UM-HSRI-PF-75-3

THE LONGITUDINAL TRACTION CHARACTERISTICS OF TRUCK TIRES AS MEASURED ON DRY PAVEMENTS

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FEBRUARY 1975

A Report Deriving from Support by the Truck Manufacturing Members of the Motor Vehicle Manufacturers Association.

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16. Abstracts

A mobile traction dynamometer has been constructed and applied in over-the-road measurements of the braking traction of truck tires. An experimental program is described in which a sample of heavy truck tires has been tested to provide baseline characterizations of the first-order sensitivity of "μ-slip" behavior to load, velocity, and pavement type. The overall findings are presented in the form of cross plots of "peak" and "slide" traction numerics while complete μ-slip curves are presented in an appendix. The test machine, its operation, and the processing of its generated data are discussed in substantial detail.

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TABLE OF CONTENTS

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The operation of the HSRI Mobile Dynamometer has been the responsibility of Mr. Michael Deering.

1.0 INTRODUCTION

This report presents a set of experimental measurements describing the longitudinal traction characteristics of a sample of heavy truck tires. The measurements derive from the use of the HSRI Mobile Truck Tire Dynamometer in testing commercially available tires on dry paved surfaces at representative loads and velocities. This test device, show in Figures 1, 2, and 3, mounts a single tire sample in the center of an instrumented semi-trailer, and applies braking torques to the test wheel while measuring a comprehensive set of traction-related variables. (The test apparatus is described in detail in Appendix B.)

This document constitutes the first reporting of data from the HSRI Mobile Truck Tire Dynamometer since the machine was upgraded with an improved multicomponent force transducer. In a preceding report and paper [1, 2]*, a set of baseline measurements were presented with rather severe qualifications placed upon the interpretation of absolute force levels. Despite these shortcomings, the earlier measurements provided considerable insight into the traction behavior of truck tires, and also served as a guide to the design of the experiments described herein. The data presented here constitutes a set of high-fidelity absolute force measurements and thus is seen as addressing an urgent need which exists within the motor truck engineering community.

In the investigation reported herein, special emphasis was given to ascertaining the influence of pavement type on the braking traction of truck tires. In addition, the experiments assessed the sensitivity of traction to velocity and load in combination with the pavement sensitivity assessment. The test program included the above-cited

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*Numbers in brackets designate references at the end of this report.

Figure 1. The HSRI Mobile Truck Tire Dynamometer consisting of service tractor and longitudinal traction measurement trailer.

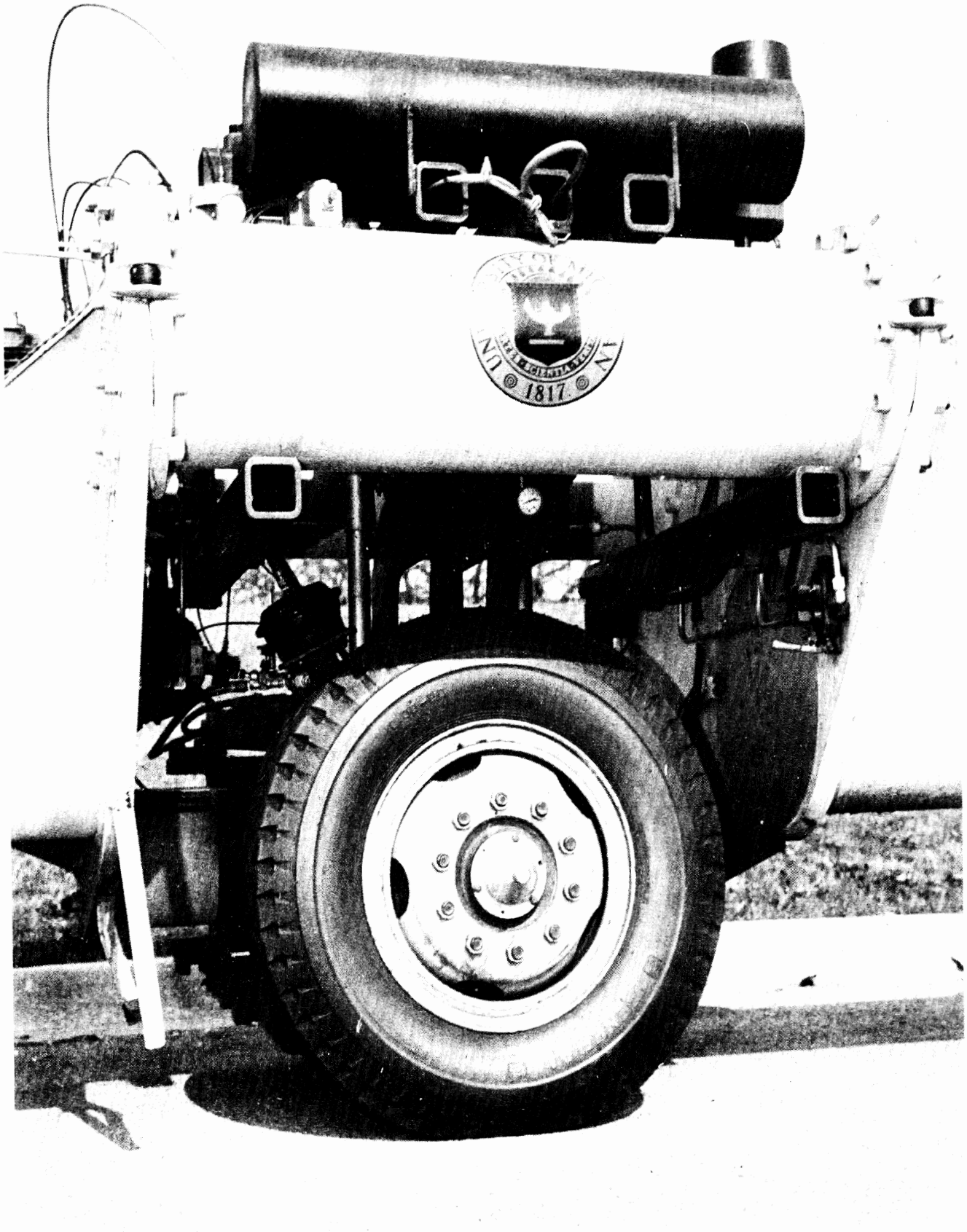


Figure 2. Test wheel mounted on the Longitudinal Force Trailer.

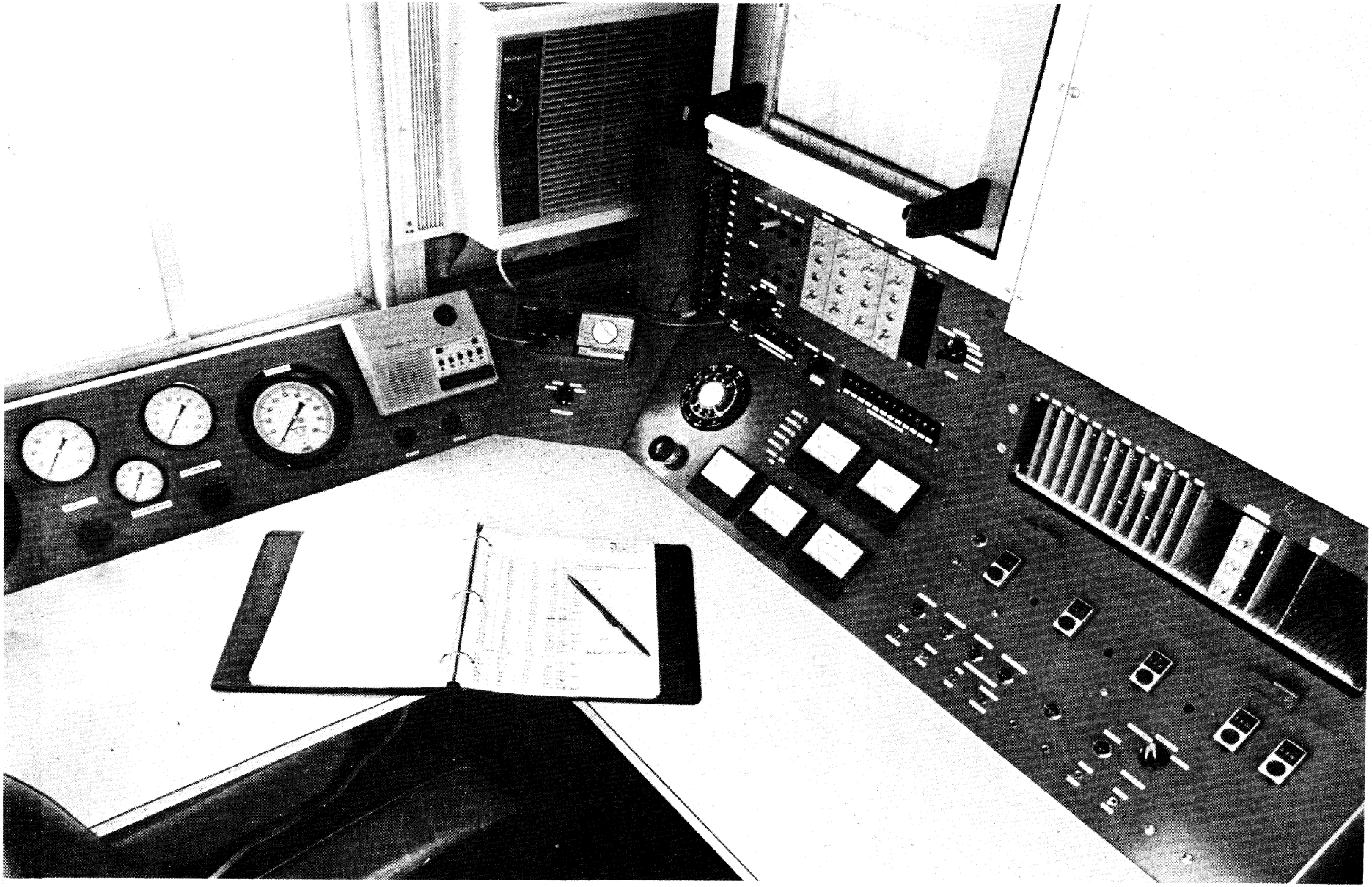


Figure 3. Data acquisition module on tractor.

sensitivity investigations in an array of one- and two-dimensional matrices, as described in the following section.

The overall findings of the study are presented in the form of cross plots of "peak" and "slide" values of normalized longitudinal force, as these traction descriptors were found to vary with velocity, vertical load, pavement, and tire selection. Graphical and tabular displays of "μ-slip" histories (covering each test condition which was examined on each tire sample) are appended to this report.

2.0 THE EXPERIMENTAL DESIGN

2.1 TEST MATRIX

Traction measurements were conducted at three test facilities in the midwestern United States, providing two asphalt and two concrete surfaces. These test facilities are identified in Table 1, together with their respective surface types and nominal ASTM skid number descriptor. Skid number measurements were made on the Bendix facility immediately following the conclusion of testing, while SN measurements at the Transportation Research Center of Ohio and Dana Corporation facilities had been most recently obtained two months and one year, respectively, prior to HSRI's test program.

Table 1. Test Facilities Employed in this Program.

Facility	Location	Site	Pavement	SN-40
Dana Corporation	So. Mich.	1-3/4 Mi. Oval	Portland Cement Concrete	75
Bendix Automotive Development Center (BADC)	No. Ind.	3 Mi. Oval	Slag-aggregate Asphalt	82
Transportation Research Center of Ohio (TRC)	Cent. Ohio	Vehicle Dynamics Area	Limestone-aggregate Asphalt	79
		7-1/2 Mi. Hi-Speed Track	Portland Cement Concrete	75

On each of the four indicated surfaces, a test matrix was conducted using two tires which had been selected as the baseline configurations. In addition, four other tire samples were tested at the BADC facility. The six tire samples are identified in Table 2, with a labeling code which is used throughout the body of the report for identifying tires within cross plots of traction data. Photos of the tread face of each sample are shown in Figures 4 through 9.

Table 2. Sample of Heavy Truck Tires.

Manufacturer	Model	Size	Rated Load Lbs.	Tire Code
Firestone (Baseline)	Transport 1	10.00x20/F	5430	(FT10)
Goodyear (Baseline)	Super Hi Miler	10.00x20/F	5430	(GyS10)
General	Power Jet	10.00x20/F	5430	(G&J10)
Goodyear	Super Hi Miler	11x22.5/F	5430	(GyS11)
Firestone	Transport 110	12.00x20/H	7740	(FT12)
Uniroyal	Unimaster	15x22.5/H	8460	(UU15)

Each tire was subjected to a common test matrix employing vertical load levels which were normalized to the Tire & Rim Association (T&RA) load rating of the tire. A sequence of test runs was devised which covered the one-dimensional variations in load and velocity shown below:

	Velocities (mph)					
Vertical Loads	3	10	20	30	40	55
0.4 x rated load					X	
1.0 x rated load	X	X	X	X	X	X
1.6 x rated load					X	

Condition "C"

Figure 4. Firestone Transport 1 10.00x20 Load Range F (Rated Load 5430 lbs)

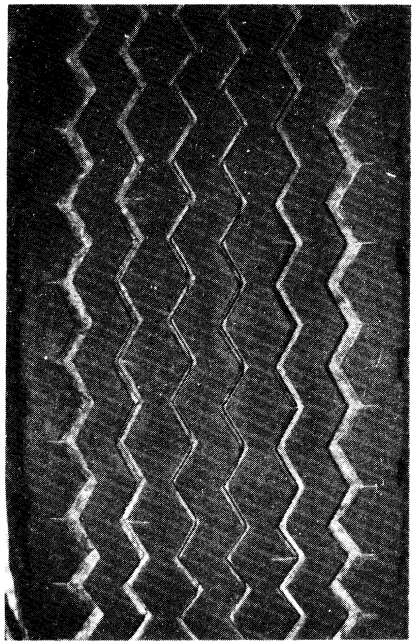


Figure 5. Goodyear Super Hi Miler 10.00x20 Load Range F (Rated Load 5430 lbs)

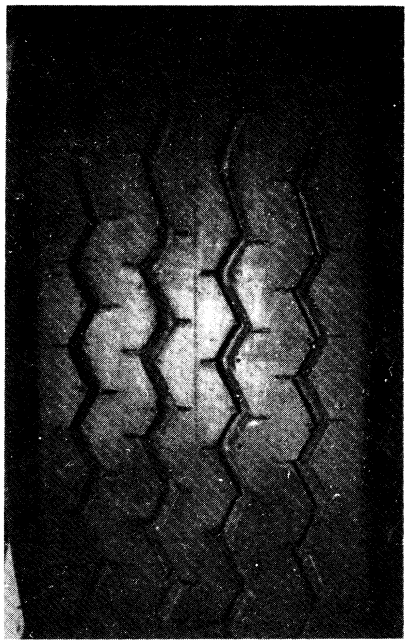


Figure 6. General Power Jet 10.00x20 Load Range F (Rated Load 5430 lbs)

Figure 7. Goodyear Super Hi Miler 11x22.5 Load Range F (Rated Load 5430 lbs)

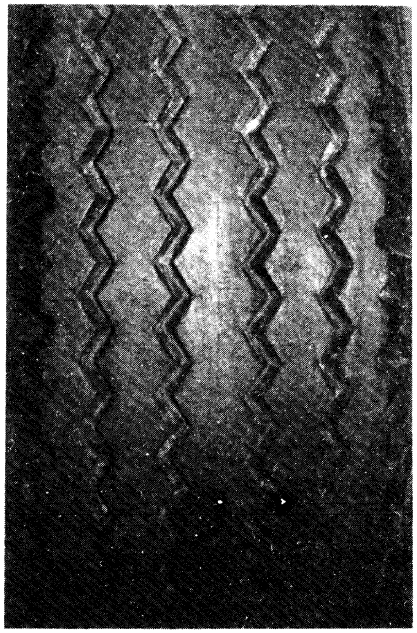


Figure 8. Firestone Transport 1 12.00x20 Load Range H (Rated Load 7740 lbs)

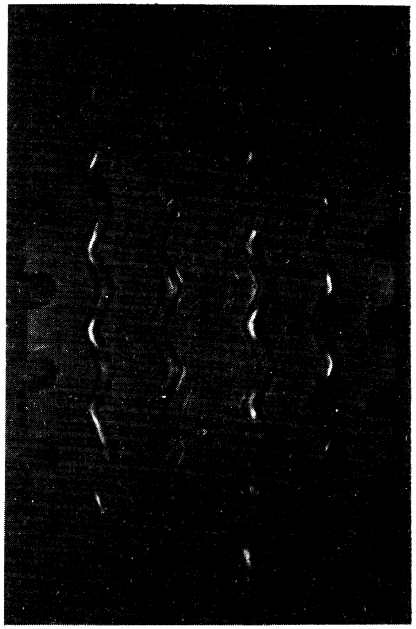


Figure 9. Uniroyal Unimaster Rib 15x22.5 Load Range H (Rated Load 8460 lbs)

To augment this test matrix, additional "check runs" were made at condition "C" to permit assessment of: (a) the stability of the traction performance of the sample, and (b) the basic statistical quality of the measurements. A total of five repeats of the check run condition were conducted, including the very first and last samples in the standard sequence of measurements on each tire, as shown in Table 3.

Table 3. Standard Sequence of Test Runs.

	Run No.	Normalized Load ($F_Z/F_{Z\ rated}$)	Velocity (mph)
Check Run #1	1	1.0	40
Vel. Sweep	2	1.0	3
Vel. Sweep	3	1.0	10
Vel. Sweep	4	1.0	20
Vel. Sweep	5	1.0	30
Vel. Sweep (& Ck. Run #2)	6	1.0	40
Vel. Sweep	7	1.0	55
Check Run #3	8	1.0	40
Load Sweep	9	0.4	40
Load Sweep (& Ck. Run #4)	10	1.0	40
Load Sweep	11	1.6	40
Check Run #5	12	1.0	40

At each condition describing a test run, a set of six "lockup cycles" (defined in the next section) was executed, incurring a transient in the longitudinal slip variable from 0 to 100% and back to zero.

2.2 DATA MEASUREMENT AND PROCESSING PROCEDURES

2.2.1 TIRE PREPARATION. Truck tires were prepared for testing through the maintenance of certain practices intended to assure consistency of test conditions as well as representativeness of measured traction performance. All tires were mounted on their respective Tire & Rim Association-recommended rims (disc wheels).

The inflation pressure of each tire was maintained at a representative "hot" inflation level which had been identified in prior testing as the equilibrium value which accompanies operation at 60 mph and rated load, following "cold" inflation to the T&RA-recommended value. The maintained "hot" inflation pressure values are shown for each sample in Table 4.

Table 4.

Tire Sample	Size	Code	T&RA-Recommended "Cold" Inflation	Maintained "Hot" Inflation
Firestone Transport 1	10.00x20/F	FT10	85 psi	100 psi
Goodyear Super Hi Miler	10.00x20/F	GyS10	85	100
General Power Jet	10.00x20/F	G&J10	85	100
Goodyear Super Hi Miler	11x22.5/F	GyS11	90	100
Firestone Transport 1	12.00x20/H	FT12	105	120
Uniroyal Unimaster Rib	15x22.5/H	UU15	100	115

Each tire was "broken-in," on the test machine, for a distance of approximately 10 miles, and at a velocity of 40 mph, followed by the execution of six preliminary "lockup cycles" for purposes of removing any surface contaminants remaining from the tire molding process.

It has been rationalized that customary preparations employed in passenger car tire testing, such as utilization of a 100-mile free-rolling break-in practice, are most likely inappropriate for preparation of heavy truck tire samples, given that the slip energy experienced in a single lockup far exceeds the accumulated work history encountered during the free-rolling practice. Accordingly, the initial application of six lockup cycles was seen as a more satisfactory method for assuring that the sample experiences the necessary transition in tread surface conditions prior to data-taking. It would appear from data which are presented later that the tires examined in this sample did indeed exhibit a quite stable traction performance over the sequence of test runs, following the indicated break-in procedure. The need for such a break-in practice, however, has not been explored.

2.2.2 TRACTION MEASUREMENT PROCEDURE. The basic lockup cycle, which was applied six times in succession at each condition of velocity and vertical load, involved a controlled-onset brake torque application followed by an automatic brake release, as diagrammed in Figure 10. By means of an appropriate throttling valve setting, the flow of air into the chambers of a dual-wedge drum brake was controlled to provide a gradual approach toward the peak force condition, thus increasing the quantity of data gathered in the vicinity of the peak longitudinal force. The locked-wheel condition is constrained to approximately 150 milliseconds duration to minimize the load variations that derive from "flat-spotting," as reported previously [1, 2]. Throughout the brake application sequence an attempt is made to maintain the

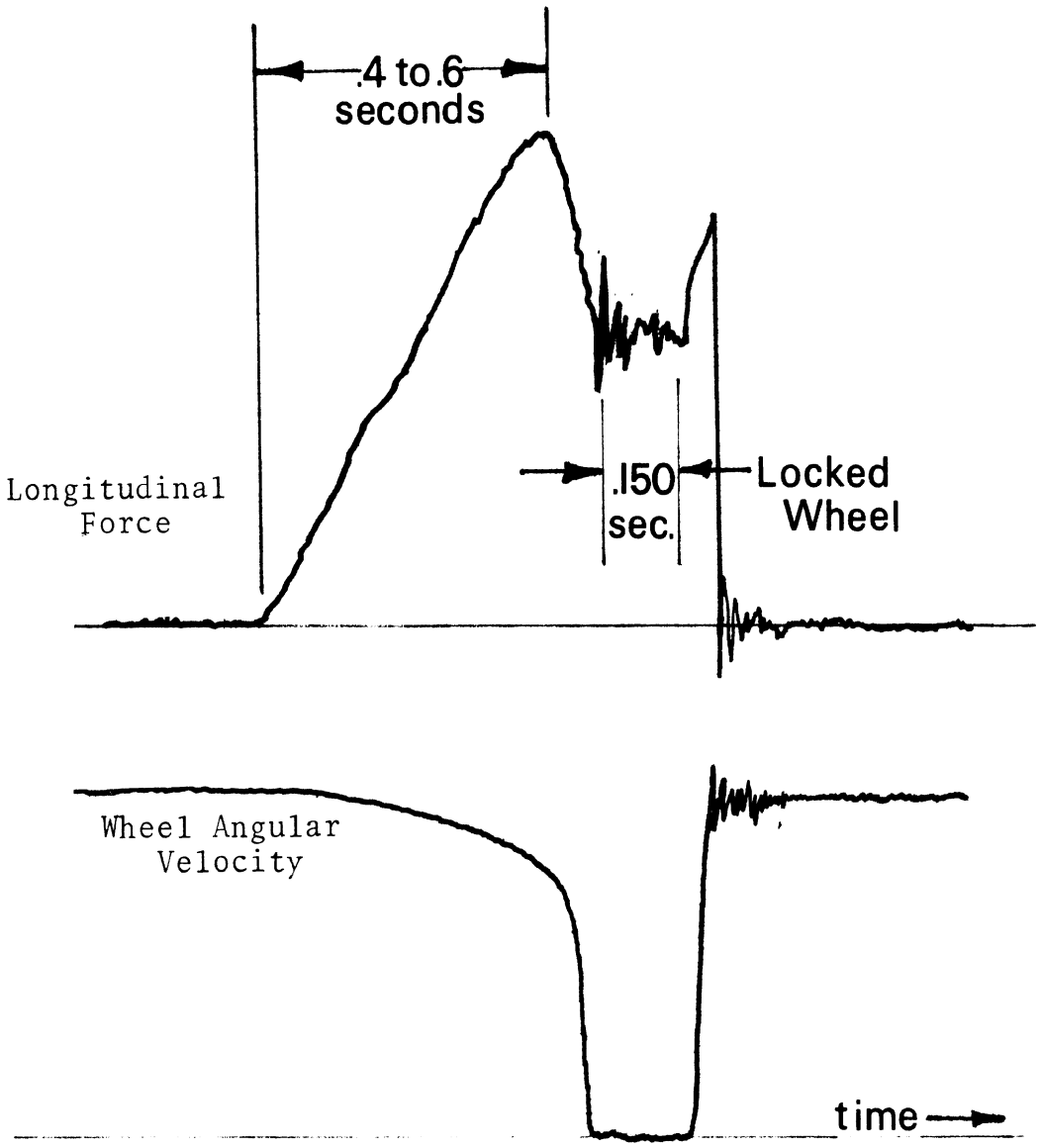


Figure 10. Approximate time scale of the basic "lockup cycle."

velocity of the mobile test vehicle at the desired value. Typically, a velocity loss of less than 1 mph is encountered during the 0 to 100% slip interval. During braking of the test wheel the nominal value of vertical load is generally seen to decrease about 5% due to changes in rolling height of the test tire, as well as to a small pitch response of the trailer.

A typical recording of raw data from a single lockup cycle is presented in Figure 11, showing the time histories of vertical load (F_z), longitudinal force, (F_x), brake torque (T), vehicle velocity (V), and wheel speed (ω). The sequence of six lockup cycles at each test condition was always conducted during travel in a "straightaway" leg of the respective test facilities with a sequencing rate of approximately one lockup every four seconds.

2.2.3 DATA ACQUISITION. The primary transducer in the test system is a strain-gaged load cell which permits measurement of the variables F_x, F_z, and T within the ranges and accuracy tolerances shown in the following table. The listed

Variable	Range	Accuracy
Longitudinal force, F_x	0 to 20,000 lbs.	±2%
Vertical load, F_z	0 to 20,000 lbs.	±1%
Brake Torque, M_x	0 to 250,000 in-lbs	±1%

accuracy tolerances (interpreted as "percent of reading") derive from small nonlinearities in the primary variable sensitivities as well as nonlinearities in the cross axis sensitivities. Complete physical calibrations of the transducer, utilizing a fluid bearing and combined load

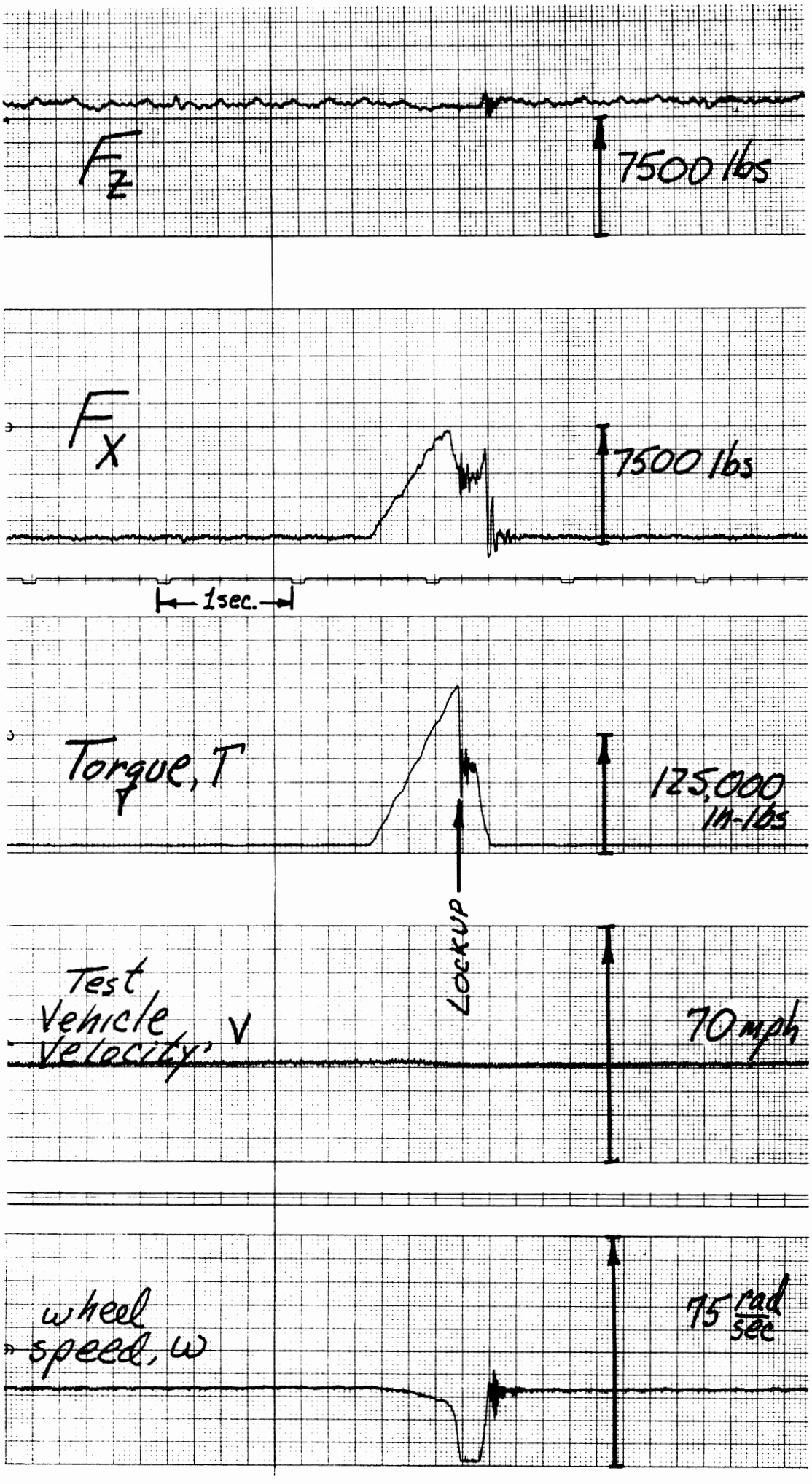


Figure 11. Time histories describing a "lockup cycle."

applications, were performed prior to testing and were repeated following the tests of the six-tire sample at Bendix and following the entire program. In all physical calibrations, the measured "gains" for each transduced variable agreed with the initial calibrations within 0.3%. Electrical calibrations of the data acquisition system were conducted before, in the middle of, and following each standard run sequence on each tire.

The angular velocity of the test wheel was measured using a D.C. tachometer, while an automotive-type fifth wheel (with D.C. tachometer output) was employed for gathering vehicle velocity data. The recording of unfiltered force, torque, and velocity signals was accomplished using an FM analog tape recorder, with backup pen-chart oscillographic recordings for visual checking.

2.2.4 DATA PROCESSING. The FM magnetic tape recordings were processed by a two-stage computerized data reduction method. The first stage, utilizing a hybrid computing facility, involved amplification and zeroing of FM playback signals, as well as the transfer of data from analog to digital tape format. In the following stage, the digitized data was manipulated to produce normalized longitudinal force tables as functions of longitudinal slip.

The digital manipulations included:

1. A numerical smoothing routine, providing adequate filtering of noise components while avoiding unwanted phase shifts.
2. Data scaling using recorded calibration signals, permitting precise compensation for the individual gain differences which prevailed among the various channels of the recording/playback/digitizing system.

3. Sampling of the wheel velocity signal to determine the freely-rolling and locked-wheel conditions, followed by the computation of longitudinal slip for each digital sample during the "spin-down" transient.

4. Sampling and subsequent averaging of force and slip histories for each of the six repeat lock-up cycles within a given file, or test condition.

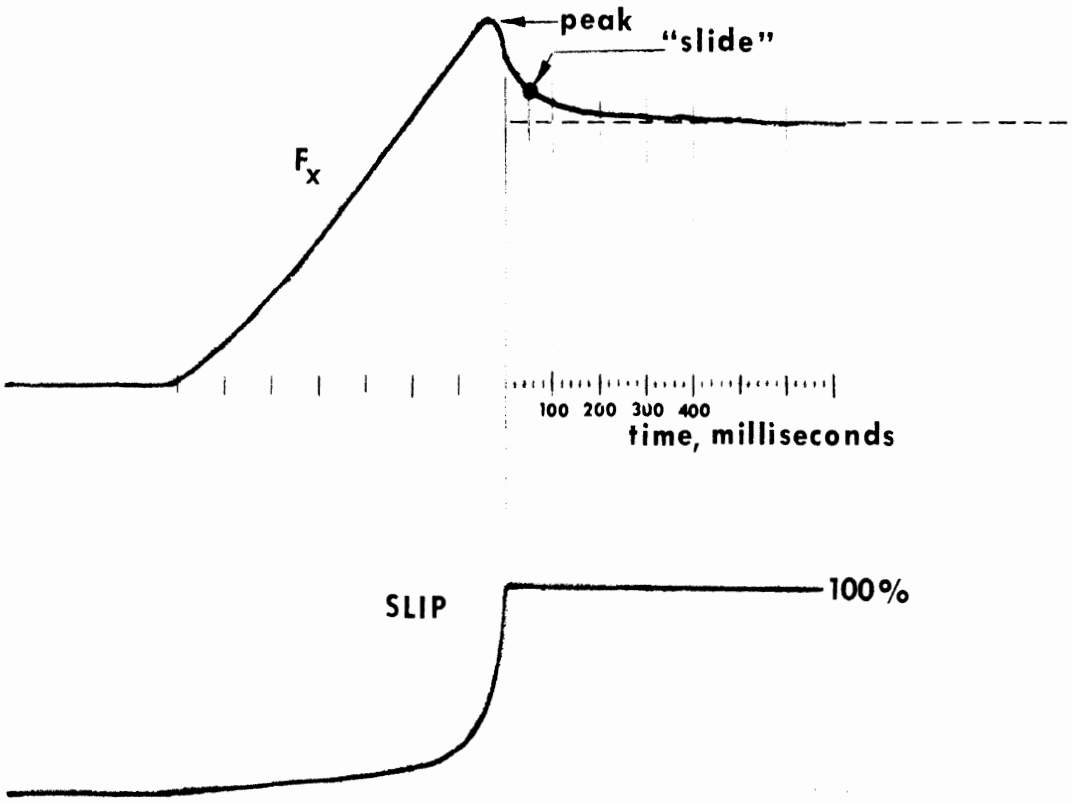
5. Tabulation of the averaged longitudinal force histories at values of longitudinal slip which were spaced as follows:

   every 2% for 0 < slip < 20%
   every 5% for 20 < slip < 100%

6. Final output printing, in both tabular and print-plot format.

In processing the data gathered at low test velocities during this program, it was observed that the longitudinal traction force which accrues at the locked-wheel condition can involve a transient process, probably thermal in nature, which spans a significant range of F_x values. As shown in Figure 12a, the F_x time history for a lockup cycle at 3 mph indicates a time-dependency in the F_x response, following achievement of 100% slip. (The locked-wheel value is sustained here through manual override of the automatic brake release circuit.) The non-single-value relationship between F_x and slip causes the "slide" value of F_x (such as was calculated by the process employed in this study) to assume a value which is somewhat <u>below</u> the initial value of F_x at 100% slip and <u>above</u> the "steady-state" value. The implications of this F_x time-decay phenomenon are illustrated in Figure 12b in which are plotted the "μ-slip" (that is, normalized longitudinal force, F_x/F_z versus longitudinal slip, s),

Figure 12a. Time dependence of locked-wheel value of F_x - at a test speed of 3 mph.



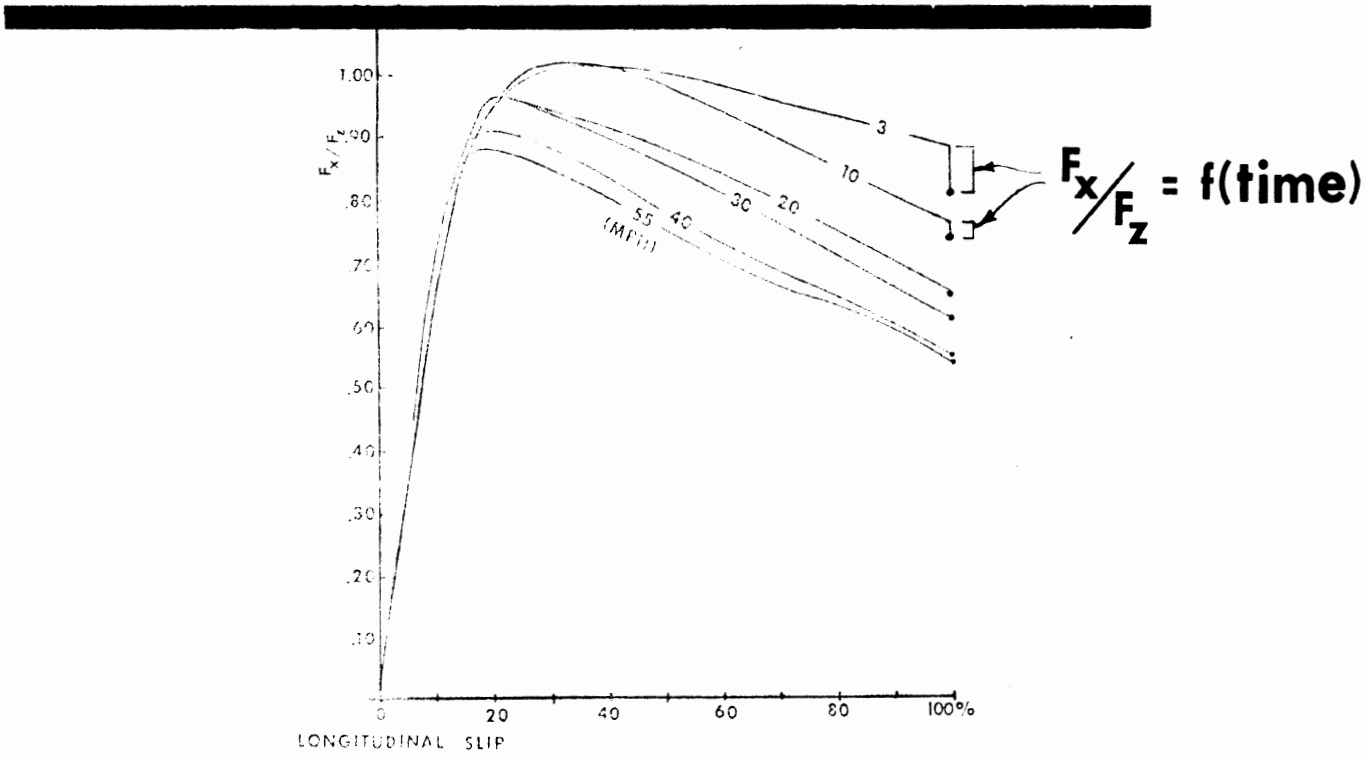


Figure 12b. Implication of locked-wheel time dependency on an array of "μ-slip" curves.

curves obtained for a single 10.00x20/F tire over the examined range of velocities. The time-dependent "tails" are manifested visibly on the 3-mph and 10-mph curves but are indistinguishable at higher velocities. In the processing of data presented in this report, the F_x/F_z value at 100% slip was determined by averaging the digital samples accumulated over the first 100 msec. following the detection of 100% slip. Thus the time-dependent behavior at low velocities has not been routinely characterized in the data which are to follow.

For each lockup cycle, longitudinal slip was calculated at each of 26 points along the slip transient from the free-rolling condition to the locked-wheel condition. The slip calculations were conducted using the digitized wheel angular velocity signal, ω (only), per the relationship:

$$s_i = \frac{\omega_o - \omega_i}{\omega_o} \times 100\%$$

where

s_i = longitudinal slip for the ith digital increment, following initiation of brake application

ω_o = ω prevailing just prior to brake application

ω_i = instantaneous value of ω at the ith increment following brake application

This scheme derives from the formal definition of longitudinal slip, viz.,

$$s = \frac{V - \omega R_e}{V}, \left(\text{or } \frac{V/R_e - \omega}{V/R_e}\right) \times 100\%$$

with the assumption that vehicle velocity remains constant, such that

$$V/R_e = \omega_o$$

where

V = vehicle velocity (or the translational velocity of the wheel center)

and R_e = effective rolling radius of the loaded, free-rolling tire

The computation of slip using the ω signal, only, permits an improved level of accuracy for the case of the HSRI mobile experiments, as a consequence of:

a) the elimination of inaccuracies deriving from the calculation of R_e,

b) the elimination of the V signal in the computation, and

c) the low level of error which derives from the nearly constant character of the vehicle velocity condition.

On the basis of known sources of error, the slip computation is believed to be accurate in the vicinity of the peak value of F_x/F_z (at which the slip errors peak) within the values shown on the upper curve in Figure 13.

At the 0% and 100% values of slip, the possible errors diminish to levels which are within the values shown on the lower curve in Figure 13. The values on the lower curve derive from the elemental precision of the analog-to-digital (A to D) conversion process, while the upper curve errors derive principally from A to D imprecision, nonlinearity of the wheel velocity tachometer, and non-constancy of the forward velocity during a brake application.

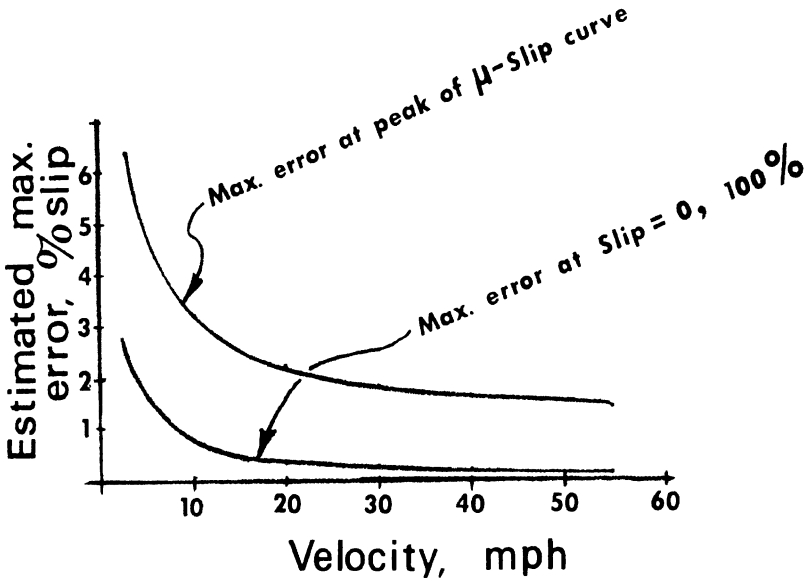


Figure 13. Estimate of maximum errors incurred in computation of longitudinal slip.

3.0 PRESENTATION AND DISCUSSION OF TRACTION DATA

Tire traction data gathered on the pavements and using the tire samples listed previously were processed from the FM analog recordings to yield the printed tabulations and graphs of "μ-slip" behavior presented in Appendix A. For each tire-surface combination two basic sets of μ-slip data are presented, showing the load and velocity sensitivities of each combination. In Figure 14, a typical summary of the μ-slip curve-shapes is shown, indicating load sensitivity on the left and velocity sensitivity on the right. As discussed in Section 2.2, all load-sensitivity runs were made at a nominal velocity value of 40 mph; all velocity-sensitivity runs were made at a vertical load value nominally equal to the T & RA load rating for each respective tire.

In terms of overall curve shapes, the data in Figure 14 confirm the large fall-off in F_X/F_Z from the peak to the 100% slip condition, as was reported in the previous work—a dry pavement traction characteristic whose proportions clearly distinguish heavy truck tires from passenger car tires. It is significant to note also that the μ-slip curves representing differing load conditions are virtual scale models of one another throughout the slip range, while gross changes in curve shape are seen to accompany the differing velocity conditions. In terms of the mechanisms of longitudinal force production, it appears that a linear sensitivity of tread rubber friction to the relative velocity in the contact patch accounts for the bulk of the observed velocity influence on traction performance in the high-slip regime.

As shown in Figure 15, the non-normalized F_X versus slip curves verify a first-order dependency of so-called longitudinal stiffness (C_S) on vertical load, where

$$C_S = \left.\frac{\partial F_X}{\partial s}\right|_{s=0}$$

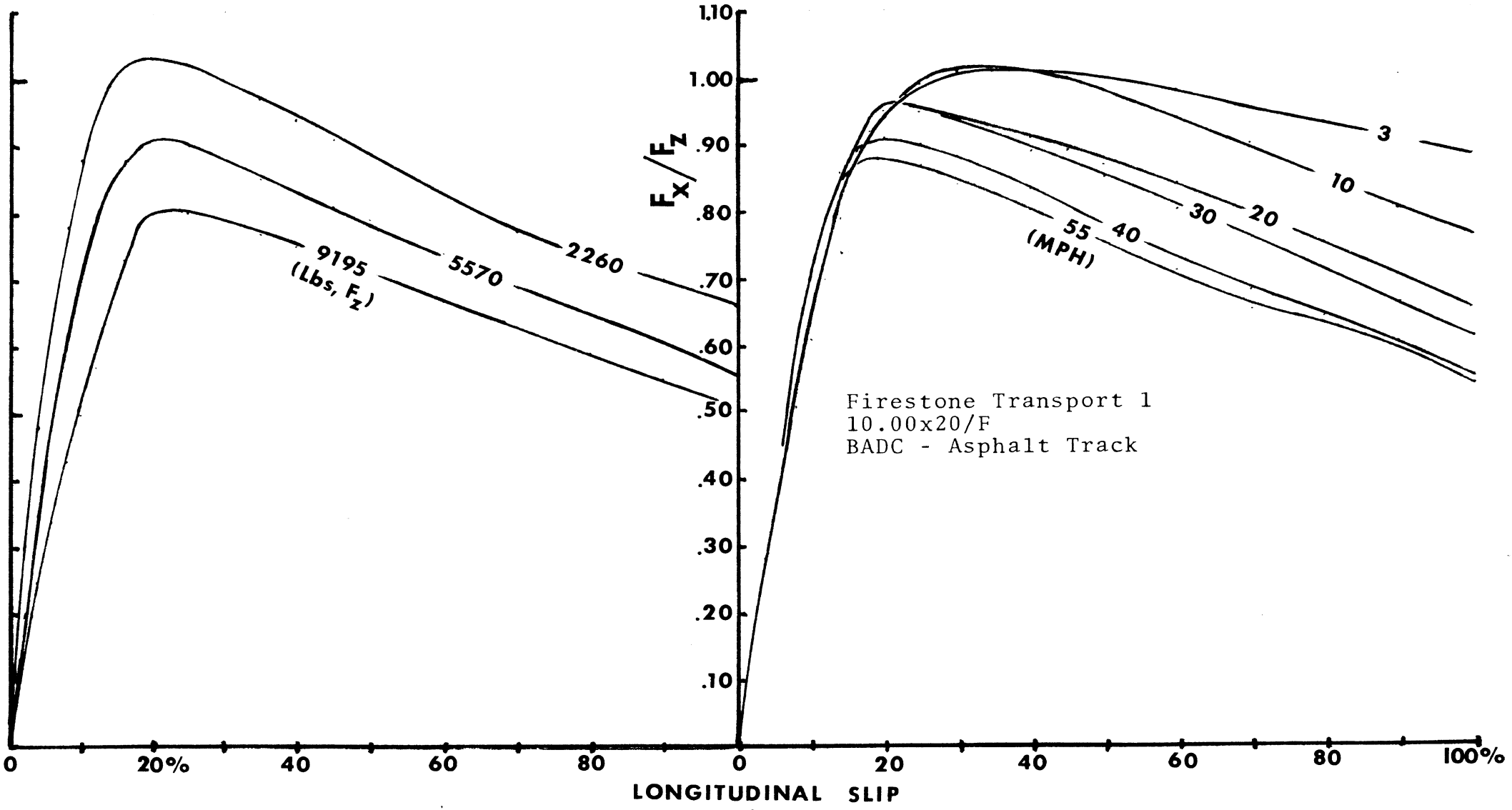


Figure 14. Typical load and velocity influences on the F_x/F_z versus slip behavior of a 10.00x20/F tire.

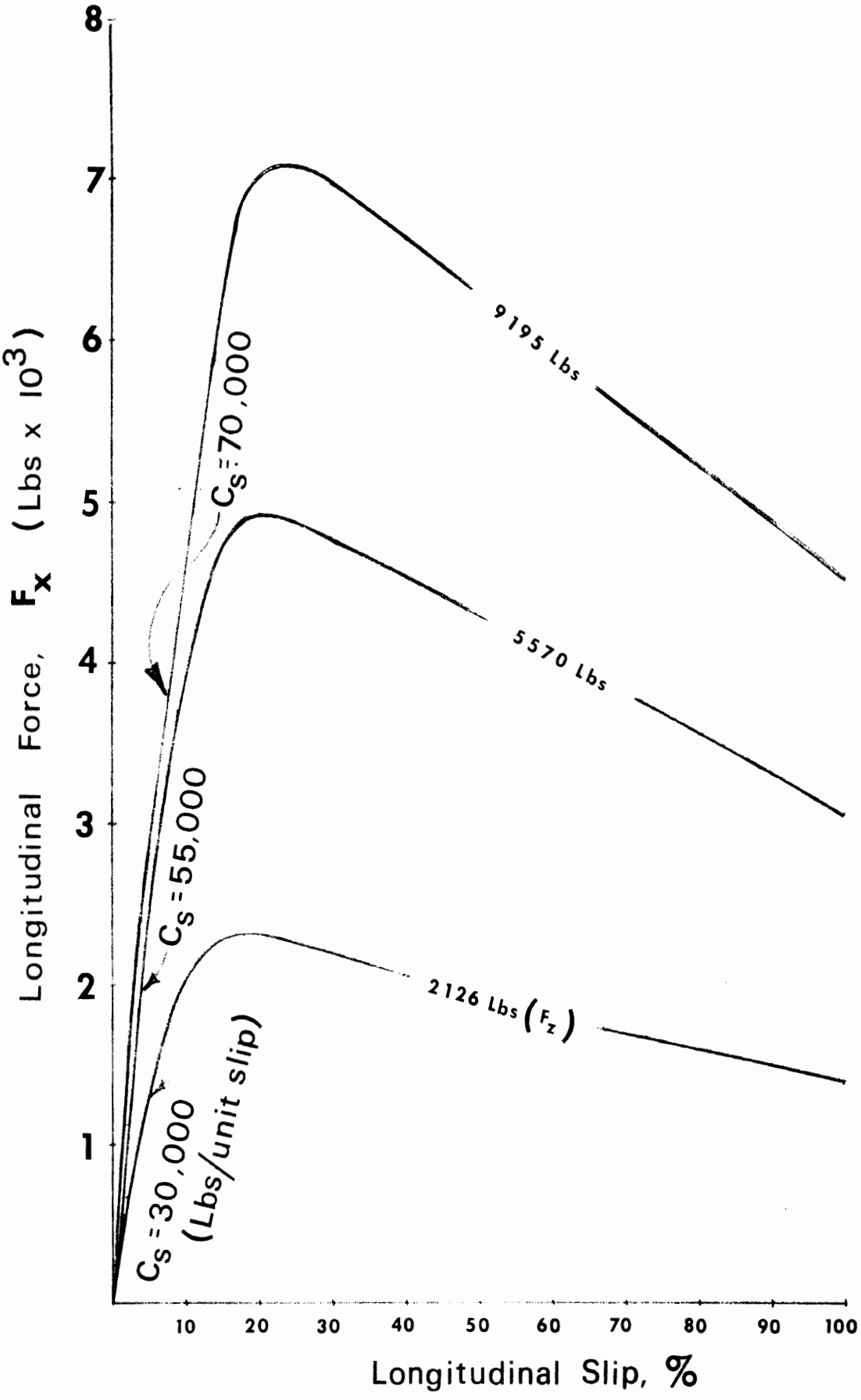


Figure 15. Influence of vertical load on the non-normalized (F_x) versus slip behavior of a Firestone 10.00x20/F on the BADC asphalt surface.

The C_s parameter is characteristically influenced by vertical load because of the increasing length of the tire-road contact patch with increased load. In the data presented, the load range is sufficiently broad that the C_s versus F_z relationship is seen to stiffen markedly at the higher load level. As expected, however, C_s has been found to be unaffected by variations in velocity as was illustrated in the normalized data curves of Figure 14.

The "μ-slip" data (such as shown in Figure 14) has been reduced further to yield numeric characterizations of F_x/F_z at the peak of the curve and at the 100% slip (or "slide") point. These peak and slide characterizations are utilized, in large measure, to illustrate the basic findings of the study.

Let us examine, first, the variation in performance measured for the six-tire sample at the BADC (asphalt) facility. Figure 16 summarizes the sample's traction sensitivity to normalized vertical load, i.e., $F_Z/F_{z(rated)}$. On recognizing that the tire sample included four "F"-rated tires (open symbols) and two "H"-rated tires (closed symbols) we note that the traction data produced by the tires having a common load-range rating are rather tightly grouped, especially with regard to peak values. It is surprising, however, that the size 15x22.5/H wide base single tire (code UU15) provides such a small increment in normalized traction when the load is reduced from the rated value (8460 lbs) to 0.4 of the rated value (3380 lbs). This performance suggests, for example, that the wide base single is less suitable for operation at lower loads than tires which are rated in the lower load range. As shown in Figure 17, with vertical load (non-normalized) plotted on the axis of abscissa, the wide base tire provides a reduced tractive performance (compared to 10.00x20/F's) when the value of F_z is below about 8000 lbs. Thus the notion that one can "tire-up" to resolve stopping performance deficiencies in heavy trucks may not be a universal axiom.

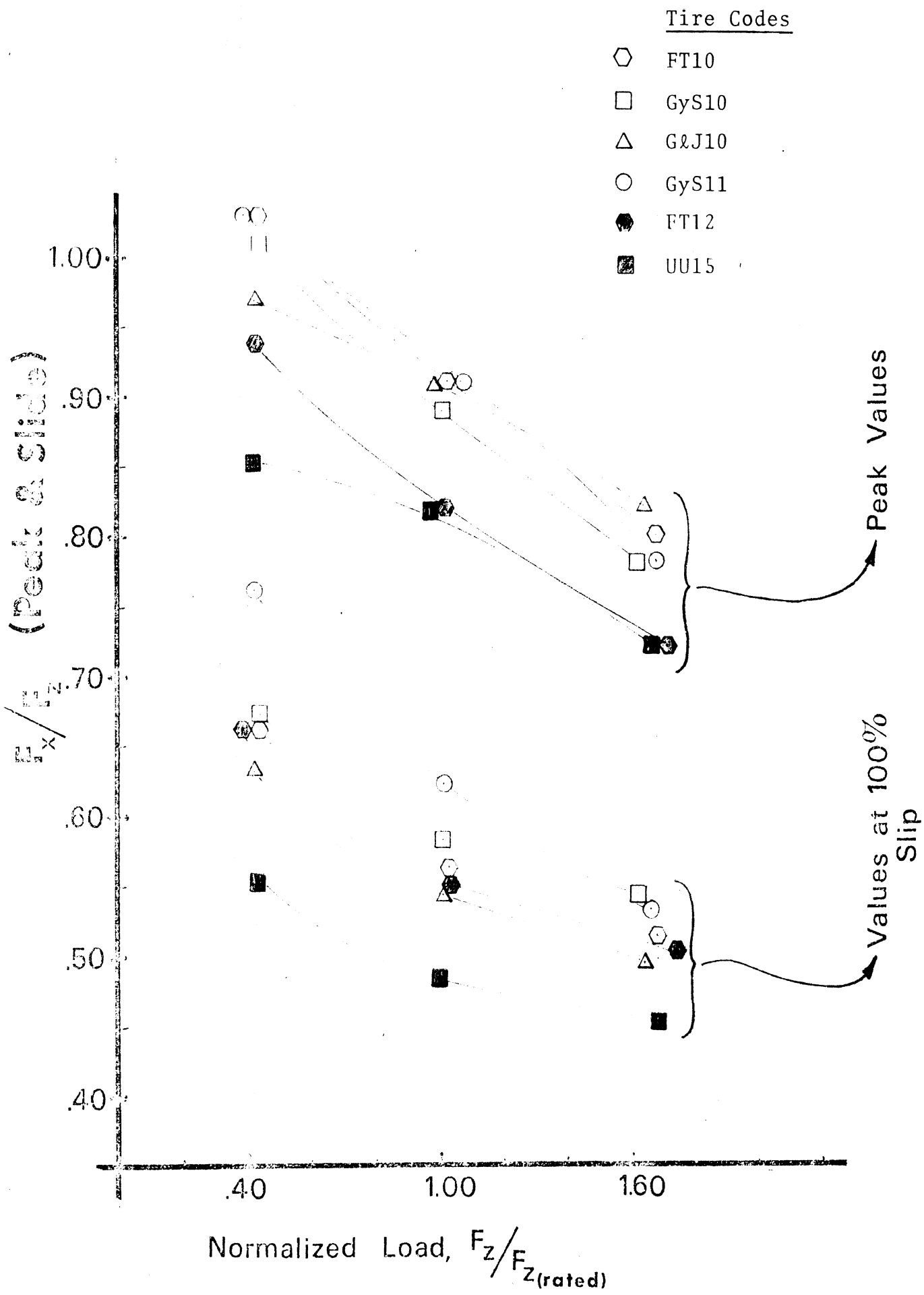


Figure 16. Normalized load sensitivity in the peak and slide traction of the six-tire sample (on BADC's asphalt).

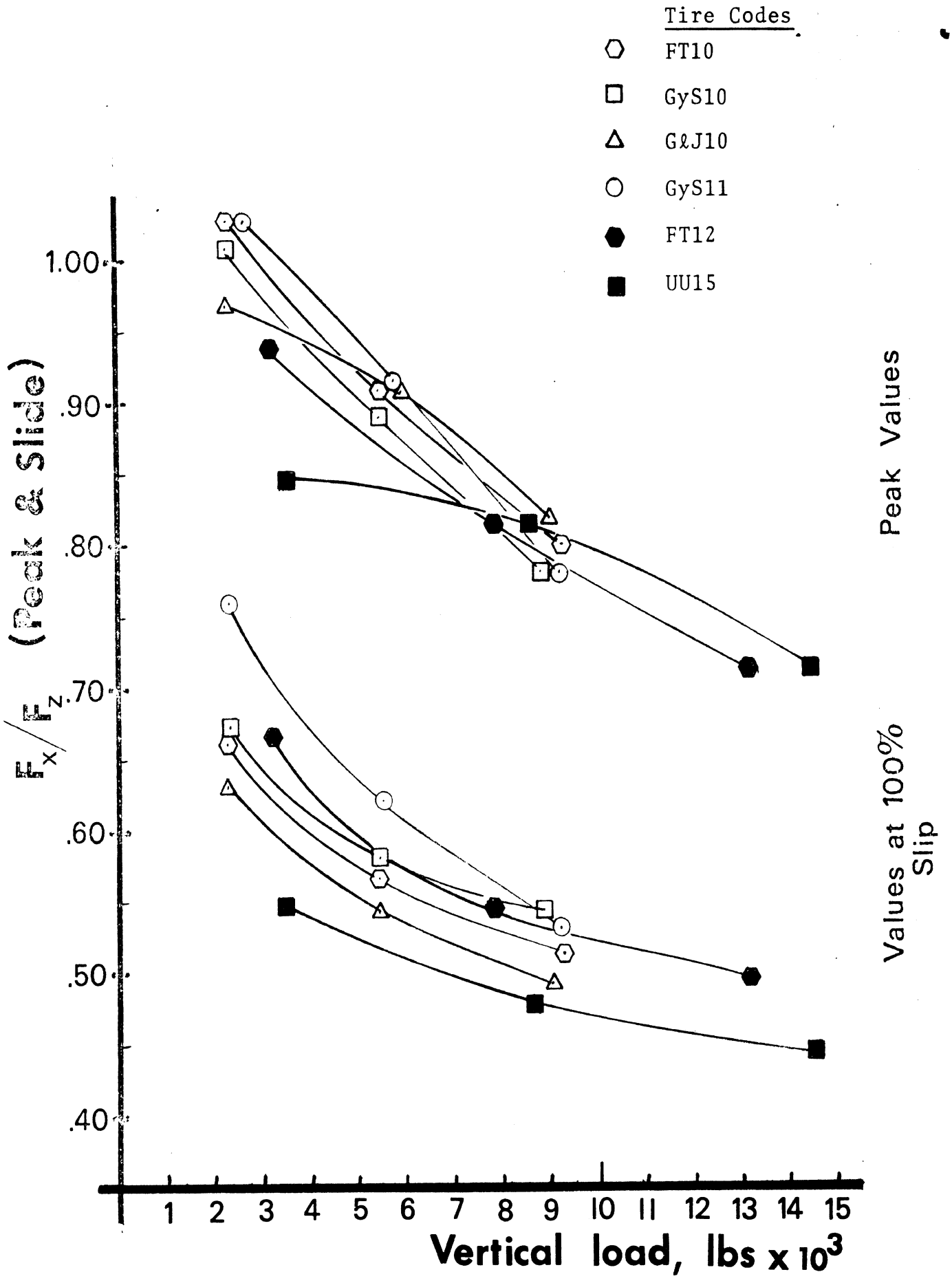


Figure 17. Load sensitivity (non-normalized abscissa) in the peak and slide traction of the six-tire sample (on BADC asphalt).

Figure 18 illustrates the influence of velocity on the normalized traction behavior of the six-tire sample as measured on the asphalt track at the BADC facility. The data show a rather narrow band within the respective peak measurements and slide measurements across the tire sample, with consistent gross trends exhibited in all cases except, perhaps, in the case of the peak measurements describing the performance of the Goodyear 11x22.5/F (tubeless) tire (code GyS11). Data from this tire are seen to rise from a value of 0.85 to 0.92 over the 3- to 10-mph velocity increment while the same tire in a tube-type version (10.00x20/F, code GyS10) stays virtually constant at .93-.94. The data in Figure 18 again place the H-rated tires (codes FT12 and UU15) at the lower boundary of performance for these experiments in which each tire was operated at its rated load.

To characterize the repeatability of the data presented in Figures 16 through 18, the data obtained in the check runs are plotted, for each tire, in Figure 19. Data points are presented, left to right, in the order in which they were gathered. Below each group of peak and slide data presented in Figure 19 for each tire, the standard deviation of the measures is printed. In general, the indicated repeatabilities are of considerably higher quality than is observed, say, in peak readings gathered using ASTM skid trailers. In addition to the observed repeatability, it is gratifying to observe that the test process is causing no monotonic trend in peak/slide characteristics as a function of work history. Thus we conclude that each tire sample was behaving in a stable fashion throughout the sequence of test runs.

These results, as obtained by testing a selected sample of tires on the asphalt surface at the BADC facility generally confirm the measurements reported earlier, except insofar as absolute values of traction are concerned. Also,

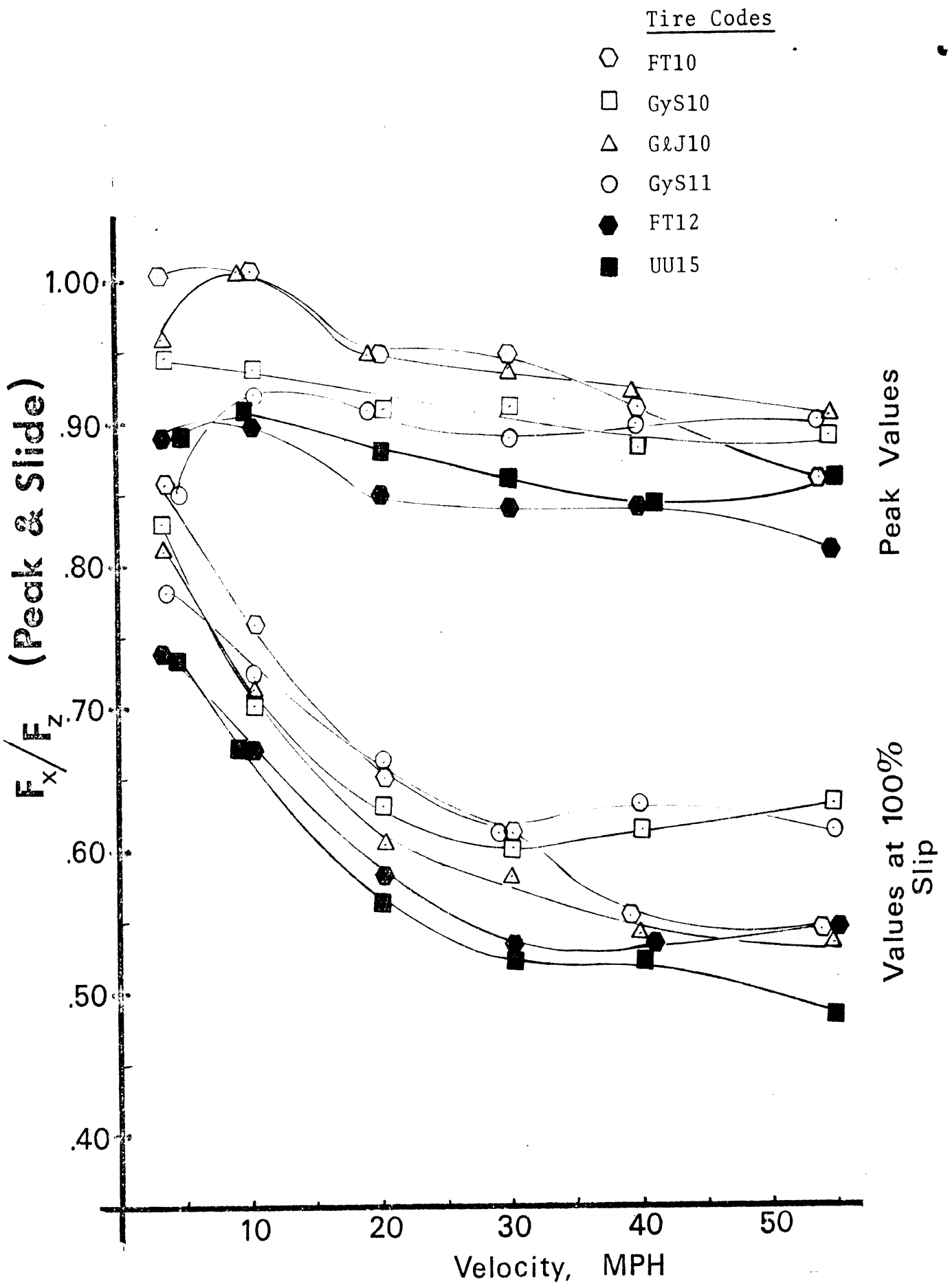


Figure 18. Velocity sensitivity of the peak and slide traction values for the six-tire sample (on BADC asphalt).

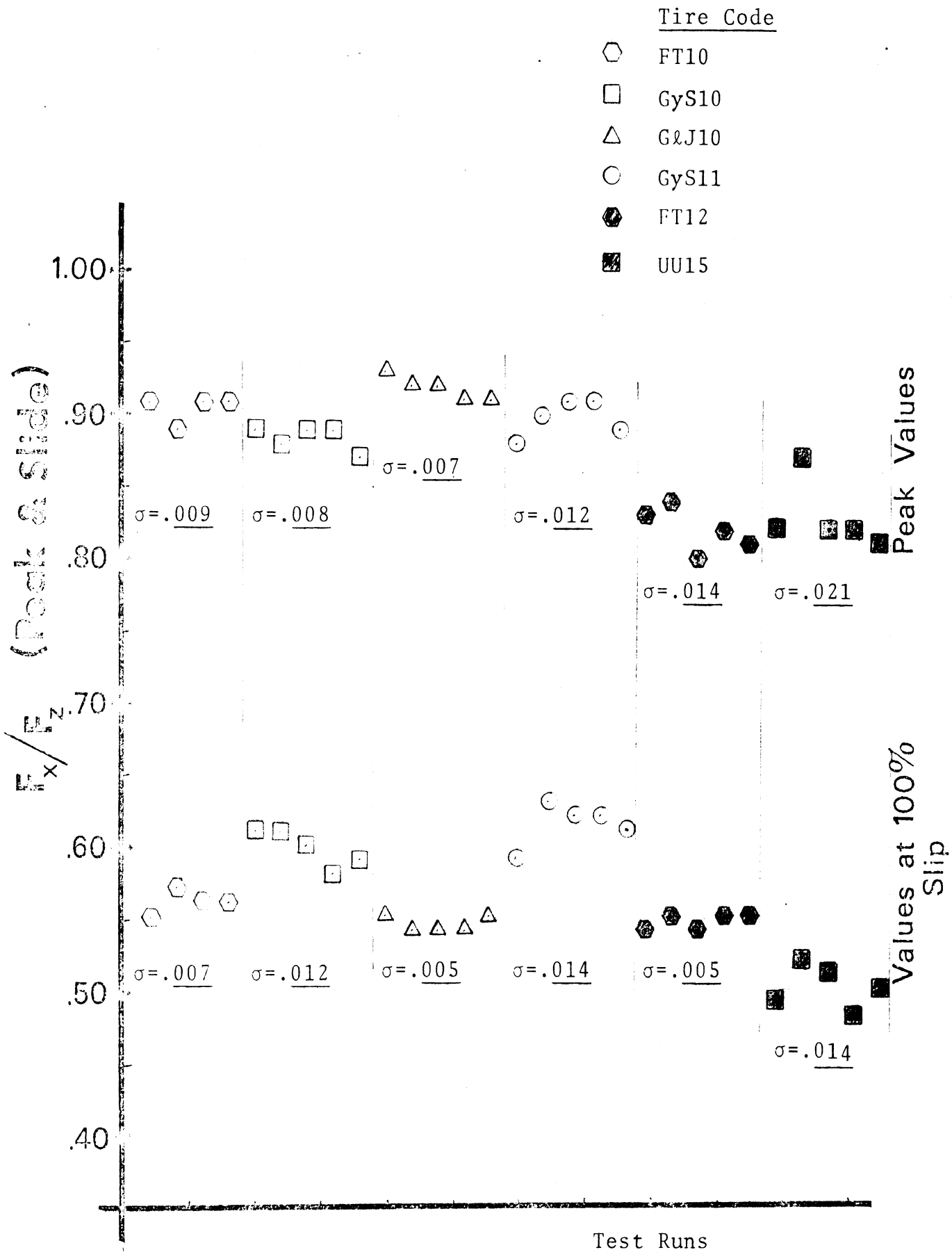


Figure 19. Peak and slide traction measures deriving from repeat runs of each of the six tires tested on the asphalt track at BADC.

the velocity sensitivity of the peak traction performance of the General Power Jet, 10.00x20/F code GℓJ10 (a tire examined in the earlier work), was found to be less pronounced than reported earlier.

To demonstrate the influence of pavement surface characteristics on peak and slide traction, the measured results have been summarized as load and velocity sensitivities for each of the two baseline tires tested on the four test surfaces. Figures 20 and 21 illustrate the extent to which the four pavement selections altered the load sensitivities of each tire. While there appears to be a changing rank among the surfaces in terms of the peak and slide traction values of both tires, the two asphalt surfaces generally provided higher peak traction performances than did the two concrete surfaces.

These same data are replotted in Figure 22 to illustrate the manner in which the two baseline tires differ in their generation of braking force on each of the four surfaces. These data illustrate that, although one tire may rank rather consistently higher than another, the spread in their performances may be largely surface-dependent.

Figures 23 and 24 indicate the influence of the pavement differences on velocity sensitivities. Whereas previously reported measurements indicated a profound difference between peak traction performances on concrete and asphalt, these data show basically comparable trends among the two asphalt and two concrete surfaces. However, a few curious departures from the median behavior are observed in Figure 24 in which excursions in the slide values on the BADC asphalt and the peak values on the TRC asphalt are notable.

With these same data plotted in an alternate format, Figure 25 illustrates the manner in which the velocity sensitivities of the two baseline tires differ as measured

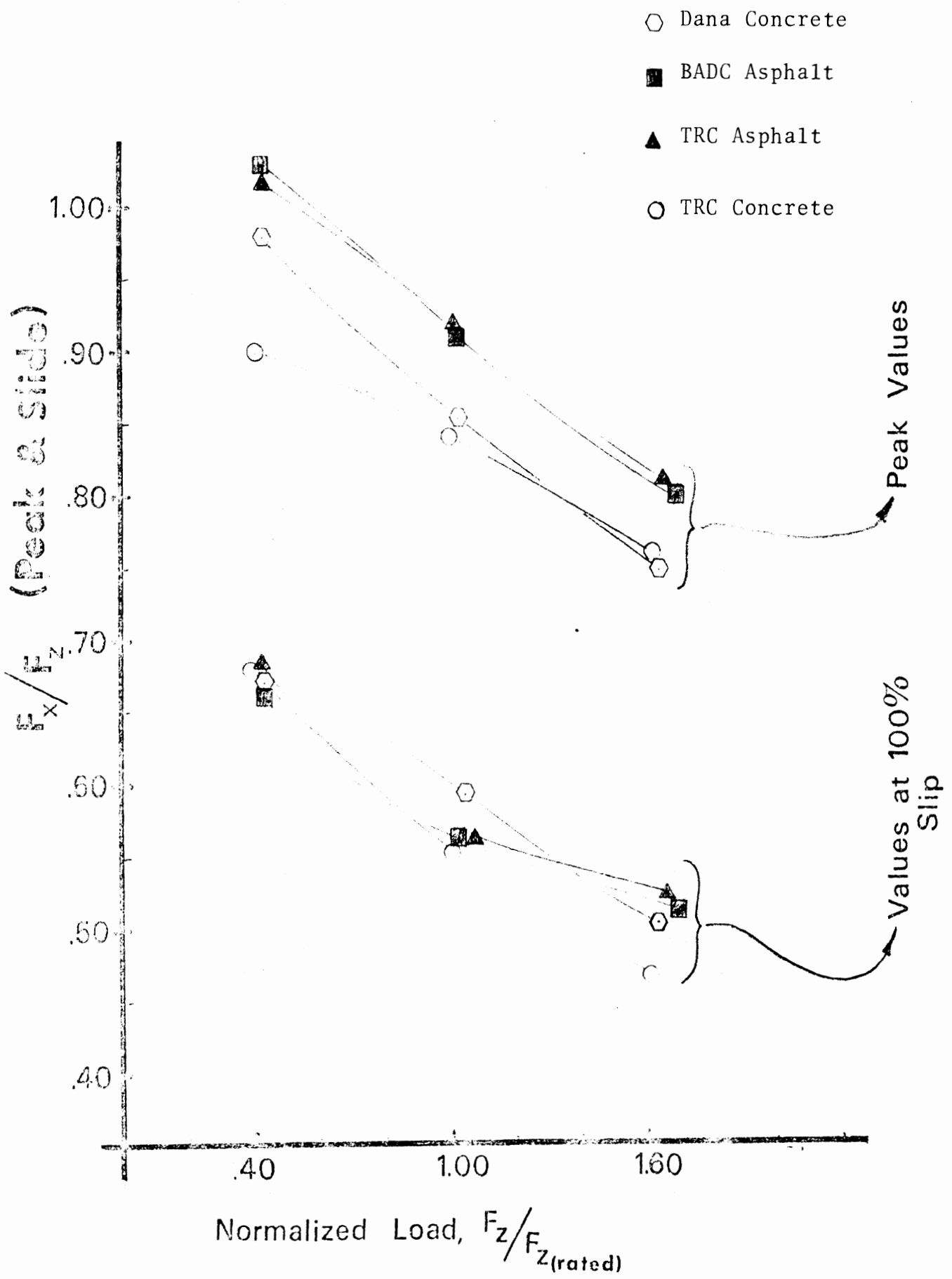


Figure 20. Influence of normalized load on the peak and slide traction of the Firestone Transport 1 (10.00x20/F) on four surfaces.

