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TECHNICAL REPORT ECOM-6027

THE DISTRIBUTION OF EDDY VELOCITIES AND

TEMPERATURE FLUCTUATIONS IN THE FIRST 100 METERS

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UNITED STATES ARMY ELECTRONICS COMMAND ATMOSPHERIC SCIENCES LABORATORY, RESEARCH DIVISION FORT HUACHUCA, ARIZONA

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BY

Thomas H. Pries and James F. Appleby*

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U.S. ARMY ELECTRONICS COMMAND

ATMOSPHERIC SCIENCES LABORATORY, RESEARCH DIVISION

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ABSTRACT

Practical problems dealing with atmospheric turbulence can be simplified by relating fluctuation values to a Gaussian distribution. This is very useful, since it specifies characteristics of the eddy velocity distributions. Fragmentary studies have given some evidence to support the Gaussian hypothesis, but to our knowledge this is the first attempt to examine the distributions of the fluctuation components for a large data sample (135 onehour runs).

The purpose of the study is to determine the deviations of the observed distribution from a normal distribution and to attempt to determine if these departures can be related to atmospheric stability, surface roughness, and height above the surface. In addition, each sample was tested to determine the probability of its coming from a normal distribution. Results are in general agreement with previous investigations. Low frequency trends over hour periods tend to increase the departures from a normal distribution. Treating the probability distributions of the wind components as being normally distributed appears justified over moderate ranges of stability (z/L between -.300 and +.300).

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I. INTRODUCTION

Practical problems dealing with atmospheric turbulence can be simplified by relating fluctuation values to a Gaussian distribution. This technique has proved useful for specifying the characteristics of the eddy velocity distributions.

Previously published studies have given some evidence that the fluctuations of turbulent components show a Gaussian distribution, but to our knowledge this is the first attempt to examine the distribution of the turbulent components for a large sample. In this study, we have examined 135 runs (approximately 160 hours of data). The observed frequency distributions of the turbulent components of wind and temperature for each run were tested against the normal curve with the observed standard deviation. Since only a small percent of the distributions met the criteria for normal distribution under the chi-square test, the skewness and kurtosis of the distributions were examined. The data were examined by the direction from which the air comes, and stability. Though there is considerable scatter in this data there are strong indications that the distribution of the horizontal components of the wind are affected by upwind discontinuities in the surface and surface roughness elements. The standard deviations and the skewness of the distributions are examined for three typical cases with different fetches. These results are in reasonable agreement with present internal boundary layer theories and qualitatively appear to conform reasonably well with wind tunnel observations.

II. EXPERIMENTAL METHOD

a. Site Description

The data were collected at the Round Hill Field Station, South Dartmouth, Massachusetts, by Cramer, Record, and Tillman of the Massachusetts Institute of Technology! Figure 1 shows the site layout and the location of the two towers that were used. Tower 1 (T1) is a 40-meter tower near the beach, and Tower 2 (T2) is a 91-meter tower in the woods. The towers are approximately 900 meters apart. The site has ocean bordering the south and east, a tidal marsh between the towers, and a ridge to the west that is

^{*}Present Affiliations: Cramer and Record, GCA Corp; Till-man, UCLA.

oriented north-south and reaches a height of 27 meters. Data were taken when the wind direction was from SSW to NNE, where the effects of cultural and physiographic features combine to produce a complex flow structure.

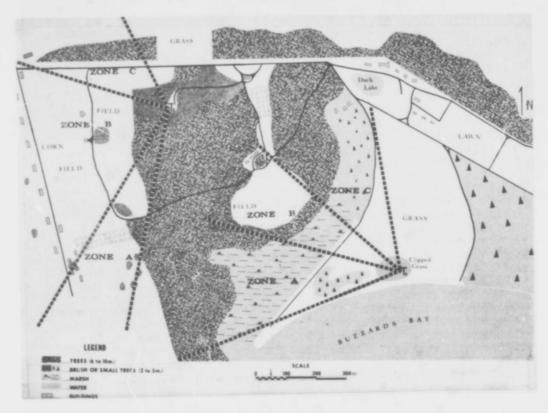


FIGURE 1. MIT ROUND HILL FIELD SITE

Measurements for the wind components were taken with thermistor-anemometers and lightweight mechanical bivanes. Temperature measurements were made with platinum-wire resistance thermometers. Sensor outputs were filtered electronically to eliminate spectral-foldover in the sampled data and to provide the same frequency response for all transducers. Details of the instrumentation and data recording systems used are discussed by Cramer, Record, Tillman and Vaughn (1961). The first seven runs were measured at 1-second intervals, and the remainder at 1.2-second

intervals. At Tower 1 (Figure 1) data were taken at the 16- and 40-meter levels. At Tower 2 (Figure 1) data were taken at the 15-, 46-, and 91-meter levels. Only two levels were taken simultaneously on one tower, so data are not available at both towers or all three heights at the same time.

b. Treatment of the Experimental Data

The mean vector wind and temperature for a period of approximately one hour were computed from the raw wind speed, azimuth angle, elevation angle, and temperature analogs. The mean vector value was used to establish the coordinate system with the u-component lying in the direction of the mean vector wind and the remaining components defined orthogonal to this direction, the w-component upward and the v-component to the left of u. For each component, u, v, and w, and the temperature T, a running mean was computed and then subtracted from the component observation corresponding with the central time of the running mean. The resulting difference is defined as the turbulent fluctuation of that component or temperature. The process of subtracting the running mean acts as a high pass filter which eliminates low frequency oscillations.

The frequency distributions were determined by dividing the ranges into class intervals, usually 17, commensurate with the observed maximum and minimum values as outlined in Hoel (1954). Histograms were prepared for each component and temperature of each run. The standard deviation, skewness and kurtosis were computed. For comparison, a corresponding Gaussian probability distribution was computed from the standard deviation using

$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} \exp \left[-\frac{1}{2} \frac{(x')^2}{\sigma}\right]$$

where x' indicates the class marks or class boundaries and of denotes the standard deviation. The ordinate of the observed probability distribution function at each class mark was estimated from the product of the observed frequency of the class interval and the corresponding ordinate of the Gaussian probability curve within the class interval. The areas were determined by integrating under the curve.

^{*} A 601-point running mean was used on data for both towers. Also a 101-point running mean was used on Tl and a 61-point running mean on T2.

A stability measure, the Monin-Obukhov (1954) z/L was calculated as:

$$z/L = -\frac{g}{T} \frac{\overline{v^*T^*} kz}{(\overline{u^*v^*}^2 + \overline{v^*v^*}^2)^{3/4}}$$

where $\overline{w^*T^*}$, $\overline{u^*w^*}$ and $\overline{v^*w^*}$ are covariances, g is the gravity constant, T is the absolute temperature, and k is the Von Karman constant.

III. DISTRIBUTION OF WIND COMPONENTS AND TEMPERATURES

a. The Chi-Square Test

The chi-square test was used to test the data for goodness of fit between the observed probability distribution and the Gaussian distribution. Chi-square is defined as:

where o, and e, denote the ith pair of observed and expected frequencies, respectively.

b. Results

The results of the chi-square test for the distribution of the wind components and the temperature are shown in Figure 2. The ordinate is the percentage of runs which meet the .01 probability criterion for a normal distribution. At the Round Hill Site these distributions can rarely be considered normally distributed. With increasing height above the surface, there is less tendency for the distributions to be Gaussian. A 12.02 minute (601-point) running mean filter was applied to reduce the effects of the long period oscillations and the trend. In every case, use of a filter increased the number of runs which met the criterion. Changes after a 2.02-minute (101-point) running mean on Tower 1 and a 1.22-minute (61-point) running mean on Tower 2 were small except on Tower 1 where the percent of cases meeting the criteria increased for u', v' and T' at the 16-meter level and for u' at the 40-meter level.

c. Discussion

The results appear to contradict those of previous investigators and seem to invalidate the useful practice of treating the eddy fluctuations as being Gaussian.

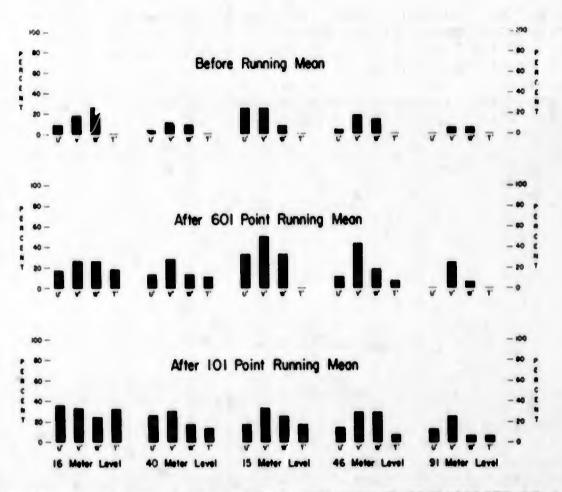


FIGURE 2. PERCENT CASES MEETING CHI-SQUARE PROBABILITY OF 0.01

However, this conclusion is not warranted without considering the user's needs and the site characteristics. Examination of Figure 1 shows that the only direction that is reasonably homogeneous is from the north at Tower 1. Other directions have marked inhomogeneity in surface characteristics. Changes in the wind directions during each run are frequently great enough to involve a mixture of surface conditions.

The effects of a horizontal discontinuity in surface roughness upwind from the measuring site have been estimated in the work of previous investigators. Elliott (1958), Panofsky and Townsend (1964), Miyake (1965), and Townsend (1965) have discussed in detail the effects of surface discontinuities on wind profiles and the build-up of internal boundary layers. A wind tunnel study by Plate and Lin (1965) of the velocity field downstream from a two dimensional obstruction can also be used to anticipate certain features of distribution.

Prevailing internal boundary layer hypotheses are based on the assumption that when a change in surface is encountered, the flow very near the surface adapts quickly

to the new surface. These new flow characteristics are propagated upward by the turbulence. The factors which control the rate of build-up downstream are believed to be the relative magnitude of the roughness change and the stability. Miyake (1965) treated the problem as diffusion from a line source; in his model the rate of build-up is related to the standard deviation of w' downstream from the roughness discontinuity. All of the above investigators assume that the flow above the internal boundary layer retains the characteristics of the previous surface.

Using these concepts, Appleby and Pries (1966) were able to show a relationship between the standard deviations of the horizontal wind components, local wind speed, and stability when the upstream roughness regimes were segregated.

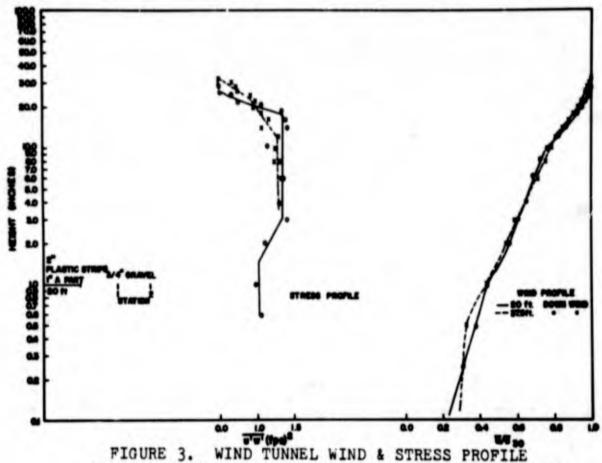
IV. DEPARTURES OF THE FLUCTUATION VALUES FROM A GAUSSIAN DISTRIBUTION

In this section we will present the measured skewness and kurtosis of the frequency distributions of the wind components and temperature, and examine the vertical structure in as much detail as the observations permit for individual runs over several fetches. The results will be compared to those one might expect from the internal boundary layer hypotheses to see if these can be used to explain the observations.

a. Internal Boundary Layers

Before discussing the Round Hill observations it might be useful to examine wind tunnel observations, where more detail is available. The wind tunnel observations from the U.S. Army wind tunnel at Colorado State University appear to qualitatively show many of the features of internal boundary layers. Figure 3 shows the wind and stress profile at two locations downwind from a 20-foot section of 2-inch flexible plastic strips. Behind these plastic strips the test section was covered with 0.75 inch gravel. so the air traveled from a very rough surface to a less rough surface. The first profile is at a distance of 20 feet from the roughness discontinuity and the second is 37.5 feet from the discontinuity. These observations show that for the wind tunnel neither the assumptions of Elliott nor those of Panofsky or Townsend are entirely correct. Elliott assumes the stress is constant with height and is discontinuous at the boundary. Panofsky and Townsend allowed the stress to increase linearly with height from the ground to the internal boundary surface. Unfortunately, no observations were available below 4.75 inches at the second station, so no estimate of the boundary layer growth

could be made. However, the constant stress region generated by the plastic strips has begun to narrow downstream.



WIND TUNNEL WIND & STRESS PROFILE AT 20 AND 37.5 FT DOWNWIND FROM A ROUGHNESS CHANGE

The interface of the internal boundary layer appears as a zone of increasing stress and the marked change in the wind profile occurs at the lower edge of the zone, while at the upper edge of the zone the change is barely discernible. Figure 4 is from a study by Plate and Lin (1965). This figure shows their interpretation of the flow behind a simulated hill in the wind tunnel. Although conditions are exaggerated, the results are in general agreement with the observation downwind from the change in roughness. Figure 5 shows the wind (closed circles) and u' variance (open circles) downwind from a hill. The \overline{u}^{12} profile appears consistent with their interpretation of the flow zones, and shows the variance to be propagated both upward and downward from the peak generated by the hill. observations were made under a neutral thermal stratification. Observations made with the tunnel floor heated did not include stress or variance measurements, but some idea of the effects of instability can be obtained from the wind profiles.

- UNDISTURBED BOUNDARY LAYER (OUTER LAYER)
- (2) REGION OF HILL INFLUENCE (MIDDLE LAYER)
- 3 REGION OF REESTABLISHING BOUNDARY LAYER (INNER LAYER)
- BLENDING REGION BETWEEN MIDDLE AND OUTER LAYER
- (5) BLENDING REGION BETWEEN INNER AND MIDDLE LAYER
- 6 STANDING EDDY ZONE
- 7 POTENTIAL OUTER FLOW

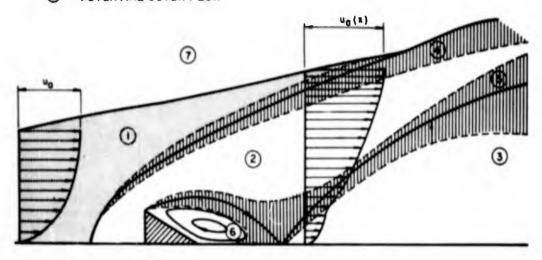


FIGURE 4. DEFINITION OF FLOW ZONES (PLATE AND LIN)

Figure 6, also using data from the U.S. Army wind tunnel, shows a comparison of the distance required for the wind profile to reach readjustment for a neutral and an unstable case. The hatched area is the region where the wind velocity is less than 95 percent or more than 105 percent of the velocity at the level upstream from the hill. This figure illustrates that under unstable conditions the added thermal energy tends to destroy any discontinuities at a shorter distance downstream. It is felt that the turbulent energy is spread through a broad area much like the spread of $u^{1/2}$ in Figure 5, except at a faster rate.

If we modify our present concepts of internal boundary layers with the qualitative information from the wind tunnel and use our present knowledge of turbulence, we can postulate certain features we might expect to find in the vertical structure of turbulence downwind from surface discontinuities. For example, in a situation where the flow is from a rough to a smooth surface with nearly the same surface heat flux, the stress profile would be similar to that in Figure 5. The standard deviations of the turbulent components should show similarly shaped profiles and there would be a transport of turbulence downwind in the region of increasing stress. During unstable conditions, the

addition of thermal energy would probably mask these features, as the effect of the discontinuity would be spread over a thick layer.

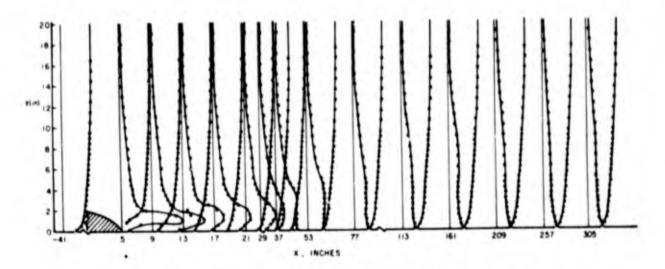


FIG. 5 VELOCITY DISTRIBUTION FOR 2"x 10" HILL, BIG WIND TUNNEL 40-30 fps

(PLATE AND LIN)

As stability increases, the growth of the new internal boundary layer should be slower, since the turbulent intensity decreases, and the blending zone should be better defined. At extreme stability, the zone may not extend to great heights, since the turbulent intensities are very low and the flow tends to become disassociated from the surface (Panofsky, Blackadar and McVehil, 1960). turbulence is also affected by wind speed and stability, the growth of the internal boundary, as well as the width of the zone between the two regions, would be affected by the wind speed and the thermal response of the upwind surfaces. In the region of the interface between internal boundary layers, measurements of the probability distribution show some skewness, since the vertical distribution of the standard deviations depends on the upwind roughness and thermal characteristics. If these features are observed in the atmosphere downwind from surface discontinuities, it will help confirm certain aspects of internal boundary layer theories and provide a means of estimating the vertical structure of turbulence over non-ideal sites.

Figures 7 and 8 were prepared to characterize the surface conditions for particular runs at Round Hill. These are panoramic views taken from the top of Tower 1, at approximately 40 meters above the ground, and from Tower 2 at approximately 25 meters above the ground. Below the

pictures are the directions of each run. Two standard deviations of the azimuth angle of the wind during the run are shown by the horizontal arrows.

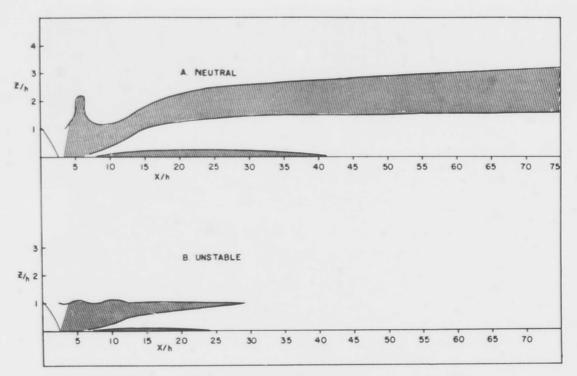


FIGURE 6. WIND TUNNEL WIND PROFILE READJUSTMENT

The data were stratified into zones that have different characteristics as shown on the pictures. Skewness and kurtosis of each run were then plotted against stability. Since the standard deviations of the azimuth angles vary from 5° to 20°, some runs overlap into other zones which increases the scatter in the data. Annex A contains tabulations of the basic data in the form of standard deviations of the wind components and temperatures, the skewness and kurtosis of their frequency distributions, and the stability parameter (z/L) for the available levels by run number.

b. Departures of Frequency Distributions from the Normal Curve

Computations of the skewness and kurtosis were made to measure the departure of the actual distributions from the normal. pictures are the directions of each run. Two standard deviations of the azimuth angle of the wind during the run are shown by the horizontal arrows.

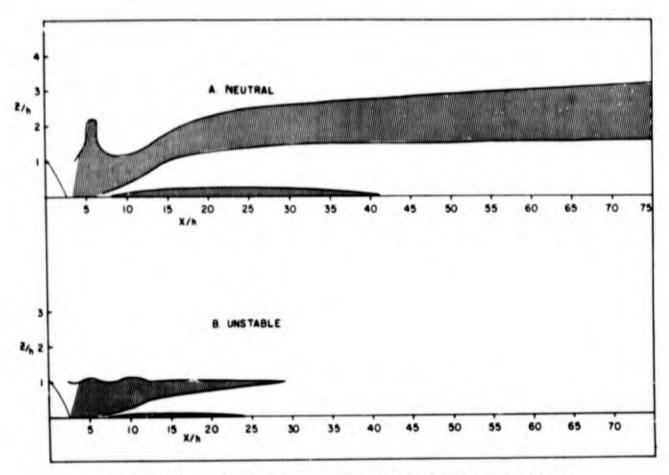


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b. Departures of Frequency Distributions from the Normal Curve

Computations of the skewness and kurtosis were made to measure the departure of the actual distributions from the normal.

The skewness, which shows the departure of a frequency distribution from symmetry, was computed using:

$$SK = \frac{\sum x^{3}}{N\sigma^{3}}$$

where $x^{\dagger 3}$ is the third moment and σ is the standard deviation.

The kurtosis, which shows the distortion of a curve from the normal curve, was computed using:

$$KT = \frac{\Sigma x^{4}}{N\sigma^{4}} - 3$$

where x^{14} is the fourth moment. The plots of skewness and kurtosis versus stability (z/L) are shown in Figures 9 to 20. The symbols are: triangle for Zone A, circle for Zone B, square for Zone C, + for winter cases, S for sea trajectories and T for transition of stability.



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FIGURE 7. VIEW FROM 40-METER TOWER (T1).



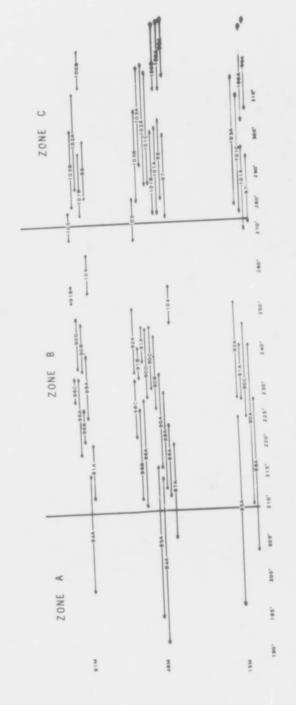
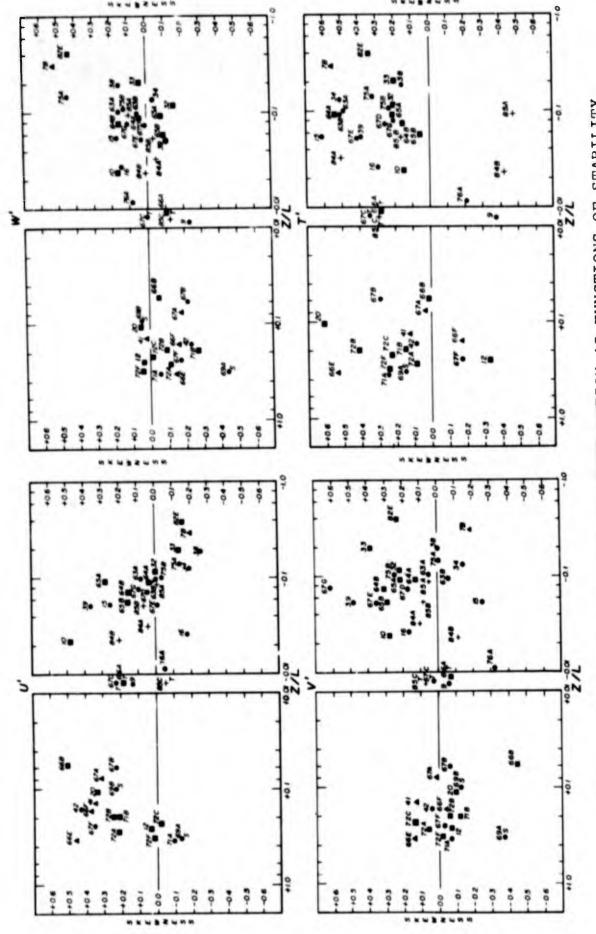
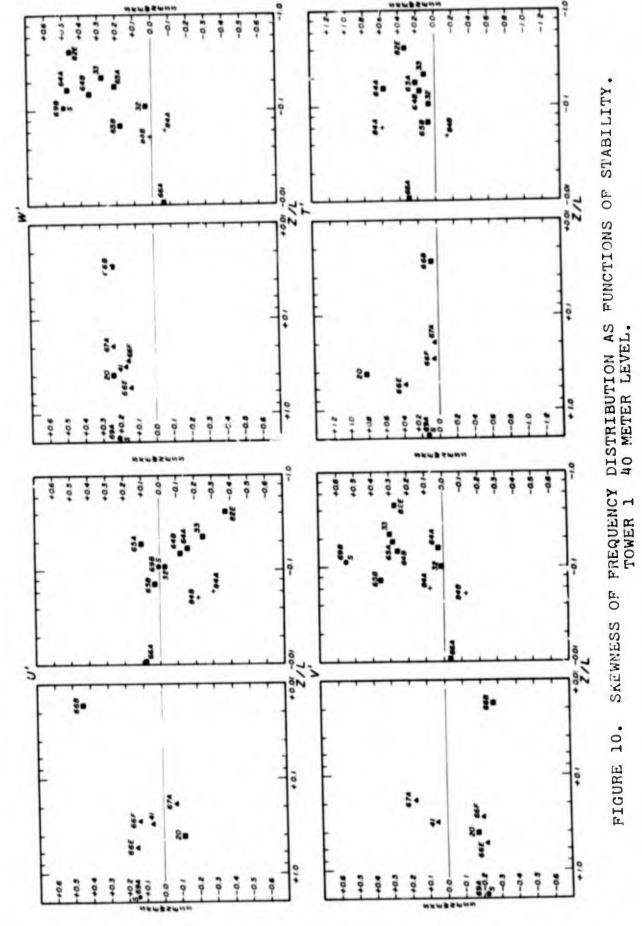


FIGURE 8. VIEW FROM 91-METER TOWER (T2).



SKEWNESS OF FREQUENCY DISTRIBUTION AS FUNCTIONS OF STABILITY. TOWER 1 16 METER LEVEL. FIGURE 9.



