\ 249 & 080312 \\ 244 & 08032 \\ 244 & 08032 \\ 245 & 08032 \\ 245 & 080332 \\ 246 & 080332 \\ 246 & 080332 \\ 246 & 080332 \\ 246 & 080332 \\ 246 & 080332 \\ 246 & 080332 \\ 255 & 080353 \\ 255 & 080353 \\ 255 & 080353 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080363 \\ 255 & 080383 \\ 256 & 080381 \\ 3260 & 080382 \\ 2261 & 080383 \\ 260 & 080383 \\ $	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.0 0.754 0.29956 1.037 1.037 1.037 0.0 0.0 0.0 0.0 0.39605 0.93596 0.0 0.5.81834 0.0 0.5.81834 0.0 0.5.81834 0.0 0.5.81834 0.0 0.5.81834 0.0 0.0 0.23025 0.0 0.0 0.23025 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	$\begin{array}{c} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 25316 & 0 & 24629 \\ 0 & 55925 & 0 & 537 \\ 0 & 55925 & 0 & 0 & 0 \\ 0 & 5925 & 0 & 0 & 0 \\ 0 & 1005 & 0 & 0 & 0 \\ 0 & 1005 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 &$	$\begin{array}{c} 0.0 \\ 1 \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
$\begin{array}{c} 231 & 080263 \\ 232 & 080291 \\ 233 & 080291 \\ 233 & 080292 \\ 235 & 080301 \\ 235 & 080301 \\ 235 & 080302 \\ 236 & 080302 \\ 237 & 080312 \\ 239 & 080312 \\ 239 & 080312 \\ 249 & 080312 \\ 240 & 080312 \\ 244 & 08032 \\ 244 & 08032 \\ 245 & 08032 \\ 244 & 08032 \\ 244 & 08032 \\ 244 & 08032 \\ 244 & 08032 \\ 244 & 08032 \\ 244 & 08032 \\ 244 & 08032 \\ 244 & 08032 \\ 244 & 08032 \\ 251 & 08035 \\ 251 & 08035 \\ 251 & 08035 \\ 251 & 08035 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08036 \\ 255 & 08038 \\ 256 & 08038 \\ 256 & 08038 \\ 256 & 08038 \\ 256 & 08038 \\ 256 & 08038 \\ 256 & 08038 \\ 256 & 08038 \\ 256 & 08038 \\ 256 & 08038 \\ 260 & 0803$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.0 0.754 0.29956 1.037 0.0 0.7005 2.0 0.7005 2.	0.090037 0.25316 0.24629 0.55925 0.537 0.6827037757 0.6827037757 0.6827037757 0.75363 0.9003700370D-01 0.00 0.2060339789 5.81834 0.2060339789 5.81834 0.2060339789 5.81834 0.2060339789 5.81834 0.2060339789 5.81834 0.2060339789 5.81834 0.2060339789 5.81834 0.20603370D-01 0.23025 0.00 0.250 0.00	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

	9
267 080403 0.33858 0.6 11 0 268 080411 45 37 0 1 0.0 0.55925 0.0	
269 080412 25.25554003 1.037 0.537 1 0 0 270 080413 0.843833 0.6 11 0	0
272 080422 0 5 0 3 0.7083 0.0 0 0 272 080422 0 5 0 3 0.7083 0.0 0 0	And the second second
E 274 10 080432 24,22295744 1.247 1.05576	3
276 080441 43 46 0 2 0.0 0.06447 0.0 0.0 29.9 29.9	2.3
278 2 080451 40 4 0 0.0 0.0 0.1555917900D-01 0.4661666666	4. <u>- 11 1</u> .
280 080453 0,1407500000 0,75 0 0 4 281 080461 41 40 0 0 0,0 0,0 0,15559179000-01 4,35	and the second second second second
282 080462 14 88990673 11 34 11 34 11 34 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5	107
286 2080482 15.18 20.415 0.290 1 0 0 287 080483 0.3386 0.6 11 0 *	0
288 080491 0 45 1 0 0.0 0.06447 0.0 0.0 1.0 1.0 289 080492 0 5 2 3 0.2865 0.0 0 0	and the The Section and the
291 080502 0 5 2 3 0.2865 0.0 0 0	and Real and the second second
293 090012 116.86 0 26.88 0. 72.574 * PUMP 1	and a star of the
295 090022 116.86 0 26.88 0. 72.574 * PUMP 2	
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299 * PUMP HEAD AND TORQUE MULTIPLIER CURVES 300 0910017-11 0. 0. 15 .05 .24 .8 .3 .96 .4 .98 .6 .97 .8 .9 .9 .8	.96 .5
299 * PUMP HEAD AND TORQUE MULTIPLIER CURVES 300 091001 -11 0. 0. 15 .05 .24 .8 .3 .96 .4 .98 .6 .97 .8 .9 .9 .8 301 091002 1.0. 302 092001 - 0. 302 092001 - 0.	.96 .5
299     *     PUMP HEAD AND TORQUE MULTIPLIER CURVES       300     0910017-11 0.0.0.15.05.24.8.3.96.4.98.6.97.8.99.97.8       301     091002 1.0.       302     092001 -       303     10101 1 1 6.0.       304     19102 1.8.2       303     10101 1 1 6.0.       304     19102 1.8.2	•96 •5 •5.1•0• •PUMP-HD •PUMP-HD
299   *   PUMP HEAD AND TORQUE MULTIPLIER CURVES     300   091002 1.0.   0.15.05.24.8.3.96.4.98.6.97.8.9.9.8     301   091002 1.0.   0.0.10.15.05.24.56.8.56.96     303   101011 1 1 6 0.   1.4036.19061 1.3636.38963 1.3186     304   101021 F.2.80.   59396 1.2328.7902 1.1336 1.     305   101012   59396 1.2328.7902 1.1336 1.     305   10102.7755   0.225.7556 0.3778	•96 •5 •95.1 • C • • PUMP-HD • PUMP-HD • PUMP-HD • PUMP-HD
299   *   PUMP HEAD AND TORQUE MULTIPLIER CURVES     300   0910017-11 0.0.0.15.05.24.8.3.96.4.98.6.97.8.99.97.8     301   091002 1.0.     302   0920017-11.0.0.0.15.05.24.56.8     303   101011 1 1 6 0.     304   101021 F.2.80.0.     305   101012 F.2.80.0.     305   101012 F.2.80.0.     305   101012 F.2.80.0.     305   101012 F.2.80.0.     306   101022 F.2.80.0.     307   101023 F.2.80.0.     308   101023 F.2.80.0.     308   101033 F.1.37.6-1.     307   101033 F.1.37.6-1.     308   101033 F.1.37.6-1.	•96 •5 •90 •5 •90 • +0 • • • • • • • • • • • • • • • • • • •
299   *   PUMP HEAD AND TORQUE MULTIPLIER CURVES     300   09100111100000000000000000000000000000	•96 •5 •95.1 • C • • PUMP-HD • PUMP-HD • PUMP-HD • PUMP-HD • PUMP-HD • PUMP-HD • PUMP-HD • PUMP-HD • PUMP-HD
299   *   PUMP HEAD AND TORQUE MULTIPLIER CURVES     300   091001-11 0.00.00.00.000.00000000000000000	•96 •5 •90 •5 •90 •••• •90 •••• •90 ••• •90 ••• ••• ••• ••• ••• ••• ••• •••
299   *   PUMP HEAD AND TORQUE MULTIPLIER CURVES     300   09100111100000000000000000000000000000	•965 •95.1.0. • PUMP-HD • PUMP-HD
299   *   PUMP HEAD AND TORQUE MULTIPLIER CURVES     300   091001-11 0.000 0.1000 0.0000 0.0000000000	•96 •5 •95.1•0• • PUMP-HD • PUMP-HD
299   *   PUMP HEAD AND TORQUE MULTIPLIER CURVES     300   0910021.10.0.0.0.0.05.24.8.3.96.4.98.6.97.8.9.97.8.9.97.8     301   0910021.0.0.0.0.0.0.0.0.0.0.0.00.00.00.00.00.0	•96 •5 •95.1 • C • • PUMP-HD • PUMP-HD
299   *   PUMP HEAD AND TORQUE MULTIPLIER CURVES     300   0910021110.0.0.0.0.0.0000000000000000000	•965 •95.1.0. •90MP-HD PUMP-HD
299   *   PUMP HEAD AND TORQUE MULTIPLIER CURVES     300   091001 -11 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0	•965 •95.1.0. •9UMP-HD •PUMP-HD
299   *   PUMP HEAD AND TORQUE MULTIPLIER CURVES     300   091001   110   10	•965 •97.1.0. •90MP-HD •PUMP-HD
299   *   PUMP HEAD AND TOROUE HULTIPLIER CURVES     300   091001 +100 - 0.   0.5 . 24 . 8 . 3 . 96 . 4 . 98 . 6 . 97 . 8 . 9 . 9 . 8     301   091002 1 . 0.   0.5 . 05 . 24 . 8 . 3 . 96 . 4 . 98 . 6 . 97 . 8 . 9 . 9 . 8     302   092001 - 1 . 0.   0.6 . 0 10 15 . 05 . 24 . 56 . 8 . 56 . 96     303   101011 1 6 0	•965 •97.1.0. •90MP-HD •PUMP-HD
299   *   PUMP HEAD AND TOROUE HULTIPLIER CURVES     300   09100111000000000000000000000000000000	•965 •97.1.0. •90MP-HD •PUMP-HD

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			· · · ·	1.23301	E.5	0	
335 10113 336 10114	2 6 10 0	• • • 3569 • 1 • 2336	.090643	1.1965	.188569	1,1096	* PUMP-TQ * PUMP-TQ
		73816 6134	76852	5849	.870057	.4877	* PUMP-TQ
340 10115 341 10115	2 7 . 4 -	11.	Lester 3 AL		-1	5	* PUMP-TQ .
343 10116 343 10116	2 8 4 0	67			08	8	* PUMP-TO
344 10401 345 10402	1 1 7 0. 0 1 1 2 8 0. 0		09 .5 1.02	.71.01	9 .94 1.		and the second
347 10403	24 -2.67	25 -1.69	15 0. 0.	7 - 21 - 20	30 6 -2.	5 - 09 -2	.91
349 10404 350 10405	2.0	5 - 1 .08 0.	11	.8 -1.19	11.47	7	42.0.
351 10406 352 10406	1 1 6 10 -0.	.11 .1 .13 .25	.15 .4 .13	-5 .07 .	504 .7	23 .8 -	.51
353 10407		0.0.0	incie				
356 10409		59552 8331	79782	9229	19 19	9672	* PUMP-TO
359 10410	an invitation in a	737255 52658	6 768049	606594		74366	* PUMP-TO
360 10411 361 10411	2 3 6	1.9843	19928	1.394	60638 0.	1.0975	* PUMP-TO
363 10412	2 8 8	1. 1.9843 .45853 1.557	82234	1.8308	63371 176107	1.6824	* PUMP-TO
365 10413	2 5 4	0 45		25	.5	0.	* PUMP-TQ
367 10414 368 10414	2 6 10 0	27347 1.0416	1 .090643	1.1965	.188569	1.1096	* PUMP-TO
369 10414 370 10915	1	73816 .6134	.76852	.5849	.870057	.4877	* PUMP-TO
372 10415	2 4 0		3	9	1	5	* PUMP-TQ * PUMP-TQ
375 11001			BLOWDOWN 9		08		* PUMP-TO
- 376 11002 377 12010	25 0 0	43.0 0.0 0.	0 0.0 * A 0 0.020 0	CCUMULATON 8168 0.0	0.850	0.022	0.8743
378 12010 379 12010	0.023 0.	8922 0.024 0 9425 0.028 50	.9102 0.02 .9497 0.02	5 0.9222 9 0.9581	0.026 0	0.9341 0.9701 0.	033 0.9808
381 130100		4 GAL/MIN		1010 00	200.0 1.0	)	
383 13010 384 13010	126.9 15	51.11 161.0	1240.88 18	9.0 930.0	56 209.0	620.44	
385 130200 386 713020	9.1 266.	4 'GAL/MIN' 79 3000.0 26	12.0 80.0 6.79 * H	PISEILL		• ····· ··	
387 15001	1 23 0 1	0 0 0 0 70.0	0.0 2.72	8 1.744	0.0		
5002	0.0 0.0	0.0 4.103 0	.0 0.0 0.	0.4467 1	214 0 0		19.200 - 10.4 19.200 - 10.4
392 15003 393 15004	2 0.0 0.0	1.865 0.0 0	0.0 0.0	5.236 2	313 0.0		
395 15004 395 15005	<b>0.0</b> 0.0 36 0 11	9.422 0.0 0	2 0.0 0.2	533 0.33	36 0.0		
396 15005 397 15006	0.3386 0 35 0 8	0 0 0 0 7.33	0.0 0.0	74 0.932	0.0		
399 15007 500 15007	0 21 4	0 0 0 0 0 0	.0 29.6759	3.5409	0.0 0.58	333	

101 120001 CL U 2 U U U 32.410 U.U 33.024 U.2015 U.U	
	ik
404 150092 0.0 0.0 0.0 11.611 0.0 0.0	
	51
407 150111 34 0 11 0 0 0 0 9.19 0.0 0.6807 0.3386 0.0	See.
408 150112 0.3386 0.0 8.643 0.0 0.0 0.0	
10 150122 1.203 0.0 4.319 B.0 0.0 0.0 0.0 0.0 0.0	55
411 150131 32 0 13 0 0 0 32.67 0.0 5.447 1.203 0.0	Ruce
412 120132 1.203 0.0 8.643 0.0 0.0 0.0 0.0 1.203 0.0	-
412 120121 30 0 11 0 0 0 0 6.83 0.0 0.5061 0.3386 0.0	
417 150161 23 0 5 0 0 0 43.414 0.0 39.887 2.892 0.0	
	T.
420 150172 0.0335 4.667 5.79 5.79 0.0 00	94.7
<u>421 150181 9 42 6 0 0 0 649.38 807.68 2.975 0.0335 4.667</u>	inter a
	1.12
424 150192 0.0335 4.667 5.79 5.79 0.0 0.0	1
	-
427 150211 45 0. 7 0 0 0 0 13.063 0.0 1.391 0.932 0.0	·····
428 150212 0.932 0.0 5.895 0.0 0.0 0.0 0.0	
430 150222 0.932 0.0 5.228 0.0 0.0 0.0 0.0	
431 150231 26 0 8 0 0 0 9.88 0.0 1.304 0.932 0.0	
433 150241 3 0 8 0 0 0 15.45 0.0 2.038 0.932 0.0	
434 150242 0.932 0.0 5.275 0.0 0.0 0.0	1
436 150252 0.932 0.0 6.665 0.0 0.0 0.0	
437 150261 5 0 8 0 0 0 13.68 0 0 1.805 0.932 0.0	
<b>430</b> 150271 6 0 9 0 0 0 0 10.78 0.0 1.6092 1.0678 0.0	
440 150272 1.0678 0.0 3.213 0.0 0.0 0.0	
	2.35
443 150291 11 0 10 0 0 0 15.9 0.0 5.267 1.4615 0.0	2000
444 150292 1.4615 0.0 2.500 0.0 0.0 0.0 0.0 445 150301 12 0 0 0 0 7.70 0.0 1.1502 1.0678 0.0	
446 150302 1.0673 0.0 2.297 0.0 0.0 0.0 0.0	
447 150311 13 0 8 0 0 0 0 19.04 0.0 2.511 0.932 0.0	
449 150321 14 0 8 0 0 0 19.27 0.0 2.543 0.932 0.0	
450 150322 0.932 0.0 6.581 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	2. 2
452 150332 0.932 0.0 9.211 0.0 0.0 0.0	
<u>453</u> <u>150341</u> <u>20</u> <u>0</u> <u>8</u> <u>0</u> <u>0</u> <u>0</u> <u>13</u> <u>85</u> <u>0</u> <u>0</u> <u>1</u> <u>8</u> <u>28</u> <u>0</u> <u>9</u> <u>32</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>1</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>1</u> <u>0</u>	
455 150351 28 0 8 0 0 0 13,72 0 0 1,811 0,932 0.0	
456 150352 0.932 0.0 4.686 0.0 0.0 0.0	
427 120301 29 32 0.0 3 375 0.0 0.0 0.0 0.0	
459 150371 27 0 12 0 0 0 0 5.75 0.0 .0.4927 0.5678 0.0	
<b>61</b> 150381 46 0 14 0 0 0 16 4 47 54 8 69 0 83333 0 0 0 0 8 18 16	
462 150382 18.16 0.0 0.0	
<b>463</b> 170101 1 2 1 4 0.0 0.01299 0.0	
465 170201 2 2 1 4 0.894 0.0208 0.0	
67 170301 2 2 1 4 1.019 0.0417 0.0	

TINANT C C T 4 TOCA NOTOCA AND
<u>670 170602 0 1 4 0.0625 0.0</u>
471 170501 2 2 1 4 1.667 0.25 0.0
472 170502 0 1 4 0.5 0:0
473 170601 2 2 1 4 0.01675 0.00204 0.0
474 170602 0 1 4 0.00204 0.0
475 170701 2 2 1 4 0.354 0.031 0.0
476. 170702 0 1 4 0.063 0.0
477 170801 2 2 1 4 0.466 0.039 0.0
<b>578 170802 0 1 5 0.078 0.0</b>
479 170901 2 2 1 4 0.5339 0.0443 0.0
480 170902 0 1 4 0.0885 0.0
481 171001 2 2 1 4 2.25 0.0208 0.0
482 171002 0 1 4 0.2709 0.0
483 171101 2 2 1 4 0.1693 0.0208 0.0
484 171102 0 1 4 0.0417 0.0
485 171201 2 2 1 4 0.2839 0.0252 0.0
486 171202 D 1 4 0.0503 0.0
487 171301 2 2 1 4 0.6016 0.0495 0.0
488 171302 0 1 4 0.0989 0.0
489 171401 2 3 1 8 0.14583 0.08333.0.0
490 171402 0 1 2 0.08333 0.0
491 171403 0 1 3 0.10417 0.0
* \$\$304 THERMAL CONDUCTIVITY
493 180102 212. 9.574 2372. 19.294
494 190401 HIS SS304 HEAT CAPACITY
495 190102 170. 44.46081 250. 44.32964 400. 44.48722
496 190103 600. 45.39201 800. 46.90938 1000. 48.84151
497 190104 1200. 50.99056 1400. 53.15869 1600. 55.14808
190105 1800. 56.76090 2000. 57.79932 2200. 58.06550
499 190106 2400. 57.36151
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MISCELLANEQUS PROBLEM CONTROL DATA.
THE WIN WIN AND AND WIN
OFNO VAR SETS SGNL SETS VOL SETS VALV CURV CURV SLAB GEOM MAT SECT EXCH FLAG
-2 9 7 6 47 3 0 50 z 2 1 2 38 14 1 0 0 0
RELAP4 THERMAL HYDRAULIC CODE CONFIGURATION CONTROL:YES
INITIAL IMPLICIT- LOW HIGH POWER EXPLICIT PRESSURE PRESSURE TEMPERATURE TEMPERATURE (MEGAWATTS) FACTOR LIMIT (PSI, WEMLT (PSI) LIMIT (F) LIMIT (F)
0. 1.0C0000E+00 8.860000E-02 3.626000E+03 3.210000E+01 8.540312E+03
EDIT IDENTIFICATION NUMBERS
AP 41 AP 40 AP 4 JW 45 JW 46 MI 41 AR 25 AR 28
DATA FOR 7 TIME STEP SETS.
NUN PER PER PER LNT STEP
DRF ERG RST LFT SIZE SILE INTERVAL
1 30 2 2 0 •20000E=03 ·ICC000E=04 •100000E+00
2 20 10 1 0 .500000E-03 .5C0000E-04 .800000E+00
<u>3 10 20 1 0 .100000E-02 .1C0000E-03 .200000E+01</u>
4 5 10 4 0 .100000E-01 .5C0000E-03 .700000E+01
<u>5 5 20 4 0 .100000E-01 .5C0000E-03 .200000E+02</u>
6 5 40 4 0 -100000E-01 -5C0000E-0+ .320000E+02
7 5 80 2 0 .100000E-01 .5CC000E-03 .560000E+02

GENERALIZED TRIP PARAMETERS FOR 6 SIGNALS.	me . Me while Britisham and and
TRIP TRIP SIG INDX INDX ACTION TRIP SIGNAL SET PO	INT DELAY TIME
1 I 17 0 O END _ ELAPSED TIME .150	000E+02 0.
2 _2 _1 _0GEN TRIP_ELAPSED TIME .240	000E-01 0
3 3 1 0 GEN TRIP ELAPSED TIME .500	000E+00 0.
4	1000E+02 0.
5 15 5 163	1000E-01 04 10-3000
6	000E+020.