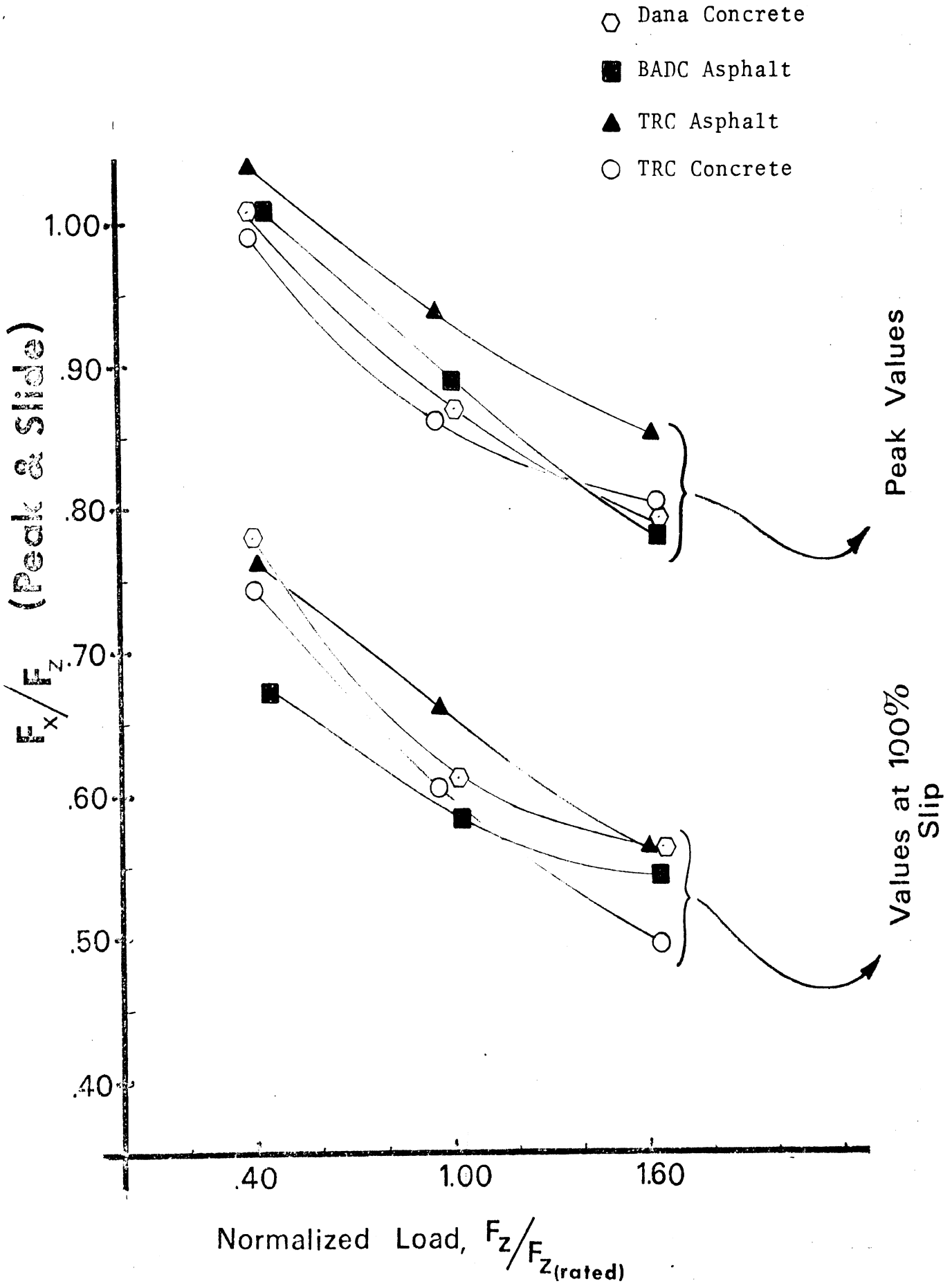


Figure 21. Influence of normalized load on the peak and slide traction of Goodyear Super Hi Miler (10.00x20/F) on four surfaces.

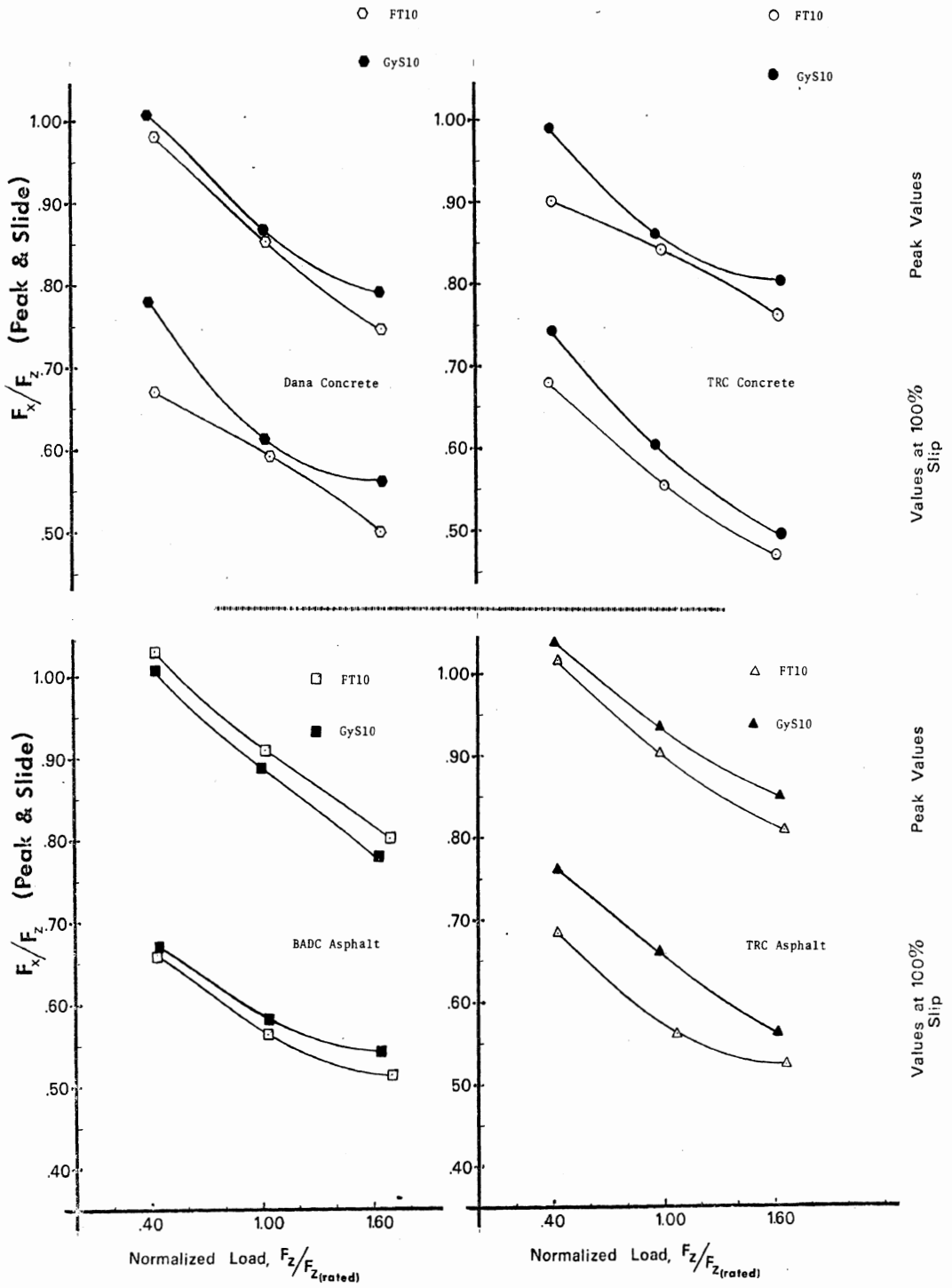


Figure 22. The differing influence of pavement surface on the load sensitivities of two tires.

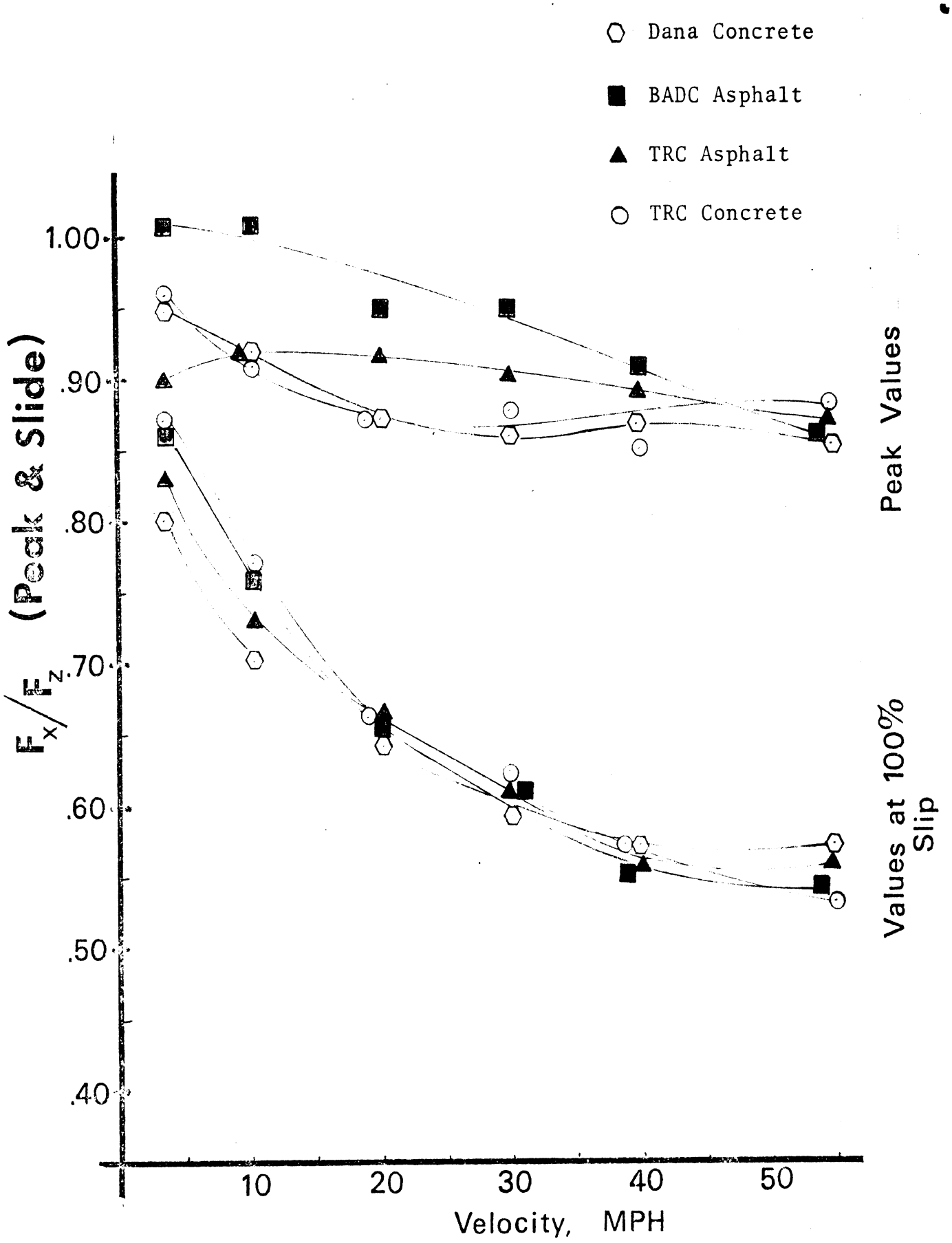


Figure 23. Influence of test velocity on the peak and slide traction of the Firestone Transport 1 (10.00x20/F) on four surfaces.

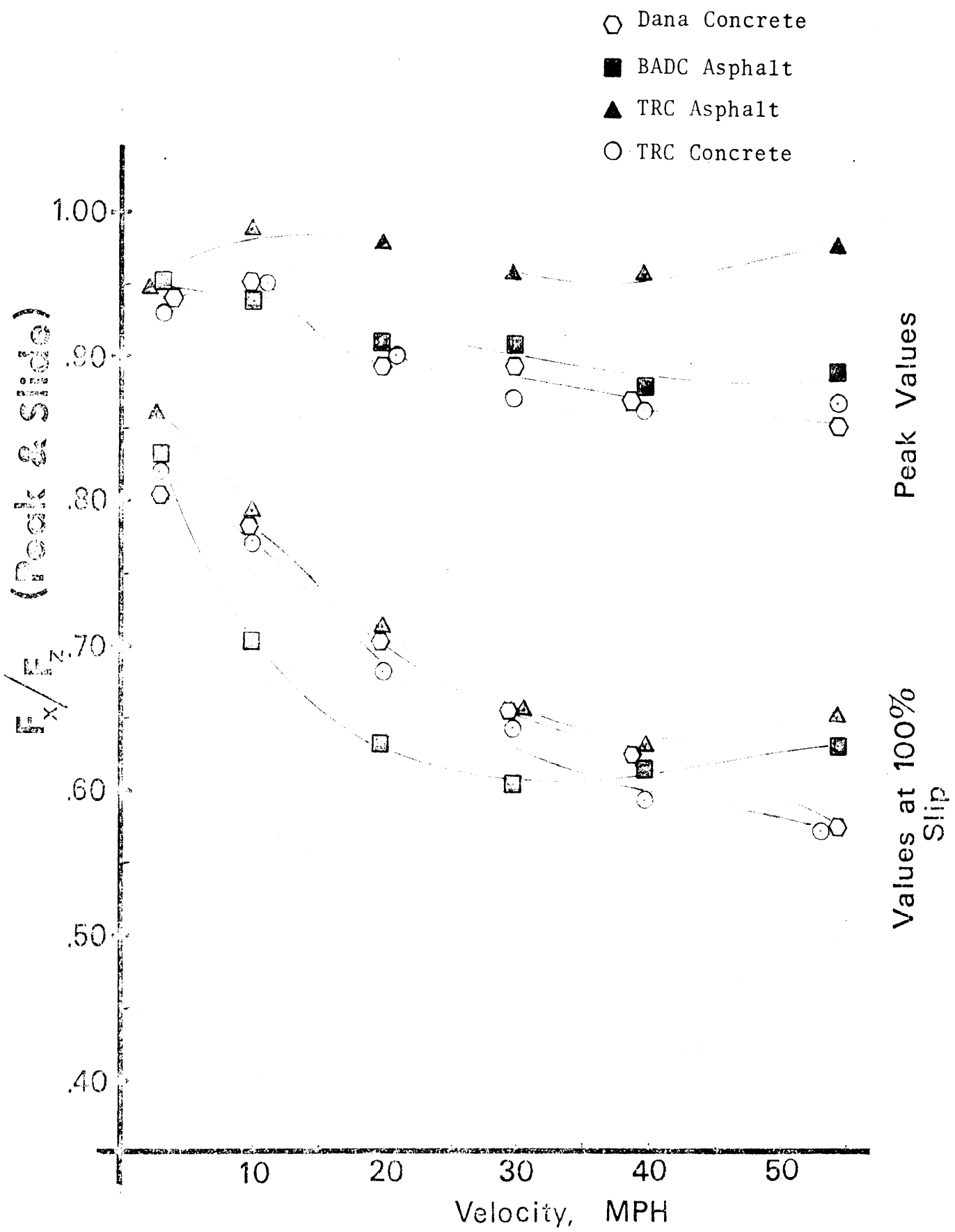


Figure 24. Influence of test velocity on the peak and slide traction of the Goodyear Super Hi Miler (10.00x20/F) on four surfaces.

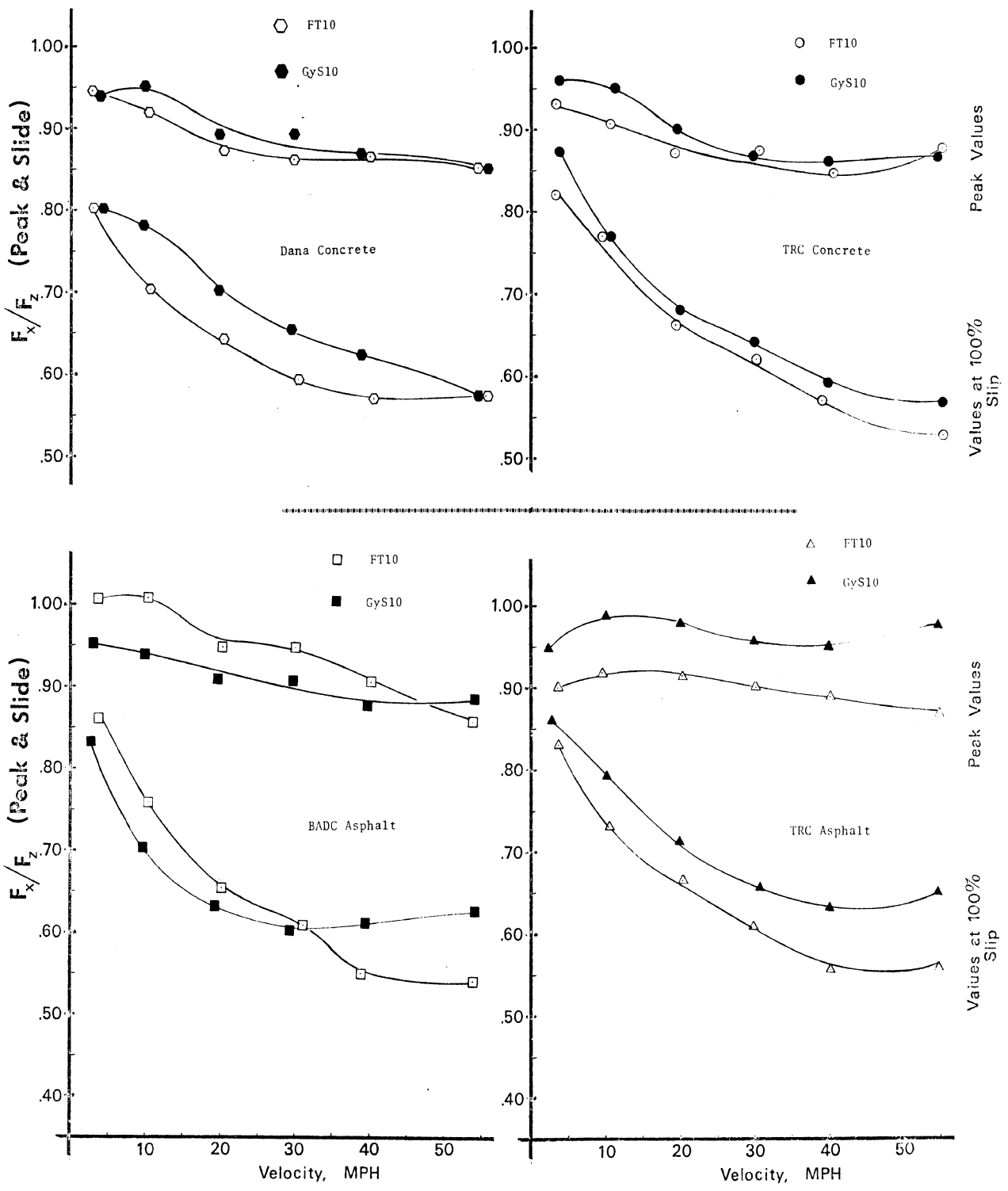


Figure 25. The differing influence of pavement surface on the velocity sensitivities of two tires.

on each surface. It is seen that the two baseline tires exhibit a wider spread in velocity sensitivity on the two asphalt surfaces. In addition, the overall traction performance of the Firestone tire (code FT10) is generally superior on the BADC asphalt, while the Goodyear tire (code GyS10) exhibits decidedly superior traction performance on the TRC asphalt surface.

The data in Figure 26 are presented in view of the continuing discussion over the merits of the ASTM skid number measurement as a test pavement characterization. The figure presents the mean values of peak and slide traction which derived from the repeated check runs on the two baseline tires. As shown, these data are plotted versus the most recent SN_{40} (dry) measurements which were available for each surface. Since, as indicated earlier, SN measurements were not available concurrently with HSRI's test operations at the Dana and TRC facilities, Figure 26 does not constitute a high quality examination of the indicated relationships, and thus no correlation coefficients have been computed. Note, however, that on surfaces with SN_{40} values from 75 to 82 these truck tires were only able to produce locked-wheel friction values of approximately 0.6.

To characterize the statistical repeatability of the data describing pavement influences, the "check run" values of peak and slide traction are plotted for each baseline tire in Figures 27 and 28. As before, these data points are plotted from left to right as they were acquired. It is significant to note that the higher variability in the repeated check run measurements indicated for the TRC-concrete data is common to both tire samples. It is believed that this variability derives from a spatial inhomogeneity which characterizes the TRC Hi Speed Track facility. As a consequence of a pavement grinding operation which was employed to correct certain "high spots" which ensued from the paving process, there exist areas of differing surface texture (and apparently differing friction

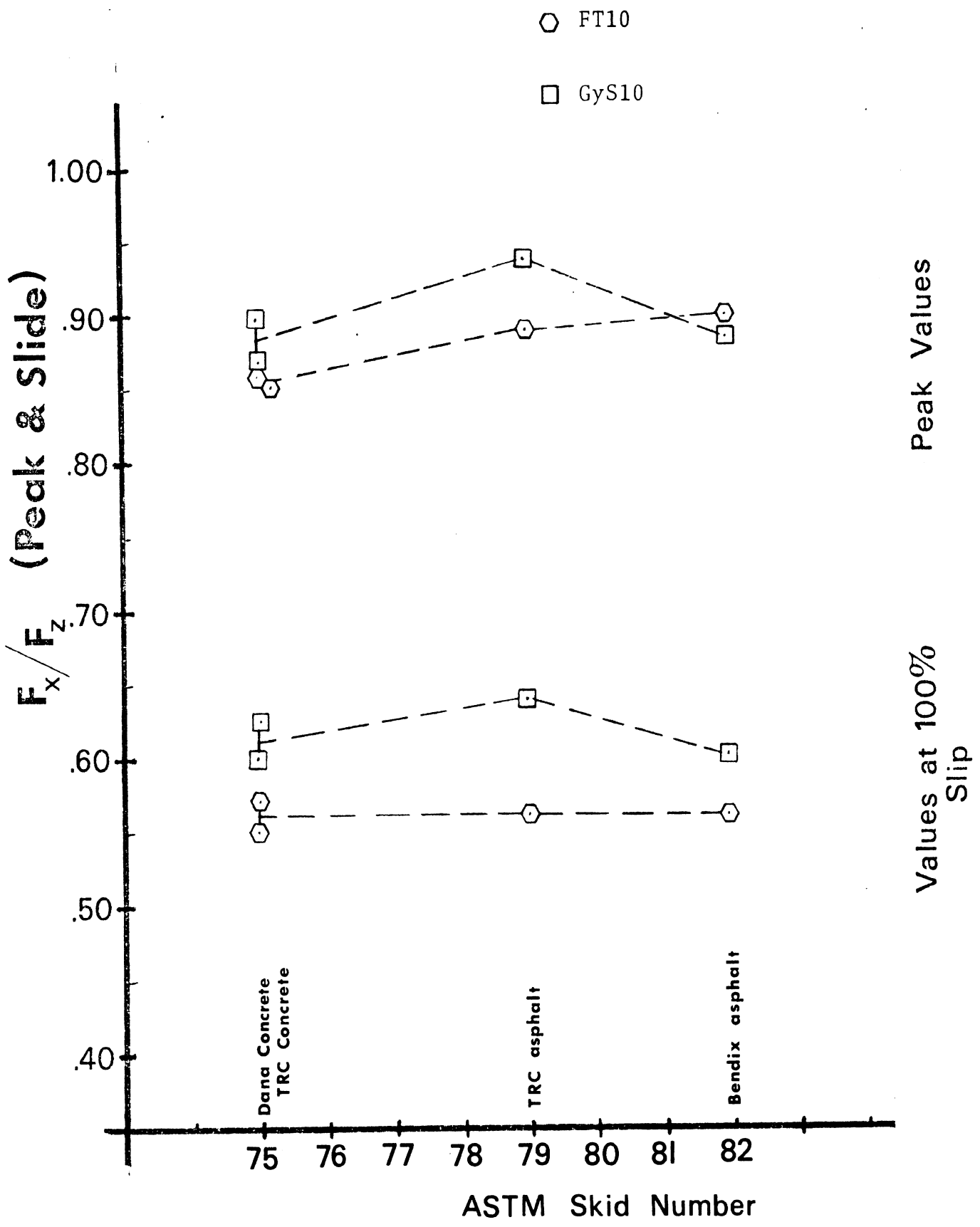


Figure 26. Correlation between the mean peak and slide values measured among the repeat runs of each of two tires and the respective SN_{40} measurements on each of four test pavements.

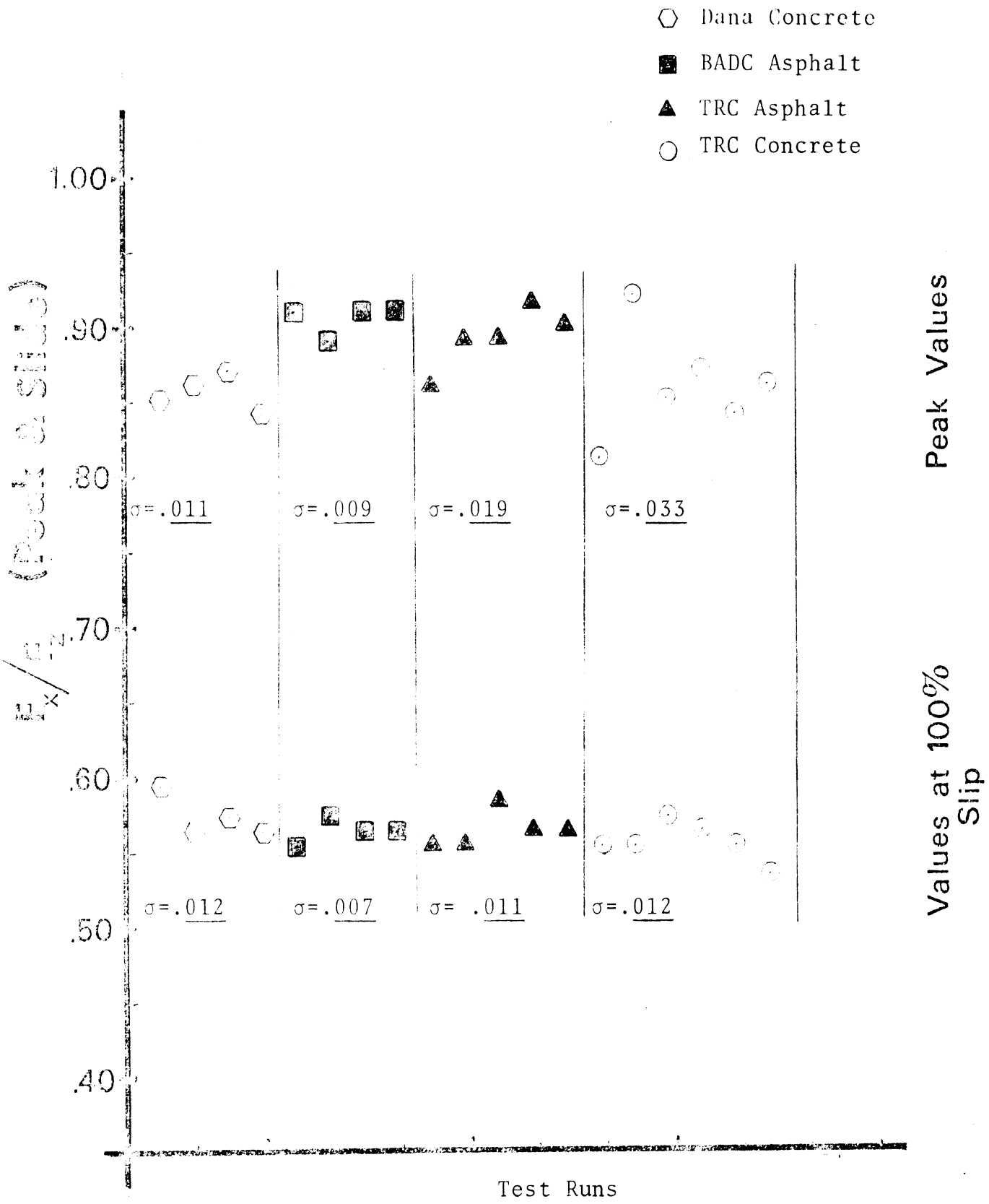


Figure 27. Peak and slide values deriving from repeat runs of the Firestone Transport 1 (10.00x20/F) on four surfaces.

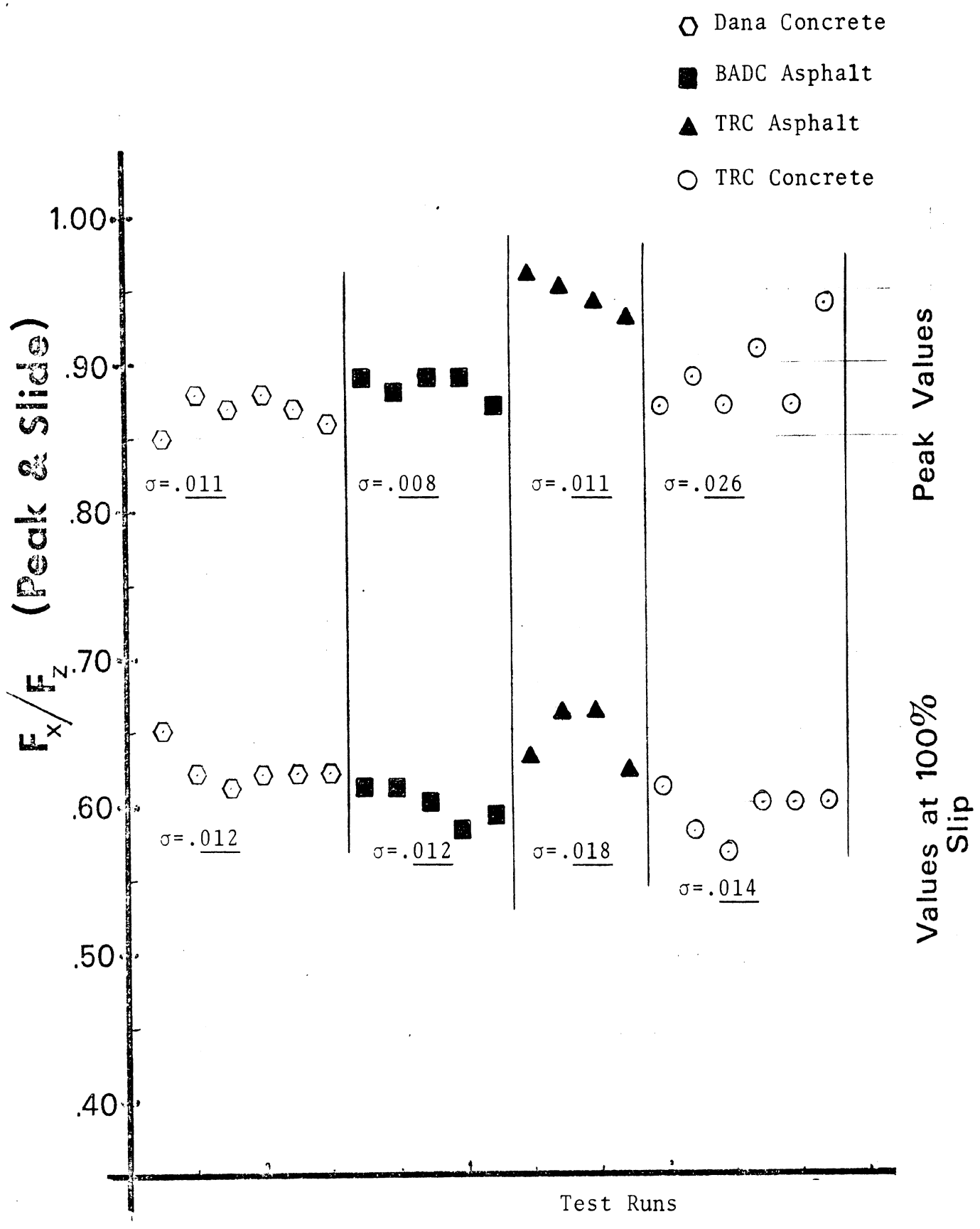


Figure 28. Peak and slide values deriving from repeat runs of the Goodyear Super Hi Miler (10.00x20/F) on four surfaces.

potential), among which areas HSRI did not discriminate in conducting its traction experiments.

Comparing the repeatability data presented in Figures 27 and 28 and previously in Figure 19, it would appear that the repeatability of measurements of truck tire longitudinal traction depends more upon pavement uniformity than upon the stationarity of innate tire properties.

3.1 ADDITIONAL DATA SAMPLE

During the same time frame in which the presented data were gathered, a set of measurements were made on a Uniroyal Triple Tread 10.00x20/F sample at the General Motors Proving Grounds in Milford, Michigan. Given the general dearth of available truck tire traction data, these measurements are included herein for further comparison with the measurements already presented.

Figures 29 and 30 show that the data taken on GM's asphalt-paved Vehicle Dynamics Test Area complement both the trends and the absolute values described by the envelope of data taken on all 10.00x20/F tires on all surfaces examined in this study. The data points shown in Figure 30 should actually be adjusted downward, however, by a value of approximately 0.04 to account for the 4200 lb. vertical load at which these data were gathered—in contrast to the nominally 5400 lb. load at which all other velocity-sweep data were gathered on 10.00x20/F tires. This adjustment (estimated from the load sensitivities shown in Figure 29) gives the GM-Uniroyal Triple Tread combination a nearly median locus within the envelope of measurements made in this study. Also, the repeatability measures render a standard deviation comparable to that obtained with the two baseline tires on TRC's Vehicle Dynamics Area (an asphalt surface).

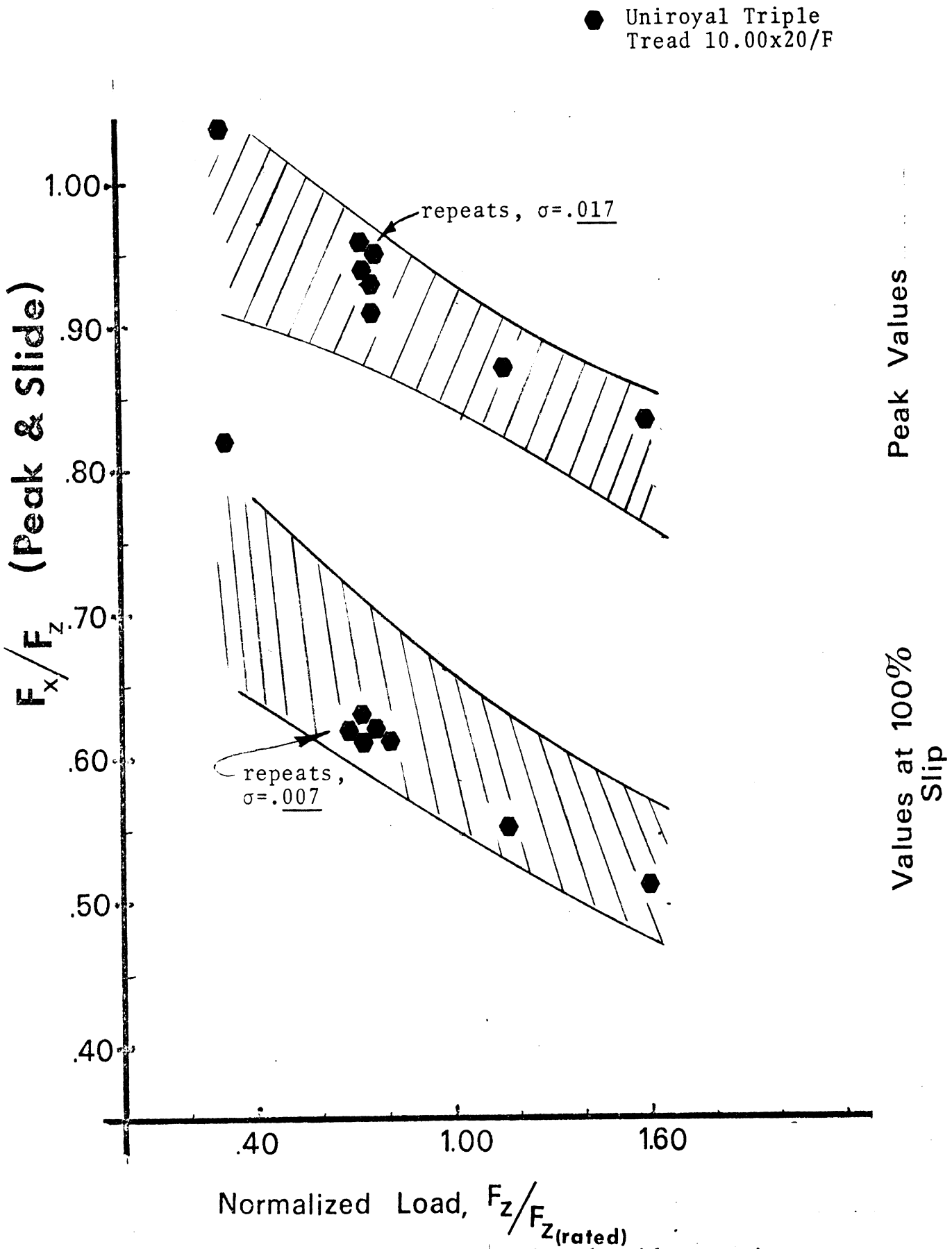


Figure 29. The load sensitivity of peak and slide traction obtained for a Uniroyal Triple Tread (10.00x20/F) at G.M. Proving Grounds—overlaid on the envelope of all other (10.00x20/F) data gathered on four other surfaces in this study.

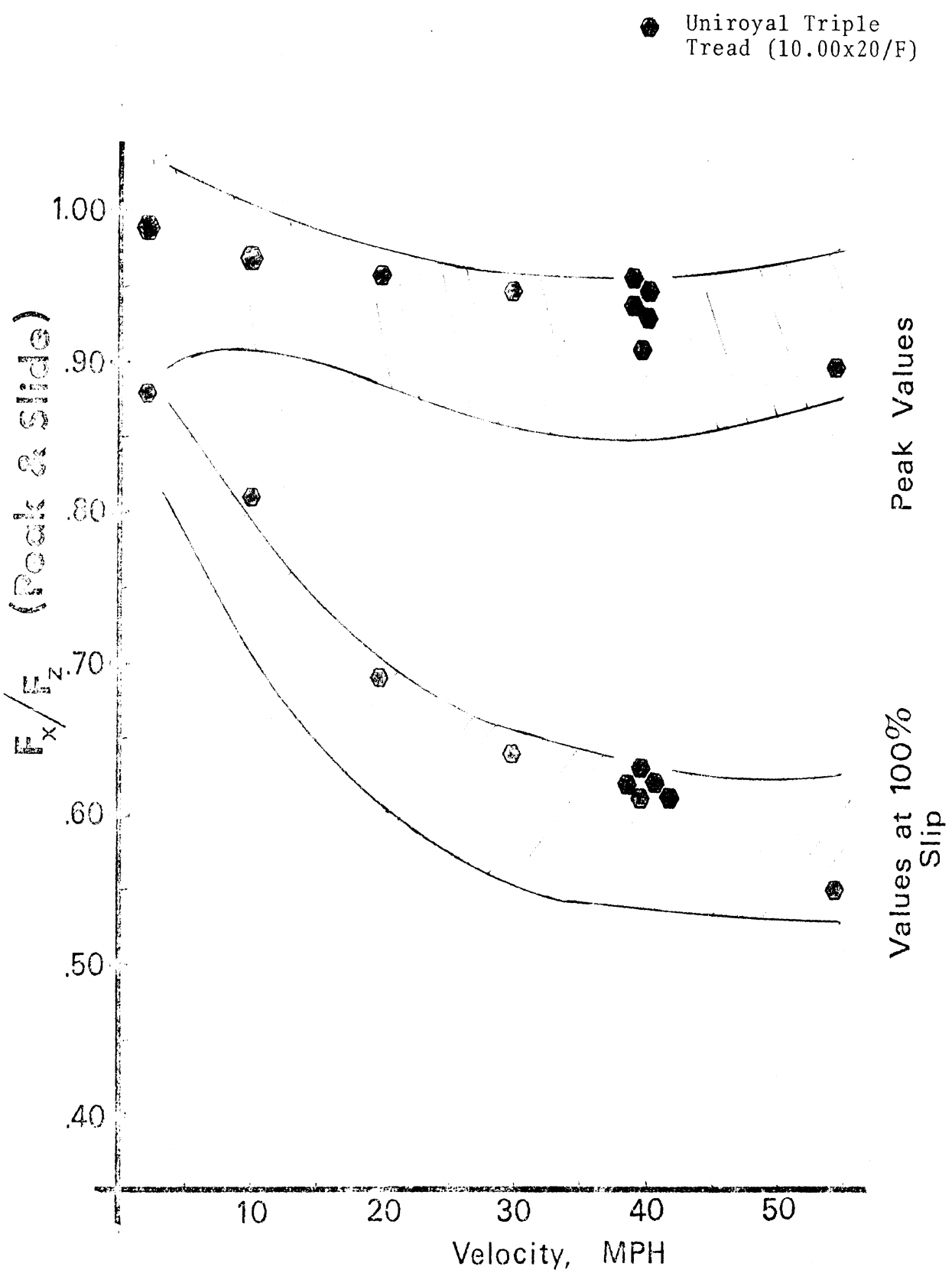


Figure 30. The velocity sensitivity of peak and slide traction obtained for a Uniroyal Triple Tread (10.00x20/F) at G.M. Proving Grounds—overlaid on the envelope of all other (10.00x20/F) data gathered on four other surfaces in this study.

4.0 CONCLUDING REMARKS

Although the data presented herein represent a limited examination of an important group of traction influences, it is believed that they establish, to first order, the behavioral mechanisms involved in the generation of longitudinal traction by truck tires on dry surfaces. Insomuch as these data are offered with a high confidence as to their validity within the specified tolerances, they represent properties to be reckoned with in the design of vehicles to achieve desired levels of limit braking performance.

Clearly, much more experimental work needs to be done, and the results made available, before the general field of truck tire traction mechanics can be called a technology. In particular, the performance of truck tires needs to be examined on wetted surfaces and under differing surface contaminant conditions such as follows wintertime salting. A broader base of truck tire longitudinal traction data is needed to establish the degree of generality which is applicable to findings presented herein. Experiments should also be designed and conducted to investigate, on an elemental level, the mechanics of dry traction such as applies to the operating conditions and tread materials of heavy truck tires. Insight into the mechanisms involved in the profound peak-to-slide "fall-off" of heavy truck tires operating on dry pavements would be useful to the development of an adequate semi-empirical model of the process and for the design of tires with improved braking performance at high slip.

A broad, carefully-designed evaluation of the ASTM skid number as a characterizer of pavements for use in truck tire testing should be undertaken.

Efforts should also be directed at the development of a standard practice in truck tire preparation that is both maximally efficient and comprehensively effective in assuring stable, representative samples for testing.

Finally, the work being done at HSRI and elsewhere to investigate the longitudinal traction mechanics of truck tires should be expanded into the angular slip and combined slip portions of the traction field so that a comprehensive understanding of this critical truck component can be developed.

REFERENCES

1. Ervin, R.D. and MacAdam, C.C., Baseline Tests of the Longitudinal Traction Properties of Truck Tires, Highway Safety Research Institute, Univ. of Michigan, Ann Arbor, Report No. UM-HSRI-PF-74-6, April 1974.

2. Ervin, R.D. and Fancher, P.S., "Preliminary Measurements of the Longitudinal Traction Properties of Truck Tires," SAE Paper No. 741139, November 1974.

APPENDIX A

PROCESSED TIRE TRACTION DATA

This appendix presents tabular and graphic displays of the measured longitudinal traction performance of:

a) The six-tire sample which was tested on the asphalt track at the Bendix Automotive Development Center.

b) The two baseline tire samples tested on the concrete track at the Dana Corporation's truck test center.

c) The two baseline tire samples tested on the asphalt vehicle dynamics area at the Transportation Research Center of Ohio (TRC).

d) The two baseline tire samples tested on the concrete hi-speed track at TRC.

The tabulated data describe averaged values of MUX (i.e., F_x/F_z), TORQUE (i.e., brake torque), and FX at each of 27 values of longitudinal slip. Adjacent to the table is also printed the test conditions of load and velocity, as well as peak (MUPEAK) and slide (MULOCK) values of F_x/F_z. In the tabulated listings the units for each variable are as follows.

SLIP - listed as decimal fractions, whereby .30, for example, is 30% slip

MUX - dimensionless

TORQUE - in-lbs

FX - lbs.

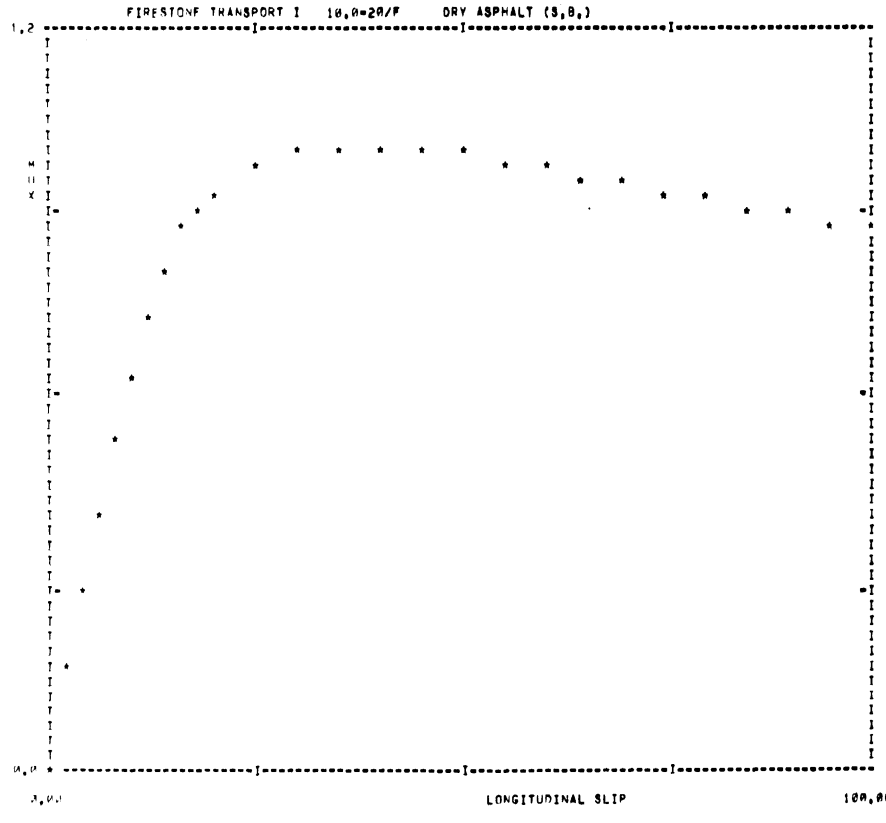
For each tire-pavement combination data deriving from the six velocity sweep runs are presented first, followed by measurements from the three load sweep runs and then by the check runs.

FIRESTONE TRANSPORT 1, 10.00 x 20/F - BADC ASPHALT

** A=D FILE 118 NEW FILE 41 TEST SAMPLE201 **

AVERAGE OF FILE 118 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10,0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.17	14707.5	921.8	
0.04	0.29	26356.5	1510.2	
0.06	0.42	39717.2	2100.6	
0.08	0.53	51289.8	2764.8	
0.10	0.64	62136.1	3310.4	
0.12	0.74	71974.9	3811.5	
0.14	0.82	79714.3	4206.6	
0.16	0.87	85482.6	4486.3	
0.18	0.91	90023.2	4696.7	TQAV = 87375.0 LOAD = 5385.3 VEL = 3.0 MPH.
0.20	0.94	93768.2	4852.2	
0.25	0.99	99885.2	5056.1	MUPEAK = 1.01 MULOCK = 0.88 RATIO = 1.15
0.30	1.01	103430.9	5154.8	
0.35	1.01	104101.6	5171.6	
0.40	1.01	103605.8	5149.6	
0.45	1.00	102667.3	5109.9	
0.50	1.00	101521.6	5061.4	
0.55	0.99	100273.6	5008.6	
0.60	0.98	98974.7	4953.6	
0.65	0.96	97650.3	4897.6	
0.70	0.95	96313.2	4841.0	
0.75	0.94	94969.8	4784.1	
0.80	0.93	93623.1	4727.1	
0.85	0.92	92274.8	4670.0	
0.90	0.91	90840.6	4611.7	
0.95	0.89	89235.7	4550.8	
1.00	0.88	87375.0	4486.2	

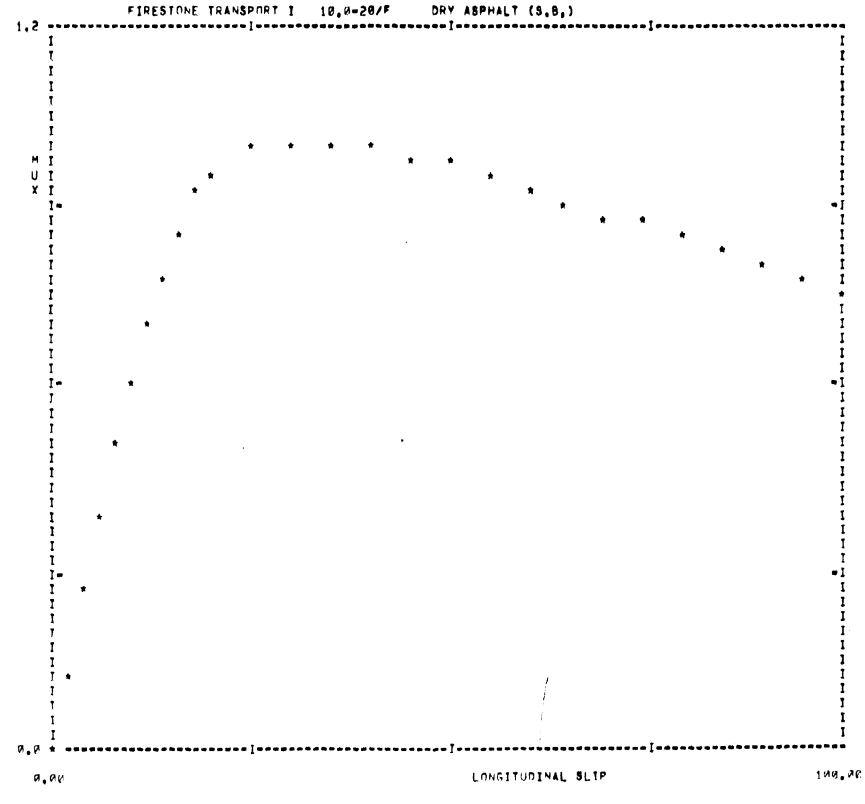


FZ = 5385.3 VEL = 3.0 MULOCK = 0.88 MUPEAK = 1.01 RATIO = 1.15 A=D FILE 118 NWFILE 41 SAMPLE 201

** A=0 FILE 119 NEW FILE 42 ! TEST SAMPLE202 **

AVERAGE OF FILE 119 FOR 5 RECORDS, FIRESTONE TRANSPORT I 10,0=20/F DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,13	10464,7	699,4	
0,04	0,28	24735,8	1449,0	
0,06	0,40	37277,6	2085,8	
0,08	0,51	48365,6	2640,2	
0,10	0,61	58326,9	3144,3	
0,12	0,70	67547,5	3607,2	
0,14	0,79	76135,4	4032,5	
0,16	0,87	83808,1	4414,7	
0,18	0,92	90037,2	4714,3	TQAV = 72200,0 LOAD = 5270,4 VEL = 10,0 MPH.
0,20	0,96	94064,9	4873,5	
0,25	0,99	99905,4	5051,8	MUPEAK = 1,01 MULOCK = 0,76 RATIO = 1,33
0,30	1,01	104036,1	5125,8	
0,35	1,01	107870,6	5127,9	
0,40	1,01	109612,1	5004,1	
0,45	0,99	111908,9	5038,2	
0,50	0,98	113587,3	4967,4	
0,55	0,96	112524,6	4887,2	
0,60	0,94	109638,3	4790,8	
0,65	0,92	105939,5	4672,7	
0,70	0,90	100490,8	4553,1	
0,75	0,87	96253,7	4436,0	
0,80	0,85	92201,1	4328,3	
0,85	0,83	88243,6	4285,5	
0,90	0,80	83897,7	4088,5	
0,95	0,78	78695,2	3966,5	
1,00	0,76	72200,0	3837,0	

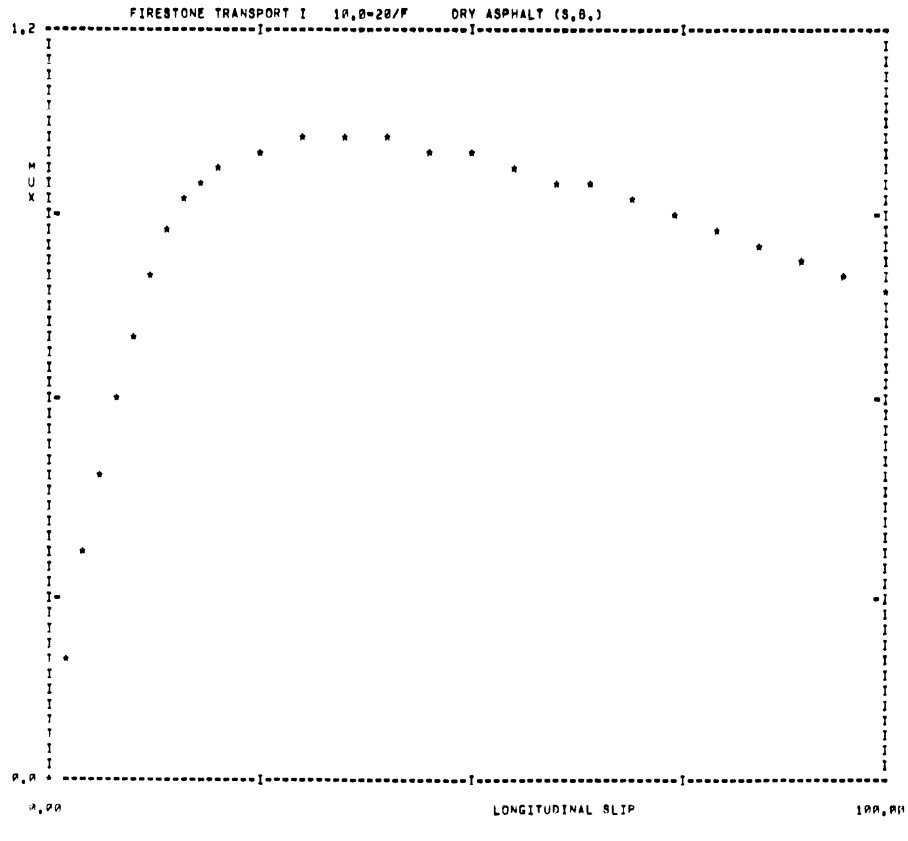


FZ = 5270,4 VEL = 10,0 MULOCK = 0,76 MUPEAK = 1,01 RATIO = 1,33 A=0 FILE 119 NXFILE 42 SAMPLE 202

** A-D FILE 120 NEW FILE 43 TEST SAMPLE203 **

AVERAGE OF FILE 120 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10.0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.20	14490.2	1027.6	
0.04	0.37	31285.8	1911.5	
0.06	0.50	44613.1	2582.0	
0.08	0.61	55849.6	3166.4	
0.10	0.72	65788.0	3675.7	
0.12	0.81	74560.5	4127.7	
0.14	0.88	81840.8	4472.8	
0.16	0.93	87572.3	4731.7	
0.18	0.97	92242.0	4916.8	TQAV = 72854.2 LOAD = 5226.7 VEL = 10.0 MPH.
0.20	0.99	95255.5	5014.9	
0.25	1.02	99915.9	5122.2	MUPEAK = 1.03 MULOCK = 0.80 RATIO = 1.29
0.30	1.03	103186.2	5163.4	
0.35	1.03	105528.3	5162.0	
0.40	1.03	107486.1	5129.4	
0.45	1.02	109263.5	5080.7	
0.50	1.00	110602.5	5017.0	
0.55	0.99	109986.9	4941.0	
0.60	0.97	107210.3	4847.3	
0.65	0.95	103053.3	4742.1	
0.70	0.93	98951.9	4637.0	
0.75	0.91	95091.8	4533.7	
0.80	0.88	91373.9	4431.4	
0.85	0.86	87729.0	4329.7	
0.90	0.84	83712.3	4225.8	
0.95	0.82	78898.2	4117.1	
1.00	0.80	72854.2	4001.3	

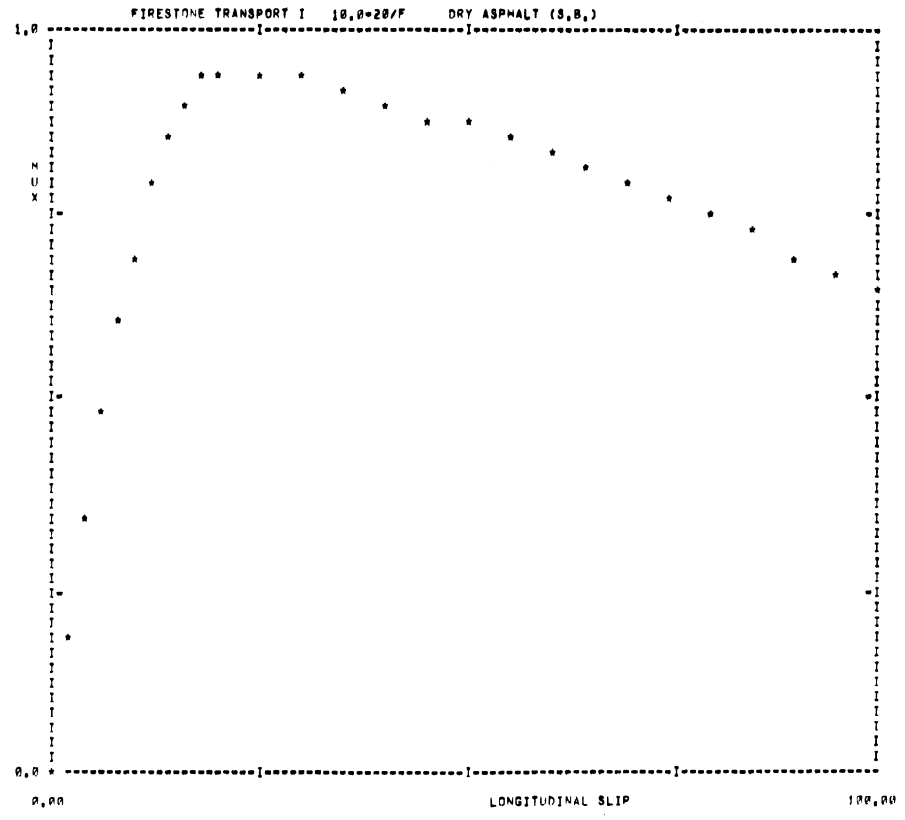


FZ = 5226.7 VEL = 10.0 MULOCK = 0.80 MUPEAK = 1.03 RATIO = 1.29 A-D FILE 120 NWFILE 43 SAMPLE 203

** A=D FILE 125 NEW FILE 45 TEST SAMPLE205 **

AVERAGE OF FILE 125 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10,0=20/F DRY ASPHALT (S,R,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,19	19002,3	1035,3	
0,04	0,36	36615,5	1946,6	
0,06	0,50	51016,8	2671,7	
0,08	0,61	62734,5	3251,5	
0,10	0,71	73524,7	3767,5	
0,12	0,80	82679,0	4243,3	
0,14	0,86	90661,4	4625,7	
0,16	0,91	97032,1	4883,6	
0,18	0,94	101437,2	5035,7	TQAV = 65770,8 LOAD = 5590,7 VEL = 20,0 MPH.
0,20	0,95	103517,3	5086,1	
0,25	0,95	107800,8	5079,6	MUPEAK = 0,95 MULOCK = 0,65 RATIO = 1,46
0,30	0,94	109793,3	5023,9	
0,35	0,92	112111,4	4942,0	
0,40	0,91	114172,2	4843,1	
0,45	0,89	115957,9	4740,8	
0,50	0,87	117925,1	4638,8	
0,55	0,85	119672,6	4538,6	
0,60	0,84	120322,4	4441,6	
0,65	0,82	119467,8	4343,5	
0,70	0,80	116353,1	4242,9	
0,75	0,78	110893,8	4125,5	
0,80	0,75	102542,5	3993,2	
0,85	0,73	93830,9	3860,6	
0,90	0,70	85037,5	3726,8	
0,95	0,68	75775,4	3587,6	
1,00	0,65	65770,8	3440,0	

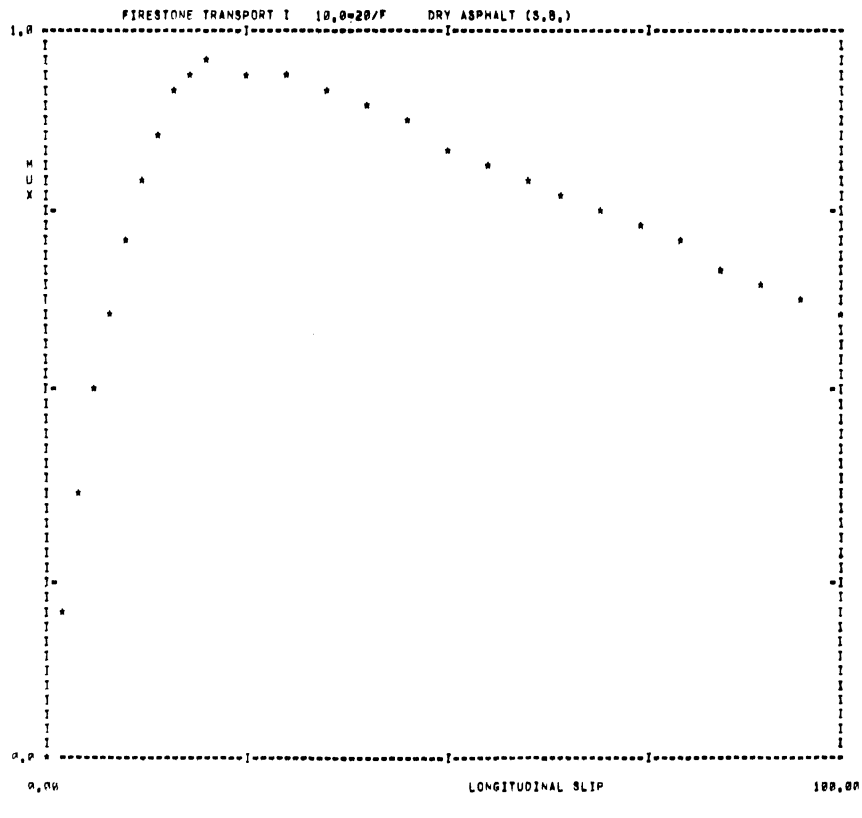


FZ = 5590,7 VEL = 20,0 MULOCK = 0,65 MUPEAK = 0,95 RATIO = 1,46 A=D FILE 125 NWFILE 45 SAMPLE 205

** A-D FILE 126 NEW FILE 46 TEST SAMPLE206 **

AVERAGE OF FILE 126 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.21	21670.1	1180.4	
0.04	0.37	38874.7	2041.5	
0.06	0.50	52898.2	2723.9	
0.08	0.61	65506.8	3312.9	
0.10	0.72	76308.2	3848.1	
0.12	0.80	84235.4	4267.9	
0.14	0.86	91045.2	4597.0	
0.16	0.91	96808.1	4848.4	
0.18	0.94	100999.4	5006.7	TQAV = 62166.7 LOAD = 5427.0 VEL = 38.0 MPH.
0.20	0.95	102921.9	5058.5	
0.25	0.95	106309.5	5031.3	MUPEAK = 0.95 MULOCK = 0.61 RATIO = 1.56
0.30	0.94	108699.0	4948.3	
0.35	0.92	110313.1	4837.8	
0.40	0.89	111455.8	4719.7	
0.45	0.87	112468.6	4596.8	
0.50	0.85	113319.6	4471.8	
0.55	0.82	114187.7	4349.2	
0.60	0.80	115147.6	4232.6	
0.65	0.78	115917.8	4117.9	
0.70	0.76	115293.2	4006.3	
0.75	0.73	111503.5	3891.5	
0.80	0.71	104845.0	3768.6	
0.85	0.68	94483.4	3640.9	
0.90	0.66	84208.5	3511.2	
0.95	0.64	73489.1	3379.2	
1.00	0.61	62166.7	3243.7	

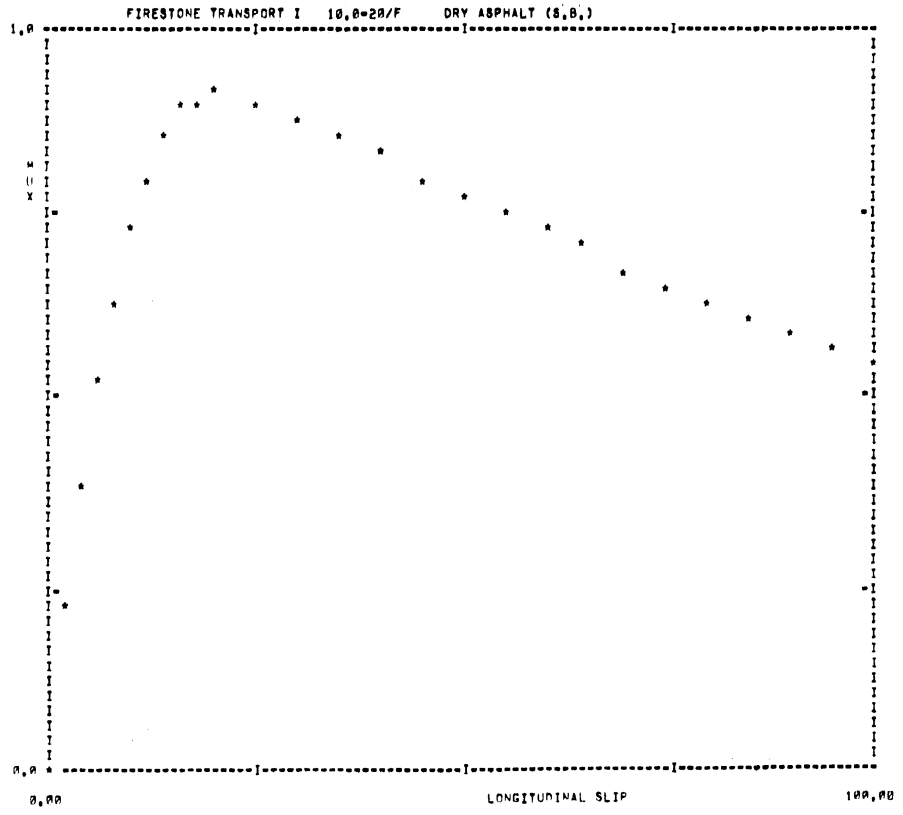


FZ = 5427.0 VEL = 38.0 MULOCK = 0.61 MUPEAK = 0.95 RATIO = 1.56 A-D FILE 126 NWFILE 46 SAMPLE 206

** A-D FILE 130 NEW FILE 47 TEST SAMPLE207 **

AVERAGE OF FILE 130 FOR 5 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY ASPHALT (S.B.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.22	24263.3	1242.9	
0.04	0.39	42436.7	2172.1	
0.06	0.53	57193.9	2905.5	
0.08	0.64	69431.8	3511.9	
0.10	0.74	79538.8	3998.4	
0.12	0.81	87992.1	4357.8	
0.14	0.86	94145.9	4617.6	
0.16	0.89	98659.4	4789.0	
0.18	0.91	101946.7	4881.5	TQAV = 58500.0 LOAD = 5584.9 VEL = 40.0 MPH.
0.20	0.91	103808.1	4894.8	
0.25	0.90	106622.4	4840.9	MUPEAK = 0.91 MULOCK = 0.55 RATIO = 1.64
0.30	0.88	108791.4	4751.5	
0.35	0.86	110399.5	4633.4	
0.40	0.83	111455.8	4501.7	
0.45	0.80	112057.5	4366.2	
0.50	0.78	112339.4	4236.5	
0.55	0.75	112568.3	4112.8	
0.60	0.73	112988.1	3983.6	
0.65	0.71	113547.4	3857.7	
0.70	0.68	114110.5	3732.2	
0.75	0.66	112920.7	3611.3	
0.80	0.64	108227.5	3490.8	
0.85	0.62	99824.4	3367.4	
0.90	0.60	86671.9	3249.2	
0.95	0.57	73172.5	3132.1	
1.00	0.55	58500.0	3015.0	

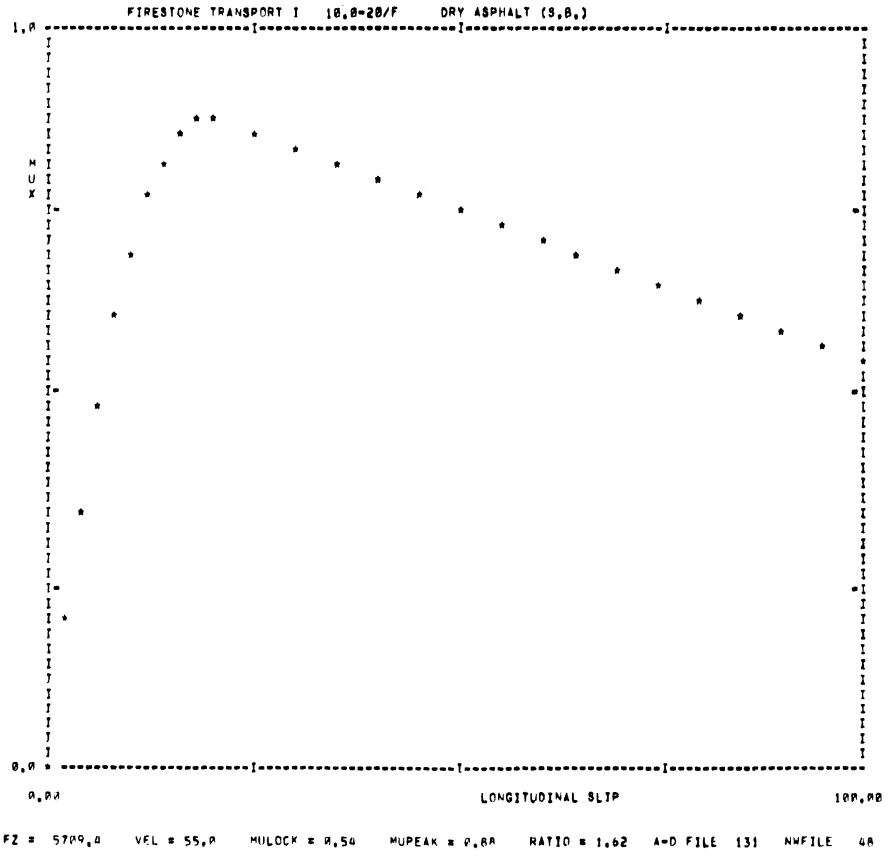


FZ = 5584.9 VEL = 40.0 MULOCK = 0.55 MUPEAK = 0.91 RATIO = 1.64 A-D FILE 130 NWFILE 47 SAMPLE 207

** A-D FILE 131 NEW FILE 48 TEST SAMPLE208 **

AVERAGE OF FILE 131 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10.0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.20	21458.7	1147.0	
0.04	0.36	40302.5	2029.2	
0.06	0.49	55974.6	2775.2	
0.08	0.61	69281.9	3488.1	
0.10	0.70	80132.4	3933.7	
0.12	0.78	88405.4	4329.9	
0.14	0.83	94658.0	4610.8	
0.16	0.86	99387.9	4789.8	
0.18	0.88	102648.3	4878.2	TQAV = 57729.2 LOAD = 5709.4 VEL = 55.0 MPH.
0.20	0.88	104280.9	4879.4	
0.25	0.87	106889.7	4795.6	MUPEAK = 0.88 MULOCK = 0.54 RATIO = 1.62
0.30	0.84	108785.3	4677.1	
0.35	0.82	109712.8	4544.9	
0.40	0.80	109841.0	4414.5	
0.45	0.77	109696.6	4288.5	
0.50	0.75	109654.3	4162.3	
0.55	0.73	109710.9	4037.9	
0.60	0.71	109561.3	3922.1	
0.65	0.69	109816.0	3815.8	
0.70	0.67	108236.4	3713.4	
0.75	0.65	107387.5	3613.5	
0.80	0.63	105788.3	3512.1	
0.85	0.61	100289.7	3405.5	
0.90	0.59	88655.2	3288.0	
0.95	0.57	74483.1	3166.8	
1.00	0.54	57729.2	3042.5	

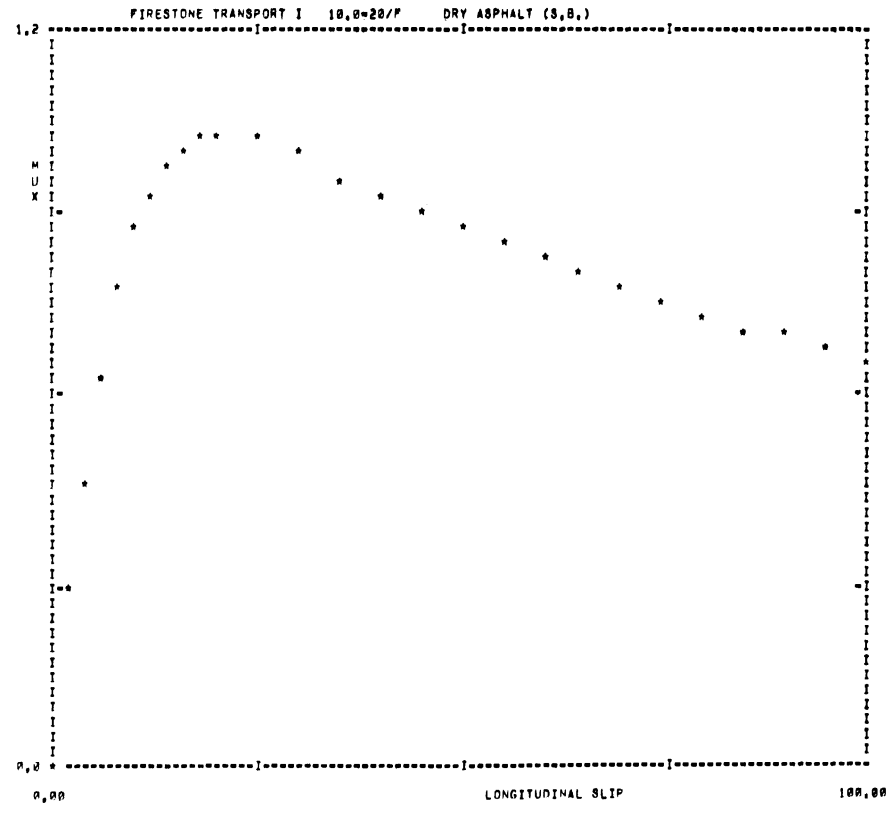


FZ = 5709.0 VEL = 55.0 MULOCK = 0.54 MUPEAK = 0.88 RATIO = 1.62 A-D FILE 131 NWFILE 48 SAMPLE 208

** A-D FILE 136 NEW FILE 50 TEST SAMPLE210 **

AVERAGE OF FILE 136 FOR 5 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.30	12282.0	674.5	
0.04	0.48	21868.6	1004.2	
0.06	0.64	29813.8	1456.6	
0.08	0.78	36385.5	1775.3	
0.10	0.88	41657.4	2001.4	
0.12	0.94	45655.6	2150.4	
0.14	0.99	48812.9	2242.4	
0.16	1.02	51316.0	2292.3	
0.18	1.03	53471.3	2309.8	TOAV = 28750.0 LOAD = 2260.0 VEL = 40.0 MPH.
0.20	1.03	55068.2	2308.4	
0.25	1.02	57548.7	2269.4	MUPEAK = 1.03 MULOCK = 0.66 RATIO = 1.56
0.30	1.00	59599.8	2210.3	
0.35	0.97	61254.1	2141.7	
0.40	0.94	62484.8	2074.4	
0.45	0.91	63400.1	2011.0	
0.50	0.89	64172.2	1951.6	
0.55	0.86	65137.4	1892.6	
0.60	0.83	66471.7	1838.4	
0.65	0.80	68056.6	1765.3	
0.70	0.77	69687.1	1704.4	
0.75	0.75	70441.4	1649.8	
0.80	0.73	68147.0	1602.5	
0.85	0.72	61281.0	1564.2	
0.90	0.70	51447.7	1525.4	
0.95	0.68	40603.1	1485.6	
1.00	0.66	28750.0	1444.5	

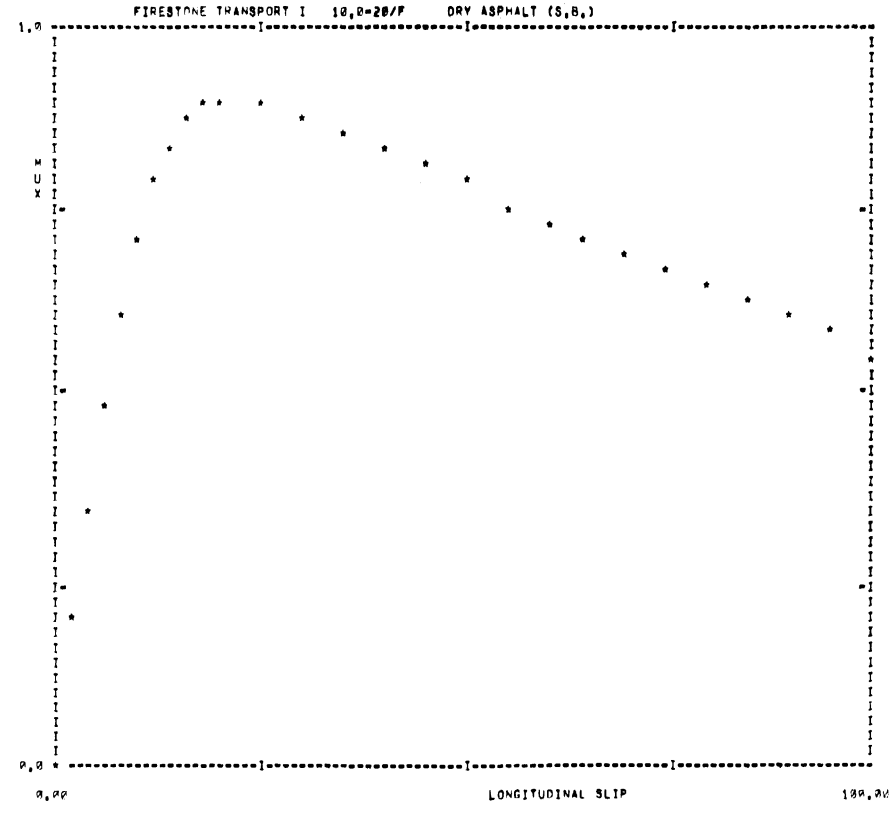


FZ = 2260.0 VEL = 40.0 MULOCK = 0.66 MUPEAK = 1.03 RATIO = 1.56 A-D FILE 136 NWFILE 50 SAMPLE 210

** A=D FILE 137 NEW FILE 51 TEST SAMPLE211 **

AVERAGE OF FILE 137 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10.0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.20	22158.4	1140.8	
0.04	0.35	38238.4	1961.5	
0.06	0.49	52978.1	2698.9	
0.08	0.61	67037.7	3350.7	
0.10	0.71	78575.8	3895.1	
0.12	0.79	87479.1	4301.5	
0.14	0.84	94145.3	4594.7	
0.16	0.88	99307.4	4787.2	
0.18	0.90	103029.4	4901.3	TQAV = 59958.3 LOAD = 5570.0 VEL = 40.0 MPH.
0.20	0.91	105145.2	4931.5	
0.25	0.90	109468.9	4874.9	MUPEAK = 0.91 MULOCK = 0.56 RATIO = 1.61
0.30	0.88	112790.8	4770.4	
0.35	0.85	114835.8	4655.7	
0.40	0.83	115867.3	4545.4	
0.45	0.81	116335.5	4435.9	
0.50	0.79	116829.1	4320.4	
0.55	0.77	117536.6	4195.8	
0.60	0.74	118363.4	4065.4	
0.65	0.72	119170.2	3937.4	
0.70	0.69	119453.9	3809.3	
0.75	0.67	117129.8	3689.9	
0.80	0.65	110938.4	3576.2	
0.85	0.63	100323.5	3459.1	
0.90	0.61	87407.6	3337.1	
0.95	0.59	73918.1	3210.9	
1.00	0.56	59958.3	3078.7	

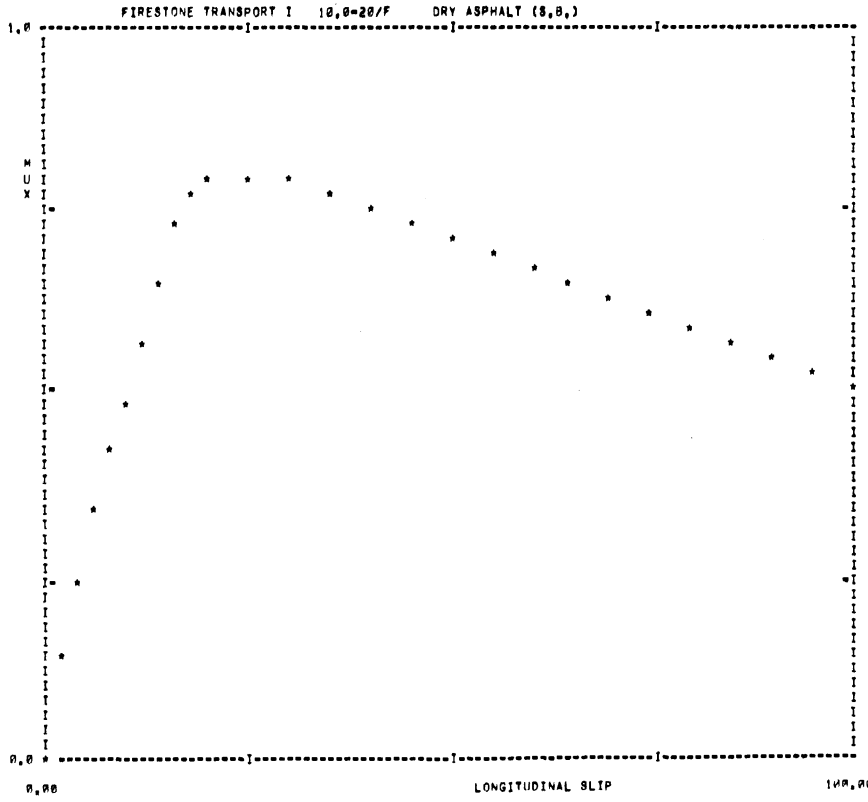


FZ = 5570.0 VEL = 40.0 MULOCK = 0.56 MUPEAK = 0.91 RATIO = 1.61 A=D FILE 137 NWFILE 51 SAMPLE 211

** A=D FILE 138 NEW FILE 52 TEST SAMPLE212 **

AVERAGE OF FILE 138 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10,0=20/F DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,15	24884,2	1390,0	
0,04	0,25	43234,3	2290,0	
0,06	0,34	60002,6	3126,5	
0,08	0,43	74441,9	3845,4	
0,10	0,50	87007,2	4455,0	
0,12	0,57	100008,7	5887,2	
0,14	0,66	116012,0	5887,1	
0,16	0,73	128044,4	6501,5	
0,18	0,78	136886,0	6886,5	TQAV = 84270,8 LOAD = 9195,3 VEL = 40,0 MPH.
0,20	0,80	141018,3	7031,6	
0,25	0,80	146638,9	7075,0	MUPEAK = 0,80 MULOCK = 0,51 RATIO = 1,56
0,30	0,79	149925,8	6991,8	
0,35	0,77	151610,5	6838,5	
0,40	0,75	152237,0	6657,5	
0,45	0,73	152048,6	6474,3	
0,50	0,71	151370,7	6294,2	
0,55	0,69	150712,0	6113,1	
0,60	0,67	150254,2	5931,6	
0,65	0,65	149964,5	5749,5	
0,70	0,63	149396,4	5571,8	
0,75	0,61	146989,5	5400,5	
0,80	0,59	140538,2	5232,8	
0,85	0,57	129692,9	5066,0	
0,90	0,55	115578,1	4896,0	
0,95	0,53	100410,4	4724,1	
1,00	0,51	84270,8	4550,0	



FZ = 9195,3 VEL = 40,0 MULOCK = 0,51 MUPEAK = 0,80 RATIO = 1,56 A=D FILE 138 NWFILE 52 SAMPLE 212

** A-D FILE 132 NEW FILE 49 TEST SAMPLE289 **

AVERAGE OF FILE 132 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY ASPHALT (8.8.)