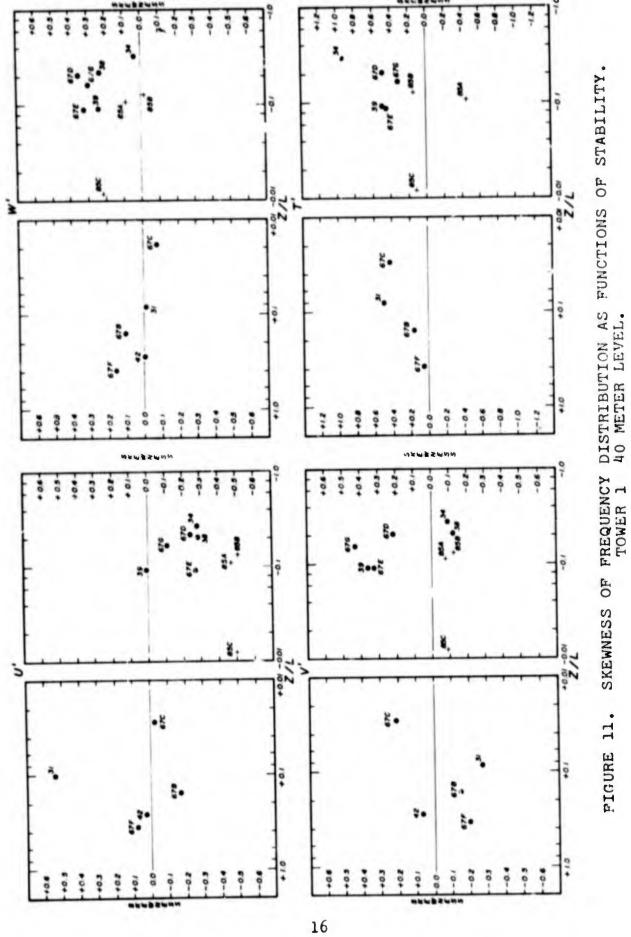
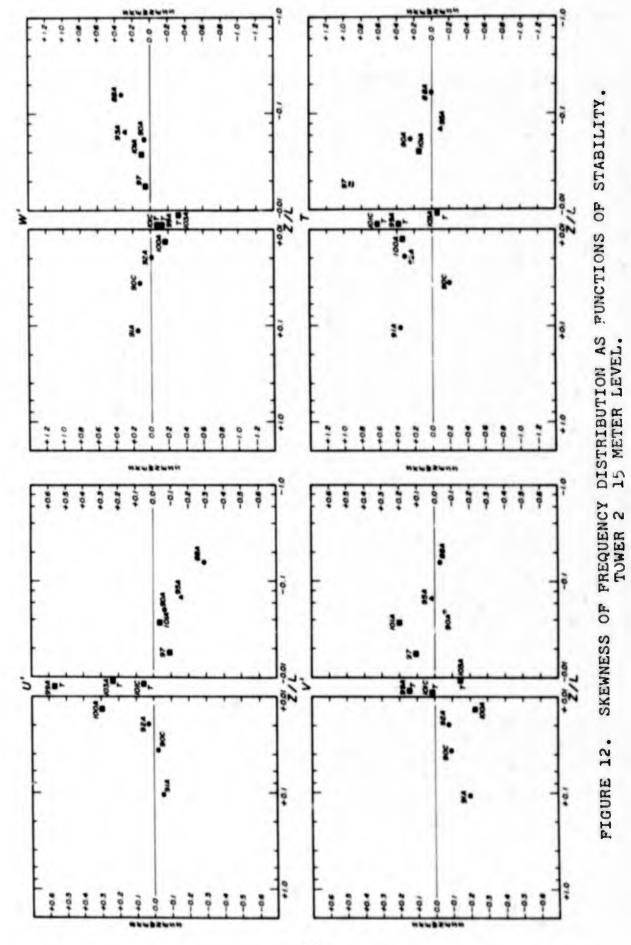
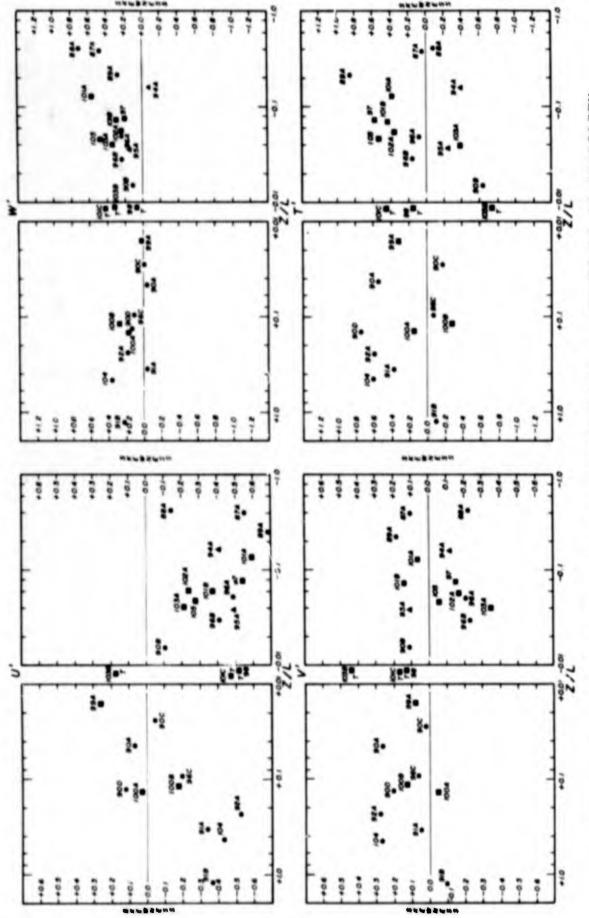
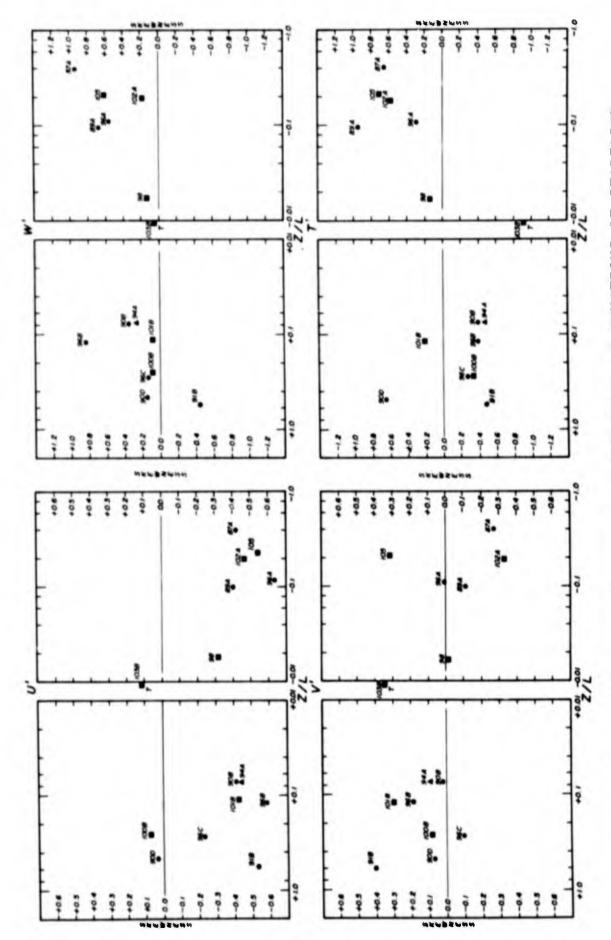


FIGURE 11.

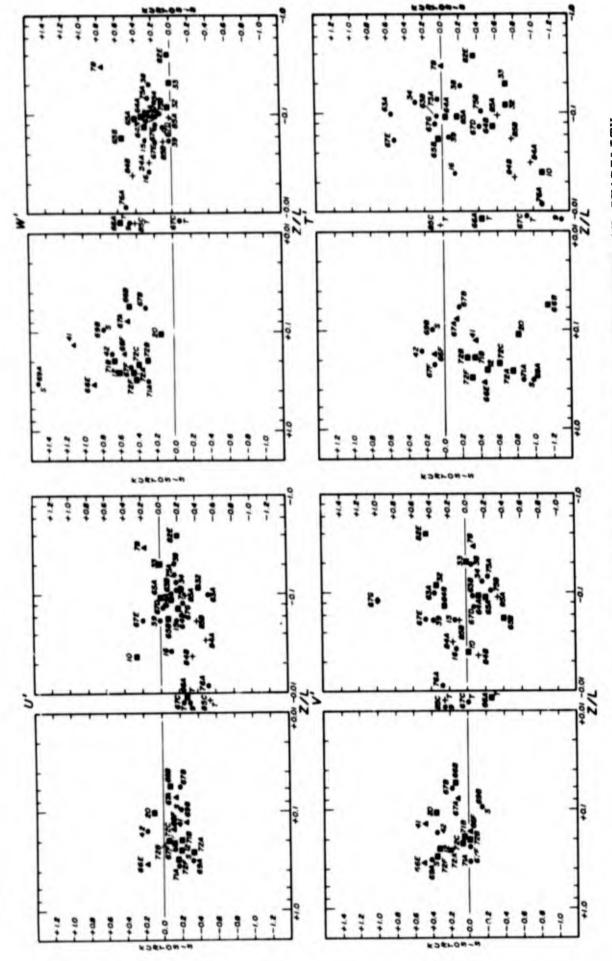




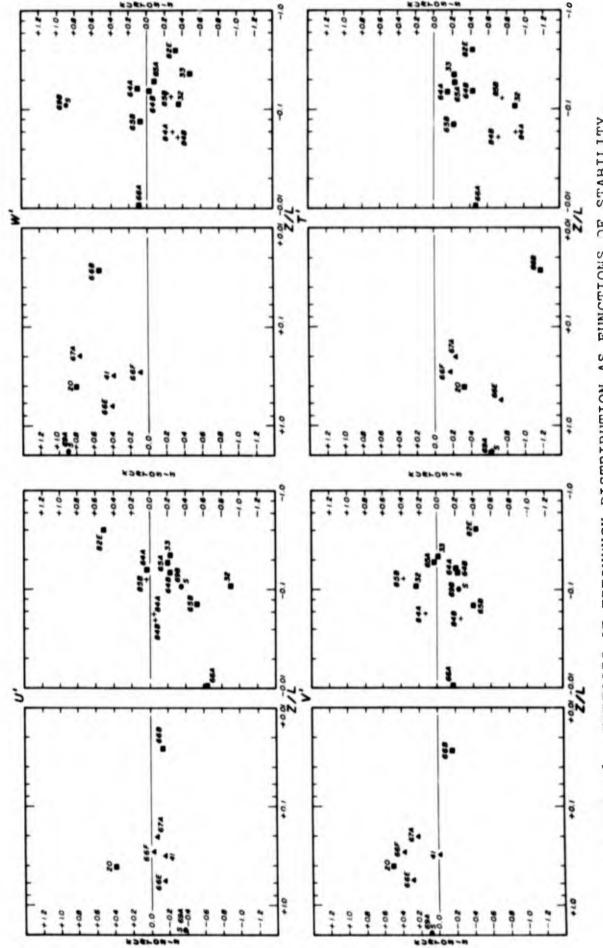
SKEWNESS OF PREQUENCY DISTRIBUTION AS FUNCTIONS OF STABILITY. TOWER 2 46 METER LEVEL. FIGURE 13.



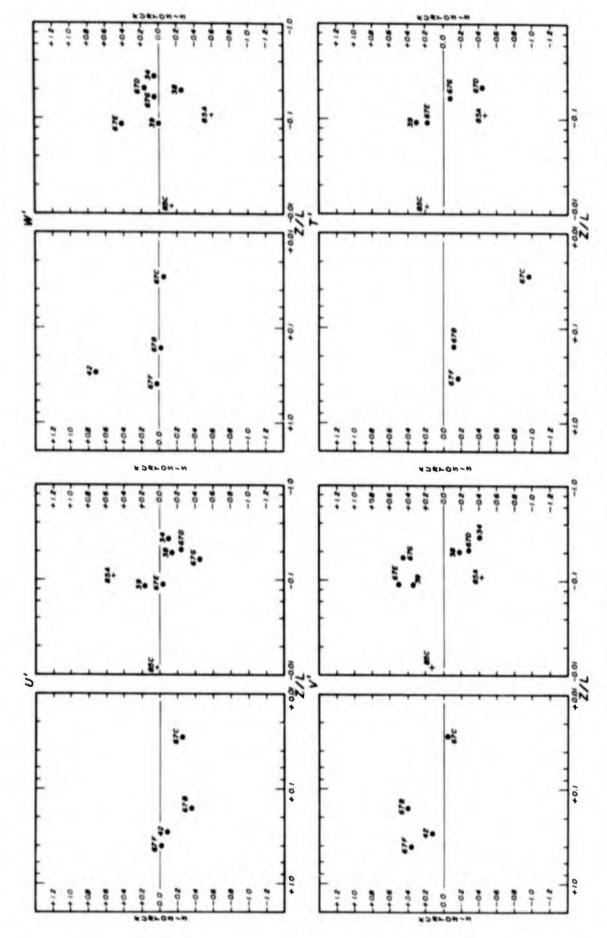
SKEWNECS OF FREQUENCY DISTRIBUTION AS FUNCTIONS OF STABILITY. TOWER 2 91 METER LEVEL. FIGURE 14.



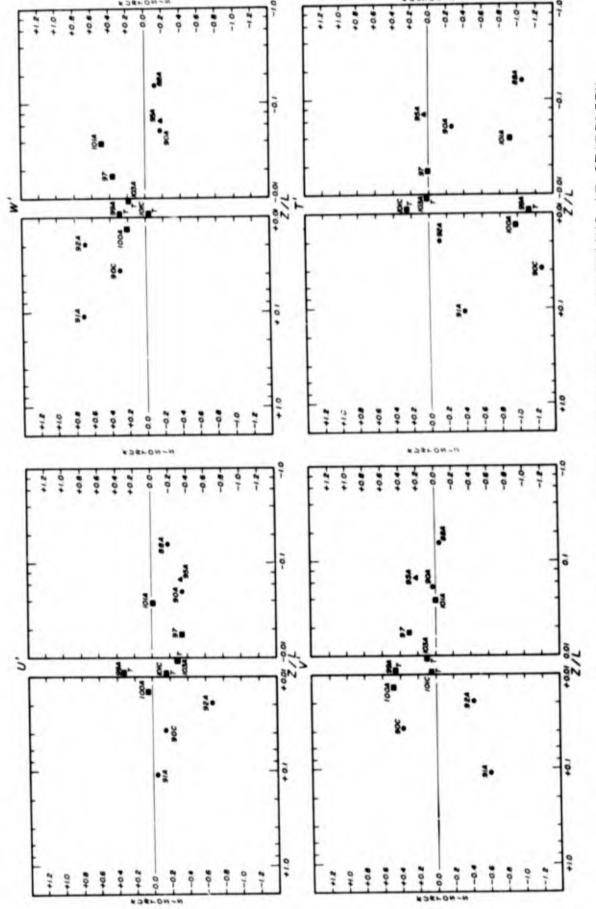
KURTOSIS OF FREQUENCY DISTRIBUTION AS FUNCTIONS OF STABILITY. TOWER 1 16 METER LEVEL. FIGURE 15.



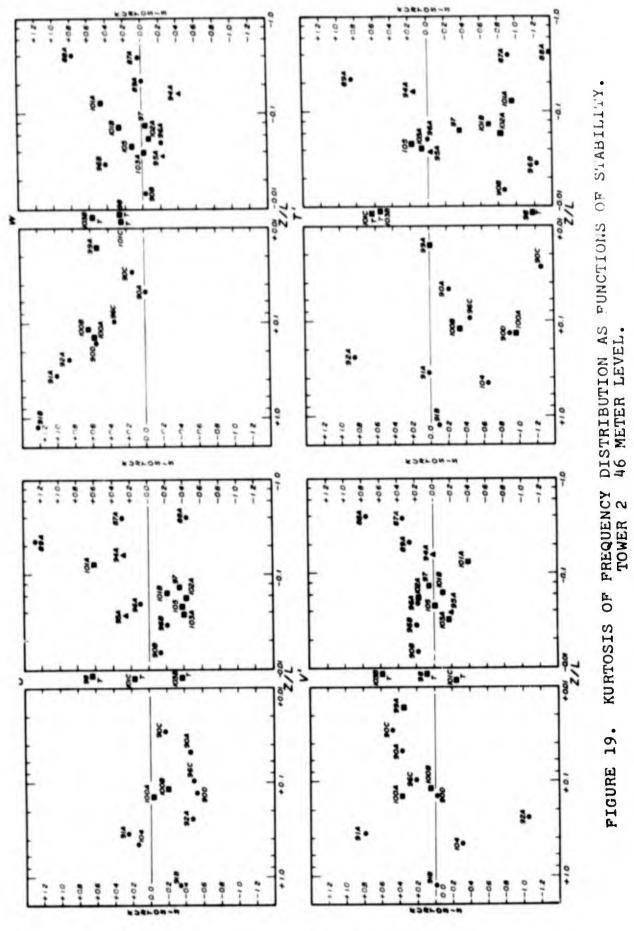
KURTOSIS OF FREQUENCY DISTRIBUTION AS FUNCTIONS OF STABILITY. TOWER 1 40 METER LEVEL. FIGURE 16.



KURTOSIS OF FREQUENCY DISTRIBUTION AS FUNCTIONS OF STABILITY. TOWER 1 40 METER LEVEL. FIGURE 17.



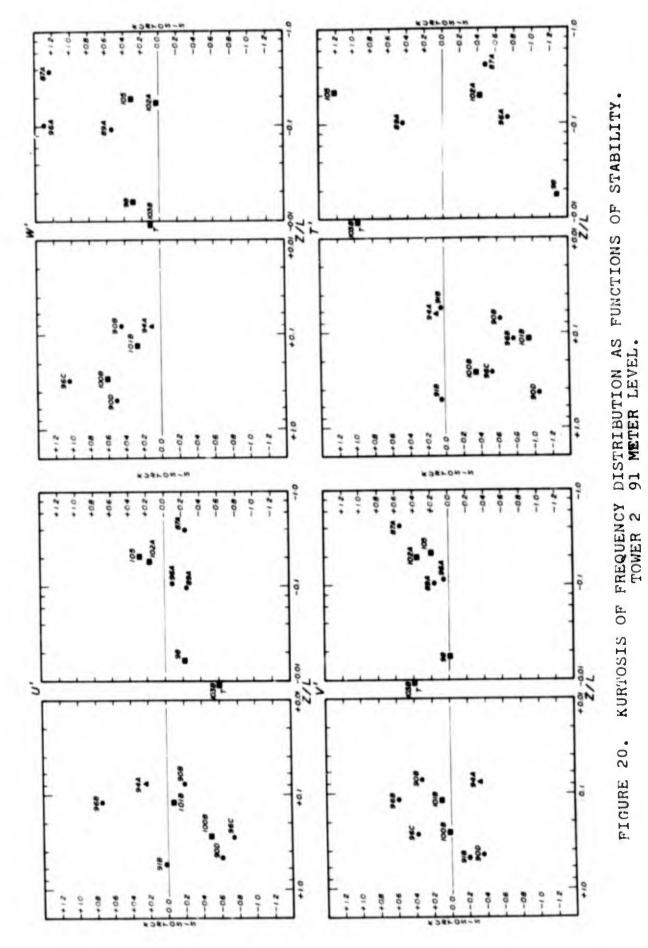
KURTOSIS OF FREQUENCY DISTRIBUTION AS FUNCTIONS OF STABILITY. TOWER 2 15 METER LEVEL. FIGURE 18.



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1-1

FIGURE 19.



Data were collected at Tower 1 from November 1960 to November 1962. Wind directions were from 195 to 015 degrees. The main features of the surfaces affecting the flow are the grass and small cedars in the vicinity of the tower, the sea and tidal marsh, and finally the wooded areas to the west and north of the tower. (Figure 1)

The data from Tower 2 were collected during a short period in 1963 (June 14 to July 5). Wind directions were from 200 to 320 degrees. The main surface features are the 2-3 meter brush area surrounding the tower, the woods to the south, the farmed area and the ridge to the west, and the grass pasture and woods to the northwest.

Both tower areas have other complications such as the l meter lip at the edge of the marsh at Tower l and the root cellar surrounded by brush just slightly south of west at Tower 2.

Table 1 shows the range of values by level. Runs with wind speeds of less than 4 meters per second at the 16-meter level are not included in the plotted data, since at low wind speed sampling problems appear to make data very erratic.

The data from Tower 1 show some stability effects, but the w' distribution is the most consistent. Elliott's equation predicts internal boundary layer slopes of approximately 1:10 under neutral conditions. From this, one should expect an internal boundary layer varying about the 20-meter level caused by the change in roughness due to the tidal marsh, and another internal boundary layer in the vicinity of 40 meters in the Zone B caused by the change from the tidal marsh to the field in the woods. This change is complicated by the band of trees separating the two areas. Only the u' distributions appear to show the positive skewness one would expect from an internal boundary layer caused by the flow passing from a rough to smooth surface. The moderately stable and near neutral runs show a marked skewness in dis-This is not so evident in data from Zone B at tribution. The very unstable runs in all zones are negatively 40 meters. skewed and the negative skewness increases with height.

The skewness of the v' distributions does not show this feature. However, the unstable side shows a tendency for the data taken in Zone B to be widely scattered. Since on the edges of this zone the changes in roughness are at an angle with the wind flow, the angle of the roughness discontinuities may affect the v' component. During stable conditions most of the observations of skewness are concentrated near zero.

TABLE 1

RANGE OF THE SKEWNESS AND KURTOSIS OF THE DISTRIBUTION

SKEWNESS	u†	v¹	w *	T'
Tower 1				
16	+0.5 to-0.3	+0.6 to-0.4	+0.5 to-0.4	+0.6 to-9.5
40	+0.5 to-0.5	+0.6 to-0.3	+0.5 to-0.1	+0.9 to-0.4
Tower 2				
15	+0.6 to-0.3	+0.2 to-0.2	+0.3 to-0.3	+0.9 to-0.2
46	+0.3 to-0.7	+0.4 to-0.4	+0.7 to-0.1	+0.9 to-0.7
91	+0.1 to-0.7	+0.4 to-0.4	+0.9 to-0.4	+1.0 to-0.9
Tower 1				
16	+0.4 to-0.6	+1.0 to-0.4	+1.5 to-0.4	+0.6 to-1.3
40	+1.0 to-0.8	+0.6 to-0.4	+0.9 to-0.5	+0.3 to-1.2
40 Tower 2	+1.0 to-0.8	+0.6 to-0.4	+0.9 to-0.5	+0.3 to=1.2
	+1.0 to-0.8 +0.3 to-0.6		+0.9 to-0.5 +0.7 to-0.2	
Tower 2		+0.5 to-0.6	+0.7 to-0.2	+0.3 to-1.2

The skewness of the w' component becomes more positive with increasing instability and tends to increase with height. Contrary to Gurvich's (1960) findings, there appears to be some stability dependence and the range is somewhat larger.

The T' distributions show a great scatter, but are predominantly positively skewed.

The range of the kurtosis of the distributions shows no evident effect of internal boundary layers, and only the kurtosis of w' seems stability dependent. The u' and T' distributions tend to be flattened and v' is grouped around a zero kurtosis.

The skewness of the u' distribution on Tower 2 also shows the effects of internal boundary layers. The 15-meter Zone C runs, during near neutral conditions, tend to show marked positive skewness when the grass fetch between the brush and woods is quite short (less than 100 meters). Zone B runs tend to be negatively skewed. The exceptions are runs with the wind flow over the root cellar and a few runs in Zone C. This is consistent with a change from a smooth to rough surface at some distance from the tower. Only in Zone C, when the orientation of the roughness change is at a marked angle to the wind flow, and two runs in which the flow is over the patch of brush in the middle of the field in Zone B, does the skewness of v' depart greatly from zero.

The stability and height dependence of the w' distribution is even more pronounced in the Tower 2 data.

The skewness of the T' distributions appears to show a stability dependence at 91-meters that is not evident in the lower levels. Both Tower 1 data and that from the 15- and 46-meter levels at Tower 2 are mostly positively skewed regardless of stability.

A 601-point (12.02 minute) running mean filter removes the trends in the data and reduces the effect of oscillations with periods greater than 12 minutes. The filtered data shows less scatter when plotted against stability. The skewness of u' distribution is reduced, but retains much the same shape on the stability diagram. The apparent stability dependence is more clear-cut. Filtering the T' distribution reduces the scatter only slightly, but gravely increases the stability dependence on the unstable side. The distribution of T' frequently has a bimodal peak which is removed by the filter.

Unfiltered and filtered data are tabulated in Annex A.

V. SUMMARY AND CONCLUSIONS

The chi-square test shows that the frequency distributions of the turbulent components of wind and temperature over the Round Hill Field Site can rarely be considered Gaussian. Although these results appear contradictory to the usual assumption and to the results of other investigators, when one considers the characteristics of the site, the results are not surprising. The departure of the distributions of the wind components in terms of skewness and kurtosis are not usually extreme (rarely more than ±0.6 for skewness and ±1.0 for the kurtosis), so the advisability of using the Gaussian assumption must depend on the requirements of the problem being treated.

The skewness of the observed distributions was related to the vertical variation of the standard deviation of the wind components, which is caused by variations in the upwind surface characteristics. No quantitative values were determined, but in a qualitative sense the agreement appears quite good. The variation of wind speed with height can frequently be quite large. Any measuring system based on sensing T' at a single level should not be used in areas with inhomogeneous terrain.

From these data, it is obvious that equilibrium conditions rarely exist at the levels where the turbulence was measured. Quantities derived from the data under this assumption are probably not valid. However, in practical problems where conditions are far from ideal, these data should be valuable research material. An unanswered question is what role the zero-plane displacement associated with the roughness change plays in turbulent structure. In each of the major roughness changes at Round Hill, a zero-plane displacement is involved, e.g., the meter high lip between the marsh and grass cover; the 2-meter rise of the beach near the shore; and 6-10 meter high trees to much lower vegetation. It may be the large vertical variation in the u' is in part due to turbulent layers generated by pressure fluctuation at the zero-plane displacement points. Another question is that of the distance downwind that the flow is affected by these discontinuities. Certainly it must be related to the magnitude of the change. Horn and Trawle (1964) have published data that indicates fairly large obstacles (mountain peaks) affect the standard deviation of the u' at the surface 12 kilometers downwind.

In spite of the questions, we believe the material presented shows the internal boundary layer theories are useful concepts and lead to a much better understanding of the vertical structure of turbulence over non-homogeneous

terrain. The wind tunnel data and atmospheric data appear to show similar features. Complementing the wind tunnel studies with a similar set of field measurements downwind from roughness discontinuities and obstacles may assist in developing empirical scaling techniques for studying the effects of terrain on turbulent structure.

Certainly the current logarithmic spacing of anemometers and other sensors is not adequate to determine the structure in the vicinity of internal boundary layers.

The authors want to thank William D. Ohmstede for his constructive criticisms and Charles E. Dennison for his valuable support with the details.

REFERENCES

Appleby, J.F., and Pries, T.H., 1966: Low Level Meteorological Factors Affecting Unguided Missile Launchings (abstract), Bulletin of the AMS, 47, p. 50.

Cramer, H.E.; Record, F.A.; Tillman, J.E.; and Vaughn, H.C., 1961: Studies of the Spectra of the Vertical Fluxes of Momentum, Heat, and Moisture in the Atmospheric Boundary Layer, Annual Report, Contract DA-36-039-SC-80209 Meteorology Department, Mass. Institute of Technology. (DDC)

Elliott, W.P., 1958: The Growth of the Atmospheric Internal Boundary Layer, <u>Transactions</u>, Amer. Geophys. Union, 39, p. 1048.

Gurvich, A.S., 1960: Frequency Spectra and Functions of Distributions of Probabilities of Vertical Wind Velocity Components, Bulletin (Izvestia), 7, p. 695.

Hoel, P.G., 1954: Introduction to Mathematical Statistics, John Wiley & Sons, New York.

Horn, J.D., and Trawle, E.J., 1964: Orographic Effects on Wind Variability, ERDA-157, USAERDA White Sands Missile Range, New Mexico.

Miyake, M., 1965: Transformation of the Atmospheric Boundary Layer over Inhomogeneous Surfaces, Scientific Report, Contract 477(24) (NR307-252) Dept of Atmos. Sci., University of Washington.

Monin, A.S., and Obukhov, A.M., 1954: Basic Regularity in Turbulent Mixing in the Surface Layer of the Atmosphere, Trudy Gephys. Inst. ANSSSR, 24, p. 163.

Panofsky, H.A., and Townsend, A.A., 1964: Change of Terrain Roughness and the Wind Profile, Quart. J.R. Meteor. Soc., 90, p. 147.

Panofsky, H.A.; Blackadar, A.K., and McVehil, G.E., 1960: The Diabatic Wind Profile, Quart. J.R. Meteor. Soc., 86, p. 390.

Plate, E.J., and Lin, C.W., 1965: The Velocity Field Downstream from a Two-Dimensional Model Hill, Parts 1 and 2, Final Report, Grant DA-AMC-36-039-63-G7, College of Engineering, Colorado State University, Fort Collins, Colorado. (DDC)

Townsend, A.A., 1965: The Response of a Turbulent Boundary Layer to Abrupt Changes in Surface Roughness, J. Fluid Mech., 22, p. 799-822.

ANNEX A - DATA TABULATIONS

Standard deviations, skewness, kurtosis, and the stability parameter are listed according to run. Tower 1 is listed first.

The computations are also shown after a 601-point running mean and a 101-point running mean were taken on Tower 1, and after a 601-point running mean and a 61-point running mean on Tower 2.

The abbreviations are defined as follows:

SDU - Standard deviation of u' (ou).

SDV - Standard deviation of v' (ov).

SDW - Standard deviation of w' (ow).

SDT - Standard deviation of t' (ot).

z/L - Monin and Obukhov stability parameter.

SKU - Skewness coefficient of the u' velocity component.

KTU - Kurtosis coefficient of the u' velocity component.

SKV - Skewness coefficient of the v' velocity component.

KTV - Kurtosis coefficient of the v' velocity component.

SKW - Skewness coefficient of the w' velocity component.

KTW - Kurtosis coefficient of the w' velocity component.

SKT - Skewness coefficient of the T' velocity component.

KTT - Kurtosis coefficient of the T' velocity component.