INPUT DATA FOR 47 V	OLUMES.	the second of the second second		an an , in an an an a		
VOL BUBL TIME NUM INDX DEP	PRESSURE IPSIA)	TEMPERATURE	HUMIDITY (DR QUALITY)	VOLUME (FT##3)	HEIGHT	MIXTURE LEVEL (FT)
VOL 2-PH NUM FRIC	FLOW AREA (FT**2)	EQUIVALENT DIAMETER (FT)	ELEVATION	/OL. BELOW		
	•226731E+04 •251200E+01	.540000E+03 .178800E+01	100000E+00 973000E+00	.162817E+02	•750000E+01	•750000E+01
3 0 0	226466E+04	131400E+01		.795126E+01	• 186500E+01	•932333E+00
	.226394E+04	932333F+00	100000E+0	.455041E+01	.932333E+0(	•932333E+00
<u>5</u> .0.1.		-932333E+00	466167E+00	.318980E+01	• 932333E+00	•932333E+00
· j · j · · ·	.895564E+00 .225828E+04	.106783E+01 .540000E+03	533917E+00	.111824E+02	.250000E+01	.250000E+01
8 0 x 0 x x 0	.225589E+04 .162621E+01	•540000E+33 •335000E-01	-1100000E+01 -281219E+01	.109769E+02	-675000E+01	.675000E+01
	.162621E+01 .225467E+04 .162621E+01	.335000E-01 .540000E+03 .335000E-01	.956219E+0 100000E+0	.109769E+02	.675000E+01	.675000E+01
11 0 0	.225563E+04	.540000E+03	100000E+01	-111824E+02	.250000E+0	
	225027E+04 895564E+00 225012E+04 225012E+04	.540000E+03 .106783E+D1 .540000E+03	100000E+01 487437E+00 100000E+01	.205729E+01	•237508E+01	•237508E+01
	.224342E+00 .224342E+04 .682704E+00	932333E+00 540000E+03 932333E+00	429610E+01 100000E+01 429610E+01	.449346E+01	•217450E+01	•217450E+01
	.226398E+04	.540000E+03	100000E+01	•378561E+01	•247577E+01	•247577E+01
	226533E+04 394063E+00 227848E+04	.540000E+03 .394060E+00 .540000E+03	212160E+01 212160E+01 100000E+01	.378561E+01 0 .189580E+01	.247577E+01	•247577E+01
17 0 18 10 0 18 0	.394063E+00 .228092E+04 .394063E+00	• 708333E+00 • 540000E+03 • 708333E+00	354167E+00 100000E+01 354167E+00	.693352E+00	.708333E+00	• 708333E+00
	<pre>#227583E+04 •682704E+00 #227421E+04</pre>	.540000E+03 .932333E+00 .540000E+03	100000E+01 466167E+00 100000F+01	.628853E+01	.932333E+00	.932333E+00
20 0	•682704E+00	•932333E+00	466167E+00	0 TOLLOOLLIOI		A TOLOGOLA

NOL	BUBL TIME INDX DEP	PRESSURE	TEMPERATURE (DEG F)	HUMIDITY LOR QUALILY	VOLUME (FT**3)	HEIGHT	MIXTURE LEVEL (FT)
NUM	2-PH FRIC	FLOW AREA (FT**2)	EQUIVALENT CIAMETER (FT)	ELEVATION N	OL. BELOW		
21	000	.227261E+04 196122E+01	.540000E+03 .583333E+00	100000E+01 235167E+01	.744960E+0	.343500E+01	.343500E+01
223		152716E+01 227673E+04	.333330E+00 .540000E+03	139636E+02 100000E+00	.231420E+0	•415000E+01	.415000E+01
24	0	227372E+04	2540000E 403	100000E+00	.302490E+0	942200E+01	•942200E+01
25	0	.682704E+00	-932333E+00	466167E+00		• 4323331+00	• 932333E+00
26	9.	.682704E+00 .227318E+04	•932333E+00 •530000E+03	466167E+00	.817513E+00	.567750E+00	.567750E+00
28	0 0 0 0	-226666E+04 -682704E+00	.540000E+03 .932333E+00		.754979E+0	.932333E+00	.932333E+00 .
29	0.0	.682704E+00 .226651E+04	.932333E+00 .536000E+03	466167E+00	.289649E+0		.244013E+01
31	8 0	-226535E+04	•534000E+03	100000E+01	.458256E+01	.458250E+01	.458250E+01
32	8	·226394E+04	.532000E+03 .121583E+01 .530000E+03	100000E+01 .685333E+01 100000E+01	.100357E+02	.404708E+01	.404708E+01
344	00	·106080E+01 •226685E+04	.121583E+01 .528000E+03	•227083E+01 -•100000E+01	.408918E+00	.454167E+01	.454167E+01
35	0 0	•226795E+04 •682704E+00	.527000E+03	100000E+01	•170960E+01	•217450E+01	.217450E+01
36	8 0=	+226750E+04 +900370E-01	338580E+03		.578667E+0	•431775E+01	.431775E+01
37		•962113E+01 •227039E+04 •417584F+00	• 350000E+01 • 536000E+03 • 125000E+01	135104E+02 100000E+01	.817046E+01	.206508E+01	.206508E+01
39		•226631E+04 •17584E+00	.125000E+03 .125000E+01	100000E+01 364583E+00	.587547E+0	.289583E+01	.289583E+01
40	ð	155592E-01	.140750E+00	.466167E+00	0		. 4033002401

VOL BUBL TIME PR	ESSURE TEMPERATURE	HUMIDITY VI	DLUME HE FT#*3) IF	IGHT	IXTURE
VOL 2-PH NUM FRIC	DIAREA EQUIVALENT T**2). DIAMETER (F1	ELEVATION VOL.	. BELOW		
41 <u>3</u> 0 41 0	-226200E+04100000E+0 -600726E+01 .276560E+0	1 0:402000E+01	• 347522E+02	.671354E+01	.350000E+01
	171000E+02 467000E+0 612000E+03 900000E+0	1 .199000E+01	.129800E+03	•104000E+02 •930540E+01	.650948E+01
22 8 0	.116610E+02 .385320E+0 ,227317E+04 .490000E+0 .559250E+00 .843833E+0	- 100000E+01	.327625E+01	.841146E+00	.841146E+00
45 0 0 45 0	•226684E+04 •490000E+0 •559250E+00 •843833E+0	03100000E+01 400573E+00	•327625E+01	-841146E+00	.841146E+00
46 0 0 8	.227871E+04	03100000E+01 00157900E+02	.121305E+01	-157900E+02	.157900E+02
47 0	.900400E-01 .338600E+0	169300E+00	0	• 3300 UVE 709.	•3300UVE+00

VOLUME DATA ACTUALLY	BEING USED.		enne carde a máis de	a the contraction	an an ann an stài	FLAN DEL 1988
VOL BUBL TIME	PRESSURE (PSIA)	ENTHALPY	YOLUME (ET**3)	HEIGHT	MIXTURE LEVEL (FT)	ELEVATION (FT)
	220731E+04 2227113E+04 226466E+04 226394E+04 226328E+04	•534893E+03 •534889E+03 •534897E+03 •534898E+03 •534898E+03	•162817E+02 •419600E+01 •795126E+01 •455041E+01 •318986E+01	.750000E+01 .186500E+01 .932333E+00 .932333E+00 .932333E+00 .932333E+00	.750000E+01 .186500E+01 .932333E+00 .932333E+00 .932333E+00 .932333E+00	973000E+00 283800E+01 466167E+00 466167E+00 466167E+00
	226283E+04 225828E+04 225589E+0 225589E+0 225374E+04 225374E+04 2255497E+04	•534899E+03 •534905E+03 •534908E+03 •534910E+03 •534910E+03	287822E+01 .111824E+02 .109769E+02 .544779E+01 .109769E+02	.242156E+01 .250000E+01 .675000E+01 .200521E+01 .675000E+01		533917E+00 .312193E+00 .2812193E+01 .956219E+01 .281219E+01
	225563E+04 225027E+04 225012E+04 224642E+04 224642E+04 226398E+04	*534908E+03 *534915E+03 *534915E+03 *534915E+03 *534917E+03 *534897E+03	•111824E+02 •205729E+01 •443798E+01 •449346E+01 •378561E+01	.250000E+01 .237508E+01 .380867E+01 .217450E+01 .247577E+01	250000E+01 237508E+01 380867E+01 217450E+01 247577E+01	
17 0 0 13 0 0 13 0 0 20 0 0	226533E*04 227848E*04 228092E*04 227583E*04 227583E*04	534896E+03 •534880E+03 •534877E+03 •534883E+03 •534885E+03	.378561E+01 .189580E+01 .693352E+00 .628853E+01 .322862E+01	247577E+01 •708333E+00 •708333E+00 •932333E+00 •932333E+00	.247577E+01 .708333E+00 .708333E+00 .932333E+00 .932333E+00	212160E+01 354167E+00 354167E+00 466167E+00 466167E+00
21 23 23 25 0 0 0	227261E+04 .227486E+04 .227673E+04 .227372E+04 .227318E+04	.534887E+03 .534884E+03 .534884E+03 .534882E+03 .534885E+03 .534886E+03	.744960E+01 .170666E+02 .231420E+02 .302490E+02 .356959E+01	.343500E+01 .116119E+02 .415000E+01 .942200E+01 .932333E+00	.343500E+01 .116119E+02 .415000E+01 .942200E+01 .932333E+00	235167E+01 139636E+02 164000E+02 122600E+02 122600E+02
25 +** 0 # 0 27 0 23 0 * 0 30 * 0	227318E+04 .227318E+04 .22666E+04 .226685E+04 .226651E#04	•528797E+03 •522722E+03 •534894E+03 •532457E+03 •532457E+03	.216185E+01 .817513E+00 .754979E+01 .230445E+01 .289649E+00	•932333E+00 •567750E+00 •932333E+00 •932333E+00 •932333E+00 •244013E+01	•932333E+00 •567750E+00 •932333E+00 •932333E+00 •932333E+00 •244013E+01	466167E+00 283875E+00 466167E+00 466167E+00 169292E+00
31 <b>TO</b> 32 O O O 33 O O O 35 O O O	22653555004 2263945404 2265355404 2265355404 2266855404 2266855404 22667955404	•527588E+03 •525154E+03 •522729E+03 •520358E+03 •519172E+03	.458256E+01 .100357E+02 .458256E+01 .408918E+00 .170960E+01	•458250E+01 •404708E+01 •458250E+01 •454167E+01 •217450E+01	•458250E+01 •404708E+01 •458250E+01 •454167E+01 •217450E+01	.227083E+01 .685333E+01 .227083E+01 227083E+01 444533E+01
36 0 0 37 1 0 38 0 0 40 0 0	.226750E+04 .430000E+02 .227039E+04 .226631E+04 .226317E+04	.517988E+03 .241773E+03 .530018E+03 .534895E+03 .562288E+03	•578667E+00 •369345E+04 •817046E+01 •587547E+01 •362366E+00	•431775E+01 •160937E+02 •206508E+01 •289583E+01 •403500E+01	.431775E+01 .942000E+01 .206508E+01 .289583E+01 .403500E+01	414846E+01 135104E+02 .466167E+00 364583E+00 .466167E+00

VOLUME	DATA ACTUALL	Y BEING USED.	and the second s				
VOL BU	JBL TIME	PRESSURE	ENTHALPY	VOLUME (FT**3)	HEIGHT	MIXTURE LEVEL (FT)	ELEVATION
41 42 43 45		•226200E+0 •962790E+0 •61200CE+0 •227317E+0 •226684E+0	759739E+03 576346E+03 595375E+02 476087E+03 4760E6E+03	• 347522E+02 • 281600E+03 • 129800E+03 • 327625E+01 • 327625E+01	.671354E+01 .164600E+02 .930540E+01 .841146E+00 .841146E+00	• 350000E+01 • 589700E+01 • 550948E+01 • 341146E+00 • 341146E+00	402000E+01 199000E+01 0. 400573E+00 400573E+00
46	8 8	227871E+04 227318E+04	534879E+D3	121305E+01 142600E+00		.157900E+02 .338600E+00	+.157900E+02 169300E+00

VOLUME DATA ACTUALLY B	EING USED.					STAR FILL DE MELLER
YOL 2-PH FLDW AREA	EQUIVALENT L DIAMETER (FT)	ENGTH	(2A T++-1)	HORIZ. AREA	TEMPERATURE	ATURATION _ VOL. BELD
1 0 2512C0E+ 2 0 2491C0E+ 3 0 682704E+ 4 0 682704E+ 5 0 682704E+	01 +178800E+01 01 +131400E+01 00 +932333E+00 00 +932333E+00 00 +932333E+00	.648158E+01 .168446E+01 .116467E+02 .666528E+01 .467240E+01	.129012E+01 .338110E+00 .852985E+01 .488153E+01 .342198E+01	.217090E+01 .224987E+01 .852834E+01 .488067E+01 .342138E+01	•540000E+03 •540000E+03 •540000E+03 •540000E+03 •540000E+03	•653813E+03 0 •654058E+03 0 •653643E+03 0 •653597E+03 0 •653555E+03 0
6 0 .95564E+ 7 0 .794125E+ 8 0 .162621E+ 9 0 .162621E+ 10 0 .162621E+	00. +106783E+01 01 +146150E+01 01 *335000E-01 = 01 +335000E-01 = 01 +335000E-01 =	-321386E+01 -140814E+01 -675000E+01 -335000E+01 -675000E+01	•179532E+01 •886599E-01 •207538E+01 •103000E+01 •207538E+01	.118858E+01 .447296E+01 .162621E+01 .271682E+01 .162621E+01	•540000E+03 •540000E+03 •540000E+03 •540000E+03 •540000E+03	•653526E+03 0 •653234E+03 0 •653079E+03 0 •65294EE+03 0 •652988E+03 0
11 0 .794125E 12 0 .895564E 13 0 .682704E 14 0 .682704E 15 0 .395063E	01	•140814E+01 229720E+01 •650060E+01 •658186E+01 •960662E+01	•886599E-01 128254E+01 •476092E+01 •482043E+01 •121892E+02	.447296E+01 .866196E+00 .116523E+01 .206643E+01 .152906E+01	.540000E±03 .540000E±03 .540000E±03 .540000E±03 .540000E±03 .540000E±03	653063E+03 652718E+03 652708E+03 652599E+03 0 652599E+03 0
16 0 394063E4 17 0 394063E4 18 0 394063E4 19 0 682704E4 20 0 682704E4	00     .394060F + 00       00     .708333E + 00       00     .708333E + 00       00     .932333E + 00       00     .932333E + 00	•960662E+01 •481091E+01 •175950E+01 •921121E+01 •472917E+01	•121892E+02 •610425E+01 •223251E+01 •674612E+01 •346356E+01	• 152906E+01 • 267643E+01 • 978850E+00 • 674493E+01 • 346295E+01		•65368665+03 0 •6545275+03 0 •6546835+03 0 •6543585+03 0 •6543585+03 0
21 0 1961226* 22 0 1527166* 23 0 5580000* 24 0 3265000* 25 5 0 0 6827046*	01 • 583333E+00 01 • 333330E+00 01 • 151800E+01 01 • 231300E+01 00 • 932333E+00	.379845E+01 .111754E+02 .414731E+01 .926462E+01 .522861E+01	•968391E+00 •365886E+01 •371623E+00 •141878E+01 •382934E+01	•216873E+01 •146975E+01 •557639E+01 •321046E+01 •382867E+01	•540000E+03 •540000E+03 •540000E+03 •540000E+03 •540000E+03	•654152E+03 0 •654296E+03 0 •654415E+03 0 •654223E+03 0 •65428E+03 0
26     0     .082704E+       27     0     .253165E+       28     0     .682704E+       29     0     .682704E+       30     0     .900170E-	00	•316660E*01 •322917E+01 •110587E+02 •337548E+01 •321200E+01	#231916E+01 .637759E+01 .809917E+01 .247214E+01 .178649E+02	.231875E+01 .143992E+01 .809774E+01 .247171E+01 .118702E+00	•535000E+03 •530000E+03 •54000E+03 •538000E+03 •538000E+03	.654189E+03 0 .654189E+03 0 .653771E+03 0 .653783E+03 0 .653762E+03 0
31. 0. 1100000E+ 32 0.116102E+ 33 0.106080E+ 34 0.900370E- 35 1.682704E+	01 .121583E+01 01 .121583E+01 01 .121583E+01 01 .121583E+01 01 .338580E+00 00 .932333E+00	•43EX93E+01 •864393E+01 •431993E+01 •454167E+01 •250417E+01	•203617E+01 •372257E+01 •203617E+01 •252211E+02 •183401E+01	•100001E+01 •247975E+01 •100001E+01 •900370E-01 •786206E+00	•534000E+03 •532000E+03 •53000E+03 •528000E+03 •527000E+03	•653687E+03 0 •653597E+03 0 •653687E+03 0 •653783E+03 0 •653854E+03 0
26     0     900170E=       37     0     962113E+       38     0     417584E+       39     0     417584E+       39     0     41758592E-	01 338580F+00 01 350000E+01 00 125000E+01 00 125000E+01 01 125000E+01 01 125000E+01	•642700E+01 •383890E+03 •195660E+02 •140702E+02 •232895E+02	•356909E+02 •199504E+02 •234277E+02 •168471E+02 •768618E+03	•134021E+00 •229496E+03 •395648E+01 •202894E+01 •898057E=01	•526000E+03 •271634E+03 •536000E+03 •540000E+03	*653825E*03 0 •271634E*03 0 •654010E*03 0 •653749E*03 0

VOLUME DATA ACTUALLY BEI	NG USED.	lan dharaan dharaada ar an ar ar dharaan ah an ar		al a caracter of a starting of	anda atana ang ang ang ang ang ang ang ang ang	and and the second second and the second	dial in all and a
VOL 2-PH FLOW AREA	EQUIVALENT L DIAMETER (ET)	ENGTH L	<b>{</b> <sup>2</sup> } <b>4∌−11</b>	HORIZ, AREA	TEMPERATURE	SATURATION VOL.	BELOW
41 0	276560E#01 .+67000E+01 .385320E+01 .843833E+00 .843833E+00	•578503E+01 164678E+02 •111311E+02 •585830E+01 •585830E+01	+481503E+00. +481516E+00 +477280E+00 +523764E+01 +523764E+01	.517643E+01 .171081E+02 .139489E+02 .389499E+01 .389499E+01	.653472E+03 .540000E+03 .900000E+02 .490000E+03 .490000E+03	.653472E+03 .540000E+03 .900000E+02 .654188E+03 .653783E+03	0. 0. 0. 0. 0.
47 0	.291670E+00 .338600E400	.181567E+C2 .156374E+C1	.135883E+03" .879465E+01	.768239E-01 .421146E+00	\$40000E+03 \$35000E+03	.654542E+03 .654189E+03	0
CONTRACTOR AND A CONTRACTOR	AND THE PROPERTY OF A DESCRIPTION OF A D	and a second	12 17 Mar 194 9	STATE AND STATES			347333
INPUT FOR 3 SETS OF BUBBLE CONSTANTS							
--------------------------------------							
SET SLOPE BUBBLE							
0 (BUILT-IN DATA)							
1 .800000E+00300000E+01							
2 \$800000E+00 \$100000E+07							
3 *B00000E400 , 200000E401 }							

DESCRIPTIONS OF 50 JUN	CTIONS.	and a second second second	de la serie da cara da	and a second	allanderstand a lande and a state of a	and the manual data and and
JUN FROM TO PUMP CH NUM VOL. VOL LEAK VA FILL	KN INITIAL	JUNCTION FLOW AREA (FT**2)	JUNCIION ELEVATION (FT)	JUNCTION INERIIA (FT*-1)	ENERGY LOSS COEF. (FORWARD)	SP. ENERGY LOSS CDEF. (REVERSE)
VERT CHOK IC M JUN -ING CALC E INDX INDX INDX IN	DIAMETER IS	CONTRACTION	SUBCOOL CHOKE	ENTHALPY INDEX	COSINE IA	DJUN
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	D .597222E+03 D .901000E+00 0 .597222E+03 D	.480000E+00 .682700E+00	973000E+00	0. .517300E+01	.648000E+00 .100000E+ .107400E+01	01 .648000E+00 .107400E+01
	0 .932 300E+00 0 .597222E+03 0 .932 333E+00 0 .591222E+03	.682700E+00 .660387E+00 0. .358820E+00	0. 0. 0.	.830351E+01	• 309500E+00 • 313100E+00 • 912000E-01	.473200E+00 .313100E+00 .912000E-01
	0 .997222E+03 0 .932333E+00 0 .597222E+03	.682704E+00	0. .151011E+0	.5Z1630E+01	•522000E+00	.522000E+00
	0 •901670E+00 0 •597222E+03 0 •145894E+01 0 •597222E+03 0 •145894E+01	.162621E+01 .162621E+01	.281219E+0	. 216404E+01 . 310539E+01	.357000E+00	.631200E+00
	0 •597222E+03 0 •143894E+01 0 •597222E+03	•162621E+01	.281219E+0	<pre>1 •310539E+01 3 1 •216404E+01</pre>	•560000E-01 •631200E+00	.357000E+00
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0 .597222E+03 0 .597222E+03 0 .597222E+03 0 .597222E+03	0.556000E+00 0.68270+E+00	.151011E+0	1 .137120E+01 0 .604346E+01	.177000E+01 .220000E+00	+177000E+01 +220000E+00
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0 .597222E+03 0 .932333E+00 0 .307722E+03 0 .706333E+00	.68270+E+00 .394063E+00 0.	382994E+0 212160E+0	1 •958135E+01 0 1 •170096E+02	.107500E+01 .229100E+00 0.	•125000E+01 •229100E+00
	C. CONTRACT STATUS	CANTER AND	CIT NAME I		a second se	

strate to be a set as a set as

JUN FROM TO PUMP CH NUM VOL VOL LEAK VI FILL	HKV INITIAL ALV_ FLOW	JUNCTION FLOW AREA (FT**2)	JUNCTION ELEVATION	JUNCTION INERTIA (FT*-1)	SP. ENERGY LOSS COEF. (FORWARD)	SP. ENERGY LOSS COEF
VERT CHOK IC JUN -ING CALC INDX INDX INDX I	MOM JUNCTION EQ. DIAMETER NDX (FT)	CONTRACTION COEFFICIENT	SUBCOOL CHOKE	ENTHALPY INDEX	COSINE IAU	JUN
16 14 16 -2	0 .289500E+03	. 394063E+00	212160E+01	.170096E+02	.223000E+00	.223000E+00
17 15 17 1	0 .307722E+03	.394063E+00	0.	.182935E+02	.165600E+00	.165600E+00
	0 .289500E+03		0.	.144217E+02	.210000E+00	.210000E+00
18 <u>0 5 0</u> 19 17 19 0	0 .708333E+00 0 .307722E+03	0. .394063E+00	0.	.128504E+02	.661300E+00	.690000E+00
	0 .708333E-00 0 .289500E-03	0. .394063E+00	0.	.897863E+01	.258400E+01	.120000E+01
20 10 3 20.	0 708333E=00	Demande . James		And a contraction	allan Qent a second i	
21 19 20 0	0 .597222E-03	.660887E+00	0.	.102097E+02	.815000E+00	.815000E+00
22 20 21 0	0 .597222E+03	.682704E+00	0.	. 394776E+01	.189500E+01	.189500E+01
23 21 22 20	0 .597222E+03	.130494E+01	235167E+01	0.		.647000E-01
24 22 23 0	.597222E+03	130494E+01	139636E+02	0	.908000E+00	.908000E+00
25 23 24 0	0 .128890E+01 .597222E+03.	.105600E+01	122600E+02	. 0. 0	.982000E+00	.982000E+00
25 0 5 2	0203800E+01	<b>9.</b>			•100000E+	01
26 24 2 0	0 .597222E+03	.785400E+00	283800E+01	0. 0	.513000E+00 .100000E+	•513000E+00
27 21 25 0	0.0. 932333E+00	.682704E+00	9. 0	.391683E+01	.804000E+00	.133020E+01
28 25 26 0	0 0.	.682704E+00	0. 0	.592418E+01	.100500E+00	.100500E+00
29 26 47 0	0 0.	.900370E-01	0.	.111100E+02	.260000E+00	.754000E+00
30 27 44 0 30 31 0 0	0 0. 0 .567750E+00	.253160E+00 .600000E+00	0.11	.116155E+02	.299560E+00	.246290E+00

JUN FROM TO PUNP CHKV NUM VOL VOL LEAK VALV FILL	INITIAL FLOW (LBM/SEC)	JUNCTION FLOW AREA (FT#42)	JUNCTION ELEVATION (FT)	JUNCTION TNERTIA (FT*-1)	SP. ENERGY LOSS COEF. (FORWARD)	SP. ENERGY LOSS COEE. (REVERSE)
VERT CHOK IC MOM JUN TING CALC EQ. INDX INDX INDX INDX	JUNCTION DIANETER (FT)	CONTFACTION CDEFFICIENT	SUBCOOL CHDKE	ENTHAL PY INDEX	COSINE IA	DJUN
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0. .843833E≠00 0.	.550250E+00 .600000E+00 .682704E+00	0.11 0.	.252555E+02	.103700E+01 .100500E+00	.537000E+00 .100500E+00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	.9323338+00 0. 0.	.900370E-01 .100000E+01 .900370E-01	0. .227083E+01	.203298E+02	. 396050E+00	•753630E+00
34 9 32 0 9 35 30 32 0 31 0	.359417E+00 .527819E+00	206034E+00	.685333E+01	.575875E+01	.581834E+01	•581834E+01
36 32 33 0 0 36 37 33 14 0	0. .527819E+00	.206034E+00 	.685333E+01	.575875E+01	•581834E+01	.581834E+01 .230250E+00
38 34 35 0 0 38 9 35 36 0 39 95 36 0	0.359417E+00	908370E-01	227083E+01	•270551E+02 •375249E+02	•635100E+01	.635100E+01
40 34 × 8 0 0	0.338580E+00	-900370E-01 -600000E+00	0.11	•409140E+02	.948830E+00	•438340E+00
		.600000E+00 .41*500E+00	0.11	•193380E+J2	.124700E+01	•457600E+00
43 20 38 0 44 43 45 0 44 0 45 0 44 0	.708333E+00	0. 64+700E-01	00	.242230E+32 0.	.124700E+01 .299000E+02	.299000È+02
45 40 4 0 0 45 0 5 0 3	0:140750E+00	.155592E-01 .750000E+00	•466167E+00	•753299E+32	•100000E+01 0•	•100000E+01