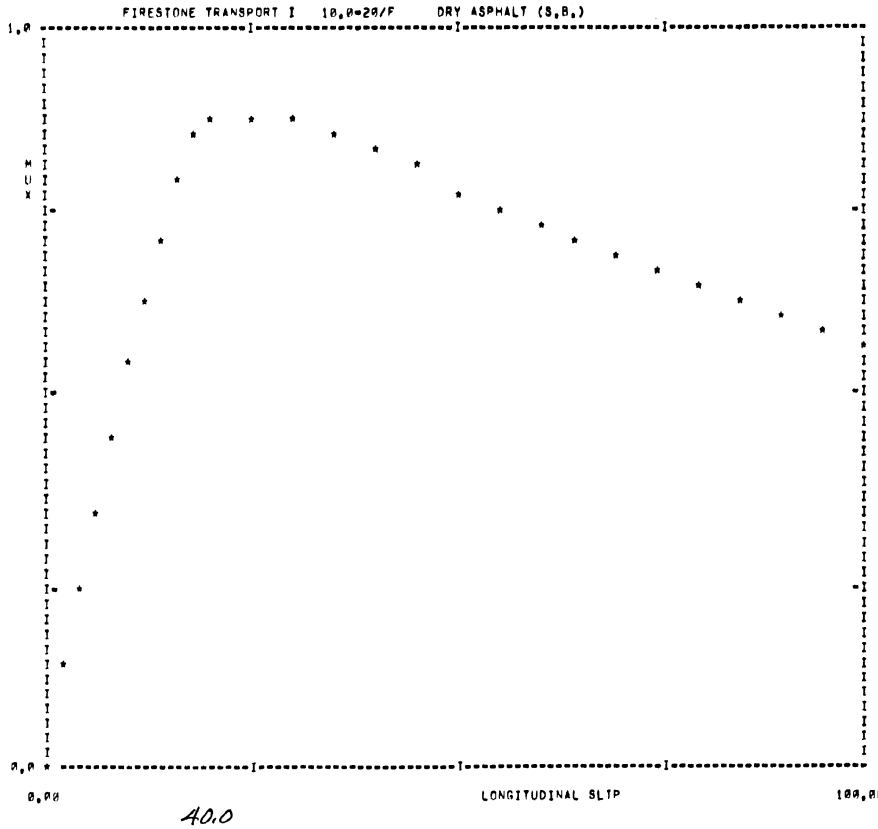
SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.14	14114.9	761.1
0.04	0.25	26482.8	1382.6
0.06	0.34	37533.9	1926.4
0.08	0.44	48662.3	2458.5
0.10	0.55	61833.3	3081.3
0.12	0.64	72168.8	3548.1
0.14	0.72	80835.6	3922.9
0.16	0.80	91893.2	4365.6
0.18	0.86	98523.9	4660.7
0.20	0.88	101801.9	4763.8
0.25	0.89	106822.9	4793.0
0.30	0.88	110288.9	4741.2
0.35	0.86	112625.1	4643.5
0.40	0.84	114323.5	4524.8
0.45	0.81	115651.7	4396.4
0.50	0.78	116975.1	4263.0
0.55	0.76	118284.4	4124.4
0.60	0.73	119375.3	3991.6
0.65	0.71	120034.3	3871.6
0.70	0.69	119858.6	3759.4
0.75	0.67	117497.2	3653.7
0.80	0.65	110376.8	3553.6
0.85	0.63	99131.5	3448.1
0.90	0.61	86478.0	3332.3
0.95	0.59	73376.6	3212.1
1.00	0.57	59812.5	3087.5

40.0

TQAV = 59812.5 LOAD = 5639.1 VEL = ~~30.0~~ MPH.

MUPEAK = 0.89 MULOCK = 0.57 RATIO = 1.57

Check Run #3



FZ = 5639.1 VEL = ~~30.0~~ 40.0 MULOCK = 0.57 MUPEAK = 0.89 RATIO = 1.57 A-D FILE 132 NWFILE 49 SAMPLE 289

** A-D FILE 139 NEW FILE 53 TEST SAMPLE213 **

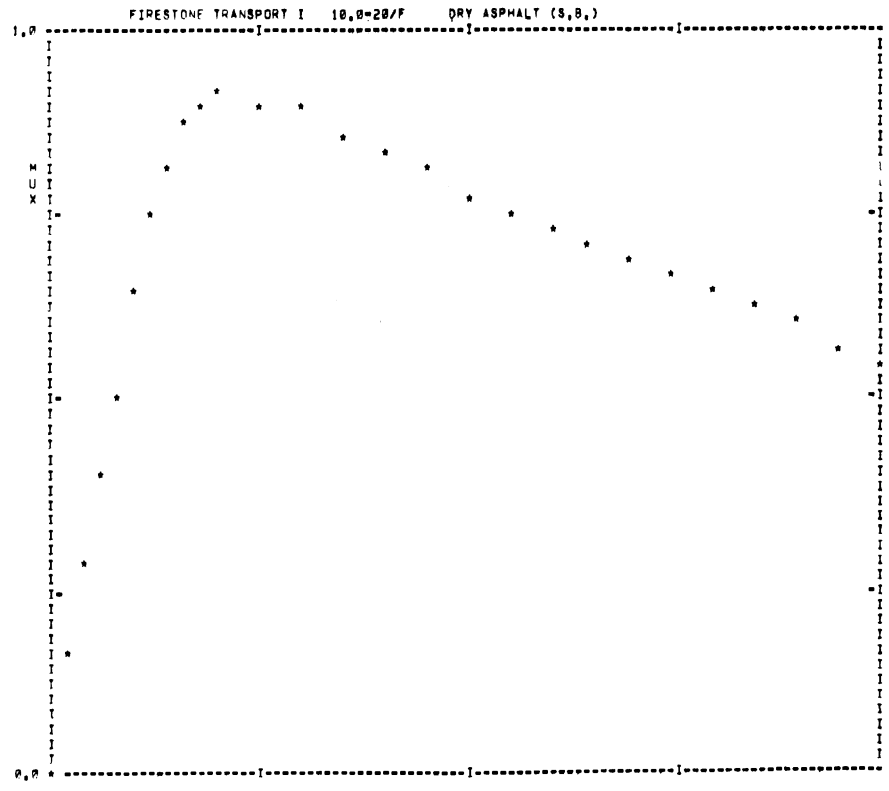
AVERAGE OF FILE 139 FOR 5 RECORDS, FIRESTONE TRANSPORT I 10,0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,16	16494,6	928,4
0,04	0,29	31688,6	1623,2
0,06	0,40	44182,6	2236,0
0,08	0,52	56743,5	2855,2
0,10	0,65	72181,2	3564,8
0,12	0,75	83435,7	4129,0
0,14	0,82	92086,0	4512,5
0,16	0,88	98355,5	4788,4
0,18	0,91	103066,9	4960,3
0,20	0,91	106246,6	5002,2
0,25	0,91	110153,0	4978,6
0,30	0,89	112776,2	4895,6
0,35	0,87	115275,2	4765,7
0,40	0,84	117617,3	4618,0
0,45	0,81	119498,8	4471,9
0,50	0,78	121061,0	4330,8
0,55	0,76	122043,2	4201,2
0,60	0,74	122523,4	4081,0
0,65	0,72	122667,9	3968,3
0,70	0,70	121776,8	3859,6
0,75	0,68	118229,0	3747,8
0,80	0,66	111090,8	3628,7
0,85	0,63	100317,4	3499,1
0,90	0,61	87366,9	3361,1
0,95	0,58	73678,0	3221,1
1,00	0,56	59250,0	3079,5

TQAV = 59250,0 LOAD = 5621,2 VEL = 40,0 MPH.

MUPEAK = 0,91 MULOCK = 0,56 RATIO = 1,63

Check Run #5



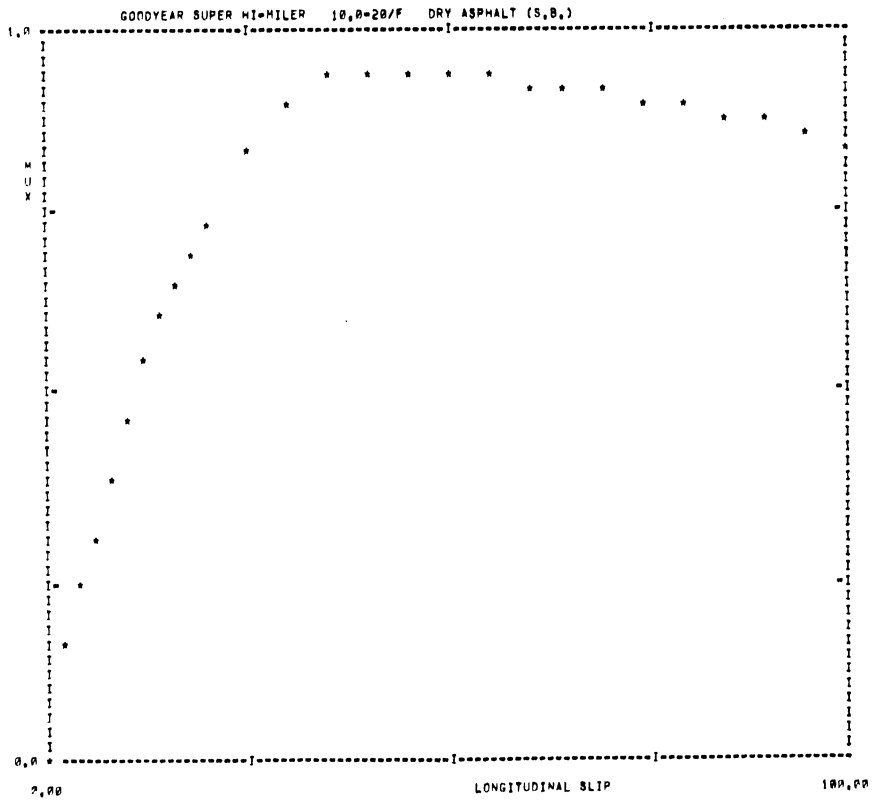
FZ = 5621,2 VEL = 40,0 MULOCK = 0,56 MUPEAK = 0,91 RATIO = 1,63 A-D FILE 139 NWFILE 53 SAMPLE 213

GOODYEAR SUPER HI MILER, 10.00 x 20/F, BADC ASPHALT

** A-D FILE 147 NEW FILE 55 TEST SAMPLE251 **

AVERAGE OF FILE 147 FOR 7 RECORDS. GOODYEAR SUPER HI-MILER 10,0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,16	17291,3	885,3	
0,04	0,24	25738,7	1327,7	
0,06	0,31	33520,6	1721,6	
0,08	0,38	41009,0	2120,2	
0,10	0,47	51234,5	2568,7	
0,12	0,54	59136,1	2975,6	
0,14	0,60	65288,9	3295,7	
0,16	0,65	70341,3	3554,1	
0,18	0,70	74945,7	3774,4	TQAV = 92910,7 LOAD = 5479,4 VEL = 3,0 MPH.
0,20	0,74	79491,1	4022,9	
0,25	0,83	89309,9	4467,9	MUPEAK = 0,95 MULOCK = 0,85 RATIO = 1,12
0,30	0,90	96379,5	4775,4	
0,35	0,93	100629,7	4938,6	
0,40	0,94	102322,3	4993,5	
0,45	0,95	102652,8	4995,0	
0,50	0,94	102324,0	4971,3	
0,55	0,94	101669,5	4935,8	
0,60	0,93	100851,9	4892,5	
0,65	0,92	99952,9	4846,9	
0,70	0,91	99013,1	4799,7	
0,75	0,90	98052,9	4751,8	
0,80	0,89	97082,6	4703,4	
0,85	0,88	96107,2	4654,9	
0,90	0,87	95103,2	4605,1	
0,95	0,86	94046,3	4552,8	
1,00	0,85	92910,7	4496,8	

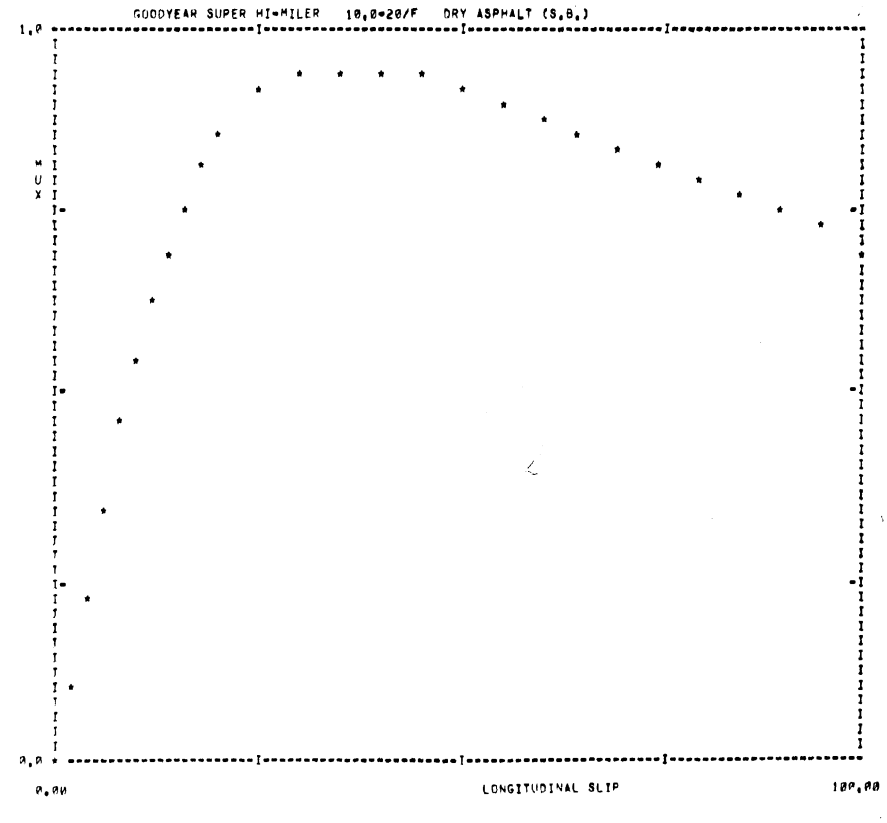


FZ = 5479,4 VEL = 3,0 MULOCK = 0,85 MUPEAK = 0,95 RATIO = 1,12 A-D FILE 147 NWFILE 55 SAMPLE 251

** A-D FILE 148 NEW FILE 56 TEST SAMPLE252 **

AVERAGE OF FILE 148 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (S.B.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.09	9264.7	516.5	
0.04	0.22	23321.0	1199.5	
0.06	0.35	36869.9	1888.7	
0.08	0.46	49016.3	2501.4	
0.10	0.55	59105.9	2979.8	
0.12	0.63	67197.7	3367.0	
0.14	0.69	74558.7	3708.8	
0.16	0.76	81248.4	4071.1	
0.18	0.82	87173.5	4355.2	TQAV = 74312.5 LOAD = 5509.2 VEL = 10.0 MPH.
0.20	0.86	91304.6	4546.4	
0.25	0.91	97535.2	4802.1	MUPEAK = 0.94 MULOCK = 0.70 RATIO = 1.35
0.30	0.94	102042.3	4921.9	
0.35	0.94	105384.1	4953.3	
0.40	0.94	108072.7	4931.6	
0.45	0.93	110051.0	4885.7	
0.50	0.92	111459.1	4824.8	
0.55	0.91	111288.5	4747.0	
0.60	0.89	108269.4	4648.9	
0.65	0.87	104865.3	4524.2	
0.70	0.84	99947.8	4407.4	
0.75	0.82	96034.2	4291.9	
0.80	0.80	92238.6	4177.1	
0.85	0.78	88503.7	4062.7	
0.90	0.76	84488.4	3945.5	
0.95	0.73	79861.6	3822.7	
1.00	0.70	74312.5	3691.2	

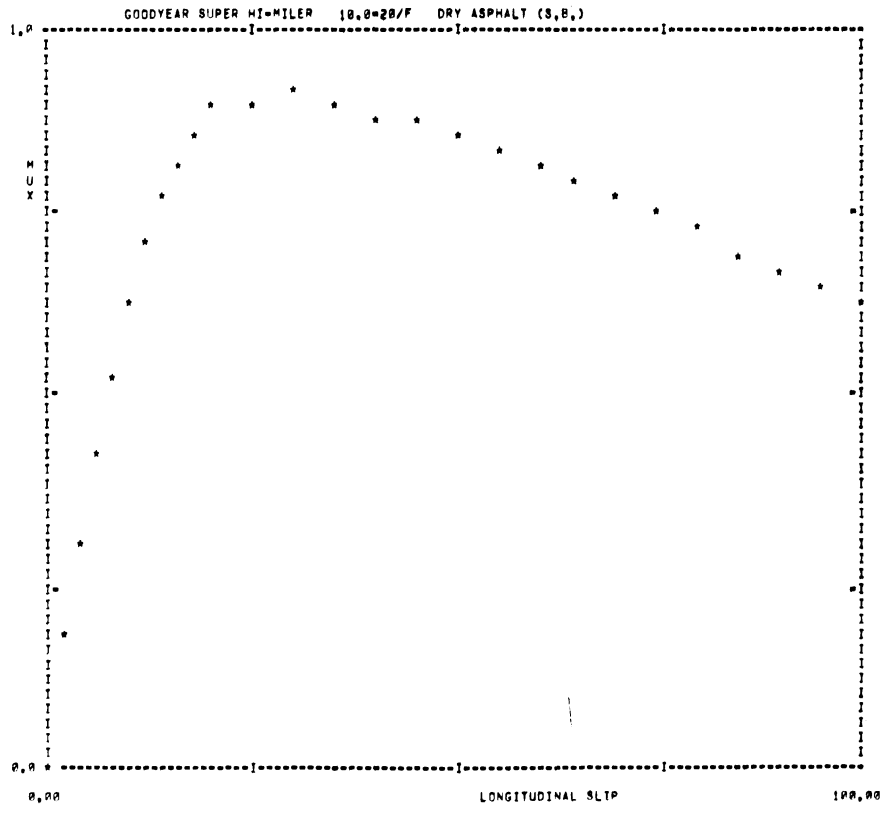


FZ = 5509.2 VEL = 10.0 MULOCK = 0.70 MUPEAK = 0.94 RATIO = 1.35 A-D FILE 148 NWFILE 56 SAMPLE 252

** A-D FILE 149 NEW FILE 57 TEST SAMPLE253 **

AVERAGE OF FILE 149 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (S,R,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.18	19755.0	983.0	
0.04	0.31	34672.0	1730.0	
0.06	0.42	47081.0	2333.1	
0.08	0.53	59447.5	2936.9	
0.10	0.63	69920.3	3487.1	
0.12	0.71	78765.1	3914.5	
0.14	0.77	85752.9	4232.2	
0.16	0.83	90838.9	4485.3	
0.18	0.87	94888.6	4678.7	TQAV = 65270.8 LOAD = 5592.8 VEL = 20.0 MPH.
0.20	0.89	97731.2	4774.2	
0.25	0.91	102665.3	4852.2	MUPEAK = 0.91 MULOCK = 0.63 RATIO = 1.46
0.30	0.91	106348.8	4848.7	
0.35	0.90	109038.3	4799.2	
0.40	0.89	111141.1	4725.5	
0.45	0.87	112741.2	4642.5	
0.50	0.86	113923.2	4554.3	
0.55	0.84	114970.2	4468.4	
0.60	0.82	115924.6	4361.6	
0.65	0.80	116133.4	4261.1	
0.70	0.78	114326.4	4154.3	
0.75	0.76	109955.5	4041.0	
0.80	0.73	103162.4	3918.7	
0.85	0.71	94599.3	3787.1	
0.90	0.68	85438.9	3652.4	
0.95	0.65	75733.9	3514.7	
1.00	0.63	65270.8	3372.5	



FZ = 5592.8 VEL = 20.0 MULOCK = 0.63 MUPEAK = 0.91 RATIO = 1.46 A-D FILE 149 NWFILE 57 SAMPLE 253

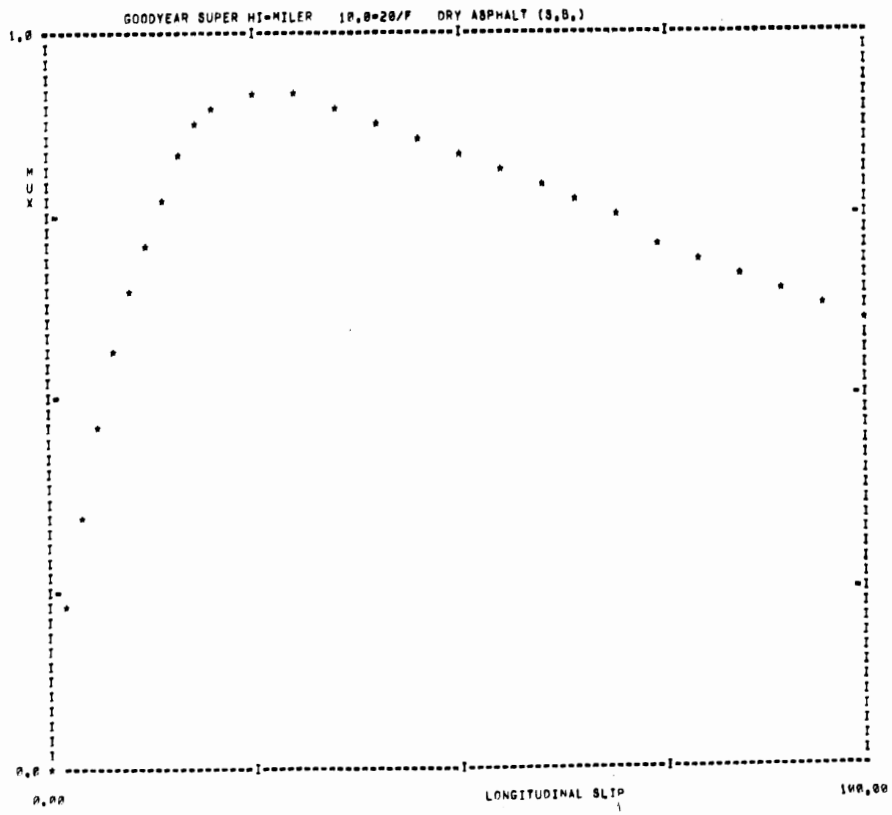
** A-D FILE 150 NEW FILE 58 TEST SAMPLE254 **

AVERAGE OF FILE 150 FOR 4 RECORDS, GOODYEAR SUPER HI-MILER 10,0-20/F DRY ASPHALT (0,0,)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,23	22572,6	1266,5
0,04	0,35	37847,4	1936,4
0,06	0,47	51320,3	2574,6
0,08	0,57	63033,7	3119,6
0,10	0,65	72169,1	3536,1
0,12	0,72	79438,8	3884,0
0,14	0,78	85923,7	4208,1
0,16	0,84	91858,5	4488,3
0,18	0,88	95676,6	4689,0
0,20	0,90	98846,8	4796,1
0,25	0,91	104227,8	4893,0
0,30	0,91	108534,5	4899,4
0,35	0,90	111620,7	4845,5
0,40	0,88	113412,6	4758,9
0,45	0,86	114396,7	4653,3
0,50	0,84	115063,3	4538,0
0,55	0,82	115584,1	4417,9
0,60	0,79	116019,2	4297,2
0,65	0,77	116445,7	4176,4
0,70	0,75	116175,0	4055,2
0,75	0,72	113293,1	3934,2
0,80	0,70	106792,4	3808,7
0,85	0,68	97438,8	3675,9
0,90	0,65	86919,3	3539,8
0,95	0,63	75831,9	3401,1
1,00	0,60	64031,2	3258,8

TQAV = 64031,2 LOAD = 5512,2 VEL = 30,0 MPH.

MUPEAK = 0,91 MULOCK = 0,60 RATIO = 1,51

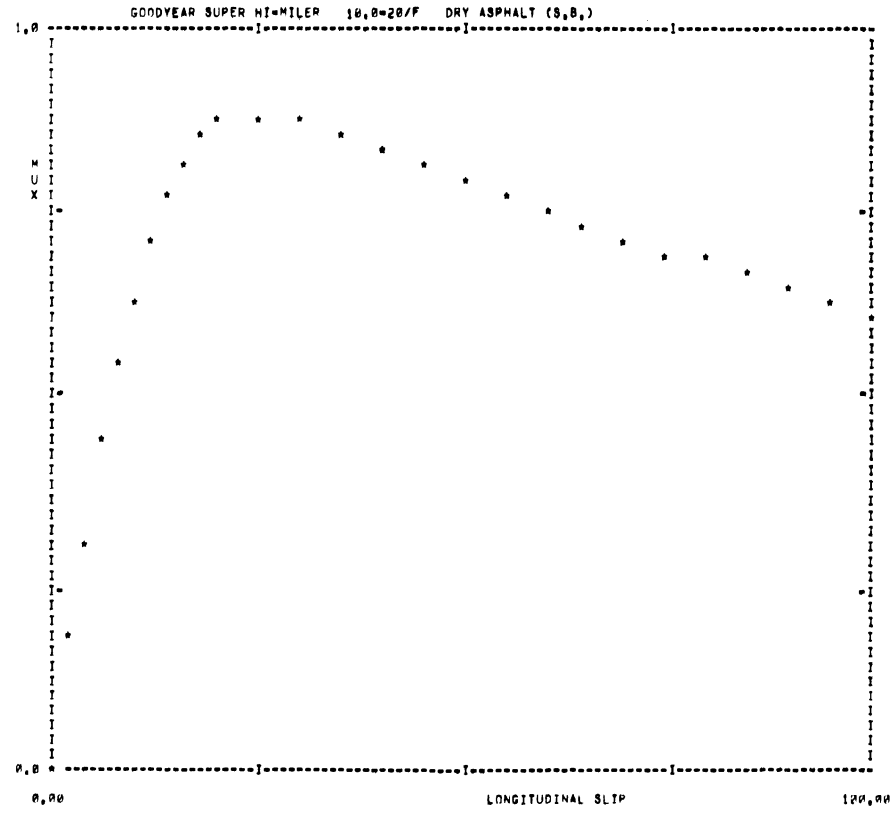


FZ = 5512,2 VEL = 30,0 MULOCK = 0,60 MUPEAK = 0,91 RATIO = 1,51 A-D FILE 150 NWFILE 58 SAMPLE 254

** A-D FILE 151 NEW FILE 59 TEST SAMPLE255 **

AVERAGE OF FILE 151 FOR 5 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (S.S.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.18	19797.3	988.5	
0.04	0.32	35458.4	1752.8	
0.06	0.44	49539.1	2440.5	
0.08	0.55	61680.6	3031.7	
0.10	0.64	72608.6	3543.6	
0.12	0.72	81414.0	3966.9	
0.14	0.78	88498.3	4289.9	
0.16	0.83	94049.5	4538.7	
0.18	0.86	98178.6	4714.1	TQAV = 63550.0 LOAD = 5567.1 VEL = 40.0 MPH.
0.20	0.87	101077.6	4770.6	
0.25	0.88	105281.6	4777.0	MUPEAK = 0.88 MULOCK = 0.61 RATIO = 1.43
0.30	0.88	107937.0	4734.0	
0.35	0.87	109774.8	4658.7	
0.40	0.85	111326.0	4559.3	
0.45	0.83	112843.9	4443.7	
0.50	0.81	114206.7	4322.3	
0.55	0.78	115475.8	4198.7	
0.60	0.76	116666.2	4076.0	
0.65	0.74	117345.5	3965.1	
0.70	0.72	117376.2	3862.4	
0.75	0.70	115471.9	3770.1	
0.80	0.69	109518.2	3682.5	
0.85	0.67	99770.6	3592.4	
0.90	0.65	88318.5	3500.6	
0.95	0.63	76263.1	3407.8	
1.00	0.61	63550.0	3313.5	

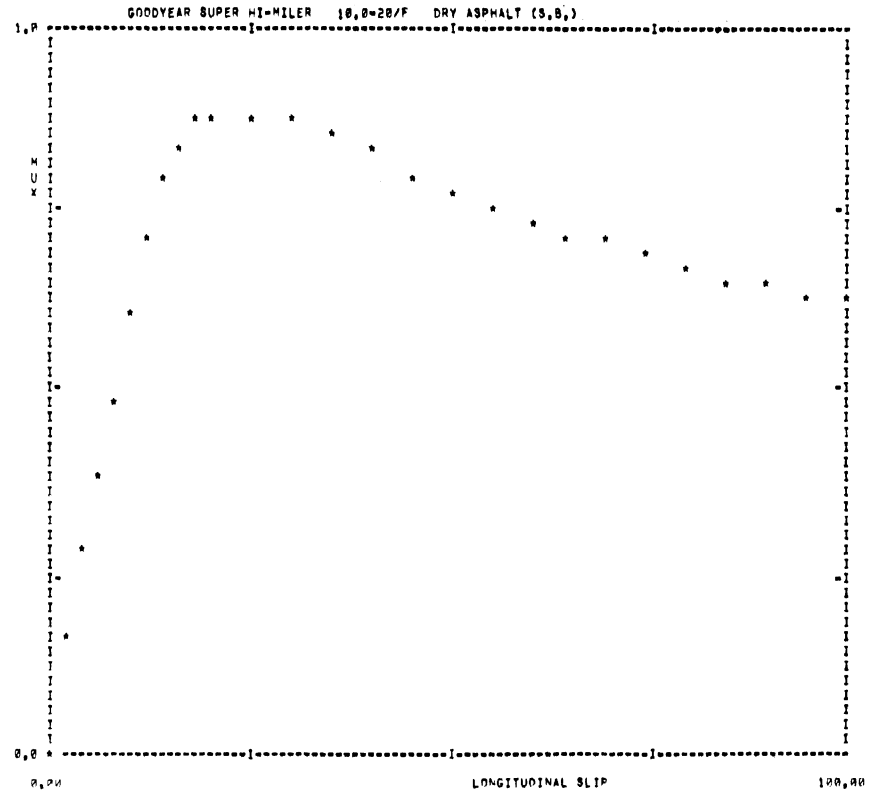


FZ = 5567.1 VEL = 40.0 MULOCK = 0.61 MUPEAK = 0.88 RATIO = 1.43 A-D FILE 151 NWFILE 59 SAMPLE 255

** A-D FILE 155 NEW FILE 60 TEST SAMPLE256 **

AVERAGE OF FILE 155 FOR 5 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (S.S.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.16	15675.3	859.4	
0.04	0.28	29710.0	1587.8	
0.06	0.39	41988.5	2083.5	
0.08	0.49	53819.9	2644.6	
0.10	0.62	67845.8	3321.6	
0.12	0.72	78949.7	3855.5	
0.14	0.79	86987.0	4242.0	
0.16	0.84	93310.0	4517.3	
0.18	0.87	98134.8	4681.8	TQAV = 62500.0 LOAD = 5463.7 VEL = 55.0 MPH.
0.20	0.89	100644.9	4742.6	
0.25	0.88	105738.0	4716.0	MUPEAK = 0.89 MULOCK = 0.63 RATIO = 1.42
0.30	0.87	100659.1	4641.9	
0.35	0.85	110509.4	4542.5	
0.40	0.83	112308.2	4425.2	
0.45	0.81	114182.2	4302.0	
0.50	0.78	116137.0	4176.1	
0.55	0.76	117836.1	4063.0	
0.60	0.74	118946.7	3958.4	
0.65	0.72	119795.1	3858.7	
0.70	0.71	120827.6	3772.3	
0.75	0.70	118873.1	3692.3	
0.80	0.68	114571.3	3610.6	
0.85	0.67	105664.5	3523.8	
0.90	0.65	92571.1	3442.0	
0.95	0.64	78135.4	3363.7	
1.00	0.63	62500.0	3289.5	

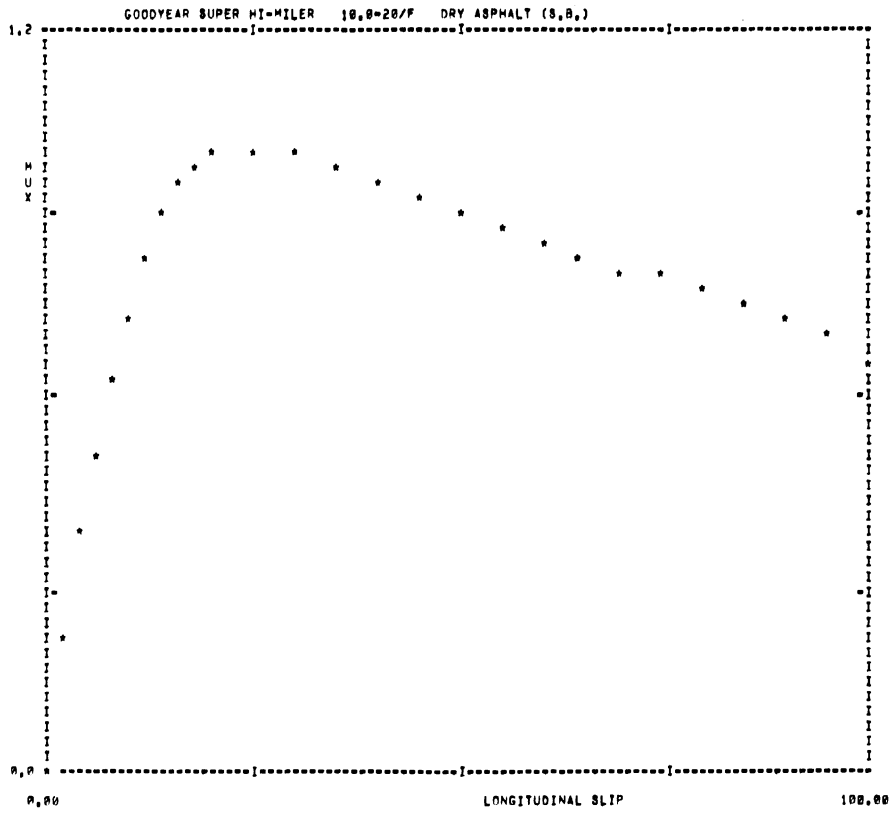


FZ = 5463.7 VEL = 55.0 MULOCK = 0.63 MUPEAK = 0.89 RATIO = 1.42 A-D FILE 155 NWFILE 60 SAMPLE 256

** A-D FILE 160 NEW FILE 62 TEST SAMPLE258 **

AVERAGE OF FILE 160 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.22	9410.1	503.7	
0.04	0.38	17748.5	881.4	
0.06	0.52	24744.8	1197.7	
0.08	0.64	31471.3	1466.3	
0.10	0.74	36749.0	1697.1	
0.12	0.83	41235.0	1891.2	
0.14	0.91	44943.6	2063.9	
0.16	0.96	47967.0	2192.1	
0.18	0.99	50789.0	2266.4	TQAV = 31791.7 LOAD = 2377.8 VEL = 40.0 MPH.
0.20	1.00	52642.7	2298.0	
0.25	1.01	56304.2	2300.2	MUPEAK = 1.01 MULOCK = 0.67 RATIO = 1.51
0.30	1.00	59198.3	2271.1	
0.35	0.98	61253.2	2227.6	
0.40	0.96	62836.6	2175.1	
0.45	0.93	64351.4	2118.1	
0.50	0.91	65929.3	2061.5	
0.55	0.88	67629.7	2003.6	
0.60	0.86	69343.8	1948.7	
0.65	0.83	70998.0	1900.6	
0.70	0.82	72374.8	1858.4	
0.75	0.80	72778.4	1820.5	
0.80	0.78	70122.5	1782.0	
0.85	0.76	63397.6	1734.3	
0.90	0.73	53924.8	1675.3	
0.95	0.70	43407.4	1609.4	
1.00	0.67	31791.7	1535.0	

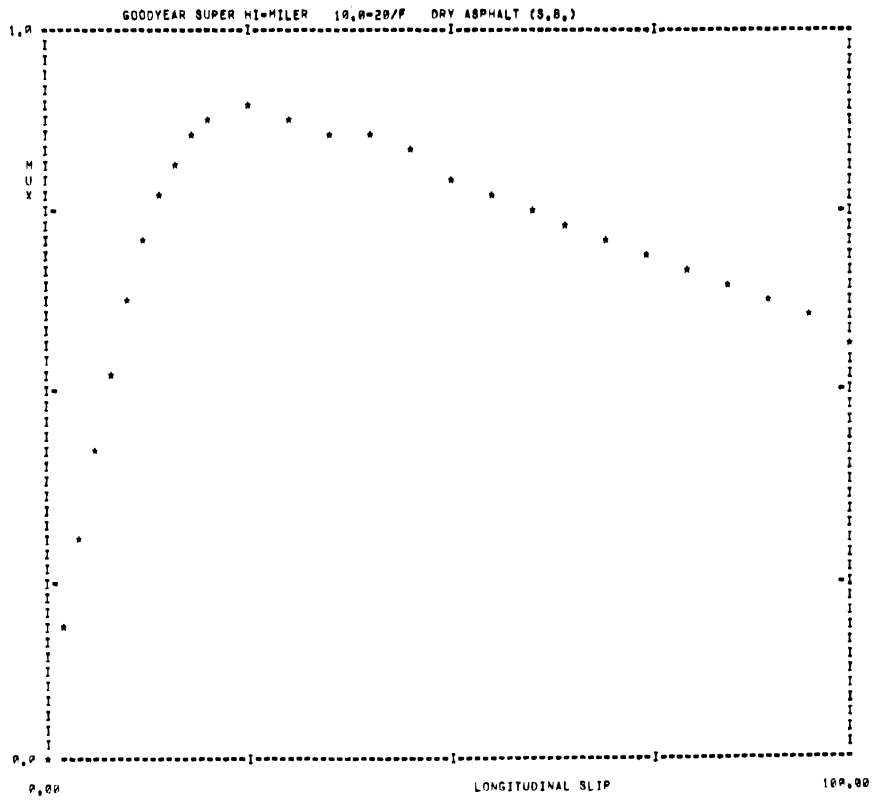


FZ = 2377.8 VEL = 40.0 MULOCK = 0.67 MUPEAK = 1.01 RATIO = 1.51 A-D FILE 160 NWFILE 62 SAMPLE 258

** A-D FILE 161 NEW FILE 63 TEST SAMPLE259 **

AVERAGE OF FILE 161 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (8.8.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.18	19317.3	983.0	
0.04	0.32	35795.6	1761.9	
0.06	0.43	49388.2	2415.9	
0.08	0.54	60924.8	2967.8	
0.10	0.63	71016.6	3454.1	
0.12	0.71	79270.0	3874.3	
0.14	0.78	86041.5	4215.9	
0.16	0.83	91835.2	4473.9	
0.18	0.86	96412.0	4661.2	TQAV = 62895.8 LOAD = 5580.7 VEL = 40.0 MPH.
0.20	0.88	99594.6	4758.2	
0.25	0.89	105387.7	4786.2	MUPEAK = 0.89 MULOCK = 0.58 RATIO = 1.54
0.30	0.88	109669.3	4749.4	
0.35	0.87	112628.2	4673.9	
0.40	0.85	114687.4	4580.3	
0.45	0.83	116326.3	4476.0	
0.50	0.81	117698.2	4366.5	
0.55	0.78	119006.7	4248.2	
0.60	0.76	120335.1	4128.8	
0.65	0.74	121285.8	4016.7	
0.70	0.72	121390.1	3908.7	
0.75	0.70	119110.8	3805.9	
0.80	0.67	113303.3	3700.8	
0.85	0.65	103093.5	3586.7	
0.90	0.63	90483.1	3462.9	
0.95	0.60	77086.1	3333.2	
1.00	0.58	62895.8	3196.3	

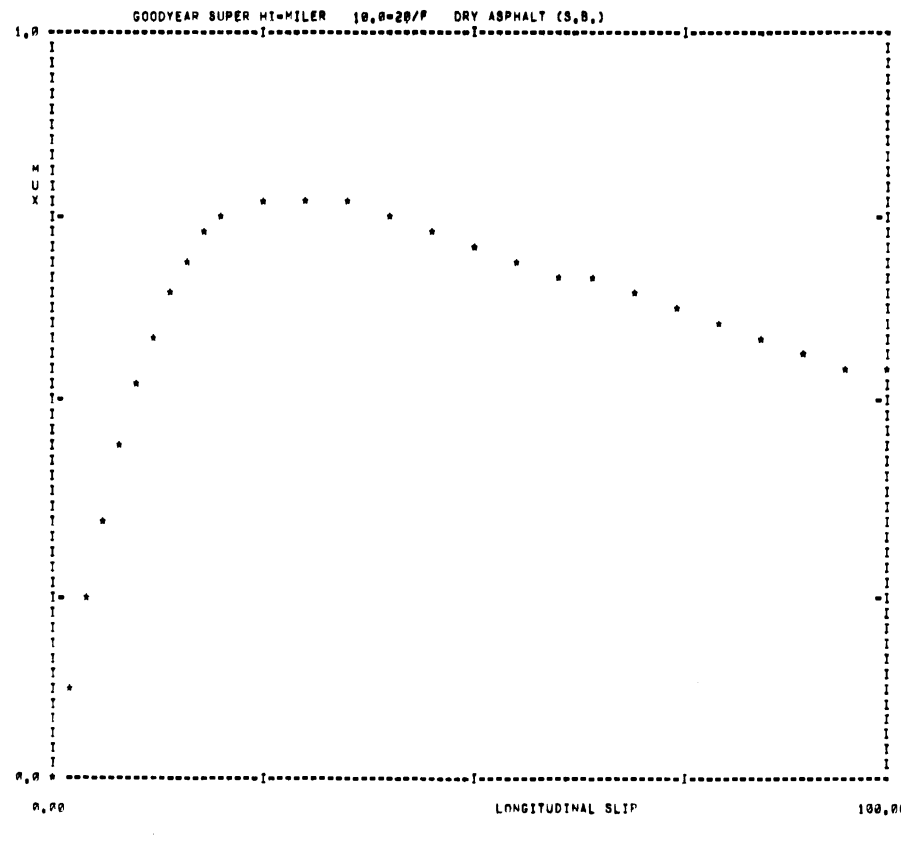


FZ = 5580.7 VEL = 40.0 MULOCK = 0.58 MUPEAK = 0.89 RATIO = 1.54 A-D FILE 161 NWFILE 63 SAMPLE 259

** A-D FILE 162 NEW FILE 64 TEST SAMPLE260 **

AVERAGE OF FILE 162 FOR 5 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.13	21846.5	1118.4	
0.04	0.25	43261.8	2186.9	
0.06	0.35	61483.8	3087.1	
0.08	0.44	77374.0	3982.4	
0.10	0.53	91562.4	4603.3	
0.12	0.60	103985.4	5223.6	
0.14	0.66	114203.5	5743.8	
0.16	0.70	122686.3	6123.8	
0.18	0.74	128612.0	6397.1	TQAV = 86300.0 LOAD = 8950.2 VEL = 40.0 MPH.
0.20	0.76	132521.2	6551.7	
0.25	0.77	138532.8	6660.9	MUPEAK = 0.78 MULOCK = 0.54 RATIO = 1.43
0.30	0.78	142495.3	6642.9	
0.35	0.77	145379.4	6547.2	
0.40	0.76	147830.2	6407.9	
0.45	0.74	149855.1	6253.7	
0.50	0.72	151473.5	6096.7	
0.55	0.70	152823.2	5948.2	
0.60	0.68	153717.2	5789.6	
0.65	0.67	154896.2	5645.7	
0.70	0.65	153458.7	5507.7	
0.75	0.63	150598.7	5370.7	
0.80	0.61	143048.0	5231.2	
0.85	0.60	131031.2	5088.0	
0.90	0.58	116930.1	4946.2	
0.95	0.56	102848.8	4805.6	
1.00	0.54	86300.0	4666.5	



FZ = 8950.2 VEL = 40.0 MULOCK = 0.54 MUPEAK = 0.78 RATIO = 1.43 A-D FILE 162 NWFILE 64 SAMPLE 260

** A-D FILE 146 NEW FILE 54 TEST SAMPLE250 **

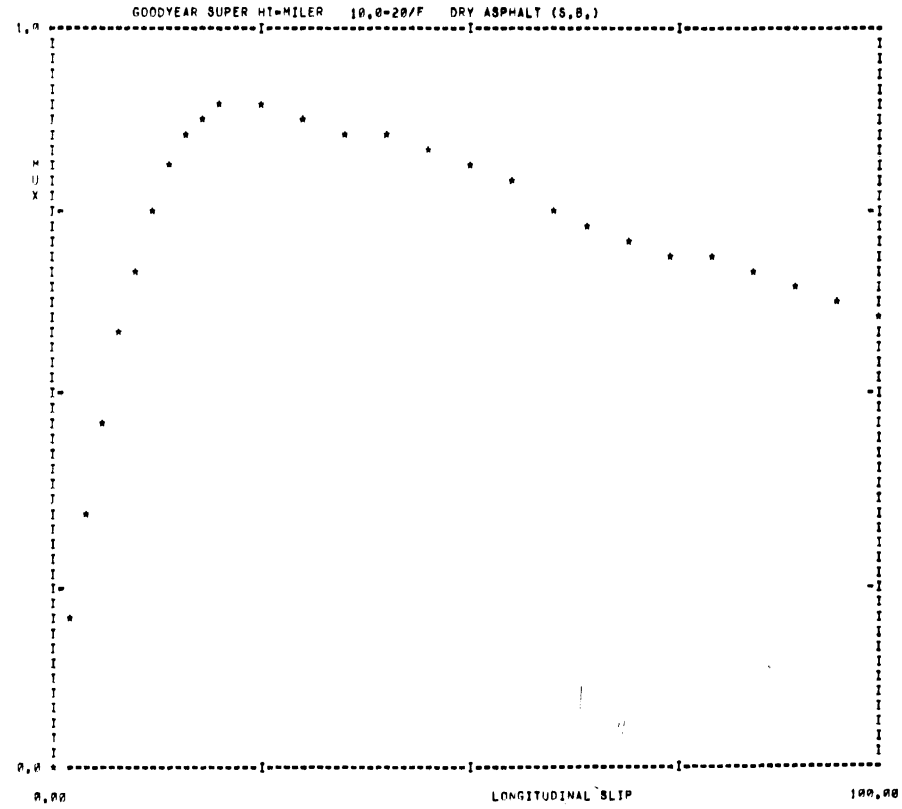
AVERAGE OF FILE 146 FOR 4 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.21	20366.4	1138.9
0.04	0.35	36979.1	1885.0
0.06	0.48	51638.7	2575.3
0.08	0.59	62876.2	3154.2
0.10	0.68	72814.4	3648.8
0.12	0.75	81335.2	4064.6
0.14	0.81	88182.5	4352.7
0.16	0.85	92642.0	4549.8
0.18	0.88	95489.7	4677.7
0.20	0.89	97558.1	4722.5
0.25	0.89	101749.4	4697.7
0.30	0.88	105329.0	4624.7
0.35	0.87	107542.3	4538.1
0.40	0.85	108425.8	4450.4
0.45	0.84	108642.2	4357.1
0.50	0.81	108781.2	4249.6
0.55	0.79	108830.7	4136.5
0.60	0.77	108981.9	4020.4
0.65	0.74	109179.7	3905.1
0.70	0.72	109091.1	3800.7
0.75	0.70	108172.0	3707.3
0.80	0.69	104377.5	3617.7
0.85	0.67	96849.7	3525.0
0.90	0.65	86674.6	3429.5
0.95	0.63	75259.1	3331.7
1.00	0.61	62406.2	3230.6

TQAV = 62406.2 LOAD = 5482.7 VEL = 40.0 MPH.

MUPEAK = 0.89 MULOCK = 0.61 RATIO = 1.47

Check Run #1



FZ = 5482.7 VEL = 40.0 MULOCK = 0.61 MUPEAK = 0.89 RATIO = 1.47 A-D FILE 146 NWFILE 54 SAMPLE 250

** A-D FILE 156 NEW FILE 61 TEST SAMPLE257 **

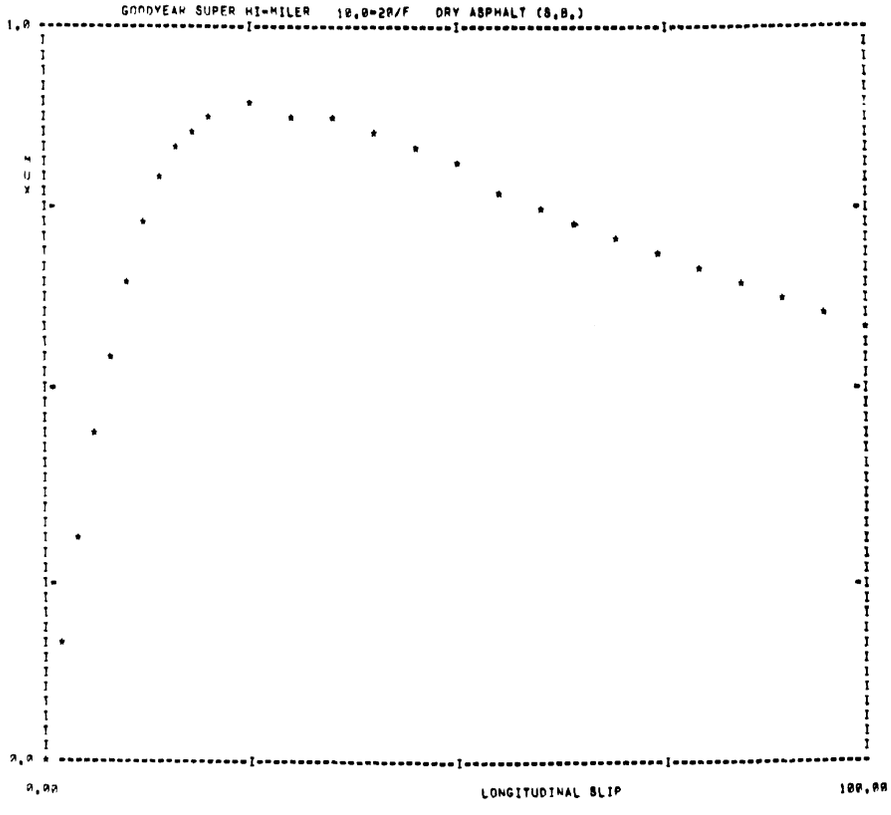
AVERAGE OF FILE 156 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 10,0-20/F DRY ASPHALT (S,R,)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,17	19667,8	973,0
0,04	0,32	35854,4	1771,1
0,06	0,44	49457,0	2467,3
0,08	0,56	60764,2	3077,7
0,10	0,66	70917,3	3602,4
0,12	0,73	79899,0	4030,5
0,14	0,79	87619,3	4354,2
0,16	0,84	93201,5	4600,6
0,18	0,87	97359,9	4779,0
0,20	0,89	100494,5	4862,1
0,25	0,89	105644,5	4980,4
0,30	0,89	109151,6	4864,4
0,35	0,87	111700,4	4781,6
0,40	0,85	113670,4	4676,6
0,45	0,83	115191,9	4561,0
0,50	0,81	116434,2	4440,9
0,55	0,79	117443,2	4317,1
0,60	0,76	118267,4	4192,4
0,65	0,74	118950,0	4070,5
0,70	0,72	119027,0	3951,0
0,75	0,70	116789,0	3837,3
0,80	0,68	110555,9	3726,1
0,85	0,66	100800,4	3610,8
0,90	0,64	88753,6	3493,6
0,95	0,62	75949,1	3375,2
1,00	0,60	62416,7	3255,0

TQAV = 62416,7 LOAD = 5582,0 VEL = 40,0 MPH.

MUPEAK = 0,89 MULOCK = 0,60 RATIO = 1,50

check Run #3



FZ = 5582,0 VEL = 40,0 MULOCK = 0,60 MUPEAK = 0,89 RATIO = 1,50 A-D FILE 156 NWFILE 61 SAMPLE 257

** A-D FILE 163 NEW FILE 65 TEST SAMPLE261 **

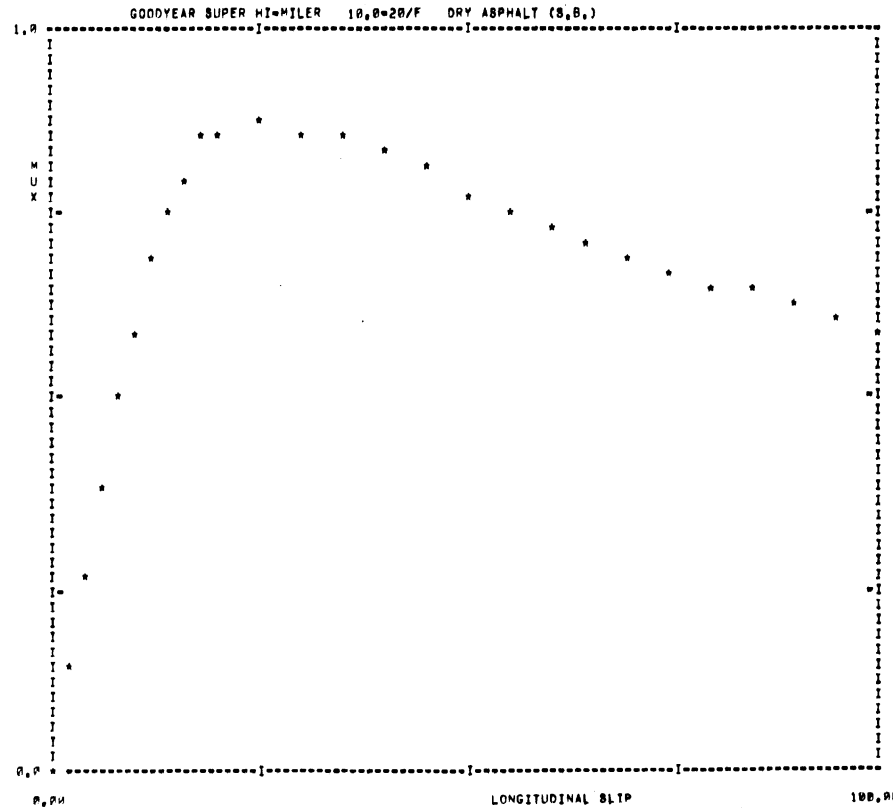
AVERAGE OF FILE 163 FOR 5 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (S.B.)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.14	17953.8	762.7
0.04	0.27	31810.0	1518.7
0.06	0.39	45377.1	2170.0
0.08	0.50	57444.0	2762.4
0.10	0.60	67371.8	3275.5
0.12	0.69	76652.9	3730.3
0.14	0.76	84878.3	4111.2
0.16	0.81	92044.2	4411.3
0.18	0.85	96656.3	4637.7
0.20	0.87	100239.3	4716.7
0.25	0.87	105959.8	4732.2
0.30	0.87	109870.7	4679.9
0.35	0.85	112510.5	4590.3
0.40	0.83	114521.8	4479.6
0.45	0.81	116252.4	4357.6
0.50	0.79	117815.2	4230.2
0.55	0.76	119205.2	4098.5
0.60	0.74	120386.1	3972.0
0.65	0.72	121236.2	3853.1
0.70	0.70	120900.9	3744.3
0.75	0.68	118258.2	3648.8
0.80	0.66	112188.0	3559.3
0.85	0.65	101693.5	3467.1
0.90	0.63	88915.8	3370.6
0.95	0.61	75609.9	3271.1
1.00	0.59	61900.0	3168.0

TQAV = 61900.0 LOAD = 5570.3 VEL = 40.0 MPH.