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SOV SCW SCT 2/L SKU KTU SKV KTV SKW KTW SKT SCT 5.92 0.643 6.812 C.506 0.123 -0.056 0.128 -0.127 -0.105 0.203 0.007 0.392 0.643 A 101 POINT RUNNING PEAN SOV SCH SCT 2/L SKU KTU SKV KTV SKW KTW SKT C.527 C.452 0.106 -0.065 0.027 0.631 -0.034 0.292 0.122 0.694 0.197	1.146	1.01	12 0.513	0.141		0.256	-0.192	-0.258	0.110	C • 103	0.7.0	710.0	11001
SDV SGW SDT 2/L SKU KTU SKV KTV SKW KTW SKI G-812 C-506 G-123 -0.056 0.128 -0.127 -0.105 G-203 G-007 0.392 0.643 A 101 POINT RUNNING PEAN SDV SGW SDT 2/L SKU KTU SKV KTV SKW KTW SKT C-527 C-452 0.106 -0.065 0.027 0.631 -0.034 G-292 0.122 0.694 0.197	AFTER		POINT RUN	NING MEAN							1	3	1
G.812 C.566 G.123 -0.056 G.128 -0.127 -0.105 G.203 G.007 G.592 G.045 A 101 PGINT RUNNING MEAN SOV SCH SET 2/L SKU KTU SKV KTV SKH KTH SKT C.527 C.452 G.106 -C.065 G.025 G.631 -0.034 G.292 G.122 G.694 G.197	SCI	SCV	SCW	SOT	7/7	SKU	KTU	SKV	KIV	SKE	***	SKI	- 60
4 101 POINT KUNNING PEAN SOV SCH SCT 2/L SKU KTU SKV KTV SKM KTH SKT C.527 C.452 0.106 -0.065 0.025 0.631 -0.034 6.292 0.122 0.694 0.197	66.		0	0.123	-0.050	0.128	-0-12/	-01.05	0.503	00.00	0.392	0.0	£ • 0 • 5
557 SIF SEE 27L SKU KIU SKY KIU SKY C.292 0.122 0.694 0.197	AFTER		2	NING PEAN			*		71.7	2	7	CKT	KII
C.527 C.433 U.LC6 -C.003 U.023 U.031 U.034 U.11 U.11 U.11	2001	205	135	20.		250		38.0	500	123	404	741	008
		10.02	C * * 2	007.0		170.0	1000	1	1	1			

D

14# 12-07-60	1206-1	1206-1309 EST							
NING MEA				3	71.7	7 2 2	3	TXZ	KII
SGV SGW SCI	-0.026	-0.1e2	-0.135	0.159	C.117	0.141	0.233	0.295	-0.170
UNINT PU	_				3		1	2	* * *
MOS	1/2	SKU	KTU	SKV	KTV	SKW	346	0.654	0.288
1.727 C.914 0.255	250-0-		0.313	610.0	166.0-		200		
SOV SCH SEE	2/12	SKU	KTC	SKV	KTV	SKW	XIX	SKT	KTT
5 C.77	-0.057	-0.195	0-141	0.065	0.256	0.106	0.362	0.339	0.553
07-01-61 0	10-5600	1136 EST							
A ST							3	3	***
SCH	7/7	SKU	Z T	SKV	NT A	SKW C	H	24.0	200
.446			0.101	-0.100	0.354	750-0	0.137	0.0	
DINI SUNING		11313	KTI	VXV	X T X	SKW	X	SKT	KTT
F 44.7	0.122	0.295	0.049	0.111	0.000	0.040	0.110	0.000	-0.233
NI MC									
114		SKU	KTU	SKV	X T X	SKE	X	SKT	KTT
C.43# 0	C-127	C-314	0.149	0.141	0.099	C. 030	0.079	0.190	0.139
4CF C7-01-61	10-5600	5136 EST							
MEAN								1	
SCW		SKU	KTU	SKV	× 1×	SKW	3 .	SKI	KIT (
161	0.410		0.395	-0.185	684.0	0.238	0.814	0.862	-0.361
JINI SUNNI				2	***	7 7 7	T X	SKT	KII
NCS.	7/7	SAU	DIA C	1000	454	286	0.807	0.030	-0.025
C.50C C.55 0.184	-	-0.033	0.386	01.0					
TOS TOS		SKU	KTO	SKV	KTV	SKW	X	SKT	KTT
3 C.38	0.457	-0.103	0.447	-0.110	0.317	C.255	0.796	0.153	0.375
16.7 ; C-05-61 08	0833-(0833-0934 EST							
MEA									
SDW	1/1	SKU	KTC	SKV	KTV	SKE	H A	SKT	KIT
1.614 C.350 0.550	-0.116		-0-417	0.215	0.336	641.0-	0.0	0.213	-0.045
LOI POINT RUNNING PEAN	~					2	1		***
SPW	7/7	SKU	KTO	SKV	700	27. 77		571	
1.531 0.347 0.313	-0.097		-0.306	763-0					
מייים אינים	****	1145	K TH	> XX	KTV	SKW	X	SKT	KTT
1111 0.799 0.186	-0-158	-0-077	-0.000	-0.031	0.069	-0-103	0.267	0.602	0.690
	0033	10034 FCT							
		1171 121							
LING MEAN	7.73		KTU	SKV	KTV	SKH	KTH	SKT	KII
	-0-109	-0-0-1	-0-912	0.00	0.223	C.031	-0.322	0.072	-0.898
-	,								
SCV SOW SCT	7/2		ATC.	SKV	×1×	SKH	KTE	SKT	KTT
1.293 1.027 0.236	-0.095	-0-141	-0.513	0.246	0.00	0.010	-0.358	0.412	-0.280
DIRT RUNNI	,		•	2 2 2	2	7	NT N	CKT	***
SCH	277	SKU	200	0.019	060-0	-0.026	-0.068	0.390	0-104
		,	, , , ,						•

			10401	154 0511-0701							
SET CAS	A KLANING ME	MEAN.						•	1	1 2 2	***
Spir	SD V			SKU	KTO	SKV	KTV	SKE	200	401	-0-717
1.310	1.639 6.700	745.0 001	-c.20c	-0.139	-0.014	0.378	-0.020	0.043	-0.00	9.7.0	
	NIO	RUNNING PEAN					***	2	N T X	CKT	KTT
nas	MOS AOS	Jas PC	7/7	SKU	N L	SKV	V	250	-0.015	0.455	-0.280
1.257	1.51: 0.701	701 0.362		-0.110	-0.362	0.0	774-0-	1			
•	MIO	SUNNING MEAN				7 77	KTV	MXS	X	SKT	KTI
SPU	NOS AUS	SCT	יוו	240	2	040	0 0 0	0 184	0.187	0.547	0.667
C	1.049 C.637	597 0.252		2.174	611.9	000-0-	00.4				
CA NOW	33 404	19-50-0:	1-6501	150 EST							
ACCUSE	RIANING	WEAR									* * *
100		TOS MOS		SKU	KTC	SKV	× 1	SKW	*	28.	
1.431	2	C. 363 0.479	-0-219	-0.249	-0.226	0.300	-0.044	0.275	-0.475	0.117	-0.230
10001	DIAT	DIENTING PEAN									
1100	77	TUS RUS		SKU	× TC	SKV	×1×	SKE	- X	SKI	
1 574	2	862 0.351	-0-192	-0.285	-0.032	0.085	-0.370	0.214	-0-486	0.152	0.334
	TNIO	PUNATAS PEAN								3	
	Snv	SOW SCT		SKU	KTC	SKV	×1×	SKW	*	- 40	1
C. 976	0		-0-477	-C.229	0.592	0.751	4.039	1.457	4.082	000	1000
7	34	10-02-61		1338-1439 EST							
1000000	PALAN INC	MEAN									•
Sall	× × × ×	SCH SET		SKU	×TC	SK V	KTV	SKE	X	SKI	K11
1 186			-0-132	-C.198	-0.180	-0.114	-0.179	-0.028	0.179	616-0	0.673
	20	RUNNING MEAN							1	*	7
nus 8	SOV	SOW SOT		SKU	KTC	SKV	KIV	25.0	2 0	200	240
1.235	1.316 0.0	0.624 0.269	-0-149	-0.221	-0-118	0.022	0.030	901-0-	9.7.0		
	A 101 POINT	RUNNING MEAN				1	3	2	1	CKT	KTT
Sou		SOW SOT	7/7	SKU	754	410.0	1.219	-0-138	0.521	0.561	0.433
5-174	C. 974 O.	0.562 0.211		-0.700	0.130						
RUN NO.	34 404	10-02-61		1338-1439 EST							
PEFORE	A RUNNING	MEAN						2	2	TAS	KII
200	SOV		1/1	SKU	KTO	SKV	K 1 2 3	0.057	440	0.952	1.538
1-619	1.564 0.	0.878 0.342	-0-284		-0.04	10.01					
AFTER	OINI	RUNNING PEAN	***		W.T.	VAS	XTX	SKE	X TK	SKT	KII
Soc			7/7	2040	-0.407	0.008	-0.355	-0.020	0.030	0.820	0.774
	1.372	T SINK ING MEAN		2.7.0							
TO LE	101 101 1	SOT SOT		SKU	KTC	SKV	× 1×	SKW	X	SKT	KIT
C- 797	~	0	-0.665	-0.319	0.824	-0.077	0.975	0.074	0.158	0.113	0.123
ON NO	38 168	10-16-61		1209-1315 EST							
BEFORE	A RUNN								2	2	11.4
200				SKU	210	SKV	KTA (SKE	K 18	146	-0.207
1.516	2.101 0.	0.719 0.474	-0-193	-0.263	-0-146	10000	-0.038	661.0	177.0		
AFTER	NIO	RUNKING MEAN				240	***	ZKM	KTM	SKT	KTT
Sou			7/7	240	100	116.0	0-230	6-129	0.243	0.226	-0.466
1-403		0.703 0.375		-0.513	16110						
AFTER		AUNITED PERM		SKU	KTU	SKV	KTV	SKW	KTH	SKT	KTT
200	1.164	0.640 0.255	-0-284	-0.047	-0.124	0.240	0.723	0.072	0.458	0.348	0.126

### SECTION OF THE PROPERTY OF									2	0	0	•			
SKU	TTX	KT	TT Y	KTT -0.084	0.099	KTT 0.823	KTT 0.27è	0.844	1.24	KTT -0-33(KTT 0.17	KTT 0.20	KI	KTT	KIT
SKU	SKT	SKT	SKT	SKT 0.388	SKT 0.280	SKT 0.334	SKT 0.476	SKT 0.512 SKT	0.380	SKT 0.117	SKT 0.156	SKT 0.034	SKT	SKT	SKT
SKU	KTH-0.253	KTW -0.174	KTW 0.110	KTH 0.019	KTW 0.028	KTW -0.018	KT# 0.000	KTW 0.030	0.317	KTW 1.111	KTH 1.336	NTM 0.945	K TH 0.383	KTH 0.441	KTH
SKU			SKW 0.128	SKW -0.101	SKW -0.102	SKW -0.086	SKW 0.242	SKW 0.153	0.175	SKW 0.027	SKW -0.124	SKW - C. 096	SKW 0.174	SKW C.166	MXS
SKU KTU Co.319 Co.329	KTV -0.229	KTV C.167	KTV 0.832	KTV 0.374	KTV 0.365	KTV 0.223	KTV 0.278	KTV 0.252	0.353	×14.0	KTV 0.974	KTV 1.123	KTV -0.029	KTV 0.270	KIV
L SKU L SKU 19 -0.274 -0.319 19 -0.274 -1.528 EST 7-1528 EST 7-1528 EST 7-1528 EST 1 SKU 91 -0.468 1 -0.468 1 SKU	SKV -0.132	SKV 0.371	SKV 0.236	SKV 0.458	SKV 0.218	SKV 0.111	SKV 0.355	SKV 0.062	SKV -0.075	SKV 0.134	SKV 0.394	SKV 0.417	SKV 0.054	SKV 0.130	2
25	KTU -0-137	KTU 0.114	410 -0.006	KTU-0-0009	KTU 0.083	KTU 0.153	KTU 0.162	KTU 0.761	KTU 0.261	K1U -0.225	KTU 0.21C	KTU 0.192	KTU -0.156	KTU -0-150	
G MEAN SCT 2/L 1.032 NT RUNNING MEAN 2/L 2.804 2.807 2.867 2.867 2.867 2.867 2.867 2.6690 2.6690 2.6690 2.6690 2.6690 2.6600 2.6600	SKU -0.278	SKU -0.319	SKU -0.274	528 EST SKU 0.359	SKU -0.013	SKU -0.049	528 EST SKU 0.017	SKU -0.483	SKU -0.400	145 EST SKU 0.351	SKU 0.371	SKU 0.300	4	SKU 0.152	
G MEAN SCT 1.032 NI RUNNING HEAN SDW SDT C.867 C.867 C.867 C.679 C.670	2/1	2/L -0-170	2/L -0.319	1427-1 172 -0-054	2/L -0.053	2/L -0.053		160.0-	2/L -0.109	2044-2 2/L 0.137	2/1	2/L 0.139	2044-2		
L D D D D D D D D D D D D D D D D D D D	SCT		NG MEAN SOT	10-61-61 SDT 50-236	NG HEAN SET 0.195	NG PEAN SCT 0-131	3CT SCT 0.220	ING MEAN SCT 0.201	SET 0.126	SCT 0.19c	ING MEAN SDT	ING PEAN SET 0.142	0-16-61 SET	ING PEAN	ING PEAN
		NT RUNNI SDW	NT RUNNI SDW C.867	G MEAN SON	NT RUNNI SOW 0.669	INT RUNNI SOW 0.653	G MCAN SOW	SCH O-879	SDW C. 795	SOW C.402	SDW SDW	SEW SEW 0.394	ACP NEAN SON	INT RUNN SCH C.463	INT RUNN
me no an a me and an o me a se a se a se a se	REFORE SOU	SEU SEU	AFTER A SDU 1-079	RUN NO. BEFORE SDU	AFTER A SOU	AFTER A SDU 1.017	LL.	SOU 1.526	•			AFTER SOU 1-670		SOU	

State Stat	:	DIANIAC RIAN										
C. 5545 C. 3355 C. 6.15 C. 6.19 C. 10.17 C. 0.036 C. 3555 C. 6.273 C. 10.675 C. 5.15 C. 5.25 C. 5.275 C. 5.25 C. 5.25 C. 5.275 C. 5.25	205	SCW	Set	1/2	SKU	KTC	SKV	KTV	SKW	KTH	SKT	KIT
\$0.0 DOINT SURVING STAN 2/1, SKU KTU SKV KTV SKW KTV SKW KTV SKW KTV STAN 5/1, SKU KTU SKV KTV SKW KTV SKW KTV STAN 5/1, SKU KTU SKV KTV SKW KTW STAN 5/1, SKU STAN 5/1, SKW KTV SKW KTW STAN 5/1, SKU STAN 5/1, SKW KTV SKW KTW STAN 5/1, SKW KTW SKW KTW STAN 5/1, SKW KTW SKW KTW SKW KTW STAN 5/1, SKW KTW STAN 5/	C.545	C.337	0.157	0.165	0.419	0.177	0.036	C.355	-0.234	0.689	0.084	0.265
\$\begin{array}{cccccccccccccccccccccccccccccccccccc		RT RUNGE	AG WEAN				2 20	2	7 7 7	M TW	SKT	KII
C. 12 C. 170 POINT RUNNING WENN ST. C. 150 C. 170 C	200	SCH	105	7/7	25.0	264	050	5 S E . C	-0-273	0.723	0.201	0.225
## Control of the con		C. 385	NE NE AN	157.0	0.364	78.0						
4.2		177	SOF	1/1	SKU	KTU	SKV	× T×	SKE	XTE	SKT	KTT
42 NEWLING PHEN SCT. 10-16-61 2111-2312 EST 50 V SCH	C.512	C.379	0.134	0.137	0.352	0.370	0.000	0.303	-0.216	0.616	0.113	0.152
SEW			-16-61	2111-2	SIZ EST							
\$\frac{55\psi}{55\psi} \text{Sch}{55\psi} Sch	A RIANIA											
0.554 0.447 0.759 C.027 0.026 0.076 C.118 -0.007 0.708 SOUNTY SUM SCH STAN SCH STAN SCH STAN STAN STAN SCH STAN SCH	SCV	SCH	SCT		SKU	XTC	SKV	KTV	SKW	7 1	SKT	-
C3A 16P CLEASE C.442 SCT 0.337 0.090 0.203 -0.006 C.390 -C.061 0.570 0.571 C.452 C.451 C.452 0.094 -0.028 0.451 0.037 0.723 C.351 C.441 SCW KTW SCW KT	0.544	0.447			0.020	-0.CE2	0.076	C. 118	-0.001	0.708		
\$\text{Sty} & \text{Sty} & \tex		RT RUNNI	NC PEAN									
C15 11 C.445 101 POINT TUNING PEAN 102 POINT TUNING PEAN 103 POINT TUNING PEAN 103 POINT TUNING PEAN 104 C17 C C.445 10.756 10.756 10.757 10.		ACS	SCT		SKU	KTC	SKV	×1×	SKE	X - Z	SKT	-
101 POINT RUNING FEAN 102 POINT RUNING FEAN 103 POINT RUNING FEAN 104 POINT RUNNING FEAN 105-61 C-441 105-61 C-441 105-61 C-441 105-61 C-441 105-61 C-441 105-61 C-47-62 1037-1153 EST 105-61 FOINT RUNNING FEAN 106 POINT RUNNING FEAN 107 POINT RUNNING FEAN 108 POINT RUNNING FEAN 108 POINT RUNNING FEAN 109 POINT RUNNING FEAN 100 POINT RUNNING FEAN 101 POINT RUNNING FEAN 102 POINT RUNNING FEAN 103 POINT RUNNING FEAN 104 POINT RUNNING FEAN 105-61 C-459 105	0.571	C.445			0.090	0.203	-0.006	C-3PO	-C.081	0.570		
SEW SEW SET 2/1 SKU KTU SKY KTY SKW KTW SKW KTW SKW KTW SEW SEW SEW SEW SEW SEW SEW SEW SEW SE		NI RUNNI	NE PEAN				,				1	** *
C.5EL C.441 O.356 -C.102 O.044 -O.028 O.451 O.037 O.723 SCHOLING FRAN SCT ZAL SKU KTU SKV KTV SKW KTW SCH KT	SDV	SCW	v		SKU	K TU	SKV	× 1 ×	NXE	-	SKI	-
16F 05-07-62 1037-1153 EST 18A 16F 05-07-62 1037-1153 EST 25.17	(.561	C.441			-C-105	0.044	-0.028	0.451	0.037	0.723		
SEC STATE SEC STATE SEC SEC STATE SEC ST			-07-62	1037-11								
SEV SCH SCH SCT Z/L SKU KTU SKV KTV SKW KTW SCW SCH SCH SCT Z/L SKU KTU SKV KTV SKW KTW SCW SCM	1.4	A LA										
2.171 0.793 0.493 -0.101 0.079 -0.536 0.046 0.355 0.153 0.126 col form Runkie Fean 2.1	200	100	SET	1//	SKU	KTU	SKV	KTV	SKE	×	SKT	KTT
SGV SCM SGT 2/L SKU KTU SKV KTV SKW KTW SKW KTW SGM SGT 1.952 G-1167 G-117 G-117 G-117 G-1169 G-189 G-	20171	0.793	6.493	-0-101	6.079	-0.536	0.046	C-355	0.153	0.126	0.492	0.565
SGV SCR ST		MT RUNNI	•								7	1
1324 0.753 0.469 -0.117 -0.116 -0.492 0.169 0.329 0.110 0.152 101 POINT RUNNING MEAN 1324 0.750 0.356 -0.165 -0.028 0.142 0.224 0.459 -0.002 0.287 1324 0.750 0.356 -0.165 -0.028 0.142 0.224 0.459 -0.002 0.287 1324 0.750 0.356 -0.165 -0.028 0.142 0.024 0.002 0.287 1324 0.750 0.356 -0.165 -0.028 0.142 0.064 -0.078 0.047 0.144 1329 0.483 0.483 0.095 -0.013 0.003 -0.184 0.014 0.044 0.014 0.044 101 POINT RUNNING MEAN 120 POINT RUNNING MEAN 121 SKU KTU SKV KTV SKW KTW 1220 0.285 0.482 0.412 0.085 0.089 0.124 1230 0.285 0.483 0.493 0.094 0.112 0.085 0.508 0.090 0.178 1231 0.353 0.488 0.0941-1057 EST 1241 0.353 0.488 0.0941-1057 EST 1250 POINT RUNNING MEAN 1241 0.353 0.488 0.099 0.0171 0.122 0.140 0.048 0.318 1250 SCW SCW KTV SKW KTW 1241 0.353 0.488 0.099 0.0171 0.0261 0.0137 0.009 0.358 1250 POINT RUNNING MEAN 1241 0.353 0.488 0.099 0.0171 0.0261 0.0137 0.099 0.358	SCV	SCH	Ser	1/2	SKU	× TC	SKV	× 1	SKE	K T E	SKI	- 140
161 POINT RUNNING WEAN SOFT	1.892	6.143	694.0	-0-117	-0.114	-0.492	0.169	0.329	0.110	0.162	0.029	0.0
SOV SCH SCT 2/L SKU KTU SKV KTV SKW KTW SKW KTW SCW SCW SCW SCW SCW SCW SCW SCW SCW SC		NT RUNNI	-							1	1	* * *
1.324 0.755 0.356 -0.165 -0.028 0.142 0.224 0.459 -0.002 0.224 1.36	SUV	NUS	SCT	1/2	SKU	2	SKV	KIV	38.8	2 0	20.00	- 6
136 16F 05-07-62 1207-1323 EST RUNNING WEAN SCV SCW SCW SCW SCW SCW SCW SCW	1.324	0.750	0.356	-0.165	-0.028	0.142	6.224	C. 454	700.0-	187.0	0.00	
SEV SEW KIN 5.29C C.607 0.475 -0.095 -0.015 -0.132 -0.064 -0.078 0.047 0.144 5.129C C.607 0.475 -0.095 -0.015 -0.132 -0.064 -0.078 0.047 0.144 5.129C C.607 0.433 -0.103 0.003 -0.184 -0.219 -0.263 0.124 0.067 5.129 0.805 0.433 -0.103 0.003 -0.184 -0.219 -0.263 0.124 0.067 101 POINT RUNNING FEAN 5.12 0.805 0.433 -0.103 0.003 -0.184 0.219 -0.263 0.124 0.067 1.3CE C.772 0.342 -0.135 -0.096 0.112 0.085 0.508 0.090 0.178 5.44 1.6 0.342 0.615 -0.093 0.029 -0.131 0.122 -0.140 0.048 0.318 6.1 FOR THE THE SET TO SE	636	EP 65	1-07-62	1207-1	323 EST							
SEV SEW SET 2/1 SKU KTU SKV KTV SKW KTW SNV KTV SNW KTW SNW KT	A RUNIA	S PEAN				***	2 2 2	-	7 %	7 1 1	CKT	KII
2.29C C.807 0.475 -0.095 -0.015 -0.132 -0.007 -0.134 FUNDING WEAN STEE STORE S	SCV	SCH	SCT	1/1	SKU	5 . C	SK V	2 6	2000	14.		240
COL POINT RUNNING FEAN SOU SCH SCH SOU SCH SOU KTU SOU SCH KTU SOU SCH SOU KTU SOU SCH		C-801	0.475	-0.095	-0-012	-0-135	10.01	0.0			•	
101 POINT RUNNING PEAN 101 POINT RUNNING PEAN 102 POINT RUNNING PEAN 103 -0.103 0.003 -0.184 -0.219 -0.263 0.124 0.067 103 POINT RUNNING PEAN 103 POINT RUNNING PEAN 103 POINT RUNNING PEAN 103 POINT RUNNING PEAN 104 0.853 0.458 -0.093 0.024 -0.131 0.122 -0.140 0.048 0.318 104 0.853 0.458 -0.094 0.171 -0.261 -0.137 0.037 0.009 0.358 109 POINT RUNNING PEAN 100 POINT R		NOW I'M	NA TAN	17.7	CKII	KTII	VXV	KTV	SKW	XTX	SKT	KIT
101 PUINT RUNNING FEAN 2/L SKU KTU SKV KTV SKW KTW SGN C.090 0.178 1.3CH C.77: 0.342 -0.135 -0.096 0.112 0.065 0.508 0.090 0.178 1.3CH C.77: 0.342 -0.135 -0.096 0.112 0.065 0.508 0.090 0.178 544 167 0.565 0.615 -0.093 0.029 -0.131 0.122 -0.140 0.048 0.318 601 PUINT RUNNING FEAN KTW SKW KTW SKW KTW SGN KTW	ATIC T	800	35.0	101	200	-0.184	-0.219	-0.263	0-124	0.067	0.307	0.046
SGV SCW SOW SOT 2/L SKU KTU SKV KTV SKW KTW SGW C.990 0.178 1.3CH C.77! C.342 -0.135 -0.096 0.112 0.065 C.508 C.090 0.178 544 16P 05-09-62 0941-1057 EST	101		HIG PEAN									
1.3CE C.771 0.342 -0.135 -0.086 0.112 0.085 0.508 0.090 0.178 544	200		SOT	7/7	SKU	KTU	SKV	KTV	SKE	X	SKT	KTT
A RUNNING MEAN SCY SCY SCY SCY SCY SCY SCY SC	1.3CP	C. 77:	0.342	-0.135	-0-0-P	0.112	0.085	0.508	060.0	0.178	0.417	C. 159
A RUNING MEAN SGT Z/L SKU KTU SKV KTV SKW KTW SCV SOW SCV SOW SCV SOW SCV		0	5-00-62	0941-10	357 EST							
SCV SOW SOT Z/L SKU KIU SKV KIV SKW KTW SCV 0.318 Z-135 C.854 U.615 -0.093 C.029 -0.131 0.122 -0.140 0.048 0.318 601 POINT HUNNING WEAN SCV SCW SCT Z/L SKU KTU SKV KTV SKW KTW 1.941 0.953 0.468 -0.094 0.171 -0.261 -0.137 G.037 0.009 0.358 201 POINT RUNNING WEAN 201 Z/L SKU KTU SKV KTV SKW KTW 201 POINT RUNNING WEAN 201 Z/L SKU KTU SKV KTV SKW KTW	A RUNLIP	C HEAN		;	3	1	7 7 5	21.3	7 70	KTE	CKI	KII
2.135 C.854 0.615 -0.093 C.029 -0.131 0.122 -0.139 C.029 0.358 601 POINT HUNNING WEAN SCT	SCV	NOS	SCT	יור	SKO	2	28.0	07.0	940	916	8 8 9	-6.033
601 POINT HUNNING PEAN SCT 2/L SKU KTU SKV KTV SKW KTW SCV 1-941 0.953 0.468 -0.094 0.171 -0.261 -0.137 6.637 0.009 0.358 101 POINT RUNNING WEAN SCT 2/L SKU KTU SKV KTV SKW KTW KTW SCT 2/L SKU KTU SKV KTV SKW KTW		C-854	0.615	10.04	C.U.Y	-0.131	0.166	1	•	•	-	
1.941 0.953 0.468 -0.094 0.171 -0.261 -0.137 0.037 0.009 0.358 10.941 0.953 0.468 -0.094 0.171 -0.261 -0.137 0.037 0.009 0.358 101 PUINT RUNNING WEAN KTW SKW KTW SKW KTW		S S S S S S S S S S S S S S S S S S S	24 20 27		1125	K Til	V X V	×T×	BXS	XTX	SKT	KIT
101 PUINT RUNNING MEAN SOF Z/L SKU KTU SKV KTV SKW KTM	25.	#35 C	200	1000	171	-0-261	-0-137	C. C37	0.00	0.358	0.258	0.226
SOV SOF ZOL STEE SKU KTU SKV KTV SKW KTM			2000	-0-03	1.1.0	123.0						
350 C 250 C			ANT OF I	177	SKU	KTU	>xx	X T X	SKE	KTH	SKT	KTT
	Ans.	NO.	1		-)			,			