JUN FROM TO PUMP	CHKY INITIAL	JUNCTION	JUNCTION	JUNCTION	SP. ENERGY	SP. ENERGY
VERT CHOK IC	HOM JUNCTIC	INCONTRACTION	SUBCOOL	ENTHALPY	COSINE IA	DJUN
INDX INDX INDX	INDX (FT)	155502E-01	435000540	749300640	2 1124005402	1134005403
46 0 5 0 47 46 23 0	0 .1407	0E400 0. 668130E-01	157900E+0	2 0.	.270000E+01	.220000E+01
	0.33860	900370E-01	0.11	.151B00E+0	2 .415000E+00	.290000E+00
49 0 46 2	3. 28650	00E+00 0. 644700E-01	0. 0	0	.100000E+01	.100000E+01
C. 20	3 3 6 2 5 0 3 1	IVERUS	Charlender - Marthater in adda	an anna ann Une is isan ann ann ann ann	28 Mar - Martin V o water, methodalitation -	

INPUT DATA	FOR 2 PU	MPS.		and the states of a	alatin consideration and the	and the second and the	te a la calanda de la calada de la	er un and - were resser to the monthly with
NUMBER OF P	UMP CURVE	S TO BE READ	FOR FACH CURVE SE	T.	and the second s	- the street of the	and a set of the set of the set of the	and the second second second
16 0	0 16		i the second sec		a taka ta ta	and the state of the second	And Antonia and Antonia	
PMP CRV TRP NUM SET ID	REV DEG	RATED SPEED	SPEED RATIO	RATED FLOW	- RATED HEAD	RATED TORQUE	MOM OF INERTIAL	
MDT TRK		RATED DENSIT	Y FRICT TORQUE	RATED MOTOR TORQ (LBF-FT)	FRICT TORQUE	FRICT TORQUE COEFF 1	FRICT TORQUE COEFF 3	ang
1 1 3	O 1 Stop	.353000E+0 .387500E+0 PUMP AT 0.	4 .558400E+00 2 .116860E+03 SEC, DR	.500000E+04	.306000E+03 .268800E+02 0.0 RPM DR	465000E+03	294000E+03 725740E+02 (NO STOP ON	OPTION IF 0.0)
2 1 3	0 1 STOP	• 35 3000E+0 • 387500E+0 PUMP AT C.	4 558400E+00 2 116860E+03 SEC. DR	.500000E+04	• 306000E+03 • 268800E+02 • 0.0 RPM DR		•294000E+03 •725740E+02 (NO STOP DN	DPTION IF 0.0)

PUMP HEAD NULTIPLIER CURVE	and a second and the second and the second	and the state of a state of the state of the	a in the state of the second
-11 0. 0.	.100000E+00 0.	-150000E+00	-500000F-01
.240000E+00 .800000E+00	-300000E+00 -960000E	+00 +00000E+00	-980000E+00
.960000E+00 .500000E+0C	.100000E+01 Q.		
PUMP TORQUE MULTIPLIER CURVE		الأواجر . محمد الأحمد	and a second
	.IQ0000E+09 0.	.150000E+00	
.240000E+00 .560000E+00 .100000E+01 0.	•80000E+00 •560000	E+00 .960000E+00	•450000E+00

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PUMP CURVE SET NUMBER 1 HAS 16 CU	RVES TO BE READ.		- Chi i ann a muthur cite. U	and the second of the second of the	and the second
SET HEAD TYPE NUM X DR DAT TORQ PTS		×	Y	Χ	i inter <sup>y</sup> and i
1 1 1 6 FLDW/SPEED • 593960E+00	HEAD/SPEED**2 .140360E+01 .123280E+01	FLOW/SPEED 190610E+00 .790200E+00	HEAD/SPEED**2 -136360E+01 -113360E+01	FLOW/SPEED • 389630E+00 • 100000E+01	HEAD/SPEED**2 +131860E+01 +100780E+01
SPEED/FLOW 	HEAD/FLOW**2	SPEED/FLOW .200000E+00 .744320E+00 .100000F+01	HEAD/FLDW**2 	SPEED/FLOW .400000E+00 .773480E+00	HEAD/FLOW**2 
1 1 3 6100000E+01 	HEAD/SPEED**2 .247220E+01 .162400E+01	ELOW/SPEED 805740E+00 200171E+00	HEAD/SPEED##2 .204740E+01 .147050E+01	FL DW/SPEED 606900E+00 0.	HEAD/SPEED**2 .183100E+01 .140360E+01
1 1 4 8100000E+01 455340E+00 907300E-01	HEAD7ELOW*#2 .247220E+01 .132790E+01 .101560E+01	SPEED7FLOW 822970E+00 271090E+00	HEAD/FLOW##2 .199680E+01 .19490E+01	633320E+00 177160E+00	HEAD/FLOW**2 .158970E+01 .106050E+01
1 1 5 7 FLOW/SPEED • 411800E+00	HEAD/SPEED**2 +250000E+00 +276800E+00	FLOW/SPEED •200000E+00 •597630E+00	HEAD/SPEED**2 .280000E+00 .458400E+00	FLOW/SPEED 400000E+00 793467E+00	HEAD/SPEED**2 .340000E+00 .699200E+00
1 1 6 10 SPEED/FLOW	HEAD/FLOW**2 .934279E+00	SPEED/FLOW .910990E-01 .455872E+00	HEAD/FLOW**2 .922900E+00 .843300E+00	SPEED/FLOW .186509E+00 .574406E+00	HEAD/FLOW**2 .896300E+00 .835500E+00
100000E+01	.846600E+00 .946500E+00 HEAD/SPEED+12	•766619E+00	.846900E+00	.871471E+00	+883800E+00
1 1 3 6 -+400000E+01	500000E-01 HEAD/SLOW**2 100000E+01	200000E+00 SPEED/FLOW 800000E+00	+EAD/FLOW**2	SPEED/FLDW	300000E+00 .250000E+00 HEAD/FLOW+*2
400000E+00 ELOW/SPEED 1 2 1 6 0.		200000E+00 FLOW/SPEED .193000E+00	800000E+00 TDR0/SPEED#+2 .632500E+00	0. FLDW/SPEED .393000E+00	670000E+00 TOR0/SPEED**2 .736900E+00
1 2 2 7 0. 2 2 7 0.	.833100E+00	.797820E+00 SPEED/FLDW .400000E+00	•922900E+00 TDR0/FLOW##2 250000E+00	•100000E+01 SPEED/FLOW •500000E+00	• 967200E+00 TDR0/FLDW++2 • 150000E+00
+100000E+01 FLOW/SPEED 	•967200E+00 TORQ/SPEED**2 •198430E+01	FLOW/SPEED	TORQ/SPEED**2	- 50 / 2 30E + 00	• 743660E+00 TORQ/SPEED**2
406860E+00 SPEED/FLOW 100000E+01	•822000E+00 TORO/FLOW**2 •198430E+01	199280E+00 SPEED/FLOW 822340E+00	.664800E+00 TORQ/FLOW+*2 .183080E+01	0. SPEED/FLOW 633710E+00	.603200E+00 TOR9/FLOW++2 .168240E+01
	134810E+01 TOR 0/SPEED**2	FLOW/SPEED	•143620E+01 •123361E+01 TORQ/SPEED**2	176107E+00	.138790E+01 TORQ/SPEED**2

LODODODE+	01	, TUUUUUETUU - (2000)ETU	.30000000000	
1 2 6 10 - 0 273470E+ 738160E+ 100000E+	TDR0/FLOW**2 123361E+01 00 104160E+01 00 613400E+00 01 356900E+00	SPEED/FLOW TDRQ/FLOW##2 .906430E-01 .119655E+0 .458669E+00 .89580DE+0 .768520E+00 .584903E+0	SPEED/FLOW 188569E+00 574480E+00 00 870057E+00	TORQ/FLOW**2 .110960E+01 .780700E+00 .487700E+00
1 2 7 4 -100000E+	DI 100000E+01 450000E+00	FLOW/SPEED TORO/SPEED** 300000E+00 90000DE+0	2 FLOW/SPEED 100000E+00	TORO/SPEED**2 500000E+00
1 2 8 4100000E+	TDR0/FL0W*#2 01100000E+01 670000E+00	SPEED/FLOW TORO/ELOW**: 250000E+0090000DE+0	SPEED/FLOW 800000E-01	TORQ/FLOW**2 800000E+00

PUMP CURVE SET NUMBER	R 1 HEAD CURVE	S FOLLOW.		1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 -		
SET HEAD TYPE NUM NUM DR DAL TORO PTS	×		<u> </u>	Y. S.	X	Y
1	FLOW/SPEED .593960E+00	HEAD/SPEED**2 •140360E+01 •123280E+01	FLOW/SPEED 190610E+00 .790200E+00	HEAD/SPEED**2 .136360E+01 .113360E+01	FLOW/SPEED .389630E+00 .100000E+01	HEAD/SPEED**2 .131860E+01 .100780E+01
1 1 2 8	SPEED7FLOW •575540E+00	HEAD/FLOW##2	SPEED/FLDW 200000E+00 •744320E+00	HEAD/FLOW**2 	SPEED/FLOW 400000E+00 773480E+00	HEAD/FLOW**2 250000E+00 .377800E+00
	FLOW/SPEED 100000E+01 406830E+00	HEAD/SPEED**2 .247220E+01 .162400E+01	FLOW/SPEED 805740E+00 200171E+00	HEAD/SPEED**2 .204740E+01 .147050E+01	FLOW/SPEED	HEAD/SPEED**2 .183100E+01 .140360E+01
	SPEED /FLOW 100000E+01 455340E+00 007300E-00	MEAD/FLDW**2 .247220E+01 .132790E+01 .132790E+01	822970E+00 271090E+00	HEAD/FLOW+*2- .199680E+01 .119490E+01	SPEED/FLOW 633320E+00 177160E+00	HEAD/FLOW**2 •158970E+01 •106050E+01
1 1	FLOW/SPEED 0.411800E+00	HEAD/SPEED**2 •250000E+00 •276800E+00	FLDW/SPEED 200000E+00 597630E+00	HEAD/SPEED**2 .280000E+00 .458400E+00	FLOW/SPEED •400000E+00 •793467E+00	HEAD/SPEED**2 • 340000E+00 • 699200E+00
1 1 6 10	SPEED/FLOW_*	HEAD/FLOW##2 .934279E+00 .875000E+00	SPEED/FLOW 910990E-01 455872E+00	HEAD/FLOW##2 .922900E+00 .853300E+00	SPEED/FLDW .186509E+00 .574406E+00	HEAD/FLOW##2 .896300E+00 .835500E+00
	-100000E+01 -100000E+01 -100000E+01	.946500E+00 .946500E+00 HEAD/SPEED**2 100000E+01	FLOW/SPEED 800000E+00	HEAD/SPEED##2	FLOW/SPEED	HEAD/SPEED**2 300000E+00
1 1 8 6	100000E+00 100000E+01 400000E+00	500000E-01 HEAD/FLDW**2 100000E+01 880000E+00	200000E+00 SPEED/FLOW 800000E+00 200000E+00	•150000E+00 HEAD/FLDW**2 970000E+00 800000E+00	0. SPEED/FLOW 600000E+00 0.	.250000E+00 HEAD/FLOW**2 950000E+00 670000E+00

PUMP CURVE SET NUM	BER 1 TORQUE CUR	VES FOLLOW.	en Balet - de la Malla de Sal		Sa Inter State (m. 1997) (m. 1977)	Il Annis, marchine
SET HEAD TYPE NU NUM DR DA TORQ PI	yp X	A A A A A A A A A A A A A A A A A A A	<u>x</u>	ý.	X	Y
1 2 1 2	ELDW/SPEED 595520E+00	TOR9/SPEED##2 +603200E+00 +833100E+00	FLOW/SPEED 193000E+00 .797820E+00	TDR0/SPEED**2 •632500E+00 •922900E+00	FLOW/SPEED .393000E+00 .100000E+01	TOR9/SPEED**2 •736900E+00 •967200E+00
1. <u>11. 12. 12. 12. 12. 12. 12. 12. 12. 12. </u>	SPEED/FLOW 7 .737255E+00 .100000E+01	TORQ/FLOW**2 	SPEED/FLOW 400000E+00 .768049E+00	TORQ/FLOW**2 ==25000000000 :606594E+00	SPEED/FLOW .500000E+00 .867230E+00	TORO/FLOW**2 .150000E+00 .743660E+00
1 2 3	ELOW/SPEED 6100000E+01 406860E+00	TORO/SPEED**2 .198430E+01 .822000E+00	FLOW/SPEED 800960E+00 199280E+00	TORQ/SPEED##2 .139400E+01 .6648D0E+00	ELOW/SPEED 606380E+00 0.	TORQ75PEED**2 .109750E+01 .603200E+00
1 2 4	8100000E+01 478530E+00 893100E-01	198430E+01 .198430E+01 .155700E+01 .134810E+01	SPEED/FLOW 822340E+00 267023E+00 0.	TDR0/FLOW**2 .183080E+01 .143620E+01 .123361E+01	633710E+00 176107E+00	TORQ/FLOW**2 .168240E+01 .138790E+01
1 22.5	FLOW/SPEED 9. 100000E+01	TORQ/SPEED**2 450000E+00 . 356900E+00	FLOW/SPEED . 400000E+00	TORQ/SPEED**2 250000E+00	FLOW/SPEED • 500000E +00	TORQ/SPEED**2
5.1.77222507. <b>5</b> .253	SPEED/FLOW 0.273470E+00 .238160E+00	TORQ/FLOW**2 .123361E+01 .104160E+01 .613400E+00	SPEED/FLOW •906430E-01 •458669E+00 •768520E+00	TORQ/FLOW**2 .119650E+01 .895800E+00 .584900E+00	SPEED/FLOW •188569E+00 •574480E+00 •870057E+00	TORQ/FLOW**2 .110960E+01 .780700E+00 .487700E+00
	+100000E+01 FLOW/SPEED +100000E+01	.356900E+00	FLOW/SPEED	TORQ/SPEED**2	FLOW/SPEED	IOR9/SPEED**2
	SPEED/FLOW	TORQ/FLOW**2 100000E+01 670000E+00	SPEED/FLOW	TORQ/FLOW**2	SPEED/FLOW 800000E-01	TORO/FLOW**2
12 To Marson Marson	Contraction of the second second					

1. Carrier and the state of the second state of the second state of the second state of the second state of the	and the set and the set of the set and the set	under an eine an and the second the second standard and the second standard and the second second second second	Barner of the state of the second second second second	- address of the state of the state of the theory of address of a state of the	and the second	manager may a second second and a second second second second
PUMP CURVE SET NUMBER	4 HAS 16 CUR	VES TO BE READ.	and an other thanks	and the second s	and the second s	and the star
SET HEAD TYPE NUM	X	A a set of the set of	X		X in the	tat di Yan shi
TORQ		and a state of the	nenna simmaken suer hand	a the second and the second	armateria and a line of the	and the second
and the second sec	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2
9 and the second second	.500000E+00	.102000E+01	.700000E+00	.101000E+01	.200000E+00 .900000E+00	.109000E+01 .940000E+00
and a standard and a standard	.100000E+01	.10000CE+01	ana an			and the second and the second s
4 1 2 8	0.	0.	.100000E+00	400000E-01	.200000E+00	HEAD/FLOW##2
1. A. C. M. C. Martin Laboration and Academic Society	.900000E+00	.80000CE+00	.100000E+01	.100000E+01	.800000E+00	.670000E+00
1	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2
a Alta Alta Anta Alta Alta Alta	700000E+00	236000E+01	600000E+00	279000E+01	800000E+00 -,500000E+00	177000E+01 291000E+01
The second s	0.	0.	230000E+00	109000E+01_	100000E+00	500000E+00
Second State State State State State	SPEED/FLOW	HEAD/FLOW**2	SPEED/FLOW	HEAD/FLOW##2	SPEED/FLOW	HEAD/FLOW**2
	700000E+00	310000E+00	600000E+00	170000E+00	500000E+00	800000E+00
The The anti-the same and a second	0.	110000E+00	2000002+00		190000E+00	.800000E-01
6 1 1 5 5 5	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2
	.600000E+00	930000E+00	.800000E+00	119000E+01_	100000E+01	147000E+01
4 1 6 10	SPEED/FLOW	HEAD/FLOW##2	SPEED/FLOW	HEAD/FLOW##2	SPEED/FLOW	HEAD/FLOW**2
	.400000E+00	.130000E+00	.500000E+00	.700000E-01	600000E+00	400000E-01
	.100000E+01	147000E+01				
4	FLOW/SPEED	HEAD/SPEED**2	ELOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2
	SPEED /FLOW	HEAD/FLOW**2	SPEED/FLOW	HEAD/FLOW**2	SPEED/FLOW	HEAD/FLOW##2
4 1 8 2	100000E+01	0.	. 0,	.0e.		T LA STATIST.
4 2 2 1 2 6	FLOW/SPEED	TORQ/SPEED**2 .603200E+00	FLOW/SPEED .193000E+00	TORQ/SPEED**2 .632500E+00	FLDW/SPEED .393000E+00	TORQ/SPEED**2 .736900E+00
	.595520E+00	•833100E+00	•797820E+00	•922900E+00	-100000E+01	•967200E+00
4.0.2.2.2.2.75	SPEED/FLUW	670000E+00	• 400000E+00	TORO/FLOW**2 250000E+00	SPEED/FLOW - 500000E+00	TORQ/FLOW##2 .150000E+00
	100000E+01	.967200E+00	. 108049E400	.606594E+00	+867230E+00	•743660E+00
	ELOW/SPEED	TORO/SPEED**2	FLOW/SPEED	TORO/SPEED**2	FLOW/SPEED	TORQ/SPEED**2
	406.860E+00	.822000E+00	199280E+00	.664800E+01	0,	.109750E+01 .603200E+00
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	SPEED/FLOW	TORQ/FLOW**2	SPEED/FLOW	TORQ/FLGW**2	SPEED/FLOW	TORQ/FLOW**2
aniverties in the	458530E+00	.155700E+01	267023E+00	.143620E+01	-,176107E+00	.138790E+01

4	C.	450000E+00	.400000E+00	250000E+00	.500000E+00	IUKU/SPEED##2
and the second	.100000E+01	•356900E+00				
	SPEED / FLOW	TORQ/FLDW**2	SPEED/FLOW	TORQ/FLOW**2	SPEED/FLOW	TORO/FLOW**2
4 2 0 10	273470E+00	.104160E+01	.458669E+00	.895800E+00	.574480E+00	.110960E+01 .780700E+00
ALL STREET	.738160E+00 .100000E+01	.613400E+00 .356900E+00	-768520E+00	.584900E+00	.870057E+00	.487700E+00
	EI NUZSSEEN	TOPO/CDEED##2	EL DU / SPEED	TOPO/SPEED##2	EL ON CORED	TOPO/SPEED##2
4 2 7123475	-100000E+01	100000E+01 450000E+00	300000E+00	900000E+00	100000E+00	500000E+00
and the second second second	SPEED/ELOW	TORO/FLOW**2	SPEED/FLOW	TORO/FLOW##2	SPEED/FLOW	TORO/FLOW##2
4 2 8 4	100000E+01	100000E+01 670000E+00	250000E+00	-,900000E+00	800000E-01	800000E+00
			Section and the section of the	and in a second summer and		a distant and the second the stranger

PUMP CURVE SET NUMBER	4 HEAD CURVE	S FOLLOW.	an in a sin an	and an and the second	ar Marian ar Ara with	e e de la companya de la companya	1
SET HEAD TYPE NUM	X		X	Y 4 1	X	Y	10 11
TORQ PTS		and a second	and the second state and the	an a	ana - is - isain in ana	na anna ann mbailte a' fhann dheilteann de saonaitheann ann a' saonaitheann ann a' saonaitheann ann a' saonaith	-
1 1 1 1 1 1 T	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2 .830000E+00	FLOW/SPEED 200000E+00	HEAD/SPEED**2	
Carl & Santana	.500000E+00 .100000E+01	.10200CE+01 .10000CE+01	• 700000E+00	.101000E+01	• 900000E+00	.940000E+00	
	SREED / FLOW	HEADTELOS #42	SPEED/FLOW	HEAD/FLOW##2	SPEED/FLOW	HEAD/FLOW*#2	1.1
	300000E+80	-10000CE+00	.400000E+00	210000E+00	.800000E+00	670000E+00	N.S.
	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2	4
4 1 3 10	100000E+01 700000E+00	11600CE+01 23600CE+01	900000E+00 600000E+00	124000E+01 279000E+01	800000E+00 500000E+00	177000E+01 291000E+01	10 m
	0.	0.	250000E+00	169000E±01	100000000000	500000E+00	1.4
	SPEED/FLOW	HEAD/FLOW##2	SPEED/FLOW	HEAD/FLOW##2	SPEED/FLOW	HEAD/FLOW##2	1
N CHARLES THE REAL	700000E+00	31000CE+00	600000E+00 200000E+00	170000E+00 .500000E-01	500000E+00 100000E+00	800000E-01 .800000E-01	No.
	9.	.11000CE+00	EL OULLEBEED				147
4. 4. 11 17 5 11 6	C. COODOCE + OO	HEAD/SPEED##2	•200000E+00	340000E+00	.400000E+00	650000E+00	
	SPEED/FLOW	HEAD/FLOW##2	SPEED/FLOW	HEAD/FLOW**2	SPEED/FLOW	HEAD/FLOW**2	S
4. 1 . 6 × 10	0. 400000E+00	.11000CE+00 .13000CE+00	.100000E+00 .500000E+00	.130000E+00 .700000E-01	+250000E+00 +600000E+00	.150000E+00 400000E-01	
	.100000E+00	147000E+00	.800000E+00	510000E+00	.900000E+00	910000E+00	
	FLOW/SPEED	HEAD/SPEED##2	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2	
	SPEED / FLOW	HEAD/FLOW##2	SPEED/FLOW	HEAD/FLOW**2	SPEED/FLOW	HEAD/FLOW++2	C.
4 1 8 2	100000E+01	0.	0.	0.	The Property and	NACTOR STRUCTURE	

is not the company and the case of the the case of

PJMP CURVE SET NUMBE	R 4 TORQUE CUR	VES FOLLOW.			and the second sec	a a sana a s
SET HEAD TYPE NUM	x	<u>y</u>	<u>×</u>	Ŷ	<b>X</b>	Y
TORQ PTS 4 2 1 6	FLOW/SPEED .595520E+00	TORO/SPEED**2 .603200E+00 .833100E+00	FLOW/SPEED 1930D0E+00 .797820E+00	TDRQ/SPEED**2 •632500E+00 •922900E+00	FLOW/SPEED .393000E+00 .100000E+01	TDRQ/SPEED**2 .736900E+00 .967200E+00
<u> </u>	.737255E+00 	.526586E+00 .967200E+00	. 400000E+00 .768049E+00	250000E+00 .606594E+00	•500000E+00 •867230E+00	•150000E+00 •743660E+00
4 2 3 6	FLOW/SPEED 100000E+01 406860E+00	TDR0/SPEED**2. .198430E+01 .822000E+00	FLDW/SPEED 800960E+00 199280E+00	TORQ/SPEED**2 .139400E+01 .664800E+00	FLDW/SPEED 606380E+00 0.	TURQ/SPEED##2 .109750E+01 .603200E+00
4 2 4 8	100000E+01 458530E+00 893100E-01	198430E+01 198430E+01 155700E+01 134810E+01	SPEED/FLOW 822340E+00 267023E+00 0.	TORO/FLOW**2 .183080E+01 .143620E+01 .123361E+01	SPEED/FLOW -,633710E+00 -,176107E+00	TORQ/FLOW**2 .168240E+01 .138790E+01
<u>4</u> +2 <u>5</u> 4	FLOW/SPEED 0. .100000E+01	TORQ/SPEED**2 -* 450000E+00 - 356900E+00	FLOW/SPEED .400000E+00	TORQ/SPEED**2 250000E+00	FL DW/SPEED . 500000E+00	TORQ/SPEED**2
<u>4 2 6 ko</u>	SPEED/FLOW 0. .273470E+00 .738160E+00 .100000E+01	TORQ/FLOW**2 •123361E+01 •104160E+01 •613400E+00 •356900E+00	SPEED/FLOW .906430E-01 .458669E+00 .768520E+00	TDRQ/FLOW**2 .119650E+01 .895800E+00 .584900E+00	SPEED/FLOW •188569E+00 •574480E+00 •870057E+00	TDRQ/FLOW**2 .110960E+01 .780700E+00 .487700E+00
5.27.77.6	ELOW/SPEED 0.	TORO/SPEED**2 100000E+01 450000E+00	FLDW/SPEED 300000E+00	TORQ/SPEED**2 900000E+00	FLDW/SPEED 100000E+00	TORQ/SPEED**2 *.500000E+00
4	SPEED/FLDW - 1000000E+01- 0.	TORQ/FLOW**2 	SPEED/FLOW 250000E+00	TORQ/FLOW*#2 900000E+00	SPEED/FLOW 800000E-01	TORQ/FLOW##2 800000E+00