MUPEAK = 0.87 MULOCK = 0.59 RATIO = 1.47

Check Run #5



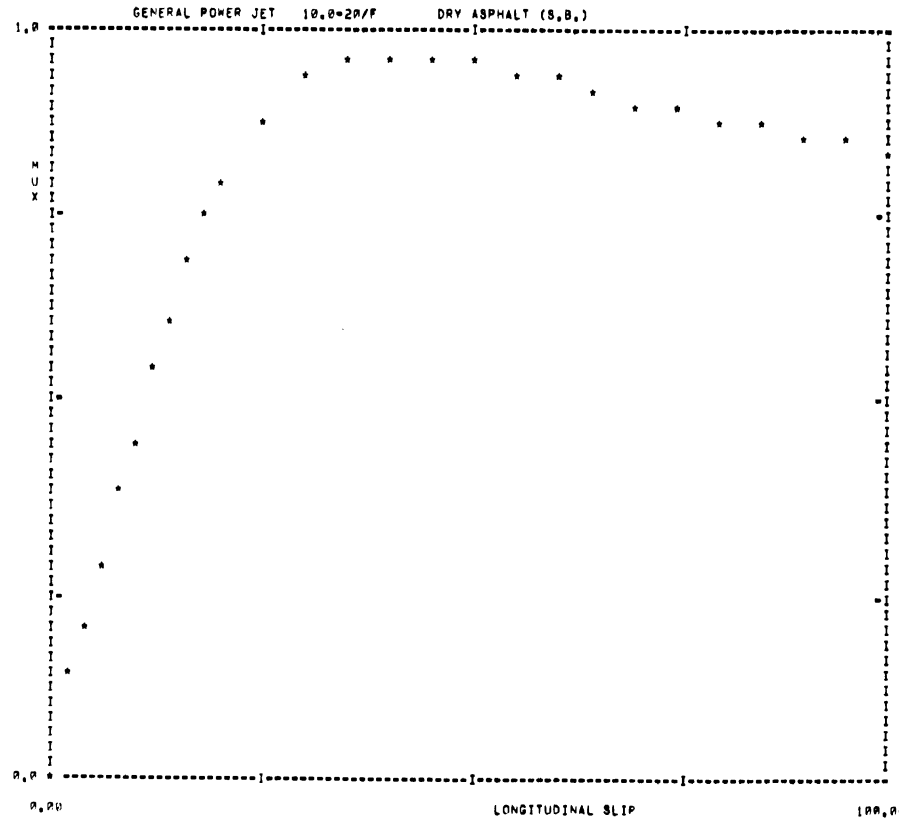
FZ = 5570.3 VEL = 40.0 MULOCK = 0.59 MUPEAK = 0.87 RATIO = 1.47 A-D FILE 163 NWFILE 65 SAMPLE 261

GENERAL POWER JET, 10.00 x 20/F, BADC ASPHALT

** A-D FILE 172 NEW FILE 67 TEST SAMPLE301 **

AVERAGE OF FILE 172 FOR 5 RECORDS. GENERAL POWER JET 10.0-20/F DRY ASPHALT (8.8.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.14	13666.8	784.9	
0.04	0.20	21371.9	1142.8	
0.06	0.30	31103.2	1644.5	
0.08	0.38	40034.5	2098.8	
0.10	0.46	49403.7	2587.1	
0.12	0.55	59767.1	2994.6	
0.14	0.62	68266.9	3497.1	
0.16	0.69	74715.0	3755.6	
0.18	0.75	80040.8	4052.1	TQAV = 91100.0 LOAD = 5592.9 VEL = 3.0 MPH.
0.20	0.79	84952.3	4292.0	
0.25	0.88	94241.3	4726.3	MUPEAK = 0.96 MULOCK = 0.84 RATIO = 1.15
0.30	0.93	100865.1	4996.2	
0.35	0.96	103913.4	5119.6	
0.40	0.96	104581.3	5142.9	
0.45	0.96	104244.0	5121.0	
0.50	0.95	103467.5	5078.9	
0.55	0.94	102477.5	5026.8	
0.60	0.93	101381.5	4969.8	
0.65	0.92	100232.6	4910.3	
0.70	0.91	99057.1	4849.6	
0.75	0.90	97868.5	4788.3	
0.80	0.89	96673.2	4726.6	
0.85	0.87	95474.7	4664.9	
0.90	0.86	94197.3	4601.5	
0.95	0.85	92764.7	4535.0	
1.00	0.84	91100.0	4464.0	



FZ = 5592.9 VFL = 3.0 MULOCK = 0.84 MUPEAK = 0.96 RATIO = 1.15 A-D FILE 172 NWFILE 67 SAMPLE 301

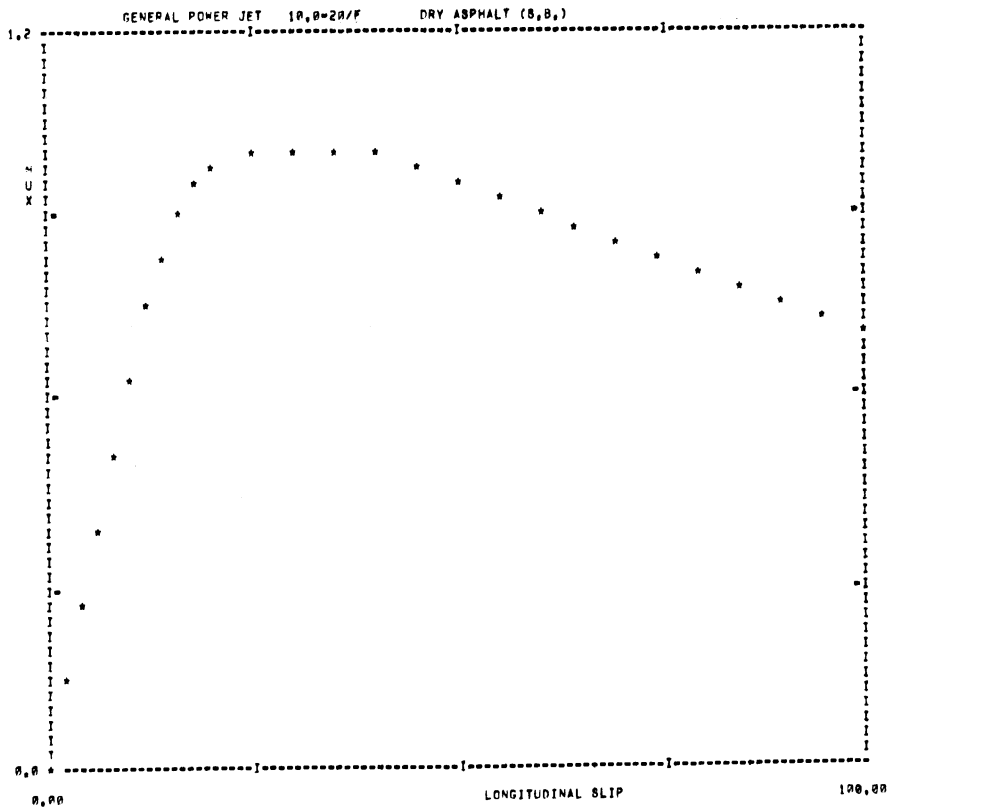
** A-D FILE 173 NEW FILE 68 TEST SAMPLE302 **

AVERAGE OF FILE 173 FOR 6 RECORDS, GENERAL POWER JET 10,0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,15	13773,1	826,4
0,04	0,26	26545,3	1457,8
0,06	0,39	41138,3	2160,1
0,08	0,52	55312,6	2835,8
0,10	0,64	68460,0	3477,4
0,12	0,75	80032,4	4056,0
0,14	0,84	89908,9	4495,9
0,16	0,91	96795,1	4850,7
0,18	0,95	101939,0	5088,1
0,20	0,98	105560,0	5207,0
0,25	1,00	110844,1	5329,2
0,30	1,01	114408,0	5364,0
0,35	1,01	117116,2	5342,8
0,40	1,00	119358,0	5286,4
0,45	0,98	121422,9	5206,4
0,50	0,96	122274,0	5105,9
0,55	0,94	118922,6	4981,8
0,60	0,91	114030,3	4851,1
0,65	0,89	109252,7	4719,8
0,70	0,86	104720,8	4588,7
0,75	0,84	100330,4	4457,7
0,80	0,82	96012,7	4326,8
0,85	0,79	91731,6	4195,9
0,90	0,76	87060,1	4063,2
0,95	0,74	81577,4	3926,8
1,00	0,71	74875,0	3785,0

TQAV = 74875,0 LOAD = 5574,5 VEL = 10,0 MPH,

MUPEAK = 1,01 MULOCK = 0,71 RATIO = 1,43

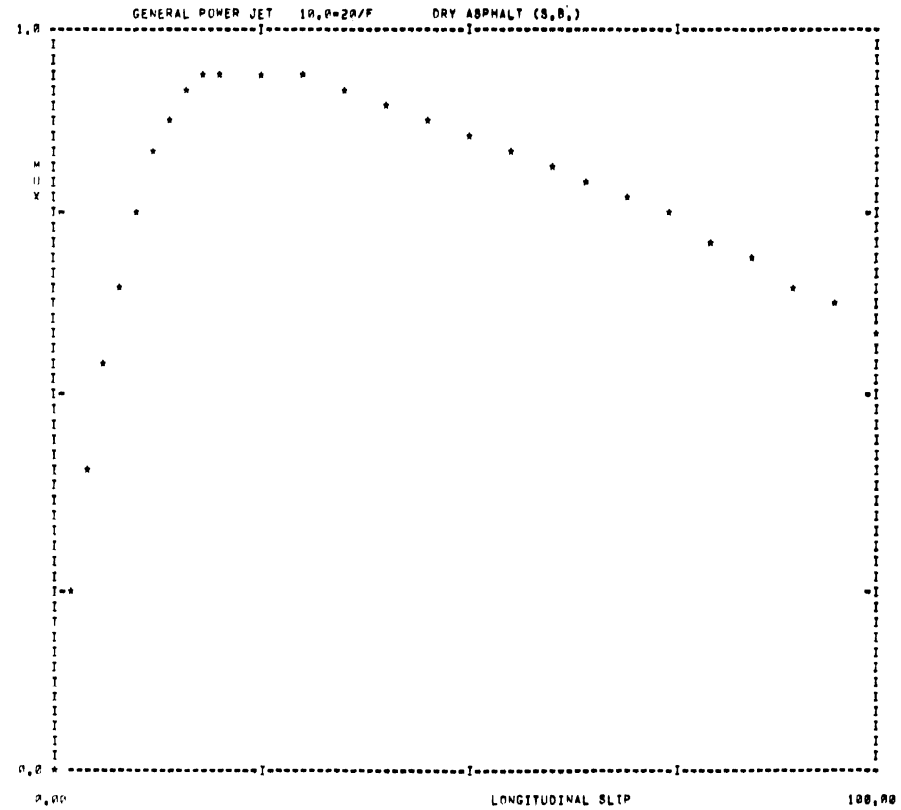


FZ = 5574,5 VEL = 10,0 MULOCK = 0,71 MUPEAK = 1,01 RATIO = 1,43 A-D FILE 173 NWFILE 68 SAMPLE 302

** A-D FILE 174 NEW FILE 69 TEST SAMPLE303 **

AVERAGE OF FILE 174 FOR 5 RECORDS. GENERAL POWER JET 10,0-20/F DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,26	25706,8	1435,5	
0,04	0,42	45309,8	2349,3	
0,06	0,56	61141,5	3108,4	
0,08	0,66	73226,2	3685,2	
0,10	0,76	83022,2	4159,3	
0,12	0,83	91468,3	4549,4	
0,14	0,89	97878,2	4844,3	
0,16	0,92	102770,6	5032,8	
0,18	0,94	106426,9	5136,1	TQAV = 64000,0 LOAD = 5582,3 VEL = 20,0 MPH.
0,20	0,95	108141,8	5167,1	
0,25	0,94	111017,7	5147,4	MUPEAK = 0,95 MULOCK = 0,60 RATIO = 1,57
0,30	0,93	113386,2	5086,6	
0,35	0,92	115328,2	5000,2	
0,40	0,90	116914,3	4895,9	
0,45	0,88	118488,0	4784,1	
0,50	0,86	119984,5	4676,2	
0,55	0,84	121317,7	4566,4	
0,60	0,82	121601,9	4456,8	
0,65	0,80	120858,5	4345,2	
0,70	0,78	115802,3	4225,0	
0,75	0,75	109228,3	4087,7	
0,80	0,72	100847,8	3941,3	
0,85	0,69	92083,9	3786,8	
0,90	0,66	83120,9	3628,5	
0,95	0,63	73815,9	3464,7	
1,00	0,60	64000,0	3292,5	

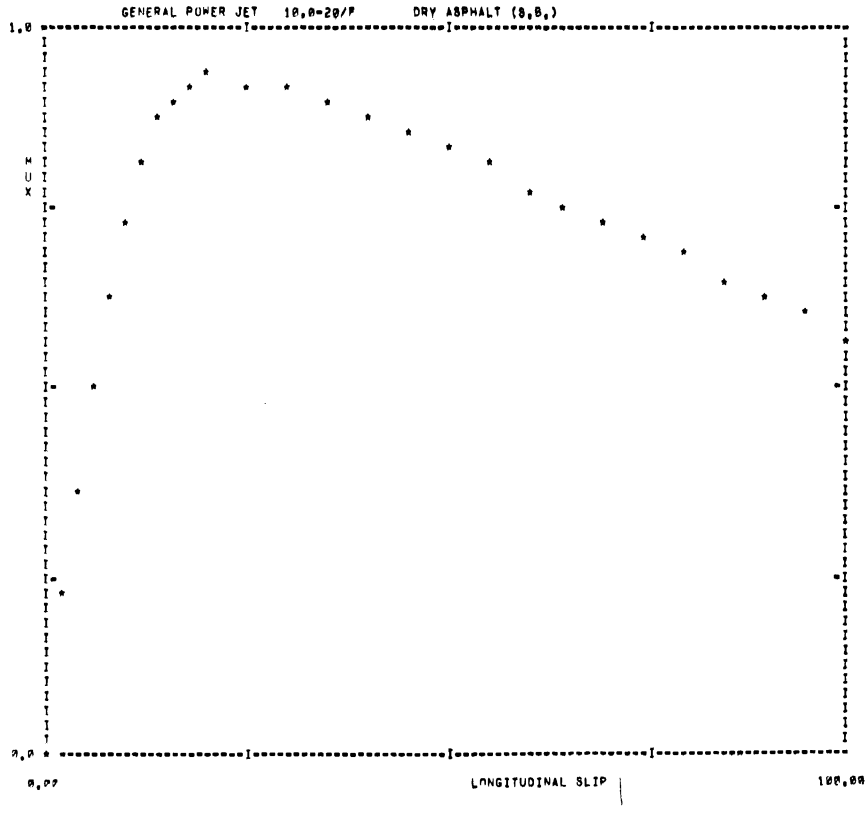


FZ = 5582,3 VEL = 20,0 MULOCK = 0,60 MUPEAK = 0,95 RATIO = 1,57 A-D FILE 174 NWFILE 69 SAMPLE 303

** A-D FILE 175 NEW FILE 70 TEST SAMPLE304 **

AVERAGE OF FILE 175 FOR 5 RECORDS, GENERAL POWER JET 10,0-20/F DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,22	23540,8	1235,4	
0,04	0,38	42767,0	2115,4	
0,06	0,52	58333,8	2874,3	
0,08	0,64	71334,6	3531,4	
0,10	0,75	81970,9	4054,7	
0,12	0,82	89998,9	4448,1	
0,14	0,87	96549,5	4719,3	
0,16	0,91	102297,5	4887,3	
0,18	0,93	106479,0	4982,1	TQAV = 61375,0 LOAD = 5577,3 VEL = 30,0 MPH.
0,20	0,94	108529,6	5085,4	
0,25	0,93	112076,5	4955,6	MUPEAK = 0,94 MULOCK = 0,58 RATIO = 1,61
0,30	0,91	114827,0	4868,2	
0,35	0,89	116927,6	4763,8	
0,40	0,87	118472,3	4656,3	
0,45	0,85	119511,1	4545,9	
0,50	0,83	120088,2	4432,7	
0,55	0,81	120437,2	4323,1	
0,60	0,79	120494,6	4212,2	
0,65	0,76	119635,7	4101,4	
0,70	0,74	117586,7	3984,7	
0,75	0,72	112344,3	3861,1	
0,80	0,69	103753,7	3725,1	
0,85	0,66	93955,9	3589,8	
0,90	0,64	83706,8	3452,1	
0,95	0,61	72928,7	3313,6	
1,00	0,58	61375,0	3172,5	

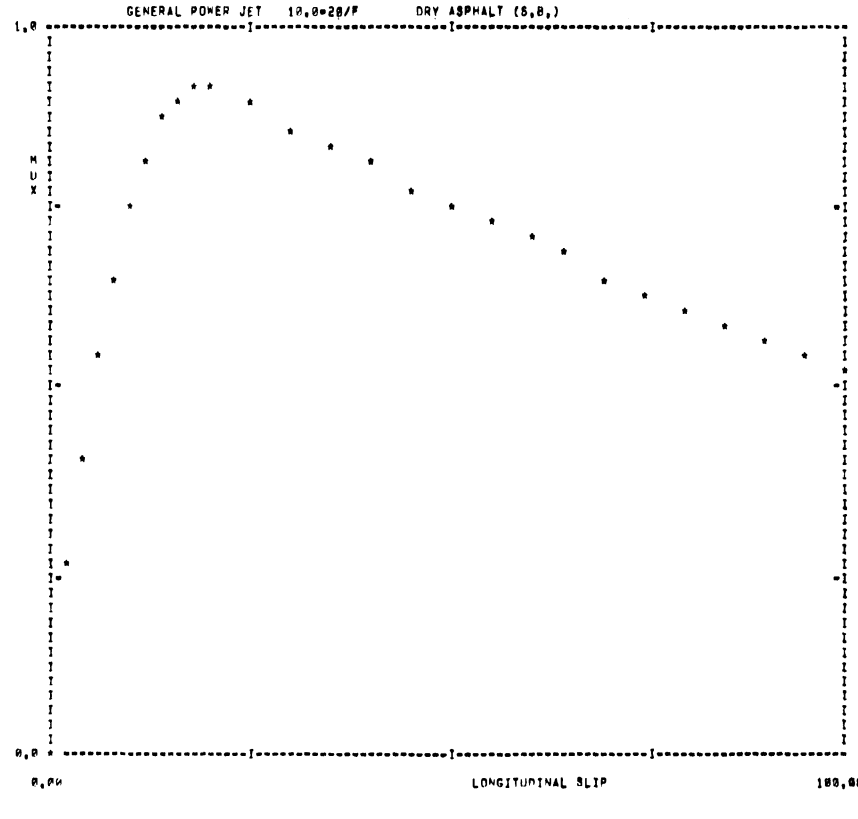


FZ = 5577,3 VEL = 30,0 MULOCK = 0,58 MUPEAK = 0,94 RATIO = 1,61 A-D FILE 175 NWFILE 70 SAMPLE 304

** A-D FILE 179 NEW FILE 71 TEST SAMPLE385 **

AVERAGE OF FILE 179 FOR 4 RECORDS, GENERAL POWER JET 10,0-20/F DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,26	31731,7	1451,5	
0,04	0,41	47746,1	2287,9	
0,06	0,55	63074,7	3048,9	
0,08	0,66	76240,6	3674,7	
0,10	0,76	86916,4	4184,4	
0,12	0,83	94969,5	4547,9	
0,14	0,88	100274,4	4792,3	
0,16	0,90	104685,8	4929,8	
0,18	0,92	108834,2	4983,3	TOAV = 57437,5 LOAD = 5626,7 VEL = 40,0 MPH,
0,20	0,92	110139,5	4962,0	
0,25	0,89	114075,9	4831,8	MUPEAK = 0,92 MULOCK = 0,54 RATIO = 1,71
0,30	0,86	117015,9	4679,8	
0,35	0,84	118987,6	4522,9	
0,40	0,81	119747,6	4372,3	
0,45	0,78	119941,1	4230,0	
0,50	0,76	119786,8	4091,1	
0,55	0,73	119738,5	3956,8	
0,60	0,71	119947,2	3832,6	
0,65	0,69	120024,9	3711,9	
0,70	0,67	118977,4	3593,4	
0,75	0,64	114726,3	3474,0	
0,80	0,62	107460,0	3353,1	
0,85	0,60	96285,7	3238,9	
0,90	0,58	83459,2	3129,3	
0,95	0,56	70448,6	3020,9	
1,00	0,54	57437,5	2913,7	

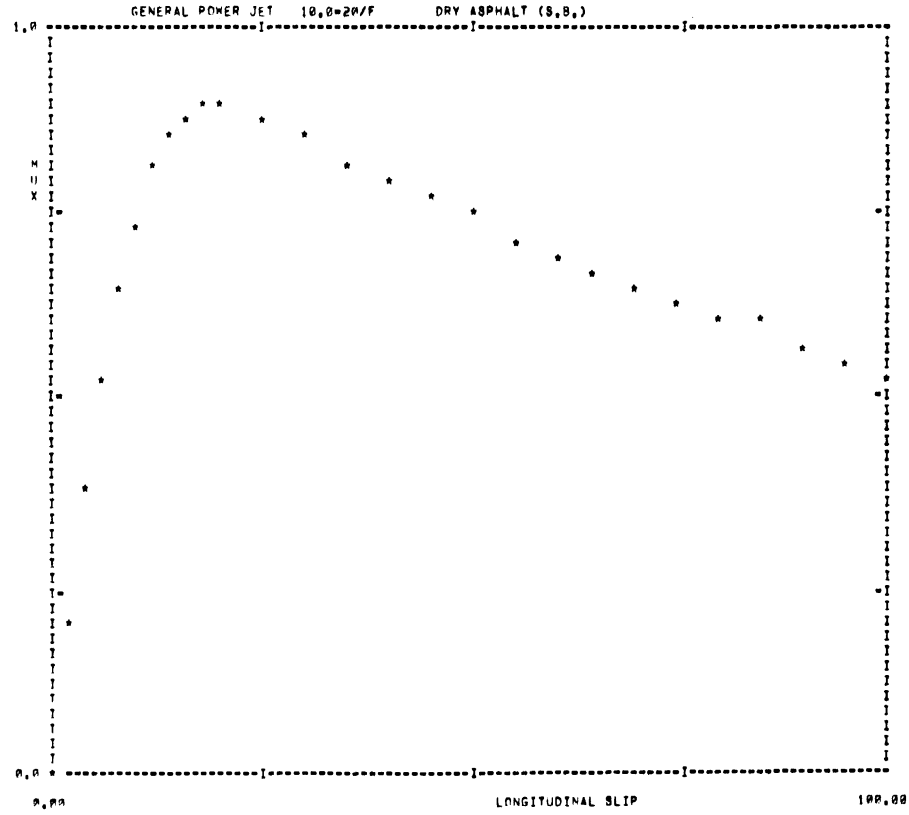


FZ = 5626,7 VEL = 40,0 MULOCK = 0,54 MUPEAK = 0,92 RATIO = 1,71 A-D FILE 179 NWFILE 71 SAMPLE 385

** A-D FILE 180 NEW FILE 72 TEST SAMPLE306 **

AVERAGE OF FILE 180 FOR 6 RECORDS. GENERAL POWER JET 10,0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,21	22517,5	1153,3	
0,04	0,39	43820,9	2138,9	
0,06	0,53	60787,6	2920,4	
0,08	0,65	74320,8	3566,9	
0,10	0,75	85389,0	4078,3	
0,12	0,81	93949,0	4431,8	
0,14	0,86	99557,7	4667,8	
0,16	0,88	104132,4	4793,0	
0,18	0,90	107494,4	4848,0	TQAV = 57958,3 LOAD = 5598,0 VEL = 55,0 MPH.
0,20	0,89	109441,2	4831,9	
0,25	0,87	112774,1	4711,1	MUPEAK = 0,90 MULOCK = 0,53 RATIO = 1,69
0,30	0,85	115264,4	4574,3	
0,35	0,83	117068,2	4436,2	
0,40	0,80	118412,2	4299,6	
0,45	0,78	119701,6	4159,8	
0,50	0,75	121098,9	4025,1	
0,55	0,73	122754,6	3893,5	
0,60	0,70	124631,0	3762,3	
0,65	0,68	126376,5	3644,0	
0,70	0,66	127114,9	3538,2	
0,75	0,64	124876,0	3447,1	
0,80	0,62	117552,0	3360,2	
0,85	0,61	104728,2	3263,4	
0,90	0,58	89335,2	3150,2	
0,95	0,56	73641,0	3030,0	
1,00	0,53	57958,3	2902,5	

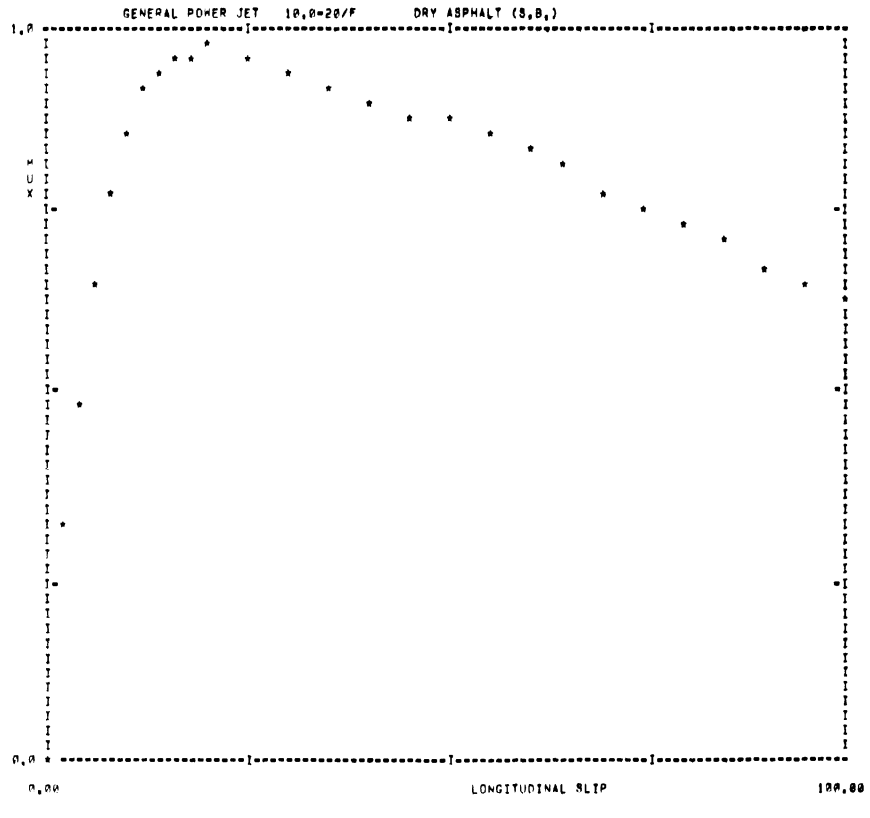


FZ = 5598,0 VEL = 55,0 MULOCK = 0,53 MUPEAK = 0,90 RATIO = 1,69 A-D FILE 180 NWFILE 72 SAMPLE 306

** A-D FILE 185 NEW FILE 74 TEST SAMPLE308 **

AVERAGE OF FILE 185 FOR 4 RECORDS, GENERAL POWER JET 10,0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.33	13439.9	767.1	
0.04	0.50	22894.3	1144.0	
0.06	0.65	30293.3	1467.5	
0.08	0.77	36869.9	1747.6	
0.10	0.86	40998.9	1955.1	
0.12	0.91	44811.2	2058.3	
0.14	0.94	48251.3	2102.3	
0.16	0.95	50941.0	2121.7	
0.18	0.97	52802.3	2131.7	TQAV = 27750.0 LOAD = 2284.8 VEL = 40.0 MPH.
0.20	0.97	53700.0	2131.6	
0.25	0.97	54913.9	2106.2	MUPEAK = 0.97 MULOCK = 0.63 RATIO = 1.54
0.30	0.95	56573.9	2065.0	
0.35	0.92	58608.8	2014.3	
0.40	0.90	60576.2	1969.5	
0.45	0.89	62249.8	1932.1	
0.50	0.87	63761.9	1894.9	
0.55	0.86	65108.2	1858.9	
0.60	0.84	66913.4	1812.1	
0.65	0.81	69035.1	1763.3	
0.70	0.78	71145.8	1712.6	
0.75	0.76	72912.6	1660.8	
0.80	0.73	68695.6	1611.4	
0.85	0.71	60587.6	1567.2	
0.90	0.68	50461.0	1519.1	
0.95	0.66	39556.8	1470.7	
1.00	0.63	27750.0	1423.1	

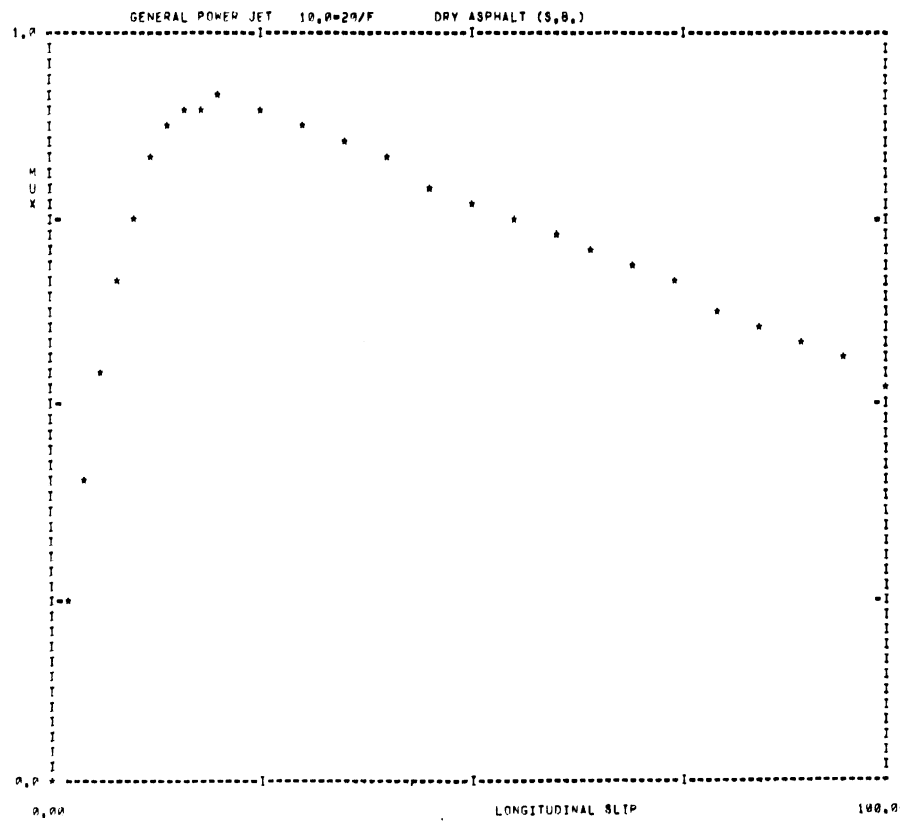


FZ = 2284.8 VEL = 40.0 MULOCK = 0.63 MUPEAK = 0.97 RATIO = 1.54 A-D FILE 185 NWFILE 74 SAMPLE 308

** A-D FILE 186 NEW FILE 75 TEST SAMPLE3#9 **

AVERAGE OF FILE 186 FOR 5 RECORDS. GENERAL POWER JET 10,0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,25	25626,7	1389,5	
0,04	0,42	44968,5	2314,2	
0,06	0,56	61036,3	3071,1	
0,08	0,67	73850,4	3660,5	
0,10	0,76	83529,7	4129,2	
0,12	0,83	91053,9	4462,8	
0,14	0,87	97026,5	4676,2	
0,16	0,90	101598,3	4806,0	
0,18	0,91	104788,0	4872,3	TQAV = 56675,0 LOAD = 5536,7 VEL = 40,0 MPH.
0,20	0,91	106066,0	4880,0	
0,25	0,90	108606,3	4824,0	MUPEAK = 0,91 MULOCK = 0,54 RATIO = 1,68
0,30	0,88	111666,7	4721,8	
0,35	0,86	115058,5	4597,0	
0,40	0,83	118047,5	4466,4	
0,45	0,80	120468,7	4335,1	
0,50	0,78	122360,7	4207,1	
0,55	0,76	123874,3	4086,0	
0,60	0,74	125053,9	3972,9	
0,65	0,71	125522,0	3865,1	
0,70	0,69	123979,4	3768,0	
0,75	0,67	118382,0	3646,3	
0,80	0,64	109374,4	3517,4	
0,85	0,62	97259,0	3379,8	
0,90	0,59	83800,7	3237,0	
0,95	0,57	70214,8	3094,1	
1,00	0,54	56675,0	2952,0	

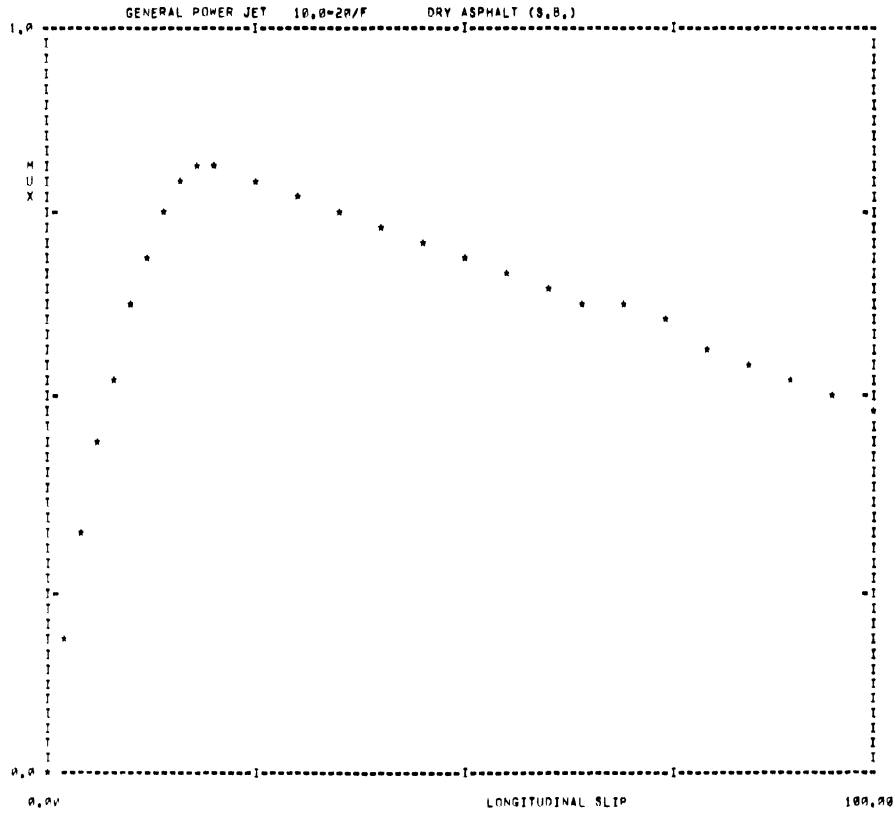


FZ = 5536,7 VEL = 40,0 MULOCK = 0,54 MUPEAK = 0,91 RATIO = 1,68 A-D FILE 186 NWFILE 75 SAMPLE 3#9.

** A-D FILE 187 NEW FILE 76 TEST SAMPLE310 **

AVERAGE OF FILE 187 FOR 5 RECORDS. GENERAL POWER JET 10,0-20/F DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,18	30583,2	1662,7	
0,04	0,32	54766,7	2861,9	
0,06	0,44	76153,7	3922,5	
0,08	0,54	94009,5	4889,3	
0,10	0,63	108673,6	5533,8	
0,12	0,70	121215,9	6121,9	
0,14	0,75	131267,2	6565,9	
0,16	0,79	138363,2	6866,2	
0,18	0,81	142162,3	7041,7	TQAV = 80925,0 LOAD = 9083,7 VEL = 40,0 MPH.
0,20	0,82	144594,5	7055,4	
0,25	0,80	148390,7	6933,1	MUPEAK = 0,82 MULOCK = 0,49 RATIO = 1,67
0,30	0,78	151126,7	6767,2	
0,35	0,76	153008,9	6589,5	
0,40	0,74	154227,5	6412,8	
0,45	0,72	154883,8	6241,1	
0,50	0,70	155296,4	6071,9	
0,55	0,68	155602,4	5906,7	
0,60	0,66	155804,8	5744,8	
0,65	0,64	155667,7	5583,7	
0,70	0,62	153814,2	5424,3	
0,75	0,60	148910,0	5259,3	
0,80	0,58	139577,9	5085,7	
0,85	0,56	126545,0	4897,8	
0,90	0,54	111872,7	4702,1	
0,95	0,51	96672,1	4501,9	
1,00	0,49	80925,0	4296,0	



FZ = 9083,7 VEL = 40,0 MULOCK = 0,49 MUPEAK = 0,82 RATIO = 1,67 A-D FILE 187 NWFILE 76 SAMPLE 310

** A=D FILE 171 NEW FILE 66 TEST SAMPLE300 **

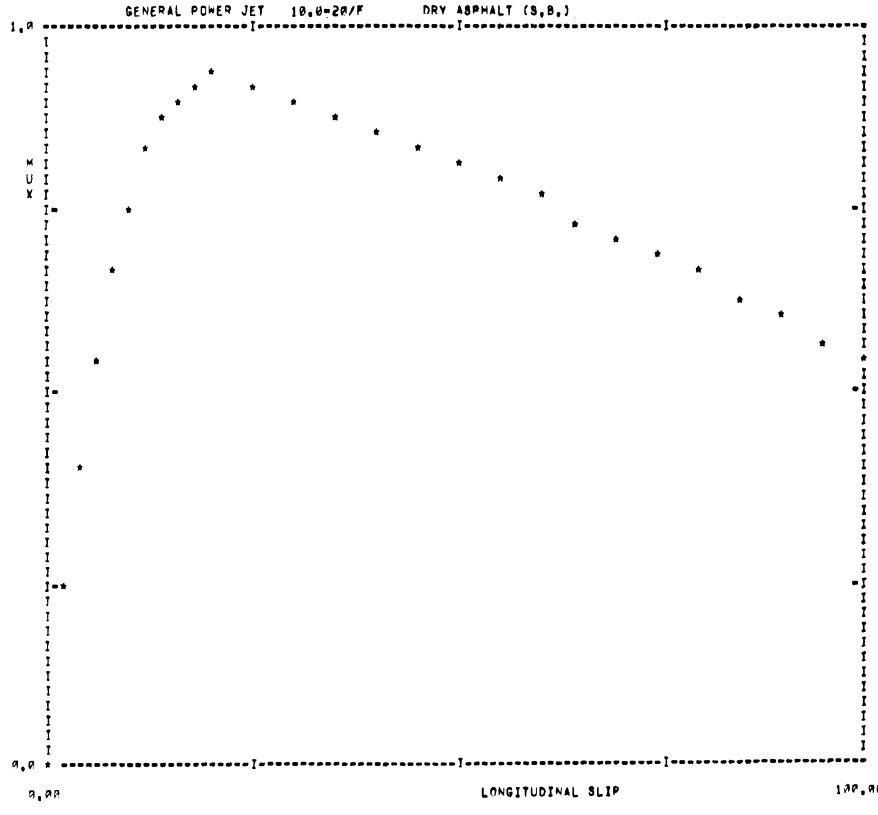
AVERAGE OF FILE 171 FOR 6 RECORDS. GENERAL POWER JET 10.0=20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.25	27560.5	1433.2
0.04	0.42	45630.8	2371.0
0.06	0.55	61100.8	3140.7
0.08	0.67	74195.2	3778.7
0.10	0.77	84268.3	4258.5
0.12	0.83	92132.8	4594.4
0.14	0.88	98114.5	4830.5
0.16	0.91	103205.0	4993.2
0.18	0.93	107017.3	5094.9
0.20	0.93	108414.5	5125.9
0.25	0.92	111299.5	5085.0
0.30	0.91	113649.2	4997.8
0.35	0.89	115395.0	4890.0
0.40	0.87	116627.6	4774.8
0.45	0.85	117593.1	4656.4
0.50	0.82	118672.6	4527.4
0.55	0.79	119896.7	4388.5
0.60	0.77	121307.4	4246.7
0.65	0.74	122683.8	4105.9
0.70	0.71	122942.9	3964.4
0.75	0.69	119216.4	3830.0
0.80	0.67	118912.3	3697.0
0.85	0.64	99236.6	3553.1
0.90	0.61	85998.1	3401.5
0.95	0.58	72535.3	3245.1
1.00	0.55	59020.8	3082.5

TQAV = 59020.8 LOAD = 5718.6 VEL = 40.0 MPH.

MUPEAK = 0.93 MULOCK = 0.55 RATIO = 1.69

Check Run #1



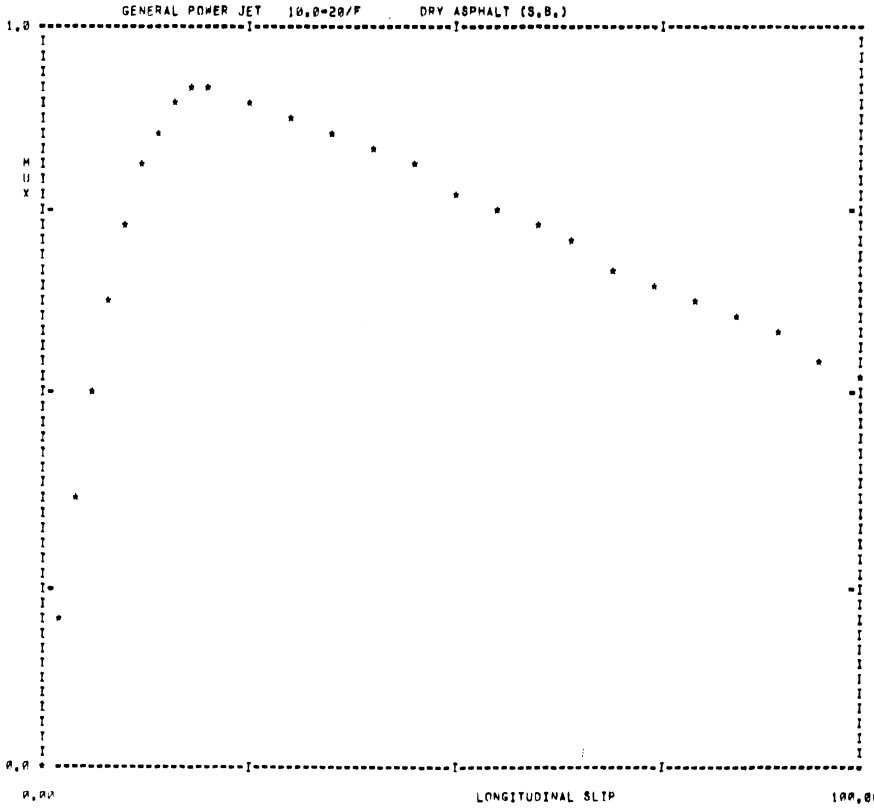
FZ = 5718.6 VEL = 40.0 MULOCK = 0.55 MUPEAK = 0.93 RATIO = 1.69 A=D FILE 171 NMFILE 66 SAMPLE 300

** A-D FILE 181 NEW FILE 73 TEST SAMPLE307 **

AVERAGE OF FILE 181 FOR 6 RECORDS, GENERAL POWER JET 10,0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,21	25750,8	1192,0	
0,04	0,37	43338,3	2103,7	
0,06	0,52	60082,7	2926,1	
0,08	0,64	74477,4	3594,5	
0,10	0,74	85712,8	4123,8	
0,12	0,81	94395,7	4520,5	
0,14	0,86	101375,4	4794,0	
0,16	0,90	106595,9	4971,0	
0,18	0,92	110288,5	5067,6	TQAV = 58666,7 LOAD = 5699,9 VEL = 40,0 MPH,
0,20	0,92	112616,9	5076,5	
0,25	0,90	116940,3	4991,6	MUPEAK = 0,92 MULOCK = 0,54 RATIO = 1,71
0,30	0,88	120175,6	4876,1	
0,35	0,86	122531,0	4751,4	
0,40	0,84	124557,9	4616,6	
0,45	0,81	126383,5	4473,4	
0,50	0,79	128173,4	4322,4	
0,55	0,76	130007,5	4172,3	
0,60	0,73	131637,2	4022,4	
0,65	0,71	131972,4	3880,8	
0,70	0,68	129820,9	3745,8	
0,75	0,66	123813,5	3615,0	
0,80	0,64	112527,5	3481,2	
0,85	0,61	99275,9	3344,9	
0,90	0,59	85481,4	3207,4	
0,95	0,56	71871,9	3068,5	
1,00	0,54	58666,7	2927,5	

Check Run #3



FZ = 5699,9 VEL = 40,0 MULOCK = 0,54 MUPEAK = 0,92 RATIO = 1,71 A-D FILE 181 NWFILE 73 SAMPLE 307

** A-D FILE 188 NEW FILE 77 TEST SAMPLE311 **

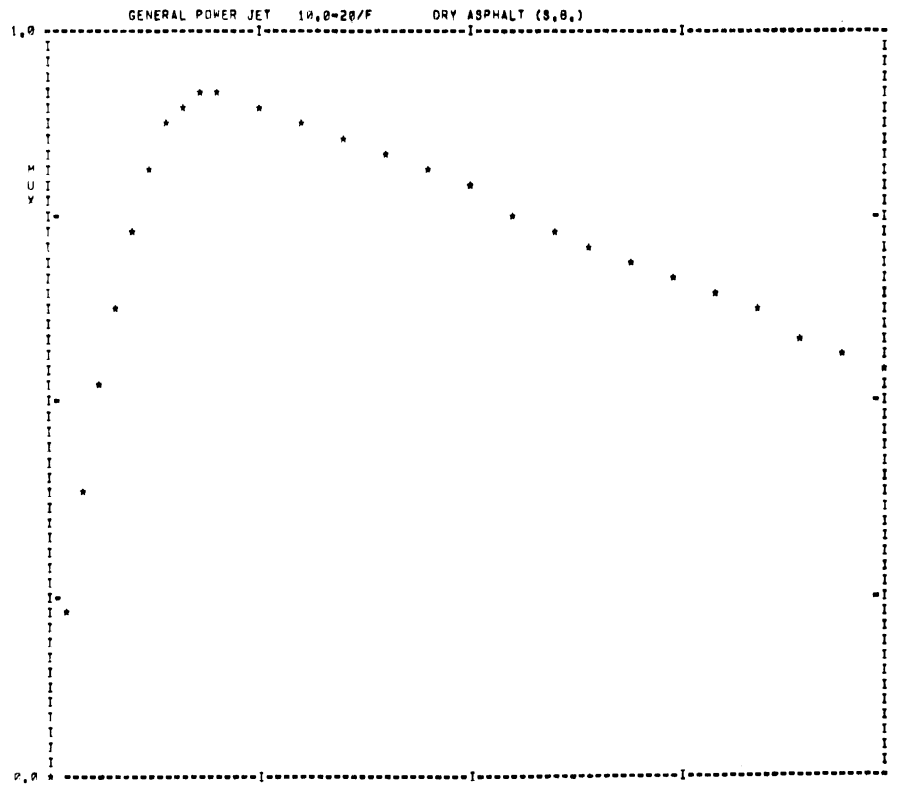
AVERAGE OF FILE 188 FOR 4 RECORDS, GENERAL POWER JET 10,0-20/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,23	26109,4	1287,4
0,04	0,39	44663,1	2205,5
0,06	0,53	60564,3	2985,5
0,08	0,64	73697,8	3603,4
0,10	0,74	84223,7	4124,9
0,12	0,82	92953,5	4524,9
0,14	0,87	99025,8	4798,6
0,16	0,90	103467,8	4949,4
0,18	0,91	106905,8	5008,2
0,20	0,91	109164,8	4986,1
0,25	0,90	112718,3	4901,6
0,30	0,88	115638,3	4803,0
0,35	0,86	118262,4	4688,3
0,40	0,83	120422,4	4568,2
0,45	0,81	122109,5	4445,6
0,50	0,79	123498,9	4321,6
0,55	0,77	124651,9	4197,6
0,60	0,74	125314,8	4075,1
0,65	0,72	125473,9	3951,6
0,70	0,70	124437,2	3827,9
0,75	0,67	119109,5	3704,3
0,80	0,65	109668,3	3577,6
0,85	0,63	97980,0	3450,0
0,90	0,60	85019,1	3315,8
0,95	0,58	71678,7	3179,4
1,00	0,55	58000,0	3041,2

TQAV = 58000,0 LOAD = 5597,8 VEL = 40,0 MPH,

MUPEAK = 0,91 MULOCK = 0,55 RATIO = 1,65

Check Run #5



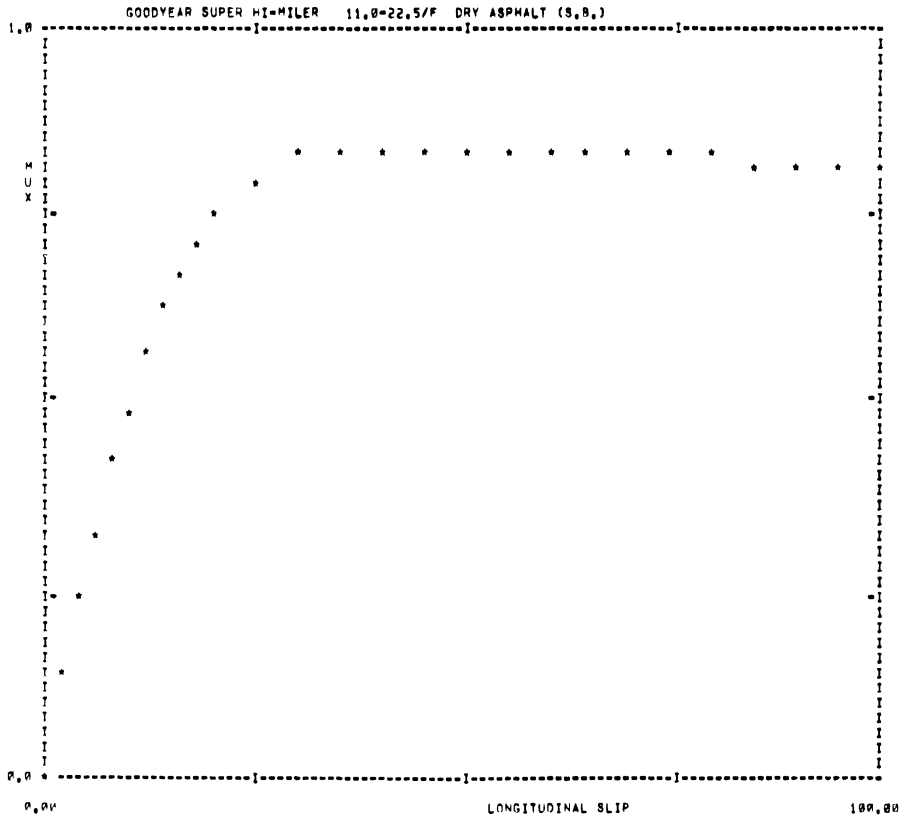
FZ = 5597,8 VEL = 40,0 MULOCK = 0,55 MUPEAK = 0,91 RATIO = 1,65 A-D FILE 188 NWFILE 77 SAMPLE 311

GOODYEAR SUPER HI MILER, 11 x 22.5/F, BADC ASPHALT

** A-D FILE 222 NEW FILE 91 / TEST SAMPLE401 **

AVERAGE OF FILE 222 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 11.0-22.5/F DRY ASPHALT (S.S.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.15	13577.0	809.4	
0.04	0.24	23879.2	1315.9	
0.06	0.33	33481.6	1800.5	
0.08	0.42	43761.9	2317.2	
0.10	0.50	53092.1	2749.6	
0.12	0.57	60786.6	3137.1	
0.14	0.64	66595.2	3456.0	
0.16	0.68	71306.4	3705.6	
0.18	0.72	75447.4	3904.1	TQAV = 88791.7 LOAD = 5505.2 VEL = 3.0 MPH.
0.20	0.75	78881.4	4050.4	
0.25	0.80	85376.2	4298.6	MUPEAK = 0.85 MULOCK = 0.82 RATIO = 1.04
0.30	0.83	90047.1	4465.4	
0.35	0.84	91495.7	4531.9	
0.40	0.85	92377.3	4545.6	
0.45	0.85	92420.4	4541.8	
0.50	0.85	92294.9	4531.4	
0.55	0.84	92098.2	4517.8	
0.60	0.84	91846.4	4502.7	
0.65	0.84	91583.2	4486.9	
0.70	0.84	91310.2	4470.6	
0.75	0.83	91032.4	4454.2	
0.80	0.83	90752.1	4437.7	
0.85	0.83	90470.6	4421.1	
0.90	0.82	90185.3	4402.2	
0.95	0.82	89573.3	4378.4	
1.00	0.82	88791.7	4347.5	

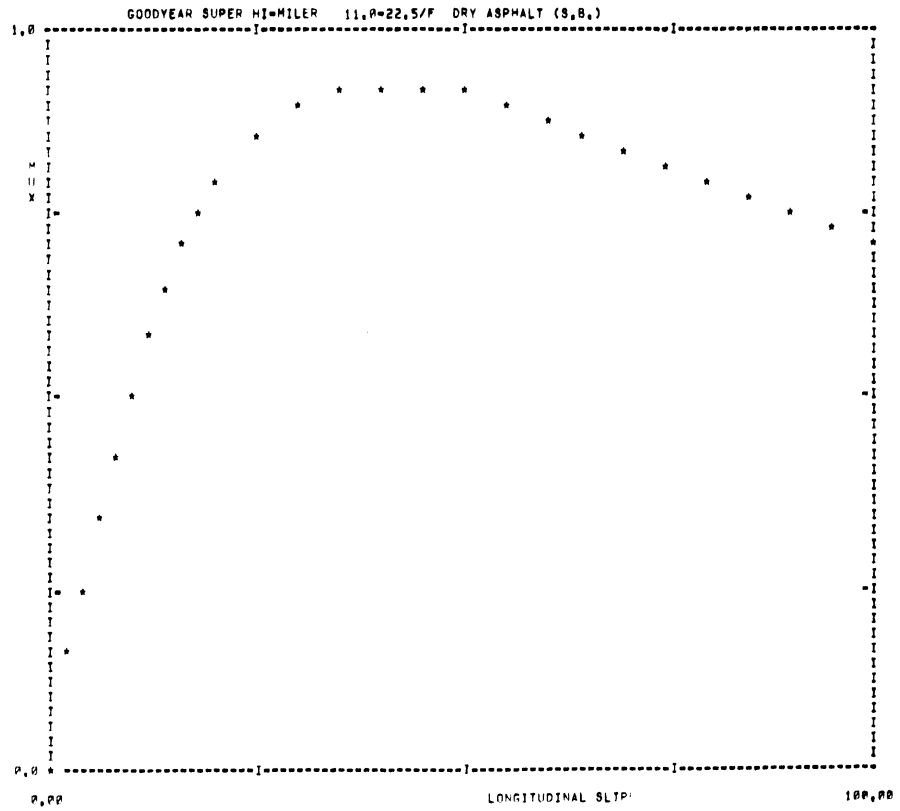


FZ = 5505.2 VEL = 3.0 MULOCK = 0.82 MUPEAK = 0.85 RATIO = 1.04 A-D FILE 222 NWFILE 91 SAMPLE 401

** A-D FILE 223 NEW FILE 92 TEST SAMPLE402 **

AVERAGE OF FILE 223 FOR 5 RECORDS. GOODYEAR SUPER HI-MILER 11.0-22.5/F DRY ASPHALT (S.B.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.16	14354.6	857.5	
0.04	0.25	25905.7	1401.4	
0.06	0.35	36421.0	1900.9	
0.08	0.44	46356.1	2404.8	
0.10	0.52	55374.9	2829.3	
0.12	0.59	62704.4	3210.1	
0.14	0.66	69556.8	3536.3	
0.16	0.71	76251.1	3816.1	
0.18	0.76	81785.6	4081.9	TQAV = 75875.0 LOAD = 5498.9 VEL = 10.0 MPH.
0.20	0.81	85787.7	4298.7	
0.25	0.86	93142.8	4567.3	MUPEAK = 0.92 MULOCK = 0.72 RATIO = 1.28
0.30	0.90	98978.9	4724.6	
0.35	0.91	103521.3	4791.3	
0.40	0.92	107199.9	4808.7	
0.45	0.92	110119.2	4798.4	
0.50	0.91	111674.4	4758.1	
0.55	0.90	111396.9	4694.6	
0.60	0.88	108337.2	4606.1	
0.65	0.86	104151.0	4503.9	
0.70	0.84	100156.5	4402.0	
0.75	0.82	96439.2	4302.2	
0.80	0.80	92878.7	4203.6	
0.85	0.79	89398.5	4105.6	
0.90	0.77	85554.1	4004.7	
0.95	0.74	80914.4	3897.2	
1.00	0.72	75875.0	3780.0	

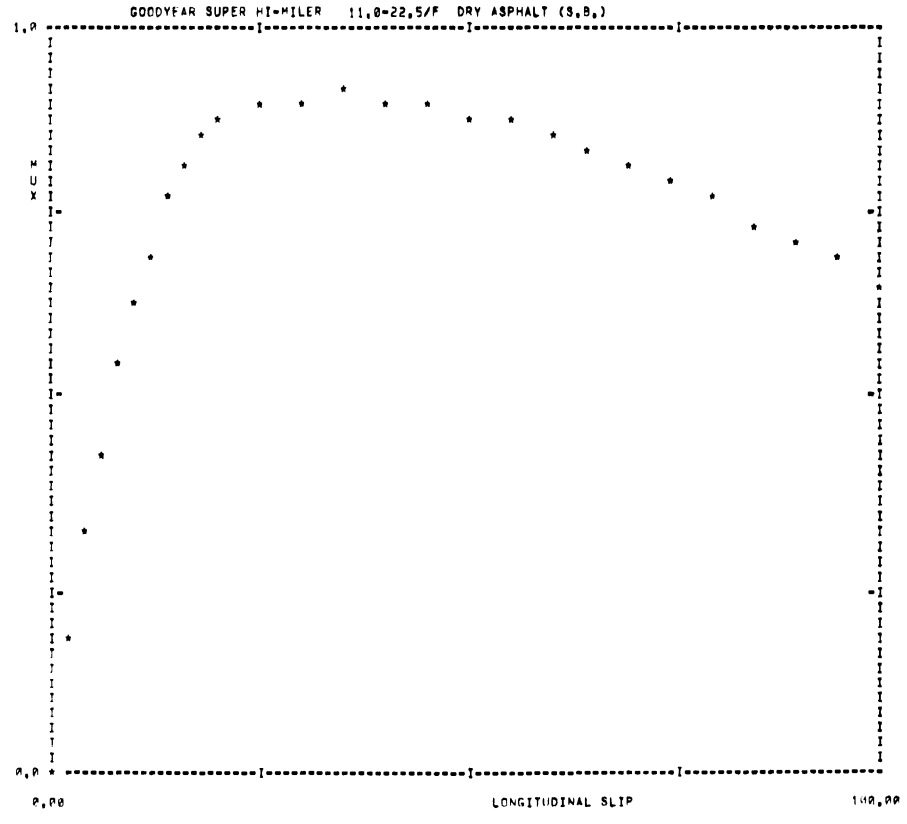


FZ = 5498.9 VEL = 10.0 MULOCK = 0.72 MUPEAK = 0.92 RATIO = 1.28 A-D FILE 223 NWFILE 92 SAMPLE 402

** A-D FILE 224 NEW FILE 93 TEST SAMPLE#03 **

AVERAGE OF FILE 224 FOR 5 RECORDS, GOODYEAR SUPER HI-MILER 11.0-22.5/F DRY ASPHALT (8.8.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.18	17242.1	970.6	
0.04	0.32	31912.4	1742.2	
0.06	0.44	44935.0	2379.4	
0.08	0.54	56468.2	2927.2	
0.10	0.63	66097.6	3389.7	
0.12	0.71	74436.3	3779.3	
0.14	0.77	81800.5	4107.5	
0.16	0.82	87224.0	4381.9	
0.18	0.86	91375.9	4579.7	TQAV = 69025.0 LOAD = 5492.0 VEL = 20.0 MPH.
0.20	0.88	94898.9	4668.3	
0.25	0.90	100776.7	4765.9	MUPEAK = 0.91 MULOCK = 0.66 RATIO = 1.37
0.30	0.91	104846.0	4812.6	
0.35	0.91	107695.5	4821.9	
0.40	0.91	110100.2	4796.9	
0.45	0.90	112581.8	4749.6	
0.50	0.89	115382.9	4688.6	
0.55	0.87	118422.4	4614.5	
0.60	0.86	120864.1	4528.5	
0.65	0.84	121212.5	4433.0	
0.70	0.82	119554.5	4330.2	
0.75	0.79	113476.4	4210.7	
0.80	0.77	105222.6	4080.4	
0.85	0.75	96808.8	3949.2	
0.90	0.72	88224.3	3816.4	
0.95	0.69	79067.9	3679.7	
1.00	0.66	69025.0	3537.0	

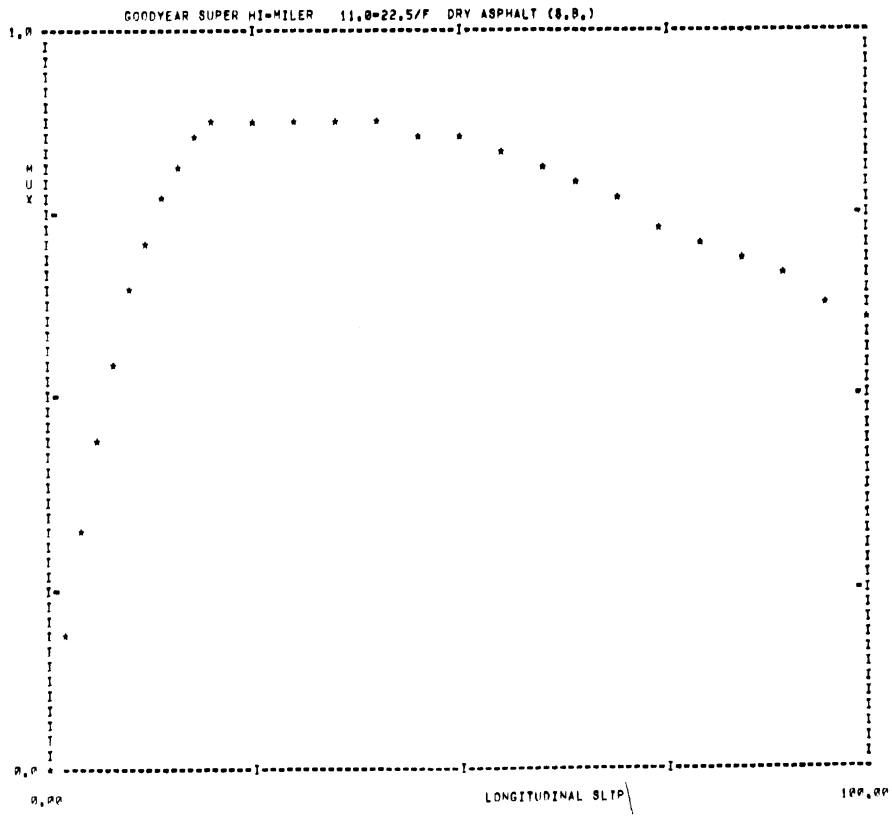


FZ = 5492.0 VEL = 20.0 MULOCK = 0.66 MUPEAK = 0.91 RATIO = 1.37 A-D FILE 224 NWFILE 93 SAMPLE 403

** A-D FILE 225 NEW FILE 94 TEST SAMPLE#04 **

AVERAGE OF FILE 225 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 11.0-22.5/F DRY ASPHALT (S.B.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.19	18671.9	1076.0	
0.04	0.34	34349.9	1864.0	
0.06	0.46	47128.0	2586.8	
0.08	0.56	58745.8	3863.6	
0.10	0.65	69436.1	3549.2	
0.12	0.73	78202.9	3978.9	
0.14	0.78	85591.3	4297.2	
0.16	0.82	91484.4	4517.5	
0.18	0.86	95858.5	4671.1	TQAV = 62645.8 LOAD = 5521.3 VEL = 30.0 MPH.
0.20	0.87	98658.0	4746.8	
0.25	0.88	104082.7	4795.4	MUPEAK = 0.89 MULOCK = 0.61 RATIO = 1.46
0.30	0.89	108165.7	4788.8	
0.35	0.88	111132.9	4750.2	
0.40	0.88	113004.4	4691.6	
0.45	0.86	115232.3	4616.8	
0.50	0.85	117157.5	4528.3	
0.55	0.83	119351.2	4432.1	
0.60	0.81	121583.9	4329.1	
0.65	0.79	122641.5	4219.9	
0.70	0.77	121081.9	4101.5	
0.75	0.75	116259.4	3980.2	
0.80	0.72	108203.2	3848.5	
0.85	0.69	97748.7	3703.4	
0.90	0.67	86512.1	3554.4	
0.95	0.64	74862.9	3402.5	
1.00	0.61	62645.8	3246.3	

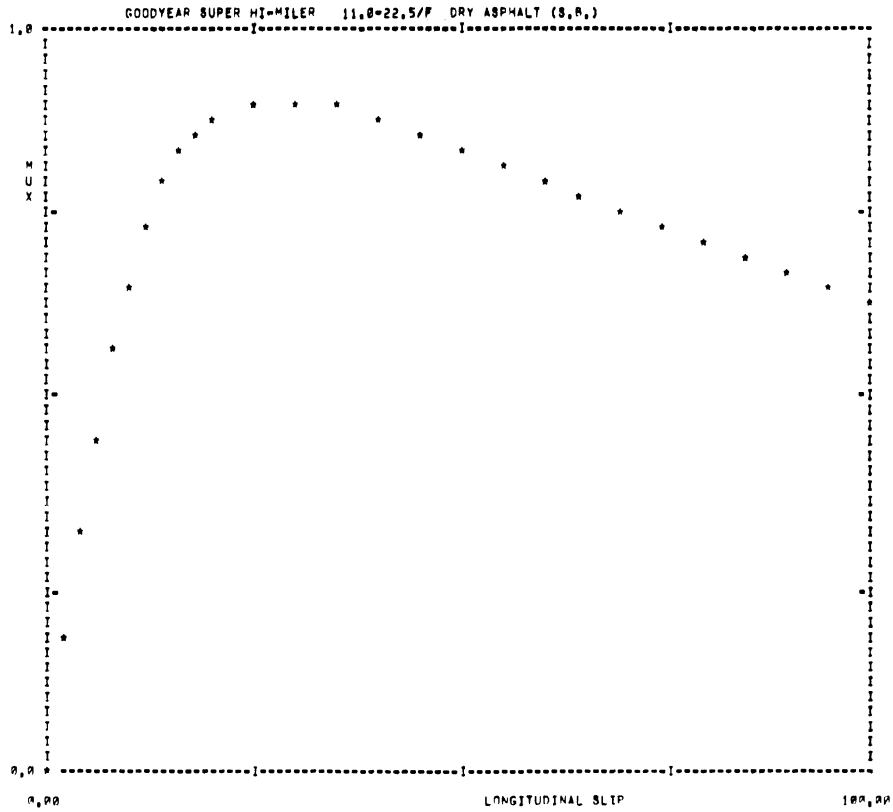


FZ = 5521.3 VEL = 30.0 MULOCK = 0.61 MUPEAK = 0.89 RATIO = 1.46 A-D FILE 225 NWFILE 94 SAMPLE #04

** A-D FILE 226 NEW FILE 95 TEST SAMPLE405 **

AVERAGE OF FILE 226 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 11,0-22,5/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,18	19881,5	991,5	
0,04	0,33	34649,0	1797,8	
0,06	0,46	48101,6	2495,0	
0,08	0,57	60002,8	3088,8	
0,10	0,66	69942,3	3543,7	
0,12	0,73	77917,4	3915,1	
0,14	0,79	84587,7	4215,3	
0,16	0,83	90669,4	4444,1	
0,18	0,87	95593,2	4608,4	TQAV = 63125,0 LOAD = 5501,1 VEL = 40,0 MPH.
0,20	0,88	98846,3	4689,7	
0,25	0,90	104442,5	4751,6	MUPEAK = 0,90 MULOCK = 0,63 RATIO = 1,42
0,30	0,90	106688,3	4751,7	
0,35	0,89	111837,1	4709,6	
0,40	0,88	114411,5	4638,2	
0,45	0,87	116741,6	4552,1	
0,50	0,85	118849,3	4456,3	
0,55	0,83	121104,9	4346,1	
0,60	0,80	123565,9	4232,3	
0,65	0,78	125486,7	4123,3	
0,70	0,76	125416,6	4021,3	
0,75	0,74	122910,6	3923,4	
0,80	0,73	116239,8	3824,8	
0,85	0,70	103800,6	3716,3	
0,90	0,68	90097,3	3600,7	
0,95	0,66	76484,1	3483,0	
1,00	0,63	63125,0	3363,8	

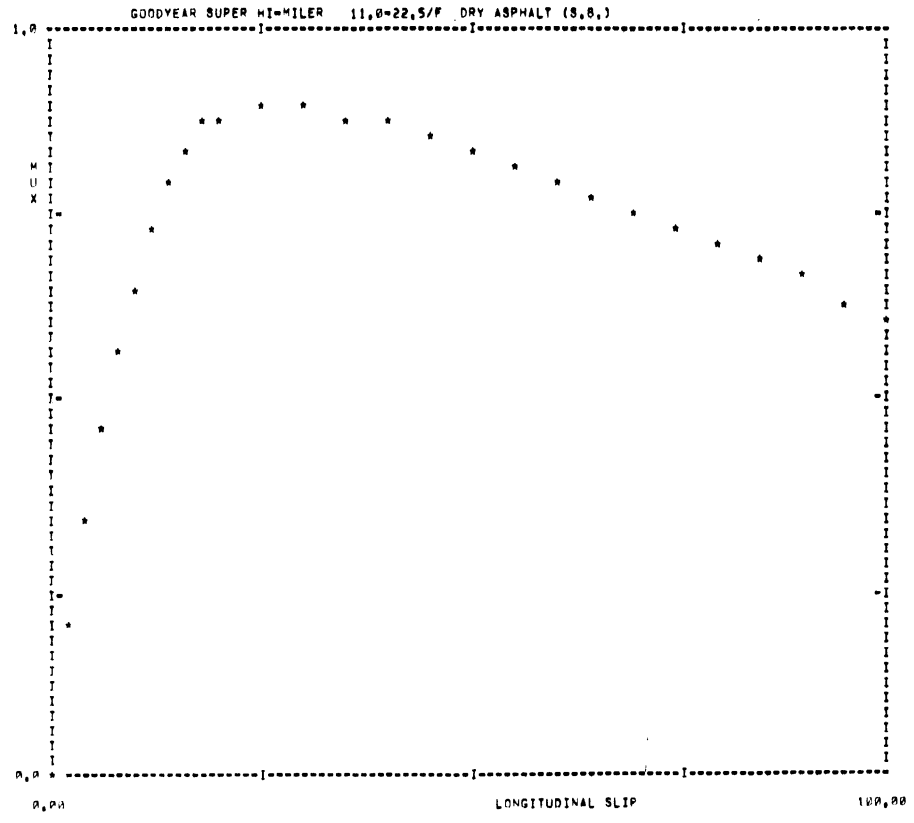


FZ = 5501,1 VEL = 40,0 MULOCK = 0,63 MUPEAK = 0,90 RATIO = 1,42 A-D FILE 226 NMFILE 95 SAMPLE 405

** A-D FILE 227 NEW FILE 96 TEST SAMPLE006 **

AVERAGE OF FILE 227 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 11,0-22,5/F DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,21	28677,8	1184,6	
0,04	0,35	36656,3	1920,4	
0,06	0,47	50473,5	2592,5	
0,08	0,57	62788,3	3154,7	
0,10	0,66	72896,8	3624,2	
0,12	0,74	81407,8	4008,6	
0,14	0,80	89873,8	4306,3	
0,16	0,84	95691,4	4531,2	
0,18	0,87	100845,1	4694,3	TQAV = 61562,5 LOAD = 5622,2 VEL = 55,0 MPH.
0,20	0,89	104421,1	4776,6	
0,25	0,90	111371,7	4830,3	MUPEAK = 0,90 MULOCK = 0,61 RATIO = 1,48
0,30	0,89	117847,9	4819,3	
0,35	0,89	121510,8	4771,6	
0,40	0,88	125832,5	4703,7	
0,45	0,86	128884,1	4621,2	
0,50	0,84	130922,9	4524,9	
0,55	0,82	133831,6	4414,9	
0,60	0,80	136832,9	4301,6	
0,65	0,78	139779,5	4184,7	
0,70	0,76	141004,5	4067,1	
0,75	0,74	137873,2	3955,3	
0,80	0,71	128501,3	3843,8	
0,85	0,69	112941,7	3721,9	
0,90	0,67	95409,9	3580,9	
0,95	0,64	78127,7	3431,3	
1,00	0,61	61562,5	3272,5	

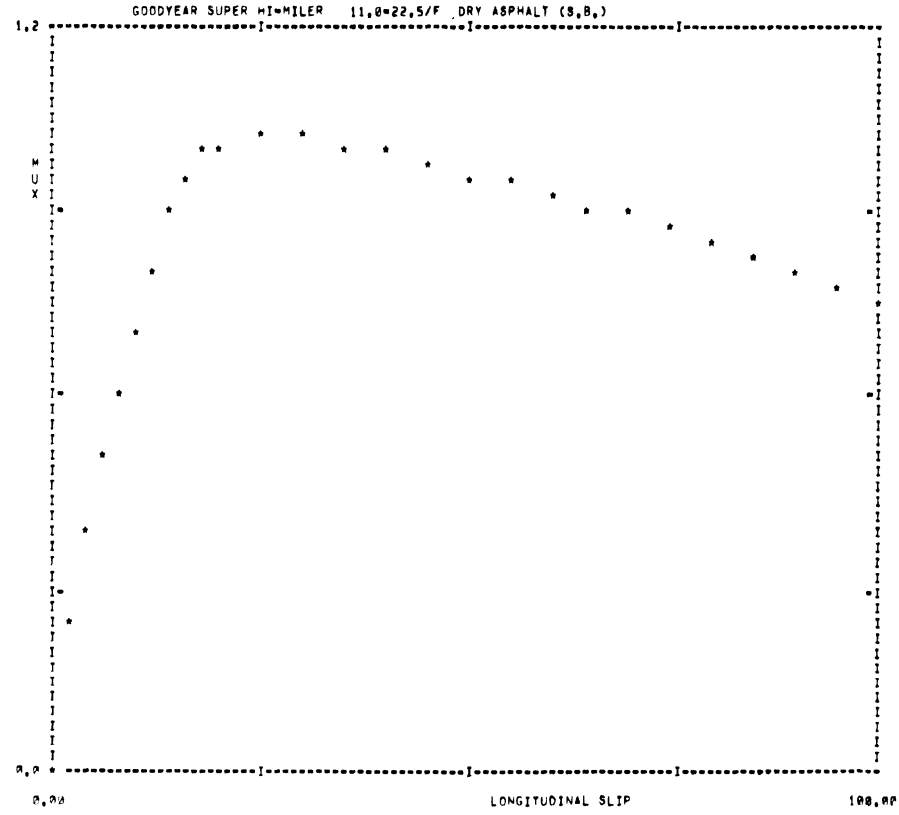


FZ = 5622,2 VEL = 55,0 MULOCK = 0,61 MUPEAK = 0,90 RATIO = 1,48 A-D FILE 227 NWFILE 96 SAMPLE 006

** A-D FILE 232 NEW FILE 98 TEST SAMPLE408 **

AVERAGE OF FILE 232 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 11.0-22.5/F DRY ASPHALT (8.8.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.25	9812.3	549.8	
0.04	0.39	16534.4	852.8	
0.06	0.51	22656.1	1116.6	
0.08	0.61	27857.7	1334.9	
0.10	0.71	32388.8	1539.2	
0.12	0.82	37658.0	1761.7	
0.14	0.90	41977.6	1940.0	
0.16	0.96	45507.2	2062.9	
0.18	1.00	48485.3	2137.6	TQAV = 30687.5 LOAD = 2226.6 VEL = 40.0 MPH
0.20	1.02	50687.0	2170.2	
0.25	1.03	54379.0	2195.9	MUPEAK = 1.03 MULOCK = 0.76 RATIO = 1.35
0.30	1.03	57656.8	2186.4	
0.35	1.01	60622.9	2154.8	
0.40	1.00	63270.2	2113.2	
0.45	0.98	65735.3	2067.9	
0.50	0.96	68062.5	2024.5	
0.55	0.95	70395.7	1980.5	
0.60	0.93	72773.4	1938.3	
0.65	0.92	75397.5	1900.3	
0.70	0.90	77507.0	1864.6	
0.75	0.89	77481.4	1831.6	
0.80	0.87	73720.9	1796.1	
0.85	0.85	65191.6	1749.0	
0.90	0.82	54373.7	1699.3	
0.95	0.79	42869.4	1647.9	
1.00	0.76	30687.5	1593.8	

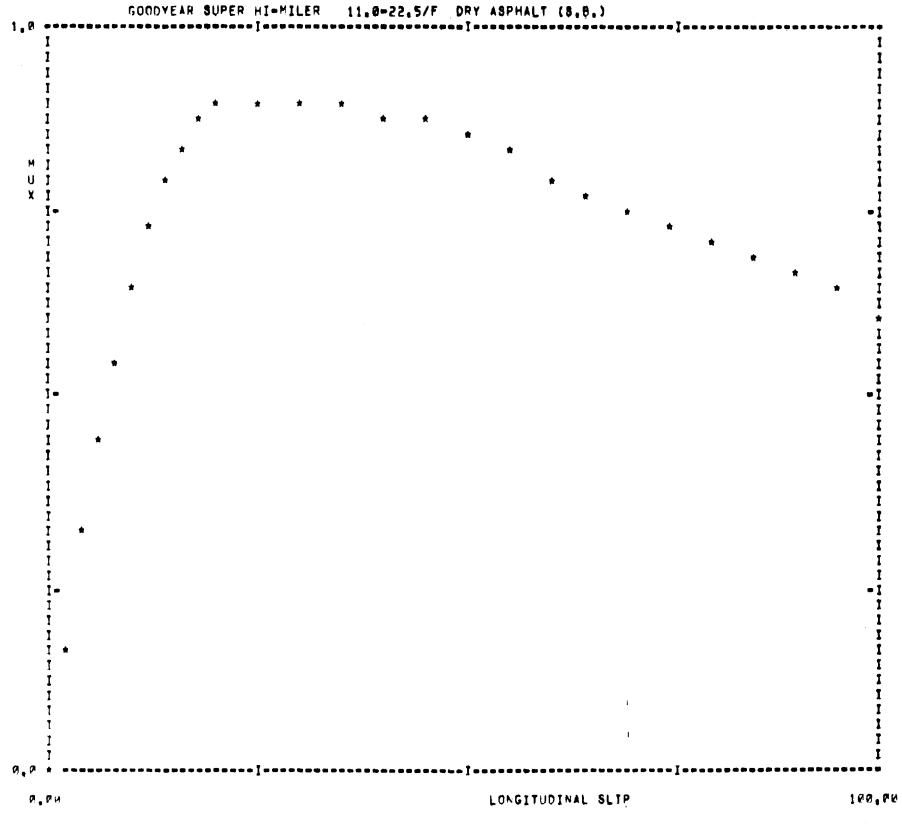


FZ = 2226.6 VEL = 40.0 MULOCK = 0.76 MUPEAK = 1.03 RATIO = 1.35 A-D FILE 232 NWFILE 98 SAMPLE 408

** A-D FILE 233 NEW FILE 99 TEST SAMPLE#89 **

AVERAGE OF FILE 233 FOR 5 RECORDS. GOODYEAR SUPER HI-MILER 11.0-22.5/F DRY ASPHALT (8.0.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.17	10934.0	945.0	
0.04	0.32	34227.5	1769.3	
0.06	0.44	47557.0	2424.4	
0.08	0.55	59018.6	2993.3	
0.10	0.65	69292.5	3462.6	
0.12	0.73	77516.3	3870.7	
0.14	0.80	85022.8	4188.1	
0.16	0.85	91873.1	4427.7	
0.18	0.88	95290.0	4599.7	TQAV = 64300.0 LOAD = 5517.8 VEL = 40.0 MPH.
0.20	0.90	98477.3	4676.3	
0.25	0.91	105084.2	4713.7	MUPEAK = 0.91 MULOCK = 0.62 RATIO = 1.46
0.30	0.90	109943.6	4697.0	
0.35	0.90	113228.1	4652.9	
0.40	0.89	115457.2	4592.9	
0.45	0.87	117262.2	4528.6	
0.50	0.85	119184.1	4426.6	
0.55	0.83	121331.1	4317.0	
0.60	0.81	123788.8	4198.7	
0.65	0.78	126182.3	4079.1	
0.70	0.76	126901.6	3963.1	
0.75	0.74	124034.6	3853.6	
0.80	0.72	116826.1	3748.4	
0.85	0.69	104718.5	3640.6	
0.90	0.67	91237.1	3531.4	
0.95	0.65	77712.7	3420.6	
1.00	0.62	64300.0	3307.5	

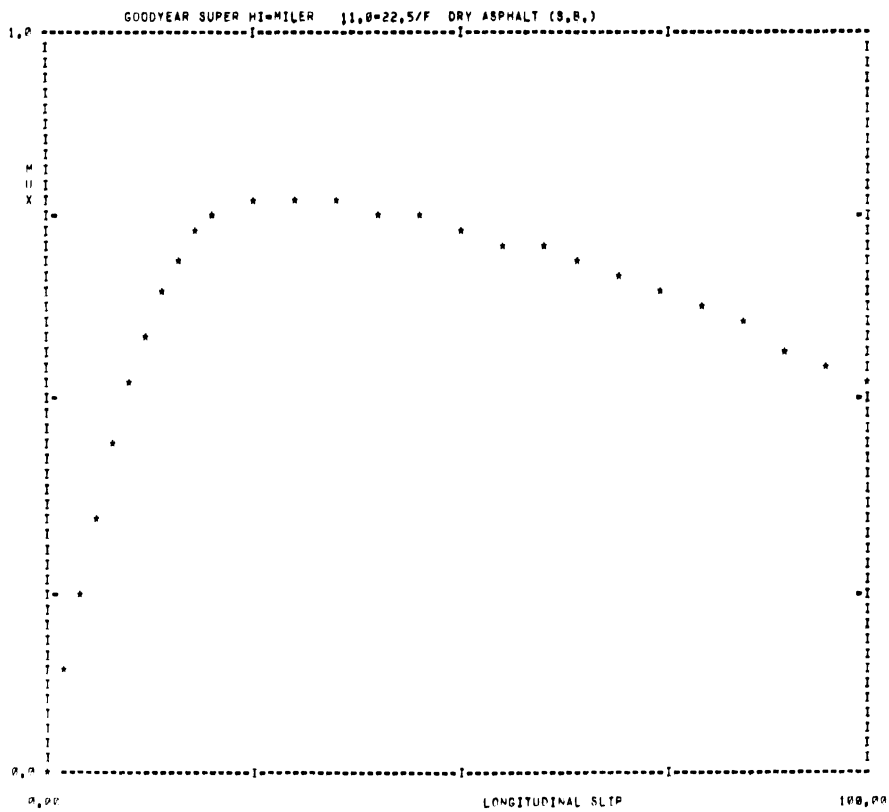


FZ = 5517.8 VEL = 40.0 MULOCK = 0.62 MUPEAK = 0.91 RATIO = 1.46 A-D FILE 233 NWFILE 99 SAMPLE #89

** A-D FILE 234 NEW FILE 100 TEST SAMPLE410 **

AVERAGE OF FILE 234 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 11.0-22.5/F DRY ASPHALT (S.B.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.14	23159.9	1287.4	
0.04	0.25	42044.7	2270.5	
0.06	0.35	60728.8	3210.4	
0.08	0.45	77308.7	4036.1	
0.10	0.53	91217.4	4717.5	
0.12	0.59	103033.9	5280.4	
0.14	0.65	113006.8	5755.0	
0.16	0.70	121777.9	6136.9	
0.18	0.73	129139.1	6416.0	TQAV = 85479.2 LOAD = 9173.7 VEL = 40.0 MPH.
0.20	0.75	133766.7	6574.8	
0.25	0.78	141198.9	6737.5	MUPEAK = 0.78 MULOCK = 0.53 RATIO = 1.48
0.30	0.78	147157.7	6777.1	
0.35	0.78	151985.7	6731.3	
0.40	0.77	155873.8	6639.5	
0.45	0.75	159166.7	6522.0	
0.50	0.74	161824.8	6393.3	
0.55	0.72	164096.5	6258.3	
0.60	0.71	166026.1	6119.2	
0.65	0.69	166776.7	5974.1	
0.70	0.67	164004.7	5822.3	
0.75	0.65	157538.8	5660.7	
0.80	0.63	146962.3	5482.4	
0.85	0.61	132107.6	5282.0	
0.90	0.58	116418.9	5059.5	
0.95	0.55	100835.1	4828.8	
1.00	0.53	85479.2	4590.0	



FZ = 9173.7 VEL = 40.0 MULOCK = 0.53 MUPEAK = 0.78 RATIO = 1.48 A-D FILE 234 NWFILE 100 SAMPLE 410

** A-D FILE 221 NEW FILE 98 TEST SAMPLE400 **

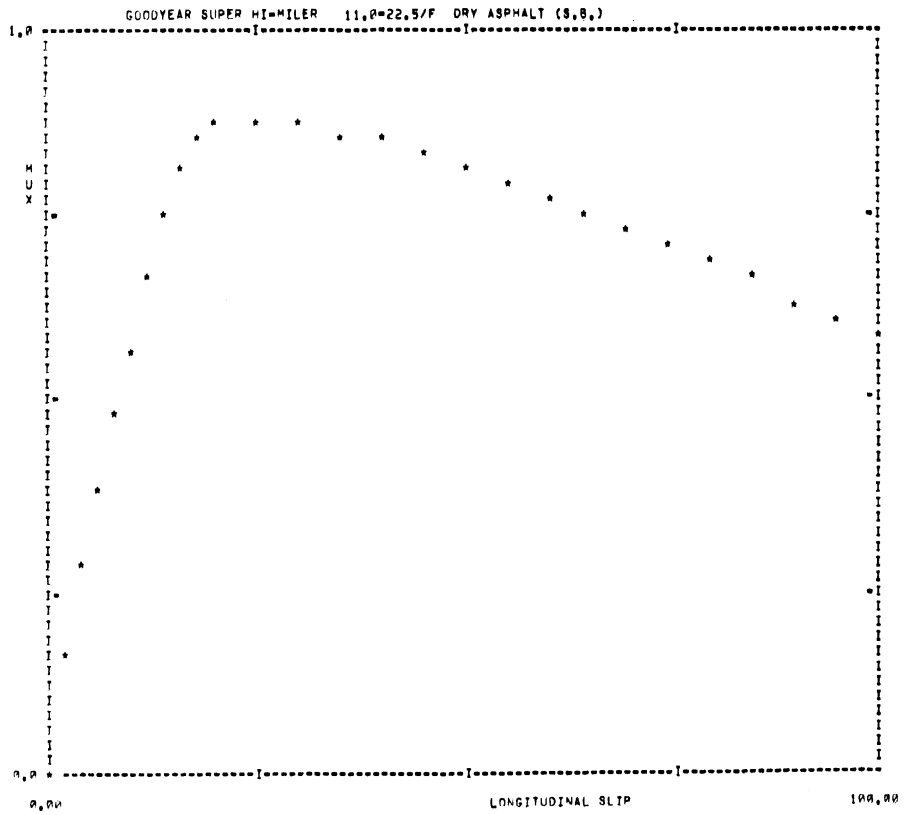
AVERAGE OF FILE 221 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 11.0-22.5/F DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.16	13653.7	859.7
0.04	0.29	29501.2	1598.6
0.06	0.40	42335.6	2188.7
0.08	0.49	52875.6	2687.2
0.10	0.58	62768.4	3166.7
0.12	0.68	74257.6	3730.8
0.14	0.76	83474.1	4163.3
0.16	0.82	90399.8	4449.9
0.18	0.86	95309.6	4629.7
0.20	0.87	98551.7	4698.7
0.25	0.88	103353.9	4741.0
0.30	0.88	106599.5	4728.7
0.35	0.87	109166.9	4672.9
0.40	0.85	111505.4	4588.2
0.45	0.83	113602.4	4487.8
0.50	0.81	115507.3	4377.3
0.55	0.79	116992.9	4265.6
0.60	0.77	118349.5	4156.1
0.65	0.75	119647.8	4050.9
0.70	0.73	120251.1	3949.6
0.75	0.71	117930.8	3851.1
0.80	0.69	111674.9	3742.9
0.85	0.67	101341.4	3611.4
0.90	0.64	88563.2	3467.4
0.95	0.61	74945.2	3317.4
1.00	0.59	60479.2	3160.0

TQAV = 60479.2 LOAD = 5562.6 VEL = 40.0 MPH.