D

•		40100	4								
94.1	A RLANING WEAN SOV SEW	SOT		SKU	KTU	SKV 0.024	KTV -0-230	SKW 0.477	A 100	SKT 0.571	KTT -0.156
2-230	1,922 1,156	134 0.534	-0.155	661.3-	0.063		0.4.0	•			
•	MUS AUS	SOT	1/1	SKU	KTU	SKV	X T Y	SKW 0.436	KT#	SKT 0.321	0.268
	1.649 1.148	007-0	-0.183	0.111	0.0-	-0.354					
AFTER A	TOT POINT SCH	SCT	1/2	SKU	KTU	SKV	KIV	SKW	KTW	SKT	KTT
5	1.301 1.674 0.289	0.289	-0.276	-0.069	0.636	-0.134	0.287	C. 338	0.139	0.540	0.365
NO.	648 16F 0	05-09-62		1103-1216 EST							
Li.	JANING MEAN		;		1	2	2	SKL	**	SKT	KTT
Sun		Set	7/7	580	20170-	0.302	0.227	0.152	0.292	0.161	-0.567
2.412	7.825 C.929	200									
TER	SOU PULNI KURNING T		1/1	SKU	KTU	SKV	KTV	SKW	X	SKT	KTT
2,295	2.722 C.919	684	-0.069	0.209	-0-418	0.034	0.257	C-109	0.263	0.432	-01-0-
AFTER 4	104 101	MEAN			į		****	2	3	SKT	KII
Suu	SCV SCW	-	7/7	SKU	2	SAV	7 2 2 2	001-0	198	0.442	0.234
1-654	1.319 0.904		-0.084	0.1 42	-0-110	0.00	767.0				
SUN NO.	648 40F	29-60-50	1103-1	1103-1216 EST							
u	UNNING MEAN						2	730	1	SKT	KII
Spu		SOT	1/1	SKU	KTO.	25.0	75.0-	0.352	-0-015	0.169	-0.433
	2.414 1	0.510	-0.148	-0.162	17.0-	0.4.0					
AFTER A	0	TO L	177	SKU	KTU	SKV	KTV	SKE	KTH	SKT	KTT
2.063	2.425 1.670	0.434	-0.161	-0.033	-0.508	0.167	-0.052	0.409	0.104	0.558	-0.192
AFTER A	101 POL	PEAN			,		7	2	7	CKT	KII
Sou	SDV SCW	SCT	1/2	SKU	KTC	SKV	K - V	246	400	0.424	0.211
1-414	1.508 1.008	6.311	-0.212	-0-122	-0.06	6113	10.364	007.0			
RUN NO.	65A 16P (05-09-62	1304-1	1304-1420 EST							
لنا	LANING MEAN					2	76.3	720	M T M	SKT	KIT
Suu			7/7	SKU	2000	212	-0-212	-0-079	0.376	0.213	-0.151
		185-0		0.240	7000	***					
AFTER A	•	ALM PEAN		CKII	KTU	SKV	×1×	SKW	XTX	SKT	KTT
200	2 2 2 0 0 0 0 0	004.0	-0-092	0.294	-0.086	0.053	-0-176	-0.155	0.302	0.387	0.258
ACTER A	101 601	NING MEAN									3
		SOT	7/2	SKU	KTC	SKV	×1×	SKW	X	2K1	- 6
-540	6 0.870	0.335		0.103	0.055	-0.035	601.0	-0.00	0.00		0.530
RUN MC.	65A 4CP (05-09-62	1304-1	420 EST							
w	A RUNING MEAN				1	2 2 2	* 7.	28.0	X Te	SKT	KIT
	SOV SOW	SOT	2/1	SKU	200	0.289	410-0	0.217	-0-080	0.212	-0.242
	2.167 1.110	0-420	-0-182	0.0							
_	A COL PUINT RUNG	NING MEAN	2.00	SKII	KTU	SKV	KTV	SKW	XTE	SKT	KTT
200	2.076 1.103 0.374	0.374	-0-179	0.170	-0.192	0.00	-0.162	0.207	-0.055	0.362	-0.034
_	A 101 POINT RUN	NING MEAN				2	***	735	***	SKT	K 11
	SCV SON	SOT	2/1	SKU	DI Y	SAV	0.270	0-230	0.070	0.417	0.278
153	1.405 1.002	192.0	167.0	>+1·>1))))))))					

3.9

1434-1550 EST
2/L -0.056
SCH SCT 2/L +529 0.256 -0.056
1434-1550 EST
1/1
-0-072
2/1
7
0.216 -0.143
05-09-62 1650-1806 EST
1/1
-0.00
SOT Z/L
z
900.0-
05-09-62 1650-1806 EST
-0.010
-0.036
0.055 -0.034
U5-09-62 1818-1934 ESF
0.056
SGT 2/L 0-141 0-055
3 0.067

Color Colo	On 10 .C	94 H 17	401	5-09-62	1818-1934 EST	34 631							
SEPTION SEPT	BEFORE	A RUNIING	4					7 % 7	XTX	SKW	KTK	SKT	KIT
10.201 0.7131 0.409 0.0223 0.422 0.4130 0.422 0.555 0.201 0.566 0.002 0.093 0.993 0.723 0.422 0.4216 0.002 0.955 0.201 0.566 0.002 0.002 0.993 0.722 0.102 0.006 0.200 0.450 0.0074 0.900 0.122 0.900 0.912 0.722 0.102 0.006 0.200 0.450 0.0074 0.900 0.127 0.907		SCV	SCH	SOT	7/7	SKU	2	38 V	121	0-244	0.530	0.074	-1.176
101 POINT RUNNING FRAN 2/1 SKU KTU SKY KTY SKA KTA SKT		1.220	0.731	0.408	0.023	0.452	-0-136	-0-213	1110	-			
\$\frac{50}{50}\$ \frac{50}{50}\$ \frac	-	AO1 POIL	T RUNNI	ING PEAN					***	7 7 7	27.2	SKT	KTT
0.497 C.773 0.006 0.027		SOV	SCW	SOT	7/7	SKU	X TC	SKV	× - × -		848	-0-005	0.390
		0.983	C-732	0.102	0.068	C-230	-0.278	2.0.0	0.222	103.0			
\$\frac{6}{6} \text{ 16F} \tag{6}{6} \tag{7.5}{6} 7.5		101 POI	IL AUNNI	NG MEAN						7 7 7	11.1	SKT	KTT
### CS-09-02 2248-0004 EST		700	HOS	SeT	7/2	SKU	2	SKV			000	127	0.479
### AGAINT CONTRIBUTION OF THE PROPOSED STATES OF THE PROPOSED STATE	1-120	0.907	C. 791	0.088	0.077	c-104	-0.216	0.080	0.4.0		0.0		
## SUNAING MEN. SCH. SKU KTU SKV KTV SKW KTW SKT S		277		-09-62	2248-00	104 EST							
SOUND SCHOOL SCHOOL STATE SKU KTU SKV KTV SKH KTH SKT SKT SCHOOL	NA NO	200	WEAR.									***	***
\$500 \$500 \$500 \$500 \$500 \$500 \$500 \$500	PEFORE	•			* **	CKII	KTU	SKV	×TX	SKE	x -	SKI	
0.421 C.246 O.131 C.241 C.319 C.234 C.245 C.269 C.192 C.289 C.194 C.195 C.296 C.196 C.296 C.196 C.296 C.196 C.296 C.196 C.296 C.196 C.296 C.197 C.296 C.198 C.198 C.296 C.198	200	SDV	205	200		444	0.178	0-140	0.502	-0.137	0.917	0.541	174-0-
A 501 POINT RUNNING MEAN 2/L SKU KTU SKV KTV SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 131 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 132 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKW KTW SKT A 132 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKT A 132 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW KTW SKW KTW SKT A 132 POINT RUNNING MEAN 2/L SKU KTU SKW KTW SKW SKW SKW SKW SKW SKW SKW SKW SKW SK	C-713	0.420	C.248	0.302		****							
SOV SCH SCH C.246 0.131 0.246 0.395 0.663 0.265 0.599 -C.192 0.652 -0.154 0.131 PDINT PUNNING PERM 2/1 SKU KTU SKV KTV SKH KTW SKI C.246 0.136 0.241 0.319 0.234 0.247 0.609 -C.197 0.947 -0.169 0.317 0.317 0.240 0.136 0.241 0.319 0.234 0.247 0.609 -C.197 0.947 -0.169 0.317 0.317 0.319 0.241 0.319 0.234 0.247 0.609 -C.197 0.947 -0.169 0.317 0.317 0.319 0.324 0.325 0.324 0.325 0.325 0.326 0.325 0.326 0	AFTER A	t eul Poli	NA PONT	NC MEAN		2		ZKV	KIV	SKE	KIK	SKT	KTT
101 POINT FUNNING PEAN 0.216	SOU	NOS	SOF	201		2000	200	0.265	0.599	-6.192	0.852	-0-154	0.087
131 POLITY PUNNING ST	C.548	0.386	C.248	0.141		0.343	0000	103.0					
SECTION SER SET 2.44 0.241 0.234 0.247 0.609 0.6197 0.947 0.109 0.376 0.376 0.377 0.247 0.109 0.247 0.109 0.247 0.109 0.247 0.136 0.248 0.136 0.249 0.139 0.234 0.224 0.225 0.149 0.421 0.380 0.317 0.303 0.326 0.325 0.149 0.139 0.224 0.225 0.149 0.421 0.380 0.381 0.449 0.137 0.303 0.246 0.140 0.141 0.479 0.125 0.049 0.019 0.446 0.120 0.399 0.141 0.479 0.125 0.049 0.055 0.404 0.120 0.399 0.084 0.140 0.140 0.132 0.149 0.149 0.049 0.055 0.404 0.120 0.399 0.004 0.140 0.150 0.399 0.004 0.140 0.150 0.399 0.140 0.	AFTER	109 101 1	NT PUNN	ING PEAN					74.3	727	KTW	SKT	KII
CALLER AND TO SCHOOL STATES OF STATES OF STATES OF STATES OF SCHOOL STATES OF STATES O	201	VOS	SCH	SCT		SKU	2	240	000	107	0.947	-0-169	-0.020
66E 40P 03-09-62 2248-0004 EST 6 A RUNING MEAN	C.522	0.376	C.246	0.136	0.241	0.319	0.234	0.20					
## RUNNING MEAN SCT 2/1 SKU KTU SKY KTY SKW KTW SKT SKT SCT 2/2 SCT 2/					2248-00	104 EST							
\$\text{SUP} \text{SUP}	SN MD.		MC AN	•									***
A 101 POINT RUNNING WEAN A 101 POINT RUNNIN	FEFORE	A KON K		200	771	SKU	KTU	SKV	× 1×	SKE	2	28.	
0.10 FOLLY RUNNING WE'L 0.400 SDW SDT 2/L SKU KTU SKV KTV SKW KTW SKT KTW SKW KTW SKT KTW SKT SKT SCV SDW SDT 2/L SKU KTW SKW KTW SKW KTW SKT SKT SCV SDW SDT 2/L SKU KTW SKW KTW SKW KTW SKT SKT SCV SDW SDT SCT SCV SDW SDT SCT SCV SDW SDT SCT SCV SDW SDT SCT SCT SCT SCT SCT SCT SCT SCT SCT SC	200	200	200	324	655	0.149	-0-159	-0.224	0.265	0.146	0.421	0.380	-0- 142
\$0.460			0.303	100 mc AM	1000								
A 101 POINT RUNNING PEAM 2/1 SKU KTU SKW KTV SKW KTW SKW KTW SKY KTW SKW KTW SKY KTW SKW KTW SKT SW SW SCW SCW SCW SCW SCW SCW SCW SCW S	_		200	COS	1/1	SKII	272	SKV	× 1 ×	SKE	KIN	38.1	- 20
SEV SDW SCT 2/L SKU KTU SKV KTV SKW KTW SKY THE SKT SCT C-130 0-399 0-004 0-044 0-055 0-404 0-120 0-399 0-004 0-044 0-044 0-055 0-404 0-120 0-399 0-004 0-044 0-044 0-055 0-404 0-120 0-399 0-004 0-044 0-040 0-132 0-494 0-040 0-045 0-404 0-120 0-399 0-004 0-044 0-135 0-399 0-044 0-045 0-135 0-399 0-044 0-045 0-135 0-399 0-044 0-045 0-135 0-399 0-040 0-045 0-135 0-399 0-040 0-045 0-135 0-399 0-040 0-045 0-135 0-399 0-040 0-040 0-045 0-139 0-399 0-040 0-040 0-045 0-139 0-399 0-040 0-040 0-045 0-139 0-399 0-040 0-040 0-045 0-139 0-399 0-040 0-054 0-040 0-045 0-139 0-399 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-040 0-054 0-064 0-006 0-067 0-131 0-066 0-006 0-006 0-067 0-131 0-066 0-006 0-006	nas J	205	FOE - 3	0-141	0.479	-0.125	-0.079	0.033	C.253	0.105	02.0	0.100	
66F 16P 05-10-62 0016-0134 EST E A RUNNING MEAN SCT 2/L SKU KTU SKV KTV SKW KTW SKT C.369 0.004-0.106 C.416 C.300 0.132 0.499 -0.100 0.049 0.055 0.404 0.120 0.399 0.004-0.146 SOV SCW SCW STY STW KTV SKW KTV SKW KTW SKT SKT SOV			MT BUNN	THE PEAN							1	***	***
6.446 C.300 O.132 O.449 -0.100 0.049 0.055 O.404 U.120 U.379 U.000 6.440 Iop OS-10-62 O016-0134 EST A MUNING MEAN SOV SOV SOV SOV SOV SOV SOV SO			NON	SOT	7/7	SKU	X TC	SKV	> 1	SA S	200	440	000
### FUNNING WEAN SCT	1+5-0	0.446	c. 300	0.132		-0.100	0.049	0.055	0.404	0.150	0.338		
### SKT			10	5-10-62		134 EST							
A COL POINT RUNNING FEAN 2/L SKU KTU SKV KTV SKW KTW SKW SKW SKW SKW SKW SKW SKW SKW SKW SK	UN NO		C MEAN								1		***
C.615 0.369 0.186 0.166 0.372 -0.113 -0.040 -C.013 -C.155 0.209 -0.168 0.309 0.372 -0.113 -0.040 -C.013 -C.155 0.209 -0.168 0.182 0.182 0.184 0.184 0.185 0.243 -0.206 0.018 0.165 -0.153 0.539 -0.040 -0.0572 0.368 0.182 0.182 0.183 0.243 -0.206 0.018 0.165 -0.153 0.539 -0.040 -0.040 0.165 0.165 -0.153 0.539 -0.040 -0.018 0.165 -0.153 0.539 -0.040 -0.059 0.054 -0.565 0.362 0.167 0.176 0.252 -0.047 0.016 0.168 -0.146 0.601 -0.013 0.659 0.561 -0.013 0.659 0.434 0.176 0.292 0.131 -0.037 -0.207 0.358 0.161 0.089 0.054 -0.659 0.434 0.171 0.107 0.037 -0.207 0.358 0.111 0.305 -0.007 -0.198 -0.004 0.088 0.177 0.107 0.056 -0.621 0.427 0.150 0.315 -0.032 -0.204 -0.008 0.067 0.151 0.064 0.006 0	TEF UNE		200	TUS		SKU	KTC	SKV	× 1×	SKE	N I	34.	
A COI POINT RUNNING PEAN SOV SOV SOV SOV SOV SOV SOV SO	200	414	0.369	0.186		0.372	-0-113	-0.040	-0.013	-6-122	0. 204	001-01	
SOV SOW SOF 2/L SKU KTU SKV KTV SKW KTW SKT ST C.539 -0.040 -0.572 0.348 0.162 0.165 0.243 -0.206 0.016 0.165 -0.153 0.539 -0.040 -0.572 0.348 0.162 0.165 0.243 -0.206 0.016 0.166 -0.146 0.601 -0.013 0.565 0.365 0.362 0.367 0.016 0.166 -0.146 0.601 -0.013 0.565 0.365 0.367 0.368 0.367 0.0013 0.0054 -0.015 0.166 0.0069 0.054 0.0556 0.459 0.434 0.174 0.292 0.131 -0.037 -0.207 0.358 0.161 0.069 0.054 0.659 0.659 0.161 0.0069 0.056 0.659 0.659 0.0054 0.659 0.0054 0.0556 0.651 0.150 0.315 0.006 0.006 0.0067 0.151 0.066 0.006		4 401 901	NT RUNN	ING PEAN						200	1	CKT	
A 101 POINT RUNNING FEAN SCT 2/L SKU KTU SKV KTV SKW KTW SKT SOV SCW SCT 2/L SKU KTU SKV KTV SKW KTW SKT C.565 0.362 0.167 0.176 0.252 -0.047 0.016 0.168 -0.146 0.601 -0.013 646 409 05-10-62 0018-0134 EST 6 A RUNNING FEAN SCT 2/L SKU KTU SKV KTV SKW KTW SKT O.659 0.434 0.174 0.292 0.131 -0.037 -0.207 0.358 0.161 0.089 0.054 8 601 POINT RUNNING FEAN SCW SCW SUT 2/L SKU KTU SKV KTV SKW KTW SKT SOV SCW SUT 2/L SKU KTU SKV KTV SKW KTW SKT SOV SCW SUT 2/L SKU KTU SKV KTV SKW KTW SKT A 101 POINT RUNNING FEAN A 101 POI		VUV	NOS	201		SKU	242	SKV		200	628	040	-0.122
A 101 POINT RUNNING WEAN SOV SCW SCT 2/L SKU KTU SKV KTV SKW KTW SKT C.565 C.362 C.167 C.176 C.252 -0.047 C.016 C.168 -0.146 C.601 -0.013 C.565 C.362 C.167 C.176 C.252 -0.047 C.016 C.168 -0.146 C.601 -0.013 EA RUNNING MEAN SCV SCW SCW SCT 2/L SKU KTU SKV KTV SKW KTW SKT SCV SCW SCW SCT 2/L SKU KTU SKV KTV SKW KTW SKT SOV SCW SCT 2/L SKU KTU SKV KTV SKW KTW SKT SOV SCW SCT 2/1 SKU KTU SKV KTV SKW KTW SKT A 601 POINT RUNNING MEAN A 101 POINT RUNNING MEAN SCO SCW SCW SCT 2/L SKU KTU SKV KTV SKW KTW SKT SOV SCW SCT 2/1 SKU KTU SKV KTV SKW KTW SKT A 101 POINT RUNNING MEAN A 101 POINT RUNNING MEAN SCW SCW SCW SCW SCW SKW KTW SKW KTW SKT SOV SCW SCT 2/1 C.434 C.171 C.305 -0.204 -0.006 C.006 C.0151 C.006 C.006	440	0.572	0.368	0.162		0.243	-0.206	0.018	691.0	-0-123			
SOV SCW SCT 2/L SKU KTU SKV C.166 -0.146 0.601 -0.013 6.565 0.362 0.167 0.176 0.252 -0.047 0.016 0.168 -0.146 0.601 -0.013 6.6 40P 05-10-62 0018-0134 EST E A RUNING MEAN SCV SCW KTV SKW KTW SKT 0.659 0.434 0.174 0.292 0.131 -0.037 -0.207 0.358 0.161 0.089 0.054 A 601 POINT RUNNING MEAN 2/L SKU KTU SKV KTV SKW KTW SKT 0.629 0.434 0.171 0.305 -0.007 -0.198 -0.004 0.086 0.177 0.107 0.056 A 101 POINT RUNNING MEAN A 101 POINT RUNNING MEAN A 101 POINT SCW KTV SKW KTW SKT A 101 POINT SCW KTW SKW KTW SKT A 101 POINT SCW KTW SCW KTW SKW KTW SKT A 101 POINT SCW C.427 0.150 0.315 -0.0324 -0.008 0.067 0.151 0.066 0.006		101 601	NT RUNA	ING PEAN						2	N. T.	CKT	KII
6.565 0.362 0.167 0.176 0.252 -0.047 0.016 0.168 -0.170 0.011 0.015 0.01		700	SON	SCT		SKU	X TC	SKV	KIN	200			000
E A RUNNING MEAN SOT 2/L SKU KTU SKV KTV SKW KTW SKT SCO 0.054 0.659 0.434 0.174 0.292 0.131 -0.037 -0.207 0.358 0.161 0.069 0.054 0.659 0.434 0.174 0.392 0.131 -0.037 -0.207 0.358 0.161 0.069 0.054 SOV SCU SOT 2/L SKU KTU SKV KTV SKW KTW SKT SCT 0.656 0.628 0.434 0.171 0.305 -0.007 -0.198 -0.004 0.088 0.177 0.107 0.054 A 101 POINT RUNNING PEAN 2/L SKU KTU SKV KTV SKW KTW SKT SCT 0.054 0.004	2000	5.56.0	0-362	0.167		0.252	-0.047	0.016	0.168	941.0-	100.0	510.0	
E A RUNNING MEAN SOT 2/L SKU KTU SKV KTV SKW KTW SKT C.654 0.054 0.054 0.054 0.054 0.054 0.054 0.054 0.059 0.054 0.059 0.054 0.059													
E A RUNNING MEAN SOT 2/L SKU KTU SKV KTV SKW KTW SKT 50.654 0.058 0.058	. W W.	66F 4	0 40	5-10-62		134 EST							
SCV SDW SGT 2/L SKU KIU SKV KTV SKW KTW SKT SKT SGT SGT SGT SGT SGT SGT SGT SGT SGT SG	BEFORE		IC MEAN							SKW	KTW	SKT	KIT
0.659 0.434 0.174 0.292 0.131 -0.037 0.157 0.157 0.056 A 601 POINT RUNNING FEAN SDV SCW SDT 2/L SKU KTU SKV KTV SKW KTW SKT 0.628 C.434 0.171 0.305 -0.007 -0.199 -0.004 0.008 0.177 0.107 0.056 A 101 POINT RUNNING FEAN SDT 2/L SKU KTU SKV KTV SKW KTW SKT SDV SDV C.427 0.150 0.315 -0.032 -0.204 -0.008 0.067 0.151 0.066 0.006	200			201	172	SKU	2			0.161	0.089	0.054	-0-17
A 601 POINT RUNNING PEAN SDV SCW SDT 2/L SKU KTU SKV KTV SKW KTW SKT 0.628 C.434 G.171 G.305 -0.007 -0.198 -0.004 G.088 G.177 G.107 G.054 A 101 POINT RUNNING PEAN SDT 2/L SKU KTU SKV KTV SKW KTW SKT SDV SDV C.427 G.150 G.315 -0.032 -0.204 -0.008 G.067 G.151 G.064 G.004	C-841	0.659	0.434	0.176	262.0	0.131	-0.0						
SDV SCW SDT 2/L SKU KIU COO 0.006 0.177 0.107 0.056 0.628 0.434 0.171 0.305 -0.007 -0.198 -0.004 0.006 0.177 0.107 0.056 A 101 POINT RUNNING PEAN 2/L SKU KTU SKV KTV SKW KTW SKT SDV SDW SDT 2/L SKU KTU SKV KTV SKW KTW SKT O.066 0.006	AFTER	4 601 901	INT RUN'S	INC PEAN	-	1			× 7.v	SKW	KTK	SKT	KIT
A 101 POINT RUNNING PEAN 2/L SKU KTU SKV KTV SKW KTW SKT SKT SSV SOV SOV SOV SOV SOV SOV SOV SOV SOV	200	SOV	SCV	SOT	772	SKU	KTO			177	0-107	0.054	-0-17
A 101 POINT RUNNING PEAN 2/L SKU KTU SKV KTV SKW KTW SKT SKV SOV SDW SOT 2/L SKU KTU SKV KTV SKW KTW SKT SDV SDW SOT 0.150 0.066 0.006	5.807	0.628	C-434	0.171	0.305	-0.001	-0-148						
SDV SDW SDW SDT 2/L SKU KIU 300 0.067 0.151 0.066 0.006	AFTER	A 101 PO	INT RUNN	ING PEAN			1	7	26.2	- AN	K TE	SKT	KTT
0.621 6.427 0.150 0.315 -0.032 -0.234 -0.008 0.007 0.151 0.000	Chi	SOV	NOS	SOT	7/2	SKU	2				970	100	
	200	0.621	6.427	0.150	0.315	-0.032	-0.234	-0.00	0.00	101.0			

RUN NO.	67A 26F		0234-0	0234-0350 EST							
w	CHAI			-		7.85	27.4	ANS	KTK	SKT	KIT
200	SDV SCW		0.076	0.316	-0-132	0.016	c. 126	-6.173	0.526	0.043	-0.153
AFTER	DINT	- 6									1
200	SOV SOW		112	SKU	KTC	SKV	K 1 V	SKE	KTK	SKT	- 1
1.017	0.690 0.490	00 00148	0.075	0.316	-0.097	-0.071	0.194	-0.155	0.539	0.0	-
AFTER A	00	JANING PEAN			1	2	26.2	7.25	27.2	SKT	KIR
200	200		277	200	200	20.07	0.123	-0-136	0.499	-0.018	-0.150
556-2	C.684 C.485		2000	802-0	203-0-						
BUN 40.	67A 40P	05-10-62	0234-0	0234-035C EST							
	UNNING	4								***	***
205		1 SOT		SKU	210	SK V	X	SKE		2800	233
C. 895	2	14 0.167	0.196	-0.080	-0.071	0.166	0.215	0.243	10.00	0.000	677-0-
AFTER A	NIG	JANING MEAN					2	2	1	CKT	KIT
200		105	111	SKU		0110	414	270	0.817	0.072	-0-202
0. 482	0.704 0.533	33 0-146	0-204	-0.055	0.063		***				
AFTER A	N O	JANING PEAN	;			2 2 2	21.8	CKE	K Tu	SKT	KTT
200	SOV 50#	201	2/2	-0-138	0.060	0-150	0.425	0.256	0.781	-0.033	-0.141
RUN NO.	678 168	05-10-62		0404-0520 EST							
PEFONE	A RUNNING MEAN	7.4								**	***
	SOV 501	SOF		SKU	2	SKV	× 1 × 0	SKE C	K 1 K	306	156
1-113	0.433 0.54	14 0-172	0.059	0.225	-0-166	-0.002	0.162	117-0-	0.313	647.0	0000
-	601 POINT PL	JANING MEAN			-	~ ~ ~	74.8	ZXX	KTW	SKT	KTT
200	SOV SCI	135		2000	26.2	40.0-	0.241	-0.227	0.388	0.011	0.023
	0.822 0.5	0.144		0.623	663.0-						
_	TOI POINT RE	UNDERCOMEN		CKI	K THIS	SKV	KTV	SKE	KTH	SKT	KTT
1005	200 200	34 0.132	0.056	0.227	-0.250	-0-041	0.155	-0.219	0.355	0.055	0.095
RUN NO.	670 4CF 05-10-62	05-10-62	0-4040	0404-0520 EST							
w	A RUNNING PE	AN								****	** *
Sou		SCT	1/2	SKU	2	SKV	7 7	25.00	200	28.7	124
1.062	0.785 0.583	83 0.158	0.152	-0-169	-0.351	+61.0-	0.403		010.01	1000	****
AFTER A	INIO	UNNING MEAN				7.20	2	7 2 2	3	CKT	KII
Son		SOT		SKU	2014	A S	2443	000	400	0.247	0.081
1.03"	0.779 0.583	93 0.146	0.100	921.0-	-0.304	****					
N MELEN	NIO	UNNING PEAR			2 7 10	7.45	74.3	NX.	KTX	SKT	KIT
200		201		240	2	100	202	100	0.028	0.201	0.071
C. 153	C.77G C.57e	.576 0.137		-0.150	-0.240	901-0-	0.513	10.0	970.0		
PUN 40.	670 167	05-10-62	0533-0	0533-0649 EST							
u	A RUNNING MEAN	AN					1				*
	SOV SOI	SOF	77	SKU	KTC	SKV	KIV	SKH	N L	SKI	K
63	C.988 C.64	69 0.543	-0.001	0.213	-0.240	0.025	0.00>	c00°2	10.01	0.347	10.134
_	601 POINT R	UNNING PEAN								3	*
	SOV	TOS H	177	SKU	KTO	SKV	× ×	SKW	KTE	SKI	- 1
	0.973 C.6	48 0.063	600-0-	0.174	-0.118	0.013	0.052	-0.025	-0.048	0.200	716.7
_	1 101 POINT RUNNING PEAN	UNNING PEAN							2	- 40	***
	SDV SDI	TOS H	1/1	SKU	KTC	SKV	×1×	N N N	KIN O	444	3.172
1.044	0.942 0.6	54 0.054	PO0-0-	0.047	-0.00-	210.5	-0.037	220.0	10.00	0	