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A States A		NAME AND A DESCRIPTION OF			
PARAMETERS FOR	2 CHECKVALVES.	and the spectrum of the	den and the second	1	
VALV TRIP AREA L	ATCH BACK PRESSU	RE FORWARD	OPEN REVERSE CLO	SED REVERSE	
LOVILLAN LANCES	LAVINIAR SENJAIN	And You I DAMA AN MALL BARA	ERAMANDELLE INA	S. SUELTS	
1 -2 1	S. C. S.	Maria V. alora Calle Lake	.0		
2 25 0	0 .100000E+	01 0.	00.	the second second second second second	

PARAME	ETERS FOR	1 LEAKS.			and a second	and and the foregoing and and the second sec	and and a second se	- is such that a second start of
LEAK C	ATA TRIP	SINK	TIME DR	AREA	TIME OR	AREA	TIME DR	AREA
1	17 2		0. .874300E+00	0:230000E-01	.200000E-01 .892200E+00	.816800E+00 .240000E-01	.210000E-01 .910200E+00	+850300E+00
- Al To	ar shekarar	.250000E-01 .280000E-01 .330000E-01	.922200E+00 .949700E+00 .980300E+00	.260000E-01 .290000E-01 .350000E-01	.934100E+00 .958100E+00 .988000E+00	.270000E-01 .310000E-01 .370000E-01	.942500E+00 .970100E+00 .994000E+00	
	198.000.000	.390000E-01	.100000E+01	• 200000E+03	.100000E+01	And the second second	LARGE DE LOR	TYNIGHTAN ALLEN



JUNCTION DATA ACTUALLY B	EING USED.	en and disative to a first		A ANNAL SEA	
NUN FROM TO PUMP CHK	INITIAL ELOW (LBH/SEC)	JUNCTION FLOW AREA (FT**2)	JUNCTION ELEVATION	JUNCTION DIAMETER 2017	LEAK CONTRACTION COEFFICIENT
$\begin{array}{c} 1 \\ 2 \\ 3 \\ 4 \\ 3 \\ 4 \\ 3 \\ 4 \\ 4 \\ 6 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$	597222E+03 597222E+03 0: 597222E+03	.480000E+00 .682700E+00 .682700E+00 .660887E+00	973000E+00	.901000E+00 .932300E+00 .932300E+00 .932300E+00	.100000E+01 .100000E+01 .100000E+01
	•597222E+03	.358820E+00	0.	•675917E+00	.100000E+01
$\begin{array}{c} 7 \\ 7 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 9 \\ 10 \\ 10$	•597222E+03 •597222E+03 •597222E+03 •597222E+03	.162621E+01 .162621E+01 .162621E+01 .162621E+01 .162621E+01	.151011E+01 .281219E+01 .956219E+01 .956219E+01	•901670E+00 •143894E+01 •143894E+01 •143894E+01 •143894E+01	•100000E+01 •100000E+01 •100000E+01 •100000E+01
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	597222E+03 597222E+03 597222E+03 597222E+03 597222E+03	• 162621E +01 • 556000E +00 • 682704E +00 • 682704E +00 • 394063E +00	.281219E+01 	.143894E+01 .901670E+00 .932333E+00 .932333E+00 .708333E+00	.100000E+01 .100000E+01 .100000E+01 .100000E+01
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	-289500E+03 -307722E+03 -289500E+03 -307722E+03 -307722E+03	.394063E+00 .394063E+00 .394063E+00 .394063E+00 .394063E+00	212160E+01	• 708333E+00 • 708333E+00 • 708333E+00 • 708333E+00 • 708333E+00	•100000E+01 •100000E+01 •100000E+01 •100000E+01
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	•597222E+03 •597222E+03 •597222E+03 •597222E+03	.660887E+00 .682704E+00 .130494E+01 .130494E+01	0. 0. 235167E+01 139636E+02		+100000E+01 +100000E+01 +100000E+01 +100000E+01
25         23         24         0         0           26         24         2         0         0           27         21         25         0         0           28         25         26         0         0	.597222E+03 .597222E+03	.105600E+01 .785400E+00 .682704E+00 .682704E+00	122600E+02 283800E+01 0.	•203800E+01 •100000E+01 •932333E+00 •932333E+00	.100000E+01 .100000E+01 .100000E+01 .100000E+01
30 27 44 0 0 31 44 37 0 1 32 28 29 29 0 0	0. 0.	.253160E+00 0. .682704E+00	0.	.567750E+00 .843833E+00 .932333E+00	+1000000 +00 +000000 +00 +000000 +00 +1000000 +01
34         30         31         0         0           35         31         32         0         0           36         32         33         0         0	<u>.</u>	• 900370E-01 • 900370E-01 • 206034E+00	•227083E+01 •685333E+01	•338583E+00 •359417E+00 •527819E+00	.100000E+01 .100000E+01 .100000E+01
37 33 34 0 0 38 34 35 0 39 36 36 0 40 36 45 0 0	0.	•900370E-01 •900370E-01 •900370E-01 •900370E-01	-227083E+01 -227083E+01 -397917E+01 0.	• 359417E+00 • 359417E+00 • 359417E+00 • 359417E+00 • 338580E+00	• 100000E +01 • 100000E +01 • 100000E +01 • 600000E +00

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	Contraction of the second	2000	A CALL AND A CALL	the same set							and the second sec	The second for a second some for an opposition in the
JU	NCTION	DATA	ACTU	ALLY	BEING	USED.	· · · · · · · · · · · · · · · · · · ·		and the second second		THE CARE AND	gunna para a gara
J	UN FRO	M T	DPUM	P CH	K IN	ITIAL	Sector By	NCTION	and and the fi	JUNCTION	JUNCTION	LEAK
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	A ALL DARS	mar all		1. N. 1. 28	in the second of	UNIT SECT	Martin Martin	1.1.1	and a shared	A Company of and a company	a contrary sport of a	COLITICIENT
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15 mil	42 2	9 3	9	0	0 0	· ····································	nate in the same	.417500	E+00	. 0	.708300E+00	.100000E+01
	43 2	6 3	8	0	0 0		Vice Constant	. 417584	E+00	.466167E+00	.708333E+00	.100000E+01
311	44 4	3 4	6	O	2 0	· ante militarian	E	. 544700	E-01	0.	.286500E+00	.100000E+01
B	45 4	0	4	0	0,			152292	E-01	.466167E+00	+140750E+00	,750000E+0Q
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JUN	CTION	DATA	ACTUA	LLY BE	ING USED.	and the second of the second	na series par cara provincia e como e a		man inter in	2. 1.	Aber - Area have	- Charles - Charles
NU	UN VE U. TJU INC	RT CH	OK I G CALC X INDX	C MON	INERTIA	SP. ENERGY LOSS COEF. (FORWARD)	SP.ENERGY LOSS COEF.	RESIDUAL LOSS COEE.	RESIDUAL DELTA P (PSIA)	ENTHALP	Y TRANS	ANGLE
- <u></u>	1		5 2	00000	+162823E+01 -517300E+01 -474100E+01 -874485E+01 -830351E+01	.648000E+00 107400E+00 309500E+00 313100E+00 912000E-01	.648000E+00 .107400E+01 .473200E+00 .313100E+00 .912000E-01	.130489E-03 .332213E-03 .254241E-03 .895879E-04	458714E-03 577339E-03 	NO NO NO NO		.100000E+01
-1	6 7 9 0		5 0	00000	• 521630E+01 • 188298E+01 • 216404E+01 • 310539E+01 • 310539E+01	.522000E+00 200000E+01 .357000E+00 .560000E-01	.522000E+00 .200000E+01 .631200E+00 .560000E-01	286777E-03 167226E-03 132986E-02 142764E-02 120133E-02	. 498400E-03 . 438184E-03 . 407364E-03 . 437331E-03 . 368015E-03	NO NO YES YES	NO NO YES YES YES	0. 0. 0.
				0000	216404E+01 137120E+01 .604346E+01 .958135E+01 .170096E+02	,631200E+00 .177000E+01 .220000E+00 .107500E+01 .229100E+00	.357000E+00 .177000E+01 .220000E+00 .125000E+01 .229100E+00	• 112452E-02 • 203368E-03 • 255313E-03 • 250448E-03 • 103307E+00	• 344484E-03 • 532936E+03 • 443796E-03 • 435341E-03 • 143098E+00	YES NO NO NO	NO NO NO NO	0: 0: 0:
1	8 9 0	8 2 *	5 0	- 0 - 0 - 0	170096E+02 182935E+02 144217E+02 128504E+02 897863E+01	FLOW SOLUTION + • 223000E+00 • 165600E+00 FLOW SOLUTION + • 210000E+00 • 661300E+00 • 258400E+01	AY BE UNSTABLE 223000E+00 165600E+00 AY BE UNSTABLE 210000E+00 690000E+00 120000E+01	DUE TO HIGH NEG - 181680E+00 0 103412E+00 DUE TO HIGH NEG - 182518E+00 0 290264E-03 385185E-03	ATIVE RESIDUAL 222736E+00 -143212E+00 ATIVE RESIDUAL 223711E+00 -401900E-03 -472019E-03	***** W NO ***** W NO NO NO	ARNING. NO ARNING. NO NO	8: 8:
NNNN	123.411		5	00000	.102097E+02 .394776E+01 .462725E+01 .403049E+01 .179040E+01	.815000E+00 .189500E+01 .644000E-01 .908000E+00 .982000E+00	.815000E+00 .189500E+01 .6677000E-01 .908000E+00 .982000E+00	• 256846E-03 • 252332E-03 • 128452E-02 • 112547E-02 • 668589E-03	•476259E-03 •438473E-03 •610948E-03 •535282E-03 •485569E-03	NO NO NO NO		0. 0. 100000E+01 100000E+01 100000E+01
12223			5 22 5 27 1 0 5 27 1 0	0000	.175689E+01 .391683E+01 .592418E+01 .111100E+02 .116155E+02	.513000E+00 .804000E+00 .100500E+00 .260000E+00 .299560E+00	0 .513000E+00 .133020E+01 .100500E+00 .754000E+00 .246290E+00	.335595E-03 0. 0. 0. 0.	• 440626E-03 0 • 0 • 0 • 0 •	ND ND ND ND		.100000E+01
				00000	.252555E+02 .592418E+01 .203298E+02 .199010E+02 .575875E+01	0. .100500E+00 .396050E+00 .935960E+00 .581834E+01	0. 100500E+00 .753630E+00 .935960E+00 .581834E+01	0.0.0.0.	0. 0. 0. 0.			
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4	1	1	0 0	0	•252555E+02	Э.	0.	0.	0.	NO	NO	0.

UNCTION DATA ACTUALLY REING USED			
JUN VERT CHOK IC MOM JUNCTION	SPARENERSY SPARENERSY	RESIDUAL RESIDUAL	ENTHALPY TRANS ANGLE
INDX INDX INDX INDX 42 0 5 0 3 193380E+02	(FORWARD) (REVERSE) -124700E+01 -457600E+00	(NON-DIR) 0. 0.	INLET OUTLET
44 0 5 0 3 136360E+02 45 0 5 0 3 136360E+02 	124700E+01 .299000E+02 100000E+01 .100000E+01	0	ND NO NO
49	113400E+02 .113400E+02 270500E+01 .220000E+01	8:8:	NO NO OC
48 1 10 0 0 151800E+0 49 0 5 2 3 135883E+0 50 0 5 2 3 135883E+0	2 .415306E+00 .290000E+00 3 0. 0. 0.		NU NO CONTRACTOR
NUMBER OF CHAINS	and a second second I the second s		
NUMBER OF NON-CHAIN JUNCTIONS INO INDEX OF FIRST CRITICAL JUNCTION (MPP TOTAL NUMBER OF JUNCTIONS (NTOT)			

DATA	FOR 38	HEAT	COND	UCTING SLABS	• some se sector	and a second second						
SLAB	VOL VOL	GEDM	STK-L	EFT SURFACE REA, FT**2	RIGHT SURFAC	E VOLUME	LEFT HYDRAULIC DIAMETER, FT	RIGHT HYDRAULI DIAMETER, FT	C MAJ		UNCTIONS R IN R	OUT
4 1. 25 1 1. 19 1	LOC X	IND	R C L IND D	TAMETER, FT	CRHT HEATED E	Q LEFT CHANNEL	RIGHT CHANNEL LENGTH, FJ	BOT HEIGHT IN R (L) YOL, FT	TOP HEI R (L)	GHT IN DL, FT		all land
1	23 0	10	0	.700000E+02 .174400E+01	8:	.272800E+01 .174360E+02	.174400E+01	0. 0.	0.24	25	0	0
32	1 0. 0	20	0	.230540E+02	0.	982900E+00 •410300E+01	.178800E+01	20. 1. 196-1	0.	2		
3	2 8	2	0	.104770E+02	8:	.446700E+00 .186500E+01	.131400E+01	0. 17.0.	26		0	0
1 4 a	24		8-	.603180E+02	<b>g</b> .	.523600E+01 .942200E+01	231300E+01	9: 0:	.25	26	0	
5	36 0	11	8	.342000E+01 .338600E+00	0.	.253300E+00 .321700E+01	0.338600E+00	S	. 39	40	0	0
6.6	35 0	8	0	.733000E+01 .932000E+00	0.	.967400E+00 .250400E+01		9:	. 38	39	0	0
	0 21	ò	8	0.	296759E+0	2 .354090E+01		.583300E+00	0.0	. 0	22	23
1.8	21 9	× 5.	8	.359780E+02	8	.330540E+02 .343500E+01	.583300E+00	0. 0.	. 22	23 🛀	20.	. Ø
9	0 22	4	ô	0.	0.100310E+0	.205560E+02	0:116110E+02	.333300E+00	. 0. 0	0	23	24
10	22.00	0	0	.121618E#03	0.	111737E+03 .116110E+02	.333300E+00		23	- 24	0	0
71	34 0	11	0	.919000E+01	- 8:	.680700E+00 .864300E+01		8:	. 37	38	0	0
12	33	13	-0-5	.163200E+02 .120300E+01	0.	.272200E+01 .431900E+01	.120300E+01	0:	0.36	37	0	. 0.0
13	32 0	13	0	.326700E+02 .120300E+01	0. 0.	.544700E+01 .864300E+01	.120300E+01	0: 0:	0.35	36	0	0
14	31 0	13	0	-163200E+02 -120300E+01	G.	.272200E+01 .431900E+01	.120300E+01	0:	. 34	35		014
15	30_0	15	8	.683000E+01 .338600E+00	8:	.506100E+00 .642700E+01	.338600E+00	8:	0.33	.34	. 0	0
16	23 7 8	5	8	.434140E+02 .289200E+01	0. 0.	.398870E+02 .4145C0E+01	.289200E+01	0:	0.24	25	0	0
17	8 42	60	00	.112192E+04 .335000E-01	.139542E+0 .466700E+0	.5139COE+01 .579000E+01	.335000E-01 .579000E+01	.466700E+01	.0. 8	9	0	0
ESEA	17 EX	ENDS	BEYON	D TOP OR BOT	TOM OF 1 VOLUM	E. IF IXLO GT O	. EXECUTION IS	DELETED.				

10 7 76 0 0	.335000E-01	466700E+01		.335000E+01	0.400/UUE+UI	0. 4	10	U	U
SLAB 18 EXTENDS BE	YOND TOP OR BOTTO	M OF 1 VOLUME.	IF IXLO GT O.	EXECUTION IS DE	ELETED.		45		
19 10 42 6 0	.112192E+04 .335000E-01	.139542E+04 .466700E+01	.513900E+01 .579000E+01	.335000E-01	0.466700E+01	0.10	11	0	0
SLAB 19 EXTENDS BE	YOND TOP OR BOTTO	M. DF 1 VOLUME.	LF LXLO GT O.	EXECUTION IS DE		3		<u>na seria</u>	
20 44 0 7 0	.130630E+02 .932000E+00	8:	.139100E+01 .589500E+01	0.932000E+00	8:	. 30	31	0	0.
21 45 0 7 0	.130630E+02 .932000E+00	. 0	.139100E+01	.932000E+00	9. 0.	40	41		0
22 25 0 8 0 0 0 0	.153100E+02 .932000E+00		.202000E+01	932000E+00	8:	0:27	28		0
23 26 0 0 0	.9800004404	There or a stress	.136400 +04	0.000 E.00	*0. 1	1.128	.29		012
24 3 0 8 0	-1545000 +02		- 2038001 + 01	932000E+00	8:	012	1		0
25 4 9 8 9	195200E+02 932000E+00	8:2.	.257500E+01 .666500E+01	.932000E+00	0:	4	5.002		0.11
26 5 0 8 0	•136800E+02 •932000E+00		.180500E+01 .467200E+01	.932000E+00 0.	0. 0.	0: 5	6	-9	0
27 6 0 9 0 0 0 0	.107800E+02 .106780E+01	0. 0.	.160920E+01 .321300E+01	.106780E+01	0.	0. 6.	27	0.0	0.2
28 7 0 10 0	-150000E+02	8.	.526700E+01	.146150E+01	<b>8</b> •	7.	8	•	Q
29 11 9 10 0	.159000E+02 .146150E+01	0. 0.	.526700E+01 .250000E+01	.146150E+01	. 0.	11	12	0	0
30 12 0 9 0 0 0 0	.770000E+01 .106780E+01	0. 0.	.115020E+01 .229700E+01	.106780E+01	0. 0.	0.12	13	0	0
<b>31 13 0 8 9 0</b> 0 0 0	.190400E+02 .932000E+00	0.	.251100E+01 .650000E+01	.932000E+00	0.	. 13	.14 June		<b>0</b> `Z
<sup>32</sup> 14 8 8 8 8	192700E+02 932000E+00	. 8:	.254300E+01 .658100E+01	.932000E+00	0.	0.14	15	•	0 .
33 19 <u>0</u> 8 0 0 0 0	.269700E+02 .932000E+00	0.	.355800E+01 .921100E+01	.932000E+00	0:	0.19	21	0 -	0
34 20 0 8 0	138500E+02 932000E+00	0.	:182800E+01 :472900E+01	0.932000E+00	8:	0.21	22	* o Deri in insentin inse on seit 0	0
35 28 0 8 0 0 0 0	.137200E+02 .932000E+00	0.	.181100E+01 .468600E+01	.932000E+00 0.	0.	0. 3	32	0	0
36 29 8 8 8	.988000E+01 .932000E+00	0. C.	.130400E+01 .337500E+01	0.932000E+00	0.	0.32	33	0	0
37 27 <u>0</u> 12 0 0 0 0	•575000E+01 •567800E+00	C.	.492700E+00 .322900E+01	.567800E+00 0.	0.	0.48	30	0	0

	approx. and the second				
38 46 0 14 0 .164000E+02 0 0 0 0.	.475400E+02 .800000E+00	.869000E+01 .1816C0E+02	.833330E+C0 0. .18160CE+02 0.	0. 44 -	47 0 0

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Į	THROUGH 1	DIMENSIONAL HEAT TRANSFER
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and the second state with the second second grant	THROUGH 23	DIMENSIONAL HEAT TRANSFER
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DATA FOR 14 HEAT SLAB GEOMETRIES	21 29
GEOM REG GAP MAT NO XO TO N=1 REGION WIDTH POWER FRAC.	132
1 1 0 1 4 0. 129900E-01 0: 259700E-01 0:	742 201
SUM OF POWER FRACTIONS IS 0.	<i></i>
TYPE NO IND NO DX	
2 1 1 4 .894000E+00 .208000E-01 0. 2 0 1 4 .894000E+00 .208000E-01 0.	TE:
SUM OF POWER FRACTIONS IS	1987. 21.67 4
GEOM REG CAP MAT NO KO TO N=1 T REGION WIDTH POWER FRAC	NI N
2 1 . 1 4 . 101900E+01 .417000E-01 0. 	
SUN DE POWER FRACTIONS IS 0	ang .
SEDM REG SAP MAT NO XO TO N=1 REGION WIDTH POWER FRAC	
2 1 4 .125000E+01 .625000E-01 0. 625000E-01 0.	573
SUN OF POWER FRACTIONS LS O.	Marian Alt
GEOM REG GAP MAT NO XO TO N=1 REGION WIDTH POWER FRAC	- 1999 - 1999
2 1 .166700E+01 .250000E+00 0. .500000E+00 0.	• •
SUM OF POWER FRACTIONS IS . 0.	
SEDM REG GAP MAT-NO KO TO-N=1	ar.
2 1 4 .167500E-01 .204000E-02 0. .204000E-02 0.	
SUM OF POWER FRACTIONS IS 0.	
GEOM REG-GAP MAT-NO XO TO N=1 REGION WIDTH POWER FRAC	
2 1 4 .354000E+00 .310000E-01 0. .630000E-01 0.	
SUM OF POWER FRACTIONS IS 0.	
FEON REG CAP MAT NO XO TO N=1 REGION WIDTH POWER FRAC	

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	-		Alter and the		SUM	OF P	OWE	R FR	ACT	ION	IS I	s	0.		
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2 1	0	1.	4	, 53	3 9 0 O E	+00	n'	. 443	000	E-3	1	0.		A	
1.	• • • • • • • • • • • • • • • • • • •	-	1. 1947	. 99	SUM	OFF	OWEI	R FR	ACT	ION	IS I	S	0.		2
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्रम् अस्तितः	<b>.</b>	-	77.533	Contraction	SUM	OFF	OWE	R FR	ACT	10	IS I	S.y.	0.	17. 30	retor the
GEOM RE	G GAP IND	MAT	NO XO	TO	N=1		RE	GION	WI	DTE	Ê	POVI	ER I	RAC	1
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	1.3. 10	1396		ant.	SUM	OF F	OWE	R FR	ACT	101	IS I	S	0.	(10) T	
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	5. 3. T.			1.2.2	SUM	OF	OWE	R FR	ACT	101	15: 1	s	0.		
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and the second second	-	The second	LATE A	- Marine Inc.	SUM	OF I	POWE	R FF	ACT	101	IS I	s	0.		
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100 × 100		6 - 11-	The second s	1945	342125	2000		Marrie g	1.1.1.1.	12.7	ar ar	Carlos .			