MUPEAK = 0.88 MULOCK = 0.59 RATIO = 1.50

Check Run #1



FZ = 5562.6 VFL = 40.0 MULOCK = 0.59 MUPEAK = 0.88 RATIO = 1.50 A-D FILE 221 NWFILE 98 SAMPLE 400

** A-D FILE 228 NEW FILE 97 TEST SAMPLE407 **

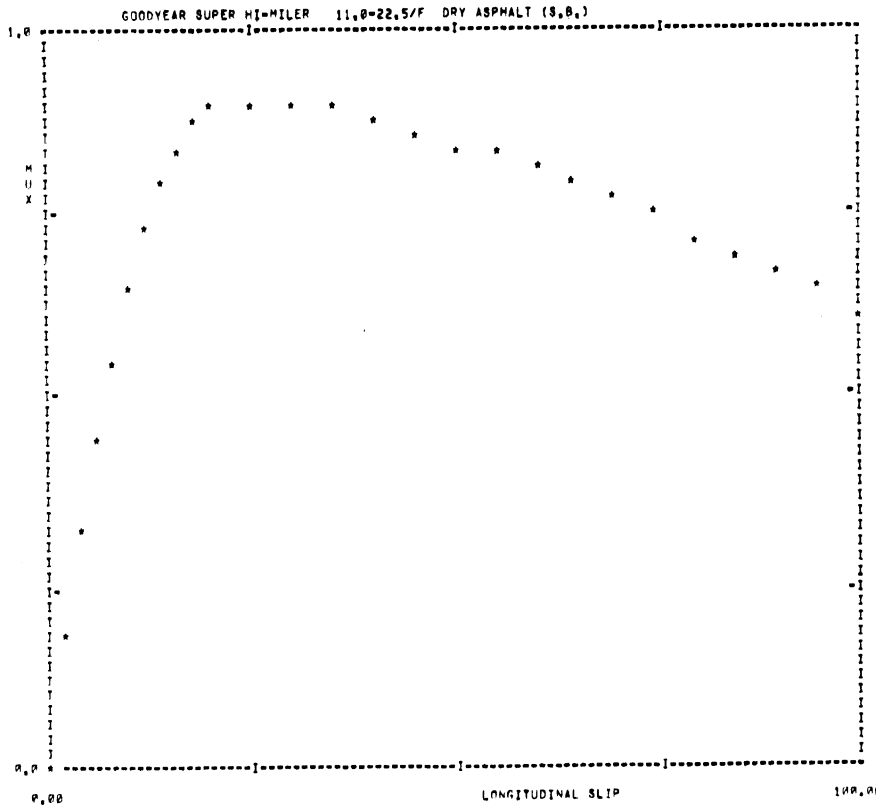
AVERAGE OF FILE 228 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 11.0-22.5/F DRY ASPHALT (8.8.)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.18	17909.5	998.7
0.04	0.33	34908.3	1815.3
0.06	0.45	47611.6	2457.6
0.08	0.56	58867.6	2991.7
0.10	0.65	68921.5	3456.1
0.12	0.73	77332.0	3865.8
0.14	0.80	85116.5	4190.9
0.16	0.85	91936.5	4433.8
0.18	0.88	97178.0	4608.7
0.20	0.90	100513.8	4682.4
0.25	0.91	106837.2	4748.1
0.30	0.91	112165.5	4741.2
0.35	0.90	116612.3	4688.7
0.40	0.88	120380.1	4612.1
0.45	0.87	123634.4	4521.4
0.50	0.85	126501.6	4425.7
0.55	0.83	129149.4	4333.1
0.60	0.81	131516.8	4237.9
0.65	0.79	132408.0	4140.4
0.70	0.77	130946.8	4040.6
0.75	0.75	125589.6	3934.8
0.80	0.73	116171.8	3814.1
0.85	0.70	102985.6	3681.1
0.90	0.67	89861.9	3549.9
0.95	0.65	75398.0	3419.9
1.00	0.62	62288.3	3291.2

TQAV = 62288.3 LOAD = 5491.5 VEL = 40.0 MPH.

MUPEAK = 0.91 MULOCK = 0.62 RATIO = 1.47

Check Run #3



FZ = 5491.5 VFL = 40.0 MULOCK = 0.62 MUPEAK = 0.91 RATIO = 1.47 A-D FILE 228 NWFILE 97 SAMPLE 407

** A-D FILE 235 NEW FILE 101 TEST SAMPLE411 **

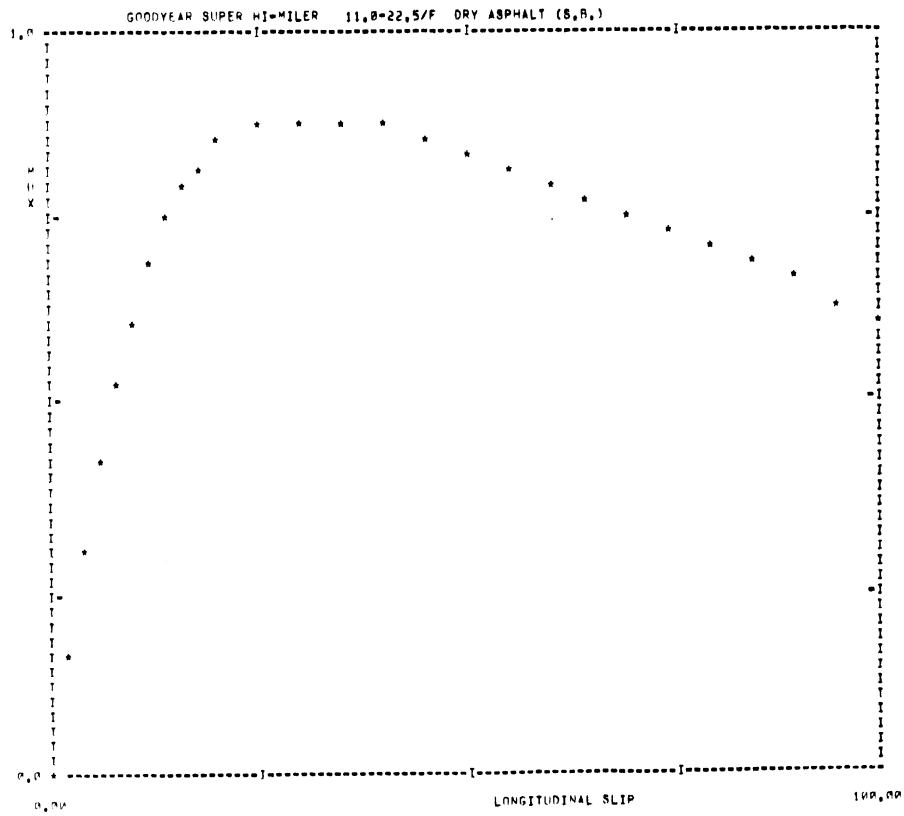
AVERAGE OF FILE 235 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 11.0-22.5/F DRY ASPHALT (S.B.)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.17	16479.2	972.6
0.04	0.30	32451.1	1719.5
0.06	0.43	46505.0	2392.9
0.08	0.53	58989.3	2970.3
0.10	0.62	69198.1	3436.9
0.12	0.69	77243.0	3806.6
0.14	0.75	83915.0	4096.9
0.16	0.79	89996.0	4319.6
0.18	0.83	95198.9	4484.2
0.20	0.85	98932.7	4583.7
0.25	0.88	105706.9	4698.2
0.30	0.89	111168.3	4742.5
0.35	0.89	115777.2	4733.9
0.40	0.88	119711.0	4693.4
0.45	0.86	123218.9	4623.1
0.50	0.84	126572.5	4527.4
0.55	0.82	129938.2	4425.7
0.60	0.80	133116.0	4322.3
0.65	0.78	135235.4	4217.8
0.70	0.76	134157.6	4115.7
0.75	0.74	128879.9	4012.8
0.80	0.72	119884.4	3901.8
0.85	0.69	106198.0	3767.8
0.90	0.67	91419.2	3616.2
0.95	0.64	76901.0	3458.9
1.00	0.61	62916.7	3296.2

TQAV = 62916.7 LOAD = 5625.8 VEL = 40.0 MPH.

MUPEAK = 0.89 MULOCK = 0.61 RATIO = 1.46

Check Run #5



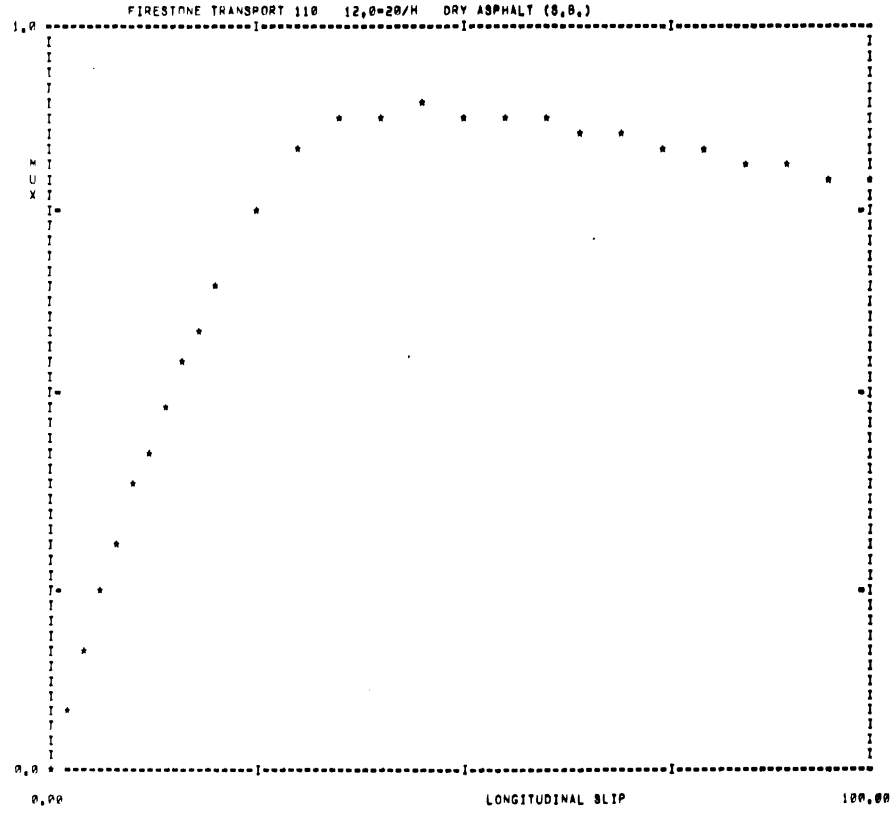
FZ = 5625.8 VEL = 40.0 MULOCK = 0.61 MUPEAK = 0.89 RATIO = 1.46 A-D FILE 235 NWFILE 101 SAMPLE 411

FIRESTONE TRANSPORT 110, 12 x 20/H, BADC ASPHALT

** A-D FILE 197 NEW FILE 79 TEST SAMPLE351 **

AVERAGE OF FILE 197 FOR 5 RECORDS, FIRESTONE TRANSPORT 110 12,0-20/H DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,07	11237,2	596,3	
0,04	0,16	24839,6	1256,3	
0,06	0,24	38869,9	1927,0	
0,08	0,32	51598,8	2526,4	
0,10	0,38	62238,1	3025,1	
0,12	0,43	70849,9	3432,8	
0,14	0,49	79085,9	3841,9	
0,16	0,54	86946,3	4293,5	
0,18	0,60	98778,9	4753,0	TQAV = 132200,0 LOAD = 7979,2 VEL = 3,0 MPH.
0,20	0,66	107715,9	5156,9	
0,25	0,76	123794,7	5918,1	MUPEAK = 0,89 MULOCK = 0,80 RATIO = 1,12
0,30	0,83	135876,7	6451,1	
0,35	0,87	143123,2	6744,5	
0,40	0,89	145587,9	6841,2	
0,45	0,89	145957,2	6846,1	
0,50	0,89	145454,7	6809,6	
0,55	0,88	144534,0	6752,9	
0,60	0,87	143405,9	6686,2	
0,65	0,86	142174,4	6614,5	
0,70	0,85	140891,1	6540,3	
0,75	0,84	139581,9	6464,8	
0,80	0,83	138259,9	6388,7	
0,85	0,82	136931,4	6312,3	
0,90	0,81	135526,3	6233,8	
0,95	0,80	133973,5	6151,3	
1,00	0,80	132200,0	6063,0	

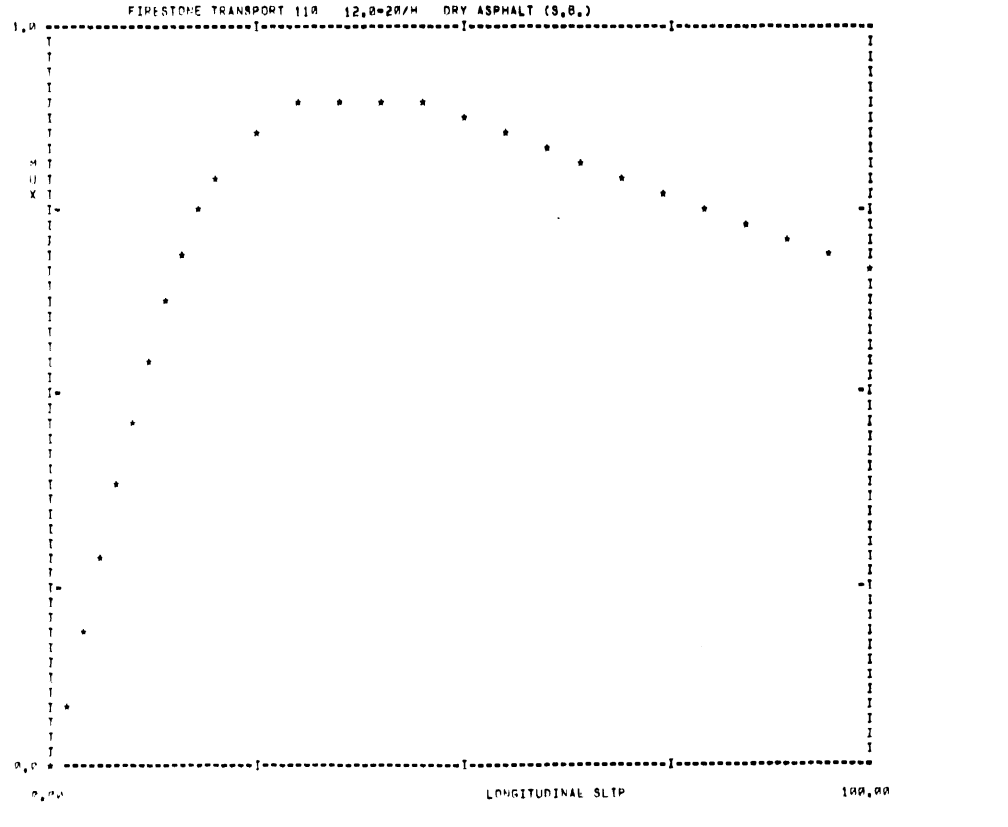


FZ = 7979,2 VEL = 3,0 MULOCK = 0,80 MUPEAK = 0,89 RATIO = 1,12 A-D FILE 197 NWFILE 79 SAMPLE 351

** A-D FILE 198 NEW FILE 88 ' TEST SAMPLE352 **

AVERAGE OF FILE 198 FOR 6 RECORDS. FIRESTONE TRANSPORT 110 12.0-20/H DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.08	11728.0	660.6	
0.04	0.18	29336.1	1451.2	
0.06	0.29	46317.4	2280.7	
0.08	0.38	61297.9	3014.5	
0.10	0.46	74758.0	3640.7	
0.12	0.54	88173.7	4270.1	
0.14	0.63	101970.5	4896.9	
0.16	0.70	113377.2	5432.5	
0.18	0.76	122321.0	5851.1	TQAV = 106020.8 LOAD = 7974.1 VEL = 10.0 MPH.
0.20	0.80	128815.0	6138.7	
0.25	0.86	139583.5	6555.3	MUPEAK = 0.90 MULOCK = 0.67 RATIO = 1.35
0.30	0.89	147439.7	6774.5	
0.35	0.90	153064.1	6850.1	
0.40	0.90	157100.3	6841.0	
0.45	0.90	160012.6	6789.0	
0.50	0.89	160713.1	6704.3	
0.55	0.87	157877.1	6575.1	
0.60	0.85	152455.1	6416.6	
0.65	0.83	146797.8	6254.1	
0.70	0.81	141337.4	6092.4	
0.75	0.78	136007.0	5931.6	
0.80	0.76	130744.7	5771.1	
0.85	0.74	125516.7	5610.9	
0.90	0.72	119917.9	5446.6	
0.95	0.69	113548.5	5273.9	
1.00	0.67	106020.8	5088.7	

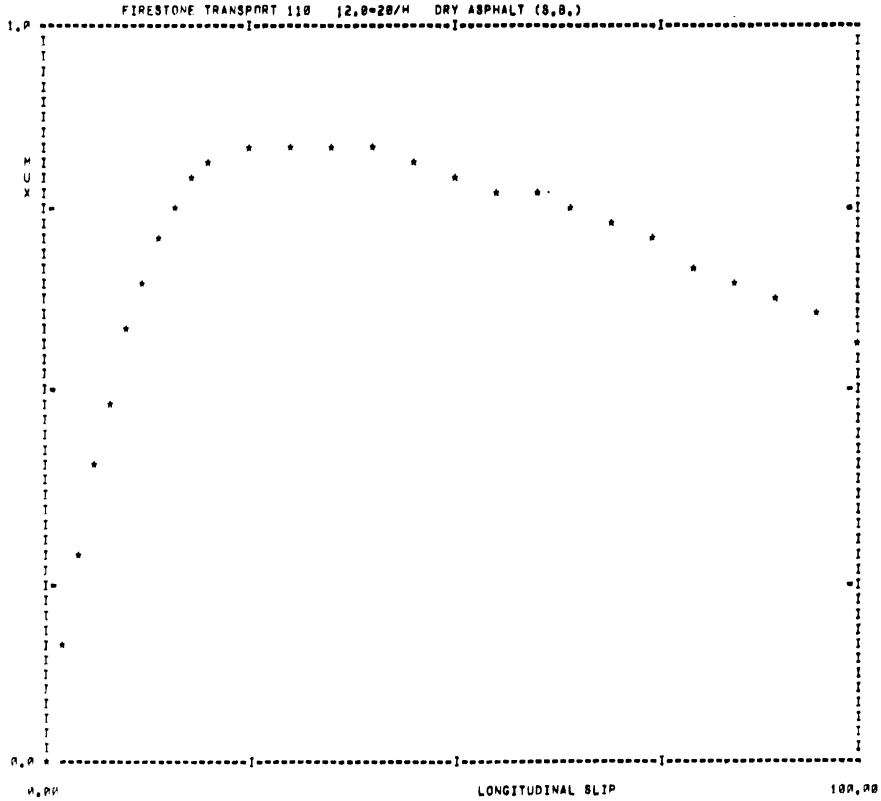


FZ = 7974.1 VEL = 10.0 MULOCK = 0.67 MUPEAK = 0.90 RATIO = 1.35 A-D FILE 198 NWFILE 88 SAMPLE 352

** A-D FILE 199 NEW FILE 81 TEST SAMPLE353 **

AVERAGE OF FILE 199 FOR 5 RECORDS, FIRESTONE TRANSPORT 110 12,8-28/H DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,17	26770,2	1371,8	
0,04	0,29	45870,3	2264,5	
0,06	0,40	64262,1	3115,5	
0,08	0,50	80629,4	3892,4	
0,10	0,59	95020,7	4564,8	
0,12	0,66	107489,7	5114,7	
0,14	0,72	117485,6	5560,3	
0,16	0,76	126179,3	5906,1	
0,18	0,80	132870,0	6170,4	TQAV = 98775,0 LOAD = 7883,8 VEL = 28,0 MPH,
0,20	0,82	137498,7	6306,2	
0,25	0,84	144545,5	6446,2	MUPEAK = 0,85 MULOCK = 0,58 RATIO = 1,47
0,30	0,85	149215,5	6481,7	
0,35	0,85	152305,0	6449,4	
0,40	0,84	154675,6	6369,4	
0,45	0,82	156809,2	6254,8	
0,50	0,81	158807,0	6125,3	
0,55	0,79	160725,6	5985,0	
0,60	0,77	161841,3	5840,5	
0,65	0,75	160935,4	5690,9	
0,70	0,73	156733,0	5541,0	
0,75	0,71	149864,0	5383,0	
0,80	0,68	139219,3	5196,8	
0,85	0,66	127952,2	5006,8	
0,90	0,63	116430,5	4815,4	
0,95	0,61	104172,1	4618,1	
1,00	0,58	98775,0	4411,5	

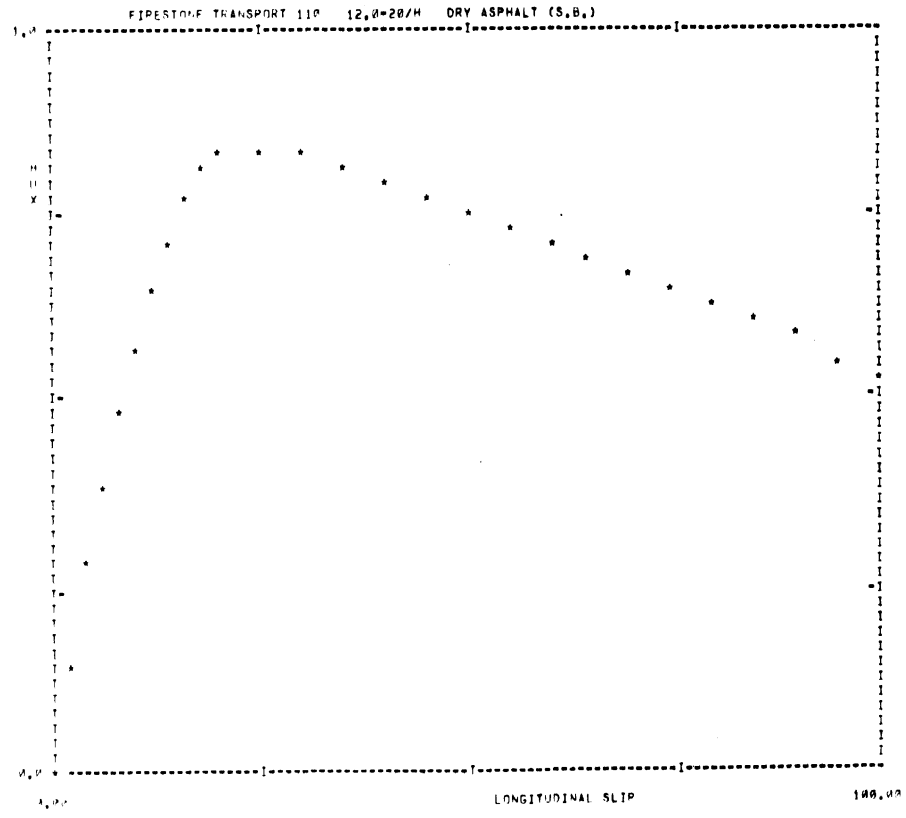


FZ = 7883,8 VEL = 28,0 MULOCK = 0,58 MUPEAK = 0,85 RATIO = 1,47 A-D FILE 199 NWFILE 81 SAMPLE 353

** A=D FILE 203 NEW FILE 82 TEST SAMPLE354 **

AVERAGE OF FILE 203 FOR 6 RECORDS. FIRESTONE TRANSPORT 110 12,0=20/H DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,14	23276,2	1145,9	
0,04	0,28	46274,5	2215,2	
0,06	0,39	64724,5	3068,4	
0,08	0,48	80066,5	3797,0	
0,10	0,57	93879,8	4448,3	
0,12	0,65	106637,8	5026,7	
0,14	0,72	117043,2	5535,5	
0,16	0,77	126188,4	5953,1	
0,18	0,81	133960,4	6261,7	TQAV = 84083,3 LOAD = 8017,1 VEL = 30,0 MPH.
0,20	0,83	139548,0	6391,4	
0,25	0,84	147599,4	6469,7	MUPEAK = 0,84 MULOCK = 0,53 RATIO = 1,58
0,30	0,84	152882,5	6404,1	
0,35	0,82	156596,8	6349,7	
0,40	0,81	159565,3	6216,9	
0,45	0,78	162014,2	6059,2	
0,50	0,76	164116,2	5891,1	
0,55	0,74	165872,3	5721,6	
0,60	0,72	167051,2	5555,2	
0,65	0,70	166713,5	5391,0	
0,70	0,68	163045,9	5232,8	
0,75	0,66	155567,5	5074,0	
0,80	0,64	143631,5	4902,4	
0,85	0,61	129501,3	4714,0	
0,90	0,59	114711,0	4519,7	
0,95	0,56	99602,0	4319,3	
1,00	0,53	84083,3	4110,0	



FZ = 8017,1 VEL = 30,0 MULOCK = 0,53 MUPEAK = 0,84 RATIO = 1,58 A=D FILE 203 NWFILE 82 SAMPLE 354

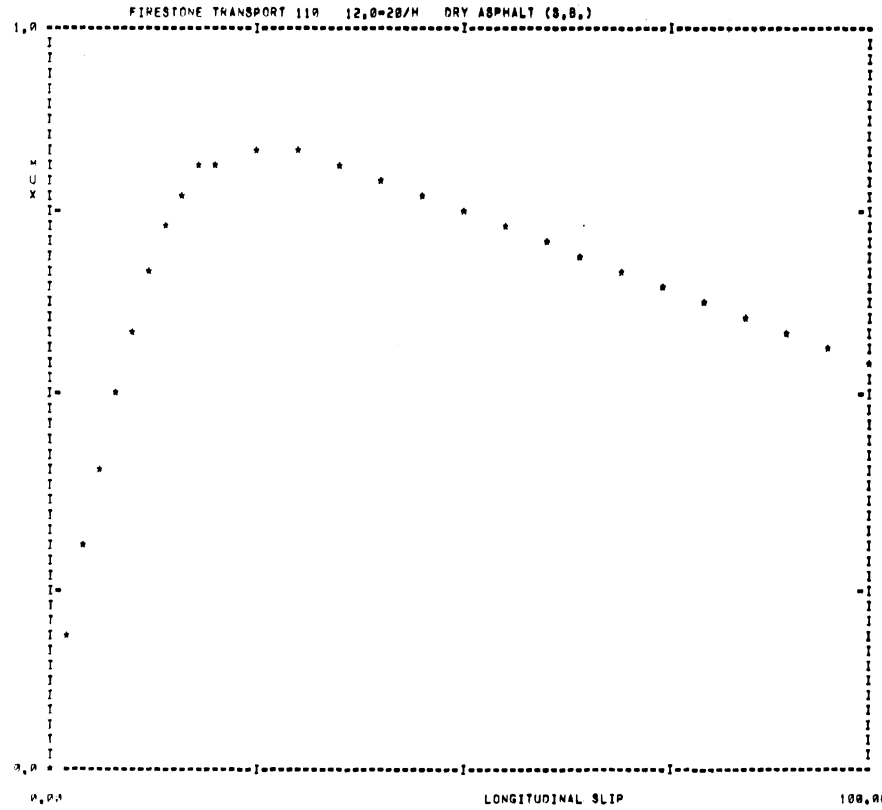
** A-D FILE 204 NEW FILE 83 ; TEST SAMPLE355 **

AVERAGE OF FILE 204 FOR 6 RECORDS, FIRESTONE TRANSPORT 110 12,0=20/H DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,19	29067,6	1471,6
0,04	0,30	49303,5	2378,1
0,06	0,41	67724,8	3225,6
0,08	0,51	83858,4	3981,2
0,10	0,60	97988,6	4642,1
0,12	0,67	110911,0	5202,2
0,14	0,73	121493,3	5648,0
0,16	0,78	129784,8	5992,8
0,18	0,81	135868,6	6228,6
0,20	0,83	140184,5	6325,9
0,25	0,84	146753,8	6367,5
0,30	0,83	151562,2	6306,8
0,35	0,82	155315,7	6185,5
0,40	0,80	158451,2	6038,6
0,45	0,78	161105,3	5881,4
0,50	0,76	163264,0	5721,8
0,55	0,74	164979,9	5557,4
0,60	0,72	166263,3	5395,9
0,65	0,70	166806,5	5241,2
0,70	0,68	165752,3	5086,7
0,75	0,66	160927,8	4932,6
0,80	0,63	151237,5	4775,9
0,85	0,61	136563,2	4617,7
0,90	0,59	119596,6	4460,7
0,95	0,57	101998,9	4306,4
1,00	0,55	83812,5	4156,2

TQAV = 83812,5 LOAD = 7928,0 VEL = 40,0 MPH.

MUPEAK = 0,84 MULOCK = 0,55 RATIO = 1,52



FZ = 7928,0 VEL = 40,0 MULOCK = 0,55 MUPEAK = 0,84 RATIO = 1,52 A-D FILE 204 NWFILE 83 SAMPLE 355

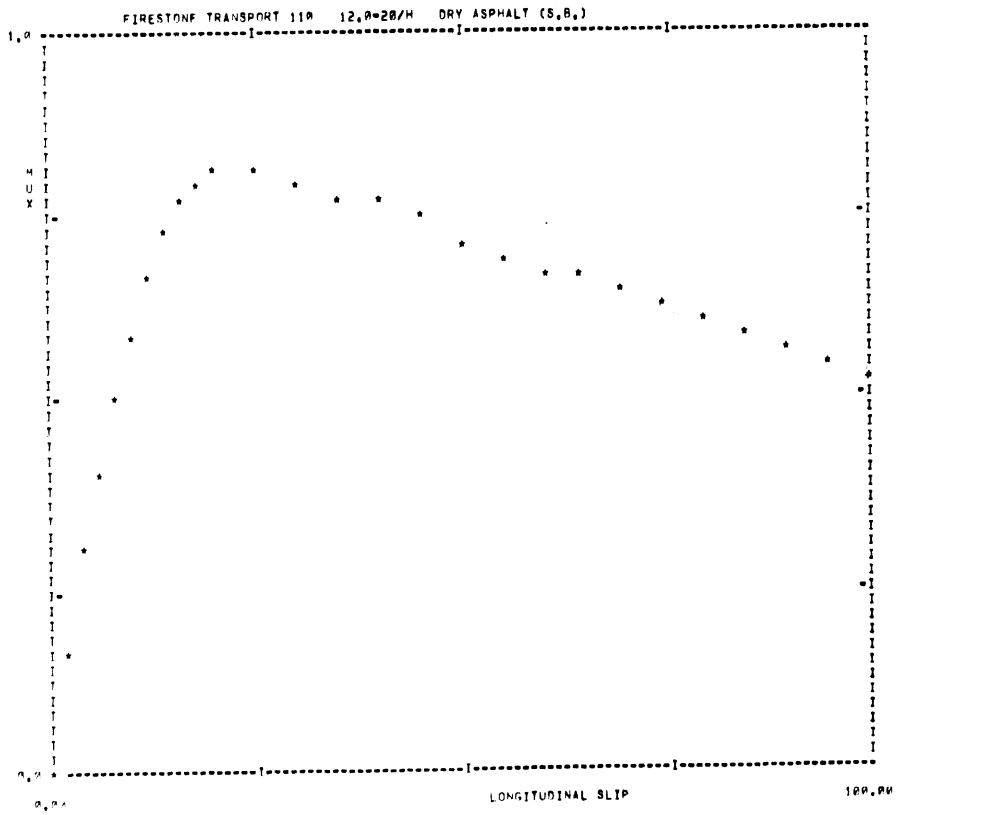
** A-D FILE 205 NEW FILE 84 TEST SAMPLE356 **

AVERAGE OF FILE 205 FOR 4 RECORDS. FIRESTONE TRANSPORT 110 12.0-20/H DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.17	29941.0	1361.4
0.04	0.30	51355.7	2386.8
0.06	0.41	70582.6	3293.6
0.08	0.52	87711.9	4090.6
0.10	0.60	102439.0	4736.8
0.12	0.67	114160.6	5256.5
0.14	0.73	123446.4	5678.1
0.16	0.77	130723.2	5991.6
0.18	0.80	136422.8	6225.2
0.20	0.81	140145.1	6318.7
0.25	0.81	146692.2	6298.2
0.30	0.80	151196.8	6193.3
0.35	0.79	153843.3	6058.7
0.40	0.77	155851.3	5911.7
0.45	0.75	158158.2	5755.1
0.50	0.73	160850.7	5595.2
0.55	0.70	163621.2	5439.5
0.60	0.68	166258.7	5294.1
0.65	0.67	168423.0	5160.5
0.70	0.65	169757.5	5040.3
0.75	0.63	169204.7	4926.2
0.80	0.62	164218.9	4810.8
0.85	0.60	151333.6	4679.8
0.90	0.58	131410.7	4525.2
0.95	0.56	109491.5	4363.1
1.00	0.54	85968.7	4190.4

TQAV = 85968.7 LOAD = 8041.2 VEL = 55.0 MPH

MUPEAK = 0.81 MULOCK = 0.54 RATIO = 1.51

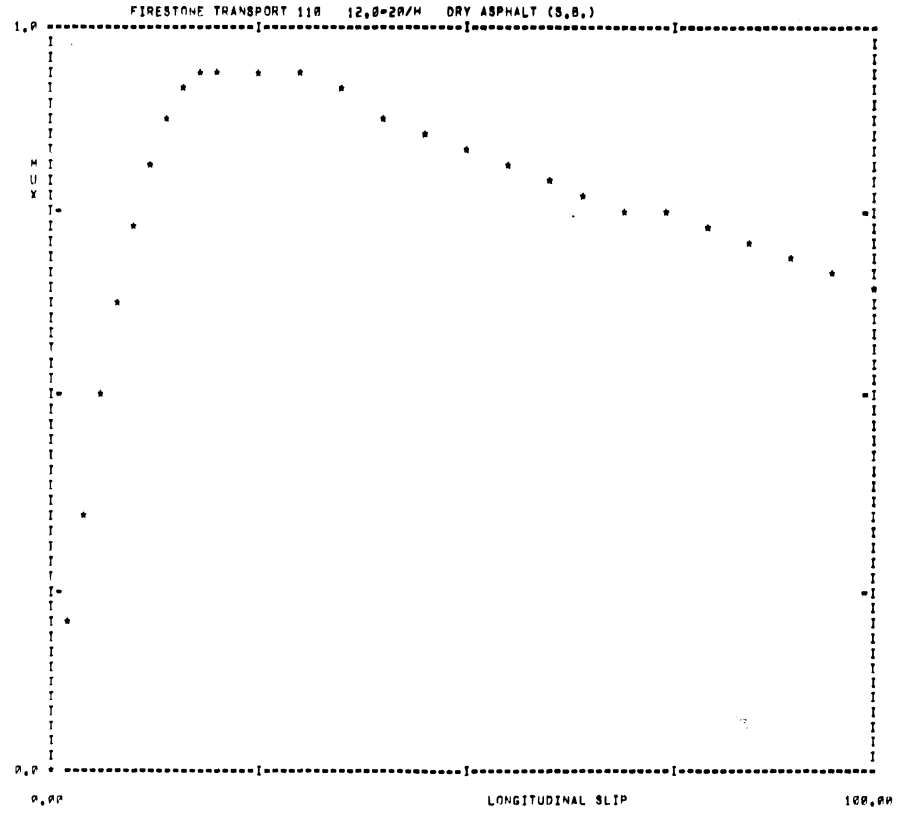


FZ = 8041.2 VEL = 55.0 MULOCK = 0.54 MUPEAK = 0.81 RATIO = 1.51 A-D FILE 205 NWFILE 84 SAMPLE 356

** A=D FILE 210 NEW FILE 86 TEST SAMPLE358 **

AVERAGE OF FILE 210 FOR 5 RECORDS. FIRESTONE TRANSPORT 110 12,0=20/H DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,20	13434,7	647,8	
0,04	0,35	23155,6	1111,6	
0,06	0,50	34302,3	1610,2	
0,08	0,64	44553,0	2044,5	
0,10	0,75	52623,1	2397,5	
0,12	0,83	58877,4	2656,2	
0,14	0,88	64033,7	2822,1	
0,16	0,91	68380,2	2919,6	
0,18	0,93	71725,2	2972,4	TQAV = 41875,0 LOAD = 3259,7 VEL = 40,0 MPH.
0,20	0,94	74052,3	2982,7	
0,25	0,94	78454,8	2957,7	MUPEAK = 0,94 MULOCK = 0,66 RATIO = 1,43
0,30	0,93	81946,9	2989,2	
0,35	0,92	84901,4	2841,4	
0,40	0,89	87876,0	2760,6	
0,45	0,86	90864,5	2678,9	
0,50	0,84	94012,9	2597,2	
0,55	0,81	97082,8	2520,2	
0,60	0,79	99844,8	2449,7	
0,65	0,77	102328,0	2386,6	
0,70	0,76	103639,4	2339,9	
0,75	0,75	101717,7	2297,7	
0,80	0,73	94581,6	2253,7	
0,85	0,71	83439,6	2200,5	
0,90	0,70	69976,9	2144,3	
0,95	0,68	55831,5	2086,1	
1,00	0,66	41875,0	2025,0	

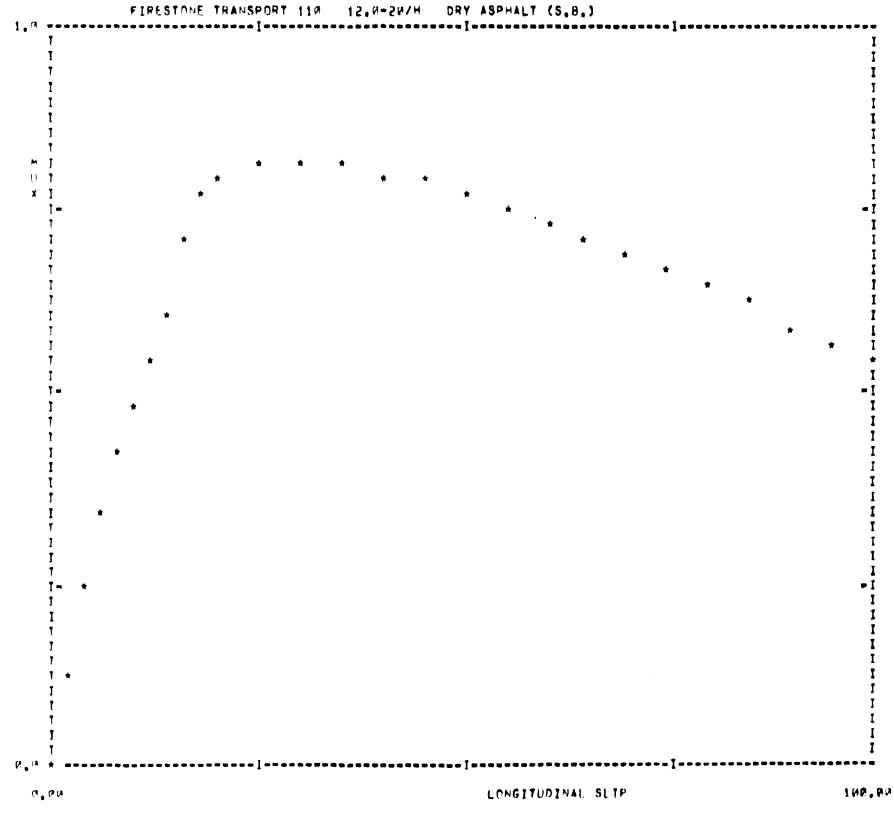


FZ = 3259,7 VEL = 40,0 MULOCK = 0,66 MUPEAK = 0,94 RATIO = 1,43 A=D FILE 210 NWFILE 86 SAMPLE 358

** A-D FILE 211 NEW FILE 87 TEST SAMPLE359 **

AVERAGE OF FILE 211 FOR 5 RECORDS, FIRESTONE TRANSPORT 110 12.0-20/H DRY ASPHALT (S,0,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.13	21466.5	1074.2	
0.04	0.25	40302.8	1956.3	
0.06	0.34	55259.7	2682.2	
0.08	0.43	68750.4	3337.8	
0.10	0.50	80473.1	3879.8	
0.12	0.56	90629.9	4323.9	
0.14	0.62	101404.7	4808.4	
0.16	0.71	116875.4	5497.5	
0.18	0.78	128974.6	5983.5	TDAV = 83875.0 LOAD = 7969.1 VEL = 40.0 MPH.
0.20	0.80	135467.0	6150.1	
0.25	0.82	146154.6	6245.1	MUPEAK = 0.82 MULOCK = 0.55 RATIO = 1.49
0.30	0.82	153890.9	6229.1	
0.35	0.82	159198.4	6160.6	
0.40	0.81	163857.5	6062.9	
0.45	0.79	165868.1	5951.6	
0.50	0.78	168075.7	5823.0	
0.55	0.76	170108.0	5677.4	
0.60	0.74	171926.8	5520.8	
0.65	0.72	172975.7	5362.9	
0.70	0.69	171654.2	5203.3	
0.75	0.67	166524.0	5044.8	
0.80	0.65	156106.9	4890.7	
0.85	0.63	140277.1	4730.6	
0.90	0.60	122241.5	4569.5	
0.95	0.58	103464.7	4406.5	
1.00	0.55	83875.0	4240.5	

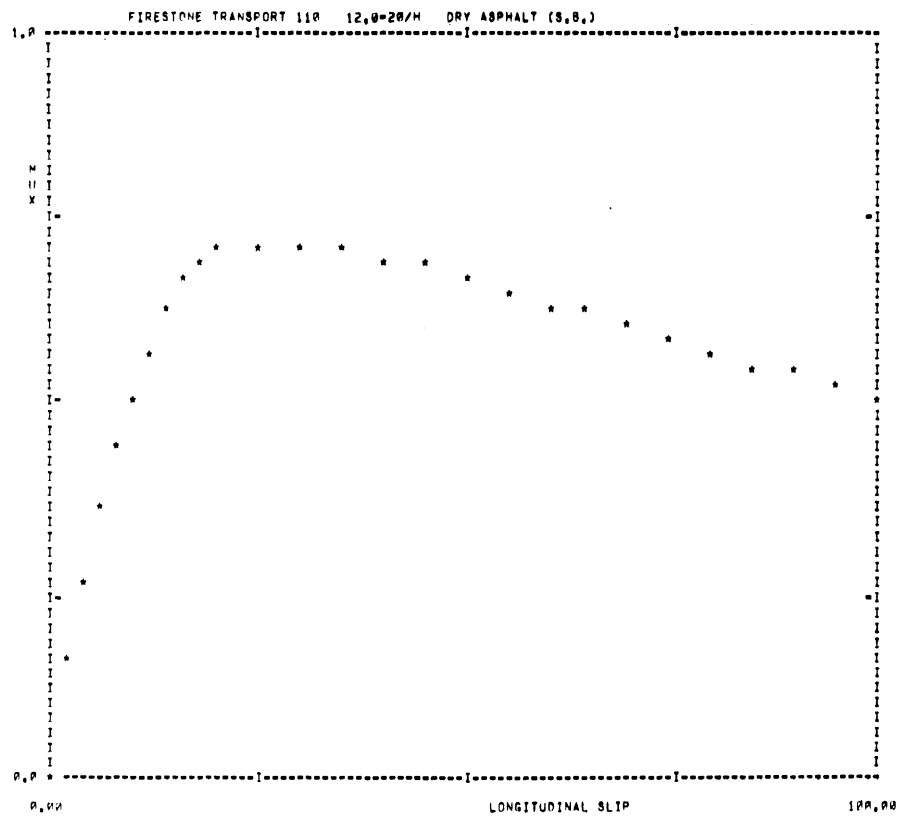


FZ = 7969.1 VEL = 40.0 MULOCK = 0.55 MUPEAK = 0.82 RATIO = 1.49 A-D FILE 211 NWFILE 87 SAMPLE 359

** A-D FILE 212 NEW FILE 88 TEST SAMPLE360 **

AVERAGE OF FILE 212 FOR 5 RECORDS. FIRESTONE TRANSPORT 110 12,0-20/H DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,17	36648,6	2180,1	
0,04	0,27	65108,8	3517,4	
0,06	0,36	88930,9	4676,9	
0,08	0,44	110728,3	5728,1	
0,10	0,52	130920,0	6666,3	
0,12	0,58	148926,6	7484,8	
0,14	0,63	163082,2	8141,2	
0,16	0,67	173037,8	8654,6	
0,18	0,70	181594,1	8983,9	TQAV = 118550,0 LOAD = 13159,9 VEL = 40,0 MPH.
0,20	0,71	187205,4	9117,3	
0,25	0,72	195996,1	9159,3	MUPEAK = 0,72 MULOCK = 0,50 RATIO = 1,43
0,30	0,72	201941,1	9087,1	
0,35	0,71	206182,2	8946,6	
0,40	0,70	209489,3	8768,1	
0,45	0,69	212424,4	8569,3	
0,50	0,67	215072,0	8368,7	
0,55	0,66	217254,7	8152,7	
0,60	0,64	219019,0	7954,2	
0,65	0,62	219579,7	7771,8	
0,70	0,61	217204,7	7597,1	
0,75	0,60	210324,7	7421,9	
0,80	0,58	197365,1	7233,3	
0,85	0,56	179209,3	7026,9	
0,90	0,54	159488,3	6814,7	
0,95	0,52	139291,8	6598,9	
1,00	0,50	118550,0	6378,0	



FZ = 13159,9 VEL = 40,0 MULOCK = 0,50 MUPEAK = 0,72 RATIO = 1,43 A-D FILE 212 NWFILE 88 SAMPLE 360

** A-D FILE 196 NEW FILE 78 TEST SAMPLE350 **

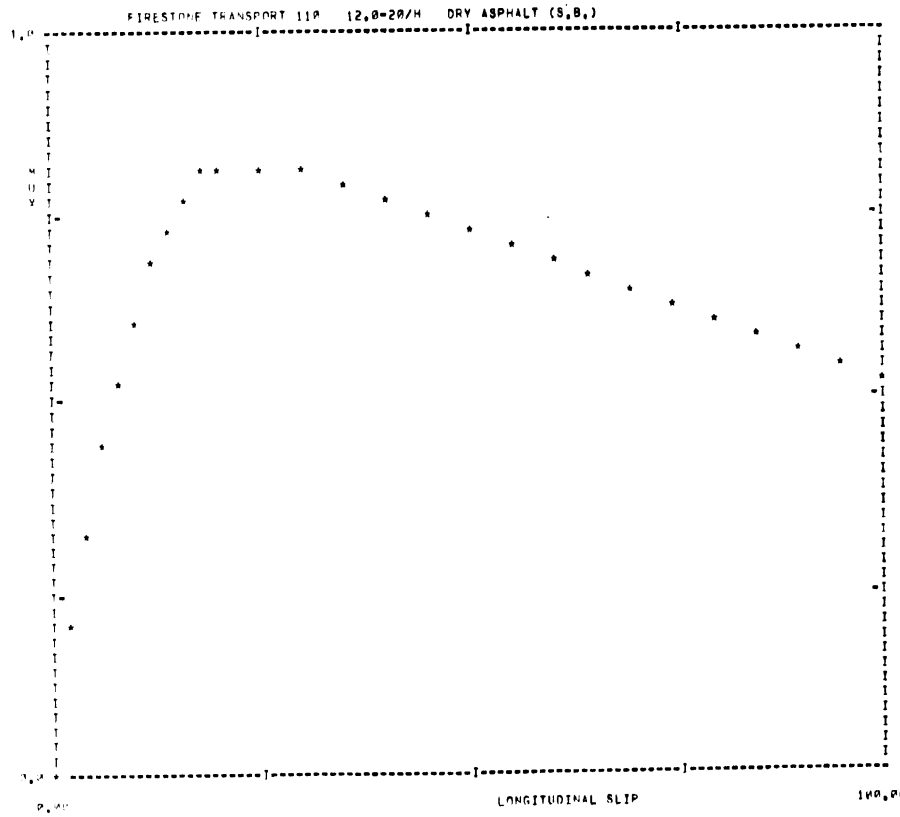
AVERAGE OF FILE 196 FOR 6 RECORDS. FIRESTONE TRANSPORT 110 12,0-20/H DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.21	33862.7	1714.8
0.04	0.33	54437.1	2747.6
0.06	0.44	72406.7	3553.8
0.08	0.54	88116.8	4267.0
0.10	0.62	102333.5	4907.6
0.12	0.69	114265.6	5447.6
0.14	0.75	123184.0	5888.0
0.16	0.79	131154.7	6206.8
0.18	0.81	137484.0	6420.1
0.20	0.83	140983.2	6499.9
0.25	0.83	146294.1	6474.4
0.30	0.82	150631.7	6359.5
0.35	0.80	154020.3	6285.2
0.40	0.78	156549.6	6041.2
0.45	0.76	158252.0	5881.2
0.50	0.74	159398.9	5725.2
0.55	0.72	160252.3	5567.8
0.60	0.70	160953.4	5410.6
0.65	0.68	161547.3	5260.7
0.70	0.66	161489.6	5113.6
0.75	0.64	159281.4	4969.2
0.80	0.62	151648.0	4829.9
0.85	0.60	138969.5	4691.1
0.90	0.58	121255.8	4541.0
0.95	0.56	103231.0	4386.4
1.00	0.54	83895.8	4227.5

TQAV = 83895.8 LOAD = 8048.2 VEL = 40.0 MPH.

MUPEAK = 0.83 MULOCK = 0.54 RATIO = 1.54

Check Run #1



F7 = 8048.2 VEL = 40.0 MULOCK = 0.54 MUPEAK = 0.83 RATIO = 1.54 A-D FILE 196 NEWFILE 78 SAMPLE 350

** A-D FILE 286 NEW FILE 85 TEST SAMPLE357 **

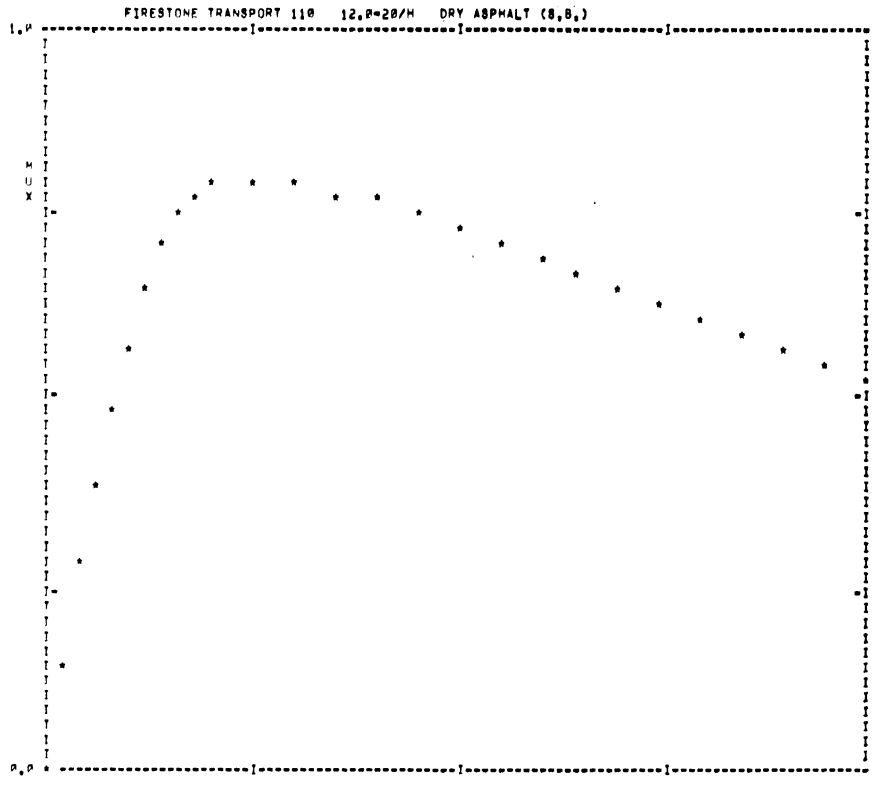
AVERAGE OF FILE 286 FOR 6 RECORDS, FIRESTONE TRANSPORT 110 12,0-20/H DRY ASPHALT (0,0,)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,15	26801,7	1237,0
0,04	0,28	48451,0	2238,5
0,06	0,39	66594,2	3073,5
0,08	0,49	82933,5	3852,3
0,10	0,58	97394,7	4520,9
0,12	0,66	109900,6	5081,1
0,14	0,71	119756,4	5494,4
0,16	0,75	127433,9	5783,7
0,18	0,78	133498,6	5968,5
0,20	0,79	137785,3	6045,0
0,25	0,80	144612,4	6075,6
0,30	0,80	149464,1	6032,6
0,35	0,79	153130,0	5937,3
0,40	0,77	156236,7	5810,2
0,45	0,75	159047,0	5662,8
0,50	0,73	161373,9	5511,5
0,55	0,71	163334,6	5359,4
0,60	0,69	164824,6	5210,8
0,65	0,67	165513,2	5076,3
0,70	0,65	164921,0	4948,9
0,75	0,64	160606,3	4825,1
0,80	0,62	150788,8	4694,9
0,85	0,60	136789,2	4554,9
0,90	0,58	120554,1	4406,2
0,95	0,56	103409,9	4253,8
1,00	0,54	85250,0	4097,5

TQAV = 85250,0 LOAD = 7959,2 VEL = 40,0 MPH,

MUPEAK = 0,80 MULOCK = 0,54 RATIO = 1,50

Check Run #3



FZ = 7959,2 VEL = 40,0 MULOCK = 0,54 MUPEAK = 0,80 RATIO = 1,50 A-D FILE 286 NWFILE 85 SAMPLE 357

** A-D FILE 213 NEW FILE 89 TEST SAMPLE361 **

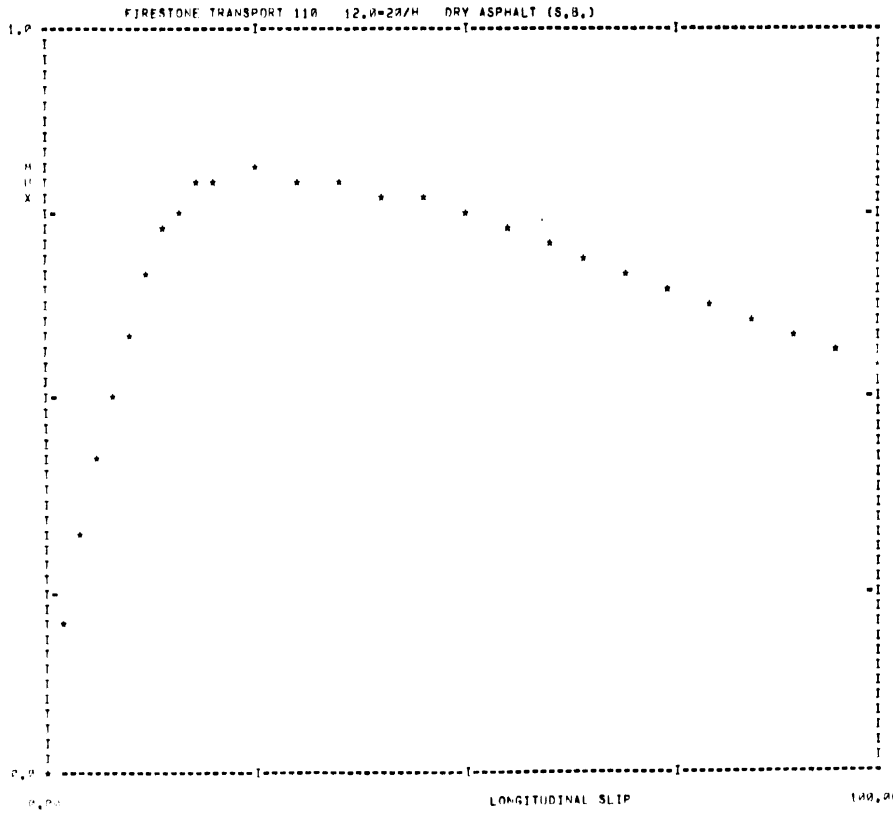
AVERAGE OF FILE 213 FOR 6 RECORDS. FIRESTONE TRANSPORT 110 12,0-20/H DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.21	31294.5	1743.2
0.04	0.32	51111.7	2677.4
0.06	0.43	69072.3	3531.8
0.08	0.52	85240.0	4275.1
0.10	0.60	99637.2	4934.9
0.12	0.67	112924.4	5531.0
0.14	0.73	123629.8	5987.7
0.16	0.77	131423.1	6291.4
0.18	0.79	137056.8	6486.9
0.20	0.81	140971.4	6566.7
0.25	0.81	148391.0	6561.4
0.30	0.81	154166.7	6476.9
0.35	0.80	158642.7	6353.3
0.40	0.78	162223.3	6217.9
0.45	0.77	165117.1	6079.2
0.50	0.75	167837.4	5931.3
0.55	0.73	170320.8	5779.1
0.60	0.71	172461.1	5631.4
0.65	0.69	173710.1	5491.4
0.70	0.68	172814.0	5351.6
0.75	0.66	168040.1	5215.7
0.80	0.64	157117.6	5080.6
0.85	0.62	141156.3	4940.2
0.90	0.60	122837.1	4782.2
0.95	0.58	103977.9	4617.8
1.00	0.55	84708.3	4447.5

TQAV = 84708.3 LOAD = 8346.1 VEL = 40.0 MPH.

MUPEAK = 0.81 MULOCK = 0.55 RATIO = 1.47

Check Run #5



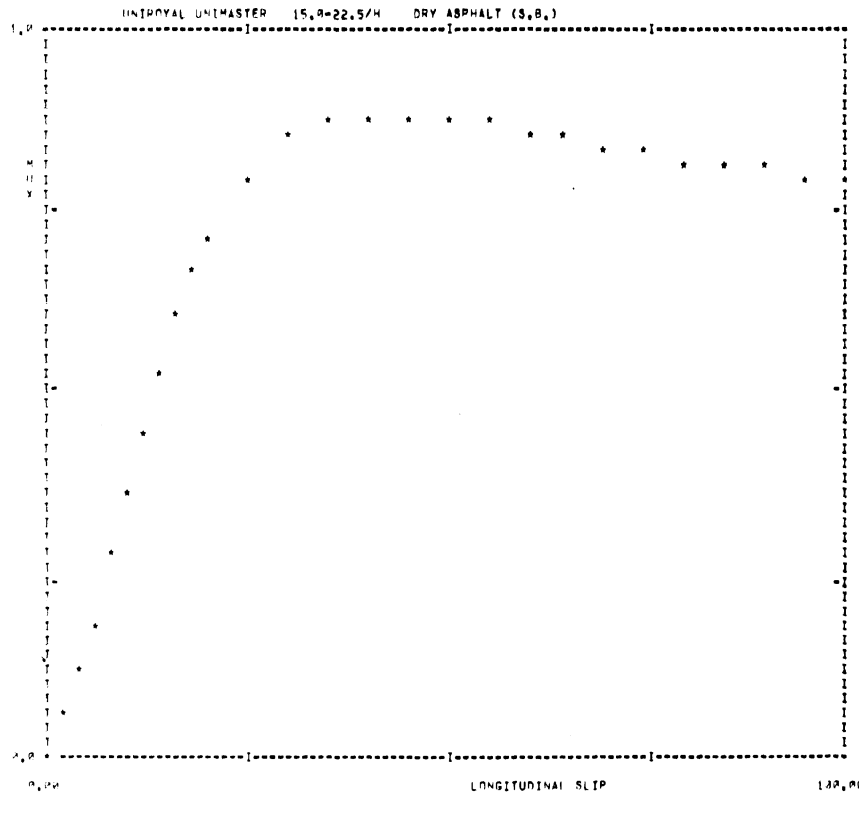
FZ = 8346.1 VEL = 40.0 MULOCK = 0.55 MUPEAK = 0.81 RATIO = 1.47 A-D FILE 213 NWFILE 89 SAMPLE 361

UNIROYAL UNIMASTER, 15 x 22.5/H, BADC ASPHALT

** A=D FILE 245 NEW FILE 103 TEST SAMPLE451 **

AVERAGE OF FILE 245 FOR 7 RECORDS, UNIROYAL UNIMASTER 15.0-22.5/H DRY ASPHALT (S,R,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.06	8288.4	551.9	
0.04	0.12	18857.6	1014.4	
0.06	0.19	31622.2	1652.1	
0.08	0.28	47998.6	2419.5	
0.10	0.37	63099.0	3156.0	
0.12	0.46	77721.9	3878.0	
0.14	0.54	91004.4	4532.1	
0.16	0.61	104069.8	5139.4	
0.18	0.68	114618.7	5649.6	TOAV = 134482.1 LOAD = 8514.0 VEL = 3.0 MPH.
0.20	0.72	122276.1	6033.4	
0.25	0.80	136099.5	6646.0	MUPEAK = 0.89 MULOCK = 0.79 RATIO = 1.12
0.30	0.85	146116.2	7048.9	
0.35	0.88	151254.1	7238.3	
0.40	0.89	152429.5	7288.5	
0.45	0.88	152034.9	7271.3	
0.50	0.88	151021.3	7224.1	
0.55	0.87	149714.8	7162.2	
0.60	0.86	148263.4	7093.0	
0.65	0.85	146739.9	7020.1	
0.70	0.85	145180.2	6945.4	
0.75	0.84	143602.5	6869.8	
0.80	0.83	142015.7	6793.8	
0.85	0.82	140424.5	6717.5	
0.90	0.81	138715.1	6638.6	
0.95	0.80	136772.9	6554.5	
1.00	0.79	134482.1	6462.9	

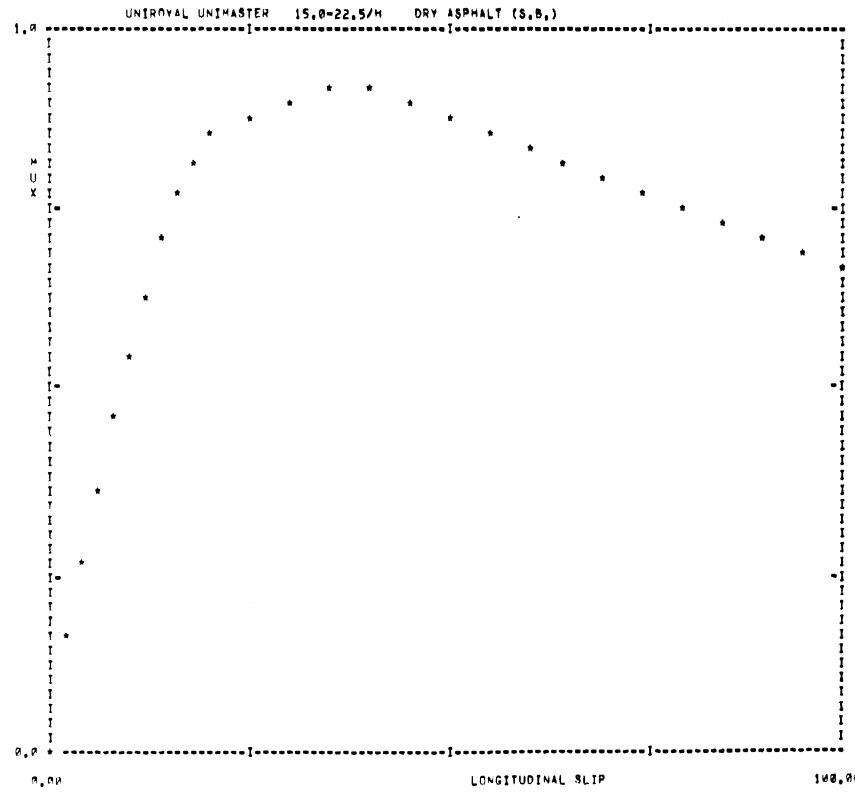


FZ = 8514.0 VEL = 3.0 MULOCK = 0.79 MUPEAK = 0.89 RATIO = 1.12 A=D FILE 245 NWFILE 103 SAMPLE 451

** A-D FILE 246 NEW FILE 104 TEST SAMPLE452 **

AVERAGE OF FILE 246 FOR 7 RECORDS, UNIROYAL UNIMASTER 15,0-22,5/H DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,16	26697,4	1374,3	
0,04	0,26	46270,7	2383,4	
0,06	0,38	65958,8	3265,8	
0,08	0,47	83180,9	4095,8	
0,10	0,56	98444,4	4811,8	
0,12	0,64	112235,9	5485,2	
0,14	0,71	124788,8	6069,4	
0,16	0,77	135254,8	6537,8	
0,18	0,82	142952,1	6909,9	TQAV = 113660,7 LOAD = 8671,3 VEL = 10,0 MPH.
0,20	0,85	148451,0	7129,0	
0,25	0,89	157454,3	7402,4	MUPEAK = 0,91 MULOCK = 0,67 RATIO = 1,36
0,30	0,91	163921,8	7537,4	
0,35	0,91	168711,6	7572,7	
0,40	0,91	172532,0	7539,8	
0,45	0,90	175547,7	7464,5	
0,50	0,89	175928,5	7348,6	
0,55	0,87	172484,3	7198,6	
0,60	0,85	166321,3	7023,8	
0,65	0,83	160002,4	6845,9	
0,70	0,80	153960,1	6669,4	
0,75	0,78	148091,5	6494,0	
0,80	0,76	142313,4	6319,0	
0,85	0,74	136580,8	6144,4	
0,90	0,72	130289,7	5966,3	
0,95	0,70	122843,4	5781,1	
1,00	0,67	113660,7	5585,4	



FZ = 8671,3 VEL = 10,0 MULOCK = 0,67 MUPEAK = 0,91 RATIO = 1,36 A-D FILE 246 NWFILE 104 SAMPLE 452

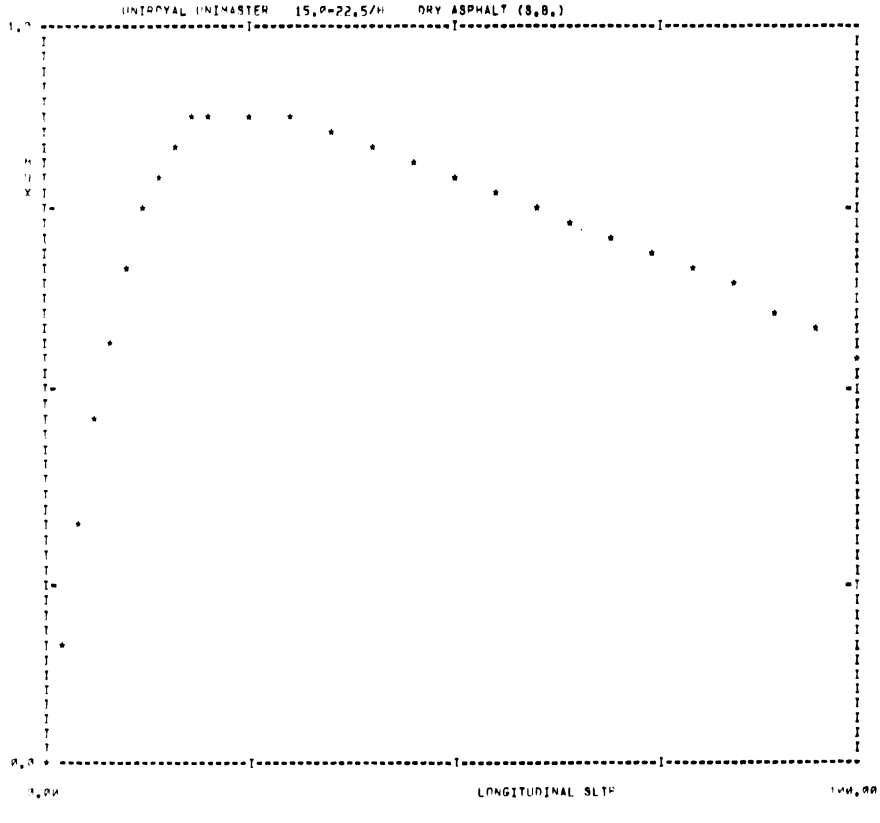
** A=0 FILE 247 NEW FILE 105 TEST SAMPLE453 **

AVERAGE OF FILE 247 FOR 6 RECORDS. UNIROYAL UNIMASTER 15.0-22.5/H DRY ASPHALT (8.8.)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.17	28450.9	1495.3
0.04	0.34	57365.9	2888.6
0.06	0.47	80497.5	4013.1
0.08	0.58	99659.6	4925.4
0.10	0.67	115594.0	5677.9
0.12	0.75	129016.8	6311.2
0.14	0.81	139885.3	6757.8
0.16	0.85	147879.5	7068.6
0.18	0.87	153293.9	7243.3
0.20	0.88	156545.1	7327.2
0.25	0.88	162112.2	7321.1
0.30	0.87	166618.2	7246.6
0.35	0.86	171335.3	7133.8
0.40	0.84	173459.8	6992.4
0.45	0.82	176021.2	6843.3
0.50	0.81	178304.1	6685.2
0.55	0.79	179932.5	6523.3
0.60	0.77	179891.3	6359.5
0.65	0.75	175571.4	6190.5
0.70	0.72	168236.7	6014.4
0.75	0.70	158013.5	5819.2
0.80	0.67	145661.8	5608.1
0.85	0.65	132640.9	5389.4
0.90	0.62	119439.1	5167.3
0.95	0.59	106075.2	4938.3
1.00	0.56	92479.2	4698.7

TQAV = 92479.2 LOAD = 8664.3 VEL = 20.0 MPH.