RUN NO.	27.9		05-10-62	0533-0	649 EST							
REFORE	A RUNLING	MAR	702		CKII	K TH	VAN	KTW	SKW	X	SKT	KII
1-270	0.00	0.781	0.538	0.028	-0.021	-0.257		-0.053	-0.076	-0.047	0.438	-0.980
AFTER	A 601 POINT	Ş	ING MEAN						,		!	
Sou	SOV	204	SOT		SKU	X TC		KTV	SKE	X	SKT	KTI
1-240	0.973	11	0.057	-0.011	0.058	-0.223		-0.020	-0.098	-0.043	0.723	1.482
AFTER	A 101 POINT	2 2	ING MEAN			***		27.2	7 7 7	AT X	SKT	KTT
1.131	0.935	0.755	0.047	-0.010	0.047	-0.128	0.093	-0.042	-0.032	-0.050	0.670	1.726
2 410		168	5-10-62									
REFORE	A RUNNI	MEA										
200	1	SON	SOT		SKU	XTC	SKV	KTV	SKW	KTE	SKT	KTT
1-679	1.649	0.712	0.456	-0.074	0.038	-0.026	0.168	-0.127	0.013	0.077	0.255	-0.416
AFTER	A 601 PO	601 POINT RUNNING	ING MEAN								1	1
nas	200	NOS	SOT	1/2	SKU	KTU	SKV	× L	SKE	200	2440	1 787
1.513	1.563	2.706	0-237		501.0	0.20	191.0	10.0-	-20.0	0.0		
2011	701	SOLING SOLING	AND PERM		CKII	KTII	VXV	X X	SKH	KTH	SKT	KIT
1.226	1.192	6.695	0.189	•	-0.019	0.275	-0.008	0.414	0.015	0.076	0.570	1.357
RUN NO.	670		05-10-62		0704-0820 EST							
PEFORE	<	MEA								1		3
SDO	200	SCH	SCT		SKU	X TC	SKV	×14	SK S	*	SKI	K 11
1.592	1.540 0.	6	204-0		-0.245	-0.231	0.214	-0-64	0.350	0.15	****	794-0-
13	700	2 3	SOT		SKU	KTU	SKV	KTV	SKE	KTK	SKT	KTT
_	1.472	0.897	0.217		-0-120	-0.063	0.141	-0.061	0.387	0.408	0.099	1.172
AFTER	A 101 POINT	5	HE MEAN									
nas	SUV	SCW	SOT		SKU	X	SKV	× 1×	SKH	X	SKT	KTT
1-075	1.167	C. 848	0.163	-0.258	-0.141	-0.336	-0.062	0.180	0.262	164.0	0.524	1.430
RUN NO.	£7E	167 05	5-10-62		0835-0951 EST							
BEFORE		MEAI									1	
Suc	200	NOS	SCT		SKU	KTC	SKV	KTV	SKH	KIK	SKT	KTT
2.232	2.512	0.977	0.431	-0.03	-0-019	0.198	0.342	0.449	0.032	0-187	114.0	0.542
AFTER	A 601 PO		ING MEAN				2 %	74.8	CKE	71.3	SKT	XIX
nes.	200	2000	300	7/7	240	240	10.16	0.347	C-047	0-120	0.417	0.095
TALES TO SELECT	101 PD	POINT RIBAL	ING MEAN			-						
Spu	200	AC	SCT		SKU	A TC	SKV	XTX	SKW	XTX	SKT	KTT
1-515	1.613		0.303	-0.069	0.147	0.023	0.164	0.586	690.0	0.251	0.366	-0.000
RUN NO.	67E		29-01-9		0835-0951 EST							
PEFURE	A RUNING	MEAN										
Sou	208	SCH		7/7	SKU	KTO	SKV	×1×	SKE	X	SKT	KTT
2.242	2.335		.392	-0.092	-0.273	-0.036	0.325	C + 40 >	175.5	0.423	144.0	0.164
MFTER	A 601 POINT	INT RUNNING	PEAN				3		3	3	3	
SDO	200	SON		1/2	SKU	2	SAV	700	SAR C		- 40	K L L
2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7	•	0.320	-0-119	-0.256	0.060	-0-150	0.340	0.350	0.366	0.480	000-0-
AFTER	04 101 V	POINT RUNNING	SCT	2.00	1120	2 711	AXS	×T×	SKE	X	SKT	KII
3 535	200	1000	0-263	-0-167	-C-187	0-335	0-137	C. 577	0.317	0.586	0.446	-0-054
-		•		•		,						

. .

SUN NO.	117		03-10-62	1004-	1004-1120 EST							
SEF DRE	A ACANING	Y L									1	
C . 3 . 5	0.614	C. 732	0-376	0.237	280	10-143	2 2 2 0 0 C	> 2	SKE	KIR	SKT	KTT
95135	A 501 PO	SOI POTRI RUNNING	ING MEAN							701-0	-0-10-	0.150
SOU	SOV	SCH	138		SKU	KTU	SKV	X T X		XTX	SKT	KII
4.36.4	C- 571	C-731	0.367	0.235	0.210	-0.226			-C-159	0.404	-0-033	-0-118
AFTER	A 101 POI	101 POINT RUNNING	ING MEAN									
Sen	SCV	NON	SOT		SKU	ATC		KTY		KTN	SKT	KIT
C 113	C - 565	0.719	0.339	0.251	0.148	-0.063	0.017	C.158	-0.150	0.527	-0.026	0.111
RLN NU.	57F 4	404	05-10-52		1004-112C EST							
JAU JSU	LAND	PEA										
Sou		SDW	SET		SKII		28.0	× 1			***	***
C-353	0.659	C. 563	0.354	0-395	0.070	-0-01	-0-211	5.367	0.152	0.035	040	174
AFTER	A col Polk!	5	ING PEAN									
Soc	200	SPR	SOT	2/1	SKU	×		KTV			SKT	KIT
6.914	0.627	. 36	0.344		-0.070	-0-153	-0.007	0.038	0.162	0.049	0-060	-0-166
AFTER	A 101 PUINT	5	ING PEAN									
Soc	200	SOM	SCT		SKU	X TO	SKV	×1×	SKH	KTW	SKT	KII
C. 754	0.519	0.847	0.320	0.421	-0.106	-0-146	-0.007	C.072	0.136	0.011	0.002	-0.293
Puls and	1 26	7 441	C 4-0-1-0		100							
NA.	A RUNNING PEAN	G PEAN	70-01-5		163 4631-6411							
Sou	SCV	SCH	105	171	CKII	K TII	7 % 7	71.3	1		3	
1.97;	2.448	C-867	0.480	-0-079	2000	-0.227	0.4	900	20.0		200	100
-	104 109 A	NT RUNN	ING PEAN						501.0	667.0	0.500	0.00
	NOS.	SDW	SOF	1/2	SKU	KTU	SKV	X T V	SKW	KIN	SKT	KII
	2-122	C. 366	0.436	-C-076	0-147		0.591	1.291	0.115	0.223	0.361	-0.075
01	101 PUL	TANDA IN	ING PEAN									
	200	NOS	SCT	7/7	SKU		SKV	XTX	SKW	X	SKT	KTT
1.555	1.514 6.940 0.344 -	0.460	0.344	-0-002	344 -0.065 C.143	-0.026	0.000	C.289	0.048	0.339	0.318	0.005
30N NO.	676 4	0	1-10-62	1163-1	259 FST							
W	A RUNNIN	G PEAN										
	SOV	SON	SCT	1/1	SKU		SKV	KTV	SKU	KTE	CKT	***
	204.2	1.121	C.431	-C-167	-0.109	-0.460	0.427	0.452	0.300	0.051	0.309	000-0-
•	1 601 POI	NT RUNNI	ING PEAN									
	200	SCW	SOT	7/2	SKU	KTC	SKV	KTV	SKW	X TE	SKT	KIT
	2.083	1-122	0.418	-0-151	-6.303	-0.365	0.592	1.138	0.264	0.120	0.474	-0.278
	101	ACAN IN	SOT MEAN		1	1				ļ		
9	784	100	200	277	280	201	SKV	X I V	SKE	×	SKT	KTT
,		****	0.303	-0-133	20.00	907-0-	0.164	0.345	C-208	0.125	0.416	-0.053
	59A	50 45	-11-62	1150-1	115c-1318 EST							
KE	A KLANING	. WEAR										
	SCV	NUS	SCT	1/2		KTO	SKV	X IV	SKW	7 7	CKT	KIL
	1.019	0.294	0.484	0.322	-0-142	-0.330	-0.370	C. 395	-0.441	1.497	0.150	-0.480
~	501 POIN	I RUNNE	NG MEAN									
	SDV	SCH	SOT	77		KTU	SKV	KIV	SKW	XTX	SKT	KTT
	665.0	0.262	0.288	0-127	-C.301	0.451	-0.487	1.688	-C.534	1.676	-1.058	3.084
~	TOI PCIN	T RUNNI	NO PEAN									
- i	SCV	SCW	SOT	1/1	SKU	KTC	SKV	K TV	SKW	KTX	SKT	KTT
C. 3 E.	C . 346	C+2+3	0-144	0.151	-0.154	0.397	0.272	0.302	694.0-	1.297	0.305	5.139

RUN NO.	405 A63		c5-11-62	1120-1	150-1318 EST							
PEFORE	INN.					1	2	7.5	ZXZ	XIX	SKT	KTT
nus	>0	SPH	SCI	7/7	SKU	KTU	SAV	440	200	0. 902	0.127	-0.630
Lot	_	C.326	0.472	_	0.159	-0.382	777.0-	00000				
STEE .	10	ME RUNN	ING PEAN								CKT	KIT
Chie	SOV	NOS	SOT		SKU	KTC	SKV	VIX.	NA C	770	004	0.223
100	a	6.325	0.360	1.569	-0.358	-0-166	0.214	162.0	797-3	10.0	0.00	7
	100	TANIE IN	NE NE AN							1	2	
_	101 101 4		COT		SKU	X TC	SKV	×	SKE	# H	140	
200	25.4	200	254	1 BA6	-0-301	0.316	0.261	0.638	0.114	0.117	0.710	1.423
C-203	0.5.0	10000	77.0									
5	11	20	5-11-62	1322-1	454 EST							
AUX NO.		4 21								į		
REFORE	A KUNNING		100	17.6	CKII	KTU	SKV	X T V	SKE	X	SKI	K .
200	SCV	NOS	100	7000		101	-0.123	-C.138	0.052	0.767	-1.276	0.125
1-138	1.062	0.309	0.671	0.040	177.0							
AFTER	A COL POINT RUNNING	NT RUNN	ING PEAN	į			7 7 7	N T N	N XS	KTK	SKT	KTT
ces	200	NOS	SCT	7/7	SKO		-	0 8 8	-0-252	0.755	-0.577	2.026
C-841	0.611	C.293	0.326	0.058	961-0-	0.332	77.0					
ACTER	A 101 POL	POINT RUNNING	ING PEAN						2	1	SKT	KIT
		AUS	SOT	7/7	SKU	× 1C	SKV	2	200	000	440	4.13.
C. 733	0.455	0.289	9 0.134	0.055	-0.231	0.894	0.295	178.0	-0.300	1.033		
				1233-1	TS5 454							
RUN 40.	96		70-11-60	1-7761	1256-141-2261							
BEFORE	A RUNING				3		CKV	KTV	SKW	X	SKT	KTT
200	SOV	SCM	SCI	1/1	SAU	2	244	-0.25R	0.493	0.851	-1.421	1.518
1.035	0.724	0.331	•	-0-111	-0.013	0000						
AFTER	A 601 POI	601 POINT RUNNI	ž				CKV	×T×	SKW	KTH	SKT	KTT
Sou	SCV	SCH	SCT	177	ON CO	21.0		0.566	0.395	0.707	-0.684	2.716
C.616	0.505	C-375	0-199	0.103	961-0-	-0.616						
AFTER	A 101 POT	101 POINT RUNNING	ING ME AN					KTV	SKE	KTH	SKT	KTT
Soc	NOS	205	SOT	7/2	SAC	2	000	048	0.277	0-815	0.020	3.723
125-3	0.443	0.355	0.113	0.298	-0-299	0.390						
-04 410	7114	168	10-17-62	1936-2	1936-2048 EST							
ACENEE	ARUNA	MEAP							2	71.3	CKT	KIT
200	ľ	SCW	SOT	7/2	SKU	X .	SKV	2 2 2	040	283	0.243	-0-86
629	0.493	6.271	0.327	0.337	-0.106	-0.166	-0.070	70.0-	-	-		
AFTER	A 601 POF	601 POINT RUNNING	ING MEAN			į			3	31.2	SKT	KTT
Sou	VOS	SOW	SOT	773	SKU	KTC	SKV	200	200	0.25A	0.118	0.239
2866	0.427	0.269	0.178	0.289	0.262	-0.103	991-0-	0.643	1	1		
METER	A 101 POINT	MT RUNN	-					2	270	7	CKT	KTI
200	200	SDM	SOT	1/2	SKC	2	SKV	2	2000	923	100	0.0
200	414	0.267	0.170	0.294	0.163	-0-126	-0.166	0.327	-0.030	0.663	-	
00000												
RUM NO.	716 1	160 1	10-17-62	2051-2	2051-2204 EST							
BEFORE	4	HEAN					2	*	ZKE	K T W	SKT	KIT
205		NOS	SOT	1/2	SKU	200		0000	-0.270	0.651	0.145	-0.32
0.784	0.647	C.388	0.229	0-197	0.667	7000						
AFTER	A 601 POINT	INT RUNNING	ING HEAN					* 7 ×	CKW	KTW	SKT	KTT
795	200	SOM	SOT	7/2	SKU	N L			-0.227	0.718	0.054	-0-00
C. 755	0.587	0.386		0.173	0.291	-0-1e0						
AFTER	101 POI A	101 POINT RUNN	ILEG MEAN		-		7 7 7	VLX	SKW	KTH	SKT	KIT
200	207	NOS		172	SKC	2	SAC		246	0. 792	0.040	0.12
094-7	0.575	0.377	0.148	0.203	0.213	-0.000	-0.043	700.00	1010			

RUN NO.	72A	-	0-17-62		2251-0004 651							
SEF ORE	<	MEAN			9000							
100			SOT									
AFTER	4	601 POINT BILLING	0.357	0.269	0.213	3 -0.323	23 0.058	NAT O	SKW	KTH	SKT	KTT
nas		SOL	201									
C.575	0		0.136	7/7	SKU	KTC						
AFTER	101 4	7	MG PEAN				15 0.069	9 6.406	6 -0.041	1 0.373	1 AC 0-	KIT
nas	So	SCW	SOT									
6160	0.462	0.277	0.129	0.230	0.163	3 0.081	SKV	ATA O. SA.	SKW	KTN	SKT	KTT
BUN NO.	728 148											
MEFORE	A RUNNI	BEA	29-81-	79000	0006-0122 EST							
nos		NON	700									
C.697	0.524	0.329	346	7/7	SKU	RTC						
IFFER	2	S	S BEAN	0.197			2 -0.065	-0.044	-0-086	0.200	38.7	KTT
Sou		30	SOT	17.0	200							-0.267
6-527	11	326	0.155	0.179	25.0	D L	SKV	×T×			CKT	***
AP TER	POL	5	C PEAN		101.0				-0.118	0.314	0.140	0.034
C.597	200	SOW	SOT	1/1	SKU	KTU						
		336.0	****	0.183	0.159		9 0.022	-0.005	-0.002	200	SKT	KTT
RUN NO.	72C 161		10-18-62	0122-0	0122-0238 EST						-0.002	0.179
Sour	SALANDA A	4										
Ce667	200		SOT		SKU	KTU		3				
F IFFER	100 109	0.278	1.267	0.222	-0.017		0.137	2000	SKH	KTE	SKT	KTT
	SWINNING TO TOO	COUNTRE	HEAN					6000	-0.002	0.379	0.234	-0.586
C.587			SOT	7/2	SKU	KTU	SKV	X 3 ×	2	1	•	
AFFER 1	NIO	BUNGALA	100		0.080	-0.200		0.229	040	27.7	SKT	KTT
Soc	200	SDW	SP. T								161.0	0.093
C.534	0.459 0	•	0.143	0.233	0.074	KTU -0.255	SKV	KTV	SKW	KTW	SKT	TT X
RUN NO.	72F 144	•						0.034	-0.035	0.425	0.078	-0.022
PEFORE	TAN SAN	29-81-01	29-9	0510-0626 EST	126 EST							
Sou	SOV	A A A A										
0.660		263	SCT	1/2	SKU	KTU	SKV	KTV	2			
AFTER A	NIC	BIINNING	627	0.310	900.0	-0.168	-0.020	0.410	240	H - Y - O	SKT	KTT
Sou		SUN	-							164-0	0.240	-0.372
C-543	n.41e 0	0.253 0.	24	7/7	SKU	X TC	SKV	KTV	SKE	KTE		1
AFTER A	INI	PUNNING MEAN	MEAN	74700	141.0	-0-141	-0.039	0.266	0.065	0.459	0-190	K 7.7
200	SDV	SOM NOS		7/7	CKII							060-0-
*76*7	0-405 0	0.253 0.		0.293	0-150	901	28.0	XIX	SKW	KTH		KIT
HUN NO.	75.4						500.0	215-0	0.035	0.444	0.150	-0.200
u.	TOT	7-01	29-4	1001-111	16 EST							
Sou		,										
	1.466	508	SCT	1/2	SKU	KTU	SKV	27.2				
-	601 POINT	JALANII B	1 500		-0-128	-0.164	-0.014	782-0-	DAKE O	N L	SKT	KTT
SOU	SCV	30							0000	147.0	0.321	0.044
	1.279 0.	501		1/2	SKU	KTU		X X	27.0	1		
~	101 POINT SUNNING MEAN	SUNNENG	3C4 -			-0.128	-0.054	-0.131	0.293	A	SKT	KTT
Sou	SOV	SCW SOT	11							697.0		0.294
C-960	C.93C C.5	0	^	7/7	280	× + C	SKV	KTV	SKW			
		•	4		612.0	0.103	0.055	0.323	C-136	0.002	0.495	KIT
												213

SKU KTU C.011 -0.234 SKU KTU C.0128 -0.194 SKU KTU C.047 -0.531 SKU KTU C.047 -0.531	1.91
SKU KTU -0.234 SKU KTU -0.128 -0.194 SKU KTU -0.047 -0.531 SKU KTU -0.0117 -0.436	2/L 0.103 1451-16 1451-16 0.012 2/L 0.022 2/L 0.022 2/L 0.0395 0.395 0.395
SKU KTU -0.128 -0.194 606 EST SKU KTU -0.047 -0.531 SKU KTU -0.117 -0.436	2/L 0.012 1451-16 2/L 0.022 2/L 0.022 0916-10 2/L 0.395 0.395
SKU KTU -0.128 -0.194 506 EST SKU KTU -0.047 -0.531 SKU KTU -0.117 -0.436	2/L 0.112 1451-16 0.012 2/L 0.022 0916-10 0916-10 0.395 2/L 0.395
-0.128 -0.194 506 EST SKU KTU -0.047 -0.531 SKU KTU -0.117 -0.436	0.112 1451-16 2/L 0.022 2/L 0.022 0916-10 2/L 0.395 0.395 0.395
SKU KTU -C.047 -0.531 SKU KTU -0.117 -0.436 SKU KTU	2/L 0.012 2/L 0.022 2/L 0.022 0916-10 2/L 0.395 2/L 0.535
SKU KTU -C.047 -0.531 SKU KTU -0.117 -0.436 SKU KTV	2/1 0.022 2/1 0.022 2/1 0.032 0916-10 2/1 0.395 2/1 0.395
-0.531 KTU -0.436	2/L 0.022 2/L 0.022 0916-10 0,395 0,395 0,395
-0.436 KTC	2/L 0.022 0916-10 0.395 0.395 0.395 0.535
-0-436 KTV	0.022 2/L 0.022 0916-10 2/L 0.395 2/L 0.535
KT	2/L 0916-10 2/L 0,395 2/L 0,535 0,535
	0.022 0916-10 2/L 0.395 2/L 0.535
-0.04e 0.03v 0.105	2/1 2/1 0.395 2/1 2/1 2/1 2/1 2/1
025 EST	565.0 271 271 265.0 265.0
	565.0 2/1 2/1 2/1 2/1 2/1 2/1 2/1 2/1 2/1 2/1
-0.159 -0.193 0.224	565.0 2/1 305.0
	2/1 2/1 2/1 0.535
SKU KIU SKV	
617.0	2/L 0.535
XTC	
-6.265 0.429 -0.001	
	0916-105
SKU KTU SKV	7/7
	004.0
SKU KTU SKV	772
1.745	
KTU	1/1
-0.746 2.216 -0.051	0.531
401 EST	1246-1
C.03F -0.494 0.101	-0.032
KTC	7/7
-0.031 -0.358 0.159	0.031
KTO	177
-0.013 -0.163 -0.063	C. C38

RUN MU.	84A 40P	11-	-06-62		1246-1401 EST							
PEF DAS	UNNING	MEAN			CKII		7 7 7	× 1×	XX	**	SKT	KIT
500	200	202	0.229	-0.066	-0.315	-0.051	0.078	0.162	-0.087	-0.290	0.577	-0-908
75.5	2	AL WALLS	S PFAN									
5	NON NON	SCW	SCT		SKU	KTU	SKV	KTV	SKE	KTH	SKT	KTT
1-276		0.695	0.069	-0.061	-0.525	0.698	0.046	0.475	-0.015	-0.263	0.103	-0.298
	MIO	RUNNIN	VG PEAN									•
		SCH	138		SKU	274	SKV	×T×	SKW	X TE	SKT	L
C-863	•	C.651	0.058	-0.093	-0.435	1.018	-0.202	0.814	-0.044	0.056	0.106	0.588
NON WITH	101	-17	-06-62		1401-1513 EST							
Jet Jau	LANING	PEAN										1
5	>05	200	SOF		SKU	*TC	SKV	× 1×	SKE	KIE	SKT	KII
1.049	-	C-490	0.095	-0.023	0.200	-0.333	-0-124	-0-117	0.012	0.427	-0-417	-0.792
AFTER	0	RINNER	VG PEAN							1	,	
SDI.	VOS	SOM	Set		SKU	KTU	SKV	XTX	SKW	KTH	SKT	KTI
4000		0.474	0.044		0-136	-0-236	90000	-0.267	-0.052	1.679	0.092	-0.030
1 PTER	OIL	RUNNI	NG PEAN									
200	SOV	MOS	SOT		SKU	274	SKV	> ×	SKN	N I W	SKI	
C-557	0	0.456	0.030	-0.017	-0.046	-0.056	-0-003	0.271	C-00>	0.803	0.00	1.196
AUN MO.	407 878	:	11-06-62	1-10+1	1401-1513 EST							
PEFORE	A RUNNING P	MEAN										***
nas	SOA	SOW	SCT	111	SKU	X TC	SKV	× 1×	SKE	KIN	2K.	A11
1-224	1.206 0.585 0.	585	260	-0.052	-0.226		971-0-	-0.208	200.0	10.344		771.0
S AFTER	LEOI POINT	RUNN	HEAN	į			7 7 7	2	7 7 7	27.2		KTT
		NOS	SOT	777	S. A. C.		0	416.0-	-6.032	-0.250	0.431	0.501
1-00	0.356 0	185.0	0	-0.0-	1000							
AFTER	NID	RUNNI	TE AN	:			7.45	* 7	725	KTH	SKT	KII
nos		NOS	Sor	7/7	28.0	1 022	410	100	0.068	-0-101	0.480	1.046
C-116	0.689	C-544	0.031	-0.033	-0-273		810.01					
RUN NO.	esa 1ch	-11	-16-62	1116-1	231 EST							
REF ORE	A RUNNING P	MEAN								1		***
200		NOS	SOT	177	SKU		SKV	X 1 X	SAN	F C C	24.0	6640
1-345	1.822 0.	0.630	549	-0-04	-0.011		10.0	-0.357	60103	0.063	10.464	670.0
AFTER		KUNNE	THE PLANT		-		7.45	71.3	ZKE	KTM	SKT	KII
DOS.		SCH	220	7/7	4500	-0.292	0.222	0.271	0.051	0.033	-0-123	-0-441
10193	TOT POTENT BUNNENE	T RUNNER	PF AN	201-0	0000							
nos	SOV	NOS	SOT	7/2	SKU		SKV	KTV	SKH	KTE	SKT	KTT
1.041	_	0.607	0.208	-0-106	-0.106	-0.316	0.102	0.604	0.046	0.097	0.005	0.053
RUN NO.	85A 40F	-11	-16-62	1116-	131 FST							
PEFORE	UNNI	PEAN										
200		SCW	SCT		SKU	KTC	SKV		SKW	N L	SKI	E L
1.540	1.716 0.	0-199	0.446	-0.110	-0.466	0.502	-0.086	-0.455	0.000	-0.602	-0-+10	-0.430
AFTER !	UINIO	RUNNI	MEAN							1		
200		NOS	201	1/1	SKU	KTU	SKV	× 1×	SKW	KTW -0	SKI	A 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1
1-305	1.279 0.	78	0.203	-0-145	-0-641	0.414	901-0	1/110-	0.036	-0.36		011-01
AFTER	DINI	2	AC MEAN	***	-		720	* 7 *	777	71.4	SKT	KTT
200	200	747	0.152	124	-0-584	0.850	0.137	0.300	0.023	-0.280	0.210	-0.068
7 7 7 7 7	* 113		114.5			,		i I	l			

440	140	11-16-62	1254-1	1254-1347 EST							
HER MILE A	UANING MEAN						1		1	3	***
t	SOV SOW		7/2	SKU	X TC	SKV	XIX	SKE	H	145	246
	1.550 0.647	395	-0.053	990.0	-0.388	0.084	0.107	-0.0-	0.00	101.0	
4	=	MEAN			1	2	2	722	7 1 2	CKT	KII
	NOS NOS		7/7	SKU	E S	240	200	111	74	0.483	0-184
	1.490 0.649 0.2	6	-0-047	190.0-	-0.231	161-0	777.0-	111.0			
4	OI POINT RUN		3.71	CKII	K TH	VXV	KTV	SKW	KTH	SKT	KTT
Sou	1112 0 627	0-159	-0.053	0.072	0.136	0.187	0.023	-0.012	0.115	0.003	0.239
RUN NO. 658	404 8	11-16-62		1254-1347 EST							
U	RUNNING MEAN						74.7	720	at a	SKT	KTT
	SOV SCH	SOT	1/1	SKU	KTU	SAV	7 2 2 2	1100	240	0.120	-0.758
•	.357 6.796	0.379	-0-130	-0.502	0.030	-0.127	0.333	110-0-	107.0		
-	OI POINT RUN	VING MEAN							1	CAT	***
	NOS AOS	SOT	1/1	SKU	A T	SKV	KIV	NAC C		242	0 230
	278 0.788	0.212	-0-109	-0.588	-0.178	0.102	-0.050	0.00	117.0-	0.303	27.0
	OI POINT RUN	NING PEAN								3	*
	NUS NUS	SOT	7/7	SHU	XTC	SKV	× 1×	SAN	*	140	
1.082 0	C.931 0.749 0.121	0.121	-0.131	-0.800	1.078	0.193	0.221	0.072	0.052	0.137	10.0
	276	11-16-62		1358-1503 EST							
	DITE TAG MEAN										1
Ų	MUNITED SEASON	200		CKII	KTU	SKV	KTV	SKE	X TE	SKT	KTT
	200		00	-0-046	-0.534	0.064	0.260	-0.119	0.418	0.299	0.053
•	OCOCO COCO	TAN TAN									
	מיני בייני	ALIA COLL		SKU	KTU	SKV	KTV	SKW	X	SKT	KTT
	AUS AUS	***	0.00	-0.050	-0-496	0.124	C. 361	-0.056	0.421	-0.080	-0.070
•	A TOO IN DEST	NING PEAN							,		1
	700	COT		SKU	N TC	SKV	XTX	SKE	*-*	SKT	KI
	AUS AUS		2000	200	242	2000	0.091	-0.108	0.347	-0.036	0.846
102	1.088 0.615 0.083	6.00		0.036							
RIN MO. 85C	404	11-16-62		1358-1503 EST							
u	RUNNING MEAN								2	TAS	***
1		SCT	777	SKU	KTC	SKV	X X	SAN		200	441
c	_	0.140	-0.012	-0.490	0.016	-0.00	0.162	077-0	-0.133		
•	CEN	NING PEAN				i		1	2		***
	SCV SCW	SCT	7/2	SKU	K TC	SKV	MIN	NAC C	040	200	4 6 6
•		0.104	-0.009	-0.478	0.019	200.0	0.199	0.283	0.01	0.00	
<	OFN	NING PEAN						3	2	2 4 2	* 7.7
	NOS NOS	SCT	7/7	SKU	KTC	SKV	>	25.0	200		
	.035 C.713	.713 0.083	-0.005	-0.550	0.465	0.029	0.113	0.223	-0.025	-0.07	204.0
				L CCT.							
ACN NO BYA	A SER OF	1 50-67	7061-1041	•							
RE	RUNNING MEAN					220	74.7	ZXX	XTX	SKT	KII
	SCV SOW	SOT	1/2	SKO	DE Y	4000	055	0.475	0.056	0-044	-0.909
1-021 0	0.615 0.558	0.416	-0.391	-0.224	0.303	0.00	> · ·				
	NOT POINT RUN	NING PEAN						2			* * *
	SOV SCH	SOT	1/2	SKU	212	SKV	× 1	SAN	200	344	200
	3.585 0.513	0.185	-0.262	-0.322	919-0	-0.140	0.203	0.639		****	7
	IOI POINT RUN	NING MEAN				2	***	720	KTA	SKT	KTT
	NOS NOS	SOT	77	SKC	22	SAV		1000	633	1 064	400
~	3.530 C.451	0.126	-0.271	-0-454	1.816	-0.026	C . 143	267.7		0.001	