PROPERTIES FOR HEAT CONDUCTING MATERIAL NUMBER 1
THERMAL CONDUCTIVITY (BTU/FT-HR-F) VS TEMPERATURE (T(1),K(1),)
-2 POINTS +212000E+03 +957400E+01 +237200E+04 +1929+0E+02
VDL HEAT CAPACITY (BTU/FT**3-F) VS TEMPERATURE (T(1),C(1),)
-13 POINTS
120000E+04 .509906E+02 .531587E+02 .160000E+04 .551587E+02 .160000E+04 .551481E+02 .220000E+04 .551481E+02 .220000E+04 .551481E+02 .220000E+04 .551481E+02
.240000E+04 .573616E+02

	RELAI	P4/C05 01/0 LOFT L135-	2/76 ( 1) A23 PRE-JEST	PREDICTIONS W	RELAPA THE	RMAL HYDRAULI	C CODE CO	INFIGURATION	ONTROL YES	Remain mar Incometer in	
	CPU	TIME .	1.03							and a second	
	STAN	DARD TIME S	TEP NUMBER	0. ACTUAL	TIME STEP NUM	BER 0. T	IME = 0.	SEC. LA	ST CT = 0.	SEC	
	TOTAL	LSYSTEM	NORM POWR	POWR	HEAT REM	ENGY LEAK	HASS LEAK	ENGY BAL		TOT DEAC	DEAC
	QUANT	TITIES	1.00000E+00	(MW)	(BTU/HR)	(BTU)	(LB)	(BTU)	(LB)	(S) KEAL	SEC.
		UNE	AVG- PRES	-TOT- MASS	AVG. ENTH	AVG -DENS	AVG TENS	ANC OHAL	1.000002000	NTNT ACM	U.
	NUM	BER	PSIA 2.267315+03	(LB) H20	(BTU/LB)	ILB/FT3)	(F)	AVG. QUAL	(LB)	(FT)	(LB)
	seried the	z. wa with di	2.271136+03	1.99415E+02	5.34889E+02	4.75250E+01	-5.40000E+02	0.	0.	7.50000E+00 1.86500E+00	7.73749E+02* 1.99415E+02
	Contract of Stand	4	2.26394E+03	2.16237E+02	5.348972+02 5.34898E+02	4.75209E+01 4.75204E+01	5.40000E+02 5.40000E+02	0:	8:	9-32333E-01	3.77851E+02
	A	8 million to the	2.26328E+03 2.26283E+03	1.51582E+02	5.34898E+02 5.34899E+02	4.75200E+01 4.75197E+01	5.40000E+02	0.	0.	9-323338-01	1.515826+02
		7 8	2.258286+03	5.31351E+02 5.21570E+02	5.34905E+02	4.751686+01	5.40000E+02	0	<b>0</b> .	2.50000E+00	5-313516+02
	74-1	9	-2.25374E+03	23588466+02	5.34910E+02	4.75138E+01	5.40000E+02	0.	0.	2.00521E+00	2.58846E+02
	1255	1 miles and	2.25563E+03	5.313326+02	5.34908E+02	4.75151E+01	5.40000E+02	0.	0.	6.75000E+00 2.50000E+00	5.21560E+02 5.31332E+02
	1	3	2.25012E+03	2.10855E+02	5.349156+02	4.75116E+01 4.75115E+01	5.40000E+02 5.40000E+02	0.	0.	2.37508E+00 3.80867E+00	9.77451E+01 2.10855F+02
	here i	5 vieros margane	2.26398E+03	2.13486E+02	5.34917E+02 5.34897E+02	4.75104E+01 -4.75204E+01	5.40000E+02 5.40000E+02	0.	0.	2.17450E+00 2.47577E+00	2.13486E+02
12	1	7	2.26533E+03 2.27848E+03	1.79897E+02 9.01069E+01	5.34896E+02 5.34880E+02	4.75213E+01 4.75297E+01	5.40000E+02	0.	0.	2.47577E+00	1.79897E+02
4	11	9	2.280925403	3.29559E+01	5:34877E+02	4.75313E+01	5.40000E+02	0.	0.	7.08333E-01	3.29559E+01
	20	0	2.274212+03	1.53447E+02	5.34885E+02	4.75270E+01	5.40000E+02	0.	0.	9.32333E-01	1.53447E+02
	21	2 - Frank Contractor	2.27486E+03	8.11131E+02	5.34884E+02	4.75274E+01	5.40000E+02	0.	0.	3.43500E+00 1.16119E+01	3.54049E+02 8.11131E+02
	2	4	2.27372E+03	1.43763E+03	5.34885E+02	4.75267E+01	5.40000E+02 5.40000E+02	0.	0.	4.15000E+00 9.42200F+00	1.09991E+03
	20	6	2.27318E+03 2.27318E+03	1.69650E+02 1.03394E+02	5.34886E+02 5.28797E+02	4.75263E+01 4.78266E+01	5.40000E+02 5.35000E+02	0.	0.	9-32333E-01	1.69650E+02
	2	8	2.27318E+03 2.26666E+03	3,93317E+01 3,58782E+02	5.22722E+02	4.81115E+01 4.75221E+01	5-30000E+02	0.	Q.	5.67750E-01	3.933176+01
	20	8	2.26685E+03	1.09795E+02 1.38347E+01	5.32457E+02	4.76445E+01	5.38000E+02	0.	0.	9.323338-01	1.09795E+02
	10 mg	1 and 1 and 1	2.265356+03	2.19412E+02	5-275888+02	4.78798E+01	5.34000E+02	0.	0.	4.58250E+00	2+19412E+02
	3	S THERE AND	2.26535E+03	2.20452E+02	5-22729E+02	4.81068E+01	5.30000E+02	0.	0.	4.04708E+00 4.58250E+00	4.81642E+02 2.20452E+02
	12503		2.26795E+03	8.255916+01	5.19172E+02	4.82914E+01	5.27000E+02	0.	0.	4.54167E+00 2.17450E+00	1.97222E+01 8.25591E+01
	30	7	4.29912E+01	2.79792E+01 1.25925E+05	5.17988E+02 2.41773E+02	4.83510E+01 3.40940E+01	5.26000E+02 2.71634E+02	0.1.239836-03	0.	4.31775E+00 9.42000E+00	2.79792E+01
	38	9	2.27039E+03 2.26631E+03	3.90272E+02 -2.79213E+02	5.30018E+02 5.34895E+02	4.77662E+01 4.75219E+01	5.36000E+02	0.	0.	2.06508E+00	3.90272E+02
	40	0	2.26317E+03 2.26202E+03	1.67035E+01 7.77191E+02	5.62288E+02 7.59739E+02	4.60956E+01	5.6200CE+02	0.	0.	4.03500E+00	1.67035E+01
	42	2	9.62790E+02	5.85317E+03	5.76346E+02	2.078546+01	5.40000E+02	6.01149E-02	3.67076E-07	6-89700E+00	5.50130E+03
	2004		2.27317E+03	1.64811E+02	4.76087E+02	5.03046E+01	4.90COOE+02	0.	0.	8.41146E-01	5.04028E+03 1.64811E+02
	46	6	2.27871E+03	5.76561E+01	4.76086E+02 5.34879E+02	5.03016E+01 4.75298E+01	4.90000E+02 5.40C00E+02	0.	0.	8.41146E-01 1.57900E+01	1.64801E+02
	URA COMPANY	Land in a sur	2.27318E+03	6.82008E+00	5.28797E+02	4 . 78266E+01	5.35000E+02	0.	0.	3-38600F-01	6-82008E+00

VOLUME AIR MASS

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40 42 43 44 45 46 47 47 47 47 47 47 47 47 47 47 47 47 47	VINP SPEED PUMP NORM (RPM7 IDROUE 1.97115E+03 3.68116E-01 1.97115E+03 3.68116E-01
38         39           40         42           42         43           42         43           45         46           46         47           VOLUME         46           NUMBER         15           16         HEAT SLAB VOL	VUMP SPEED PUMP NORM RPM7 RPM7 RPM7 RPM7 INFOUE *97115E+03 3.73311E-01 1.97115E+03 3.68116E-01 HEAT TRAN SURF FLUXCRIT FLUXH.T. COEFSURF TEMP AVG. QUAL POWR H20
VOLUME NUMBER 15 16 HEAT SLAB VOL NUMBER NUMBER 15 16 HEAT SLAB VOL NUMBER NUMBER NUMBER NUMBER NUMBER	0         1:17080E+02         0:
VOLUME NUMBER 16 HEAT SLAB VOL NUMBER 16 HEAT SLAB VOL NUMBER 1 LEFT 23 LEFT 2	WHP_SPEED_PUMP_NORM         RPM1         I:97115E+03         3:73311E-01         1:97115E+03         3:68116E-01         HEAT TRAN_SURF_FLUX_CRIT_FLUX_H.T. CDEF         NODE         (BTU/HR/FT2)         (BTU/HR/FT2)         (BTU/HR/FT2)         (BTU/HR/FT2)         (BTU/HR/FT2)         (BTU/HR/FT2)         (BTU/HR/FT2)         0
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38         39           42         43           42         44           45         46           45         46           45         46           46         45           46         46           47         46           47         46           47         46           47         46           46         47           47         46           47         46           47         46           47         46           47         47           48         46           49         46           40         47           40         47           40         47           41         47           42         47           41         47           42         48           43         48           44         49           44         49           44         49           44         49           44         49           44         49           46         <	0:
38       39       40       42       43       44       44       44       44       44       44       44       44       44       44       44       44       44       44       44       44       44       44       44       45       46       47       47       48       48       49       44       44       44       44       45       46       47 <th>0      </th>	0
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15 LEFT 30 0 0.	9.00000E+04	5.00000E+00 5	.36000E+02 (	). 0.
10 LEF1 23 0 0.	4.00000E+04	5.00000E+00 5	.40000E+02 (	. 0.
IT LEFT B 0 0.	1.74493E+05	5.00000E+00 5	.40000E+02 (	0.
17 KIGHI 42 0 0.	9.00000E+04	5.00000E+00 5	.40000E+02 (	.01149E-02 0.
18 LEFT 9 0 0.	7.75253E+05	5.00000E+00 5	.40000E+02 (	0.
10 KIUT 42.	.00000E+04	5.00000E+00 5	-40000E+02	.01149E-02 0.
	· / 4995E+05	5.00000E+00 5	.40000E+02 (	0.
LY KIGHI HZ	+.00000E+04	5.00000E+00 5	.40000E+02 (	•01149E-02 0.
20 LEFT 49 0 0.		2.00000E+00 4	. 90000E+02	
		2.00000E+00 4	. 90000E+02	• 0.
	7.00000E+04	5.0000000000000000000000000000000000000	.40000E+02 (	
	000002+04	2.00000E+00 2	· 32000E+02	•
	000000000404	5.0000000000000000000000000000000000000	-40000E+02 (	
26 TECT - 5	00000000404		•40000E+02	·
	000000000404	5.0000000000000000000000000000000000000	•40000E+02 (	
28 IFFT 7	000005404	5 0000000000000000000000000000000000000	\$40000E+02	
29 1 FFT 11	000006+04	5.000005+00 5	40000E+02	•
30 TFFT 12 0 0.	0.0000F+04	5.0000005+00 5	40000E+02	Peak alt for the sty of all
31 1 FFT 13 0 0	2-000006+06	5-000005+00 5	400006402	
- 32 LEFT 14 0 0.	0.0000F+04	5-00000F+00 5	.40000E+02	And the second
33 LEFT 19	0.0000E+04	5.00000F+00 5	-40000F+02	A THE AND A
34 LEFT 20 0 0.	0.0000E+04	5.00000F+00 5	-40000F+02	and a second second second
35 LEFT 28	9.0000E+04	5-00000E+00 5	40000F+02 0	0
36 LEFT 29 0 0.	9.0000E+04	5.00000000005	.38000E+02 (	
37- LEFT 270	9.000002+04	5-00000E+00 5	30000E+02 (	
38 LEFT 46 0 0.	9.0000E+04	5.00000E+00 5	.40000E+02 (	0.
and the second se	CHARLES THE THE	And the state of the second second	N. BERNEL CONTRACT	
		a way a Wood and a start and a second start and a second start and	in a light of ereast hat the other	and the second

RELAP47C05 01/02/76 ( 1)	RELAP4 THE	RMAL HYDRAULI URIZER MODEL	C CODE C	ONFIGURATION 1	CONTROL YES		
CPU TIME = 1.08		The second second	Server same				
JUNCTION CONNECTING CHOKE CT. FLOW NUMBER VOLUMES ILB/SECI	JCT. ENTH (BTU/LB) 5-348876+02	JCT. SPVL (FT3/LB)	PRE S	S U R E ELEV PSI	D I F F FRIC PSI	E R E N T ACCL PSI	I A L S
2 1 10 3 0 0 5 97222E+02 3 1 10 28 0 0 6 97222E+02 4 3 10 4 0 0 5 97222E+02	5.34897E+02 5.34897E+02 5.34897E+02 5.34897E+02	2.10426E-02 2.10427E-02 2.10434E-02	1.03940E+00 9.03423E-01 7.17665E-01	9.16459E-01 9.16459E-01 -1.70439E-15	-1.95586E+00 -1.97848E-03 -7.17665E-01	2.13163E-14 1.81790E+00	0.
5 10 6 0 0 5.97222E+02 5 10 6 0 0 5.97222E+02	5.34898E+02	2.10436E-02 2.10438E-02	6.58869E-01 1.17806E+00	-2.23364E-01	-0.58869E-01 -9.54698E-01	1:421098-14	8
8 7 10 8 0 0 5.97222E+02	5.34998E+02 5.34903E+02	2.10439E-02 2.10452E-02	2.10301E+00	7-2.921558-01 -1.52611E+00	-5.76895E-01	7.81597E-14	8. 6
10 9 10 10 0 0 5.97222E+02 11	5.34908E+02 5.34910E+02	2.10466E-02 2.10466E-02	-7.27994E-01 -8.65211E-01	1.44443E+00	-7.16439E-01	1.11022E-16	0.
12 11 10 12 0 0 5.97222E+02 13 12 10 13 0 0 5.97222E+02	5.34908E+02 5.34916E+02	2.10460E-02 2.10475E-02	4.36323E+00 -5.80109E-01	2.84440E-01 1.02014E+00	-4.64767E+00	6.03961E-14 3.55271E-15	0.
14 13 10 14 0 0 3.97222E+02 15 14 10 15 0 0 3.07722E+02 16 14 10 15 0 0 2.97520E+02	5.34917E+02 5.34916E+02	2.10475E-02 2.10481E-02	1.69702E+00 -1.39240E+01	2.69594E-01 -7.67226E-01	-1.96661E+00 -6.60879E-01	2.84217E-14 7.10543E-15	1.535216+01
	5-34896E+02 5-34895F+02	-2.10436E-02 2.10432E-02	-1.55890E+01	-2.91630E-01	-2.34766E-01 -5.61517E-01	-3.55271E-15 7.10543E-15	1.60617E+01 1.53521E+01
19 17 10 19 0 0 3.07722E+02 20 16 10 19 0 0 2.89500E+02	5.34880E+02 5.34877E+02	2.10395E-02 2.10388E-02	1.02232E+00 3.24803E+00	-3.53135E-15 -7.31452E-15	-1.02232E+00 -3.24803E+00	1.77636E-14 3.90799E-14	0.
22 20 TO 21 0 0 2.97222E+02	5+34883E+02 5+34885E+02	2.10402E-02 2.10407E-02	1.61562E+00 3.12581E+00	-2.51031E-15 2.09301E-01	-1.61562E+00 -3.33511E+00	1.42109E-14 2.84217E-14	0.10 10 10 10 10
24 22 TO 23 0 0 5.972222E+02 23 TO 23 0 0 5.97222E+02 23 TO 23 0 0 5.97222E+02	5.34892E+02	2.10411E-02 2.10405E-02	-2.386292+00	2.0355555+00	-9.68241E-02 -4.91807E-01	7.10543E-15	0.
26 24 10 2 0 0 5.97222E+02 27 21 10 25 0 0 0.	5.34879E+02 5.34886E+02	2.10408E-02 2.10412E-02	2.53864E+00 -1.47565E-01	-1.86261E+00 -2.09301E-01	-6.76037E-01	1.04361E-14 -3.63375E-01	0.
	5.34886E+02 5.28797E+02	2.10410E-02 2.09086E-02	0.	7.29391E-13 -1.16245E-10	0.	-1.16415E-10	0. 0.
31	4.76087E+02	1.00000E-02	1.00000E-02 0.	-0.98675E-03 0. 2.96939E-13	0.	3.01325E-03	0.
	5.32457E+02 5.30020E+02	2.09888E-02 2.09363E-02	3.40000E-01 1.16000E+00	-3.48534E-01 -1.16652E+00	0.	-8.53365E-03	0
35 31 IO 32 0 0 0.	5.27585E+02 5.25157E+02	2.08856E-02 2.08365E-02	1.41000E+00 -1.41000E+00	-1.43625E+00 1.43986E+00	0.	-2.62488E-02 2.98605E-02	0.
38 34 10 35 0 0 0.	5.20361E+02	2.07871E-02 2.07339E-02	-1.50000E+00 -1.10000E+00	1.52602E+00 1.12519E+00	0:	2.60242E+02 2.51917E-02	8:
40 36 10 45 0 11 0. 41 45 10 37 0 11 0.	5.17985E+02 4.76086E+02	2.06821E-02 1.00000E-02	6.60000E-01	-6.75031E-01	0.	-1.50305E-02	0.
42 29 10 39 0 0 0. 43 v 26 10 38 0 0 0.	5.32457E+02 5.28797E+02	2.09888E-02 2.09088E-02	5.40000E-01 2.79000E+00	-3.57514E-01 -4.97332E-01	0.	1.82486E-01 2.29267E+00	0.
	5.80221E+01 5.62291E+02	1.79762E-02 2.16941E-02	-1.666671E+03 -7.70000E-01	4.00992E+00 7.99655E-01	-4.96978E-02	-2.00433E-02	0.
47 46 TO 23 0 0 0. 48 47 TO 27 0 11 0.	5.34890E+02 5.28797F+02	2.10326E-02 2.10394E-02 2.09088E-02	1.93108E+00	2.12235E+00	-3.44747E-04	-8.90898E-02 4.05309E+00	0.
	0.	0.	0.	. 0.	0.	8:	C: TITAN
JUNCTION SLIP VEL. LIQUID VEL. ENUMBER (FI/SEC) (FI/SEC) 2.61802E+01	VAPOR VEL. (FT/SEC) 2.61802E+01	JCT. FLOW-L (LBM/SEC) 5.97222E+02	JCT. FLOW-G (LBM/SEC) 0.	SAT. H-L (BTU/LBM) 5.34889E+02	SAT. H-G (BTU/LBM)	FLOW-WEIGHTED (BTU/LBM) 5-34889F+02	H
	1.84080E+01	5.97222E+02	0.	5.34894E+02	0	5.34894E+02	

	-	0	1.90162E+01	.90162E+01	97222E+02	· THE CONTRACT OF A	.34903E+02 (		34903E+02
	6	2.	1.84089E+01	.50251E+01 .84089E+01	5.97222E+02 (		5.34904E+02 ( .34905E+02 (		.34904E+02 .34905E+02
-	8	2.	7.72882E+00	·72882E+00	97222E+02 (		5.34903E+02 ( 5.34905E+02 (		.34903E+02
	O september of the set	· Train - The series	7.72929E+00	-72929E+00	5.97222E+02 (		5.34918E+02 ( .34908E+02 (		.34918E+02
-	2	D •	2.26063E+01	·72922E+00	5.97222E+02 ( 5.97222E+02 (		5.34907E+02 (		-34907E+02
1	3 4 1		84121E+01 84122E+01	.84121E+01 .84122E+01	5.97222E+02 (	· · · · · · ·	-34919E+02 (		.34919E+02
1	6	0	1.54630E+01	.64363E+01	3.07722E+02 ( 2.89500E+02 (		34924E+02 (		-34924E+02
i	8		1.54595E+01	.64329E+01 .54595E+01	3.07722E+02 ( 2.89500E+02 (		-34903E+02 (	and a second	-34903E+02
2	0 a 2 3 2 4 4 4 4 4		1.64297E+01 1 1.54562E+01-1	.64297E+01	3.07722E+02 ( 2.89500E+02 (		34885E+02 (		-34885E+02
2	2		1.90134E+01 1 1.84062E+01 1	•90134E+01 •84062E+01	5.97222E+02 (		-34890E+02 (		-34890E+02
2	-		9.62945E+00	.62974E+00	5.97222E+02 (		34888E+02		-34888E+02
22	6		1.59995E+01	.18992E+01	5.97222E+02 (		-34882E+02 (		-34882E+02
4		) •	0	). (	). (			a set the state	
Sec. 5	8	0	0.		) - Contraction (	. The second second	A THE REAL PROPERTY OF	the state of the second second	The second second second
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RELAP4/C	05 01/02/76 T L135-A23	TTT	DICTIONS WI	RELAPA THE	MAL HYDRAULI	CODE CON	FIGURATION 1	CONTROL:YES	
CPU TIM	E = 1.12	HAT WAR AND THE	C. 2007. 2007. (752)	FERELES SEC.	1.7		The Product of the	AS IN THE A	and the second second second
JUNCTION	şŧŧ	SEC	TISECT .	VAPOR VEL .	ICT. FLOW-L	ICT. FLOW-G .	SAT. H-L	SAT. H-G.	FLOW-WEIGHTED H
PLOT REC	ORD NUMBER	• • •	nie kraine Nie krain 1		tala anna a kana ann an brainn an daoine dhar		and the state of the second second second	<b>V</b> •	U•
RESTART	NUMBER		-	5.4. 4. A		and the second	tal and the state	HACLE STA	1