MUPEAK = 0.88 MULOCK = 0.56 RATIO = 1.57

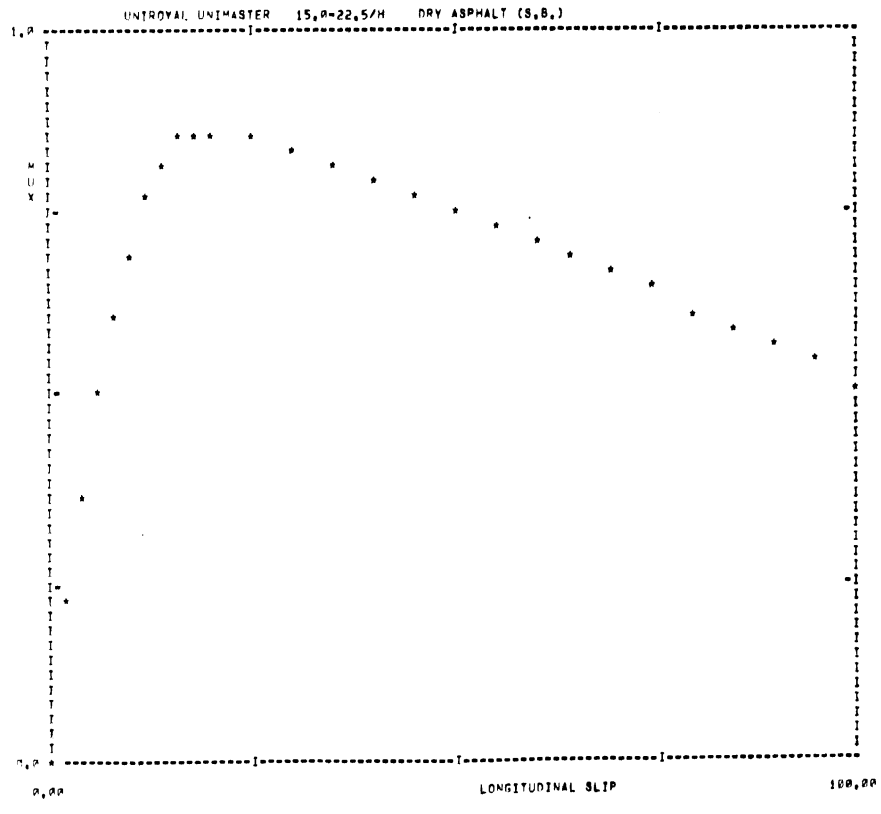


FZ = 8664.3 VEL = 20.0 MULOCK = 0.56 MUPEAK = 0.88 RATIO = 1.57 A=0 FILE 247 NWFILE 105 SAMPLE 453

** A=D FILE 248 NEW FILE 106 TEST SAMPLE454 **

AVERAGE OF FILE 248 FOR 6 RECORDS. UNIROYAL UNIMASTER 15,0=22,5/H DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,23	40034,4	1991,7	
0,04	0,38	66202,1	3304,6	
0,06	0,50	88409,9	4356,4	
0,08	0,61	107218,2	5249,0	
0,10	0,70	123439,7	5986,6	
0,12	0,78	135960,1	6570,3	
0,14	0,82	144735,9	6986,7	
0,16	0,85	151626,4	7237,6	
0,18	0,86	156968,3	7352,7	TQAV = 85875,0 LOAD = 8702,5 VEL = 30,0 MPH,
0,20	0,86	160335,7	7345,5	
0,25	0,85	165585,1	7219,8	MUPEAK = 0,86 MULOCK = 0,52 RATIO = 1,66
0,30	0,83	169685,7	7062,8	
0,35	0,81	173053,2	6891,6	
0,40	0,79	175974,7	6708,5	
0,45	0,77	178569,9	6519,2	
0,50	0,75	180831,1	6331,9	
0,55	0,73	182613,0	6148,2	
0,60	0,71	183327,7	5968,2	
0,65	0,69	181505,8	5791,1	
0,70	0,67	175240,0	5617,5	
0,75	0,65	164450,7	5444,0	
0,80	0,62	150471,4	5261,7	
0,85	0,60	134679,4	5064,5	
0,90	0,58	118348,6	4862,4	
0,95	0,55	102045,6	4656,2	
1,00	0,52	85875,0	4443,7	

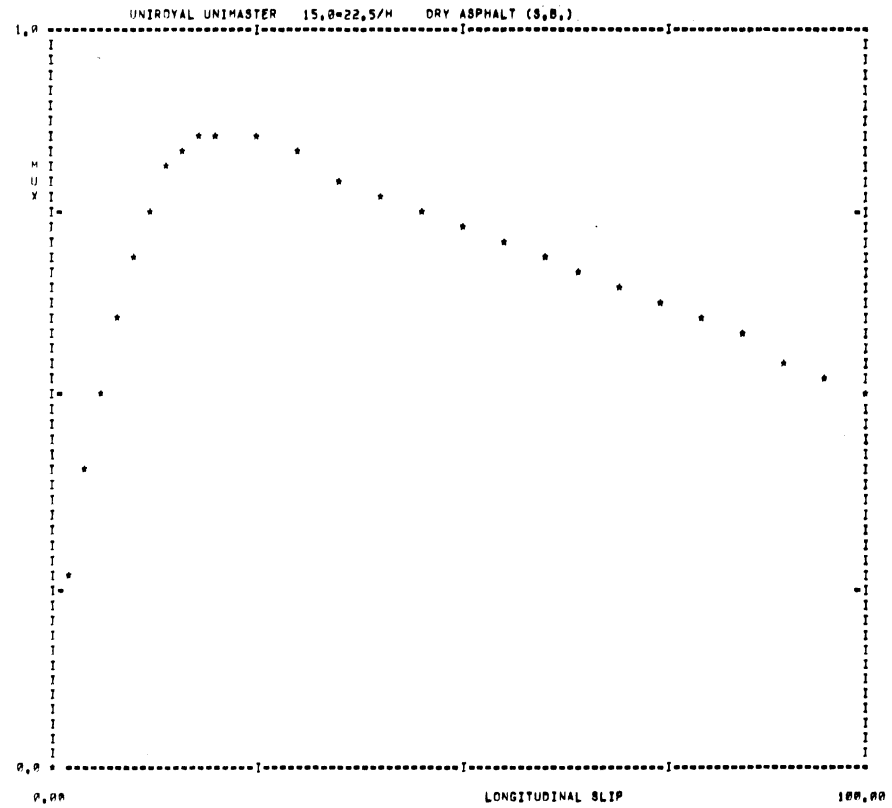


F7 = 8702,5 VEL = 30,0 MULOCK = 0,52 MUPEAK = 0,86 RATIO = 1,66 A=D FILE 248 NWFILE 106 SAMPLE 454

** A=D FILE 249 NEW FILE 107 / TEST SAMPLE455 **

AVERAGE OF FILE 249 FOR 6 RECORDS, UNIROYAL UNIMASTER 15,0=22,5/H DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,27	46160,8	2367,3	
0,04	0,40	69611,0	3455,8	
0,06	0,52	90784,3	4468,2	
0,08	0,61	107739,2	5279,8	
0,10	0,70	121913,8	5923,2	
0,12	0,76	132849,5	6406,8	
0,14	0,81	141755,3	6777,4	
0,16	0,85	148739,4	7070,8	
0,18	0,87	154294,6	7239,7	TQAV = 83854,2 LOAD = 8587,6 VEL = 40,0 MPH,
0,20	0,87	157293,9	7262,5	
0,25	0,85	161392,4	7154,9	MUPEAK = 0,87 MULOCK = 0,52 RATIO = 1,68
0,30	0,83	164698,7	6983,8	
0,35	0,81	167560,7	6780,5	
0,40	0,78	169805,6	6571,7	
0,45	0,76	171577,1	6364,7	
0,50	0,74	172877,3	6167,1	
0,55	0,72	173935,7	5977,8	
0,60	0,69	174683,5	5794,2	
0,65	0,67	174993,5	5612,9	
0,70	0,65	173351,2	5431,6	
0,75	0,63	168425,2	5249,9	
0,80	0,61	157680,9	5061,7	
0,85	0,58	141431,6	4870,6	
0,90	0,56	123858,8	4679,1	
0,95	0,54	103906,2	4488,1	
1,00	0,52	83854,2	4297,5	

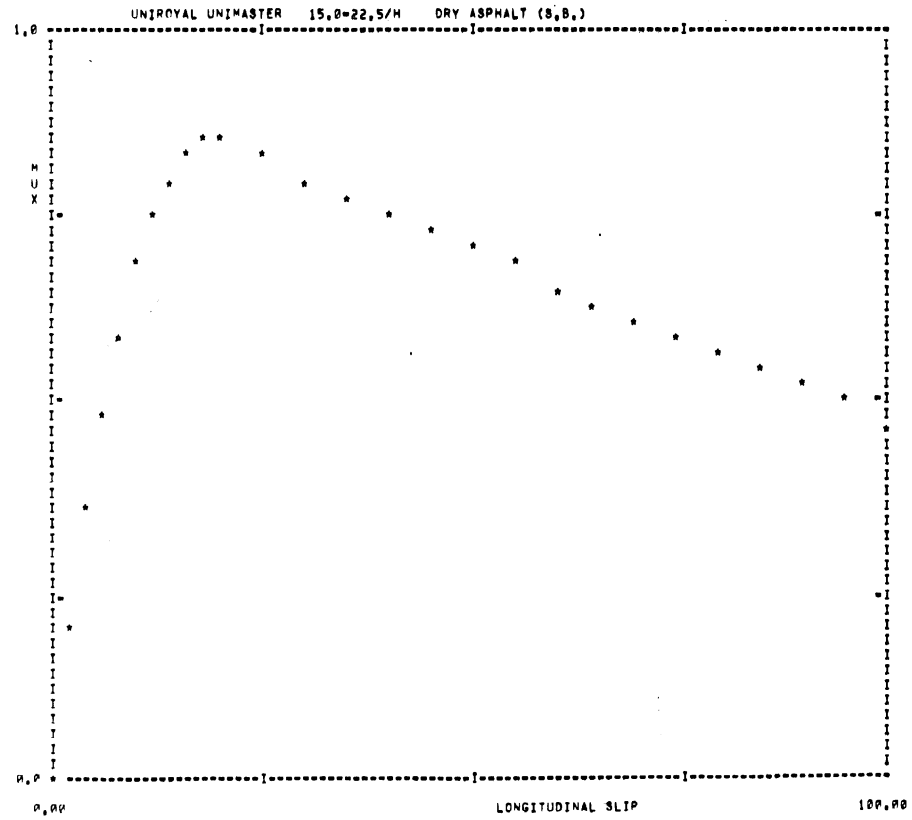


FZ = 8587,6 VEL = 40,0 MULOCK = 0,52 MUPEAK = 0,87 RATIO = 1,68 A=D FILE 249 NWFILE 107 SAMPLE 455

** A-D FILE 250 NEW FILE 108 , TEST SAMPLE456 **

AVERAGE OF FILE 250 FOR 5 RECORDS, UNIROYAL UNIMASTER 15.0-22.5/H DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.21	35974.8	1788.9	
0.04	0.36	64637.8	3146.5	
0.06	0.49	88589.9	4271.7	
0.08	0.60	107968.7	5185.1	
0.10	0.69	124111.9	5905.3	
0.12	0.75	136219.3	6434.8	
0.14	0.80	145374.3	6825.1	
0.16	0.84	152505.6	7122.0	
0.18	0.86	157999.9	7294.2	TQAV = 80325.0 LOAD = 8692.0 VEL = 55.0 MPH.
0.20	0.85	161470.9	7298.1	
0.25	0.83	168016.4	7081.7	MUPEAK = 0.86 MULOCK = 0.48 RATIO = 1.80
0.30	0.80	173103.6	6825.6	
0.35	0.77	176657.3	6567.7	
0.40	0.75	179168.7	6331.4	
0.45	0.73	180873.0	6127.7	
0.50	0.71	182361.9	5935.0	
0.55	0.69	184218.0	5734.2	
0.60	0.66	186371.7	5535.5	
0.65	0.64	188444.0	5343.4	
0.70	0.61	188938.1	5155.5	
0.75	0.59	185465.2	4973.4	
0.80	0.57	173930.1	4805.7	
0.85	0.55	153831.1	4637.8	
0.90	0.53	129708.9	4453.2	
0.95	0.50	105055.1	4260.0	
1.00	0.48	80325.0	4057.5	

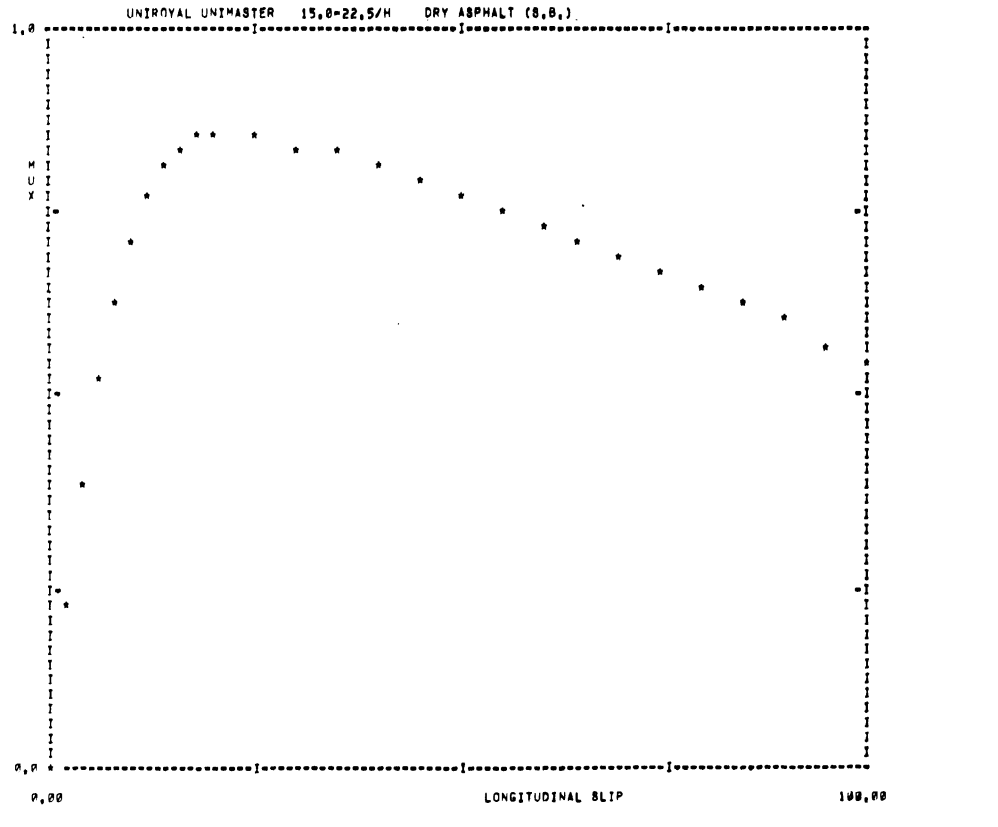


FZ = 8692.0 VEL = 55.0 MULOCK = 0.48 MUPEAK = 0.86 RATIO = 1.80 A-D FILE 250 NWFILE 108 SAMPLE 456

** A-D FILE 255 NEW FILE 110 TEST SAMPLE458 **

AVERAGE OF FILE 255 FOR 6 RECORDS. UNIROYAL UNIMASTER 15.0-22.5/H DRY ASPHALT (8.8.)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.23	16880.4	825.7	
0.04	0.39	30244.5	1399.4	
0.06	0.53	41385.0	1888.9	
0.08	0.64	50589.1	2269.1	
0.10	0.72	57551.9	2552.8	
0.12	0.78	62930.0	2741.1	
0.14	0.81	67662.6	2856.7	
0.16	0.84	71641.3	2919.3	
0.18	0.85	74875.7	2949.1	TQAV = 39770.8 LOAD = 3515.0 VEL = 40.0 MPH.
0.20	0.85	77338.7	2950.3	
0.25	0.85	82374.0	2921.1	MUPEAK = 0.85 MULOCK = 0.55 RATIO = 1.55
0.30	0.84	86596.8	2873.7	
0.35	0.83	90106.9	2812.0	
0.40	0.81	93251.2	2744.1	
0.45	0.80	96170.8	2680.2	
0.50	0.78	99170.7	2620.3	
0.55	0.76	102430.3	2555.5	
0.60	0.74	105895.4	2485.6	
0.65	0.72	109374.5	2416.5	
0.70	0.70	111427.8	2348.7	
0.75	0.68	109281.9	2279.5	
0.80	0.66	101153.6	2210.9	
0.85	0.64	88006.3	2134.7	
0.90	0.61	72702.1	2051.8	
0.95	0.58	56646.0	1965.4	
1.00	0.55	39770.8	1875.0	

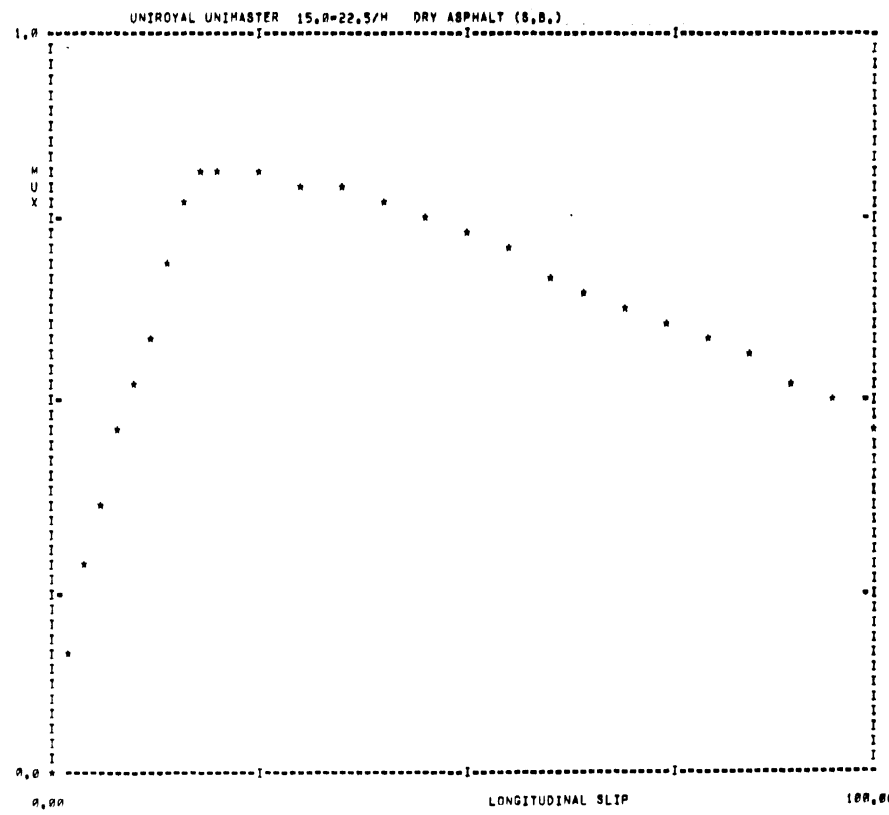


FZ = 3515.0 VEL = 40.0 MULOCK = 0.55 MUPEAK = 0.85 RATIO = 1.55 A-D FILE 255 NWFILE 110 SAMPLE 458

** A-D FILE 256 NEW FILE 111 TEST SAMPLE459 **

AVERAGE OF FILE 256 FOR 5 RECORDS. UNIROYAL UNIMASTER 15,0-22,5/H DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,16	28697,8	1394,0	
0,04	0,28	58727,8	2419,1	
0,06	0,38	68401,4	3218,2	
0,08	0,46	83816,7	3932,8	
0,10	0,54	95111,8	4508,1	
0,12	0,60	108392,3	5052,3	
0,14	0,70	126782,4	5815,1	
0,16	0,77	140145,8	6383,2	
0,18	0,81	148660,6	6705,0	TQAV = 79325,8 LOAD = 8519,3 VEL = 40,0 MPH.
0,20	0,82	153758,1	6782,7	
0,25	0,81	162452,9	6758,3	MUPEAK = 0,82 MULOCK = 0,48 RATIO = 1,70
0,30	0,80	168777,8	6667,9	
0,35	0,79	173527,4	6544,8	
0,40	0,77	177506,6	6399,2	
0,45	0,75	181183,3	6231,5	
0,50	0,73	184743,1	6058,8	
0,55	0,71	188235,7	5865,8	
0,60	0,68	190984,2	5673,6	
0,65	0,66	191489,5	5475,5	
0,70	0,64	187341,0	5277,9	
0,75	0,61	177172,3	5081,3	
0,80	0,59	160490,2	4877,9	
0,85	0,56	140397,8	4665,4	
0,90	0,54	119461,7	4441,3	
0,95	0,51	98968,4	4209,8	
1,00	0,48	79325,0	3969,0	

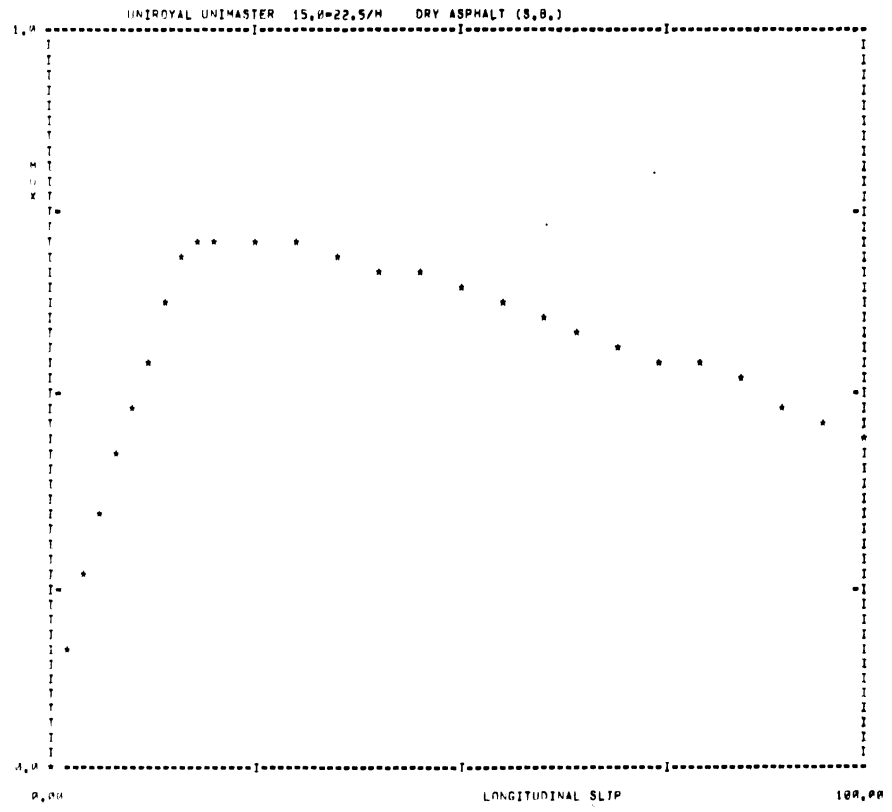


FZ = 8519,3 VEL = 40,0 MULOCK = 0,48 MUPEAK = 0,82 RATIO = 1,70 A-D FILE 256 NWFILE 111 SAMPLE 459

** A-D FILE 257 NEW FILE 112 TEST SAMPLE460 **

AVERAGE OF FILE 257 FOR 5 RECORDS. UNIROYAL UNIMASTER 15.0-22.5/H DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.17	44221.1	2550.1	
0.04	0.27	72493.0	3907.4	
0.06	0.36	96769.6	5096.9	
0.08	0.43	117791.6	6131.2	
0.10	0.49	134619.4	6975.6	
0.12	0.55	151758.3	7806.8	
0.14	0.63	176630.4	8949.9	
0.16	0.69	196850.0	9791.4	
0.18	0.71	207743.2	10221.2	TQAV = 117775.0 LOAD = 14557.8 VEL = 40.0 MPH.
0.20	0.72	213414.0	10293.2	
0.25	0.72	221536.0	10208.8	MUPEAK = 0.72 MULOCK = 0.45 RATIO = 1.60
0.30	0.71	227130.6	10048.4	
0.35	0.69	231228.9	9848.3	
0.40	0.68	234429.9	9631.6	
0.45	0.67	237220.7	9405.4	
0.50	0.65	240078.2	9166.7	
0.55	0.63	242859.5	8926.5	
0.60	0.62	244912.6	8683.4	
0.65	0.60	244319.2	8436.9	
0.70	0.58	238693.3	8188.4	
0.75	0.56	227697.2	7937.6	
0.80	0.54	211097.1	7679.5	
0.85	0.52	187710.1	7399.0	
0.90	0.50	163606.5	7082.5	
0.95	0.48	140181.2	6749.5	
1.00	0.45	117775.0	6399.0	



FZ = 14557.8 VEL = 40.0 MULOCK = 0.45 MUPEAK = 0.72 RATIO = 1.60 A-D FILE 257 NWFILE 112 SAMPLE 460

** A-D FILE 244 NEW FILE 182 TEST SAMPLE450 **

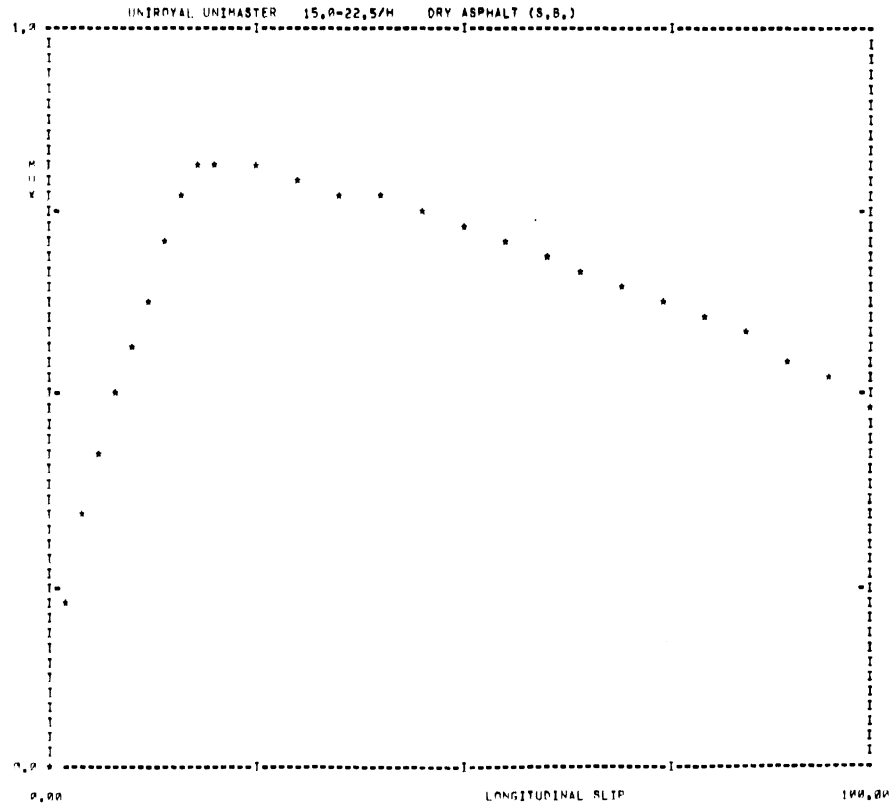
AVERAGE OF FILE 244 FOR 6 RECORDS. UNIROYAL UNIMASTER 15.0-22.5/H DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX
0.00	0.04	0.0	0.0
0.02	0.23	38033.3	1970.4
0.04	0.34	57460.4	2882.5
0.06	0.44	75164.8	3718.8
0.08	0.52	89437.3	4388.4
0.10	0.58	101226.9	4919.3
0.12	0.64	112773.0	5410.2
0.14	0.72	127281.4	6045.2
0.16	0.78	137826.7	6502.4
0.18	0.81	144636.5	6757.2
0.20	0.82	148212.6	6898.3
0.25	0.81	153490.7	6737.1
0.30	0.80	156798.0	6617.6
0.35	0.78	158835.7	6474.9
0.40	0.77	160093.2	6324.8
0.45	0.75	161084.7	6169.6
0.50	0.73	162402.4	6005.2
0.55	0.71	163990.8	5829.5
0.60	0.69	165763.3	5648.8
0.65	0.67	167516.8	5471.1
0.70	0.65	168186.8	5307.5
0.75	0.63	165379.6	5161.6
0.80	0.61	155559.9	5016.4
0.85	0.59	139411.7	4836.4
0.90	0.56	120433.6	4614.3
0.95	0.53	100674.6	4369.4
1.00	0.49	80187.5	4097.5

TQAV = 80187.5 LOAD = 8096.3 VEL = 40.0 MPH.

MUPEAK = 0.82 MULOCK = 0.49 RATIO = 1.66

Check Run #1



FZ = 8096.3 VEL = 40.0 MULOCK = 0.49 MUPEAK = 0.82 RATIO = 1.66 A-D FILE 244 NWFILE 182 SAMPLE 450

** A-D FILE 251 NEW FILE 109 , TEST SAMPLE#57 **

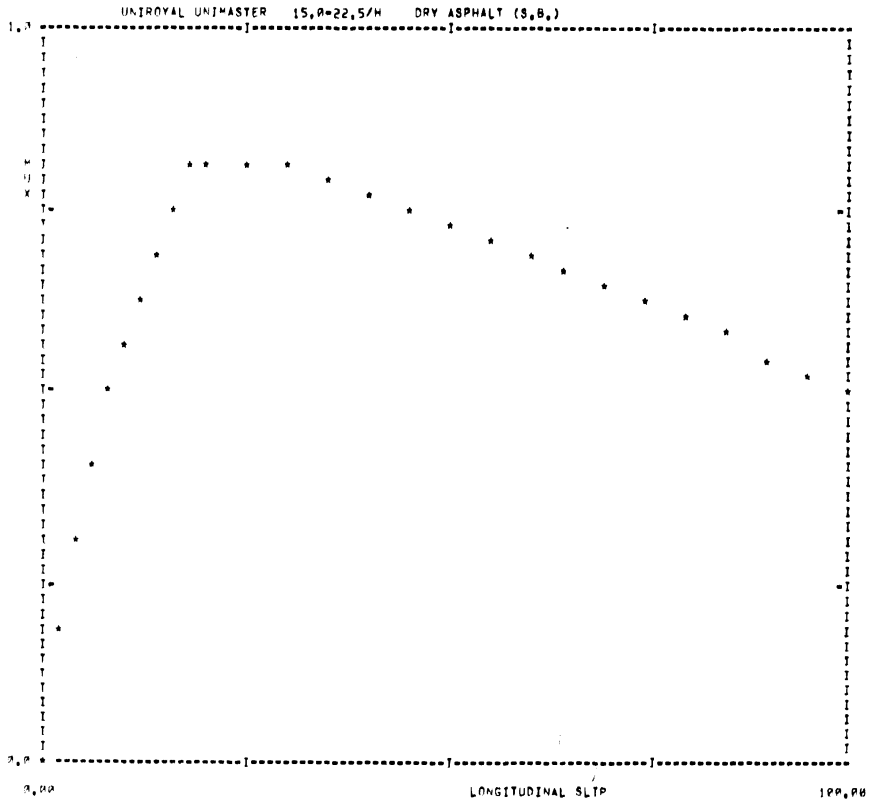
AVERAGE OF FILE 251 FOR 6 RECORDS, UNIROYAL UNIMASTER 15,0-22,5/H DRY ASPHALT (S,B,)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,18	25231,3	1595,6
0,04	0,31	40966,6	2686,2
0,06	0,41	52521,0	3555,5
0,08	0,50	61171,2	4300,7
0,10	0,58	66957,3	4903,0
0,12	0,64	65806,1	5342,4
0,14	0,69	63789,3	5746,6
0,16	0,76	98722,8	6296,7
0,18	0,81	127147,6	6653,7
0,20	0,82	138825,2	6749,0
0,25	0,82	153706,0	6739,0
0,30	0,81	163608,7	6645,6
0,35	0,79	170534,6	6515,2
0,40	0,78	175784,2	6364,2
0,45	0,75	179999,4	6200,2
0,50	0,73	183566,3	6026,0
0,55	0,71	186415,0	5856,2
0,60	0,69	188555,2	5686,9
0,65	0,67	188573,4	5524,4
0,70	0,65	184876,4	5366,0
0,75	0,63	176581,0	5205,7
0,80	0,61	161137,3	5032,3
0,85	0,59	142375,8	4843,7
0,90	0,56	122515,4	4647,8
0,95	0,54	102602,7	4447,1
1,00	0,51	82812,5	4240,0

TQAV = 82812,5 LOAD = 8559,7 VEL = 40,0 MPH.

MUPEAK = 0,82 MULOCK = 0,51 RATIO = 1,62

Check Run #3



FZ = 8559,7 VEL = 40,0 MULOCK = 0,51 MUPEAK = 0,82 RATIO = 1,62 A-D FILE 251 NWFILE 109 SAMPLE 457

** A-D FILE 261 NEW FILE 1f3 TEST SAMPLE461 **

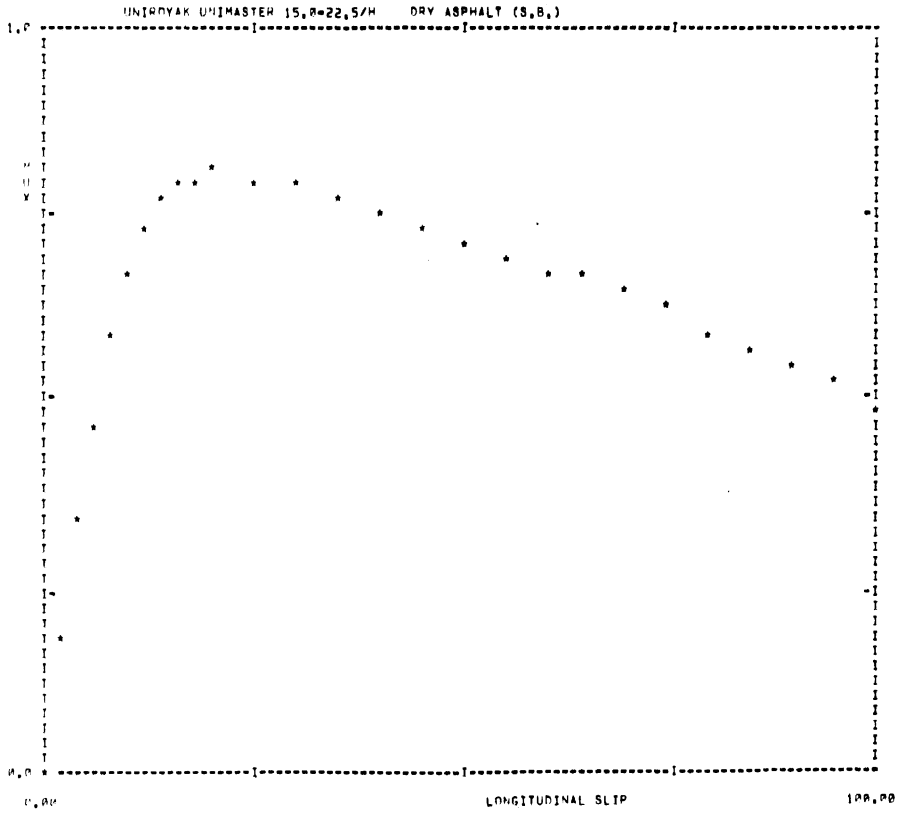
AVERAGE OF FILE 261 FOR 5 RECORDS, UNIROYAK UNIMASTER 15,0-22,5/H DRY ASPHALT (8,8,)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,19	38631,5	1675,9
0,04	0,34	64958,9	2998,7
0,06	0,48	87797,9	4100,6
0,08	0,59	107092,5	5004,6
0,10	0,67	122467,6	5716,6
0,12	0,73	135185,6	6217,7
0,14	0,77	145089,2	6539,4
0,16	0,79	152178,6	6743,0
0,18	0,81	157369,0	6853,8
0,20	0,81	160990,4	6869,4
0,25	0,80	168044,7	6798,3
0,30	0,79	174055,7	6688,3
0,35	0,78	179371,3	6553,9
0,40	0,76	184128,9	6401,6
0,45	0,74	188511,0	6236,0
0,50	0,72	192655,5	6062,8
0,55	0,70	196487,5	5893,8
0,60	0,68	199107,1	5726,3
0,65	0,67	198218,4	5567,4
0,70	0,65	194013,4	5404,9
0,75	0,63	182992,1	5234,6
0,80	0,60	166402,5	5049,0
0,85	0,58	146054,2	4848,2
0,90	0,55	125386,1	4629,3
0,95	0,52	105276,2	4403,6
1,00	0,50	86025,0	4171,5

TQAV = 86025,0 LOAD = 8638,0 VEL = 40,0 MPH.

MUPEAK = 0,81 MULOCK = 0,50 RATIO = 1,63

Check Run #5



FZ = 8638,0 VEL = 40,0 MULOCK = 0,50 MUPEAK = 0,81 RATIO = 1,63 A-D FILE 261 NWFILE 113 SAMPLE 461

FIRESTONE TRANSPORT 1, 10.00 x 20/F, DANA CONCRETE

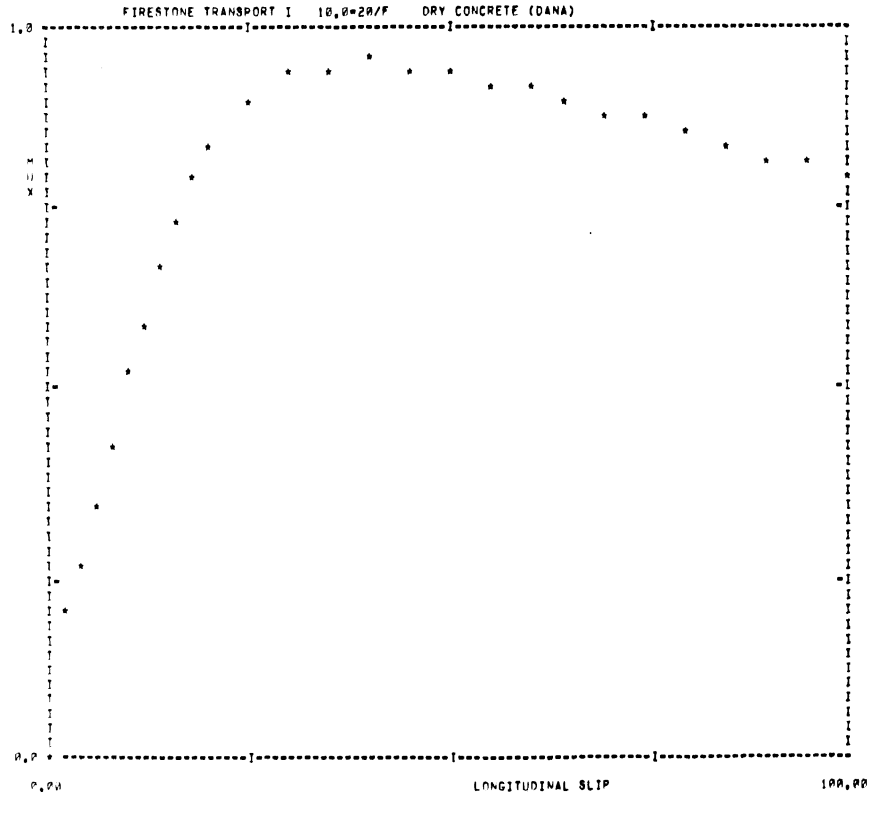
** A-D FILE 90 NEW FILE 33 TEST SAMPLE119 **

AVERAGE OF FILE 90 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10,0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,20	21920,1	1118,1
0,04	0,27	30794,6	1551,1
0,06	0,35	39412,4	1963,5
0,08	0,44	49037,6	2434,2
0,10	0,52	57976,6	2901,2
0,12	0,60	65788,5	3315,5
0,14	0,67	73062,6	3680,5
0,16	0,74	79836,8	4013,4
0,18	0,79	85505,0	4278,2
0,20	0,83	88594,5	4450,0
0,25	0,89	95263,0	4748,8
0,30	0,93	99659,0	4924,3
0,35	0,95	101561,8	4990,3
0,40	0,95	101648,1	4986,7
0,45	0,95	100886,3	4947,9
0,50	0,94	99747,2	4891,8
0,55	0,92	98021,4	4827,2
0,60	0,91	97002,5	4758,2
0,65	0,90	95537,3	4687,2
0,70	0,88	94048,7	4615,0
0,75	0,87	92548,7	4542,3
0,80	0,86	91042,8	4469,4
0,85	0,84	89533,9	4396,3
0,90	0,83	87988,1	4322,6
0,95	0,81	86370,5	4247,8
1,00	0,80	84645,8	4171,2

TQAV = 84645,8 LOAD = 5568,7 VEL = 3,0 MPH.

MUPEAK = 0,95 MULOCK = 0,80 RATIO = 1,19

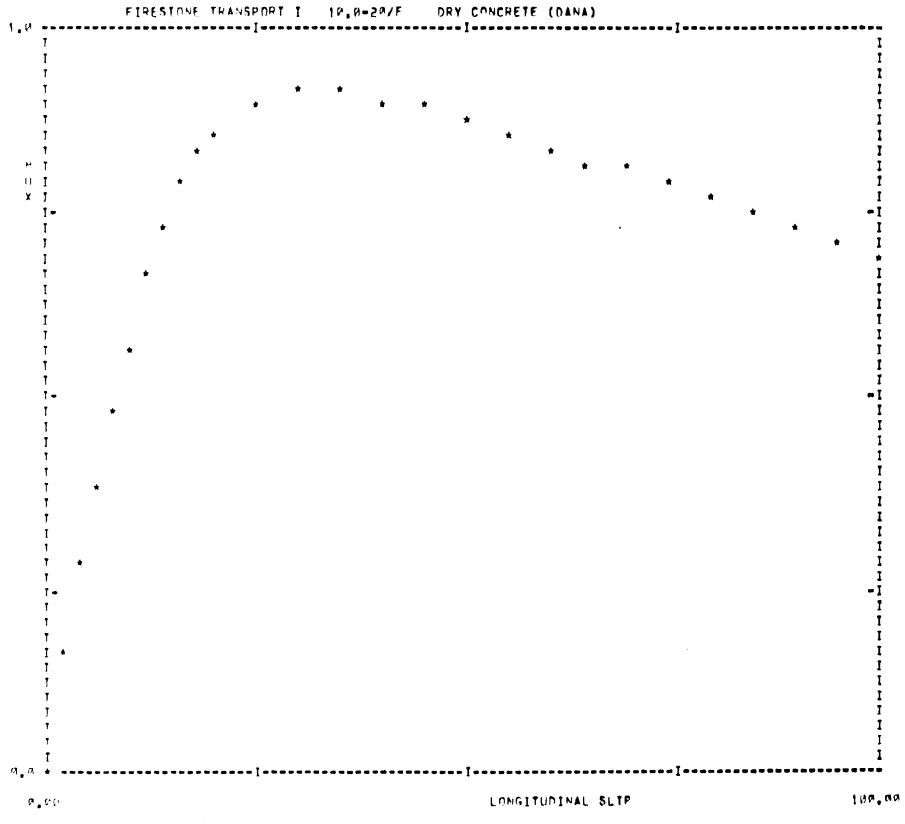


FZ = 5568,7 VEL = 3,0 MULOCK = 0,80 MUPEAK = 0,95 RATIO = 1,19 A-D FILE 90 NWFILE 33 SAMPLE 119

** A-D FILE 91 NEW FILE 34 / TEST SAMPLE120 **

AVERAGE OF FILE 91 FOR 7 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.16	17084.3	909.2	
0.04	0.28	29937.3	1554.0	
0.06	0.39	42336.0	2181.7	
0.08	0.49	53196.0	2709.9	
0.10	0.58	63044.9	3206.3	
0.12	0.67	71565.0	3641.5	
0.14	0.73	78387.8	3989.4	
0.16	0.79	83790.3	4255.0	
0.18	0.83	88225.8	4462.1	TQAV = 73696.4 LOAD = 5598.4 VEL = 10.0 MPH.
0.20	0.86	91676.9	4596.8	
0.25	0.90	96338.2	4741.4	MUPEAK = 0.92 MULOCK = 0.70 RATIO = 1.30
0.30	0.91	99194.4	4793.5	
0.35	0.92	101186.8	4783.4	
0.40	0.91	102642.1	4737.0	
0.45	0.89	103134.8	4668.2	
0.50	0.88	101828.1	4589.4	
0.55	0.86	99265.8	4501.8	
0.60	0.84	96540.8	4411.2	
0.65	0.83	93869.9	4319.7	
0.70	0.81	91239.6	4227.7	
0.75	0.79	88630.9	4135.5	
0.80	0.77	86033.2	4043.2	
0.85	0.76	83441.0	3950.9	
0.90	0.74	80853.7	3858.4	
0.95	0.72	77471.4	3765.4	
1.00	0.70	73696.4	3671.8	

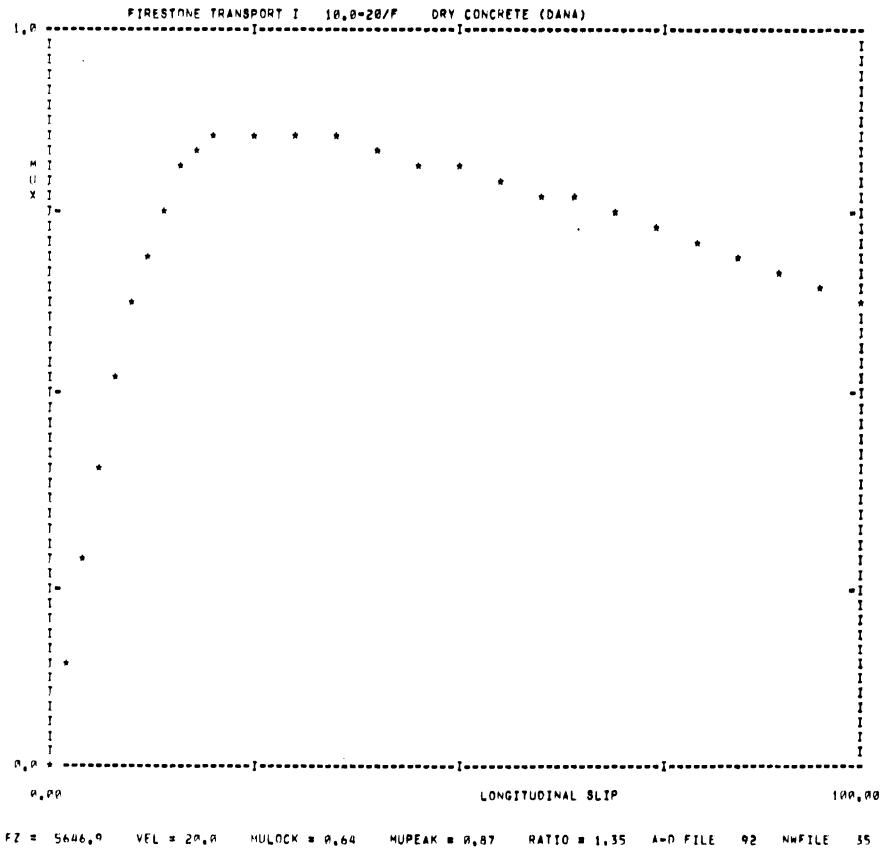


FZ = 5598.4 VEL = 10.0 MULOCK = 0.70 MUPEAK = 0.92 RATIO = 1.30 A-D FILE 91 NWFILE 34 SAMPLE 120

** A-D FILE 92 NEW FILE 35 , TEST SAMPLE121 **

AVERAGE OF FILE 92 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.14	16711.5	797.4	
0.04	0.29	31870.6	1606.0	
0.06	0.42	45724.6	2311.2	
0.08	0.53	57725.7	2909.4	
0.10	0.63	68407.6	3439.8	
0.12	0.70	76691.9	3861.5	
0.14	0.76	83603.5	4155.4	
0.16	0.81	88496.9	4380.2	
0.18	0.85	92085.4	4542.4	TQAV = 66541.7 LOAD = 5646.9 VEL = 20.0 MPH.
0.20	0.86	94368.8	4597.0	
0.25	0.87	98287.8	4601.5	MUPEAK = 0.87 MULOCK = 0.64 RATIO = 1.35
0.30	0.86	101315.8	4561.5	
0.35	0.85	103553.9	4499.2	
0.40	0.84	105304.4	4423.8	
0.45	0.83	106661.4	4342.5	
0.50	0.82	107662.9	4260.4	
0.55	0.80	108613.5	4179.0	
0.60	0.79	109369.2	4096.9	
0.65	0.77	109225.8	4016.8	
0.70	0.75	106955.2	3934.7	
0.75	0.74	102052.1	3849.6	
0.80	0.72	95725.3	3756.5	
0.85	0.70	89238.5	3662.3	
0.90	0.68	82465.4	3567.4	
0.95	0.66	75016.9	3470.0	
1.00	0.64	66541.7	3368.8	



FZ = 5646.9 VEL = 20.0 MULOCK = 0.64 MUPEAK = 0.87 RATIO = 1.35 A-D FILE 92 NWFILE 35 SAMPLE 121

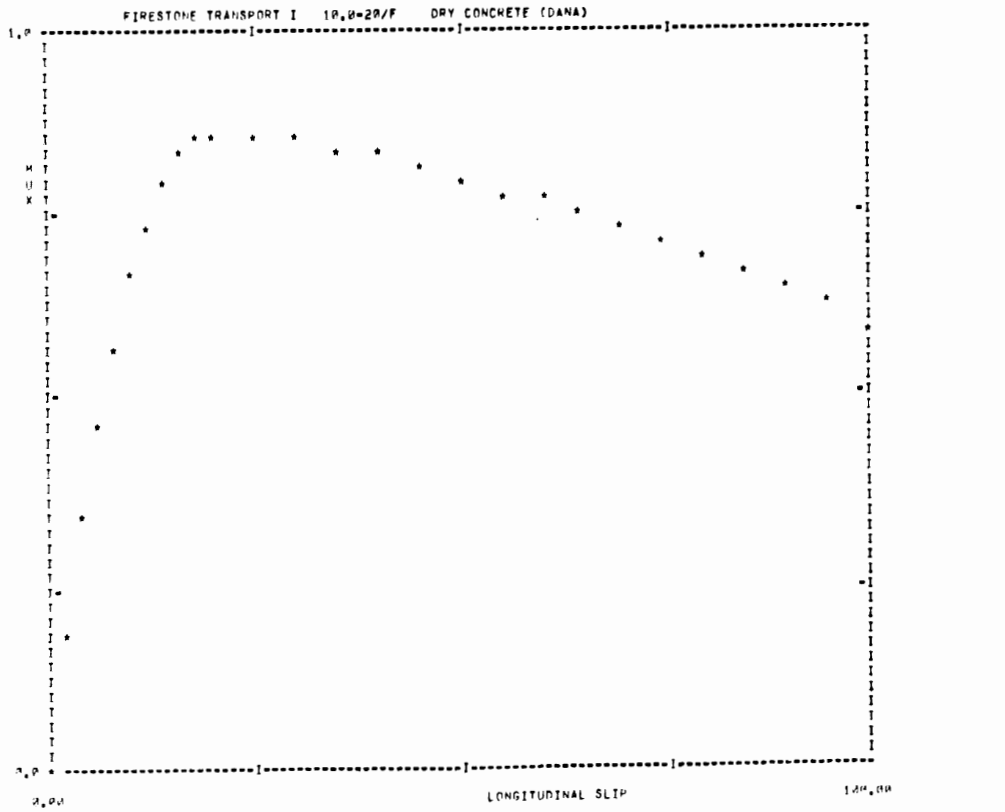
** A=D FILE 93 NEW FILE 36 TEST SAMPLE122 **

AVERAGE OF FILE 93 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.19	19378.2	1083.9
0.04	0.34	36026.9	1908.0
0.06	0.47	50398.7	2689.9
0.08	0.58	63254.4	3244.4
0.10	0.68	73144.0	3747.7
0.12	0.74	80476.9	4096.7
0.14	0.79	86448.9	4332.9
0.16	0.83	91063.6	4526.2
0.18	0.86	94816.1	4669.5
0.20	0.86	96715.4	4722.1
0.25	0.86	100783.5	4717.0
0.30	0.85	103713.6	4670.5
0.35	0.84	105425.1	4611.0
0.40	0.83	106538.9	4546.5
0.45	0.82	107521.8	4477.4
0.50	0.80	108668.4	4399.7
0.55	0.79	110274.6	4311.3
0.60	0.77	112190.1	4218.0
0.65	0.75	114009.4	4122.6
0.70	0.73	114609.9	4031.5
0.75	0.72	111973.6	3940.0
0.80	0.70	105971.9	3830.8
0.85	0.68	97300.6	3705.7
0.90	0.65	87563.9	3573.9
0.95	0.62	76924.9	3434.9
1.00	0.59	65000.0	3285.0

TQAV = 65000.0 LOAD = 5626.3 VEL = 30.0 MPH.

MUPEAK = 0.86 MULOCK = 0.59 RATIO = 1.45

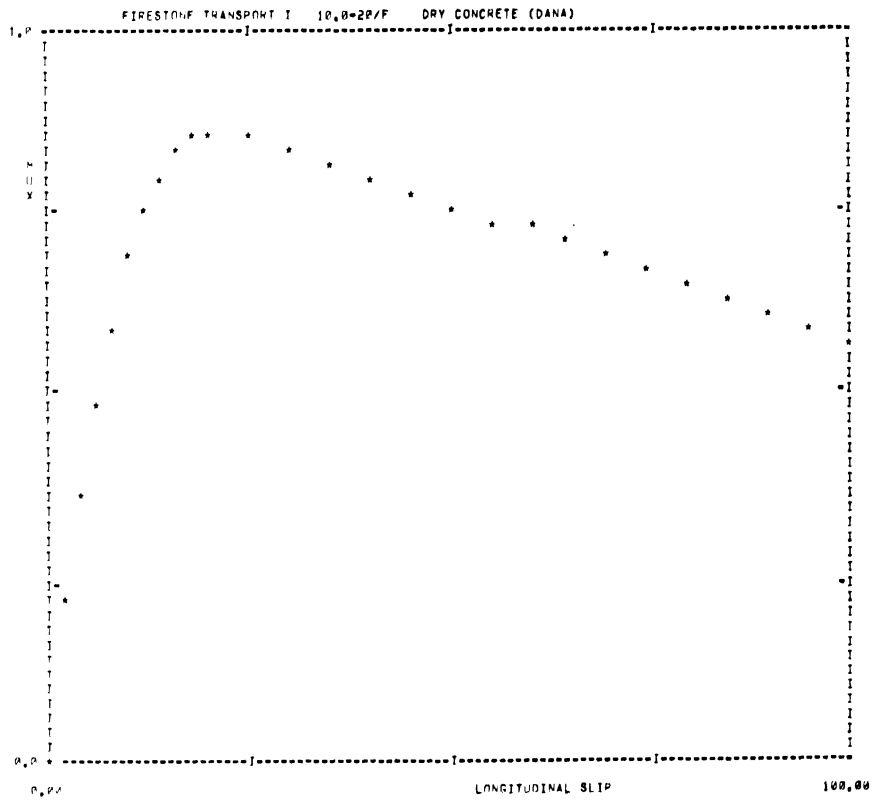


FZ = 5626.3 VEL = 30.0 MULOCK = 0.59 MUPEAK = 0.86 RATIO = 1.45 A=D FILE 93 NWFILE 36 SAMPLE 122

** A=0 FILE 94 NEW FILE 37 TEST SAMPLE123 **

AVERAGE OF FILE 94 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10.0=20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.22	21326.9	1196.4	
0.04	0.37	37766.2	2001.7	
0.06	0.49	51734.3	2727.9	
0.08	0.60	63561.8	3272.9	
0.10	0.69	72987.8	3708.6	
0.12	0.76	80945.7	4062.1	
0.14	0.81	87569.5	4337.6	
0.16	0.84	92283.9	4532.2	
0.18	0.86	95550.4	4641.7	TQAV = 59958.3 LOAD = 5552.2 VEL = 40.0 MPH.
0.20	0.87	96807.1	4668.2	
0.25	0.86	99716.4	4635.9	MUPEAK = 0.87 MULOCK = 0.57 RATIO = 1.51
0.30	0.84	102495.5	4567.3	
0.35	0.83	104815.8	4482.0	
0.40	0.81	106737.8	4387.6	
0.45	0.79	108536.5	4289.5	
0.50	0.77	110288.0	4189.9	
0.55	0.75	112069.6	4088.5	
0.60	0.73	113861.5	3988.1	
0.65	0.71	115638.8	3894.9	
0.70	0.69	116419.0	3805.4	
0.75	0.68	115579.8	3715.6	
0.80	0.66	110559.7	3617.8	
0.85	0.64	100668.3	3500.6	
0.90	0.62	88156.5	3368.3	
0.95	0.60	74623.4	3228.2	
1.00	0.57	59958.3	3078.7	

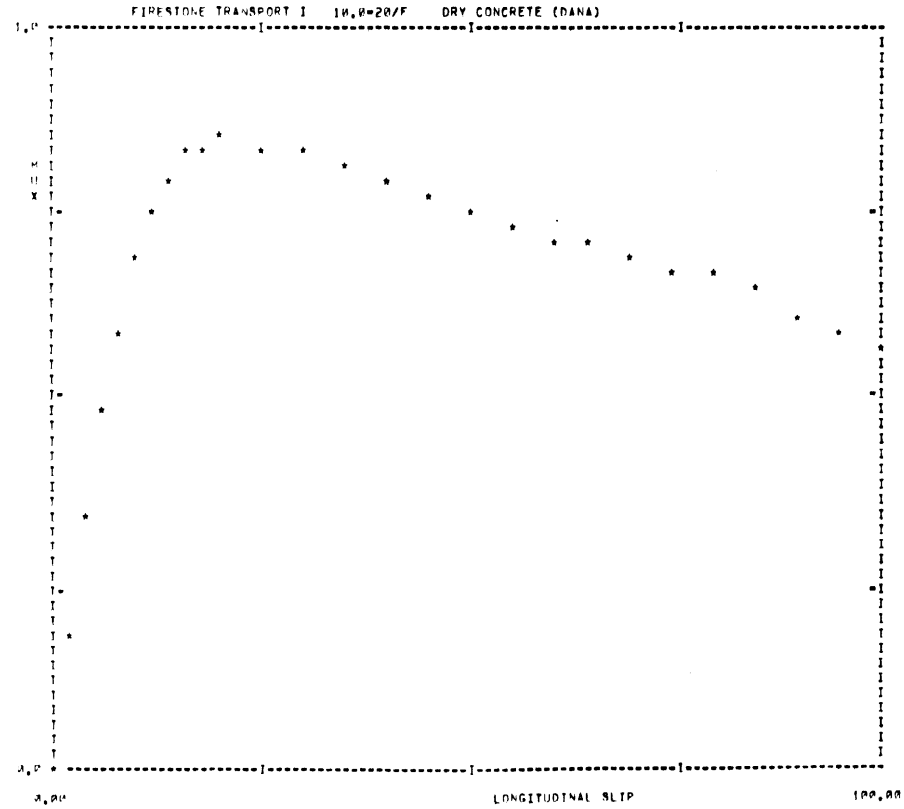


FZ = 5552.2 VEL = 40.0 MULOCK = 0.57 MUPEAK = 0.87 RATIO = 1.51 A=0 FILE 94 NWFILE 37 SAMPLE 123

** A-D FILE 95 NEW FILE 38' TEST SAMPLE120 **

AVERAGE OF FILE 95 FOR 5 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.18	18867.8	1021.6	
0.04	0.35	36313.9	1906.9	
0.06	0.49	51377.1	2661.6	
0.08	0.60	63593.0	3279.8	
0.10	0.69	73420.3	3782.5	
0.12	0.76	81815.5	4162.8	
0.14	0.80	88101.6	4409.7	
0.16	0.83	92559.6	4549.1	
0.18	0.85	95687.9	4611.8	TQAV = 59025.0 LOAD = 5585.9 VEL = 55.0 MPH.
0.20	0.85	97610.9	4606.7	
0.25	0.85	100610.7	4546.0	MUPEAK = 0.85 MULOCK = 0.57 RATIO = 1.50
0.30	0.83	102354.9	4465.5	
0.35	0.82	103513.2	4378.9	
0.40	0.80	105007.3	4290.2	
0.45	0.78	107193.4	4190.8	
0.50	0.76	109926.2	4085.4	
0.55	0.74	112656.7	3982.2	
0.60	0.72	114693.5	3889.4	
0.65	0.71	115956.2	3806.2	
0.70	0.70	116779.3	3729.6	
0.75	0.68	116799.6	3653.5	
0.80	0.67	113756.9	3571.0	
0.85	0.65	105715.0	3468.0	
0.90	0.62	92243.8	3338.8	
0.95	0.60	76680.4	3199.3	
1.00	0.57	59025.0	3049.5	

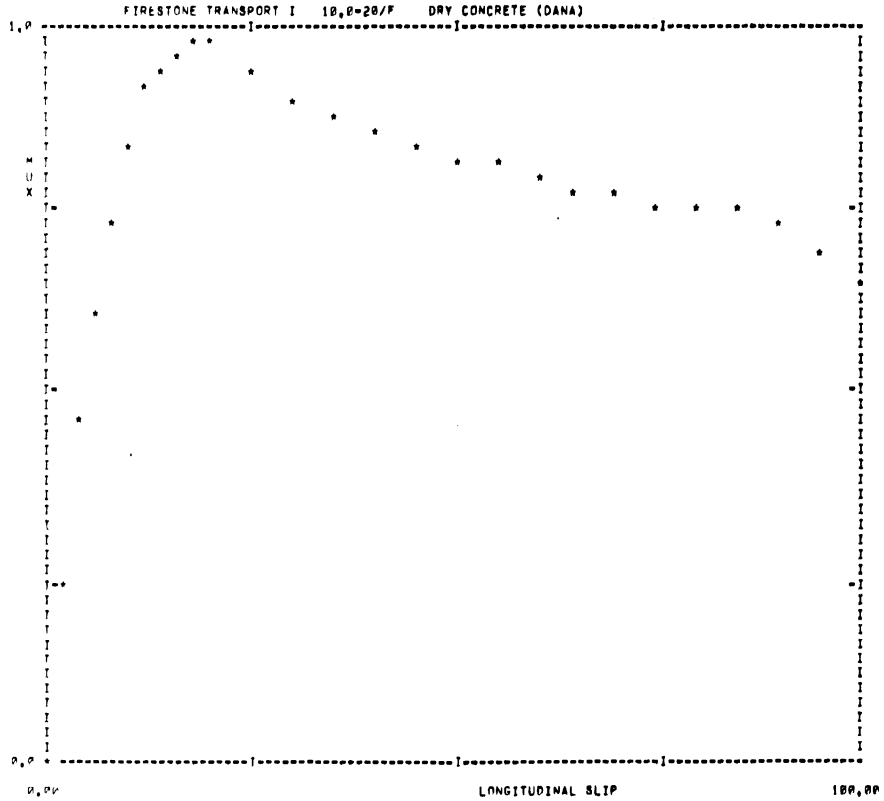


FZ = 5585.9 VEL = 55.0 MULOCK = 0.57 MUPEAK = 0.85 RATIO = 1.50 A-D FILE 95 NWFILE 38 SAMPLE 120

** A-D FILE 83 NEW FILE 29 ' TEST SAMPLE115 **

AVERAGE OF FILE 83 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10,0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,25	11914,6	561,9	
0,04	0,46	20964,7	1015,4	
0,06	0,62	28502,3	1356,0	
0,08	0,74	34463,5	1616,9	
0,10	0,84	39049,6	1839,7	
0,12	0,91	43571,5	2025,7	
0,14	0,95	47578,7	2140,2	
0,16	0,97	50486,5	2196,6	
0,18	0,98	52010,1	2216,0	TOAV = 27625,0 LOAD = 2221,2 VEL = 40,0 MPH.
0,20	0,98	52612,2	2200,3	
0,25	0,94	54621,8	2108,6	MUPEAK = 0,98 MULOCK = 0,67 RATIO = 1,48
0,30	0,90	56375,3	2013,4	
0,35	0,88	57669,2	1929,2	
0,40	0,86	58637,6	1860,4	
0,45	0,84	59588,3	1802,1	
0,50	0,83	60655,0	1749,9	
0,55	0,81	61829,7	1701,9	
0,60	0,80	63258,2	1655,9	
0,65	0,78	64729,6	1614,1	
0,70	0,77	66151,2	1580,1	
0,75	0,76	67074,0	1558,1	
0,80	0,76	65773,6	1544,2	
0,85	0,75	59931,1	1523,8	
0,90	0,73	50490,8	1480,8	
0,95	0,70	39728,6	1429,5	
1,00	0,67	27625,0	1368,7	

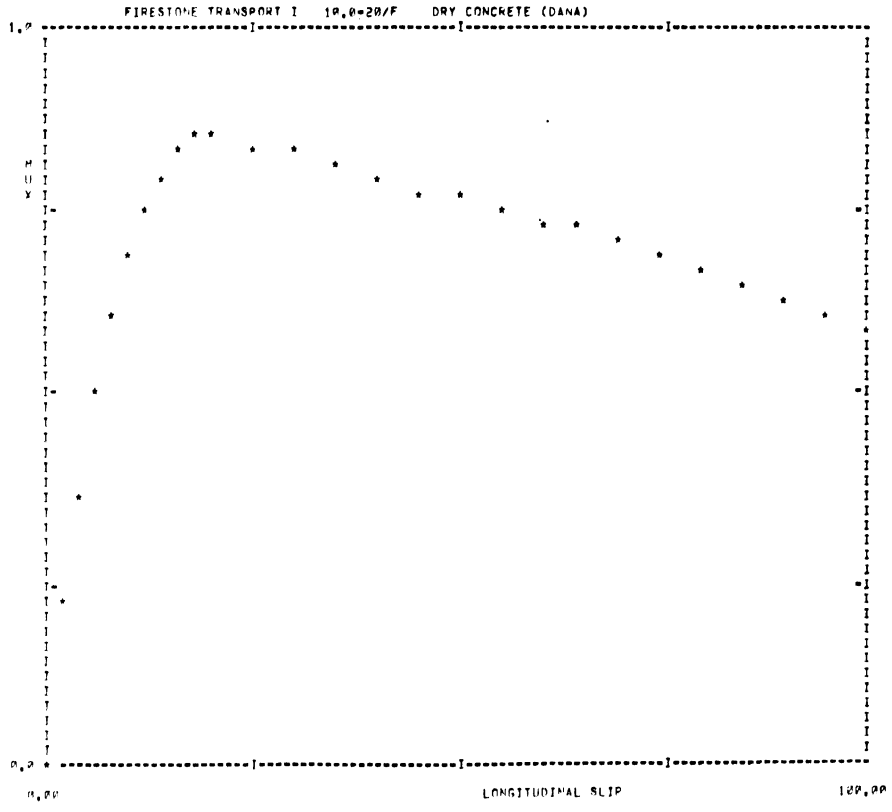


FZ = 2221,2 VEL = 40,0 MULOCK = 0,67 MUPEAK = 0,98 RATIO = 1,48 A-D FILE 83 NWFILE 29 SAMPLE 115

** A=D FILE 84 NEW FILE 30 TEST SAMPLE116 **

AVERAGE OF FILE 84 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.22	23161.1	1224.3	
0.04	0.37	39664.3	2035.9	
0.06	0.50	53691.8	2741.9	
0.08	0.61	64748.9	3323.8	
0.10	0.69	74140.2	3774.3	
0.12	0.76	81555.3	4098.2	
0.14	0.80	87038.7	4313.6	
0.16	0.83	91106.0	4456.5	
0.18	0.85	94088.7	4534.6	TQAV = 62166.7 LOAD = 5509.9 VEL = 40.0 MPH.
0.20	0.85	95486.6	4544.9	
0.25	0.85	98243.9	4485.1	MUPEAK = 0.85 MULOCK = 0.59 RATIO = 1.45
0.30	0.83	100820.7	4395.2	
0.35	0.82	102859.9	4296.7	
0.40	0.80	104483.0	4199.9	
0.45	0.79	105811.4	4109.6	
0.50	0.77	106927.3	4026.2	
0.55	0.76	107994.9	3942.9	
0.60	0.74	109035.1	3861.6	
0.65	0.73	110146.5	3782.9	
0.70	0.71	111280.8	3705.1	
0.75	0.70	111604.7	3628.1	
0.80	0.68	108501.1	3548.6	
0.85	0.66	100375.9	3453.9	
0.90	0.64	88843.1	3348.9	
0.95	0.62	76110.2	3238.1	
1.00	0.59	62166.7	3120.0	

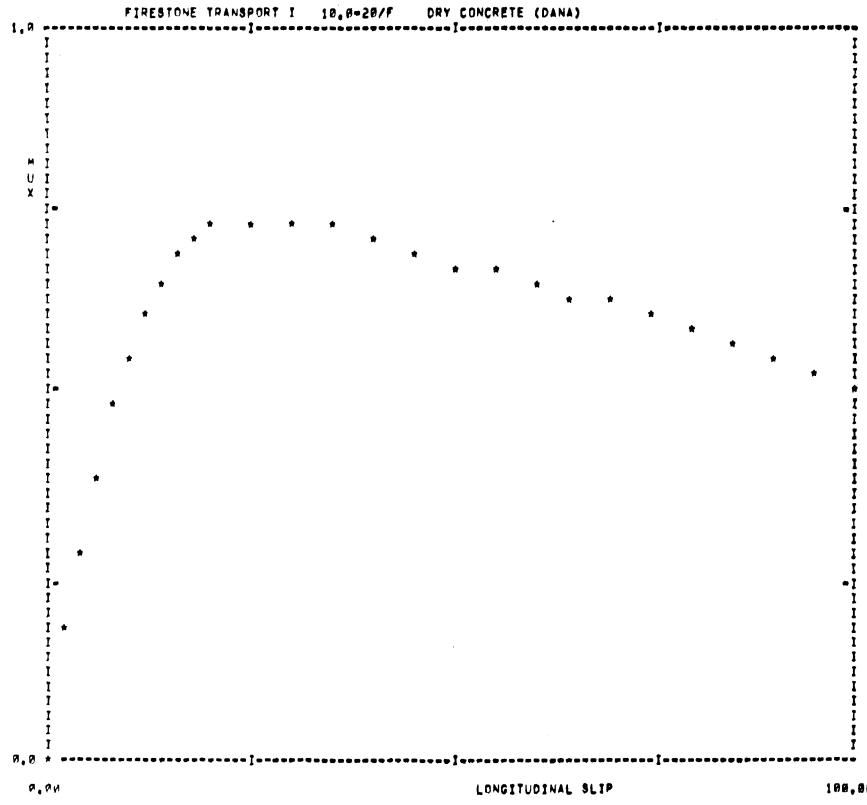


FZ = 5509.9 VEL = 40.0 MULOCK = 0.59 MUPEAK = 0.85 RATIO = 1.45 A=D FILE 84 NWFILE 30 SAMPLE 116

** A=D FILE 85 NEW FILE 31 / TEST SAMPLE117 **

AVERAGE OF FILE 85 FOR 3 RECORDS, FIRESTONE TRANSPORT I 18,0=28/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,19	30917,5	1755,3	
0,04	0,30	50464,0	2663,9	
0,06	0,39	66572,0	3495,9	
0,08	0,48	80931,0	4255,5	
0,10	0,56	93733,4	4863,1	
0,12	0,62	103852,0	5389,4	
0,14	0,66	111599,2	5787,4	
0,16	0,70	117491,2	6069,2	
0,18	0,73	121567,6	6276,2	TQAV = 85000,0 LOAD = 9009,3 VEL = 40,0 MPH.
0,20	0,73	124212,0	6325,2	
0,25	0,74	128215,3	6356,2	MUPEAK = 0,74 MULOCK = 0,51 RATIO = 1,46
0,30	0,74	131288,7	6338,3	
0,35	0,73	133191,6	6268,7	
0,40	0,72	135063,9	6155,1	
0,45	0,70	137075,7	6018,7	
0,50	0,68	138717,0	5882,0	
0,55	0,67	139868,1	5752,2	
0,60	0,66	140568,7	5629,1	
0,65	0,64	141324,1	5507,3	
0,70	0,63	142286,7	5378,2	
0,75	0,61	142303,1	5234,1	
0,80	0,59	137863,8	5072,1	
0,85	0,57	127938,3	4894,4	
0,90	0,55	114995,8	4716,9	
0,95	0,53	100758,4	4539,8	
1,00	0,51	85000,0	4362,5	



FZ = 9009,3 VEL = 40,0 MULOCK = 0,51 MUPEAK = 0,74 RATIO = 1,46 A=D FILE 85 NWFILE 31 SAMPLE 117

** A=0 FILE 100 NEW FILE 43 TEST SAMPLE126 **

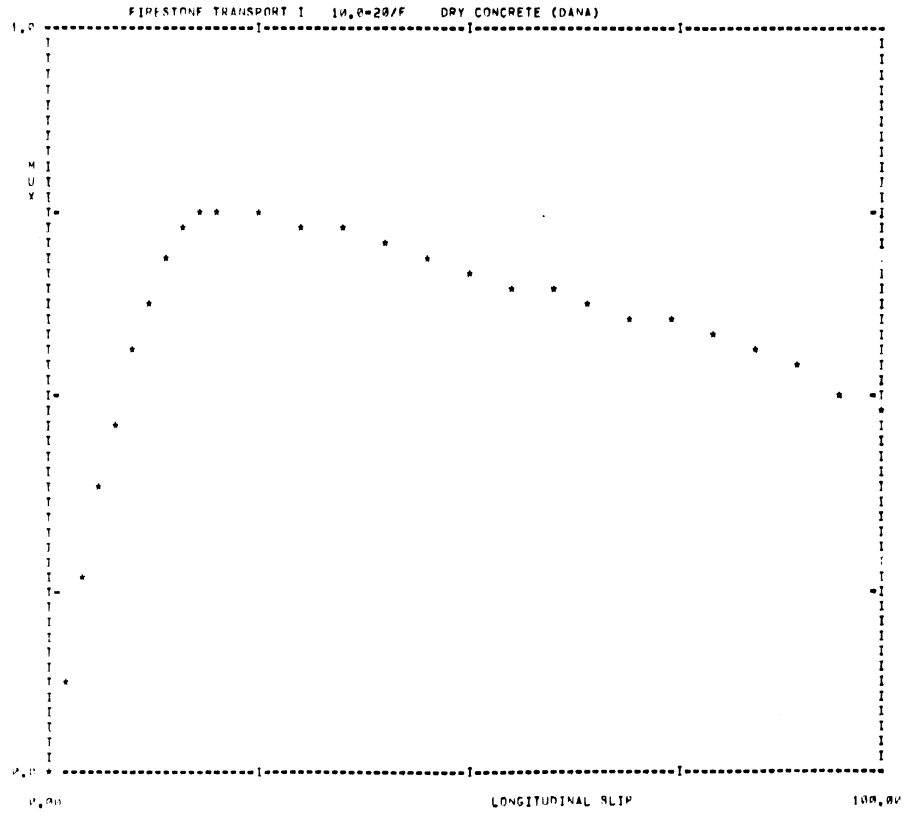
AVERAGE OF FILE 100 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.13	22944.4	1186.8
0.04	0.26	45889.2	2342.2
0.06	0.38	66232.8	3364.3
0.08	0.48	83281.7	4199.3
0.10	0.57	97869.4	4927.8
0.12	0.64	109396.4	5517.9
0.14	0.69	117771.8	5951.9
0.16	0.73	124008.6	6238.2
0.18	0.75	129522.3	6412.2
0.20	0.76	133061.7	6450.9
0.25	0.76	137510.0	6413.6
0.30	0.75	140745.9	6318.5
0.35	0.73	143803.2	6184.8
0.40	0.71	146780.1	6036.2
0.45	0.69	149553.4	5884.3
0.50	0.68	151986.9	5735.8
0.55	0.66	153946.8	5600.3
0.60	0.65	155438.6	5482.3
0.65	0.64	156209.8	5371.1
0.70	0.62	154850.1	5261.3
0.75	0.61	150326.6	5147.5
0.80	0.59	142222.4	5015.8
0.85	0.57	129484.4	4849.8
0.90	0.55	114303.8	4655.0
0.95	0.52	98687.1	4449.6
1.00	0.49	82854.2	4233.8

TQAV = 82854.2 LOAD = 8982.1 VEL = 40.0 MPH.