AAGIII

****	V	2 2 2 2	YOU	177	SKU	KTU	SKV	× IV	SKW	X T	SKT	KTT
1000	C-485 C-		343	-0.398	-C.418	-0.249	-0.276	0.531	C. 934	1.216	0.674	-0.48
AFTER A	SOL PULLIFICADA	2	NG DEAN		CKU	KTU	SK V	X T X	SKW	A TE	SKT	KIT
		C 461	0.156	0.671	096-0-	1.459	-0.501	1.411	1.046	1.605	-0-143	0.92
AFTER A	5	RUNN	NG PEAN					į		1	1 7 2	11.4
	20 \ \05	NOS	SCI	1/1	SKU	2	SKV	×	SAN		100	
0.474	C.413 C.	C.425	0.102		-0.933	5.949	285-0-	* ! * !	C. 000	676-1	186.0	
-	ESA ASS		8-63 09	0936-1052	(EST)							
PEFCAL	CANIAG	MEAN						1				* * *
,		MUS	SOT	7/7	SKU	× TC	SKV	× -	SKH		280	1
	C. 86: C.	0.656	141.	-0-160	-0.241	-0.211	-0.030	-0.07	0.331	-0-116	0000-	200-1-
AFFED A	ULA	PUNN	PEAN						1	1	177	KTA
		SON	-	1/2	SKU	2	SKV	X	SKW.		100	
3020	C. 452 C.	0.554	0.489	-0-145	-0.516	0.159	0.00	-0-100	0.2.0	760.0-		
AFTER A	TAID	RUN	INC PEAN							1		
	SOV	SCH		7/7	SKU	× + C	> > >	× 1 ×	SKE	*	28.0	1
C. 3 36		6.614	316	-0-172	-0.442	0.363	-0-134	C-172	0.314	0.140		
•	BBA 4CK	6-18	-63	0936-1052(CST)	(EST)							
EFINE :	CALAN	MEAN						•		3	200	* * *
	SOV	SOM		7/7	SKU	KTC	SKV	× 1 ×	SKW	2	200	
41	0	6.452		607-0-	-0.161	-0.427	-0.231	0.749	0.690	0. 791	-0.082	1.5.1-
AFTER A	210	RUNNI	HE WEAN					1			* 20	
	SOV	SOM	SOF	1/2	SKU	×	SKV	KTV	SKW	H 0	5 4 G 7	730
	C.556 C.	C.433	•	0.646	-0.695	1.162	-0.183	C. 497	C- 902	00.00		
AFFER A	INION	RUNNING				1	2	*	3	1	CKT	KII
	204	BUS	v	1/7	SKU	אומ	SKV	× 1 × 1	207	1 062	215	21.5
S.	C.47e C.	C. 385	0.152	C. 983	1650-	1.437	-0.355	1.0		700-1	115.0	
~		63	-63	1336-1437(EST)	(EST)							
TEFUTE 1	INC	PEAR										***
	SCVS	SCH		111	SKU	× + c	SKV	N N	SKW	300	28.0	
1.055	0.348 0.	0.727	.288	-0.221	-C-122	1.269	0.189	0.257	0.700	0.013	0.000	0.0
SETES A	NIO	4			:				3	1	***	W.T.T.
		NOS	10	7/7	SKO	2	SAV		200		202	0
1-044	S S	C. 722	-21c	-0-119	6440	-0.067	281-0	901-0	(07.7	0.103		
4	PUINT	とくりと	SC PEAN	;		1	200		3	7	CKT	KII
	SUA	NUS	v.	7/7	SKU	2	740			71.6	204	756
g: 1	C-381 C-	C.631	0.130	0.031	-0.392	0.401	0.085	1.821	2.13	071.1	9.0	
	#16 V68	9-1-9	-63	1336-1437(EST)	(EST)							
NEF ORE	NINN	MEAN						1		1	***	* 7.4
	SOV	SCH		1/7	SKU	×	SKV	×1×	N. N. N.	*	28.0	
1.214	C.929 C.	904	.270	660.0-	-0.402	-0.226	-0.107	0.138	0.013	176.0	0.403	
4	TNIO	RUNNING	HEAN					7.5	2	1	-	KIL
		SCH	SCT	1/2	SKU	A TO	SKV.	× 1× 0	NA C	406	24.0	105 0
	0.969	C-796	0.162	0.030	-0.403	-0.353	-0-179	0.100	0.0	0.34	767.0	
AFTER A	DINT	RUNN	NG PEAN		į					1	140	W T T
	>0	700						21	3			
		100	1	1/1	200	2	ANC		200	703	244	2 032

OIL MILE	451 A36	6-18-63		1501-1601(EST)	(EST)							
PEFORE	A RUNNING M	MEAN			CKII	K Tu	SKV	XTX	SKW	KTH	SKT	KIT
Sun Sun	SCV SEW 501	786 0.	346	-0.054	-0.053	-0.372	-0.060	0.010	0.044	-0.178	0.227	-0.272
45.750	A FOI PUINT	RUNNING	PEAN					1	2	3	CKT	11.8
Spu	S V02	MO	SCT	7/2	SKU	KTC	SKV	714	2000	141	0.375	-0.152
1-406	1.059 0.	.775 0	. 280	-0.052	-0.117	-0.418	-0.013	750.0	100.0			
AFTER	A 101 POINT	RUNNING	MEAN					24.2	T XX	X T W	SKT	KTT
Sou	SOV	204	SCT	1/2	SKU	24.0	SAV O OFF	411	0.00	0.159	0.394	-0.089
1.271	0.991 C.	.745 0	. 193	-0.052	-0.311	1000	-0.03					
	444	6-18-63		1501-1601 (EST)	ESTI							
KUN NO		200								1		***
HEFTINE	A KULTING		100	17.0	SKU	xTu	SKV	KTV	SKE	X X	SKI	
200			202	0.047	0.069	-0-466	0.271	0.375	-0.051	-0.005	0.569	-0-219
1-100	0.936	0.00	2000									
AFTER	A 601 PUINT	2000	2000		CKII	KTU	SKV	× 1×	SKE	KTE	SKT	KII
Sou	Sov	207	193	850-0	-0-084	-0-443	0.174	0.003	-C.062	0.032	-0-012	0.297
1-039	0.891	0,00	7011									
AFTER	101 FULL	2000	SOT	7/1	SKU	XTC	SKV	× 1 ×	SKE		SKI	
200	0.810 6.646 0.105	0 949	105	•	-0.076	-0-131	0.102	0-297	-0.065	0.022	0.349	1.623
,												
ON MIN	9CB 46M	6-18-63		1615-1714(EST)	(EST)							
PEFORE	A RUNNING	HEAR						7	720	3	SKT	KIT
nas	200		SOT	1/2	SKU	2	SKV Since	200	000	-0.037	-0-643	-0.845
1.308	0.959 0	0.705 0	.281	-0.015	-0-111	-0.120	0110	2.1.0				
	A 601 POINT RUNNING	RUNNING	HEAN	,		1	220	***	ZXX	XTX	SKT	KTT
nos	200		SOT	7/2	SKU		2000	200	0.149	-0.038	0.253	0.268
1-236	0.931 C.	C. 700 0	.097	-0.008	-0-137	701-0-						
AFTER	MID	RUNNING	PEAN			. 711	V X V	KTV	SKW	KTH	SKT	KIT
200			100	7/7	200		0.110	-6.098	C.043	-0.108	904.0	0.744
C-075	0.872 G	0.658	0.034		107-0-							
CW WITE	ACB 91M	6-18-63		1615-1714(EST)	(EST)							
PEFORE	A RUNNING	MEAN						2	7	* 7	SKT	KIT
Sou	200		SCT	7/7	יצנו	KTO	SKV	200	386	0.442	-0-389	-0-628
1-469	1.013 0	0.790 0	1.262	0.075	914-0-	-0-172	+70-0	676-0	10000			
AFTER	10	RUNNING	HEAN				72	27.4	AX	XTX	SKT	KIT
Spo	SOV	SDW	SOT	1/2	SKU	200	2000	6.375	0.299	0.445	0.819	1.858
1.316	1.000	0.783	071	0-102	-0.438	997.0						
AFTER	POINT	RUNNING	NG MEAN		2411	K Tu	SKV	KTV	SKW	KTH	SKT	KTT
Sou			100	200	794	0.379	0.012	0.130	0.286	0.297	0.998	2.773
C-971	0.954 C	6.125	0.00	607.0	20.7.0			1				
-	90C 15H	6-18-63		1721-1836(EST)	(EST)							
200	HANIAG	MEAN					,			2	***	
100			SOT	7/7	SKU	XTC	SKV	KTV	SAN		1000	1 306
1.364		_	1++1	0.036	-0.017	-0.150	260-0-	0.350	741-0	997.0	10300	105.1
AFTER	6	RUNNING	THEAN					*	2	7	CKT	KII
	VOS	NOS	SOT	777	SKU	X TC	SKV	X	200	404	445	77.7
1-261	0 986.0	0.634	190-0	0.001	-0.105	0.079	-0.029	0.303	0.113			
AFTER	POINT	BUNNIN	S PEAN			. 711	VX.	KTV	SKW	KTE	SKT	KTT
200	200		SOT	7/2	SAC.	24.0	-0.079	0.227	-0-182	0.307	0.410	0.868
1.015	0.937 0	619-0	0.020	2000	961.0-							

the state of

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HUN NO	AUN NO 9CC 46M 6-18-63 1721-1836(EST) MEFORE A RUNING MEAN	C MEAN	6-63 1	1721-1036(EST)	6(EST)							
200	SOV	SOM	SCT	13	SKU	KTO	SKV	KIV	SKW	X TE	SKT	KIT
1-146	0.907	0.620	0.365	0.028	-0.063	-0.167	0.023	0.474	-0.020	0.144	-0.172	-1.301
AFTER	104 TO9 V	NT RUNN	INC PEAN									
Das	200	NOS	SOT	7/2	SKU	274	SKV	KTV	SKE	KTE	SKT	KTT
1.066	C. 885	0.620	0.071	0.059	-0.045	-0.159	0.085	0.765	-C.031	0.152	0.466	0.730
AFTER	104 101 V	MI RUNN	INC MEAN			i						
200	Ans	200	SCI	7/7	SKU	2 2	SKV	× 1×	SKE	X	SKT	KII
7	0.835	219-0	0.052	0.065	-0.095	-0-119	0.035	C- 522	-0.124	0.217	0.872	1.766
RUN 40	900	1-9	9-63 14	140-1956	(FST)							
BEFORE	A RUNIA	G MEAN										
Sou	SOV	NON	SOF	7.7	CKI	K Tes	787	× 1 ×	7 7 7	1	243	***
1.076	0.972	067-0	0.560	0-137	0-118	-0-524	0.201	-0.022	128		27.2	
AFTER	A 601 POL	NI RUNN	ING PFAN							10000		
Sou	SC V	NOS	SCT	7/7	SKU	KTU	SKV	XAX	SKE		SKT	***
C. 989	0.915	C. 488	0.079	0-082	-0.219	-0.006	0.063	0.354	0.085	0.425	016	0.824
AFFER	A 101 PUL	NT RUNN	ING WEAN							1		
200	SOV	SCW	SCT	7/2	SKU	KTU	SKV	X IX	SKW	K T M	SKT	KIL
C- 745	0.658	0.464	0.052	0-103	-0.172	0.344	0.052	609.0	0.053	0.633	0.338	906-0
		,										
	16 026	1-0-1	9-63 16	140-1956	(EST)							
SP UNE	KCAN	NA III										
200	200	NOS	SCT	1/2	SKU	2	SKV	× 1 ×	SKE	KIR	SKT	KII
5	200-1	275-3	0.568	0.475	0.027	-0.564	0.071	-0.386	0.154	0.508	0.657	-1.054
2000	100 100 1	N N N N N N N N N N N N N N N N N N N	Ne PEAN	:						•		
48.6	200	200	25.6	7/7	SKU	2 2	SKV	7	SKE	*	SKT	K ==
AFFE	A 101 POIR	U-520	241-0	117-0	544.0-	0.435	860.0-	-0.021	0.184	0.726	0.659	1.291
COL	SPV	100	200			2	3					
220		2000	1	300	DAC.		28.0	× 1×	SKE	X - X	SKI	KIT
	7.0.0	0.443	6113	804.0	767 D-	745.0	-0.003	219.0	0.118	0.542	0.659	2.229
ACK NO	91A 15P	6-14	-03 21	93 2150-230015	(FST)							
PEF ORE	A RUNNING	MEAN										
200	SOV	SCH	SCT	7/7	SK		N XX	× 7×	7 7	3	247	***
C-677	0.504	0.319	0.113	0.109	-0.052	-0.052	-0.196	-C. 628	0.163	0.695	0.350	-0-408
NETER !	A 601 POINT RUNNING	IT RUNAI	NG PEAN									
nes			SUL	1/2	SKU	KTU	SKV	KTV	SKW	KTE	SKT	KTT
C-623	0.475		0.063	0.079	-0-014	0.015	0.025	6.0.0	0.143	0.527	-0.218	-0-119
AFTER	A 101 POINT RUNN		INC MEAN									
Das	SUA		SOF	7/7	SKU	× 10	SKV	× 1 ×	SKW	KTE	SKT	KTT
(.567	C.453	0.308	0.053		-0.138	0.217	-0.0el	C-200	C-144	0.573	-0.301	0.182
SUN NO	91A	9:-9	8-63 219	150-23001	FETT							
	4	MEAN										
250	SOV	SOM	SCT	1/1	SKU	K TIII	ZKV	× 1.0	7	1	2	
0.470	69	_	0.111		141	0.264	0.054	0.802	10.05	200	394	100
_	OIN		VG PEAN								10.31	000
SCU	SOV		SOT		SKU	KTU	N X S	XIX	777	113	7 4 7	* * *
C-435	C-362	0.237	0.077	0.415	-0.428	0.527	0.032	0.784	640-3-	0.980	0.220	0.724
AFTER A	101 POIN	I RUNNI	NC PEAN									
Sou	SOV		SOT		SKU	KTC	SKV	KTV	SKW	KTH	SKT	KTI
C. 3 39	0.344	C.235	C.055	0.404	-C.338	0.485	0.029	0.745	-6.057	0.898	0.219	0.843
												,

FEGURE A BUNNING FEAT STATE 124, 514 5.00 5.00 5.00 5.00 5.00 5.00 5.00 5.0	RUN NO 918 46F			2306-0010(EST)	ESTI								
C. 177 0.297 0.131 0.1246 -0.336 -0.336 -0.039 -0.009 -0.004 0.1272 0.1370 0.005 0.006 0.137 0.132 0.1370 0.137 0.1370 0.137 0.1370 0.137 0.1370 0.137 0.1370 0.137		FEAN	105		SKU	KTU	SKV	KTV	SKE	K T H	SKT	KIT	
STEED SQL SQ		0-152	0.137		-0.366	-0.335	-0.099	-0.004	C-206	1.224	-0.037	901	
### 10 POLIVE PUNISHING PEAR		AT RUNNE	MG PEAN						2	1	CKT	KII	
Store Stor	•	700	SET		SKU	KTO	SK V	X I X	5 K W	000	404	17.1	
SECOND S		6.151	0.082		-0.375	0.360	-0-254	C. 339	777.0	7.360			
Second S		IN VIII IT	MG MEAN							1	CKT	KII	
State C. Sta	-	100	135		SKU	X	SKV	X I X	SAM		010	1 302	
THEFORE A RUNNING WEAN SOT Z/L SKU KTU SKY KTY SKW KTW SKW KTW SKY KTW SKW KTW STT SOU		0.148	0.068		-0.403	0.667	-0.326	0.934	707.0	0+1-1			
Color Colo		A-18	-63 23	04-0010	(EST)								
THE THE MENALTH THE THE TABLE OF TABLE OF THE TABLE OF THE TABLE OF THE TABLE OF TABL	276												
STATE STAT	4				CKII	KTU	SKV	X 1 <	SKE	* - E	SKI		
FIGURE SOV SOV SOV SOT SOLO - 1.29 - 0.29 - 0.03 - 0.015 - 0.397 2.411 - 0.559 0 C. C. 199 C. C. 199 C.		NOS			868 01	840-0	404-0	-0.222	-0.545	1.652	194.0-	0.013	
SUU SOV SON		C.072	741-0		0000								
SDU SUV SUV SUV SUV SUV SUV SUV SUV KTU SKV KTV SKW KTW SKT STATE SUSTAINED BLANDING FEAN TO SUSTAIN SUN WHITE SUSTAINED BLANDING FEAN TO SUSTAIN SUN WHITE SUSTAINED BLANDING FEAN TO	4	AT BUNKE	NG PEAN	;;		w Ter	SKV	KTV	SKW	X	SKT	*	
FETCH A 101 POINT RUNNING FEAN SCT 2/1, SKU KTU SKW KTW SKW KTW SKT SCT SCT SCT SCT SCT SCT SCT SCT SCT SC		NOS	SCI	7/7	2000	1	850	-6.015	-0.387	2.411	-0.559	0.965	
STEER A IOI POLITI RUNNING FEAN Z/L SKU KTU SKV KTV SKW KTW SKT C-112 C-112 C-112 C-112 C-114 C-056 C-0.04 Z-0.043 Z-0.045 I-722 C-0.042 Z-0.045 Z-0.045 I-722 C-0.042 Z-0.045		690-0	0.102 -	47-875	-0.245	0.034							
Sin Siv	•	HT RUNNI	NC PEAN				2 4 5	71.4	CKE	X	SKT	KTI	
CELLY OILS C.058 0.046 7.654 -C.433 2.933 -C.1053 1.722 C.1054 EFORE A RANNING FEAT STATES OF C.431 0.004-0146(EST) SECOND SCY SCH SCH SCT 2/L SKU KTU SKV KTV SKW KTW SKT SKT SCU SCU SCH		SCW	SCT	1/7	SKU	N L	28.0	333	-0.322	2.884	0.537	2.416	
SECOND S		C.058	0.048	1.654	-0.433	2.933	-0-102	77101					
FIGURE STON STATE ALL STATE ST			.,	30-0144	(FCT)								
1.1.2		-1-9 ×		20-01								1	
1.1.2.2 0.910 0.373 0.072 0.019 0.002 0.0692 0.0065 0.0451 0.0007 0.691 0.300 0.011. METER A 601 POINT RUNNING WEAN 2/L SKU KTU SKY KTV SKW KTW SKW KTW SKT C.55C 0.373 0.045 0.041 0.0102 0.152 0.032 0.072 0.0692 0.149 0.0594 0.0975 0.041 0.0402 0.152 0.0032 0.0052 0.0064 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0046 0.0954 0.0954 0.0964 0.0954 0.0964 0.0954 0.0964 0.0954 0.0964 0.0954 0.0964 0.0954 0.0964 0.0954 0.0964 0.0954 0.0964 0.0954 0.0964 0.0954 0.0964 0.0954 0.0964 0.		C FEAN			CKII	K TU	SKV	K T V	SKW	×	SKI		
SDV 05910 0.3173 0.0517 0.0149 0.159 0.152 0.0032 0.172 0.0622 0.149 0.172 0.569 0.172 0.0692 0.149 0.172 0.569 0.172 0.0692 0.149 0.179 0.289 0.289 0.289 0.289 0.172 0.0692 0.172 0.0692 0.172 0.0692 0.172 0.0692 0.172 0.0692 0.172 0.0692 0.172 0.0692 0.172 0.0692 0.172 0.0692 0.172 0.0692 0.172 0.0692 0.172 0.0992 0.172 0.189 0.172 0.0992 0.172 0.189 0.172 0.189 0.172 0.189 0.172 0.189 0.172 0.189 0.172 0.189 0.172 0.189 0.189 0.172 0.189 0.172 0.189 0.189 0.172 0.189		SCH	201		240	-0.692	-0.085	-0.451	0.001	0.691	0.300	-0-118	
SUN SOL SEN STATE		0.373	210.0		30.0								
\$50	AFTER A	ארטא דא	NO PERM			w Till	SKV	X T X	SKH	XTE	SKT	KII	
C. SCC C.364 C.373 C.025 C.026 C.322 C.160 C.954 -0.046 2 C. SCC C.361 C.043 C.022 C.203 C.265 -0.020 C.322 C.160 C.954 -0.046 2 C. SCC C.361 C.043 C.022 -0.203 C.265 -0.020 C.322 C.160 C.954 -0.046 2 C. SCC C.361 C.045 C.244 -0.534 C.279 C.279 C.165 C.234 C.872 C.802 2 C. SCC C.383 C.323 C.142 C.244 C.534 C.475 C.279 C.279 C.864 C.234 C.872 C.802 2 C. SCC C.385 C.223 C.142 C.244 C.534 C.275 C.279 C.872 C.872 C.802 2 C. SCC C.385 C.223 C.142 C.234 C.294 C.294 C.294 C.294 C.294 C.294 2 C. SCC C.395 C.244 C.534 C.294 C.294 C.294 C.294 C.294 C.294 C.294 2 C. SCC C.395 C.278 C.294 C.294 C.294 C.294 C.294 C.294 C.294 C.294 2 C. SCC C.395 C.295 C.403 C.403 C.404 C.294 C.294 C.294 C.294 C.294 C.294 3 C. SCC C.395 C.295 C.495 C.496 C.294 C.294 C.294 C.294 C.294 C.294 3 C. SCC C.395 C.295 C.496 C.496 C.294 C.294 C.294 C.996 C.294 3 C. SCC C.395 C.395 C.496 C.496 C.294 C.996 C.294 C.996 C.294 3 C. SCC C.395 C.395 C.395 C.396 C.396 C.397 C.996 C.394 C.996 C.394 3 C. SCC C.396 C.397 C.397 C.397 C.397 C.397 C.397 C.397 C.397 3 C. SCC C.398 C.398 C.398 C.398 C.398 C.394 C.998 C.394 C.996 C.394 3 C. SCC C.398 C.398 C.398 C.398 C.394 C.909 C.398 C.998 C.394 C.998	200	SON	SOI		102	0.152	-0.032	-C.065	0.172	-0.682	0.149	-0.082	
## 500 POINT KUNNING WEAN SCT		0.373	960-0		301-0-							1	
\$250	•	MAN MAN	20.00		SKII	KTU	SKV	KTV	SKE	3-4	SKI		
### 4 PENNING WEAN SDT Z/L SKU KTU SKV KTV SKW KTW SKT C-35 C-223 C-12-6 C-35 C-24-6-534 -C-475 C-279 -L-051 C-10-6 C-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0		200			-0.203	0.265	-0.020	0.322	0.160	0.954	-0.0	*16.0	
46 A RUNING WEAN 507 -0146[EST] 46 A RUNING WEAN 507 2/L SKU KTU SKV KTV SKW KTW SKT C.335 0.274 -0.534 -0.475 0.279 -1.051 0.164 0.672 0.606 0.605 0.394 0.223 0.142 0.244 -0.534 -0.475 0.279 -1.051 0.164 0.0672 0.606 0.394 0.223 0.190 0.483 -0.189 0.145 0.124 0.510 0.242 0.882 0.664 0.606 0.394 0.202 0.109 0.483 -0.189 0.145 0.124 0.510 0.242 0.882 0.664 0.269 0.269 0.190 0.483 -0.189 0.145 0.124 0.501 0.201 1.145 0.242 0.906 0.269 0.269 0.201 0.507 -0.416 0.760 -0.001 1.145 0.234 0.906 0.269 0.269 0.269 0.261 0.201 0.407 0.281 -0.122 -0.013 -0.075 -0.418 -0.407 0.281 0.122 0.013 -0.075 -0.418 -0.401 0.556 -0.045 -0.017 -0.132 -0.407 1.090 0.556 0.779 0.285 0.182 0.556 -0.045 -0.017 -0.132 0.045 0.158 0.473 0.158 0		106.0											
## RUNNING WEAN ## RUNNING WEAN ## RUNNING WEAN ## RUNNING WEAN ## C.335	428			30-0146	(EST)								
SOV SCH SET 2/1 SKU KTU SKY KTY SKH KTE SKT C.335 C.223 0.142 0.244 -0.534 -0.475 0.279 -1.051 0.184 0.872 0.606 C.335 C.223 0.142 0.244 -0.534 -0.475 0.124 0.510 0.242 0.862 0.664 C.334 0.220 0.109 0.483 -0.169 0.145 0.124 0.510 0.242 0.862 0.664 C.334 0.220 0.109 0.483 -0.169 0.145 0.124 0.510 0.242 0.862 0.664 0.269 C.334 0.260 0.269 0.269 0.269 0.269 C.334 0.209 0.269 0.269 0.269 C.334 0.200 0.507 0.209 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.261 0.300 0.300 0.261 0.203 0.300 0.269 0.2	SE A RUN	3						2	7 2 2	XTX	SKT	KTT	
C.335 C.223 O.142 O.244 -0.534 -0.475 O.124 C.510 O.242 O.862 O.664 SOV SCW SCT Z/L SKU KTU SKV KTV SKW KTW SKT KTW SKW KTW SKT KTW SCT Z/L SKU KTU SKV KTV SKW KTW SKT SCT Z/L SKU KTU SKV KTV SKW KTW SKT SCT Z/L SKU KTU SKV KTV SKW KTW SKT SCW C.317 C.212 O.061 O.507 -0.416 O.760 -0.061 1.145 C.234 O.966 O.269 G.317 C.212 O.061 O.507 -0.416 O.760 -0.061 1.145 C.234 O.966 O.269 G.317 C.212 O.061 O.507 -0.416 O.760 -0.061 1.145 C.234 O.966 O.269 G.317 C.212 O.061 O.507 -0.416 O.760 -0.061 1.145 C.234 O.966 O.269 G.317 C.212 O.061 O.507 -0.416 -0.122 -0.013 -0.075 -0.416 -0.461 T. O.930 C.785 O.432 -0.159 -0.407 O.281 -0.122 -0.013 -0.075 -0.416 -0.461 T. O.930 C.785 O.432 -0.159 -0.407 O.281 -0.122 -0.017 -0.132 -0.407 1.090 E. C.850 C.779 O.295 -0.182 -0.590 O.556 -0.045 -0.017 -0.132 -0.407 1.090 E. SOV SCW SOW SCT Z/L SKU KTU SKV KTV SKW KTW SKW KTW SCW SCW SCW SCW SCW SCW SCW SCW SCW SC	1	SCH	SOT	1/2	SKU	2	270	1 0 1	0.184	0.872	0.606	0.844	
SDV SEW SCT 2/L SKU KTU SKV KTV SKW KTW SKW SKW SKW SKW SKW SKW SKW SKW SKW SK		6.223	0.142	0.244	-0-534	10.4.0							
SDV SCW SCW SCT 2/L SCU KTU SKV KTV SKW KTW SKT SCT C.34 0.064 0.264 0.394 0.294 0.209 0.403 -0.169 0.165 0.124 0.510 0.242 0.082 0.064 0.269 0.394 0.200 0.201 0.507 -0.416 0.760 -0.061 1.145 0.234 0.996 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.269 0.295 0.492 0.295 0.407 0.281 -0.122 -0.013 -0.075 -0.418 -0.461 0.906 0.295 0.492 0.295 -0.407 0.281 -0.122 -0.013 -0.075 -0.418 -0.407 0.090 0.295 0	•	NT RUNN	NC HEAN	;	:	A Tab	ZKV	KTV	SKW	X TE	×	KTT	
## 101 POINT RUNNING MEAN 2/L SKU KTU SKV KTV SKW KTW SKT O.269 0.269 ### 42M 42M 6-19-63 1306-1422[EST] ### RUNNING MEAN SCT 2/L SKU KTU SKV KTV SKW KTW SKT SCT SCT SCT SCT SCT SCT SCT SCT SCT SC		SCH	135	207	149	0-145	0.124	6.510	0.242	0.882	0.664	1.168	
SEV SEW KIN KUNNING KEN KIU SKV KTV SKW KTW SKY KTW SKW KTW SKY SKW KTW SKW KTW SKY SKW KTW SKY SKW KTW SKW KTW SKY SKW KTW SKY SKW KTW SKW KTW SKW KTW SKW KTW SKY SKW KTW SKW KTW SKW KTW SKY SKW KTW SKY SKW KTW SKY SKW KTW SKW SKW SKW SKW SKW SKW SKW SKW SKW SK		0.220	7010								1	1	
SCV 52W 52W 5.5W 5.5W 5.5W 5.5W 5.5W 6.760 -0.061 1.145 C.234 0.986 0.26V 6.317 C.212 0.081 0.507 -0.416 0.760 -0.061 1.145 C.234 0.986 0.26V 8.4 42W 6-19-63 1306-142(EST) REARCHING FEAN SCT 2/L 5KU KTU 5KV KTV 5KW KTW 5KT 50.930 C.785 0.432 -0.407 0.281 -0.122 -0.013 -0.075 -0.418 -0.461 0.461 80V 8DW 50T 2/L 5KU KTU 5KV KTV 5KW KTW 5KTW 5KTW 5KTW 5KW KTW 5KV 6 C.812 0.668 0.187 -0.170 -0.401 1.135 0.014 -0.016 -0.109 -0.158 0.473	•	NE ROAD	200	7.7	CKII	KTU	SKV	KTV	SKK	*	SKI		
G.317 C.1.2 U.01. 0.001		200	1000	100	414	0-760	-0.061	1-145	C-234	0. 486	0.264	687-7	
G4A 46F 6-19-63 1306-1422[EST] RE A RUNING FEAN SCT 2/L SKU KTU SKV KTV SKW KTW SKT SCT 2-0.418 -0.461 T 0.930 C.785 0.432 -0.159 -0.407 0.281 -0.122 -0.013 -0.075 -0.418 -0.461 R 6.01 POINT RUNNING FEAN Z/L SKU KTU SKV KTV SKW KTW SKT 1.090 E C.856 G.779 0.295 -0.182 -0.580 0.556 -0.045 -0.017 -C.132 -0.407 1.090 R A 101 POINT RUNNING FEAN Z/L SKU KTU SKV KTV SKW KTW SKT SCT 2-0.0158 0.473 C C.A1E 0.668 0.187 -0.170 -0.401 1.135 0.014 -0.016 -0.109 -0.158 0.473		777-5	100.0										
RE A RUNNING FEAN SCT 2/L SKU KTU SKV KTV SKW KTW SKW KTW SCT 0.432 -0.418 -0.401 0.122 -0.013 -0.075 -0.418 -0.401 0.930 0.785 0.432 -0.159 -0.407 0.281 -0.122 -0.013 -0.075 -0.418 -0.401 0.930 0.789 0.285 0.482 0.566 -0.045 -0.017 -0.132 -0.407 1.090 0.856 0.779 0.295 -0.182 -0.580 0.556 -0.045 -0.017 -0.132 -0.407 1.090 0.856 0.779 0.295 0.187 0.556 0.556 -0.045 -0.017 -0.132 -0.407 1.090 0.550 0.473 0.014 0.068 0.187 -0.170 -0.401 1.135 0.014 -0.016 -0.109 -0.158 0.473	446			306-1422	(EST)								
SCH SCH SCT 2/L SKU KTU SKV C.122 -0.013 -0.075 -0.418 -0.401 0.930 C.785 0.432 -0.159 -0.407 0.281 -0.122 -0.013 -0.075 -0.418 -0.401 0.930 C.785 0.432 -0.159 -0.407 0.281 -0.159 0.556 C.779 0.295 -0.182 -0.560 0.556 -0.045 -0.017 -C.132 -0.407 1.090 C.856 C.779 0.295 -0.182 -0.560 0.556 -0.045 -0.017 -C.132 -0.407 1.090 C.856 C.779 0.295 -0.187 -0.190 0.556 -0.045 -0.016 -0.109 -0.158 0.473 C.81	u	G PEAN					7.40	24.3	SKW	KTW	SKT	KTT	
0.930 C.785 0.432 -0.159 -0.407 U.CBI -0.122 C.500 A COL POINT RUNNING FEAN 2/L SKU KTU SKV KTV SKW KTW SKT C.856 C.779 0.295 -0.182 -0.580 0.556 -0.045 -0.017 -C.132 -0.407 1.090 A 101 POINT RUNNING FEAN 2/L SKU KTU SKV KTV SKW KTW SKT SCV SDW SCT 2/L SKU KTU SKV KTV SKW KTW SKT C.818 0.668 U.187 -0.170 -0.401 1.135 0.014 -0.016 -0.109 -0.158 0.473		SCH	SCT	7/7	SKU		27.0	-0.013	-0.075	-0.418	-0.401	0.154	
A COL POINT RUNNING FEAN SOV SCW SDT 2/L SKU KTU SKV KTV SKW KTW 1.090 C.856 C.779 0.295 -0.182 -0.580 0.556 -0.045 -0.017 -0.132 -0.407 1.090 A 101 POINT RUNNING FEAN SCV SDW SOT 2/L SKU KTU SKV KTV SKW KTW SKT SCV SDW SOT 2/L SKU KTU SKV KTV SKW KTW SKT C.818 0.668 0.187 -0.170 -0.401 1.135 0.014 -0.016 -0.109 -0.158 0.473		C.785	0.432	-0-159	-0.401		-0.166						
SDV SCW SDT 2/L SKU KIU 50.556 -0.045 -0.017 -0.132 -0.407 1.090 0.856 0.779 0.295 -0.182 -0.580 0.556 -0.045 -0.017 -0.132 -0.407 1.090 4 101 POINT RUNNING WEAN KTU SKV KTV SKW KTW SKT SCV SDW STT 2/L SKU KTU SKV KTV SKW KTW SKT SCV C.819 0.668 0.187 -0.170 -0.401 1.135 0.014 -0.016 -0.109 -0.158 0.473	-	INT RUNN	ING PEAN				720		SKE	KTW	SKT		
C.856 C.779 0.295 -0.182 -0.350 U.335 C.0. KTV SKW KTW SKT SKT SKT SKT SKT SKT SKT SKT C.0. SKW KTW SKT SKT SCV SCW SCW KTW SKT SCV SCW SCW KTW SKW KTW SKT		SCW	SOT	2/1	SKU		-0-045		-0.132	-0.401	1.090		
A 101 POINT RUNNING FEAT SKU KTU SKV KTV SKW KTW SKT SCV SOW SOT 2/L SKU KTU SKV KTV SKW KTW SKT C-13 C-13 C-13 C-13 C-13 C-13 C-13 C-13		6-779	0.295	-0-182	-0.380								
SCV SDM SET 274 -0.170 -0.401 1.135 0.014 -0.016 -0.109 -0.158 0.473	<		ž		11.00	K TU	SKV		SKH	KTE	SKT		
C. 31 & C. 67 & C. 187 - C. 170 - C. 21 & C. 2		SOM	SET		24	1.135	0.014	-0.016	-0.109	-0.158	0.473		
		0.678	0.18		1)))						