ANTITIES	1.00000E+00	POWR (MW) O.	HEAT REM (BTU/HR) 0.	ENSY LEAK (BTU) 0.	MASS LEAK (LB) 0.	ENGY BAL. (BTU) 4.77468E+07	MASS BAL. (LB) 1.50502E+05	TOT. REAC	REAC T SEC.
UMBER	AVG. PRES	TOT. MASS	AVG. ENTH	AVG. DENS	AVG: TEMP	AVG. QUAL	BUBB HASS	MIXT LEVL	LIQ. MASS
1	2.266866+03	7.737466+02	5-348916+02	4.752246+01	5.399986+02	0.	0.	7.50000E+00	7.73746E+
3	2.264218+03	3.77849E+02	5.348956+02	4.752076+01	5.399986+02	0.	0.	1.86500E+00 9.32333E-01	1.99414E+ 3.77849E+
5 13 190 -	2.26304E+03	1.515826+02	5.348 97E+02	4.75203E+0_ 4.75199E+01	5.39999E+02	0.	0.	9.32333E-01	2.162376+
6	2.26263E+03	1.36772E+02	5.34898E+02	4.75196E+0	5.39999E+02	0.	0.	2.42156E+00	1.36772E+
8	2.25571E+03	5.21569E+02	5.34907E+02	4.75152E+01	5.399996+02	0.	0.	2.50000E+00 6.75000E+00	5.31350E+ 5.21569F
10	2.25420E+03	2.38845E+02 5.21559E+02	5.34909E+02 5.34908E+02	4.75138E+01 4.75142E+01	5.39999E+02	0.	0.	2.00521 2+00	2.5884564
11	2.255306+03	5.313306+02	5.34907E+02	4.75149E+01	5.39999E+02	-0.	ŏ.	2.50000E+00	5.31330E
13	2.249676+03	2-10854E+02-	-5.34913E+02	4.75113E+01	5.399986+02	0.	0.	2.37508E+00 3.80867F+00	9.77449E
14	2.24792E+03	2.13485E+02	5.34915E+02	4.75102E+01	5-39998E+02	0.	0.	2.17450E+00	2.13485E
16	2.26480E+03	1.79895E+02	5.34899E+02	4.75208E+01	5.40002E+02	0.	0.	2.47577E+00	1.798926
18	2.28049E+03	3,29557E+01	5.34878E+02	4.75309E+01	5.39999E+02 5.40001E+02	0.	0.	7.08333E-01 7.08333E-01	9.01064E
20-	2.27547E+03	2.98880E+02	5.34881E+02	4.75279E+01	5-39998E+02	0.	0.	9.32333E-01	2.98880E
21	2.27249E+03	3.54049E+02	5.34887E+02	4.75259E+01	5.40000E+02	0.	0.	3.43500E+00	1.53440E
23	2-276365+03	1.09990E+03	5.34880E+02	4.75284E+01	5.39998E+02 5.39999E+02	0.	0.	1.16119E+01	8.11128E
25	2.27334E+03	1.43763E+03	5.34884E+02	4.75265E+01	5.39998E+02	0.	0.	9.42200E+00	1.43763E
26	2.27315E+03	1.03394E+02	5.28798E+02	4.78266E+01	5.35000E+02	0.	0.	9.32333E-01 9.32333E-01	1.03394E
28	2.26792E+03	3.58786E+02	5.34899E+02	4.81117E+01 4.75226E+01	5.30001E+02	0.	0.	5.67750E-01	3.933205
29	2.26793E+03	1.09796E+02	5.32462E+02	4.76449E+01	5.38005E+02	ö.	ŏ.	9.323336-01	1.09796E
31	2.26714E+03	2.19415E+02	5.27595E+02	4.78805E+01	5.34007E+02	0.	0.	2.44013E+00 4.58250E+00	1.38349E
32	2.26585E+03	4.81650E+02 2.20455E+02	5.25162E+02	4-79934E+01 4-81075E+01	5.32008E+02	0.	0.	4.04708E+00	4.81650E
34-125 80251 12 50 10	2.26863E+03	1.97225E+01	5.20365E+02	4-82309E+01	5.28007E+02	0.	0.	4.54167E+00	1.97225
36	2.26885E+03	2.79794E+01	5.17993E+02	4-82919E+01 4-83515E+01	5.26005E+02	0.	0.	2-17450E+00	8 - 25600E
37	4.29912E+01	1.25925E+05	2.41773E+02	3.40940E+01	2.71634E+02	1.23983E-03	6.46847E-07	9.42000E+00	1.25768E
39	2.26732E+03	2.79216E+02	5.34898E+02	4.75223E+01	5.40004E+02	0.	0.	2.06508E+00 2.89583E+00	3.90278E
40	2.26306E+03 2.26202E+03	1.67034E+01 7.77191E+02	5.62291E+02 7.59739E+02	4,60953E+01 2,23638E+01	5.62002E+02	0.	0.	4.03500E+00	1.67034E
42	9.62790E+02	5.85317E+03	5.76346E+02	2.07854E+01	5.40000E+02	6.01149E-02	3.61357E-07	6.89700E+00	5.50130
44	2.27387E+03	1.64811E+02	4.76090E+02	4,43563E+C1 5,03048E+01	9.00000E+01 4.90003E+02	1.47705E-05	0.	6.50948E+00 8.41146E-01	5.640286
45	2.26804E+03	1.64802E+02	4.76091E+02	5.03020E+C1	4.90004E+02	0.	0.	8.41146E-01	1.648028
47	2,27340E+03	6.82010E+00	5.28796E+02	4.78268E+C1	5.35C00E+02	0.	0.	3.38600F-01	5. 16548E
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NUM	BER 5 CRI WAR	RPN) .97115E+03 3.73349E-01 .97115E+03 3.68168E-01							
Eur .	T	THE TRANS CHOSE CLINY - COTT CLINY - H T COES CHOSE TEND AVC CHAR - DOUD HAD							
NUM	BER NUM	MODE (BTU/HR/FT2) (BTU/HR/FT2) (BTU/H/F2/F) (F) (BTU/HR)							
Surger Longer	1 LEFT 23	1 8.95268E-01 9.00000E+04 6.04690E+02 5.40000E+02 0. 6.26688E+01							
124-226	3 LEFT 2	1 2.63029E+00 9.00000E+04 1.21876E+03 5.40000E+02 0. 2.75575E+01							
. de k	4 LEFT 24	1 1.48325E+00 9.00000E+04 8.76704E+02 5.40000E+02 0. 8.94664E+01 2.29675E-01 9.00000E+04 6.49813E+01 5.26000E+02 0. 8.94664E+01							
18-18-1	ú têri 35	1 -2.28030E-02 2.000000E+04 8.21841E+00 5.27000E+02 03.87046E-01							
	A LEFT 21	1 5.88384E=01 9.00000E+04 1.73834E+03 5.40000E+02 0. 1.65331E+01 5.88384E=01 9.00000E+04 1.73834E+03 5.40000E+02 0. 2.11689E+01							
	9 RIGHT 22	1 3.81744E+00 9.00000E+04 2.37711E+03 5.40000E+02 0. 3.82927E+02							
and 1	I LEFT 34	1 -4.54885E-01 9.00000E+04 6.37458E+01 5.28000E+02 04.18039E+00							
ET I	22 LEET 33	1 _6.88389E-02 9.00000E+04 8.66328E+09 2.30000E+02 01.12345E+00							

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19	LEFT	31	and the second	1	1.259	46E-0	1 9	.0000	0E+04	1	7315	4E+01	5	. 3400	0E+0	2 (	)	-2.1	05544	E+00	
12	LEFI	30		1 -	1.372	66E+0	0 9	.0000	0E+04	1	.6784	0E+02	. 5	.3600	DE+D	2 0	).	-9.	37524	F+00	
16	LEFT	-23	the state of the	1	8.365	93E-0	1 9	.0000	0E+04	. 5	. 4651	5E+02	5.	4000	OF+0	2 0	a start in	3.	63199	E+01	
17	LEFT	8		1	2.710	)77E+0	0 7	.7446	3E+05	5 3	.5742	0E+03	5	4000	OF+0	2 0		3.	04124	E+03	1
17	RIGH	1 42	THE REAL PROPERTY.	1 march and	2.695	54E-0	6-9	.0000	0E+04	5-5	.0000	0F+00	5	4000	05+0	5	011405-02	- 2	76141	6-03	
18	LEFT	9	An and the second and a los	Transformer	2.663	46F+0	õ 7	7534	4F+0*		5750	25103	- Second	4000	nein	5 7	ANTE AL		12171	5-03	
18	RIGH	1 42	Simples ing the -	1	1.416	79F-0	6 9	.0000	OF+O	5	0000	05 +00	5	4000	OE LO	5	011405-02	1.	12700	ETU3	
19	TEFT	10	- Malere 12 This	To sail the said	2.801	47F+0	õ ź	7516	OFAD	- 1	5766	25102	1 5	- 2000	AETO	5 6	001144E-05		17336	E-03	
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20	FFT	66	and the second	-	1 272	375-0	2 4	0000	DEL DI			NE TOU			UETU	5 5	70-346TI09	1.	01800	15-04	3
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LOFT LI35-A23 PRE-T	EST PREDICTIONS W	ITH NEW PRESS	URIZER MODEL	CONCO=.75	UNFIGURATION	12/20/76	The second	
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	0 1.19710E-01 0 5.96764E+02 0 5.96552E+02	5.34895E+02 5.34895E+02 5.34895E+02 5.34895E+02	2.10427E-02 2.10427E-02 2.10435E-02 2.10437E-02	1.04467E+00 -8.17183E-01 6.24291E-01 5.79778E-01	9.16456E-01 9.16456E-01 -1.05492E-15 -9.42382E-16	-1.95208E+00 -1.97477E-03 -7.16565E-01 -6.57424E-01	9.03863E-03 9.72989E-02 -9.22741E-02 -7.76467E-02	
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JUNCTION SLIP VEL	• LIQUID VEL. (FT/SEC) 2.61464E+01 1.83902E+01	VAPOR VEL. (FT/SEC) 2.61464E+01 1.83902E+01	JCT. FLOW-L (LBM/SEC) 5.96450E+02 5.96643E+02	JCT. FLOW-G (LBM/SEC) 0.	SAT. H-L (BTU/LBM) 5.34887E+02 5.34892E+02	SAT. H-G (BTU/LBM) 0.	FLOW-WEIGHTED (BTU/LBM) 5.34887E+02 5.34892E+02	H

RELAP4/CO5 01/02/76 1 11 RELARS THERMAL HYDRALL TO CODE 

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1000	7		387265-02	387265-02	066055-01	And a state was	•25162E+02 0	•	2.25162E+02
- 3	8	A	-86385E-02	-86385E-02	849185-01	•	202655402	•	5.22737E+02
3	9		-34865E-02 6	-34865E-02 2	-76043E-01		191785+02	•	2.203022+02
Kana de	0		350426-02	.35042E-02-2	-32926E-01	a the state of the state of the	179936+02		3.17002E+02
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4			292216-01	-139216-02 6	· 20220E-02 (	·	•62291E+02 0	•	5.62291E+02
	7 . Marine Million .	- D. Cartal & Chattering - Maria	.089456-01 -1	080455-01 -7	450575-01	-000415-08	·U2/972+02 1	.11650E+03	7.02796E+02
	8		-076775-04 -1	-076775-04 -4	-664376-04	San and a second s	· 227235+02 0	·	2.34881E+02
and the	9		and the second second second		is the of a	an 2 minutes	CELESCIUL U	and a start have the	3. CEIESE+02
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RELAPS/COS 01/02/76 ( 1) LOFT L135-A23 PRE-TEST PREDICTIONS WI	RELAPA THE	RMAL HYDRAULI URIZER MODEL	CONCO75	NFIGURATION	CONTROL : YES	n to any sub-prove
CPU TIME . 11.66	Augus Hanather		2 SINCE STREET	A PRESSER		
JUNCTION SLIP VEL. LIQUID VEL. NUMBER (FT/SEC) (FT/SEC) 50 0. 0.	VAPOR VEL. (FT/SEC) Q.	JCT. FLOW-L (LBM/SEC) 0.	JCT. FLOW-G	SAT. H-L (BTU/LBM) 0.	SAT. H-G (BTU/LBM) 0.	FLOW-WEIGHTED H (BTU/LBM) 0.

. .

PLOT RECORD NUMBER = 2

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## APPENDIX B

INPUT AND TIME = 0.0 LISTING FOR THE POSTTEST ANALYSIS RUN (RELAP4 RUN L135-A22)

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273  080032  0.744846992  0.02278  0.0314  1.37    276  080072  0.303511660  0.02278  0.0314  1.44    276  080072  1.802983179  0.03544  0.46122  1.37    277  080072  1.802983179  0.35844  0.46312  0.46312  0.3577    277  080072  1.105385439  0.40572  0.3577  0.3577  0.3577    278  080112  2.105385439  0.40572  0.3577  0.3577  0.3577    280  080112  2.105385439  0.40575  0.3577  0.3577  0.3577    281  080112  1.371201641  1.409944  0.22884  0.222884  0.222884  0.222884  0.222884  0.222884  0.222884  0.222884  0.22284  0.22888  0.222884  0.222884  0.222884  0.222884  0.222884  0.222884  0.222884  0.222884  0.222884  0.222884  0.222884  0.222884  0.222884  0.220884  0.220884  0.220884  0.220884  0.2002  0.21027  0.21037  0.21037  0.21037  0	
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e contra a			a man data da	895	64E+00 61E+04 25E+01		00783 41620 46150	E+01 E+03 E+01	<b>.</b>	3391 0000	7 E + 00 0 E + 01 3 E + 00	1.2.11	8245+0	2	0000E+01		0000E+01	1997) 1997)
22	and the second	07		1626	16E+04 21E+01 96E+04		41620	E+03 E-01 E+03		10000 8121 10000	0E+01 9E+01 0E+01		779E+0	2	9000E+01 0521E+01	. 20	0521E+01	
it i		a mi		1626 1625 1626	521E+01 564E+04 521E+01		35000 41620 35000	E-01 E+03 E-01		95621 10000 28121	9E+01 0E+01 9E+01		9769E+0	2 2767	5000E+01		9000E+01	Za
1	A NEW YORK	0		.2256	77E+04	2	41620	E+03 E+01		10000	0E+01 3E+00	•11	1824E+0	2 .25	0000E+01	•2	0000E+01	111 111
		2 - 1		-225	64 E+00 187 E+04	57.	06733 41620	E+01 E+01		8743	0 E + 01 7 E + 00 0 E + 01	.20	3798E+D	1 .23	7508E+01 0867E+01	.23	0867E+01	1
	TECCO.	0		-224 -224	98E+04	3	41620	E+03 E+00		2961			346E+0	1 .21	7450E+01	•21	7450E+01	
SEL			<u></u>	226	43E+00		940 00	E+00		21216	02+01	.37	85616+0		75775+01	्राज्य महत्व २ २	75776+01	22
1	TADAS		se sere	3940	063E+00 100E+00	101110	94060 41620 08333	E+00 E+03 E+00		21216	0E+01 0E+01 7E+00		9580E+0	1 70	83336+00	M. 5747	8383E100	Z
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50 2	iviz		-14-0-0. V	•682 •227 •682	704E+00 308E+04 704E+00	.9	32333 41620 32333	E+00 E+03 E+00		46616 10000 46616	7E+00 0E+01 7E+00	.32	0 2862E+0	1 .93	2333E+00	.9	32333E+00	) .
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INPUT DATA FOR 54 VOLUMES.

VOL BUBL TIME	PRESSURE	TEMPERATURE (DEG F)	HUMIDITY LOR QUALTTY	VOLUME (ET**3)	HEIGHT	MIXTURE
NUM FRIC	FT**2)	EQUIVALENT DIAMETER (FT)	ELEVATION V	OL . BELON S		
21 0 0	·227258E+04	.541620E+03 .583333E+00	100000E+01 235167E+01	.744960E+01	.343500E+01	.343500E+01
	152716E+01 +227727E+04	•333330E+00 •541620E+03	100000E+01	.368887E+01	.387064E+01	.122320E+01
	227479E+04 326500E+01	.541620E+03	100000E+01 122600E+02	.100830E+02	-314067E+01	·314067E+01
23 - 0	.22/314E+04	.541620E+03	100000E+01 466167E+00	.356959E+01	•932333E+00	•932333E+00
	.002704E+00	932333E+00 530000E+03	466167E+00	-017513E+00		*567750E+00
E Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	.253165E+00 226666E+04 .682704E+00	• 567750E+00 • 541620E+03 • 932333E+00	283875E+00 100000E+01 466167E+00	TATE 9779E+01		
29	682704E+00	932333E+00	466167E+00	289649E+00	+244013E+01	.932333E+00.11
30 0	• 226535E+04	• 530000E+03	189292E+00	0 .458256E+0I	.458250E+01	.458250E+01
	•226394E+04	•520000E+03	100000E+01	.100357E+02	.404708E+01	.404708E+01
	226535E+00 226685E+04	*121583E+01 *500000E+03	100000E+01 100000E+01	.408918E+00	.454167E+01	.454167E+01
	2267951404	495000E+03	100000E+01	.170960E+01	•217450E+01	.217450E+01
36 200	226750E+04 .900370E-01			,578667E+00		•431775E+01
	.962113E+01	• 350000E+01	135104E+02 100000E+01	.817046E+01	.206508E+01	.206508E+01
	2266316+04	125000E+01 •125000E+01	100000E+01 364583E+00	.587547E+01	-2895836+01	269583E+01 -
40 0	.155592E-01	.140750E+00	.466167E+00	. 3023002+00	• 903200E+01	+U3500E+01

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vo	L BUB	C TIME	E. 2.175	PRES	SURE	2 discound	TEMP	ERATI	IRE	HUN	DITY	The second	Voco	MELLO	an train	HEIG	HT T	Store .	IXTU	RE	We and
L NU	B. INO	X. DEP	27 7 8 2 5	APSI	A.L . TC.	1	- SD	EG E		LIOR.	QUAL	ITY)	(FI*	*31	14.377	TELL		Carola Si	EVEL	IFTE	A.
YO NU	L 2-P H FRI	2	HE WELLER	FLOW	SAEA.	1500	EQUI	VALEN	(FT)	ELE	AIIO	N	OL.B	ELOW	1.12.35	Le Carlo	2724		a gaa aan takaa a	The second	
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-	2	1 0		0.	NY. 1 681	STYA.	.5	39400	E+03	0.	10200	VETU	.2	81600	E+03	•2	745008	+02		7000E+0	2
Link	5 53	0 0	1445 Amil	· · · · · · · · · · · · · · · · · · ·	27580	+04	• 5	41620	1E+03		0000	OE+O	6	39200	E+01	.1	70360	+01	.17	0360E+0	51 Maria
in the second		8 - Co	Allen I	.2	27317	E+01 E+04	.5	10314	E+03	-	13953	OE+0	.3	27625	E+01	.8	411466	E+00	.84	1146E+0	0
1	3	8	en and		26684	+00		4383	E+OR	159	0057	3E+00	- Starting	27625	F+OT		411461	+00	18.84	11466+0	00
1	à ana	Querte in	C.A.S. SAR	5.215	59250	E+00		4383	E+30	E.E.	40057	3E+00	A CONTRACT	0 "00.	1.12.	The L	- and and -	and the fil			Section of
1	6 - 7	9	YAN RI WAT	R. S.Z.	23.221		1	1000	ETRA	ZAR	10000	SE+0	TATAL	21302	EFFE		27900	11028m		7900 6+0	12
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No.	6 TEL	9	and the second s	Liz	27674	101		41620	E+03		10000	OE+O	1200	37500	E+01	2.201	223208	E+01	1.12	2320E+0	1
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EZ	8	Carlo Martin			82704 27318 87704	E+00 E+04	1.1.2	3233	3E+00 2E+03	12.	66616 10000	7E+00 0E+01 7F+00		31500	E+00.		323331	E+00	2 93	2333E±9	10.45
225	. Mada	Swalls an	The	Sale -		-int	ER	211.3	TE AN	-	10010	ALIN	Stall .	L'0007		1-1-1-1					" JEEL
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5	4	0 0	Contraction of the second	.2	274691	E+04	.5	41620	)E+03		10000	0E+01	1 .5	68887	E+01	• 3	87064	E+01	.38	7064E+0	1

VOLUME DATA ACTUALLY BEING USED.	<u></u>
VOL EUBL TIME PRESSURE ENTHALPY VOLUME HEIGHT HIXTURE ELEVATION	
1 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
• 0 0 .226416E+D4 .536871E+O3 .455041E+O1 .932333E+O0 .932333E+O0466167E+O0 • 932333E+O0466167E+O0 • 932333E+O0466167E+O0	
0  0	
9 0 0 225496E+04 .536883E+03 .544779E+01 .200521E+01 .200521E+01 .956219E+01 100769E+02	NT#
12 0 225207E+04 .336887E+03 .205729E+01 .237508E+01 .237508E+01 .487437E+00 225207E+04 .336887E+03 .205729E+01 .237508E+01 .380867E+01 .487437E+00 23508E+01 .380867E+01	
19	1
17    0    .227700E+04    .536055E+03    .189580E+01    .708333E+00    .708333E+00    .708333E+00    .354167E+00      18    0    0    0    .227700E+04    .536851E+03    .189580E+01    .708333E+00    .708333E+00    .354167E+00      19    0    0    .227410E+04    .536859E+03    .628853E+01    .932333E+00    .932333E+00    .932333E+00    .466167E+00	
20 32333E+00 932333E+00 + 405167E+00 21 - 0 343500E+01 - 343500E+01 - 235167E+00	
22 0 0 •227588±404 •336856±403 •568887±401 •387064±401 •387064±401 -139636±402 23.23.20.20.20.20.20.20.20.20.20.20.20.20.20.	
	ça Cit
29 0 0 0 0 0 0 0 0 0 0 0 0 0	I.S.
226685E+04 +499109E+03 +58256E+01 +458250E+01 +458250E+01 -227083E+01 226685E+04 +487546E+03 +08918E+00 +454167E+01 +454167E+01 -227083E+01 226685E+04 +481768E+03 +170960E+01 +217450E+01 +217450E+01 -444533E+01	<u>727</u>
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VOL BUBL TIME PRESSU	RE ENTHALPY	VOLUME HEIGHT	MIXTURE LEVEL (ETA	ELEVATION
	1936+04 759729E+03 005 +03 574333E+03 580E+04 536356E+03 317E+04 494+81E+03	.347522E+02	54E+61	+02000E+01 -199000E+01 -139536E+02 400573E+00
45 0 0 226 \$9 9 9 9 227	684E+04	.327625E+01 .8411 .121305E+01 .1579 .142600E+00 .3386	46E+00 .841146E+00 00E+02 .137900E+02 00E+00 .338600E+00	400573E+00
	674E+04 536355E+03 685E+04 536368E+03 318E+04 536866E+03	• ##37500E+01 • #223 • 774056E+00 • 9323 • 631500E+00 • 9323	20E+01	466167E+00
22	351E+04 536359E+03 375E+04 536359E+03 271E+04 536360E+03 659E+04 536358E+03	+568887E+01, +3870 +100830E+02, -3140 +100830E+02, -3140 +2088887E+01, -3870	64E401 .387064E+01 67E401 .314067E+01 67E401 .314067E+01 67E401 .314067E+01 64E401 .387064E+01	622231E+01 911933E+01 597867E+01 100929E+02
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VOLUME DATA ACTUALLY BEIN	G USED.	AT THE ALL				an and a card and a	C. Station Soil Frid
VOL 2-PH FLUW AREA	EQUIVALENT DIAMETER 4ET)	CENGTH	1/24 (FI+4-1)	HORIZ. AREA	TEMPERATURE	SATURATION TEMP. IFI	VOL. BELOW
2 0	•9323335+00 •9323335+00	•6481582+01 •168446E+01 •16667E+02 •666528E+01 •467240E+01	1290122+01 338110E+00 052985E+01 488153E+01 342198E+01	217090E+01 ·224987E+01 ·224987E+01 ·52834E+01 ·488067E+01 ·342138E+01	541620E+03 541620E+03 541620E+03 541620E+03 541620E+03 541620E+03	• 653796E+ • 654052E+ • 653627E+ • 653611E+ • 653595E+	
4	.146150E+01 .335000E-01 .335000E-01 .335000E-01	• 3213662+01 • 140814E+01 • 675000E+01 • 335000E+01 • 375000E+01		447296E+01 +47296E+01 +62621E+01 -271682E+01 -271682E+01	+541620E+03 +541620E+03 +541620E+03 +541620E+03 +541620E+03 +541620E+03	653319L 6533615 653020L 653020L 653063L	
12 0 395564E+00 12 0 395564E+00 13 0 862704E+00 14 0 882704E+00 14 0 882704E+00 14 0 882704E+00	146150E+01 06783E+01 932333E+00 032333E+00 394040E+00	.229720E+01 .229720E+01 .550060E+01 .558186E+01 .969662E#01		+47296E+01 +866196E+00 -116523E+01 +206643E+01 -206643E+01 -152906E+01	•541620E+03 •541620E+03 •541620E+03 •541620E+03 •541620E+03	.6531368+ .6528346+ .65282164 .65282164 .65269964 .65360964	
16 2 0 394063E+00 17 0 394063E+00 18 0 394063E+00 19 0 682704E+00 20 0 18 682704E+00	• 708333E+00 • 708333E+00 • 932333E+00 • 932333E+00 • 932333E+00	. 966662E+01 .481091E+01 .175950E+01 .92112IE+01 .472917E+01	1218926+02 •610425E+01 •223251E+01 •674612E+01 ·346356E+01	+152906E+01 +267643E+01 -978850E+00 -674493E+01 -346295E+01	*341620E+03 •541620E+03 •541620E+03 •541620E+03 •541620E+03	65341364 65443364 65443364 65463464 65424764 65424764	
22 0 .152716E+01 23 0 .152716E+01 24 0 .152716E+01 24 0 .152716E+01 24 0 .152716E+01 32 0 .157716E+01 32 0 .157716E+000 32 0 .157716E+000 32 0 .157716E+00000000000000	33330E+00 33330E+00 20,308967E+01 231300E+01 33330E+01	• 3798456+01 • 372512E+01 • 372512E+01 • 308821E+01 • 308821E+01 • 522861E+01	• 968391E+00 • 121962E+01 • 744945E-01 • 472926E+00 • 382934E+01	216873E+01 146975E+01 4.684680E+012 .321046E+01 .382867E+01	.541620E+03 .541620E+03 .541620E+03 .541620E+03 .541620E+03 .541620E+03	• 654150E • 654361E • 654361E • 65450E • 654292E • 654189E	
20	• 9823335+00 • 9823335+00 • 9823335+00 • 9323335+00 • 9323335+00	.322917E+0 .110587E+02 .224166E+01 .321700E+01	637759E+01 637759E+01 6809917E+01 164175E+01 178649E+02	164147E+91 143992E+01 809774E+01 164146E+01 118702E+09		6531896 6537716 6537716 6537836	
106080E+01 116102E+01 0 - 106080E+01 0 - 005080E+01 0 - 005080E+01 0 - 005080E+01 0 - 005080E+01 0 - 005080E+01	121583 +01 +121583 +01 +21583 +01 +338580 +00 +338580 +00 +9323335 +00	• 431993E+01 • 864393E+01 • 554167E+01 • 554167E+01 • 250417E+01	•203617E+01 •372257E+01 •203617E+01 •252211E+01 •183401E+01	•100001E+01 •247975E+01 •247975E+01 •100001E+01 •900370E-01 •786206E+00	•530000E+03 •520000E+03 •500000E+03 •500000E+03 •495000E+03	•653687E+ •6533597E+ •653783E+ •653783E+	
36:128    9003702-01      17    9003702-01      175842-00    9175842+00      175942+00    175942+00      175942+00    11555922-01	3385602+00 350000E+01 4125000E+01 125000E+01 125000E+01	• • • • 2700E • 01 • 383890E + 03 • 195660E + 02 • 140702E + 02 • 232895E + 02	356909E+0 199504E+0 234277E+0 168471E+0 748418E+0	.134021E+00 .229496E+03 .395648E+01 .202894E+01 .898057E-01	• • • • • • • • • • • • • • • • • • •	.256880E+ .654010E+ .653749E+ .6533543E+	