MUPEAK = 0.76 MULOCK = 0.49 RATIO = 1.53

Repeat of Load Sweep
Run # 117



FZ = 8982.1 VEL = 40.0 MULOCK = 0.49 MUPEAK = 0.76 RATIO = 1.53 A=0 FILE 100 NWFILE 43 SAMPLE 126

** A-D FILE 89 NEW FILE 32 / TEST SAMPLE118 **

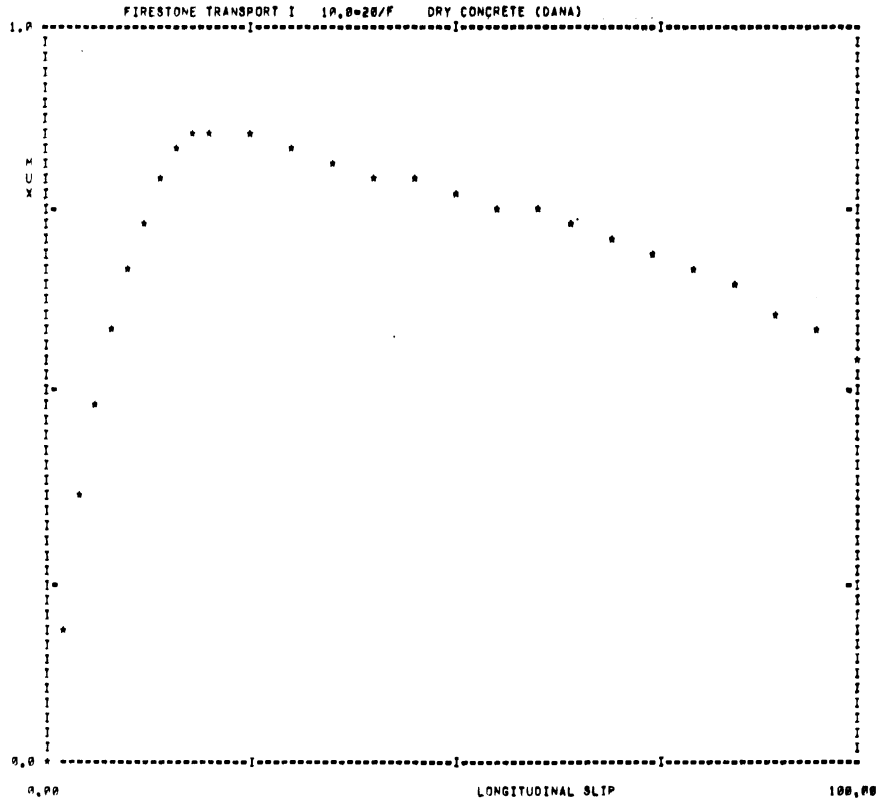
AVERAGE OF FILE 89 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.20	19470.1	1897.6
0.04	0.36	37308.1	1998.8
0.06	0.49	52394.2	2702.8
0.08	0.59	64632.3	3251.6
0.10	0.68	73782.1	3688.7
0.12	0.74	80985.8	4015.7
0.14	0.80	86381.7	4278.2
0.16	0.83	90684.6	4453.8
0.18	0.85	94585.7	4553.9
0.20	0.86	96667.5	4573.8
0.25	0.85	99299.8	4542.1
0.30	0.84	101578.3	4478.9
0.35	0.82	103924.6	4398.1
0.40	0.81	106819.9	4316.2
0.45	0.79	107694.3	4248.3
0.50	0.78	109166.3	4167.5
0.55	0.76	110618.5	4094.2
0.60	0.75	112137.5	4017.7
0.65	0.73	113788.8	3938.7
0.70	0.71	115133.0	3856.3
0.75	0.69	115298.5	3769.8
0.80	0.67	111295.8	3672.4
0.85	0.65	102171.8	3549.7
0.90	0.62	89504.2	3397.8
0.95	0.59	75552.4	3231.4
1.00	0.56	60291.7	3048.8

TQAV = 60291.7 LOAD = 5602.8 VEL = 40.0 MPH.

MUPEAK = 0.86 MULOCK = 0.56 RATIO = 1.53

Check Run #3



FZ = 5602.8 VEL = 40.0 MULOCK = 0.56 MUPEAK = 0.86 RATIO = 1.53 A-D FILE 89 NWFILE 32 SAMPLE 118

** A-D FILE 99 NEW FILE 39 TEST SAMPLE125 **

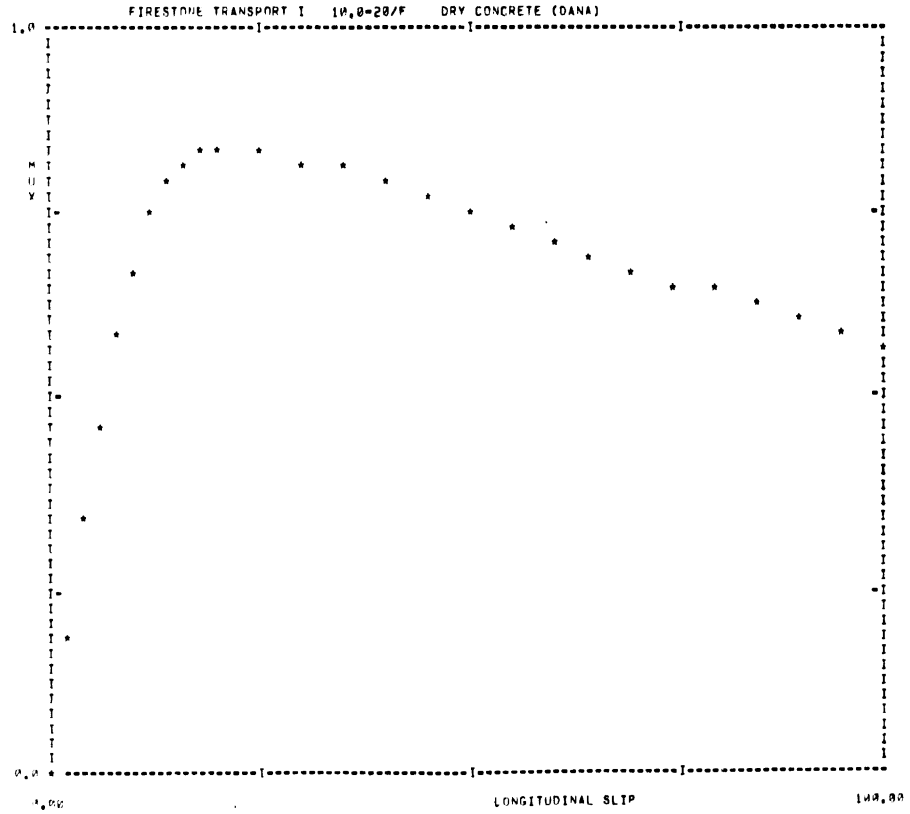
AVERAGE OF FILE 99 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.00-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.18	19481.8	979.0
0.04	0.35	37718.9	1926.8
0.06	0.48	51990.6	2632.4
0.08	0.59	64647.3	3220.3
0.10	0.68	75195.3	3710.7
0.12	0.75	82908.2	4073.1
0.14	0.80	87725.4	4313.4
0.16	0.83	91846.3	4459.3
0.18	0.84	95138.4	4537.1
0.20	0.84	97733.4	4547.5
0.25	0.84	101908.5	4500.4
0.30	0.83	104378.4	4428.8
0.35	0.81	105422.2	4342.1
0.40	0.79	107055.4	4246.6
0.45	0.77	108560.9	4140.6
0.50	0.75	110257.5	4034.0
0.55	0.73	111946.5	3931.3
0.60	0.71	113557.1	3829.7
0.65	0.69	115023.4	3733.4
0.70	0.68	115824.4	3651.7
0.75	0.66	114218.4	3575.3
0.80	0.65	108604.6	3491.9
0.85	0.63	99225.4	3390.5
0.90	0.61	87500.4	3277.1
0.95	0.59	74578.2	3156.0
1.00	0.56	60208.3	3025.0

TQAV = 60208.3 LOAD = 5580.4 VEL = 40.0 MPH.

MUPEAK = 0.84 MULOCK = 0.56 RATIO = 1.50

Check Run #5



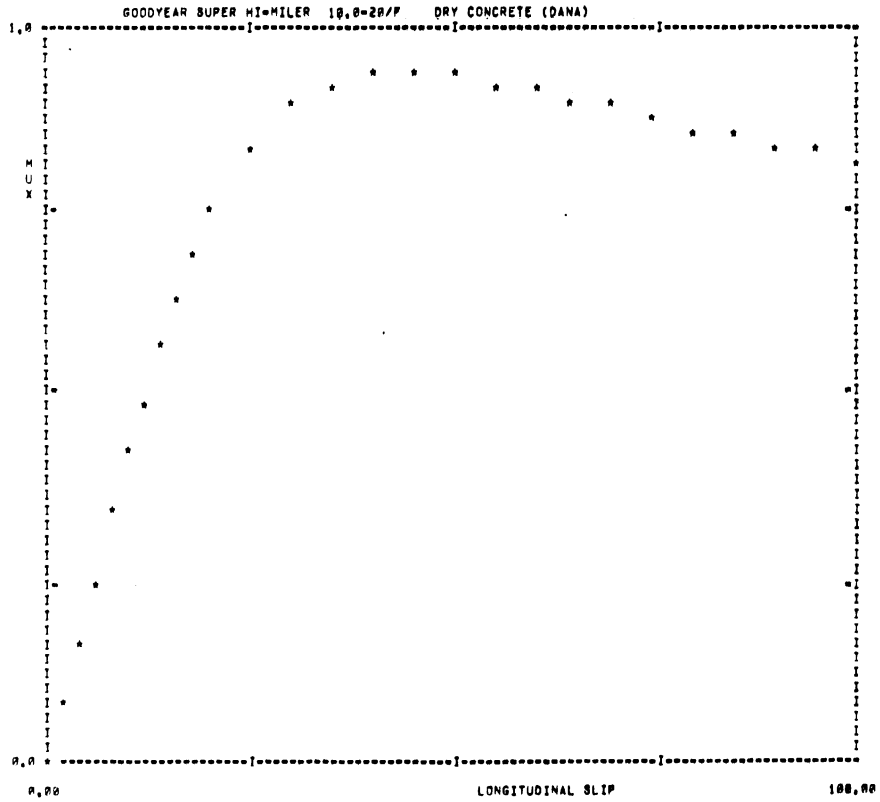
FZ = 5580.4 VEL = 40.0 MULOCK = 0.56 MUPEAK = 0.84 RATIO = 1.50 A-D FILE 99 NEW FILE 39 SAMPLE 125

GOODYEAR SUPER HI MILER, 10.00 x 20/F, DANA CONCRETE

** A-D FILE 64 NEW FILE 22 TEST SAMPLE107 **

AVERAGE OF FILE 64 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.08	6881.4	432.6	
0.04	0.16	15842.4	880.8	
0.06	0.24	25143.7	1352.8	
0.08	0.34	35898.3	1878.2	
0.10	0.43	43953.6	2341.7	
0.12	0.50	52050.3	2742.2	
0.14	0.57	59898.2	3121.8	
0.16	0.64	67812.8	3482.1	
0.18	0.70	72727.8	3755.0	TQAV = 83145.8 LOAD = 5514.2 VEL = 3.0 MPH.
0.20	0.75	77327.7	3984.8	
0.25	0.84	85513.5	4397.9	MUPEAK = 0.94 MULOCK = 0.82 RATIO = 1.15
0.30	0.90	91897.6	4668.2	
0.35	0.93	93873.5	4789.4	
0.40	0.94	94699.7	4828.4	
0.45	0.94	94545.6	4884.4	
0.50	0.93	93915.7	4766.7	
0.55	0.92	93049.3	4718.2	
0.60	0.91	92864.7	4664.4	
0.65	0.90	91821.2	4608.8	
0.70	0.89	89948.1	4558.2	
0.75	0.88	88860.3	4491.8	
0.80	0.87	87765.1	4433.8	
0.85	0.86	86666.2	4374.1	
0.90	0.84	85543.9	4314.3	
0.95	0.83	84377.5	4252.7	
1.00	0.82	83145.8	4188.8	

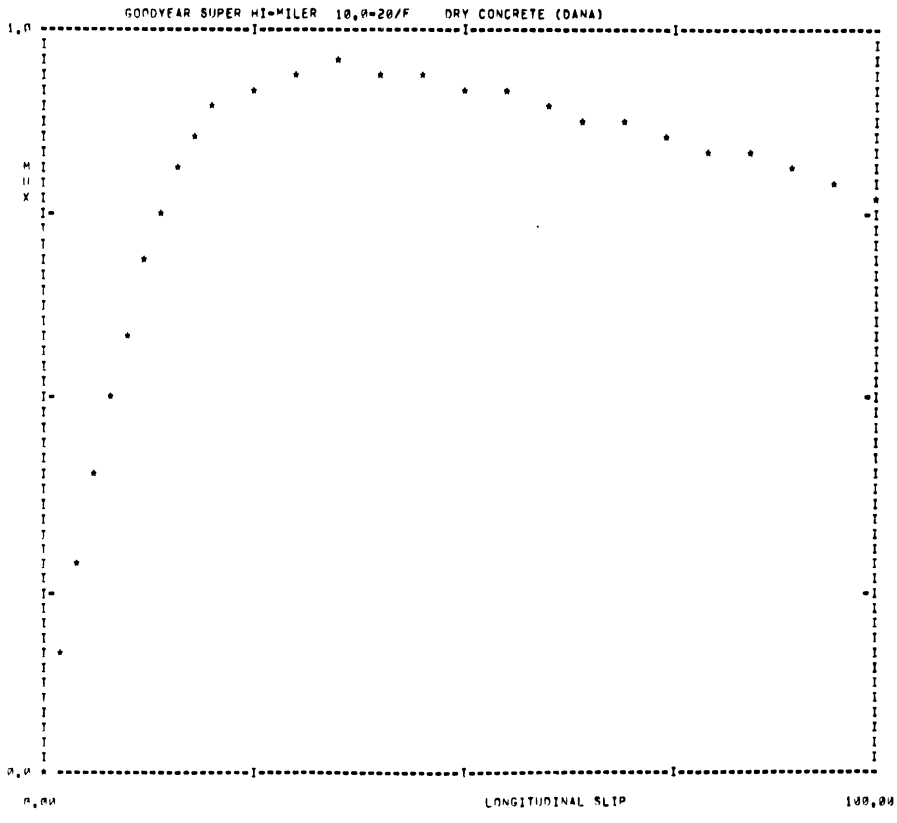


FZ = 5514.2 VEL = 3.0 MULOCK = 0.82 MUPEAK = 0.94 RATIO = 1.15 A-D FILE 64 NWFILE 22 SAMPLE 107

** A-D FILE 65 NEW FILE 23 TEST SAMPLE108 **

AVERAGE OF FILE 65 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.16	16788.5	880.2	
0.04	0.28	28878.5	1502.2	
0.06	0.40	41962.4	2160.3	
0.08	0.51	53179.8	2714.1	
0.10	0.60	62055.6	3175.4	
0.12	0.69	69993.6	3603.5	
0.14	0.76	76897.8	3940.2	
0.16	0.82	82193.3	4215.2	
0.18	0.86	86612.0	4433.3	TQAV = 79145.8 LOAD = 5461.8 VEL = 10.0 MPH.
0.20	0.89	90000.9	4570.8	
0.25	0.93	95127.9	4739.2	MUPEAK = 0.95 MULOCK = 0.78 RATIO = 1.21
0.30	0.95	98434.5	4813.6	
0.35	0.95	100522.3	4826.7	
0.40	0.95	101796.2	4802.3	
0.45	0.94	102211.2	4758.3	
0.50	0.93	101511.7	4702.4	
0.55	0.92	99400.5	4634.1	
0.60	0.90	97125.3	4562.5	
0.65	0.89	94955.0	4490.3	
0.70	0.87	92855.7	4418.0	
0.75	0.86	90793.8	4345.6	
0.80	0.84	88750.8	4273.1	
0.85	0.83	86717.3	4200.6	
0.90	0.81	84539.6	4127.6	
0.95	0.80	82065.3	4053.4	
1.00	0.78	79145.8	3977.5	

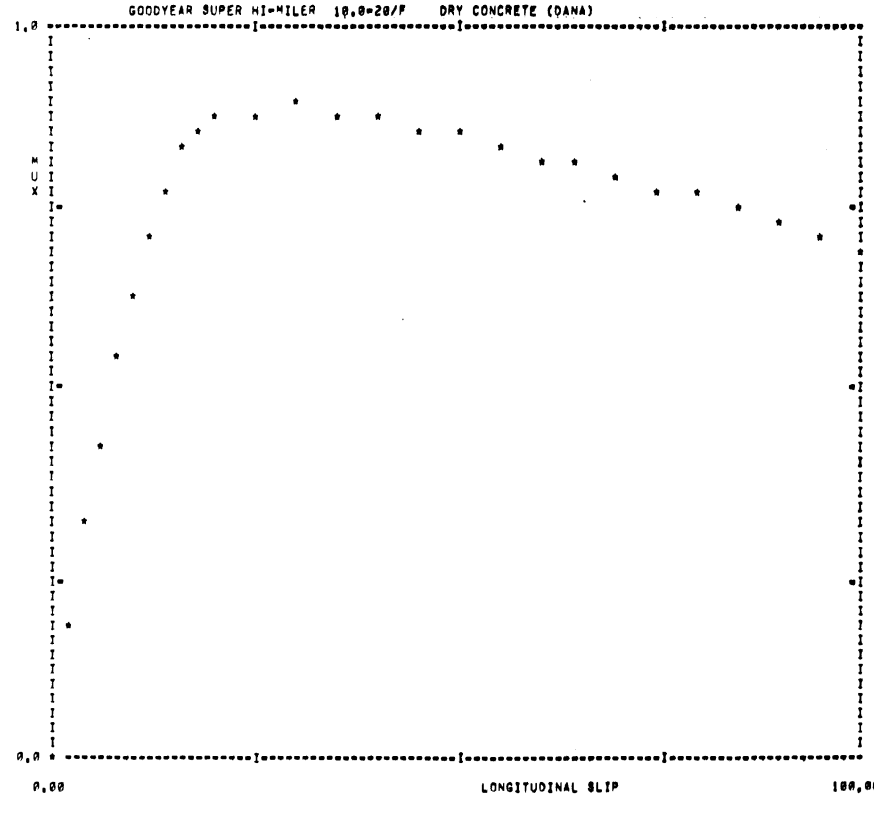


FZ = 5461.8 VEL = 10.0 MULOCK = 0.78 MUPEAK = 0.95 RATIO = 1.21 A-D FILE 65 NWFILE 23 SAMPLE 108

** A-D FILE 66 NEW FILE 24 TEST SAMPLE189 **

AVERAGE OF FILE 66 FOR 7 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.19	19182.4	1851.1	
0.04	0.32	33149.5	1756.8	
0.06	0.44	46394.1	2487.2	
0.08	0.55	57743.6	2967.7	
0.10	0.64	67198.7	3427.7	
0.12	0.72	75666.3	3827.5	
0.14	0.78	83599.8	4206.8	
0.16	0.83	89265.7	4485.6	
0.18	0.86	93272.4	4647.2	TQAV = 71918.7 LOAD = 5476.1 VEL = 20.0 MPH.
0.20	0.87	95478.5	4699.6	
0.25	0.89	98558.7	4718.9	MUPEAK = 0.89 MULOCK = 0.70 RATIO = 1.27
0.30	0.89	101168.8	4687.8	
0.35	0.88	103464.3	4625.5	
0.40	0.88	105305.2	4552.2	
0.45	0.86	106785.1	4473.1	
0.50	0.85	107950.4	4394.5	
0.55	0.84	108951.0	4317.1	
0.60	0.83	109670.9	4243.3	
0.65	0.81	109628.6	4172.7	
0.70	0.80	107764.6	4102.2	
0.75	0.79	103133.9	4026.8	
0.80	0.77	97661.4	3949.3	
0.85	0.75	91884.7	3870.0	
0.90	0.74	85821.6	3789.5	
0.95	0.72	79249.4	3707.6	
1.00	0.70	71918.7	3623.6	

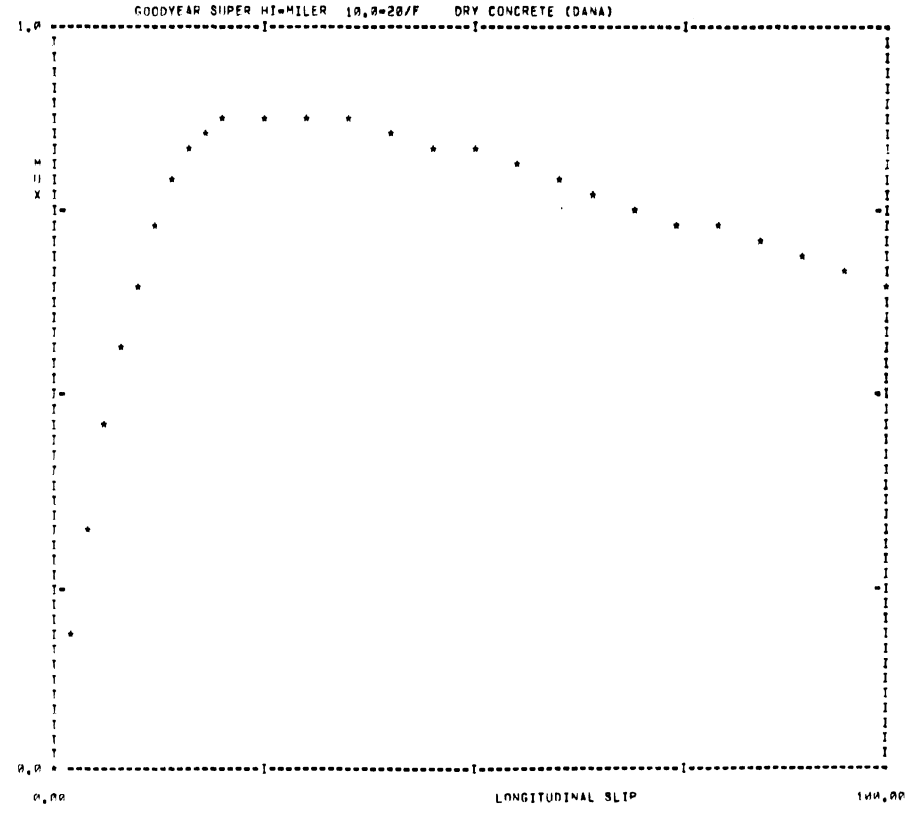


FZ = 5476.1 VEL = 20.0 MULOCK = 0.70 MUPEAK = 0.89 RATIO = 1.27 A-D FILE 66 NWFILE 24 SAMPLE 189

** A=D FILE 67 NEW FILE 25 TEST SAMPLE110 **

AVERAGE OF FILE 67 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.19	21713.4	1052.3	
0.04	0.34	36319.7	1823.4	
0.06	0.46	49466.6	2488.5	
0.08	0.57	60694.4	3046.6	
0.10	0.66	70261.1	3509.3	
0.12	0.73	78169.0	3886.1	
0.14	0.79	83730.7	4171.9	
0.16	0.84	88335.9	4375.3	
0.18	0.87	91790.0	4508.8	TQAV = 68250.0 LOAD = 5442.3 VEL = 30.0 MPH.
0.20	0.88	94061.3	4573.4	
0.25	0.89	98096.4	4626.4	MUPEAK = 0.89 MULOCK = 0.65 RATIO = 1.37
0.30	0.88	101253.3	4622.9	
0.35	0.87	103467.4	4579.6	
0.40	0.86	104883.9	4517.6	
0.45	0.85	105825.8	4448.1	
0.50	0.83	106774.5	4370.4	
0.55	0.81	107926.0	4284.1	
0.60	0.79	109252.8	4193.7	
0.65	0.78	110755.2	4099.9	
0.70	0.76	111813.2	4007.8	
0.75	0.74	110469.3	3926.3	
0.80	0.73	105859.8	3847.8	
0.85	0.71	97996.9	3753.8	
0.90	0.70	88823.9	3652.5	
0.95	0.67	78973.9	3545.0	
1.00	0.65	68250.0	3428.7	

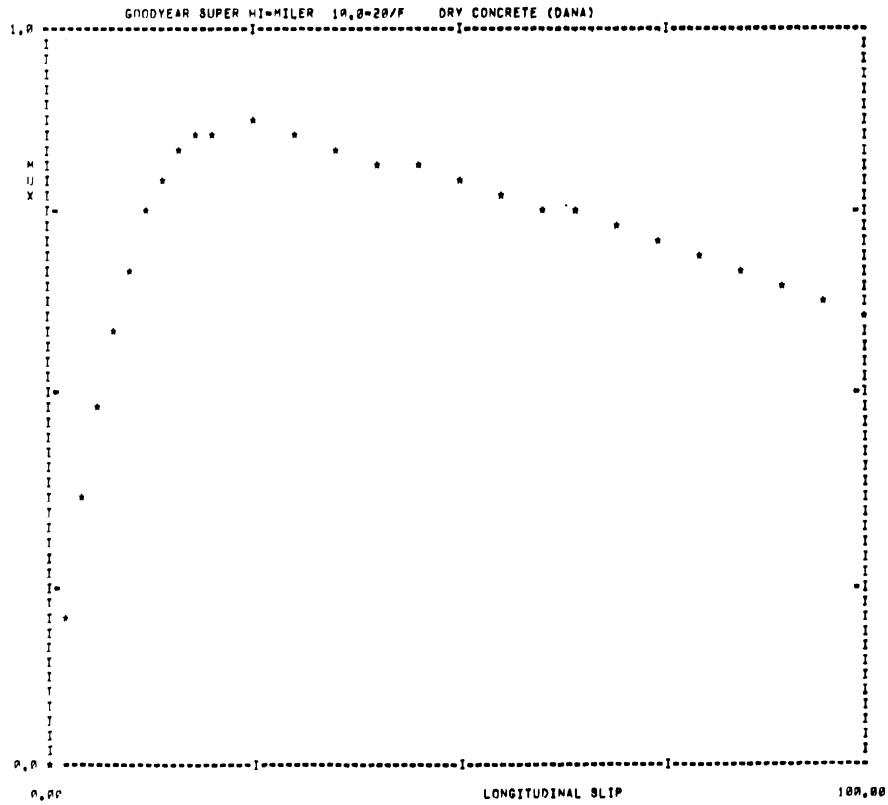


FZ = 5442.3 VEL = 30.0 MULOCK = 0.65 MUPEAK = 0.89 RATIO = 1.37 A=D FILE 67 NWFILE 25 SAMPLE 110

** A-D FILE 71 NEW FILE 26 TEST SAMPLE111 **

AVERAGE OF FILE 71 FOR 7 RECORDS, GOODYEAR SUPER HI-MILER 10,0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,21	22953,5	1153,6	
0,04	0,36	38453,8	1973,6	
0,06	0,49	51855,4	2647,7	
0,08	0,59	63586,5	3176,7	
0,10	0,68	73194,7	3684,8	
0,12	0,75	80316,3	3954,3	
0,14	0,80	86107,8	4238,4	
0,16	0,84	90844,8	4419,8	
0,18	0,85	94498,9	4539,7	TQAV = 64375,8 LOAD = 5427,8 VEL = 40,0 MPH.
0,20	0,86	97078,5	4581,4	
0,25	0,87	100242,2	4600,5	MUPEAK = 0,87 MULOCK = 0,62 RATIO = 1,41
0,30	0,86	102624,5	4553,4	
0,35	0,85	105008,9	4460,7	
0,40	0,83	107159,1	4349,4	
0,45	0,81	108665,4	4241,9	
0,50	0,79	109454,2	4148,3	
0,55	0,78	109894,7	4063,1	
0,60	0,77	110265,3	3981,7	
0,65	0,75	110961,6	3895,7	
0,70	0,73	111881,1	3806,3	
0,75	0,72	112174,6	3713,1	
0,80	0,70	109381,3	3620,5	
0,85	0,68	101748,1	3529,2	
0,90	0,66	90531,4	3428,1	
0,95	0,64	78068,1	3323,3	
1,00	0,62	64375,8	3215,4	

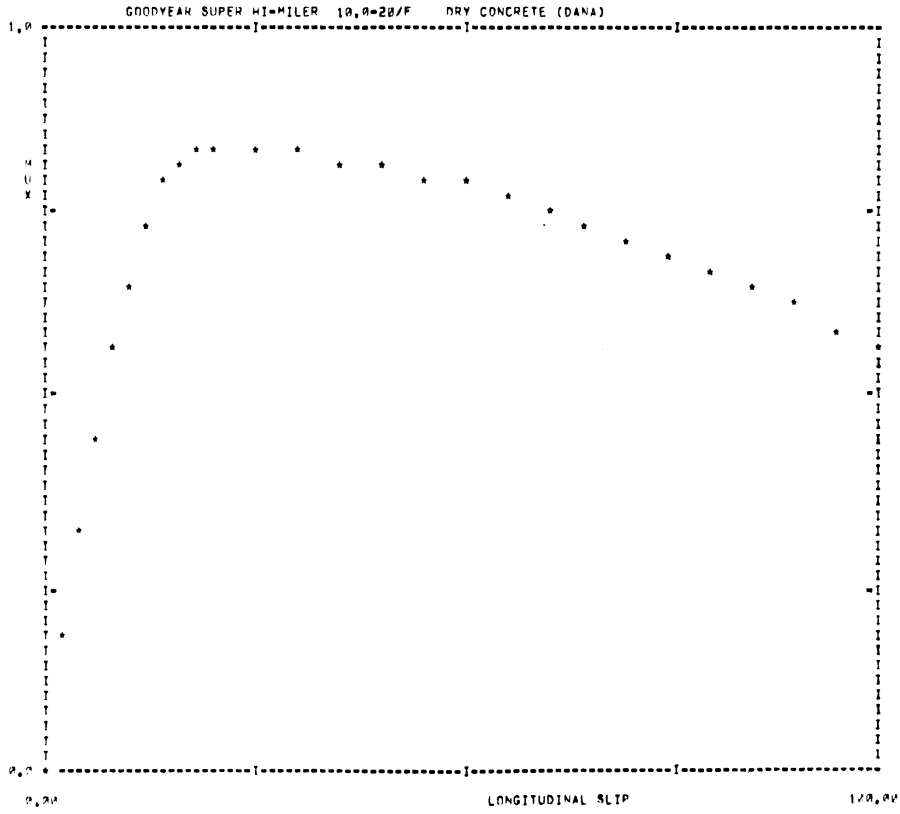


FZ = 5427,0 VEL = 40,0 MULOCK = 0,62 MUPEAK = 0,87 RATIO = 1,41 A-D FILE 71 NWFILE 26 SAMPLE 111

** A-D FILE 72 NEW FILE 27 TEST SAMPLE112 **

AVERAGE OF FILE 72 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.18	19651.7	970.4	
0.04	0.33	35863.2	1792.5	
0.06	0.46	50238.7	2485.9	
0.08	0.57	61962.4	3065.0	
0.10	0.66	71480.2	3544.8	
0.12	0.73	79077.2	3927.0	
0.14	0.79	84743.6	4210.8	
0.16	0.82	89088.1	4412.3	
0.18	0.84	92822.0	4534.1	TQAV = 60770.8 LOAD = 5436.6 VEL = 55.0 MPH.
0.20	0.85	94930.2	4550.8	
0.25	0.85	97732.3	4507.6	MUPEAK = 0.85 MULOCK = 0.57 RATIO = 1.48
0.30	0.84	100094.2	4425.6	
0.35	0.83	101952.3	4332.5	
0.40	0.81	103233.8	4252.2	
0.45	0.80	104187.6	4187.6	
0.50	0.79	105123.5	4123.8	
0.55	0.77	106311.4	4049.4	
0.60	0.75	107734.9	3967.1	
0.65	0.73	109053.6	3880.6	
0.70	0.71	110007.9	3793.6	
0.75	0.70	110384.7	3707.2	
0.80	0.68	108990.1	3612.2	
0.85	0.66	102122.4	3500.8	
0.90	0.63	90214.0	3363.7	
0.95	0.60	76432.5	3216.4	
1.00	0.57	60770.8	3058.8	

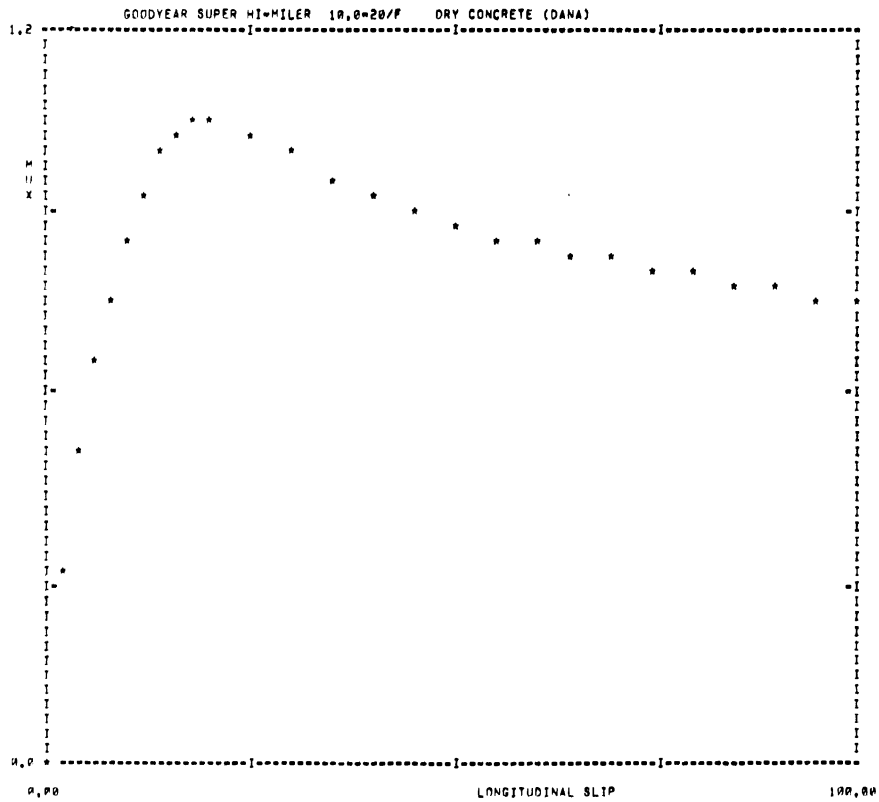


FZ = 5436.6 VEL = 55.0 MULOCK = 0.57 MUPEAK = 0.85 RATIO = 1.48 A-D FILE 72 NWFILE 27 SAMPLE 112

** A-D FILE 57 NEW FILE 18 TEST SAMPLE103 **

AVERAGE OF FILE 57 FOR 7 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.33	13515.5	710.7	
0.04	0.51	21888.0	1116.0	
0.06	0.65	28837.1	1429.0	
0.08	0.76	34475.4	1647.0	
0.10	0.86	38693.8	1813.1	
0.12	0.94	41812.2	1955.0	
0.14	1.00	44702.1	2082.2	
0.16	1.04	47474.1	2196.3	
0.18	1.06	49598.4	2267.3	TQAV = 38817.9 LOAD = 2196.8 VEL = 40.0 MPH.
0.20	1.05	51441.4	2284.1	
0.25	1.02	54649.5	2279.2	MUPEAK = 1.06 MULOCK = 0.76 RATIO = 1.40
0.30	1.00	57233.0	2245.7	
0.35	0.96	59562.5	2190.7	
0.40	0.93	61764.9	2129.4	
0.45	0.91	63686.3	2071.8	
0.50	0.89	65381.8	2020.6	
0.55	0.87	67090.3	1971.7	
0.60	0.86	68750.4	1924.9	
0.65	0.84	70669.1	1877.5	
0.70	0.83	72781.3	1833.7	
0.75	0.81	73852.6	1797.5	
0.80	0.81	72233.7	1766.3	
0.85	0.80	65741.4	1734.8	
0.90	0.78	55863.6	1691.0	
0.95	0.77	43101.7	1642.0	
1.00	0.76	30817.9	1587.9	

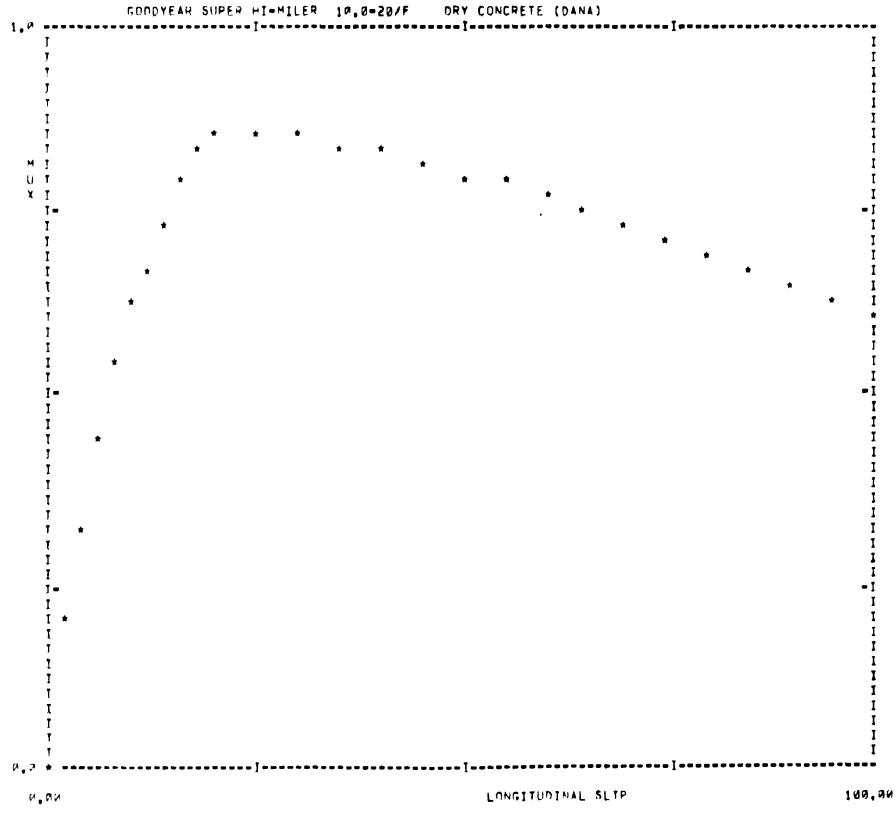


FZ = 2196.8 VEL = 40.0 MULOCK = 0.76 MUPEAK = 1.06 RATIO = 1.40 A-D FILE 57 NWFILE 18 SAMPLE 103

** A=D FILE 5A NEW FILE 19 TEST SAMPLE104 **

AVERAGE OF FILE 5A FOR 7 RECORDS, GOODYEAR SUPER HI-MILER 10.0=20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.21	21264.3	1121.6	
0.04	0.34	35439.9	1849.4	
0.06	0.45	48108.3	2453.8	
0.08	0.55	58356.5	2965.1	
0.10	0.63	67024.4	3383.9	
0.12	0.68	73454.3	3714.0	
0.14	0.73	80564.4	3982.8	
0.16	0.80	88771.9	4310.0	
0.18	0.84	94141.2	4531.2	TOAV = 64892.9 LOAD = 5526.9 VEL = 40.0 MPH.
0.20	0.86	96760.3	4596.9	
0.25	0.87	100401.7	4603.5	MUPEAK = 0.87 MULOCK = 0.61 RATIO = 1.41
0.30	0.86	103135.6	4551.8	
0.35	0.84	105277.7	4472.1	
0.40	0.83	106805.1	4388.5	
0.45	0.82	107770.3	4311.6	
0.50	0.80	108385.0	4240.2	
0.55	0.79	108991.6	4167.9	
0.60	0.77	109827.3	4087.6	
0.65	0.75	111028.8	4001.1	
0.70	0.74	112478.4	3911.9	
0.75	0.72	112923.4	3824.1	
0.80	0.70	109944.7	3736.6	
0.85	0.68	102304.6	3639.7	
0.90	0.66	91142.9	3529.7	
0.95	0.64	78680.3	3412.3	
1.00	0.61	64892.9	3286.1	

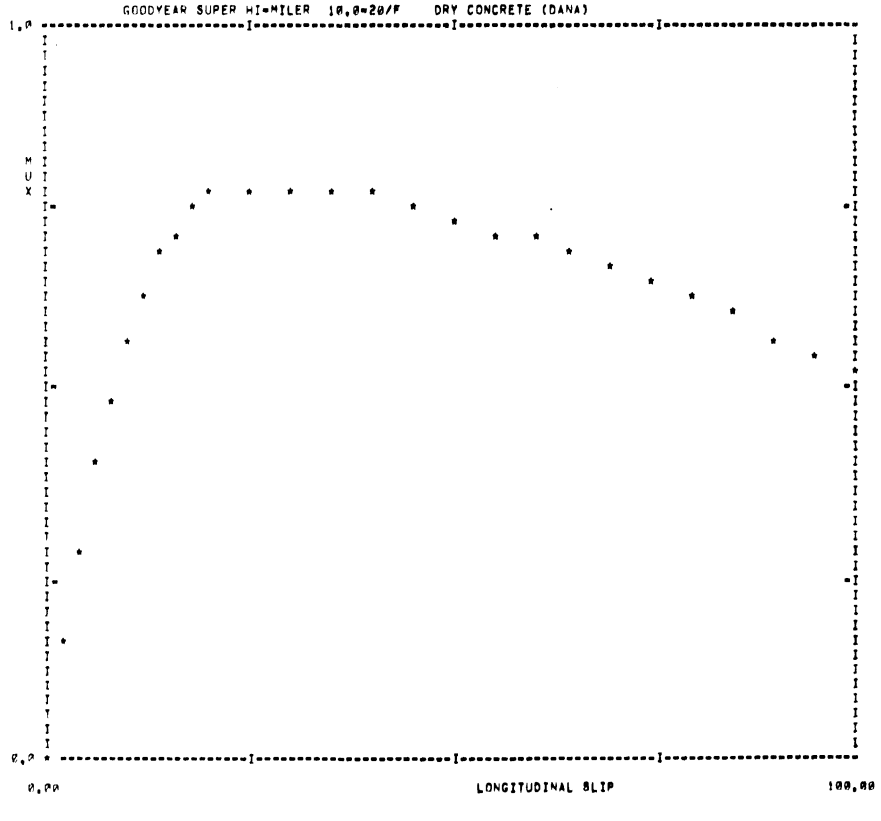


FZ = 5526.9 VEL = 40.0 MULOCK = 0.61 MUPEAK = 0.87 RATIO = 1.41 A=D FILE 5B N=FILE 19 SAMPLE 104

** A-D FILE 59 NEW FILE 20 TEST SAMPLE105 **

AVERAGE OF FILE 59 FOR 4 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.16	25057.9	1472.2	
0.04	0.29	48230.2	2562.2	
0.06	0.40	67765.9	3529.6	
0.08	0.49	83796.1	4299.1	
0.10	0.57	96145.0	4927.1	
0.12	0.63	105535.0	5461.1	
0.14	0.69	113829.3	5898.9	
0.16	0.73	121098.1	6227.7	
0.18	0.75	126201.0	6465.1	TQAV = 87250.0 LOAD = 8959.2 VEL = 40.0 MPH.
0.20	0.77	129750.9	6561.6	
0.25	0.78	133603.4	6635.4	MUPEAK = 0.79 MULOCK = 0.53 RATIO = 1.48
0.30	0.79	136401.3	6685.7	
0.35	0.78	138092.2	6521.9	
0.40	0.77	139027.8	6412.1	
0.45	0.76	139594.7	6298.1	
0.50	0.74	139829.7	6163.1	
0.55	0.72	140803.2	6031.9	
0.60	0.71	140540.7	5891.0	
0.65	0.69	141430.2	5743.1	
0.70	0.67	142421.5	5589.7	
0.75	0.65	142728.6	5426.7	
0.80	0.63	138975.5	5256.6	
0.85	0.61	129252.1	5072.1	
0.90	0.58	116586.7	4872.2	
0.95	0.56	102662.0	4663.9	
1.00	0.53	87250.0	4445.6	



FZ = 8959.2 VEL = 40.0 MULOCK = 0.53 MUPEAK = 0.79 RATIO = 1.48 A-D FILE 59 NWFILE 20 SAMPLE 105

** A-D FILE 47 NEW FILE 15 TEST SAMPLE100 **

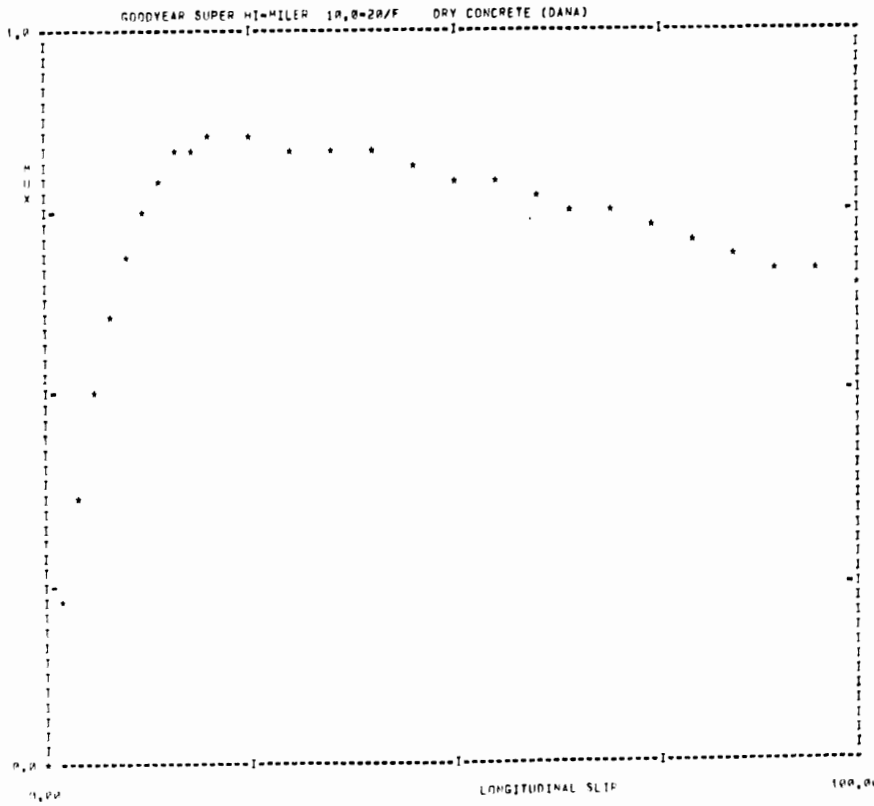
AVERAGE OF FILE 47 FOR 7 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.23	21767.5	1192.1
0.04	0.38	38043.8	1986.1
0.06	0.50	51310.5	2612.3
0.08	0.61	62343.2	3139.0
0.10	0.69	71396.8	3584.0
0.12	0.75	78774.8	3922.0
0.14	0.80	83853.3	4163.3
0.16	0.83	87860.8	4328.4
0.18	0.85	90986.7	4403.8
0.20	0.85	92994.3	4401.3
0.25	0.85	96473.6	4333.7
0.30	0.85	98438.7	4263.7
0.35	0.84	99435.6	4193.5
0.40	0.84	100251.9	4119.9
0.45	0.82	101348.4	4041.1
0.50	0.81	102681.0	3958.3
0.55	0.79	103872.4	3880.3
0.60	0.78	104764.6	3808.1
0.65	0.77	105248.8	3741.3
0.70	0.75	105507.5	3678.6
0.75	0.74	105175.5	3615.9
0.80	0.72	102242.0	3547.5
0.85	0.70	95196.5	3466.7
0.90	0.69	85633.0	3378.6
0.95	0.67	74958.4	3287.4
1.00	0.65	63000.0	3192.9

TQAV = 63000.0 LOAD = 5206.3 VEL = 40.0 MPH.

MUPEAK = 0.85 MULOCK = 0.65 RATIO = 1.32

Check Run #1



FZ = 5206.3 VEL = 40.0 MULOCK = 0.65 MUPEAK = 0.85 RATIO = 1.32 A-D FILE 47 NWFILE 15 SAMPLE 100

** A-D FILE 63 NEW FILE 21 TEST SAMPLE106 **

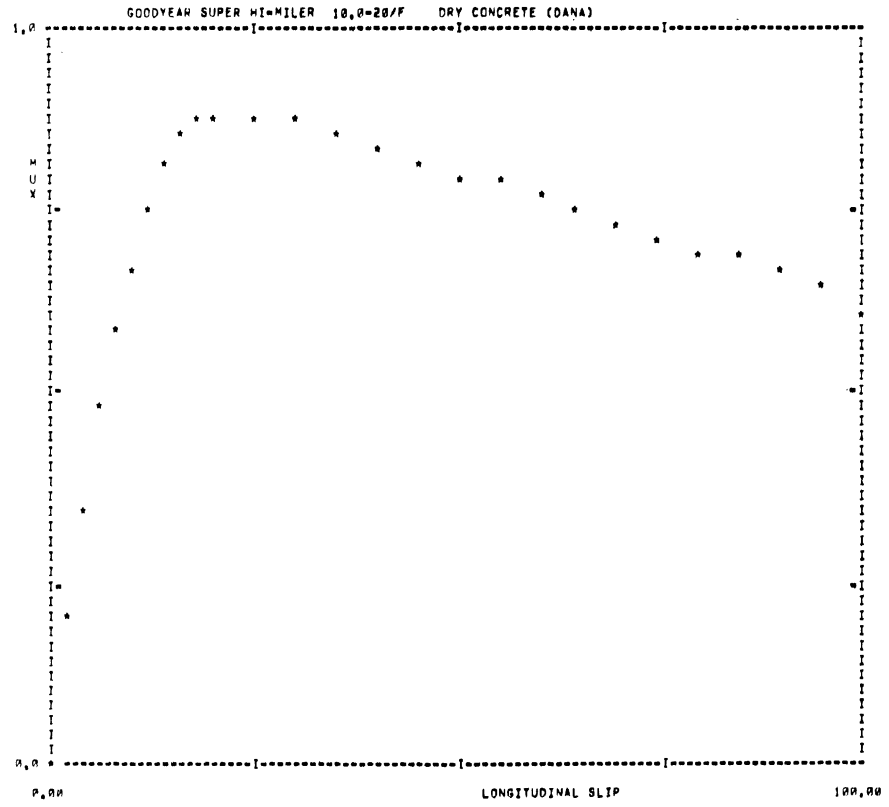
AVERAGE OF FILE 63 FOR 7 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.20	21379.1	1062.4
0.04	0.36	38188.8	1901.7
0.06	0.49	52474.5	2606.1
0.08	0.59	64434.2	3186.8
0.10	0.69	74002.1	3662.9
0.12	0.76	81138.9	4024.5
0.14	0.82	86608.4	4288.1
0.16	0.85	91162.4	4454.7
0.18	0.87	94709.2	4561.8
0.20	0.88	96855.4	4611.5
0.25	0.88	100809.6	4609.0
0.30	0.87	103692.6	4561.6
0.35	0.86	105799.6	4487.8
0.40	0.84	107504.5	4399.4
0.45	0.82	108893.0	4308.3
0.50	0.81	110066.5	4219.5
0.55	0.79	111135.8	4130.5
0.60	0.77	112141.7	4040.9
0.65	0.76	113094.2	3947.8
0.70	0.74	113825.7	3852.5
0.75	0.72	113478.8	3757.2
0.80	0.70	109595.9	3665.3
0.85	0.69	100939.3	3568.2
0.90	0.67	89610.4	3468.7
0.95	0.65	77371.0	3347.6
1.00	0.62	64196.4	3228.2

TQAV = 64196.4 LOAD = 5431.9 VEL = 40.0 MPH.

MUPEAK = 0.88 MULOCK = 0.62 RATIO = 1.41

Check Run #3



FZ = 5431.9 VFL = 40.0 MULOCK = 0.62 MUPEAK = 0.88 RATIO = 1.41 A-D FILE 63 NWFILE 21 SAMPLE 106

** A-D FILE 73 NEW FILE 28 TEST SAMPLE113 **

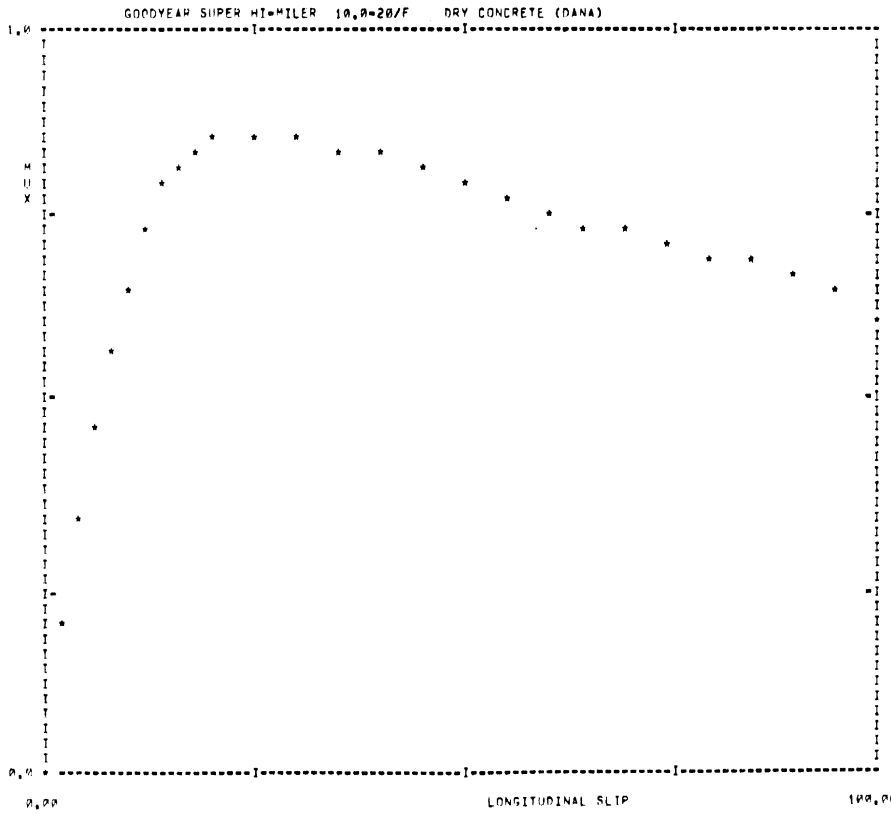
AVERAGE OF FILE 73 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (DANA)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.21	22589.6	1119.6
0.04	0.35	38329.7	1917.3
0.06	0.48	51409.9	2585.7
0.08	0.58	62589.7	3122.0
0.10	0.66	71707.8	3561.6
0.12	0.74	79167.2	3954.9
0.14	0.79	85115.3	4259.1
0.16	0.83	89873.3	4473.8
0.18	0.85	93652.0	4590.5
0.20	0.86	95264.5	4633.8
0.25	0.86	98416.6	4615.4
0.30	0.85	101128.6	4551.3
0.35	0.84	103275.9	4466.6
0.40	0.83	104561.1	4381.4
0.45	0.82	105253.0	4297.0
0.50	0.80	105998.7	4206.0
0.55	0.79	107096.8	4108.4
0.60	0.77	108456.8	4004.2
0.65	0.75	109785.8	3900.4
0.70	0.73	110722.8	3804.4
0.75	0.72	110056.1	3721.8
0.80	0.70	106382.6	3646.9
0.85	0.69	98617.6	3562.3
0.90	0.67	88030.0	3463.7
0.95	0.65	76484.6	3357.9
1.00	0.62	64000.0	3243.7

TQAV = 64000.0 LOAD = 5455.0 VEL = 40.0 MPH.

MUPEAK = 0.86 MULOCK = 0.62 RATIO = 1.39

Check Run #5



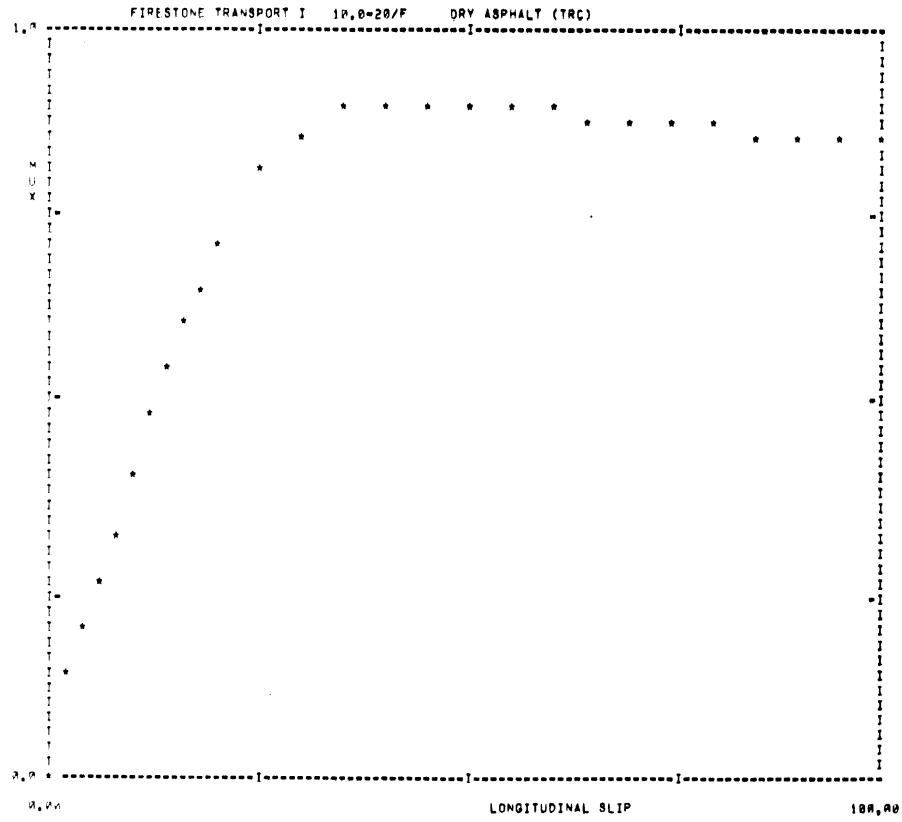
FZ = 5455.0 VEL = 40.0 MULOCK = 0.62 MUPEAK = 0.86 RATIO = 1.39 A-D FILE 73 N-FILE 28 SAMPLE 113

FIRESTONE TRANSPORT 1, 10.00 x 20/F, TRC ASPHALT

** A-D FILE 72 NEW FILE 139 TEST SAMPLE103 **

AVERAGE OF FILE 72 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10,0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,14	15922,3	796,8	
0,04	0,22	23938,7	1191,0	
0,06	0,27	30001,6	1486,3	
0,08	0,33	36963,3	1819,7	
0,10	0,41	45921,4	2256,6	
0,12	0,49	53716,6	2657,7	
0,14	0,56	60307,5	2993,7	
0,16	0,61	65838,9	3259,9	
0,18	0,65	71001,8	3493,3	TQAV = 91562,5 LOAD = 5473,8 VEL = 3,0 MPH.
0,20	0,72	77632,4	3819,8	
0,25	0,81	87262,3	4285,8	MUPEAK = 0,98 MULOCK = 0,85 RATIO = 1,06
0,30	0,87	93468,9	4552,2	
0,35	0,89	96901,1	4682,4	
0,40	0,90	97818,9	4724,7	
0,45	0,90	97835,6	4728,0	
0,50	0,90	97548,0	4713,9	
0,55	0,90	97122,8	4691,2	
0,60	0,89	96630,3	4664,4	
0,65	0,89	96104,3	4635,4	
0,70	0,88	95561,7	4605,4	
0,75	0,88	95010,6	4574,9	
0,80	0,87	94455,4	4544,1	
0,85	0,86	93898,0	4513,1	
0,90	0,86	93273,7	4481,3	
0,95	0,85	92517,1	4447,6	
1,00	0,85	91562,5	4411,2	



FZ = 5473,8 VEL = 3,0 MULOCK = 0,85 MUPEAK = 0,98 RATIO = 1,06 A-D FILE 72 NWFILE 139 SAMPLE 103

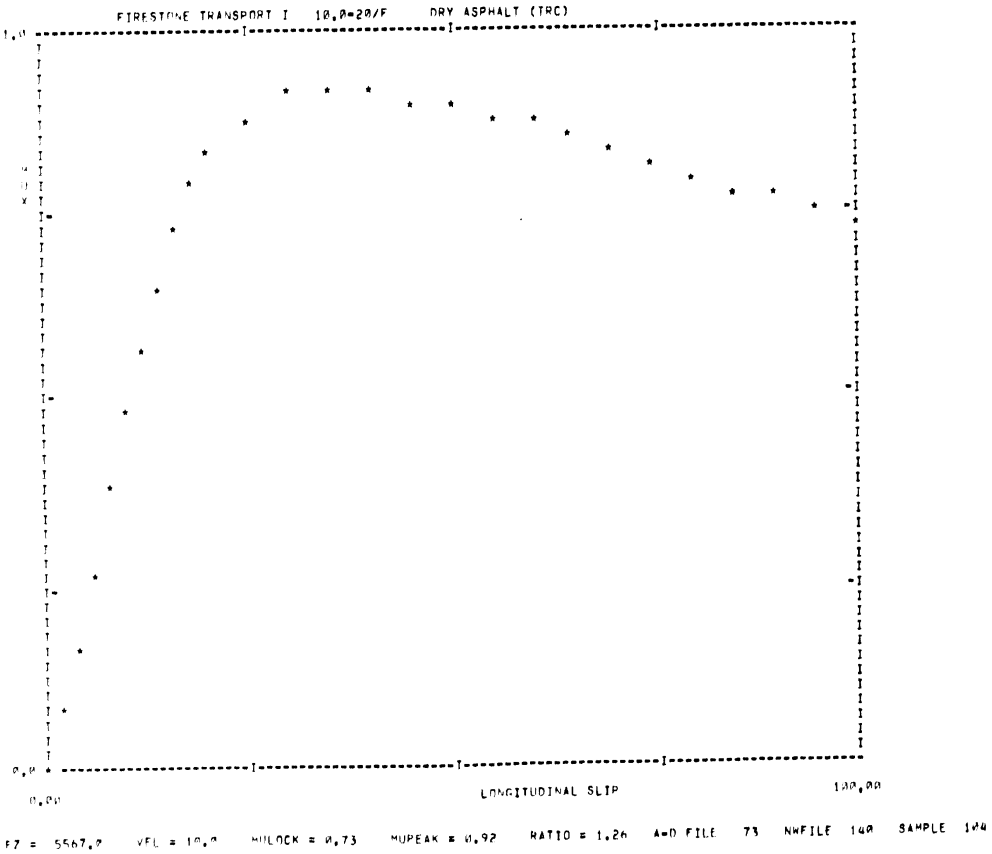
** A=D FILE 73 NEW FILE 140 TEST SAMPLE1W4 **

AVERAGE OF FILE 73 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10,0=20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,09	10281,1	481,1
0,04	0,17	20250,5	944,3
0,06	0,27	32003,8	1513,3
0,08	0,38	44111,6	2116,0
0,10	0,48	54736,8	2657,5
0,12	0,57	63866,1	3117,0
0,14	0,65	72219,7	3524,3
0,16	0,73	79859,0	3908,1
0,18	0,80	86285,5	4227,5
0,20	0,83	90567,5	4415,2
0,25	0,88	96676,1	4643,5
0,30	0,91	100752,2	4760,0
0,35	0,92	103793,0	4796,7
0,40	0,92	106454,2	4785,0
0,45	0,91	109022,2	4747,5
0,50	0,90	111396,0	4692,8
0,55	0,89	112135,7	4626,3
0,60	0,87	109941,6	4544,5
0,65	0,85	105957,8	4457,3
0,70	0,84	102014,6	4370,1
0,75	0,82	98351,0	4283,6
0,80	0,80	94852,8	4197,4
0,85	0,79	91440,1	4111,3
0,90	0,77	87699,6	4023,9
0,95	0,75	83232,0	3933,5
1,00	0,73	77666,7	3838,7

TQAV = 77666,7 LOAD = 5567,0 VEL = 10,0 MPH.

MUPEAK = 0,92 MULOCK = 0,73 RATIO = 1,26

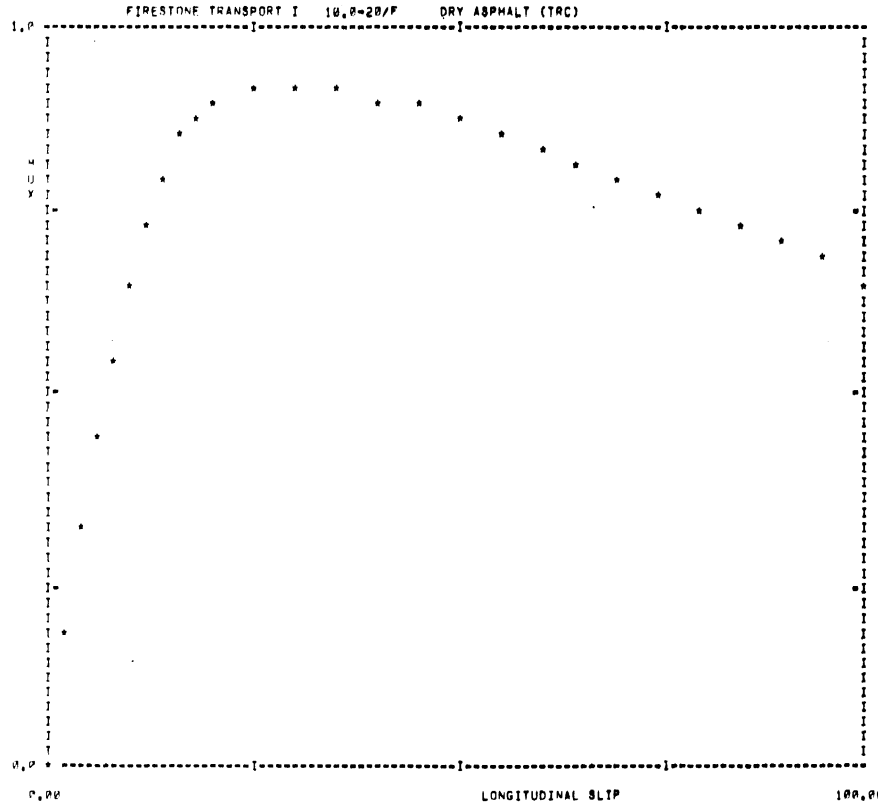


FZ = 5567,0 VEL = 10,0 MULOCK = 0,73 MUPEAK = 0,92 RATIO = 1,26 A=D FILE 73 NWFILE 140 SAMPLE 1W4

** A-D FILE 74 NEW FILE 141 TEST SAMPLE105 **

AVERAGE OF FILE 74 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.18	20606.2	1004.2	
0.04	0.33	35875.7	1802.0	
0.06	0.46	49330.6	2478.7	
0.08	0.56	60467.7	3010.2	
0.10	0.65	70155.3	3467.3	
0.12	0.74	78717.4	3898.9	
0.14	0.80	85592.1	4252.1	
0.16	0.85	91250.5	4515.0	
0.18	0.88	95454.5	4688.1	TQAV = 69104.2 LOAD = 5520.0 VEL = 20.0 MPH.
0.20	0.90	98049.5	4765.6	
0.25	0.92	101984.2	4830.0	MUPEAK = 0.92 MULOCK = 0.66 RATIO = 1.40
0.30	0.92	100715.0	4837.0	
0.35	0.92	100827.7	4885.4	
0.40	0.91	100735.7	4746.2	
0.45	0.89	110690.2	4670.3	
0.50	0.88	112803.0	4586.3	
0.55	0.86	115137.2	4495.8	
0.60	0.84	116859.6	4403.7	
0.65	0.82	116511.4	4310.7	
0.70	0.80	113283.4	4211.0	
0.75	0.78	107570.9	4099.8	
0.80	0.76	100564.3	3978.9	
0.85	0.74	93389.0	3856.6	
0.90	0.71	85961.8	3732.3	
0.95	0.69	77965.0	3603.0	
1.00	0.66	69104.2	3466.3	

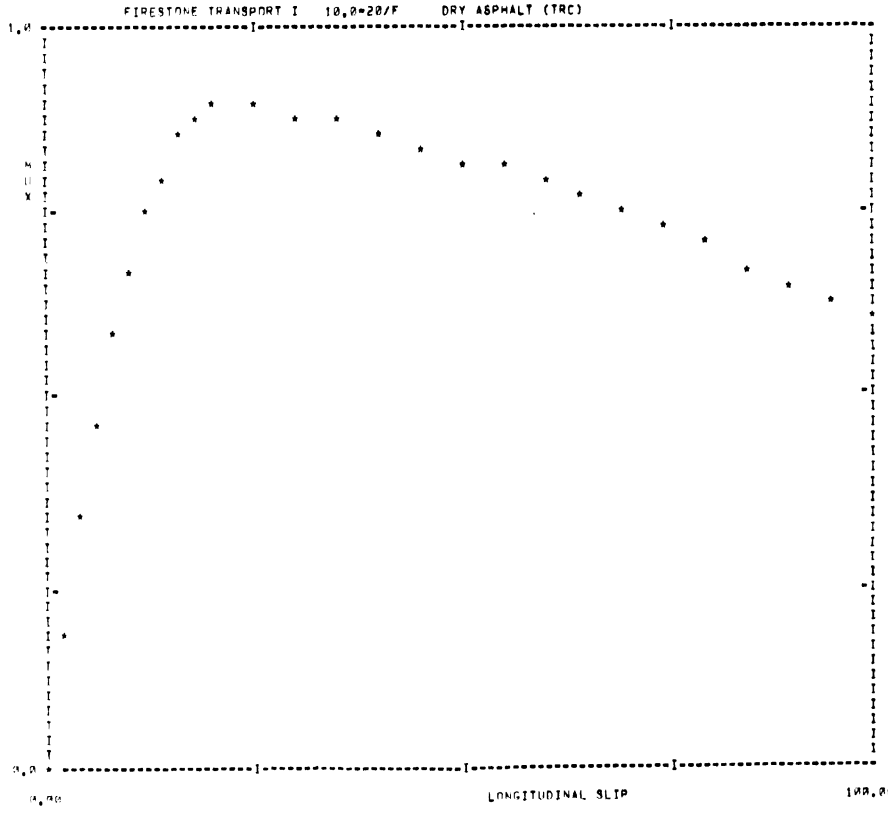


FZ = 5520.0 VEL = 20.0 MULOCK = 0.66 MUPEAK = 0.92 RATIO = 1.40 A-D FILE 74 NWFILE 141 SAMPLE 105

** A-D FILE 75 NEW FILE 142 TEST SAMPLE1W6 **

AVERAGE OF FILE 75 FOR 4 RECORDS. FIRESTONE TRANSPORT I 10,0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.18	20310.8	972.4	
0.04	0.35	38289.5	1899.1	
0.06	0.48	51818.9	2573.2	
0.08	0.59	63332.7	3132.9	
0.10	0.68	72980.2	3599.8	
0.12	0.75	80264.0	3952.4	
0.14	0.81	86023.0	4217.9	
0.16	0.85	90857.1	4432.7	
0.18	0.88	94793.1	4588.6	TQAV = 63687.5 LOAD = 5018.0 VEL = 30.0 MPH.
0.20	0.90	97245.0	4645.1	
0.25	0.89	101666.9	4640.2	MUPEAK = 0.90 MULOCK = 0.61 RATIO = 1.47
0.30	0.88	104964.0	4584.1	
0.35	0.87	107344.7	4506.1	
0.40	0.86	109047.2	4421.6	
0.45	0.84	110382.4	4333.3	
0.50	0.83	111667.5	4240.5	
0.55	0.81	113011.9	4148.2	
0.60	0.79	114376.1	4053.4	
0.65	0.77	114809.2	3956.6	
0.70	0.75	113904.7	3856.3	
0.75	0.73	109572.1	3750.4	
0.80	0.71	102218.6	3639.2	
0.85	0.68	93523.7	3524.3	
0.90	0.66	84211.3	3407.7	
0.95	0.64	74341.3	3289.5	
1.00	0.61	63687.5	3168.7	

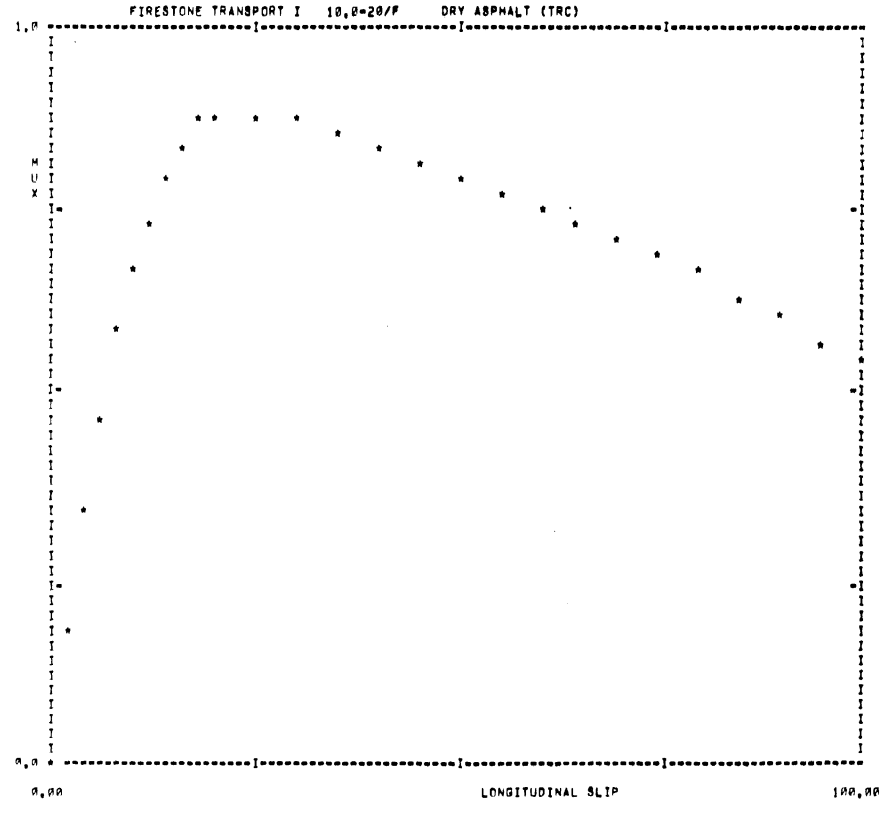


FZ = 5018.0 VEL = 30.0 MULOCK = 0.61 MUPEAK = 0.90 RATIO = 1.47 A-D FILE 75 NWFILE 142 SAMPLE 1P6

FILE 76 NEW FILE 143 TEST SAMPLE107 **

AVERAGE OF FILE 76 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.19	21634.8	1858.1	
0.04	0.35	38641.5	1898.9	
0.06	0.48	52789.9	2599.8	
0.08	0.59	64892.7	3197.6	
0.10	0.67	74924.7	3662.4	
0.12	0.74	82529.9	3996.8	
0.14	0.79	88156.4	4263.1	
0.16	0.84	92982.1	4475.0	
0.18	0.87	97419.1	4617.4	TQAV = 58750.0 LOAD = 5452.0 VEL = 40.0 MPH.
0.20	0.89	100333.0	4665.8	
0.25	0.88	104444.1	4663.7	MUPEAK = 0.89 MULOCK = 0.55 RATIO = 1.61
0.30	0.87	107666.3	4609.1	
0.35	0.86	110446.4	4525.7	
0.40	0.84	112767.2	4430.7	
0.45	0.82	114561.0	4331.6	
0.50	0.80	115886.4	4231.6	
0.55	0.78	116951.1	4129.6	
0.60	0.76	117931.1	4024.0	
0.65	0.74	118769.0	3917.7	
0.70	0.72	118560.1	3811.4	
0.75	0.70	116111.7	3701.0	
0.80	0.67	109618.1	3576.1	
0.85	0.64	98750.9	3427.4	
0.90	0.61	86113.6	3268.2	
0.95	0.58	72814.4	3103.4	
1.00	0.55	58750.0	2931.2	



FZ = 5452.0 VEL = 40.0 MULOCK = 0.55 MUPEAK = 0.89 RATIO = 1.61 A-D FILE 76 NWFILE 143 SAMPLE 107

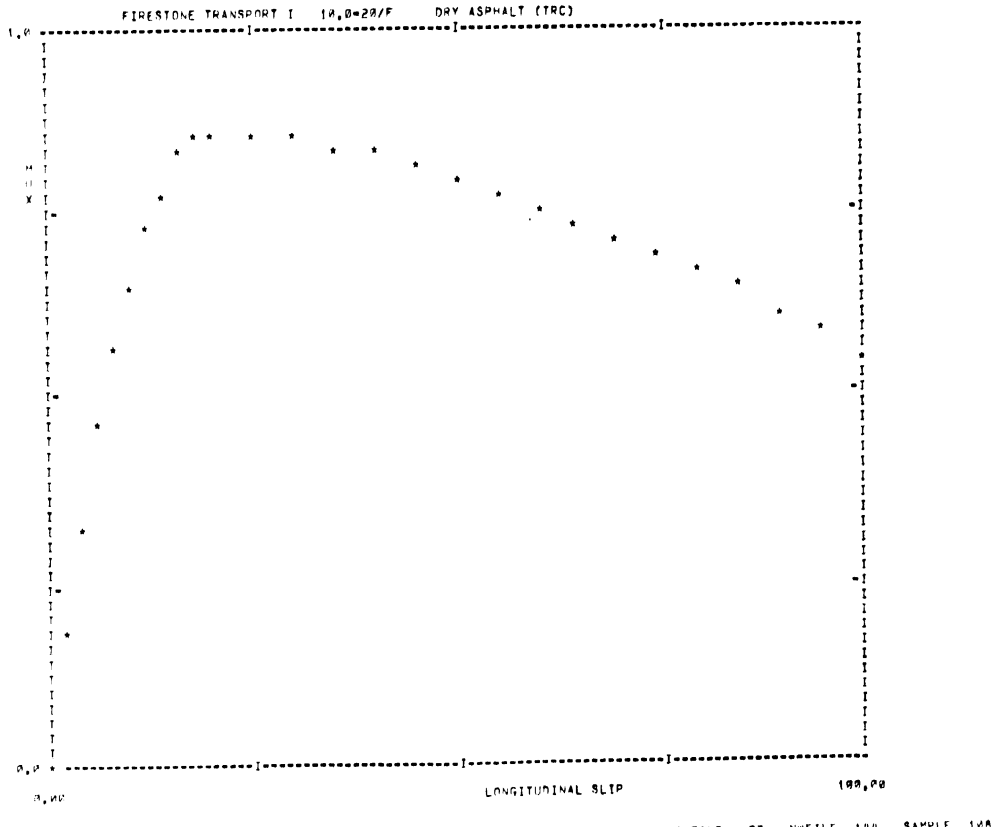
** A-D FILE 77 NEW FILE 144 TEST SAMPLE108 **

AVERAGE OF FILE 77 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10,0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.19	21043.3	1026.4
0.04	0.34	37216.4	1841.2
0.06	0.46	51350.8	2542.1
0.08	0.57	63056.4	3115.4
0.10	0.66	73162.5	3583.2
0.12	0.73	81296.2	3952.5
0.14	0.79	87670.4	4220.5
0.16	0.83	92901.7	4419.4
0.18	0.86	96941.0	4551.0
0.20	0.86	99535.6	4583.4
0.25	0.87	103281.9	4576.3
0.30	0.86	106914.3	4519.6
0.35	0.85	108420.9	4427.6
0.40	0.83	110593.9	4322.3
0.45	0.81	112410.9	4215.0
0.50	0.79	113911.5	4110.1
0.55	0.78	115199.5	4008.1
0.60	0.76	116384.6	3904.6
0.65	0.74	117747.8	3792.7
0.70	0.71	118792.2	3679.3
0.75	0.69	117644.9	3569.6
0.80	0.67	112064.2	3461.1
0.85	0.65	101549.2	3346.7
0.90	0.62	87876.9	3222.9
0.95	0.59	73152.2	3094.2
1.00	0.56	57395.8	2960.8

TQAV = 57395.8 LOAD = 5461.5 VEL = 55.0 MPH.