	KTT 0.105	KTT 0.988	KTT 3.188		KTT 0.033	KTT -0.472	KTT -0.181		KTT -0.016	KTT -0.132	KTT 1.338	KTT	-0.010	KTT 0.071	KIT 1.916	KTT	-0.747	KTT 1.629	KTT 4.453
	0	0	T m		0	0	0				-		9	0					
	SKT -0.442	SKT 0.839	SKT 1.014		SKT -0.121	SKT 0.409	SKT 0.448		SKT -0.237	SKT 0.422	SKT 0.407	SKT	0.078	SKT 0.362	SKT 0.470	SKT	0.300	SKT 0.995	SKT 1.112
	KTH 0.103	KTW 0.078	KTW 0.155		KT*	KTW -0.219	KTH -0.026		KTW -0.230	KTW -0.225	A 104	1	-0-209	KTW -0.196	KTW 0.239	ž	1.318	KTH 1.449	1.470
	SKW 0.291	SKW 0.235	SKW C.106		SKW 0.273	SKW C.238	SKW 0.247		SKW C.144	SKW G.104	SKW -0.017	3	0.233	SKW 0.168	SKW -0.071	XX	0.552	SKW 0.499	SKW 0.402
	KTV -0.336	KTV -0.697	KTV -0.043		KTV 0.180	KTV 0.015	X X X X X X X X X X X X X X X X X X X		KTV -0.204	KTV -0.098	KTV -0.031	3	0.171	KTV C.450	KTV 0.487	×	0.053	KTV 0.549	KTV 0.501
	SKV 0.094	SKV 0.150	SKV 0.162		SKV 0.023	5KV -0.038	SKV 0.077		SKV 0.115	SKV -0.013	SKV -0.028		-0.208	SKV -0.317	SKV -0.184	2	0.002	SKV -0.209	SKV -0.127
	KTU 0.272	KTU 0.335	KTU 0.723		KTU -0.335	KTU -0.261	KTU 0.047		KTU 0.271	KTU -0.178	KTU 1.016		6.101	KTU 0.306	KTU 1.08C		-0.071	KTU 0.801	KTU 0.603
ESTI	SKU -0.431	SKU -0.528	SKU -0.385	FST)	SKU -C.156	SKU -0.224	SKU -0.262	(EST)	SKU -0.495	SKU -0.286	SKU -0-199	(EST)	SKU -0-477	SKU -0.479	SKU -0.415	(ES	-0.639	SK!)	SKU -0.325
1306-1422(EST)	2/1		177	1446-1602(FST)	2/1	2/1		1446-1662	2/1	2/L -0.121	2/L 0.021	1621-1737(EST)	2/L -0.050	2/L -0.099		1621-1737	+11-0-	2/L -0-139	
9-63 13	320	ING MEAN SET 0.198	NG MEAN SOT 0.153	9-63 14	10	RUNNING MEAN	SDT SDT 0.214	6-19-63 14	SDT 0.316	INC "EAN SDT 0.229	ING MEAN SOT 0-119	6-19-63 I	SDT 0.188	ING MEAN SET 0.121	ING MEAN SDT 0.066		SDT 0.252	ING PEAN SDT 0.094	
914 6-19	MEAN SOW 754	7	2	- Desired			INT RUNNING SCW C.677 0	46H 6-1	SDV SCH	601 POINT RUNNING SDV SCW 5	101 PDINT RUNNING SDV SDW 0.782 0.641 0.	3.		601 POINT RUNNING SDV SDW 0.568 0	POINT RUNNING SDW SDW 8 C.474 O	96A 91M 6-1 A RUNNING MEAN	SDW 0.459	SDV SDW SDW S	101 POINT RUNNING SDV SDW .
16 446	A C P		A 101 PEI SEV G.76C	95A	A RUNNING MEAN	A COL POINT SEV	A 101 POINT SEV 0.366 C	95A 4	A RUNNI SDV	8 601 PO SDV 0-859	A 101 PO SEV 0.782	S6A A RUN		A 601 POINT SDV 0.719 0-	A 101 PC SCV 0.628	_	SDV 0.698	A 601 PC SDV	A 101 PC SDV 0.468
2	U 4	AFTEP A SDU		2 Nil 0	PEFORE		AFTER SOU	NO NO	SEF URE			RUN NO	Sou	SOU	SETER SDU C-617	RUN NO	500	AFTER SDU 725	AFTER SOU C.463

SKU KTU SKV FTU SKV O-0.416 -0.233 O-0.416 -0.21C -0.233 O-0.373 -0.116 -0.103 O-0.373 -0.116 -0.103 O-0.149 O-0.149 O-0.15 -0.078 O-0.149 O-0.15 O-0.191 O-0.592 O-726 O-191 O-0.596 I-334 O-0.37 Z SKU KTU KTU SKV O-0.199 O-0.490 O-0.064 O-0.162 O-0.247 O-0.95 O-0.162 O-0.162 O-0.163 O-0.164 O-0.097 O-0.162 O-0.163 O-0.164 O-0.097 O-0.164 O-0.153 O-0.22 O-0.165 O-0.153 O-0.22 O-0.165 O-0.153 O-0.22 O-0.165 O-0.153 O-0.21 O-0.097 O-0.185 O-0.27 O-0.278
HEAN LOT
1751-1967(EST)
101 1751-1967(EST) 1027 2/L SKU KTU SKV 1036 0.124 -0.592 0.726 0.191 1036 0.125 -0.812 1.541 -0.132 1 1036 0.125 -0.812 1.541 -0.132 1 1037 2/L SKU KTU SKV 1024 0.146 -0.596 1.334 0.037 2 1025 0.096 -0.199 -0.490 0.094 1027 2/L SKU KTU SKV 1027 2/L SKU KTU SKV 1027 2/L SKU KTU SKV 1037 2/L SKU KTU SKV 103 2/L SKU KTU SKV 1045 0.108 -0.162 -0.247 0.055 1055 0.108 -0.162 -0.247 0.055 1057 2/L SKU KTU SKV 1058 0.108 -0.109 0.004 1058 0.108 -0.109 0.004 1058 0.108 -0.109 0.004 1058 0.108 -0.109 0.153 0.022 1058 0.108 0.153 0.022 1059 0.108 0.153 0.022 1050 0.108 0.153 0.022 1050 0.108 0.153 0.022 1050 0.108 0.153 0.002 1050 0.108 0.153 0.022 1050 0.108 0.153 0.002 1050 0.108 0.153 0.002 1050 0.153 0.002 1050 0.154 0.158 0.153 0.002 1050 0.158 0.003 1050 0.158 0.003 1050 0.158 0.003 1050 0.158 0.003 1050 0.158 0.003 1050 0.158 0.003 1050 0.158 0.003 1050 0.158 0.003 1050 0.158 0.003
SUT 2/L SKU KTU SKV C.191 O C.191 O C.194 O C.194 O C.194 O C.124 O C.124 O C.194 O C.194 O C.195 O C.125 O C.
SOT 2/L SKU KTU SKV LO.37 LO.37 LO.37 LO.39 CO.124 -0.592 CO.726 CO.191 CO.30 LO.30 CO.32 CO.32 CO.30
HEAN Z/L SKU KTU SKV SKV SGT Co.125 Co.812 L.541 Co.132 L.545 Co.132 L.545 Co.132 L.545 Co.132 L.545 Co.132 L.545 Co.132 L.545 Co.132 Co.146 Co.596 L.334 Co.037 Z/L SKU KTU SKV Co.055 Co.096 Co.096 Co.096 Co.096 Co.096 Co.096 Co.096 Co.097 Co.096 Co.097 Co.096 Co.097 Co.09
SOT 2/L SKU KTU SKV SKV SOT 1.541 -0.132 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2/L SKU KTU SKV 0.146 -0.596 1.334 0.037 2 1921-2037(EST) 2/L SKU KTU SKV 0.096 -0.199 -0.490 0.064 0.108 -0.162 -0.247 0.055 2/L SKU KTU SKV 0.108 -0.167 -0.247 0.055 1921-2C37(EST) 2/L SKU KTU SKV 0.279 -0.227 -0.139 0.084 0.352 -0.106 0.153 0.022 2/L SKU KTU SKV 0.352 -0.106 0.153 0.022 1446-1600(EST) 2/L SKU KTU SKV 0.351 -0.185 0.211 0.047 1446-1600(EST) 2/L SKU KTU SKV 0.351 -0.185 0.211 0.047 1446-1600(EST) 2/L SKU KTU SKV 0.352 -0.094 -0.371 0.108 N Z/L SKU KTU SKV 2/L SKU KTU SKV 3 -0.028 -0.009 -0.278 0.072
2/L SKU KTU SKV 0.146 -0.596 1.334 0.037 2 2/L SKU KTU SKV 0.096 -0.199 -0.490 0.064 0 2/L SKU KTU SKV 0.108 -0.162 -0.247 0.055 0 2/L SKU KTU SKV 0.279 -0.227 -0.139 0.084 0 2/L SKU KTU SKV 0.379 -0.227 -0.104 -0.097 0 2/L SKU KTU SKV 0.352 -0.106 0.153 0.022 2/L SKU KTU SKV 0.352 -0.106 0.153 0.022 2/L SKU KTU SKV 0.351 -0.185 0.211 0.047 1446-1600[EST) 2/L SKU KTU SKV 0.361 -0.094 -0.278 0.072
1921-2037(EST) 2/L SKU 0.096 -0.199 -0.490 0.064 0.108 -0.162 -0.247 0.055 2/L SKU 0.108 -0.162 -0.247 0.055 2/L SKU 2/L SKU 0.279 -0.227 -0.139 0.084 0.352 -0.106 0.153 0.022 2/L SKU X/L X/L SKU X/L SKU X/L SKU X/L SKU X/L SKU X/L SKU X/L X/L SKU X/L SKU X/L SKU X/L SKU X/L X/L X/L X/L X/L X/L X/L X/
2/L SKU KTU SKV 0.096 -0.199 -0.490 0.064 0.108 -0.162 -0.247 0.055 0.108 -0.162 -0.247 0.055 1921-20371EST) 2/L SKU KTU SKV 0.279 -0.227 -0.139 0.084 0.379 -0.227 -0.704 -0.097 N Z/L SKU KTU SKV 0.331 -0.185 0.211 0.047 1446-16001EST) 2/L SKU KTU SKV 0.331 -0.185 0.211 0.047 1446-16001EST) 2/L SKU KTU SKV 0.331 -0.185 0.211 0.108 NN Z/L SKU KTU SKV 3 -0.028 -0.009 -0.278 0.072
Z/L SKU KTU SKV Z/L SKU KTU SKV Z/L SKU KTU SKV 0.108 -0.162 -0.247 0.055 1921-2037[EST] Z/L SKU KTU SKV 0.279 -0.227 -0.097 N Z/L SKU KTU SKV 0.352 -0.106 0.153 0.021 Z/L SKU KTU SKV 0.351 -0.185 0.211 0.047 1446-1600[EST) Z/L SKU KTU SKV
2/L SKU KTU SKV 0.108 -0.162 -0.247 0.055 0.108 -0.162 -0.247 0.055 1921-2C371EST1 2/L SKU KTU SKV 0.379 -0.227 -0.704 -0.097 N Z/L SKU KTU SKV 0.331 -0.185 0.211 0.047 1446-16001EST) 2/L SKU KTU SKV 0.331 -0.185 0.211 0.047 1446-16001EST) 2/L SKU KTU SKV 0.331 -0.185 0.211 0.108 N Z/L SKU KTU SKV 1 SKU KTU SKV
2/L SKU KTU SKV 0.108 -0.162 -0.247 0.055 0.108 -0.162 -0.247 0.055 1921-20371EST1 2/L SKU KTU SKV 0.279 -0.227 -0.704 -0.097 N Z/L SKU KTU SKV 0.352 -0.106 0.153 0.021 Z/L SKU KTU SKV 0.331 -0.185 0.211 0.047 1446-16001EST) Z/L SKU KTU SKV 0.331 -0.185 0.211 0.047 1446-16001EST) Z/L SKU KTU SKV N Z/L SKU KTU SKV 1 SKU KTU SKV SKV S/L SKU KTU SKV SKV S/L SKU KTU SKV SKV S/L SKU KTU SKV
2/L SKU KTU SKV 0.106 -0.105 -0.27 0.084 1921-2C37TEST1 2/L SKU KTU SKV 0.279 -0.227 -0.704 -0.097 N Z/L SKU KTU SKV 0.352 -0.106 0.153 0.021 Z/L SKU KTU SKV 0.351 -0.185 0.211 0.047 1446-1600TEST) Z/L SKU KTU SKV N Z/L SKU KTU SKV 0.331 -0.185 0.211 0.047 1446-1600TEST) Z/L SKU KTU SKV N Z/L SKU KTU SKV SKV SYV SYV SYV SYV SYV SYV SYV SYV SYV SY
2/L SKU KTU SKV 0.108 -C.051 -0.139 0.084 1921-2C37[EST] 2/L SKU KTU SKV 0.352 -C.106 0.153 0.022 2/L SKU KTU SKV 0.351 -0.185 0.153 0.022 1446-1600[EST] 2/L SKU KTU SKV 1446-1600[EST] 2/L SKU KTU SKV 1446-1600[EST] 12/L SKU KTU SKV 1446-1600[EST] 2/L SKU KTU SKV 2/L SKU KTU SKV 2/L SKU KTU SKV 3 -0.028 -0.009 -0.278 0.072
1921-2037(EST) 2/L SKU KTU SKV 0.279 -0.227 -0.704 -0.097 N Z/L SKU KTU SKV 0.352 -0.106 0.153 0.02: Z/L SKU KTU SKV 0.331 -0.185 0.211 0.047 1446-1600(EST) Z/L SKU KTU SKV N Z/L SKU KTU SKV 2 -0.018 -0.094 -0.371 0.108 N Z/L SKU KTU SKV 3 -0.028 -0.009 -0.278 0.072
SDT Z/L SKU KTU SKV *101 0.279 -0.227 -0.704 -0.097 *FEAN Z/L SKU KTU SKV *O47 0.352 -0.106 0.153 0.021 *MEAN Z/L SKU KTU SKV *O41 0.331 -0.185 0.211 0.047 *3 1446-1600[EST) **SDT Z/L SKU KTU SKV **GT Z/L SKU KTU SKV
SDT Z/L SKU KTU SKV 101 0.279 -0.227 -0.704 -0.097 WEAN Z/L SKU KTU SKV SDT Z/L SKU KTU SKV SQT 0.352 -0.106 0.153 0.021 HEAN Z/L SKU KTU SKV SQT Z/L SKU KTU SKV SQT Z/L SKU KTU SKV SDT Z/L SKU KTU SKV SGT Z/L SKU KTU SKV
SOT 2/L SKU KTU SKV
SOT 2/L SKU KTU SKV -047 0.352 -0.106 0.153 0.021 MEAN 2/L SKU KTU SKV -041 0.331 -0.185 0.211 0.047 3 1446-1600[EST) SOT 2/L SKU KTU SKV -462 -0.018 -0.094 -0.371 0.108 MEAN 2/L SKU KTU SKV -0.018 -0.094 -0.371 0.108 MEAN 2/L SKU KTU SKV -0.018 -0.009 -0.278 0.072 MEAN 2/L SKU KTU SKV -0.018 -0.009 -0.278 0.072
SDT 2/L SKU KTU SKV SCT 0.352 -0.106 0.153 0.021 MEAN 2/L SKU KTU SKV .041 0.331 -0.185 0.211 0.047 3 1446-1600[EST) SDT 2/L SKU KTU SKV .462 -0.018 -0.094 -0.371 0.108 MEAN 2/L SKU KTU SKV SCT 2/L SKU KTU SKV
SGT 2/L SKU KTU SKV .041 0.331 -0.185 0.211 0.047 .041 0.331 -0.185 0.211 0.047 3 1446-1600[EST] SGT 2/L SKU KTU SKV .462 -0.018 -C.094 -0.371 0.108 MEAN Z/L SKU KTU SKV .308 -0.028 -0.009 -0.278 0.072 MEAN Z/L SKU KTU SKV
SOF 2/L SNU KTU SKV SOF Z/L SKU KTU SKV MFAN Z/L SKU KTU SKV
3 1446-1600(EST) SDT Z/L SKU KTU SKV 462 -0.018 -0.094 -0.371 0.108 MEAN Z/L SKU KTU SKV SDT Z/L SKU KTU SKV MEAN Z/L SKU KTU SKV SGT Z/L SKU KTU SKV
SDT Z/L SKU KTU SKV -462 -0.018 -0.094 -0.371 0.108 MEAN Z/L SKU KTU SKV -308 -0.028 -0.009 -0.278 0.072 MEAN Z/L SKU KTU SKV MEAN Z/L SKU KTU SKV
SGT 2/L SKU KTU SKV SGT 2/L SKU KTU SKV 308 -0.028 -0.009 -0.278 0.072 GT 2/L SKU KTU SKV
MEAN 2/L SKU KTU SKV SGT 2/L SKU KTU SKV *308 -0.028 -0.009 -0.278 0.072 MEAN 2/L SKU KTU SKV
SDT 2/L SKU KIU SKV #508 -0.028 -0.009 -0.278 0.072 #FAN 2/L SKU KTU SKV
ING MEAN SKU KTU SKV
SOL SKU KIU SKV
335 -0 335 -0 346 0.335

	KIT -0.373	KTT 1.833	KIT 2.106	KTT -1-179	KTT 1.148	KTT 3.381	KTT -1.338	KTT 4.090	KTT 8.263	KTT -1.140	KTT 0.592	KTT 1.231	KTT -0.011	KTT 0.118	KIT 0.178
	SKT 0.590	SKT 0.862	SKT -0.257	SKT 0.140	SKT -0.556	SKT -0.778	SKT 0.140	SKT -0.324	SKT -1.514	SKT 0.363	SKT -0.332	SKT -0.508	SKT 0.320	SKT 0.044	SKT -0.051
	KTV -0.034	KTH 0.123	KTW 0.205	KTW 0.268	KTW 0.274	KTW 0.188	K T M 0 . 280	KTW 0.258	KTW 0.401	KTW 0.307	KT# 0.344	KTH 0.487	KTW 0.537	KTH 0.515	KTW 0.511
	SKW 0.200	NKE 0.188	SKW 0.203	SK# 0.065	SKI;	SKW 0.079	SKW 0.126	SF.W C. 132	SKW C.024	SKW -C.117	SKW -0.147	SKW -0.124	SKW 0.014	SKW 0.022	SKW 0.180
	KTV 0.054	KIV -C.042	KTV 0,433	K1V C.071	KTV -C.078	KTV -0.082	KTV -0.034	KTV 0.094	KTV 0.192	KTV C.434	KTV 0.859	C. 618	KTV 0.356	KTV 0.826	KTV C.742
	SKV -0.153	5KV -0.067	SKV 0.086	SKV 0.127	SKV 0.042	SKV 0.046	SKV -0.028	SKV 0.046	SK V 0.046	SKV 0.137	SKV 0.268	5KV 0.210	5KV 0.016	SKV 0.163	SKV 0.092
	KTU -0.351	KTU-0.007	KTU 0.441	ATU 0.638	KTU -0.233	KTU 0.118	ATU -0.213	KTU -0.297	KTU -0.153	KTU 0.313	KTU 0.491	KTU 0.434	xTU 1.689	KTU 0.081	KTU -0.062
(EST)	SKU -0.541	SKU -0.346	SKU -0-372	SKU -0.486	SKU -0.291	SKU -0.311	(EST) SKU -0.319	SKU -0.400	SKU -0-151	(EST) SKU 0.573	SKU 0.442	SKU 0.101	SKU C.262	SKU -0.091	SKU -0.200
1446-1600(EST)	2/L -0.075	2/L -0.074	27L -0.034	1631-1727(EST) 2/L SK -0.005 -0.4	2/1	900.0	1631-1727(EST) 2/L SK -0.018 -0.3		2/1	2/L SK 0.002 0.5		2/1	1807-1923 2/L 0.016	2/1 0.035	0.057
3-63 1	324	SET 0.186	ING MEAN SCT 0.100	-3-63 L	10 4	SOT SOT 0.049	30T	ING MEAN SDT 0.066	NG MEAN SCT 0.041	-3-63 1 SOT 0.597	ING MEAN SOT 0.058	NG MEAN SET 0.045	3-63 SCT 0.546	ING MEAN SCT 0.067	RUNNING MEAN SDW SDT
7-	SCH SCH			MEAN SOH	601 PUINT RUNNING SDV SCW 1.419 0.822 0.	SOW C.777	ING MEAN SOW	601 POINT RUNNING SDV SCW 1-124 C-804 0	SEW C.750	MEAN SCH	POINT RUNNING	SCW SCW SO	VEAN SEW C-827	50V SDW SDW 1.213 0.822 0	
C7 46W	SOV SOV	A 601 POI SDV	tool .	98 46M A RUNNING SEV	A 601 PUI SDV 1-419	Bood	93 91H A RUNNING SDV 1.171	A 601 PO SOV 1-124	A 61 PCIAT SDV 0.975	99A 15F A RUNAING 50V	A 601 PO SDV	A 61 PCINT SDV 1.005	99A 46M A RUNNING SOV 1-369	A 601 PU SDV 1.213	A 61 PGINT SDV 1-14C
2 2	m vi		AFTER SOU	RUN NO	u er 0		BEFURE Seu			RUN NO BEFORE SDU			RUN NO FEFURE SOU 1.824	AFFER SDU 1-621	SDU SDU