- V	IOLUME DA	TA ACTUAL	LLY BEING	USED.	Andreas desite and	in the state	Contra P.S.		and the second states	ting a thing a second of	a to a state sure a	. A series and series of	A Contract in	ad an and a start of the	20123
-	VOL 2-PH	FLOW AL	REA	EQUIVALEN DIAMETER	LE LE	NETH	LÍZA		HORIZ. A	REA	EMPERATURE	SATUR	ATION	VOL. BE	LOW
FD	11		726E+01-		E+01	78503E+	81	81503E+00	-10258	3E+01	-653468E+		3468E+0		120
. Farm	43	.559	329E+01 250E+00	143833	2+01 E+00	170759E+ 585830E+		280866+00 23764E+01	37520	5E+01 9E+01	*541620E+		4356E+0 4188E+0	<u></u>	ġ
	40.2419	.668	1005-01	291670	E+00	1015076+	92	35883E+03	.70023	9E-01	140000E+	03 3	49426+0	1	i ZU
The s		749	748E+017704E+00	308967	E+01 E+00	11170464	81	44945E-01 30381E+00	.83023	0E+01	-541620E+		4189E+0 4416E+0 3783E+0	STATIST.	100
1990	50	152	7166+01		E+00	-92699856 -372512E+	01	779526900 219626+01		3E+00	.541620E+	03 .65	4210E+0	3 <u>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</u>	
	23	• 326	500E+01 500E+01	231300	E-01 E-01	• 308821E+ • 308821E+ • 372512E+		72926E+00 72926E+00 21962F+01	.32104	6E+01	•541620E+	03	4225E+0 4159E+0 4285E+0		
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TIME DEPENDENT TABLES	FOR T VOLUMES	and the second and a	Sur an all a minimum at a star	- mainten in the faith and	ame dit in the minute in	inder
SET NON NUM PTS	THE ISECONDS)	RESSURE	TEMPERATURE	MIXTURE QUALITY.	MIXTURE LEVEL	
20	0+2 00+00		.256880E+03 .100000E+03	0.100000E-05	.160937E+02 .160937E+02	TVOL 371
	.100000E+01	-274140E402	. 100000E+03	.100000E-05	.160937E+02	P. IS NOT USED, PSAT USED.
C. S. State of State of State of State	. 400000E+01	.366130E+02	1000COE+03	.100000E-05	.160937E+02	P. IS NOT USED PSAT USED
	.800000E+01	.379130E+02 .397210E+02	.100000E+03	.100000E-05	.160937E+02 .160937E+02	P.IS.NOT.USEDF PSAT USED.
	.1 000E+02	-416630E402	. 100000E+03	.100000E-05	.160937E+0Z	P IS NOT USED PSAT USED. PIS NOT USED PSAT USED
	-200000E+02	. 552150E+02	100000E+03	.100000E-05	.160937E+02	P IS NOT USED, PSAT USED
	.250030E+02	.612220E+02	.100000E+03	.100000E-03	.160937E+02	R IS NOT USEQ. PSAT USED
	.350000E702	.652910E+02	.100000E+03	.100000E-05	•160937E+02	P IS NOT USED, PSAT USED. P IS NOT USED, PSAT USED
	.400000E+02	.639280E+02	.100000E+03	.100000E-05	.160937E+02 .160937E+02	P 15 NOT USED PSAT USED
	500000E+02	**************************************	.100000E+03	-100000E-05	•160937E+02	P IS NOT USED PSAT USED
	.694800E+02	.616800E+02	.100000E+03	.100000E-05	.160937E+02	P IS NOT USED, PSAT USED
	.700000E+02	.613000E+02	.100000E+03	.100000E-05	.160937E+02	P IS NOT USED, PSAT USED.
The second s	TO TA THE COURT			and a second sec	The second s	P IS NOT USEDA PSAT USEDA

DESCRIPTIONS OF 58	JUNCTI	DNS.		<u> </u>			a. Bathers No
JUN FROM TO PUM NUM WAL VOL LEAD FILL	CHKV	TNITIAL FLOW MISECT	JUNCTION ELOW AREAS (FT**2)	JUNCTION ELEVATION	JUNCTION INERTIA	SP. ENERGY LOSS COEFATA (FORWARD)	SP. ENERGY LOSS COEE (REVERSE)
VERT CHOK IC JUN TING CALC INDX INDX IND	MDH EQ. INDX	DIAMETER.	CONTRACTION COEFEICIENT	SUBCOOL	ENTHALPY INDEX	COSINE I	AD JUN
		.619444E+0 	480000E+00	973000E+0	0 0. 	.648100E+00 .100000E	.646100E+00
		0. 932300E+00 .619444E+0 .932333E+00	682700E+00 660387E+00	0.	.474100E+0 .874485E+0	1 .309500E+00	.473200E+00
		619444E+0	.358820E+00	0.	.830351E+0 0 .921630E+0	1 .227800E-01	.912000E-01
		9323332+00 901670E+00 901670E+00	.556000E+00 .0.162621E+01		1 .216404E+0	1193061E+01	.177640E+01
		619444E+0 143894E+0 143894E+0	162621E+01	.936219E+	01	1	.572000E-02
	8	619444E+0 • 143894E+0 • 19444E+0	0.162621E+01	.281219E+0	01 .216404E+0	01 .632500E+00 .137940E+01	.357000E+00
	8	901670E+0 019444E+0 932333E+0 019444E+0	682704E+00	487437E+0	00 .604346E+0	196580E+00 1 .196580E+00	.206500E+00 .125000E+01
		•311844E+0 •708333E+00	.394063E+00	212160E+0	.170096E+0	228840E+00	.228840E+00

JUN FROM TO PUNP CHKY INITIAL	JUNCTION J FLOW AREA SCIE	DNCTION JUN LEVALUM J. INE FT) FT	CTION SP. ENI RTIA PLOSS CI FORWAI	RGY SP. ENERGY LOSS CDEF D) (REVERSE)
VERT CHOK IC MDM CTION JUN ING CALC, EQ. DIAMETER INDX INDX INDX INDX (FT)	CONTRACTION COEFFICIENT	SUBCOOL ENTHA CHOKE INDEX	LPY COSINE	IADJUN
16 14 16 2 0 .307600E+03 16 19 15 0 0 706333E+00 17 19 17 0 331E+00 311844E+03	.394063E+00 - .394063E+00 0	.212160E#01 .1	70098E+02 .2234	0E+00 .223400E+00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0. 394053E+00 0	0	4217E+02 .2102	70E+00 .210300E+00
20 18 17 0 0 0 07600E+03 20 18 17 0 0 07600E+03 20 18 17 0 0 000E+03	0.394063E+00 0	8	97863E+01 .2936	9E+01 .120000E+01
21 - 19 - 29 - 0 - 019444E+03 932333E+00 22 - 29 - 21 - 0 - 019444E+03	0.060887E+00 0 0.082704E+00 20		02097E+02	0E+00 .450250E+00- 09E+01 .123809E+01-
23 22 51 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	.130494E+01 0.130494E+01	.235167E+01 .0.	.1752 0 83200E+01 .6000	00000E+01 -175280E+00
	.195600E+91 -	•122600E+02 0.	2500 1	00000E+01 +250000E+00- 00000E+01 0
26 53 2 0 0 619444E+03 26 0 2 2 0 0 100000E+01 27 21 25 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	.785440E+00 - .682704E+00 0	.283800E+01 0.	• 5591 91683E+01 • 8040	00E+00 .559180E+00 00000E+01 0 00E+00 .133020E+01
28 25 26 0 0 0.932333E+00 29 50 47 0 0 0 0.338500E+00	.682704E+00 0 .900370E-01 0	.0	47080E+01 .10050 47010E+01 .2600	00E+00 •100500E+00 00E+00 •754000E+00
30 27 40 0 567750E+00	.253160E+00 0 .600000E+00	11	16155E+02 .2995	.246290E+00

HILL  (TBH/SEC)  (FT+2)  (FT)  (FT+-1)  (FGRWARD)  (REVERSE)    VERT CHOK  TC  MDK  NCTION  CONTRACTION  SUBCOOL  ENTHALPY  COSINE  TADJUN    JUN  JUN  JUN  TADJUN  COSINE  TADJUN    JUN  JUNZ  INDX  INDX  COSINE  TADJUN    JUNZ  JUNZ  INDX  TADJUN  COSINE  TADJUN    JUNZ  JUNZ  INDX  TADJUN  COSINE  TADJUN    JUNZ  JUNZ  TADZ  STADZ  STADZ  STADZ  STADZ    JUNZ  JUNZ  JUNZ  JUNZ  STADZ
VERT CHOK    IC    MDM    NCTION    CONTRACTION    SUBCOOL    ENTHALPY    COSINE    IADJUN      INDX TNDX    INDX TNDX    INDX
INDX_INDX_INDX_INDX_INDX_  CDEFEICTERIL  CHOKE  INDEX    31  41  37  1  0  .559250E+00  0.  .252555E+02  .103700E+01  .537000E+00    32  28  29  0  0  .682704E+00  0.  .507420E+01  .100500E+00  .100500E+00    32  49  30  0  .992333E+00  0.  .682704E+00  0.  .307420E+01  .100500E+00  .100500E+00    32  49  30  0  .992333E+00  0.  .900370E-01  0.  .197019E+02  .396050E+00  .753630E+00    33  10  31  0  0  .900370E-01  .227083E+01  .199010E+02  .935960E+00  .935960E+00    34  35  0  0  .227083E+01  .199010E+02  .935960E+00  .935960E+00    35  0  0  .227819E+00  0  .206034E+00  .6855333E+01  .575875E+01  .581834E+01  .581834E+0
31  4  37  0  1  0  559250E+00  0  .2522555E+02  .103700E+01  .537000E+00    32  28  29  0  0  .992333E+00  0  .507420E+01  .100500E+00  .160500E+00    33  49  30  0  .992333E+00  0  .900370E+01  .197019E+02  .396050E+00  .753630E+00    33  49  30  31  0  0  .900370E+01  .227063E+01  .199010E+02  .935960E+00  .935960E+00    34  30  31  0  0  .3297017E+00  .227063E+01  .199010E+02  .935960E+00  .935960E+00    35  0  .1  .3297017E+00  .205034E+00  .685333E+01  .575875E+01  .581834E+01  .581834E+01    36  .32  .33  .32  .327819E+00  .206034E+00  .685333E+01  .575875E+01  .581834E+01
1  20  20  0
33  30  0  9923332E+00  0  900370E+01  197019E+02  396050E+00  753630E+00    33  31  0  197019E+02  396050E+00  753630E+00  935960E+00
33  49  30  0  0
34  30  31  0  0  .900370E-01  .227083E+01  .199010E+02  .935960E+00  .935960E+00    35  31  32  0  .359417E+00  0  .206034E+00  .685533E+01  .581834E+01  .581834E+01  .581834E+01  .581834E+01    36  37  33  0  0  .206034E+00  .6855333E+01  .575875E+01  .581834E+01  .581834E+01    36  37  33  0  0  .206034E+00  .4055333E+01  .575875E+01  .581834E+01  .581834E+01    36  37  33  0  0  .206034E+00  .4055333E+01  .575875E+01  .581834E+01
31  32  32  32  206034E+00  .665333E+01  .575875E+01  .581834E+01  .581834E+01    36  32  33  32  32  32  32  32  .206034E+00  .900370E+01  .575875E+01  .581834E+01  .581834E+01 <td< td=""></td<>
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38 39 35 596 3 0 3941/2+00 - 900370E=01 - 397917E+01 - 375249E+02 - 635100E+01 - 5435100E+01
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JUN FRO	TO PUN	P CHKV	FLOW TLAMASEC	print f	UNCTION LOW AREA FT##21	JUN	VATION -	JUNI	TION	SP LOSS (FOR	ENERGY COEF	SP	ENERGY COEF	
VER	T CHOK T N -ING CAL	C MOH		C SAL C	ONTRACTIO	N SU	BCOOL OKE	ENTHAL	PY	COSIN	E	IADJUN	20.2	
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		2 0 0	0.291670	E+00 0	-500370E-			•1	18006+0		5000E+0	.29	0000E+0	0
50 2			308333	E+01 0	. 249748E+	00 0.	9.768E+0	2 0.	7880E+01	.10	0000E-0 100000 0000E-0	+ <b>01</b> .10	0000E-0	1
28-31-18	1	6 0	.932333	E+00 0		00. 0.	0 22231E+0	1 - 05	1920E+01	- 10	9980E-0	1	10000E-0	1
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NUMBE	R OF PUMP (	URVES TO	SE READ FO	R EACH CURVE	SET.	The second s	170. THE R. P. SYNC. ST. B. SEE	Marine an Book of Large of Addition	and the second s
7 18	0 0	16	and the second in the same	Constant after an Martin	Stratte inter stind all and and	·	- Brank Che Mallan & security	The star and the second second	in street ware caption of the
DHO F	PW TOP PEV	DECTORT		SPEED PATTO	BATER ELAU	DATER USAN	PATED TOPOLIE	MOM OF THEPTI	TA THE ARE LADER.
NUM	ET ID	REVI	MIN	SPEED RAILU	GALTMIN) .	(FT)	FT-LBF1	(LBH-FT*#2)	No. Star Star
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1000	Or the state	a constant	17500E+02-	0.	. 0	184000E+02	103550E+03.	0.	CONTRACTOR
·		STOP PUMP	AT 0.	SEC. D	R IF SPEED IS C	T 0.0 RPM DR	LT 0.0 RPM.	IND STOP ON	OPTION IF 0.0T
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PUMP READ NULTIPLIER CURVE
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PUMP CURVE SET NUMBER 1 HAS IS
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1 x 1	273470F+00	123361E+01-		+11965CE+01 		-780700F+00
CAN BEAR THE ATTACK	.738160E+00 .100C00E+01		.7685202+00	58490CE+00.	\$10057E+00	2.487,700E+00
and an and the second and the second s	ET MUTSPEED	TOPOISPEENER	FINUTOPER	THPH/SPEED##2"	FI'DW/SPEED	TOPO/CPEEDES?
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and and such as the state of th	100000E+01			900COCE+00	SPEED/FLUW	60000Et00
	TATT PROPERTY	ALE PAR Star Store	TANK STRANS		Service Markers	and the second second second

PUMP CURVE SET NUMBER 1 READ CURVES FOLLOW.	in the state of the Marine of the set of the set
SET HEAD TYPE NUM X	X Y Y
TORO PTS	
FLOW/SPEED HEAD/SPEED**2 FLOW/SPEED HEAD/SPEED**2 FLOW/SPEED	LOW/SPEED HEAD/SPEED**2
• 13360E+00 • 123280E+01 • 790200E+00 • 113360E+01	- 389630E+00 - 131860E+01 -100000E+01 - 100780E+01
SPEED/FLOW HEAD/FLOW**2 SPEED/FLOW HEAD/FLOW**2 S	SPEED/FLOW HEAD/FLOW++2
• 575540E+D0 0	•773480E+00 •377800E+00
100780E+01	
1 1 3 6100000E+01 .247220E+01805740E+00 .204740E+01	.606900E+00 .183100E+01
1 1 6 8 100000E+31 .247220E+01 322970E+00 .199680E+01	-633320E+00 •158970E+01
907300E-01 .101560E+01 0	
FLOW/SPEED HEAD/SPEED**2 FLOW/SPEED HEAD/SPEED**2 FLOW/SPEED	LOW/SPEED HEAD/SPEED ** 2
•11800E+00 .276800E+00 .597630E+00 .458400E+00	.793467E+00 .699200E+00
	SPEED/FLOW HEAD/FLOW#22
10 0. 934279E+00 .910990E-01 .922900E+00	•186509E+00 •896300E+00
•740576E+D0 •846600E+C0 •766619E+00 •846900E+00	.871471E+00 .883800E+00
FLOW/SPEED HEAD/SPEED HEAD/SPEED HEAD/SPEED HEAD/SPEED HEAD/SPEED	FLOW/SPEED MEAD/SPEED**2
1 1 7 6100000E+01100000E+01800000E+00630000E+00 - 400000E+00500000E+01200000E+00 .150000E+00 (	600000E+00300000E+00 .250000E+00
SPEED/FLOW MEAD/FLOW**2 SPEED/FLOW HEAD/FLOW**2	SPEED/FLOW
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PUMP CURVE SET NUMBER	I TORQUE CUR	VES FOLLOW.			A STANGE	44.27.28
SET HEAD TYPE NUN	a strain x Succession	and any constants	X is a for the	En my in the sec. in	X	with a strategic state of
TDRO PTS	the contract of	and a short the That wash	A CASE TRUE CASE	E . Sin Station to a state	- the state of the	the lowest pit File
	FLOWSPEED	TORO/SPEED**2	FLOWISPEED	TORO/SPEED**2	FLOW/SPEED	TORO/SPEED##2
1	.595520E+00	.833100E+00	193000E+00 .797820E+00		. 393000E+00 .100000E+01	• 736900E+00 • 967200E+00
and the state of the	SPEED/FLOW	TOROJELOW##2	SPEED7FLOW	TOROTFLOW##2	SPEED/FLOW	TORO/FLOW##2
	0. 737255E+00	526586F+00	- 400000E+00	250000E+00		120000E+00
· William and the same in a set the	.100000E+01		a the second states of the		The second is	ATTOOVE TOU
	PLOW/SPEED	TORO/SPEEC**2	FLOW/SPEED	TORO/SPEED**2	FLOWISPEED	TOROZSPEED
PERSONAL AND A PROPERTY.		\$22000E.+00	-11992806+00	664 800E+00 %	0.	603200E+00
State of the second second second	SPE CICLOW	TORO/FLOW**2	SPEEDIFLOW	TOROVELOW##2	SPEEDLELON	TORG/ELOW +2
		155700E+01	T-, 267023E+00	-143620E+01	176107E+00	.138790E+01
	393100E-01	.1348101+01	State Frank	•123361E+01	In the second	E AN AN AN ANY ANY ANY ANY ANY ANY ANY AN
1	FLUW/SPEED	TORG/SPEED##2	F. OW/SPEED	TORO/SPEED##2 250000E+00	FLOW/SPEED	TURQ/SPEED++2
CONTRACTOR OF THE CONTRACTOR	.100000E+01	.356900E+00	LUNDELSE PT SHITTER		নামার বিজ্ঞান ব জনসংখ্যা	Contraction of the second second
1 2 6 7 10	SPEED/FLOW	TURG/FLOW##2	SPEED/FLOW	TORQ/FLOW##2	SPEED/FLOW	TORO/FLOW##2
	.273470E+00	.104150E+01	. 458669E+00	.895800E+00	.574480E+00	.780700E+00
and a second	-100000E+01	.356900E+00	THE LOOP TAGE LAG		DILLOIVOZIETUL.	
	FLUW/SPEED	TORO/SPEED##2	FLOW/SPEED	TORO/SPEED##2	FLOW/SPEED	TORO7SPEED++2
	0.	450030E+00		900000E+00	100000E+00	
	SPEEDIFLUW	TURO/FLJW+#2"	SPEED/FLOW	TORO/FLOW++2	SPEED/FLOW	TORO/FLOW##2
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PUMP CURVE SET NUMBER	A HAS 16 CUR	VES TO BE READ.		The All Market of All	Contraction and and a second	
SET HEAD TYPE NUM	A CLARK		X	γ	X Sta Maria	the second states
	FLOW/SPEED • 500000E+00 • 100000E+01	HEAD/SPEED**2 • 102000E+01 • 100000E+01	FLOW/SPEED 1000000 +00 .7000000 +00	HEAD/SPEED**2 *030000E*00 *101000E*01	FLOW/SPEED .2000000000000000000000000000000000000	HEAD/SPEED**2 ****109000E*01** *940000E*00
	SPEED/FLOW	HEADIFLOW**2	·100000E+00 •100000E+00 •100000E+00	MEAD/FLOW**2: A 400000E-01 210000E+00 .100000E+01	SPEED/FLOW 200000E+00 800000E+00	HEAD/FLOW**R
	FLOW/SPEED 	HEAD/SPEED**2 	FLUW/SPEED 900000E+00 600000E+00	HEAD7SPEED**2 124000E+01 279000E+01 *.169000E+01	FLOW/SPEED 800000E+00 500000E+00	HEAD/SPEED**2 -*177000E+01 -291000E+01
	0. 3PEED/FLDW 100000E+01 700000E+00	0. HEAD/FLDW##2 #116000E+01 310000E+00	SPEED/FLOW 600000E+00	HEAD/FLOW*#2	SPEED/FLOW 	HEAD/FLOW**2
	FLOW/SPEED		FLOW/SPEED •200000E+00	HEAD7SPEED**2	100000E+00 FLOW/SPEED . 400000E+00	.800000E-01 HEAD/SPEED**2 650000E+00
	SPEED/FLOW	HEAD/FLDW**2 110000E+00 130000E+00	SPEED7FLDW -100000E+00 -500000E+00 -500000E+00	HEAD/FLDW+*2 130000E+00 700000E-01	SPEED/FLDW •250000E+00 •600000E+00	HEAD/FLOW+*2 -150000E+00 -400000E+00
	-100000E+01 FCOW/SPEED 	147000E+01 HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2
	SPEED/FLOW 100000E+01 FLOW/SPEED	HEAD/FLOW++2	SPEED/FLOW O. FLOW/SPEED	HEAD/FLOW**2 0. TORO/SPEED**2	SPEED/FLOW	HEAD/FLOW++2
	595520E+00 SPEED/FLOW 737255E+00	.833100E+00 TURO/FLOW++2 670000E+00 .526586E+00	.797820E+00 SPEED/FLOW .400000E+00 .768049E+00	•922900E+00 TOR0/FLOW+*2 250000E+00 -606594E+00	.100000E+01 SPEED/FLDW .500000E+00 .867230E+00	•967200E+00 TORO/FLOW #2 •150000E+00 •743660E+00
	FLOW/SPEED 	TOR0/SPEED**2 198430E+01 ************************************	FLOW/SPEED 800960E+00 199280E+00	TORQ/SPEED**2 -139400E+01 -664800E+00	FLOW/SPEED 606380E+00 0.	TORQ/SPEED**2 .109750E+01 .603200E+00
	SPEED/FLOW 100000E+01 458530E+00 893100E-01	TORQ/FLOW**2 .198430E+01 .155700E+01 .134810E+01	SPEED/FLOW 822340E+00 267023E+00 0.	TORQ/FLOW**2 .183080E+01 .143620E+01 .123361E+01	SPEED/FLOW 633710E+00 176107E+00	TORQ/FLOW**2 .168240E+01 .138790E+01
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SALE -	2 5	FLOW/S	PEED T	0R0/SPEED##2 450000E+00 326900E+00	FLOW/SPEE	D TORO/SPE +0025000	601+00 FLOW	PEED TORO/S	PEED#*2
17. AZ	4 2 6	10 0. 2734	TLON	DRO/FLOW##2	SPEED/FLO .906430E	W TORO/FLO -01 .11965 +00 .89580	W##2 SPEED	FLOW TORO/F 569E+00 .110 80E+00 .780	LOW**2 960E+01 700E+00
المعالية من المارية . المعالية المراجعة الم	ne ni sta shi wa sa sina.	.7381	60E+00 00E+01	.613:00E+00 .356900E+00	.768520E	+00 .58490	0=+00 .8700	157E+00 .481	700E+00
120		4 1000	00E+01	100-00E+01 450-00E+00	100000E	+00 90000	5:+00 -:106	100E+00500	0006+00
	- <del>6</del> 2 8	SPEED/	FLOW DODE+01	0R0/F.0W**23 100300E+01 57030UE+00	SPEED/FLO 2500006	+009000C	0E+00800	PLOW	LOW##Z

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The state where the state of the	and the second second		LCL MELS.	includes to Patence with a star	and the second	a per materia de la companya
PUNP CURVE SET RUMBER	A HEAD CURVES	FOLTOW.		And the second		reter the state of the
SET HEAD TYPE NUM	Stang i e a we at a	and doute you to the Take	a su side of many in the second	a say i the win	X	Y They
TURO PTS	Sec. 1	and a man or in the state		and a stand in a starter and		Real and the second states
	FLOWASPEED	HEAD/SPEED##2	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED ++ 2
	500000E+00	102000E+01	.700000E+00	.101000E+01	-200000E+00	.940000E+00
and the second sec		-100000E+01	illumine of a second conducted birds	a	·	a commente com da la comental
4 1 2. 8	0.	1000005+00-	-100000E+00	400000E-01	-200000E+00	MEAD/ELUNARZ
	900000E+00	- 800000E+00	.100000E+01	100000E+0I		
	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	READ/SPEED**2	FLOW/SPEED	HEAD/SPEED ++ 2
		2360002+01	60000000000	279000E+01	500000E+00	=.291000E+01
	0.	0.	A LOCAL MARTINE	A DI WALTYA		TARUDOUVE TUD
	SPEED/FLOW	HEAD/FLOW##2	SPEED/FLOW	HEADTELOW##2	SPEED7FLOW	HEAD/FLOW*#2
	700000E+00	310000E+00	600000E+00	170000E+00	500000E+00	800000E-01
And a fair of the second se	0.	.110000E+00				
5	FLUW/SPEED	HEAD/SPEED ##2	FLOW/SPEED	HEAD75PEED**2	FLOW/SPEED	HEAD/SPEED##2
	.00000E+00	930000E+00	.800000E+00	119000E+01	.100000E+01	147000E+01
	SPEED7FLOW	HEAD/FLOW**2	SPEED/FLOW . 100000E+00	HEAD/FLOW##2 .130000E+00	SPEED/FLOW	HEAD/FLOW**2 .150000E+00
and a star and the start of the second	- 400000E+00	-130000E+00	.500000E+00	.700000E-01	. 600000E+00	400000E-01
	.100000E+01	147000E+01	E Charles		and the second	S. C. S. THERE
States and The second second second	-100000E+01.	HEAD/SPEED##2	FLOW/SPEED	HEAD/SPEED**2	FLOW/SPEED	HEAD/SPEED**2
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1 0 2	100000E+01		C.	U.		Mana Some Person

PUMP CURVE SET NUMBER 4 TURQU	E CURVES FOLLOW.	and a same have and a William a hart far in the	
SET HEAD TYPE NOM X	X		× ×
FLOW/SPE	ED TORO/SPEED**2 FLOW/S .603200E+00 .1930	PEED TORO/SPEED++2 FL 005+00 5 +632500E+00 5	DW/SPEED TOR9/SPEED**2 393000E+00
595520 SPEED/FL	0W TORO/FLOW**2 SPEED/	20E+00 .922900E+00 . FLOW TORO/FLOW**2 SP 005+00	100000E+01 .967200E+00 EED/FLOW TOR0/FLOW+*2
137255 100000	E+00 526586E+00 .7680 E+01	49E+00 .506394E+00 .	667230E+00 .743660E+00
2 3 6 - 100000	Etol 198430F=1 -: 8009 E+01 : 622000E+00 -: 1992	PEED         JORG/SPEED**2         FL           60E+00         139400E+01         -           80E+00         -         664800E+00         0;	BW/SPEED TORO/SPEED**2 606380E+00 .109750E+01 .603200E+00
5 2 5 8 -100000 5 8 -100000 5 8 -100000 - 893100 - 893100	0W TOFO/FLOW#42 SPEEDA E+01 198430E+01 -8223 E+00 155700E+01 -8223 E-01 134810E+01 0	100	EED/FLOW TORG/ELOW**2 & A 633710E+00 .168240E+01 176107E+00 .148790E+01
FLOW7SPE	ED TDR0/SPEED**2 FLDW/S 	PEED TURG/SPEED**2 FL 00E+00250000E+00	UW/SPEED TORG/SPEED **2
5	0W TURG/FLUW##2 SPEED/ .123361E+01 .9064 VE+00 .104160E+01 .4586	FLOW TORG/FLOW**2 SP 30E-01 .119650E+01 69E+00 .895800E+00 .	EED/FLUW TUR07FLUW**2 188569E+00 110960E+01 574480E+00 7160700E+00
100000 100000	E+00	20E+00	8700576+00
	100000E+01	00E+00 -++900000E+00	
4 2 4 10000	16+01 100000 -00 2500 6700000 00	bDE+00 +. 400000E+00	800000E-01 - 600000E-00

PARAMETERS FOR 1 CHECKVALVES.
VALV TRIP AREA LATCH BACK PRESSURE FORWARD DPEN REVERSE CLOSED REVERSE
-NUA IO TABL FLAG. FOR CLOSING ERICA COEFFICE FRICE COEFFICE FRICE COEFFICE

PARAMETERS FOR 1 LEAKS.	LEINIGE CARLES STR
LEAK DATA TOTO TINE OF ADEA	and we and
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DATA FOR 3 FILL SYSTEMS
FILL TYPE TRIP ID FILL PRESS FILL ENTHALPY AIR FRACTION
1.00000000+02 . 5.8284120+01 - 0. 5.
THE TABLE
N TIME, (LOVERATE) N TIME, (LOVERATE) N TIME, (LOVERATE)
1 2.000000D-01 3.214894D+01 7 6.200000D+00 1.538109D+02 12 1.720000D+01 1.989593D+02 2
3.2000000+00 1.2792430+02 10 1.0200000+01 1.7951490+02 15 1.6800000+01 2.1888000+02 4.2000000+00 1.3765480+02 11 1.2200000+01 1.8293610+02 16 4.2200000+01 2.2979020+02 5.2979020+02
EILL TYPE, TRIP DE FILL PRESS - FILL ENTHALPY - AIR FRACITOR
N PRESSURE FLOW RATE N PRESSURE FLOW RATE N PRESSURE FLOW RATE LB/SEC-FT21
2 3,000000D+03 3.865626D+01 2 3.865626D+01
FILL TYPE TRIE TO FILL PRESS - FILL ENTHALPY AIR FRACTION
1 5 2.1000000+02 5.8579140+01 0.
TIME FLOW RATE N TIME FLOW RATE SECTOR SECTO
1       5       2.10000000+02       5.8579140+01       0.         ** FILT TABLE **       ** FILT TABLE **         N       TIME       FLOW RATE       N°       TIME         SEC1       ILB/SEC-FI2)       N°       TIME       FLOW RATE         1       5       2.3920380+01       8       7.55000000+00       1.6353200+03       15       2.75400000+01       1.43002780+03
I       5       2.10000000+02       5.8579140+01       0.         **       FILU TABLE **       **       **       FLOW RATE       N       TIME       FLOW RATE         N       TIME       FLOW RATE       N       TIME       FLOW RATE       N       TIME         **       FILU TABLE **       N       TIME       FLOW RATE       N       TIME       FLOW RATE         **       FILU TABLE **       N       TIME       FLOW RATE       N       TIME       FLOW RATE         **       FILU TABLE **       N       TIME       FLOW RATE       N       TIME       FLOW RATE         **       SEC1       ItB/SEC-FIZ       N       TIME       FLOW RATE       N       TIME         **       SEC1       ItB/SEC+FIZ       N       TIME       FLOW RATE       N       ItB/SEC+FIZ         **       SEC1       SEC3       ItB/SEC+FIZ       ItB/SEC+FIZ       ItB/SEC+FIZ       ItB/SEC1       ItB/SEC+FIZ         **       **       SEC3       SEC3       ItB/SEC+FIZ       ItB/SEC+FIZ       ItB/SEC+FIZ         **       **       SEC4       SEC4       SEC4       SEC4       ItB/SEC+FIZ       ItB/SEC+FIZ         *
1       5       2.10000000+02       5.8579140+01       0.         ** FILT TABLE **         N       TIME       FLOW RATE       ISEC1
I       5       2.10000000+02       5.857914D+01       0.         ***
I       5       2.10000000+02       5.8579140+01       0.         **       FILT TABLE       **       FLOW RATE       N       IME       IME       IME       FLOW RATE       IME       IME       IME       <
1       5       2.10000000+02       5.85779140+01       0.         *** FILT TABLE **         N       TIME       FLOW RATE       N       TIME       FLOW RATE       N         1       5       2.0000000-02       2.3520360-01       6       7.55000000+00       1.6353200+03       15       2.72400000-01       1.3390500-03         1       5       2.0000000-02       2.3520360-01       6       7.55000000+00       1.7155400-03       16       3.25400000-01       1.3390500-03         1       1.5       2.478550-02       9       7.55000000+00       1.7155400-03       16       3.25400000-01       1.3390500-03         1       1.5       2.4780000-00       9       7.55000000+00       1.7155400-03       17       7.7500000-01       1.3390500-03         1.5       2.4780000-00       9       7.5500000-01       1.715540000-03       16       3.2500000-01       1.33905300-03         2.55000000-00       9       7.5500000-01       1.715540000-03       17       7.7500000-01       1.38905300-03         2.55000000-00       1.35500000-01       1.660320-03       17       7.7500000-01       1.1805310-03         2.55000000-00       1.575000000-01       1.5603200-03       20
1       5       2.1000000+02       5.8579140+01       0.         *** FILT TABLE **         N       TIME       FLOW RATE       N       TIME       FLOW RATE       N         1       5       2.100000+02       5.8579140+01       0.         *** FILT TABLE **         N       TIME       FLOW RATE       N       TIME       FLOW RATE         2.0000000-02       2.3200300+01       8       7.5500000+00       1.6353200+03       15       2.75400000+01       1.4366590+03         1       1.5200000+00       1.6003500+01       1.7130930+03       16       3.25400000+01       1.739930+03       17       3.75400000+01       1.836430+03         2       2.5400000+00       1.6038070+02       10       1.550000+01       1.6994040+03       16       3.2540000+01       1.836430+03       17       5.7500000+01       1.836430+03       18       5.7500000+01       1.836430+03       19       5.7500000+01       1.836430+03       19       5.7500000+01       1.836430+03       19       5.7500000+01       1.836430+03       10       5.7500000+01       1.856230+03       20       5.7500000+01       1.3663310+03       10       5.7500000+01       1.3663310+03       10       5.75000000+01
T       5.8579140.01       0.         T       1.856.       FLOW RATE       N         T       1.856.       FLOW RATE       N         T       1.655200.000.000       1.527400000.000       1.527400000.000         T       5.600000.000       5.75700000.000       1.6353200.000       1.5         T       5.6000000.000       5.75700000.000       1.7186930.003       15       2.75500000.000         T       5.5000000.000       7.75800000.000       1.7186930.003       17       7.75800000.000         T       5.5000000.000       1.4395800.003       17       7.75800000.001       1.8395800.003         T       5.5000000.000       1.4395800.003       16       7.75800000.001       1.8395800.003         T       5.5000000.000       1.4395800.003       12       1.35800.003       17       7.75800000.001         T       5.5000000.000       1.337394230.003       13       1.7180930.003       20       5.75600000.001

J VOL.A VOL.8 11 5.36884E+02 5.36883E+02 5.36981E+92

JUNCTION DATA ACTUALLY	BEING USED.	and the second	CARLES CARLES		enter de la de mar
JUN FROM TO PUNP CH AUN YOL VOL LEAK VAL	IN INITIAL M. FLOW (LBH/SEC).	JUNCTION FLOW AREA (FT*#2)	PUNCTION ELEVATION (FT)	JUNCTION OTAMETER (FT)	LEAK CONTRACTIONS COEFFICIENT.
	0 619444E+03 •619444E+03 0 0.	• 480000E+00 • 682700E+00 • 682700E+00	973000E+00	.901000E+00 .932300E+00 .932300E+00	.100000E+01 100000E+01 .100000E+01
	0 .619444E+03 0 .619444E+03	.358820E+00 .682704E+00	8.	•9323336+00 •675917E+00	+100000E+01 +100000E+01
	0 619444E+03 0 619444E+03	1626216+00 1626216+01	281219E+01 2956219E+01 956219E+01	901670E+00 143894E+01 143894E+01	.100000E+01 .100000E+01 .100000E+01 .100000E+01
	0 .619444E+03 .619444E+03 .619444E+03	•162621E +01 •556000E +00 •682704E +00	281219E401 	.143894E+01 .4901670E+00 .932333E+00	-100000E+01 -100000E+01 -100000E+01
	0 .307600E+03		212160E+01	•708333E+00 •708333E+00	.100000E+01 .100000E+01
	0 307600E+03 0 307600E+03 0 311844E+03 0 307600E+03	**************************************	- 8:	•706333E+00 •708333E+00 •708333E+00 •708333E+00 •708333E+00	.100000E+01 .100000E+01 .100000E+01 .100000E+01
21 19 20 0 22 20 21 0 21 0 21 0 21 0 21 0 21	0 .619444E+03 0 .619444E+03 0 .619444E+03	.660887E+00 .682704E+00 .130494E+01	0. 235167E+01	.932333E+00 .932333E+00 .932333E+00 .911450E+00	.100000E+01 .100000E+01 .100000E+01
	0 .619444E+03 0 .619444E+03	.105600E+01 .785440E+00	139636E+02 122600E+02 283800E+01	1288906+01 203800E+01 .100000E+01	-100000E+01 -100000E+01
		682704E+00 682704E+00 44.900370E=01 251160E+00		+932333E+00 +932333E+00 -338600E+00/// +567750E+00	.100000E+01 .100000E+01 .100000E+01 .600000E+00
		0. 		.843833E+00 932333E+00 .338583E+00	.600000E+00 .100009E+01 .100009E+01
<u>35 31 32 8</u> * <u>36 32 33 0</u>	0.0.	·206034E+00	.685333E+01 .685333E+01	-527819E+00	-100000E+01 -100000E+01
	8 8.	900370E-01 900370E-01 900370E-01	227083E+01 397917E+01 0.	• 359417E+00 • 359417E+00 • 359417E+00 • 338580E+00	.100000E+01 .100000E+01 .600000E+00

JUNCTION DATA ACTUALLY BE	ING USED.	17. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.		Low in the contract	and a state of the second
JUN FRON TO PUMP CHK NUM NOL VOL LEAK VALA	TNITIAL IL	INCTION J ON AREA E T#+21	UNCTION J LEVATION	UNCTION L	AK DATRACTION DEFFICIENT
	. <u>e</u> .	+17500E+00	0.	.843833E+00 .708302E+00	. 600000E+00 .100000E+01
<u> </u>	0.619444E+03	105597E+01 155592E-01	139536E+02 .466167E+00	126557E+01 140755E+00	100000E+01 750000E+00
	<u>.</u>	.155592E-01 .668130E-01 .900370E-01	.422500E+01 .157900Et02	.140750E+00 .291670E+00 .338600E+00	.100000E+01 .100000E+01 .600000E+00
	en 294	-682704E+00	0.131768E+02	.932333E+00	100000E+01
	6194448+03	.130494E+01 .326500E+01 .326500E+01	597867E+01	-128899E+01 -20380DE+01 -20380DE+01	100000E+01 100000E+01 100000E+01
<b>76 0 0</b>	.619444E+03	.130494E+01	100929E+02	-236500E+00	.100000E+01
38 - 16 - 2 - 0	- <u>0</u> .		8:	.286500E+00	.100000E+01

JUNCTION DATA ACTUALLY BE	ING USED.	and all a street of	Caller of Landson A	har of the second	A SADARE AL	attain in Dia 14	and the state of the second
JUN VERT CHOK IC HOM	JUNCTION SP.	ENERGY S S COEF	P.ENERGY OSS COEPANERS	RESIDUAL R LDSS COEF	ESIDUAL	ENTHALPY TRAI	S ANGLE
	.162823E+01 	.648100E+00 .913400E+00	-648100E+00 -913400E+00	124738E-04	472742E-04	NO NO	.100000E+01
1 1 1 9 8	- ************************************	.514000E-01 .227800E-01	514000E-01 912000E-01	938996E-05	1877416-94	NO NO	
	.521630E+01 .188298E+01 .216404E+01	.672200E+00 153061E+01 358400E+00	.672200E+00 .177640E+01 .631200F+00	. 407001E-04 .691580E-05	.762574E-04 .195366E-04	NO RO	
10 9 2 2 9 9	310539E+01 310539E+01	.130000E-02 .572000E-01	.572000E-02	•626801E-C4	2076676-04	ŢĔS ĮĔŠ	- <u>8</u> :
	216404E+01 2 e137120E+01 .604346E+01	.632500E+00 .137940E+01 .196580E+00	.357000E+00 .160170E+01 .206500E+00	.429133E-C4 1.141579E-C4 .930734E-05	141724E-04	YES NO NO NO	· · · · · · · · · · · · · · · · · · ·
<u> </u>	.170096E+02	1099402+01 228840E+00	.125000E+01 .228840E+00	:111627E=81	:206171E-04	NO NO	8.
	•170095E+02 •182935E+02 •144217E+02	-165410E+00 -165410E+00 -210270E+00	.223400E+00 .165410E+00 .210300E+00	•451477E-C4 •330419E-C4 •158293E-C5	.626197E-04 .470930E-05 .219503E-05	NO NO NO NO	1.4 %
20 1 5 0 0	.897863E+01	.293689E+01	.120000E+01	210607E-05	.2919896-05	NO NO	8.
	218801E+01 •129412E+01	123809E+01 175280E+00 600000E+00	123809E+01 175280E+00 600000E+00	3176136-05 162839E-05		NO NO	1000000 .01
25 0 5 2 0	.701012E+00 .811036E+00	.250000E+00	.250000E+00	•722663E-07	.747869E-07		.100000E+01
	.3916836+01 .547080E+01 .249470106+01	.8040006+00 .100500E+00 .260000€+00	133020E+01 100500E+00 754000E+00	- 0.	0. 0. 9.	NO NO NO NO NO NO	8:
30 1 0 0 0	•110155E+02 •252555E+02	.299560E+00	.246290E+00	0.	0. Q.	NO NO	· · · · · · · · · · · · · · · · · · ·
	•197019E+02 •199010E+02	.396050E+00 .935960E+00 .581834E+01	•753630E+00 •935960E+00 •581834E+01	0.	0.	NO NO NO NO	
37 28 3 8 8 8	*575875E+01 *272573E+02	.581834E+01 .230250E+00	.581834E+01 .230250E+00	g.	0.		8:
	•270551E+02 •375249E+02 •409140E+02	.635100E+01 .635100E+01 .948830E+00	.635100E+01 .635100E+01 .438340E+00	0.	0	NO NO NO NO	
41 1 0 0 0	•252555E+02 *	0.	0.	0.	0.	NO NO	0.

The second s	and a state of the	and the second			
JUNCTION DATA ACTUALLY BE TO USED				Starte	n a salahan kanalaran
JUN VERT CHCK IC MOM JUNCT AUM- JUN - ING CALC EQ. IMERTI	TION SP. ENERGY SP.I	ENERGY RESIDO	AL RESIDUAL DEF DELTAP	ENTHALPY TH	RANS ANGLE
42 43 44 44 44 44 44 44 44 44 44	80E+02 .12470CE+01 30E+02 .12470CE+01 000E+00 .52259CE+00	457600E+00 0. 457600E+00 0. 522590E+00 .	279185-05	NO N	100008E+01
	199E+02 .10000CE+01	.100000E+01 0.	<u>.</u>		0. 0.
	000E+02 .41500GE+00 89E+00, .10000CE-01	-290000E+00 0. +100000E-01 0.		NO NO	100000E+01
	20E+01 .10000CE-01 24E+01 .99998CE-01	.100000E-01 0.	88113E-06	64E-07 NO N	0.100000E+01
	52E+00 .49991CE=01 52E+00 .49981CE=01 24E+01 .10000CE+00	.499910E-01 .3 .499810E-01	96587E-05 .3248 86186E-05 .3163 81170E-05 .2467	32E-06 NO NI 17E-06 NO NI 20E-05 NO NI	100000£+01 100000£+01
56 0 5 2 0 .1358 	83E+03 0. 83E+03 0. 83E+03 0.		<u>ĝ</u>	NO NO N	
NUMBER OF CHAINS	MATRIX IMS 1 4 64				
NUMBER OF CHAIN JUNCTIONS NUMBER OF NON-CHAIN JUNCTIONS INDEX OF FIRST CRITICAL JUNCTION TOTAL NUMBER OF JUNCTIONS	(NTRI ) = 34 (NQ ) = 21 (MPP ) = 56 (NTQT1) = 98	lite di ancienta Reconstruction	katolia Intolia Matalahan Intolia		

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SLAB C R C	EDM STR LEF	SURFACE	RIGHT SURFACE AREA, FT#+2	VOLUME FT**3	LEFT HYDRAULIC DIAMETERS FT	RIGHT HYDRAULIC DIAMETERS FT	MAJOR JUN	CTIONS
STA SLOGNO	L C R C LET	HEATED EQ	RHT HEATED ED DIAMETER, FT	LEFT CHANNEL	RIGHT CHANNEL LENGTH, FT	BOT HEIGHT IN R (L) VOL, FT	TOP HEIGHT IN.	un adaration
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DATA FOR 50 HEAT CONDUCTING SLABS.

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DATA FOR 14 HEAT SLAB GEOMETRIES
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PROPERTIES FOR HEAT CONDUCTING MATERIAL NUMBER I
THERMAL CONDUCTIVETY LETUTET STENPERATURE (T(1),K(1),)
-2 POINTS
VOL HEAT CAPACITY (BTU/FT#+3-E) VS TENPERATURE (T(1),C(1),)
1 1 00000E+03
120000E+04 .509906E+02
240000£+01 + 5/3016B+02

EXPJP4/C E (73) LOFT L135-A22 L1-34 PDS TEST ANAL	SIS. EXPERIMEN	TAL RELAPS TYP	E PROGRAM CON	NEIGURATION CO	NTREL NO	and a second
STANDARD TIME STEP NUMBER O. ACTUA	TIME STEP NU	MBER 0. T	THE . D.	SEC. LAS	f br -	-R SEC.
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VOLUME ANG. PRES TOT. MASS NUMBER' PSTA 122267045+03 -721016+0 12271065+03 -721016+0	AVG. ENTH (BTU/LB) 5.30668E+02	LB74713E+01	AVG. TEMP	AVG. QUAL	UBB HASS	127 LEVL 119
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