4 601 POTRIT RUNNING PERM 2/1 SKU KTU SKV KTV SKH KTH SKT CTT CTT CTT CTT CTT CTT CTT CTT CTT C	1-154	SEV 0.747		SDT 0.391	2/L 0.014	SKU 0.297	KTU 0.034	SKV -0.230	KTV C.469	SK# -0.175	KTW 0.213	SKT 0.341	KTT -0.993
STOCK STOC		601 POIN	AT RUNNI SCW G-513	SET 0.084		SKU C.19	KTU-0-037	SKV -0.352	KTV 0.774	SKW -0.083	KTW 0.160	SKT 0.161	KTT 0.209
				SDT SDT 0.057	2/L 0.017	SKU 0.070	KTU 0.226	SKV -0.113	KTV 0.680	SKW -0.111	KTW 0.331	SKT -0.004	KTT 0.156
THE A RUNING WEAN 1.072 0.041 2.024 0.034 0.144 0.034 0.144 0.034 0.047 0.051 0.370 0.156 0.590 0.141 0.90 4.1072 0.041 2.0272 0.041 0.393 0.144 0.034 0.044 0.034 0.370 0.370 0.156 0.990 0.141 0.90 8.020 0.042 0.041 0.105 0.117 0.021 0.126 0.034 0.061 0.169 0.661 0.183 8.020 0.022 0.024 0.036 0.127 0.030 0.156 0.031 0.009 0.077 0.472 0.069 0.004 8.020 0.022 0.024 0.036 0.127 0.008 0.156 0.031 0.009 0.077 0.472 0.069 0.004 8.020 0.024 0.045 0.132 0.134 0.137 0.020 0.118 0.007 0.144 0.064 0.183 0.009 8.020 0.045 0.132 0.134 0.137 0.137 0.131 0.039 0.046 0.048 0.183 0.009 8.020 0.045 0.132 0.134 0.142 0.001 0.073 0.113 0.205 0.048 0.183 0.000 8.020 0.045 0.130 0.142 0.135 0.000 0.001 0.073 0.113 0.205 0.049 0.100 0.100 8.020 0.045 0.104 0.142 0.135 0.000 0.001 0.073 0.113 0.205 0.049 0.100		COA 46	To	1-63 21	24-2224	(EST)							
1,000 1,00	E C	ARLANING	SOW	SET	7/7	SKU	KTU	SKV	KTV	SKE	KTH O	SKT 0-141	KTT -0-954
## 601 POINT RUNNING FEAT ## 1, 5 KU KTU SKV KTV SKW KTW SKT SKT A 6 10 POINT RUNNING FEAT ## 1, 10 0.01 0.112 0.0074 1.164 0.169 0.661 0.182 4			0.641	0.343	0.144	0.034	-0.040	160.0-	0.2.0	•			
TO 1.2.7.2 C. 6.4.1 O. 1.0.5 O. 1.117 O. 0. 1.2.2 C. 0. 0. 0. 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1			SON	SOT	1/1	SKU	KTO	SKV	KTV	SKW	X T Y	SKT 0-182	4.185
CONTROL SECTION SECT	1-127	0.472	C.641	0.105	0.117	0.021	0.120	+10.0-	*01 • 1	101.0	•		
1 COB			SCH SCH	SOT SOT	2/1	SKU -0.008	KTU 0.156	SKV -0.031	KTV 0.509	SKW 0.077	KTH 0.472	SKT 0.069	0.071
COUNTING WEAN STORE ST	D	7			3226	9							
2 0.094 0.046 0.185 0.124 -0.177 -0.204 0.118 0.0.079 0.246 0.645 -0.285 -0.204 0.118 0.0.079 0.246 0.645 0.185 0.124 -0.177 -0.204 0.118 0.0.079 0.246 0.645 0.183 0.124 -0.177 -0.204 0.118 0.0.079 0.246 0.645 0.183 0.120 0.120 -0.061 0.073 0.113 0.205 0.540 0.183 -0.18 0.045 0.132 0.120 -0.061 0.073 0.113 0.205 0.540 0.183 -0.18 0.045 0.130 0.142 -0.356 0.309 -0.026 0.039 0.219 0.704 0.100 -0.14 0.006 0.142 0.036 0.006 0.201 0.704 0.100 -0.14 0.006 0.142 0.006 0.002 0.119 0.704 0.100 -0.100 -0.14 0.006 0.000 0.000 0.000 0.000 0.100 -0.100 -0.100 -0.100 0.00		4	T MEAN	3-63 64	cee7-	1163					9	3	
2 0.994 0.646 0.1185 0.124 0.117 0.127 0.127 0.123 0.205 0.540 0.183 0.207 0.108 0.107 0.108 0.207 0.108 0.109 0.124 0.127 0.120 0.120 0.100 0.0073 0.113 0.205 0.540 0.183 0.120 0.120 0.120 0.0013 0.113 0.205 0.540 0.183 0.183 0.184 0.187 0.120 0.120 0.0013 0.113 0.205 0.540 0.183 0.183 0.184 0.187 0.120 0.120 0.00142 0.0026 0.0036 0.203 0.203 0.100 0.100 0.142 0.005 0.203 0.0036 0.203 0.100 0	Seu		NOS	SDT	1/2	SKU	KTU 204	SKV	0.0°9	0.246	0.645	-0.285	1
R 61 POINT RUNNING FEAT 2/L SKU KTU SKV KTV SKW KTK SKT SKT ST C.193 -C.183 -C.184 C.185 C.186 C.186 C.185 C.186 C			0.646	0.165	0.124	10.1.0	23.0						
1 CO S S CO S CO S CO S CO S CO S CO S C			SOW	SOT SOT	2/1	SKU -6.180	KTU -0-061	SKV 0.073	KTV 0.113	SKW 0.205	KTK 0.540	SKT 0.183	KTT -0.150
SDV SDW SDV SOT 2/L SKU KTU SKV KTV SKW KTW SKT KTW SKT KTW SKT SDV			T RUNNE	NG MEAN						3	3	CKT	KTT
1008 91H 7-3-63 2235-2335(EST)			SDW 0.626	S0T 0-106	2/1 0.142	SKU -0.356	6.309	5KV -0.026	0.038	0.219	0.704	0.100	-0.116
RE A RUNNING MEAN SDY SDW SDW SDW SDW SDW SDW SDW		16 8001	н 7-	3-63 23	235-2335	(EST)							
SDV 0.957 0.167 0.273 0.068 -0.448 0.088 0.002 0.126 0.616 -0.322 -0.876 0.876 0.516 0.167 0.273 0.068 -0.448 0.088 0.002 0.126 0.616 -0.322 -0.808 0.876 0.121 0.288 -0.004 -0.246 0.005 0.203 0.053 0.334 -0.123 -0.808 0.586 0.121 0.288 -0.004 -0.246 0.005 0.203 0.053 0.034 -0.123 -0.808 0.586 0.121 0.288 -0.004 0.005 0.203 0.053 0.053 0.334 -0.123 -0.808 0.095 0.392 -0.049 0.063 -0.042 0.117 0.061 0.755 -0.151 0.075 0.774 0.560 0.099 0.392 -0.049 0.063 -0.042 0.117 0.061 0.755 -0.151 0.075 0.774 0.560 0.099 0.392 -0.049 0.063 0.004 0.117 0.061 0.755 -0.151 0.125 -0.151 0.125 0.117 0.081 0.125 0.005 0.095 0.481 0.125 -0.125 0.001 0.100 0.004 0.004 0.001 0.001 0.005 0.005 0.005 0.481 0.125 -0.005 0.005 0.005 0.005 0.005 0.005 0.204 -0.0264 -0.024 0.052 0.003 0.005 0	RE	A RUNNIN	G MEAN	100		CKI	KTU	SKV	KTV	SKW	KTH	SKT	
A 601 POINT RUNNING PEAN S 602 POINT RUNNING PEAN S 602 POINT RUNNING PEAN S 602 POINT RUNNING PEAN S 603 POINT RUNNIN	1.108	0.870	0.587	0.167		0.068	-0-448	0.088	0.002	0.126	0.616	-0.322	
SDV SDW SDI 2/L SKU KTU SKV KTV SKW KTW SKT STT SDV			NT RUNN	ING PEAN				2 % 2	XIX	NXS	XTX	SKT	
R 61 PCINT RUNNING HEAN SDV SCW	Sou.	SOV	SOW	S0T 0-121		-0.004	-0.246	0.005	0.203	0.053	0.334	-0.123	
SDV SCW SCT Z/L SKU KTU SKV C.560 0.099 0.392 -0.049 0.063 -0.042 0.117 0.061 0.755 -0.151 1C1A 15H 7-4-63 0814-09301EST) RE A RUNING MEAN SDT Z/L SKU KTU SKV KTV SKW KTW SKT SCT SDV SCW SDT Z/L SKU KTU SKV KTV SKW KTW SKT SDV SCW SDT Z/L SKU KTU SKV KTV SKW KTW SKT SDV SCW SDT Z/L SKU KTU SKV KTV SKW KTW SKT C.284 -0.024 -0.035 -0.175 0.125 -0.055 0.067 0.467 0.284 -0.055 0.0175 0.122 -0.054 0.067 0.467 0.284 -0.057 0.0175 0.122 -0.054 0.067 0.467 0.284 -0.057 0.0175 0.122 -0.054 0.065 0.067 0.467 0.284 -0.050 0.0175 0.122 -0.054 0.065 0.067 0.467 0.284 -0.050 0.0175 0.125 0.005 0.067 0.467 0.284 -0.050 0.0175 0.125 0.052 0.063 0.521 0.279		9	T RUNNI	NG MEAN			i	7.75	2	T X	×	SKT	KIT
1C1A 15H 7-4-63 0814-0930(EST) RE A RUNING HEAN SDV SDW SDT Z/L SKU KTU SKV KTV SKW KTW SKT SDV SDW SDT Z/L SKU KTU SKV KTV SKW KTW SKT SDV SCW SDW SDT Z/L SKU KTU SKV KTV SKW KTW SKT SDV SCW SCW SDT Z/L SKU KTU SKV KTV SKW KTW SKT R 601 POINT RUNNING MEAN Z 1.552 C.803 0.384 -0.024 -0.053 -0.175 0.122 -0.054 0.067 0.467 0.284 - R 8 61 PCINT RUNNING MEAN SDV SDW SDW STO Z/L SKU KTU SKV KTV SKW KTW SKT SDV SDW SDW SDW STO Z/L SKU KTU SKV KTV SKW KTW SKT SDV SDW SDW SDW SDW SDW STO Z/L SKU KTU SKV KTV SKW KTW SKT	Sou	SDV	SCW	SCT		SKU -0-0-0-9	0.063	-0.042	0.117	0.061	0.755	-0.151	0.008
RE A RUNING HEAN SDV SDW SDT Z/L SKU KTU SKV KTV SKW KTW SKT 0.125 B 1.608 0.806 0.793 -0.039 -0.030 -0.042 0.201 -0.028 0.095 0.481 0.125 B 1.608 0.806 0.793 -0.039 -0.030 0.201 -0.028 0.095 0.481 0.125 R A 601 POINT RUNNING MEAN Z/L SKU KTU SKV KTV SKW KTW SKT 0.284 R A 61 PCINT RUNNING MEAN Z/L SKU KTU SKV KTV SKW KTW SKT ST 0.279 0.279	L)		-2	4-63 06	814-0930	(EST)							
SDV SDW SDT Z/L SKU KIU SKV -0.028 0.095 0.481 0.125 - 1.608 0.806 0.793 -0.039 -0.030 -0.042 0.201 -0.028 0.095 0.481 0.125 - 1.608 0.806 0.793 -0.039 -0.030 -0.021 SKV KTV SKW KTW SKT STT SDV SDW SDT Z/L SKU KTU SKV KTV SKW KTW SKT 0.284 - 1.552 0.803 0.384 -0.024 -0.053 -0.175 0.122 -0.054 0.067 0.467 0.284 - 1.552 0.803 0.384 -0.024 -0.053 0.175 0.122 -0.054 0.067 0.467 0.284 - 1.552 0.803 0.384 -0.024 -0.053 0.175 0.125 0.281 0.522 0.083 0.521 0.279	RE	4	MEA					2	7.5	7 7 7	X	SKT	KIT
A 601 POINT RUNNING REAN SOV SCH SDT Z/L SKU KTU SKV KTV SKH KTW SKT 1.552 C.803 0.384 -0.024 -0.053 -0.175 0.122 -0.054 0.067 0.467 0.284 - A 61 PCINT RUNNING MEAN Z/L SKU KTU SKV KTV SKW KTW SKT SOV SDV SDV -0.019 -0.217 0.052 0.281 0.522 0.083 0.521 0.279	Sou		SDW	SDT O	1/7	SKU -0.030	-0.042	0.201	-0.028	0.095	0.481	0.125	٢
SDV SCH SDT Z/L SKU KTU SKV KIV SNV KIV SNW L-0.284 - 1.552 C.803 O.384 -0.024 -0.053 -0.175 O.122 -0.034 O.067 O.467 O.284 - A 61 PCINT RUNNING MEAN Z/L SKU KTU SKV KTV SKW KTW SKT STV STV STV STV STV STV STV STV STV ST			NT RUNN	ING MEAN						3	3	TXS	KIT
1.552 C.803 U.584 -0.024 () C.			SCH	SDT		SKU	KTU -0-175	SKV 0.122	-0.034	0.067	0.467	0.284	-0.116
SDV SDW SDT Z/L SKU KTU SKV KTV SKW KTV STW 371			T RUNN	NG MEAN						2	3		***
			SDW	S0T		SKU -0-217	KTU 0.052	5KV 0.281	0.522	0.083	0.521	0.279	Ü

T KTT	ĭ		0		0.415 2.832	KT KIT	0.435 -0.700		0.297 0.198		-0.205 1.169	KTT KTT	0.234 -0.946		SKT KTT		SKT KTT -0.351 2.757			SKI NII		SKT KTT		SKT KII 0.152 2.324		11.3	0.460 0.628	TIN		0.080 2.599
	0.469 0.394		0.189 -0.118		0.304 0.4		0.261 0.		0.374 0.		0.317 -0.		0.271 0.		KTW		KTW S			KTH		KTH		KTW 0.053 0			KTW 0.273		*	
	SKW C. 560		0.453		0.162		SKW 0.279		SKW 0.273		0.166		SKW	0.036	SKW	0.226	SKW C.019			SKW	-0.076	SKW	-6.035	SKW -0.098			3KW		SKW	
	KTV -0-387		-0.360		0.348		KTV	10110	KTV -C. 027		0.088		XIX	¢01.0	KTV	-0.100	KTV 0.807				0.053		0.428	KTV			KTV 0 269		KTV	
	SKV		SKV -0.020		0.185		SKV	0.139	SKV		SKV 0.119		SKV	0.302	SKV	-0.092	SKV 0.135			N X S	0.013	SKV	0.089	SKV			SKV		SKV	
	KTU	0.063	KTU 0.281		KTU 1.295		KTU	-0.204	KTU	107.0	KTU 0.637		KTU	-0.027	N Til	0.162	KTU 1	70.1		7	-0-176	KTU	ĭ		-0.027		KTU		×	
ESTI	SKU	-0.590	SKU	•	SKU -0.557	ESTI	SKU	-0.379	SKU	-0.428	SKU -0.482	(EST)	CKU	-0-417		986-0-	SKU	14.0-	(EST)		0.061		O		0.017	8(EST)		-0.520	133	
0314-0930(EST)	1/2	-0.132	1/1	760.0-	Z/L -0.057	0944-1100(EST)	7/7	-0.073		-0.053	2/1 -0.012	0944-1100(EST)		0.116			7/7	0.892	1122-1238(EST)		1/7		0000-0-		-0.005	1122-1238	1//	-0.003		1//
m	SOT	531	SOT	63	33	4-63 09	1	0.549	NG MEAN	0.283	ING MEAN SOT 0.141	4-63 0		SCI	ING MEAN	SOT	NG MEAN SOT	0.148	4-63		SET	ING HEAN	SDT 0.226	3	0	-4-63)		RUNNING MEAN	LUU
9-4-6	MEAN	6.949	-	3.925	SOW SOW	4-7	MUN	200	NI RUNNING P	- m	SDW SDW			NUS	O 917 O	MOS	SUL AUNU ING	C. 805	7-	MEAN	HOS	JINI RUNNING	MOS	INT RUNNING	C-847	7	MEAN	0.00	THIC	
46H	NA S	1 - 7 - 4	507	1.668	61 PCINT 50V	44	UNNIN	SCV	TNION TOP	1.514		9131	CN	SCV	1.704 0.		1.467 C	0.983		A DUNKING	•	1.684 0		1.522 A 61 PCINT	1.207		A RUNN	200	A 601 P	
	3	Spu	AFTER A	1.575	SDU SDU	5 5	W	Sou	1.288	Sou Sou	SOU SOU		RUNTEURE	Sou	NI n	SDU	en ec	5000		RCN NO	SDU	1.797	Sou	1.741 AFTER	Sp U		RUN NO	nas	BETER	1

	KIT -0.840	KTT 1.426	KTT 1.896		KTT -0.440	KTT 0.124	KTT 1.941		-0.	KTT -0.417	K.TT 0.486		KTT 0.041	KTT -0.330	KTT -0.043		KTT 0.540	KTT 1.791	KTT 2.35.7
	SKT 0.366 -(SKT 1.026	SKT -0.203		SKT 0.607 -(SKT 0.618			SKT -0.081	SKT 0.104 -	SKT 0.212		SKT -0.386	SKT -0.082 -	SKT 0.060		SKT -0.744	SKT -1.069	SKT -0.922
	KTW-0-0-087	KTW-0.118	KTW 0.039		KT# 0.000	KTW 0.037	KTW 0.212		KTW 0.182	KTW 0.056	KTW 0.157		-0.011	KTW-0.0-0	NT X 0.098		KTW 0.567	KTH 0.410	KTH 0.955
	SKW 0.239	SKW 0.290	SKH 0.157		SKW 0.171	SKW 0.049	S 50 0		SKW -0.263	SKW -C.228	SKW -0.173		SKW 0.326	SKW 0.300	SKW 0.226		SKW C.333	SKW 0.299	SKW 0.211
	KTV 0.162	KTV -0.064	KTV 0.272		KTV 0.348	KIV -0.062	KTV 0.155		KTV 0.085	KTV -0.054	KTV 0.418		KTV -0.194	KTV -C.426	KTV -0.019		C. 595	KTV 0.406	KTV 0.550
	SKV -0.189	SKV 0.115	SKV -0.015	ı	SKV -0.341	SKV 0.089	SKV -0.048		SKV -0.250	SKV -0.024	SKV 0.179		SKV -0.350	SKV -0.139	SKV -0.017		SKV 0.436	SKV 0.321	SKV 0.144
	KTU -0.440	-0.328	KTU 0.716		KTU 0-182	KTU 0.749	KTU 0.729		KTU -0.290	KTU-0.208	KTU-0.004		KTU -0.383	KTU -0.203	KTU 0.313		KTU -0.384	KTU 0.074	KTU 1.294
(EST)	SKU -0.245	SKU -0.274	SKU -0.362	(EST)	SKU -0-460	SKU -0.560	SKU -0.247	(EST)	SKU C.235	SKU 0.190	SKU -0.042	(EST)	SKU -0.214	SKU -0-127	SKU -0.352	(EST)	SKU 0.168	SKU -0.111	SKU -C.433
1307-1423(EST)	2/L -C.057	2/1	2/L -0.042	1307-1423(EST)	2/L -0-188		2/L -0.062	1504-16201	2/L -0.010		2/1	1504-1620(EST)	2/L -0.040	2/17	2/L -0.049	1637-1753(EST)	1/7	2/7	2/L -0.008
-4-63 1	SCT .527	ING MEAN SDT 0.241	SCW SCT C.893 0.132	4-63 1	SCT	ING FEAN	ING MEAN SDT 0.163	4-63	SET 0.289	ING MEAN SDT 0.255	NG MEAN SDI 0.127	7-4-63 1	SDT 0.211	ING MEAN SET 0.192	1NG MEAN SDT 0.132	4-63	SDT 0.106	SET SET 0.088	RUNNING MEAN SCW SDT -713 0.065
7	NG MEAN SCH 0.986	601 PUINT RUNNING SEV SOW 1.580 C.980 0	SCW C.893	1H 7-	SOW SOW	POINT RUNNING	RUNN SCH SCH G. 973	7-	AG MEAN SDW 0.836	- 0	SDW SDW 0.906 C		SCH 0.981	501 POINT RUNNING 50V SDW 1.929 0.974 G	SCW C.897		SOW G.787	- C	0
1C2A 4	•	A 601 PU SEV 1.590	A 51 PCINT SDV 1.238	102A 9	A RUNNING SCV	601 PO 50V	A 61 PCINT SDV 1.07C	1C3A 1	A RLNN ENG SDV 1-793	A 601 PO SCV 1.754	A 61 PCINT SEV 1.202	0	a .	A 601 PD 50V 1.929	A 61 PCI SDV 1.327	1038	<4	A 601 PU SDV 1.305	A 61 PCIAT Snv 1.040
ON WILS	FURE SDU 179	TER DU	e .		EF ORE SOU		1-867 AFTER 50U	DN NOW	7 4	SOU SOU	AFTER SDU 1-413	4	SOU 1.900	AFTER SDU 1-826	AFTER SOU 1-25c	RUN NO	PEFORE SOU 1-659	SDU SDU	SCU C.93C

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	KTT 0.959	KTT 3.000	KTT 5.467	KTT -0.650	KTT -0.105	KTT 0.674	KTT 0.313	KTT 0.802	KTT 5.097	KTT 0.180	KTT -0.312	KTT 0.675	KIT 1.190	KTT 0.953	
	SKT -0.896	SKT -0.944	SKT -1.379	SKT 0.617	SKT -0.166 -	SKT -0.085	SKT -0.481	SKT -0.190	SKT -0.129	SKT 0.538	SKT 0.124 -	SKT 0.450	SKT 0.716	SKT 0.698	
	KTH 0.0	-0.016	715.0	KTW 2.263	KTW 2.503	KTW 2.594	KTh 2.538	KTH 2.001	KTW 6.063	WTH 0.119	KTW -0.022	KTE 0.055	KT# 0.304	KTW 0.475	
	SKW 0.059	SK# 0.086	SXE 0.010	SKW C.350	SKH 0.490	SKW 0.458	SKW -0.641	SKW -0.758	SKW -0.988	SKW 0.475	SKW 0.430	SKW C-144	SKW 0.618	SKW C.659	
	KTV 0.369	KTV 0.355	KTV 0.733	KTV -0.299	K1V 0.849	KTV 1.194	KTV -0.152	KTV 0.980	KTV 3.722	KTV -0.018	KTV -0.193	KTV 0.252	KTV 0.179	KTV 0.253	
	SKV 0.351	SKV 0-195	SKV 0.039	SKV 0.274	SKV 0.215	SKV 0.078	SKV -0.695	SKV -0.607	SKV 0.668	SKV -0.055	SKV -0.225	SKV -0.180	SKV 0.315	SKV 0.052	
	KTU -0.665	KTU -0-441	KTU 0.370	KTU 0.137	KTU 0.358	KTU 0.742	KTU -0.754	KTU 0.383	KTU 4.967	KTU -0.385	KTU-0-194	KTU 0.202	KTU 0.274	KTU 0.714	
EST)	200		SKU -0.182	EST) SKU	SKU -0.263	SKU -0.048	SKU -0.186	SKU 0.456	SKU 0.638	(EST) SKU -0.275	SKU -0.329	SKU -0.362	(EST) SKU -0.536	SKU -0.674	
1637-1753(EST)	2/L	2/1	2/1	2030-2126(EST)	2/1	2/L 0.968	2030-2126(EST) 2/L SK 15.110 -0.1	2/L 7.181	2/L 3.423	332-1022 2/L -0.046		2/L -0.03C	0932-1022(EST) 2/L SK 6.2146.5	2/L -0.102	
-63	SET	N F	G HEAN SET 0.067	SOT	RUNNING FEAN SCH SCT 192 0-159	NG MEAN SCT 0.118	\$63 20 SET 0.107	ING MEAN SDT 0.070	RUNNING HEAN SOW SCT	5-63 0 SET 0-372	601 POINT RUNNING MEAN SOV SCW SCT	ING MEAN SDT 0.109	7-5-63 0932-10 MEAN SET 2/1 0.951 0.359 -0.2	ING MEAN SOT 0.266	
7-6	SCH	1.291 0.550 0.16 601 POINT RUNNING ME 50V 50W SDT	T RUNNING MEA SCW SCT C.747 0.06	G FEAN SCH		SON SON	G MEAN SCH	601 POINT RUNNING MEAN SOV SOW SOW SOT	, ,	ING MEAN SON C.830	INI RUNN SOW	-		INT RUNN SCH C. 843	
200	A RUNING	1.291 601 POI 50V	1.251 C 61 PCINT 50V 1.054 C	1C4 46F A RUNING SOV	0 494 0 601 POINT SCV		1C4 91F	A 601 POI SDV	A 61 PCINT SDV 0.153	1CS 46F A RUNNING SOV	A 601 PO SOV	tend .	A RUNN SDV	A 601 PUINT SDV	
2	1	1-624 AFTER A SOU	1-31C AFTER A SOU C-830	NO EFORE SDU	AFTER A	AFTER A SOU C.354	REW NO 1			RUN NO PEFORE SOU		AFTER SOU (-923	PUN NO PEFORE SOU	SDU	

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Practical problems dealing with atmospheric turbulence can be simplified by relating fluctuation values to a Gaussian distribution. This is very useful, since it specifies characteristics of the eddy velocity distributions. Fragmentary studies have given some evidence to support the Gaussian hypothesis, but to our knowledge this is the first attempt to examine the distributions of the fluctuation components for a large data sample (135 one-hour runs).

The purpose of the study is to determine the deviations of the observed distribution from a normal distribution and to attempt to determine if these departures can be related to atmospheric stability surface roughness, and height above the surface. In addition, each sample was tested to determine the probability of its coming from a normal distribution. Results are in general agreement with previous investigations. Low frequency trends over hour periods tend to increase the departures from a normal distribution. Treating the probability distributions of the wind components as being normally distributed appears justified over moderate ranges of stability (z/L between -.300 and +.300).

Security Classification

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Internal Boundary Layer						
Eddy Velocities						
Turbulent Components						
Skewness		ļ				
Kurtosis						
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