MUPEAK = 0.87 MULOCK = 0.56 RATIO = 1.54

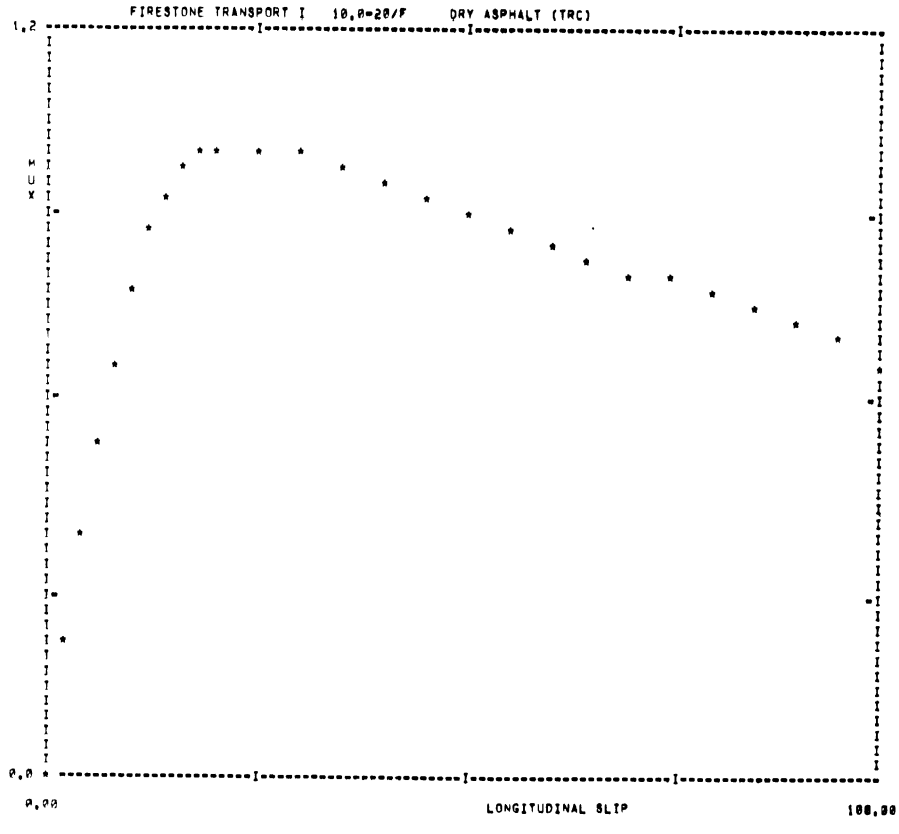


FZ = 5461.5 VEL = 55.0 MULOCK = 0.56 MUPEAK = 0.87 RATIO = 1.54 A-D FILE 77 NWFILE 144 SAMPLE 108

** [redacted] FILE 82 NEW FILE 146 / TEST SAMPLE110 **

AVERAGE OF FILE 82 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10,0-20/F DRY ASPHALT ([redacted])

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,23	11708,0	525,3	
0,04	0,40	20025,6	899,2	
0,06	0,55	26932,1	1217,3	
0,08	0,67	33230,5	1490,3	
0,10	0,78	38115,2	1714,8	
0,12	0,87	42075,2	1886,8	
0,14	0,93	45898,7	2068,6	
0,16	0,98	49415,5	2094,5	
0,18	1,01	52300,6	2152,4	TQAV = 29333,3 LOAD = 2239,9 VEL = 40,0 MPH.
0,20	1,02	54400,9	2176,7	
0,25	1,01	58151,7	2179,3	MUPEAK = 1,02 MULOCK = 0,68 RATIO = 1,50
0,30	1,00	61106,5	2154,5	
0,35	0,97	63567,0	2111,6	
0,40	0,95	65841,3	2060,1	
0,45	0,92	68088,7	2004,5	
0,50	0,90	70332,5	1948,6	
0,55	0,87	72569,5	1898,6	
0,60	0,85	74830,8	1835,6	
0,65	0,84	76874,5	1798,2	
0,70	0,82	77999,0	1752,4	
0,75	0,81	76716,0	1720,1	
0,80	0,79	71167,4	1686,1	
0,85	0,77	62187,8	1638,8	
0,90	0,74	51716,2	1581,3	
0,95	0,71	40769,3	1518,7	
1,00	0,68	29333,3	1450,8	



FZ = 2239,9 VEL = 40,0 MULOCK = 0,68 MUPEAK = 1,02 RATIO = 1,50 A-D FILE 82 NWFILE 146 SAMPLE 110

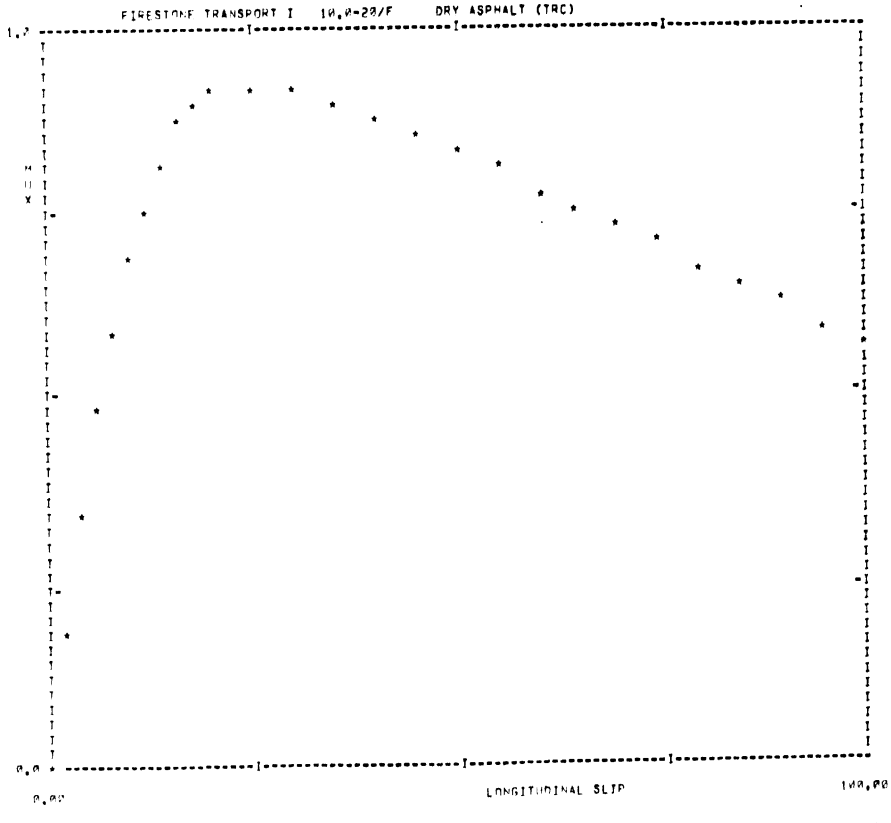
** A=D FILE 83 NEW FILE 147 / TEST SAMPLE111 **

AVERAGE OF FILE 83 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10,0=20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.19	19936.2	1042.2
0.04	0.34	37454.8	1891.4
0.06	0.48	52319.3	2634.6
0.08	0.60	64978.3	3256.4
0.10	0.69	75312.5	3747.2
0.12	0.77	83523.6	4115.3
0.14	0.82	89795.1	4394.6
0.16	0.87	94777.6	4611.5
0.18	0.91	98848.6	4776.2
0.20	0.92	102028.6	4853.0
0.25	0.92	107525.1	4886.9
0.30	0.92	111485.9	4853.5
0.35	0.90	114123.1	4779.6
0.40	0.88	115932.6	4681.9
0.45	0.86	117308.5	4571.3
0.50	0.84	118536.3	4452.3
0.55	0.81	119931.7	4323.2
0.60	0.78	121469.3	4192.3
0.65	0.76	122886.2	4059.2
0.70	0.73	122668.5	3928.5
0.75	0.71	119184.9	3798.9
0.80	0.68	111957.5	3664.3
0.85	0.66	100123.2	3519.0
0.90	0.63	86539.7	3361.8
0.95	0.60	72645.5	3199.4
1.00	0.56	58541.7	3031.3

TDAV = 58541.7 LOAD = 5510.4 VEL = 40.0 MPH.

MUPEAK = 0.92 MULOCK = 0.56 RATIO = 1.64

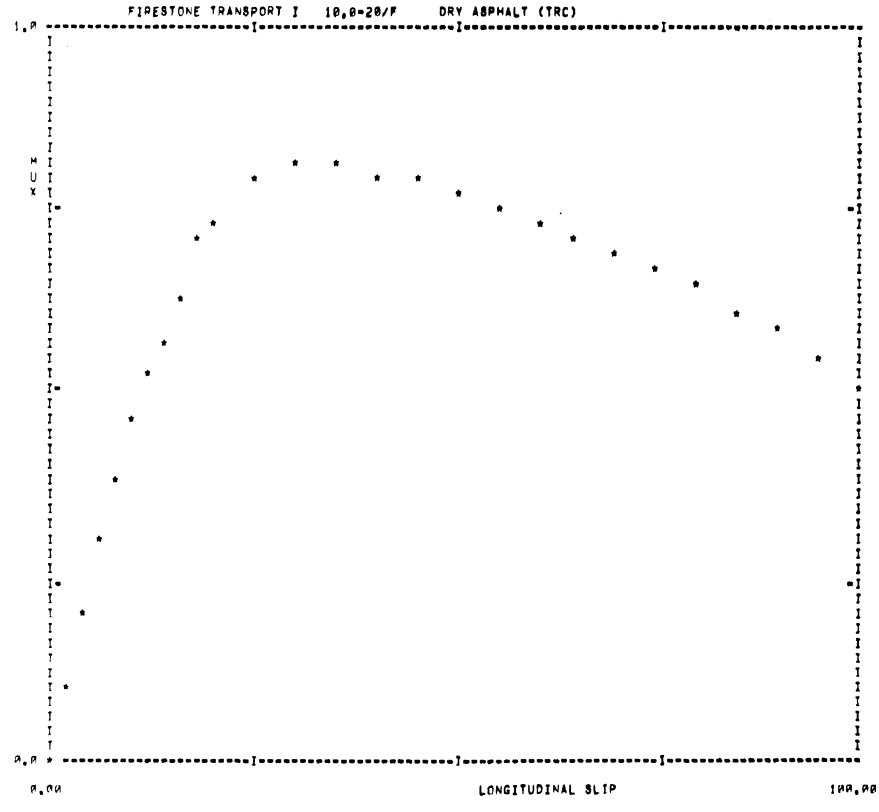


FZ = 5510.4 VEL = 40.0 MULOCK = 0.56 MUPEAK = 0.92 RATIO = 1.64 A=D FILE 83 NWFILE 147 SAMPLE 111

** A-D FILE 84 NEW FILE 148 TEST SAMPLE112 **

AVERAGE OF FILE 84 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.11	14611.2	944.0	
0.04	0.20	34139.9	1801.6	
0.06	0.30	51901.8	2672.9	
0.08	0.39	67577.3	3441.1	
0.10	0.47	80484.5	4087.1	
0.12	0.53	91193.3	4617.0	
0.14	0.58	100274.8	5045.0	
0.16	0.64	109978.9	5471.7	
0.18	0.71	123190.4	6005.7	TQAV = 84833.3 LOAD = 9002.8 VEL = 40.0 MPH.
0.20	0.75	131214.5	6291.8	
0.25	0.79	143493.6	6599.9	MUPEAK = 0.81 MULOCK = 0.52 RATIO = 1.56
0.30	0.81	152331.9	6723.0	
0.35	0.81	158672.6	6728.9	
0.40	0.80	163568.2	6663.8	
0.45	0.79	167681.8	6557.4	
0.50	0.78	171212.6	6426.7	
0.55	0.76	174357.5	6282.0	
0.60	0.74	176649.1	6126.2	
0.65	0.72	176042.4	5965.7	
0.70	0.70	171630.8	5795.1	
0.75	0.67	161784.7	5608.7	
0.80	0.65	147420.9	5404.9	
0.85	0.62	130748.6	5183.5	
0.90	0.59	114593.7	4944.8	
0.95	0.56	99202.9	4698.4	
1.00	0.52	84833.3	4443.8	



FZ = 9002.8 VEL = 40.0 MULOCK = 0.52 MUPEAK = 0.81 RATIO = 1.56 A-D FILE 84 NWFILE 148 SAMPLE 112

** A-D FILE 71 NEW FILE 138 TEST SAMPLE102 **

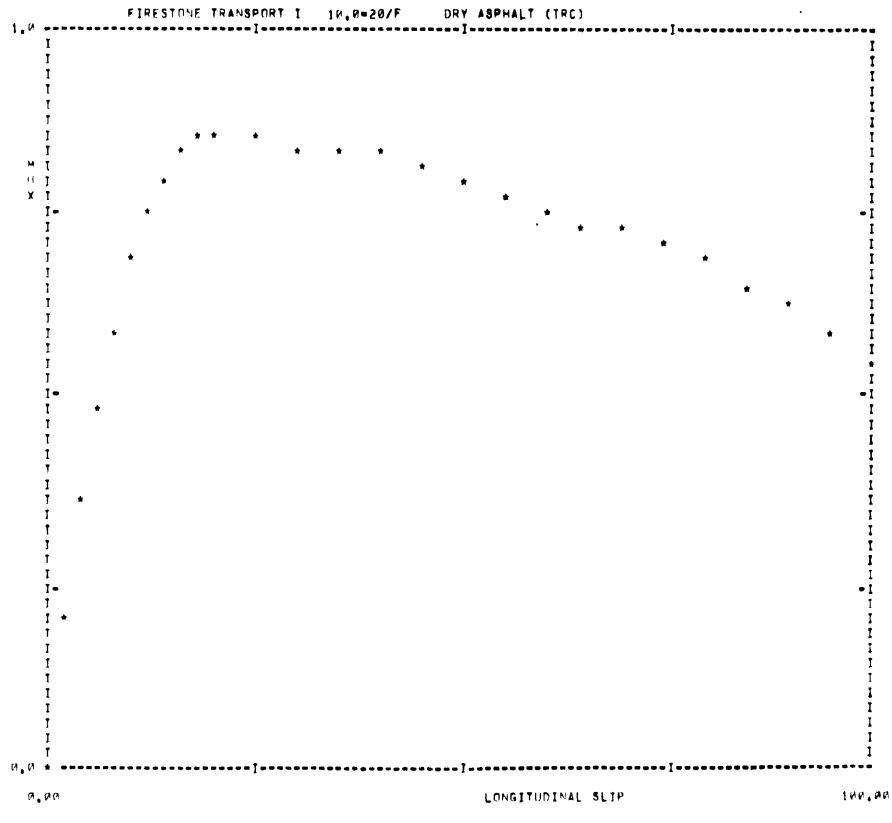
AVERAGE OF FILE 71 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10,0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,20	22597,8	1086,1
0,04	0,36	39792,8	1961,6
0,06	0,50	54187,0	2702,1
0,08	0,60	65948,4	3282,2
0,10	0,69	75418,5	3727,5
0,12	0,75	82462,5	4070,6
0,14	0,80	88389,0	4322,9
0,16	0,84	93360,0	4514,4
0,18	0,86	96940,7	4628,4
0,20	0,86	99040,5	4651,7
0,25	0,86	102429,3	4616,2
0,30	0,85	104818,1	4550,7
0,35	0,84	106474,1	4473,7
0,40	0,83	107869,9	4390,0
0,45	0,82	109348,6	4300,5
0,50	0,80	110928,5	4206,6
0,55	0,78	112577,8	4107,5
0,60	0,76	114109,6	4003,9
0,65	0,75	115500,1	3903,1
0,70	0,73	116242,9	3805,8
0,75	0,71	114371,5	3714,5
0,80	0,69	108338,6	3613,4
0,85	0,66	98301,9	3476,6
0,90	0,63	86156,5	3319,2
0,95	0,59	73132,3	3148,8
1,00	0,55	59104,2	2961,2

TQAV = 59104,2 LOAD = 5481,9 VEL = 40,0 MPH.

MUPEAK = 0,86 MULOCK = 0,55 RATIO = 1,56

Check Run #1



FZ = 5481,9 VEL = 40,0 MULOCK = 0,55 MUPEAK = 0,86 RATIO = 1,56 A-D FILE 71 NWFILE 138 SAMPLE 102

** A-D FILE 81 NEW FILE 145 TEST SAMPLE109 **

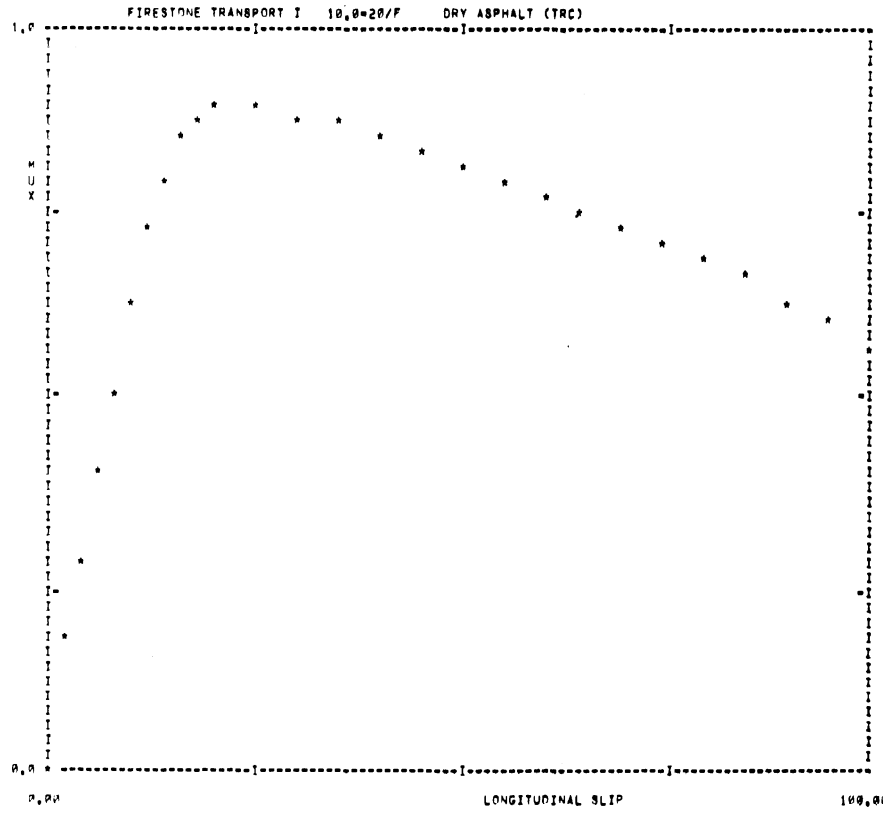
AVERAGE OF FILE 81 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.18	19266.9	979.6
0.04	0.29	31898.9	1595.6
0.06	0.40	43989.5	2281.7
0.08	0.51	55489.4	2775.2
0.10	0.64	69131.5	3438.1
0.12	0.74	80836.9	3972.8
0.14	0.81	89417.2	4343.1
0.16	0.85	94880.6	4589.9
0.18	0.88	98540.5	4738.1
0.20	0.89	101445.0	4778.2
0.25	0.89	106607.6	4768.3
0.30	0.89	110366.1	4712.6
0.35	0.88	113146.0	4628.8
0.40	0.86	115504.7	4527.2
0.45	0.84	117626.6	4414.0
0.50	0.82	119462.3	4292.4
0.55	0.80	121184.6	4167.3
0.60	0.77	122832.5	4042.3
0.65	0.75	124039.3	3918.8
0.70	0.73	123668.4	3797.4
0.75	0.71	119173.0	3684.0
0.80	0.69	110372.0	3566.5
0.85	0.67	98405.0	3438.5
0.90	0.64	85396.5	3304.4
0.95	0.61	72282.0	3166.6
1.00	0.58	58875.0	3023.7

TQAV = 58875.0 LOAD = 5491.9 VEL = 40.0 MPH.

MUPEAK = 0.89 MULOCK = 0.58 RATIO = 1.54

Check Run #3



FZ = 5491.9 VEL = 40.0 MULOCK = 0.58 MUPEAK = 0.89 RATIO = 1.54 A-D FILE 81 NWFILE 145 SAMPLE 109

** A-D FILE 85 NEW FILE 149 TEST SAMPLE113 **

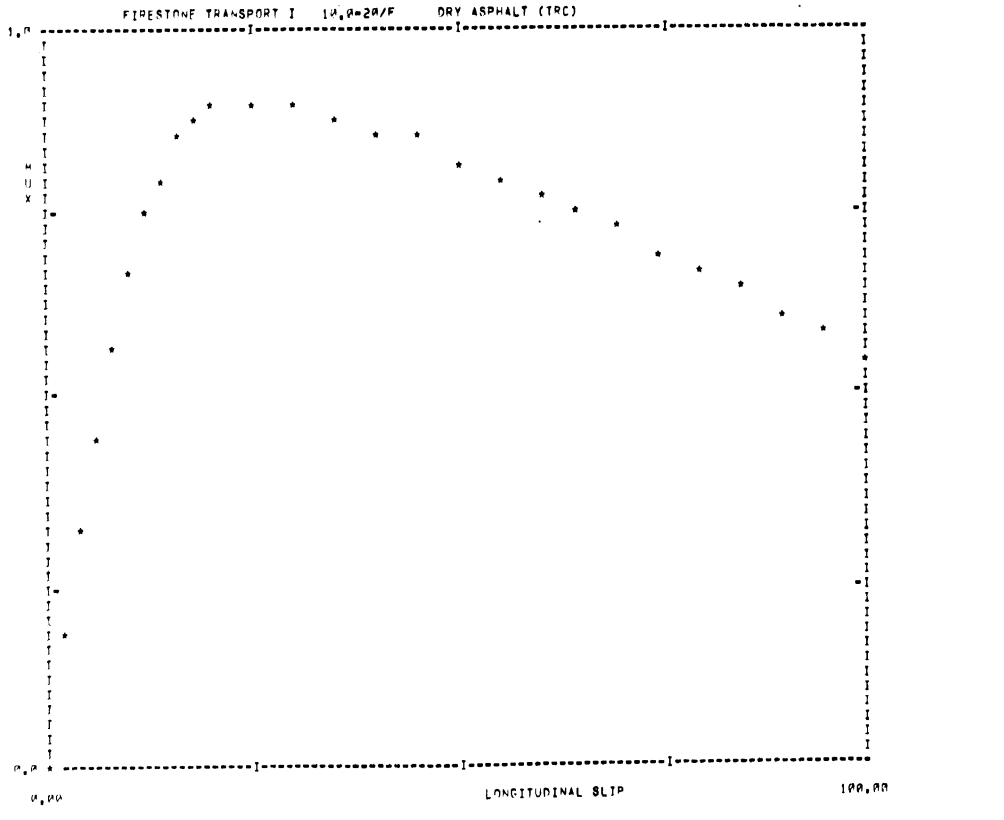
AVERAGE OF FILE 85 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10,0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,19	20241,7	1000,5
0,04	0,33	36042,1	1757,6
0,06	0,46	50238,2	2456,2
0,08	0,58	62813,2	3076,9
0,10	0,67	73715,6	3575,9
0,12	0,75	82115,5	3967,0
0,14	0,81	88788,3	4260,4
0,16	0,85	94239,6	4467,4
0,18	0,88	98399,6	4602,0
0,20	0,90	101107,0	4659,6
0,25	0,90	106176,0	4671,1
0,30	0,92	110180,1	4626,9
0,35	0,89	113224,8	4550,8
0,40	0,87	115099,4	4457,6
0,45	0,85	117357,6	4353,8
0,50	0,83	118998,0	4243,3
0,55	0,80	120693,4	4126,9
0,60	0,78	122415,7	4010,9
0,65	0,76	123657,2	3892,6
0,70	0,73	122884,9	3771,8
0,75	0,70	119286,6	3648,6
0,80	0,68	111511,9	3518,5
0,85	0,65	99373,6	3378,7
0,90	0,62	85911,1	3235,8
0,95	0,59	72261,7	3091,1
1,00	0,56	58500,0	2943,7

TQAV = 58500,0 LOAD = 5443,8 VEL = 40,0 MPH.

MUPEAK = 0,90 MULOCK = 0,56 RATIO = 1,61

Check Run #5



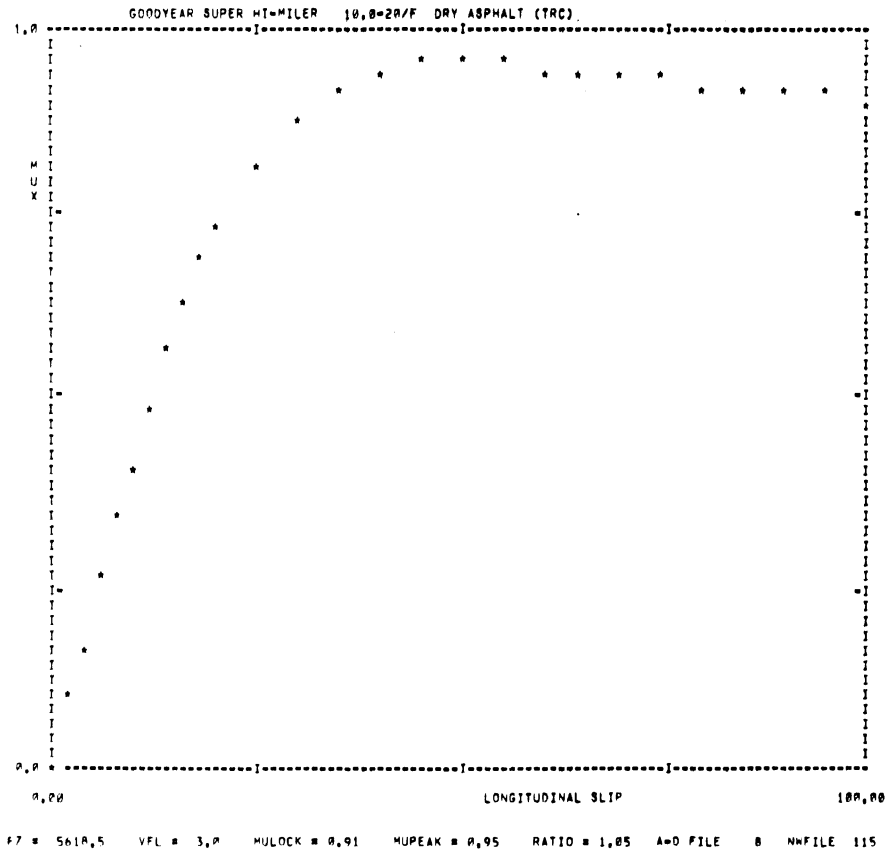
FZ = 5443,8 VEL = 40,0 MULOCK = 0,56 MUPEAK = 0,90 RATIO = 1,61 A-D FILE 85 NWFILE 149 SAMPLE 113

GOODYEAR SUPER HI MILER, 10.00 x 20/F, TRC ASPHALT

** A-D FILE 8 NEW FILE 115 TEST SAMPLE 3 **

AVERAGE OF FILE 8 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.10	9426.2	551.6	
0.04	0.17	17062.2	958.2	
0.06	0.26	26775.1	1445.2	
0.08	0.34	35615.2	1985.1	
0.10	0.41	43270.0	2314.3	
0.12	0.49	51929.6	2737.9	
0.14	0.56	60512.5	3139.7	
0.16	0.63	67976.6	3586.5	
0.18	0.69	74232.0	3811.3	TQAV = 97041.7 LOAD = 5618.5 VEL = 3.0 MPH.
0.20	0.73	78292.0	4008.1	
0.25	0.82	86841.1	4442.1	MUPEAK = 0.95 MULOCK = 0.91 RATIO = 1.05
0.30	0.89	93941.9	4761.1	
0.35	0.93	98249.1	4949.4	
0.40	0.95	100225.2	5029.4	
0.45	0.95	100978.5	5054.1	
0.50	0.95	101133.9	5052.4	
0.55	0.95	100991.7	5037.6	
0.60	0.95	100700.9	5016.3	
0.65	0.94	100335.7	4991.8	
0.70	0.94	99933.5	4965.6	
0.75	0.93	99512.6	4938.7	
0.80	0.93	99082.5	4911.3	
0.85	0.92	98647.7	4883.7	
0.90	0.92	98181.4	4855.1	
0.95	0.91	97655.7	4824.6	
1.00	0.91	97041.7	4791.3	

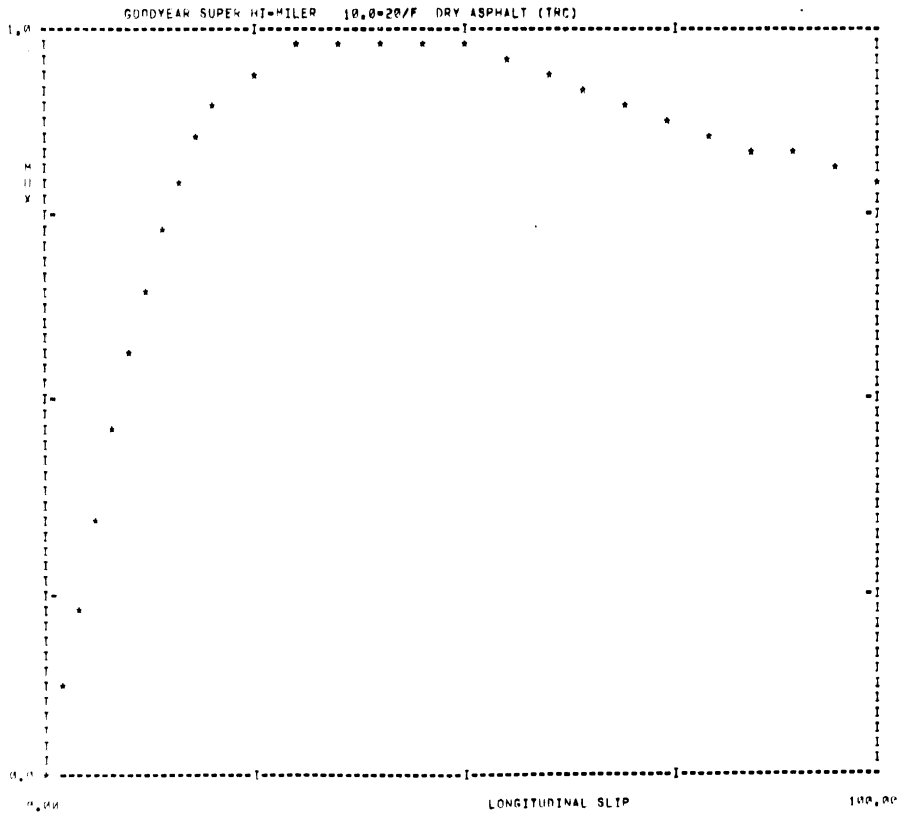


FZ = 5618.5 VEL = 3.0 MULOCK = 0.91 MUPEAK = 0.95 RATIO = 1.05 A-D FILE 8 NWFILE 115 SAMPLE 3

** A-D FILE 9 NEW FILE 116 TEST SAMPLE 4 **

AVERAGE OF FILE 9 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.13	12310.0	698.5	
0.04	0.23	23553.3	1272.1	
0.06	0.35	36251.4	1920.3	
0.08	0.46	47867.1	2513.9	
0.10	0.56	58109.8	3032.0	
0.12	0.65	67240.4	3492.5	
0.14	0.73	75502.9	3894.6	
0.16	0.80	82979.9	4263.3	
0.18	0.86	89047.5	4553.5	TQAV = 79750.0 LOAD = 5553.8 VEL = 10.0 MPH.
0.20	0.90	93088.7	4736.4	
0.25	0.95	99413.2	4961.9	MUPEAK = 0.99 MULOCK = 0.79 RATIO = 1.25
0.30	0.98	103674.0	5076.8	
0.35	0.99	106555.8	5114.8	
0.40	0.99	108770.0	5108.3	
0.45	0.98	110265.7	5075.9	
0.50	0.97	110267.5	5015.9	
0.55	0.96	108922.9	4939.5	
0.60	0.94	106020.5	4850.2	
0.65	0.92	102915.3	4757.4	
0.70	0.90	99908.1	4663.9	
0.75	0.88	96969.9	4570.2	
0.80	0.87	94068.1	4476.4	
0.85	0.85	91184.7	4382.5	
0.90	0.83	88028.5	4287.1	
0.95	0.81	84310.9	4188.4	
1.00	0.79	79750.0	4085.0	



FZ = 5553.8 VEL = 10.0 MULOCK = 0.79 MUPEAK = 0.99 RATIO = 1.25 A-D FILE 9 NWFILE 116 SAMPLE 4

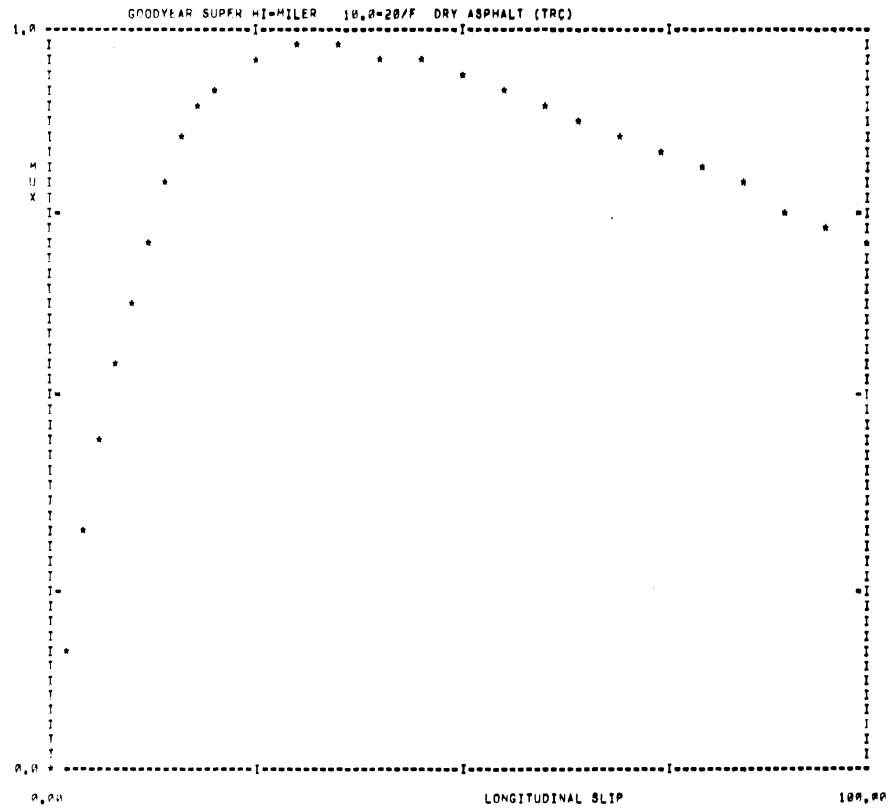
** A=D FILE 10 NEW FILE 117 TEST SAMPLE 5 **

AVERAGE OF FILE 10 FOR 6 RECORDS, GOODYEAR SUPER HI=MILER 10,0=20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,17	16105,0	923,0
0,04	0,32	32881,6	1757,2
0,06	0,45	46570,6	2438,7
0,08	0,55	57867,0	2989,3
0,10	0,64	67113,6	3454,6
0,12	0,72	75345,0	3863,4
0,14	0,80	82419,5	4204,8
0,16	0,85	88244,8	4487,4
0,18	0,90	93125,3	4715,0
0,20	0,93	96680,1	4858,0
0,25	0,96	102526,8	5023,5
0,30	0,98	106486,8	5099,3
0,35	0,98	109264,7	5111,7
0,40	0,97	111393,4	5083,2
0,45	0,96	113310,8	5028,2
0,50	0,94	115282,0	4957,1
0,55	0,93	117451,7	4876,5
0,60	0,91	119282,8	4790,0
0,65	0,89	119498,7	4698,9
0,70	0,87	117739,2	4602,8
0,75	0,84	112670,4	4494,0
0,80	0,82	105451,3	4365,4
0,85	0,79	97986,4	4233,4
0,90	0,77	90248,1	4099,2
0,95	0,74	81773,4	3959,9
1,00	0,71	72187,5	3812,5

TQAV = 72187,5 LOAD = 5519,9 VEL = 20,0 MPH.

MUPEAK = 0,98 MULOCK = 0,71 RATIO = 1,38

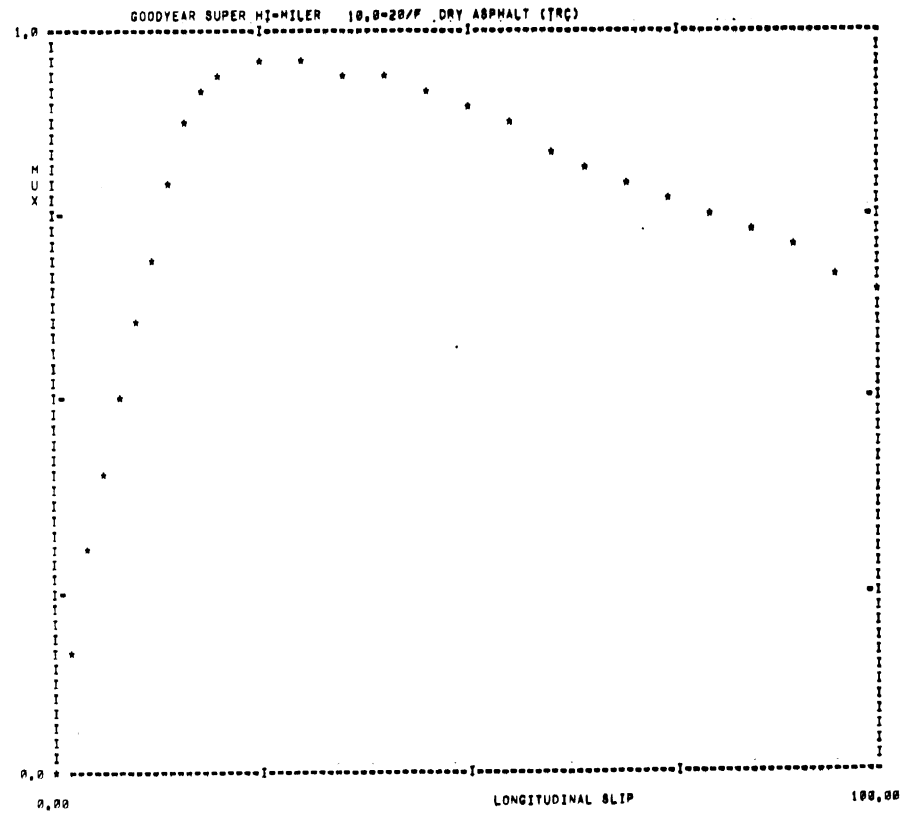


FZ = 5519,9 VEL = 20,0 MULOCK = 0,71 MUPEAK = 0,98 RATIO = 1,38 A=D FILE 10 NWFILE 117 SAMPLE 5

** A-D FILE 11 NEW FILE 118 TEST SAMPLE 6 **

AVERAGE OF FILE 11 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.16	15745.8	856.8	
0.04	0.31	31185.3	1659.4	
0.06	0.42	43537.4	2285.8	
0.08	0.52	53961.5	2888.2	
0.10	0.61	63386.3	3262.4	
0.12	0.70	72887.2	3785.1	
0.14	0.80	82986.4	4248.6	
0.16	0.88	91675.3	4648.7	
0.18	0.93	97908.4	4896.7	TQAV = 64916.7 LOAD = 5443.3 VEL = 30.0 MPH.
0.20	0.95	101107.7	4999.7	
0.25	0.96	105962.3	5067.1	MUPEAK = 0.96 MULOCK = 0.65 RATIO = 1.48
0.30	0.96	109526.6	5051.9	
0.35	0.95	112114.4	4991.1	
0.40	0.93	113918.1	4909.8	
0.45	0.91	115245.2	4812.4	
0.50	0.89	116444.8	4784.2	
0.55	0.87	117703.3	4591.1	
0.60	0.85	118998.8	4477.7	
0.65	0.83	119951.8	4365.6	
0.70	0.80	119475.1	4255.2	
0.75	0.78	115775.3	4141.4	
0.80	0.76	107850.6	4012.2	
0.85	0.73	98139.3	3876.6	
0.90	0.71	87652.6	3737.7	
0.95	0.68	76636.4	3594.5	
1.00	0.65	64916.7	3445.8	



FZ = 5443.3 VEL = 30.0 MULOCK = 0.65 MUPEAK = 0.96 RATIO = 1.48 A-D FILE 11 NWFILE 118 SAMPLE 6

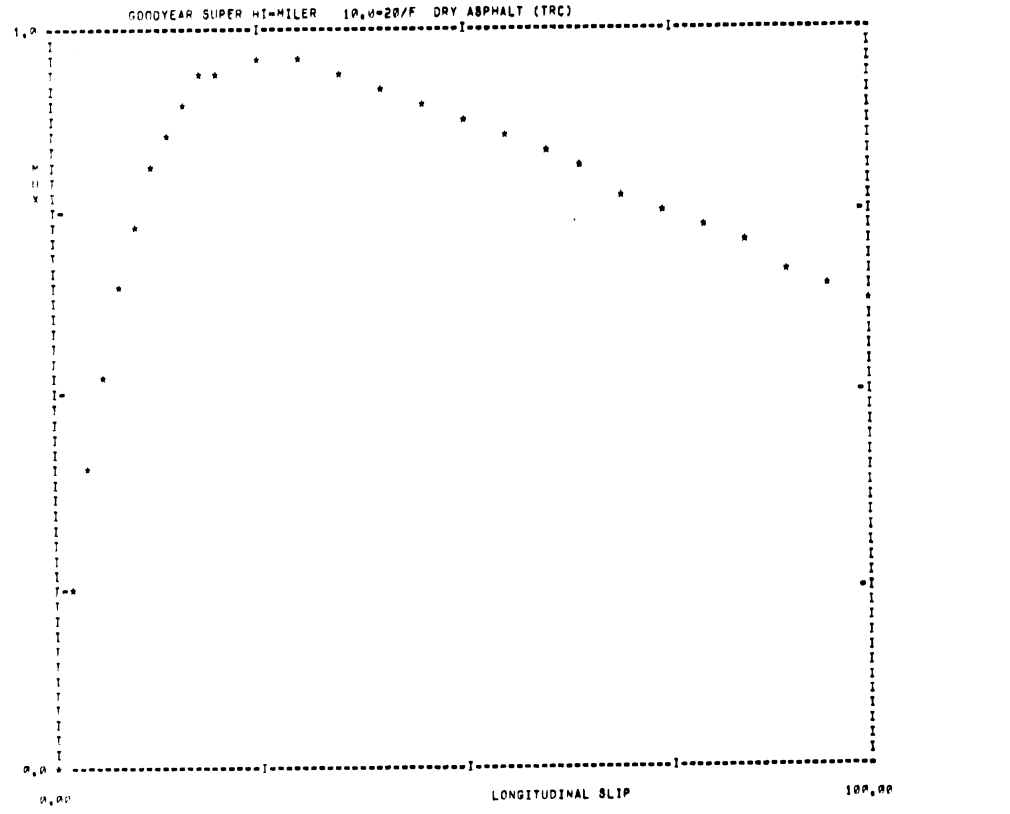
** A-D FILE 12 NEW FILE 119 TEST SAMPLE 7 **

AVERAGE OF FILE 12 FOR 5 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.25	24283.5	1332.1
0.04	0.40	39926.6	2185.9
0.06	0.53	53602.8	2791.1
0.08	0.65	66227.4	3489.6
0.10	0.74	76753.7	3914.2
0.12	0.81	84570.1	4299.9
0.14	0.86	91061.5	4577.3
0.16	0.90	95650.1	4775.4
0.18	0.93	98988.1	4898.0
0.20	0.95	101058.1	4982.9
0.25	0.96	104454.2	4953.2
0.30	0.95	107507.2	4904.1
0.35	0.94	110166.9	4817.3
0.40	0.92	112243.6	4712.6
0.45	0.90	113719.4	4602.8
0.50	0.88	114634.2	4496.1
0.55	0.86	115197.2	4392.0
0.60	0.83	115741.0	4284.2
0.65	0.81	116323.2	4174.8
0.70	0.78	116539.0	4062.5
0.75	0.76	115000.4	3949.1
0.80	0.73	109701.9	3831.2
0.85	0.71	100292.3	3704.8
0.90	0.68	88701.9	3573.4
0.95	0.66	75945.4	3438.4
1.00	0.63	61725.0	3298.5

TQAV = 61725.0 LOAD = 5324.1 VEL = 40.0 MPH.

MUPEAK = 0.96 MULOCK = 0.63 RATIO = 1.52

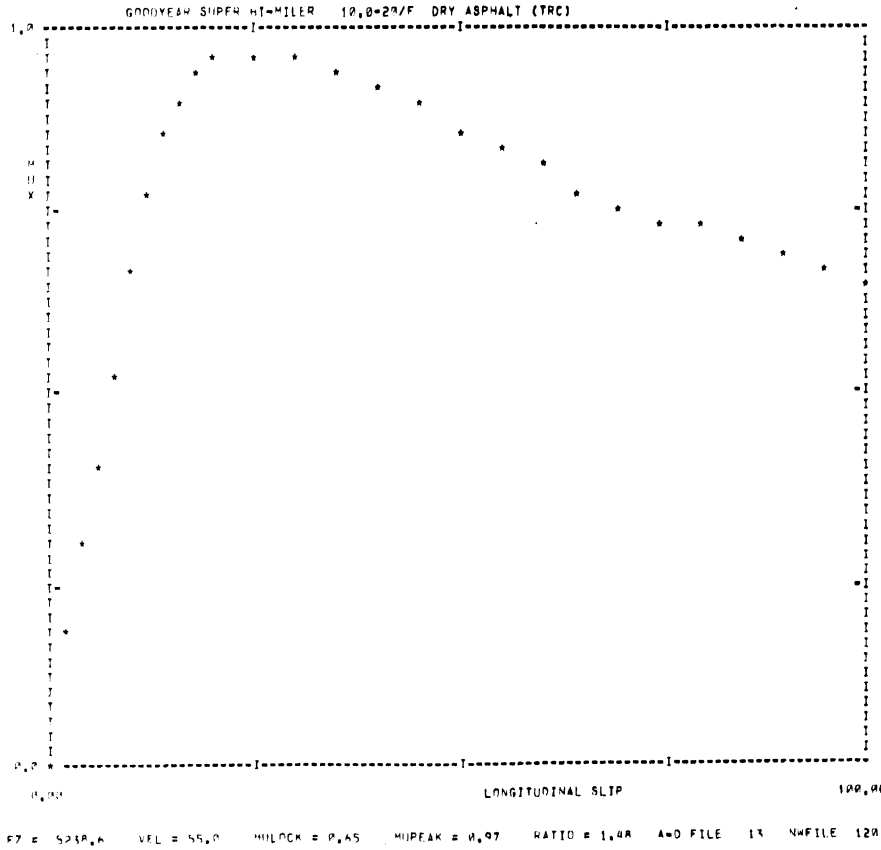


FZ = 5324.1 VEL = 40.0 MULOCK = 0.63 MUPEAK = 0.96 RATIO = 1.52 A-D FILE 12 NWFILE 119 SAMPLE 7

** A-D FILE 13 NEW FILE 120 TEST SAMPLE 8 **

AVERAGE OF FILE 13 FOR 5 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.19	17495.3	989.9	
0.04	0.31	30569.0	1595.8	
0.06	0.42	42534.7	2160.6	
0.08	0.53	54263.1	2742.9	
0.10	0.67	67953.0	3424.0	
0.12	0.77	79206.0	3952.5	
0.14	0.85	86921.0	4331.3	
0.16	0.91	92430.1	4610.1	
0.18	0.94	96594.4	4792.0	TQAV = 60925.0 LOAD = 5238.6 VEL = 55.0 MPH.
0.20	0.96	99010.5	4856.9	
0.25	0.97	102718.9	4884.9	MUPEAK = 0.97 MULOCK = 0.65 RATIO = 1.48
0.30	0.96	105304.8	4841.8	
0.35	0.94	106859.2	4752.8	
0.40	0.92	107953.5	4642.5	
0.45	0.89	108784.5	4523.5	
0.50	0.86	109836.0	4399.5	
0.55	0.84	111071.7	4276.4	
0.60	0.81	112361.1	4153.1	
0.65	0.79	113556.7	4030.9	
0.70	0.77	114368.9	3922.3	
0.75	0.75	114274.7	3822.8	
0.80	0.73	111445.6	3725.9	
0.85	0.71	103806.0	3626.9	
0.90	0.69	91019.5	3527.1	
0.95	0.67	76893.1	3426.7	
1.00	0.65	60925.0	3325.5	

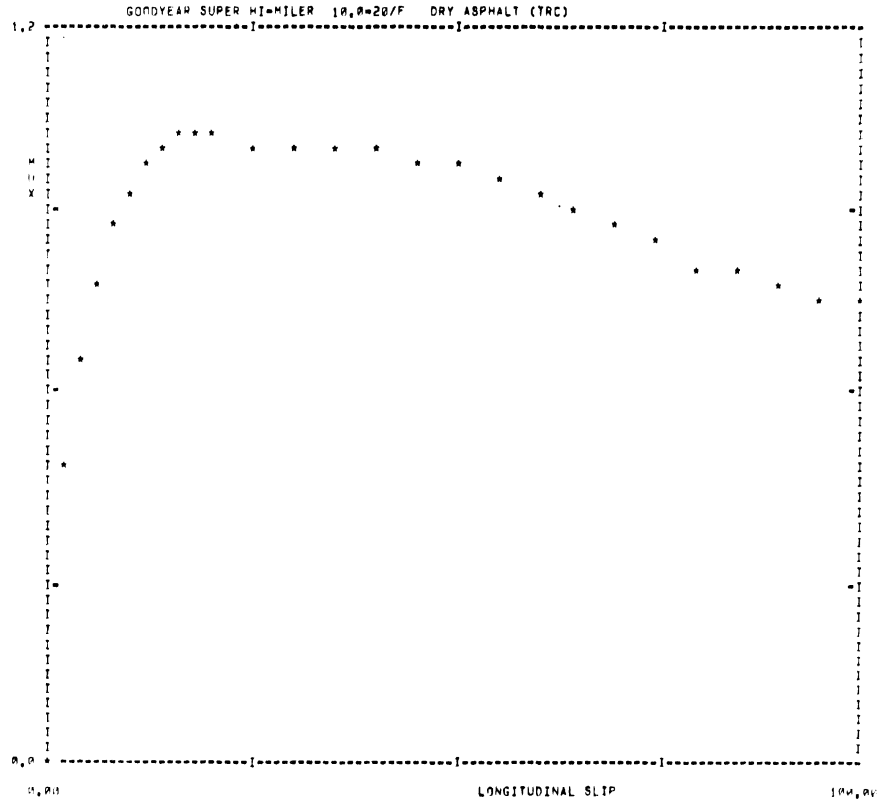


FZ = 5238.6 VEL = 55.0 MULOCK = 0.65 MUPEAK = 0.97 RATIO = 1.48 A-D FILE 13 NWFILE 120 SAMPLE 8

** A-D FILE 5 NEW FILE 163 TEST SAMPLE 10 **

AVERAGE OF FILE 5 FOR 5 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.48	22612.0	1005.9	
0.04	0.67	33151.4	1486.2	
0.06	0.78	38806.2	1727.7	
0.08	0.87	43978.6	1917.1	
0.10	0.93	47269.5	2017.8	
0.12	0.97	49248.2	2065.3	
0.14	1.01	51305.9	2104.3	
0.16	1.03	53433.5	2130.4	
0.18	1.04	55811.9	2155.7	TQAV = 32450.0 LOAD = 2235.5 VEL = 40.0 MPH.
0.20	1.03	57327.9	2152.9	
0.25	1.02	59306.6	2087.2	MUPEAK = 1.04 MULOCK = 0.76 RATIO = 1.38
0.30	1.01	61156.2	2018.8	
0.35	1.00	62999.4	1969.6	
0.40	1.00	65063.9	1942.9	
0.45	0.99	67515.2	1941.5	
0.50	0.98	70124.8	1954.1	
0.55	0.96	72547.9	1956.1	
0.60	0.93	74414.1	1935.3	
0.65	0.90	75562.0	1893.6	
0.70	0.87	76227.4	1836.3	
0.75	0.85	76700.6	1770.4	
0.80	0.82	76926.8	1702.9	
0.85	0.80	74424.9	1644.8	
0.90	0.78	64040.4	1607.9	
0.95	0.77	50095.5	1568.2	
1.00	0.76	32450.0	1518.0	



FZ = 2235.5 VEL = 40.0 MULOCK = 0.76 MUPEAK = 1.04 RATIO = 1.38 A-D FILE 5 NEWFILE 163 SAMPLE 10

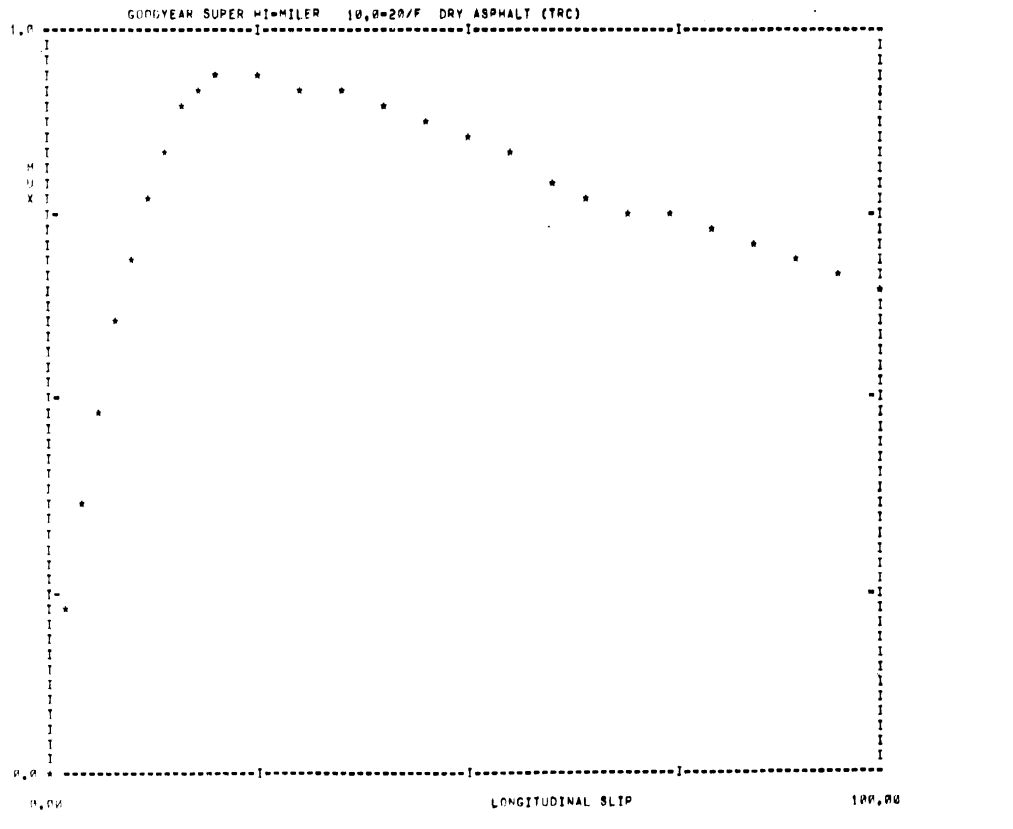
** A-D FILE 1A NEW FILE 122 TEST SAMPLE 11 **

AVERAGE OF FILE 1A FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.22	22580.3	1184.3
0.04	0.37	39265.2	1959.7
0.06	0.49	52926.2	2622.7
0.08	0.61	65628.8	3241.4
0.10	0.70	75687.5	3733.6
0.12	0.77	83640.0	4098.6
0.14	0.84	90441.0	4402.9
0.16	0.89	96191.5	4652.5
0.18	0.93	100186.0	4821.3
0.20	0.94	103291.2	4875.1
0.25	0.94	107758.5	4858.4
0.30	0.93	110869.5	4786.6
0.35	0.91	113045.1	4686.8
0.40	0.89	114626.2	4572.8
0.45	0.87	115843.1	4453.9
0.50	0.85	116971.8	4333.2
0.55	0.83	118039.7	4210.6
0.60	0.81	119102.6	4087.8
0.65	0.79	119861.8	3972.6
0.70	0.77	119584.8	3866.5
0.75	0.75	117141.2	3769.4
0.80	0.73	110784.3	3683.0
0.85	0.72	100760.0	3600.4
0.90	0.70	89085.6	3518.7
0.95	0.68	76782.9	3437.3
1.00	0.66	63770.8	3356.2

TQAV = 63770.8 LOAD = 5375.9 VEL = 40.0 MPH.

MUPEAK = 0.94 MULOCK = 0.66 RATIO = 1.42



FZ = 5375.9 VEL = 40.0 MULOCK = 0.66 MUPEAK = 0.94 RATIO = 1.42 A-D FILE 1A N-FILE 122 SAMPLE 11

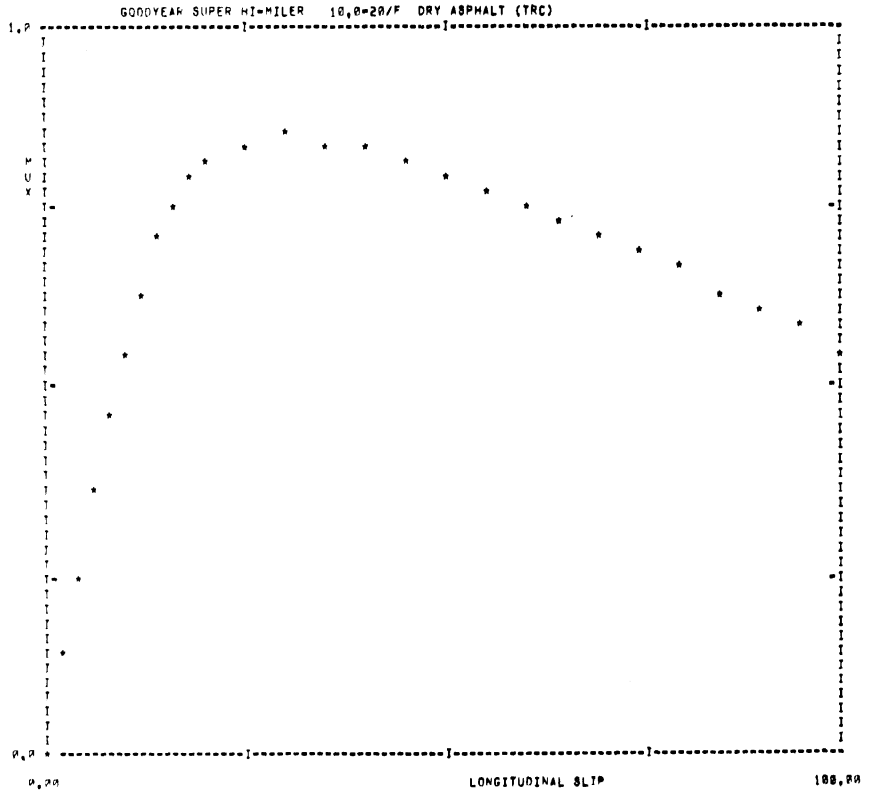
** A-D FILE 19 NEW FILE 123 TEST SAMPLE 12 **

AVERAGE OF FILE 19 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 10,0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,14	20738,3	1259,7
0,04	0,26	44809,1	2276,4
0,06	0,37	63430,0	3240,4
0,08	0,47	80815,9	4094,3
0,10	0,56	96566,2	4852,5
0,12	0,64	110502,5	5514,9
0,14	0,71	122028,5	6070,7
0,16	0,77	131048,6	6499,3
0,18	0,80	137929,0	6790,5
0,20	0,83	142205,8	6932,7
0,25	0,85	148703,3	7045,5
0,30	0,85	153288,9	7046,9
0,35	0,85	156378,2	6974,1
0,40	0,83	158576,6	6858,6
0,45	0,82	160270,2	6719,2
0,50	0,80	161896,6	6561,4
0,55	0,78	163481,9	6397,7
0,60	0,76	165040,0	6232,7
0,65	0,73	165954,2	6068,5
0,70	0,71	164790,5	5904,3
0,75	0,69	159572,3	5737,1
0,80	0,67	149445,5	5558,7
0,85	0,64	135631,6	5365,7
0,90	0,62	120391,4	5184,3
0,95	0,59	104811,5	4957,9
1,00	0,56	88937,5	4745,0

TOAV = 88937,5 LOAD = 8920,4 VEL = 40,0 MPH,

MUPEAK = 0,85 MULOCK = 0,56 RATIO = 1,52



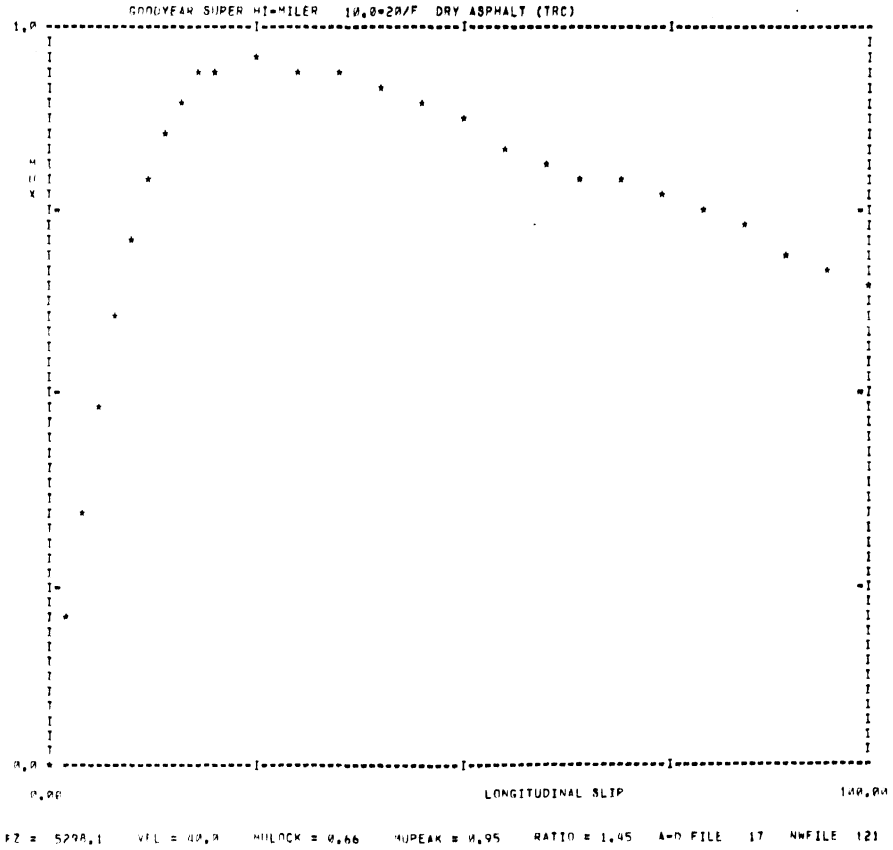
FZ = 8920,4 VEL = 40,0 MULOCK = 0,56 MUPEAK = 0,85 RATIO = 1,52 A-D FILE 19 NWFILE 123 SAMPLE 12

** A=D FILE 17 NEW FILE 121 TEST SAMPLE 9 **

AVERAGE OF FILE 17 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 10,0=20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.21	19852.9	1097.7	
0.04	0.35	35930.5	1853.5	
0.06	0.49	50981.8	2571.2	
0.08	0.61	63796.8	3186.5	
0.10	0.71	74049.8	3676.5	
0.12	0.79	82168.9	4055.6	
0.14	0.86	88785.9	4361.2	
0.16	0.90	94144.8	4599.2	
0.18	0.93	98148.5	4751.8	TQAV = 63125.0 LOAD = 5298.1 VEL = 40.0 MPH.
0.20	0.95	100679.1	4803.8	
0.25	0.95	104875.7	4812.0	MUPEAK = 0.95 MULOCK = 0.66 RATIO = 1.45
0.30	0.95	107861.9	4769.6	
0.35	0.94	110218.7	4690.1	
0.40	0.92	112208.5	4589.5	
0.45	0.89	113875.1	4479.4	
0.50	0.87	115274.4	4366.9	
0.55	0.85	116340.2	4256.2	
0.60	0.83	117041.8	4148.6	
0.65	0.81	117435.1	4047.9	
0.70	0.79	117083.9	3954.0	
0.75	0.77	114731.5	3862.4	
0.80	0.75	109386.9	3768.2	
0.85	0.73	100101.1	3666.0	
0.90	0.70	88674.9	3562.3	
0.95	0.68	76386.7	3457.9	
1.00	0.66	63125.0	3352.5	

check Run #3



FZ = 5298.1 VEL = 40.0 MULOCK = 0.66 MUPEAK = 0.95 RATIO = 1.45 A=D FILE 17 NWFILE 121 SAMPLE 9

** A-D FILE 20 NEW FILE 124 TEST SAMPLE 13 **

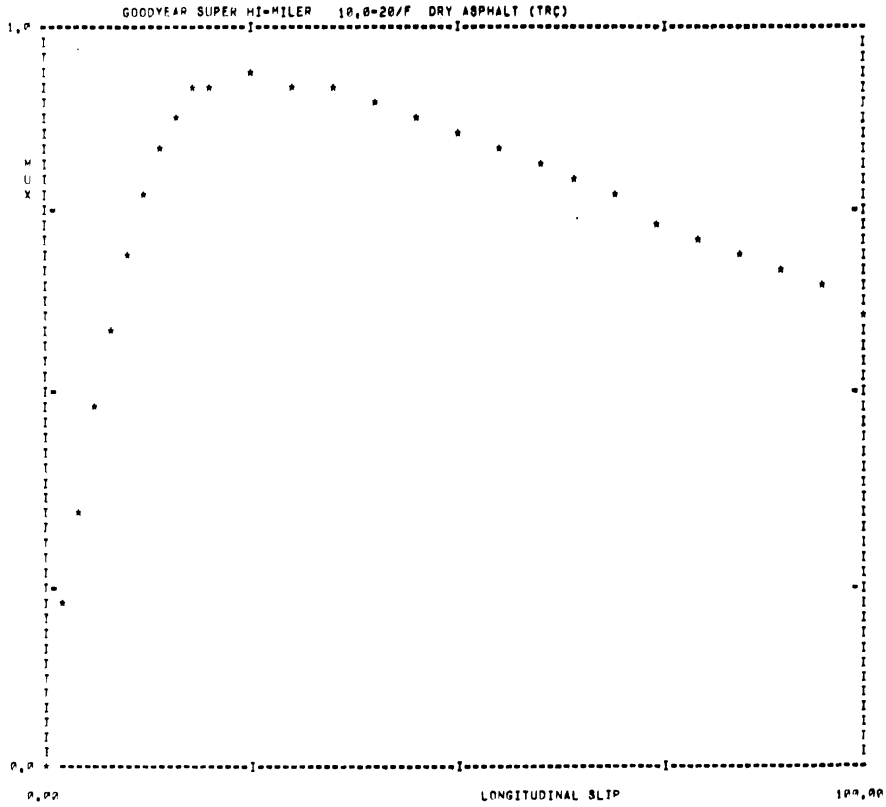
AVERAGE OF FILE 20 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY ASPHALT (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.22	23024.2	1166.6
0.04	0.36	38414.6	1903.8
0.06	0.48	52303.8	2554.6
0.08	0.60	64647.7	3154.7
0.10	0.70	75306.0	3687.4
0.12	0.77	84596.3	4102.9
0.14	0.83	91421.7	4402.3
0.16	0.88	96461.7	4617.5
0.18	0.91	100584.1	4778.4
0.20	0.93	103599.1	4861.2
0.25	0.93	108355.4	4882.8
0.30	0.93	111989.7	4827.3
0.35	0.91	114651.6	4735.8
0.40	0.90	116540.4	4631.5
0.45	0.88	118024.9	4522.8
0.50	0.86	119333.0	4415.1
0.55	0.84	120610.8	4304.1
0.60	0.82	121975.6	4191.1
0.65	0.79	123243.7	4077.2
0.70	0.77	123622.9	3962.6
0.75	0.74	121871.4	3849.3
0.80	0.72	114658.9	3735.7
0.85	0.70	103836.2	3617.3
0.90	0.67	90594.0	3493.1
0.95	0.65	76708.0	3366.6
1.00	0.62	62416.7	3237.5

TQAV = 62416.7 LOAD = 5373.9 VEL = 40.0 MPH.

MUPEAK = 0.93 MULOCK = 0.62 RATIO = 1.51

Check Run #5



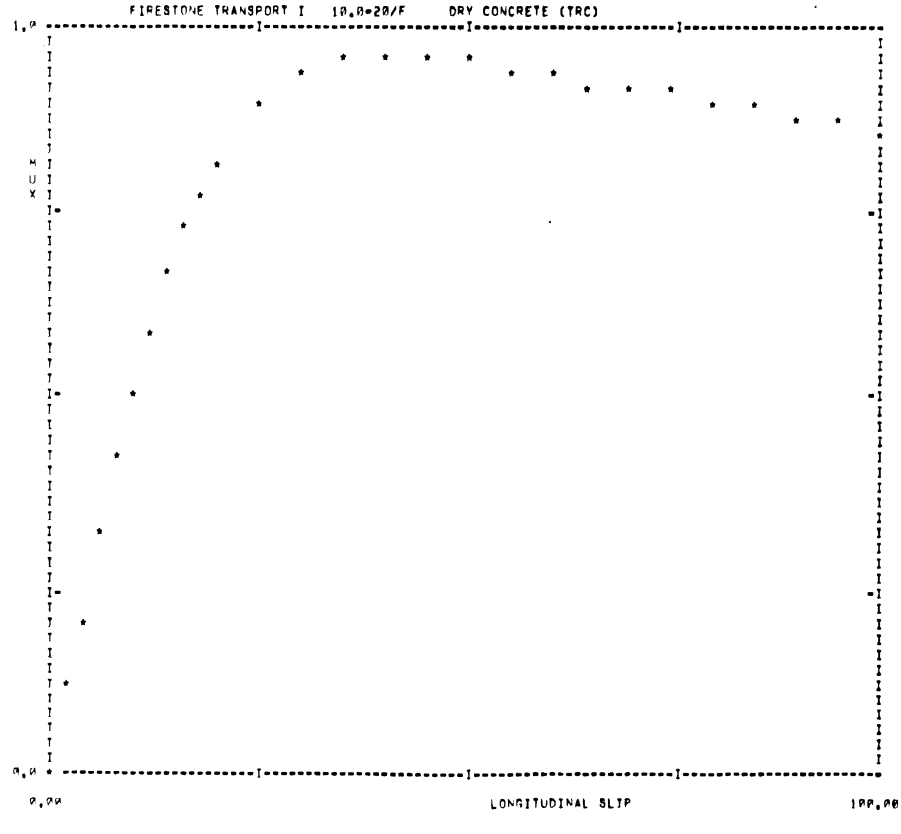
FZ = 5373.9 VEL = 40.0 MULOCK = 0.62 MUPEAK = 0.93 RATIO = 1.51 A-D FILE 20 NWFILE 124 SAMPLE 13

FIRESTONE TRANSPORT 1, 10.00 x 20/F, TRC CONCRETE

** A=D FILE 94 NEW FILE 151 TEST SAMPLE152 **

AVERAGE OF FILE 94 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.0=20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.11	11220.0	640.6	
0.04	0.21	20941.6	1168.4	
0.06	0.32	33209.6	1783.6	
0.08	0.42	44650.6	2350.4	
0.10	0.52	54617.2	2858.9	
0.12	0.60	62935.2	3276.2	
0.14	0.67	69887.3	3632.6	
0.16	0.73	76259.3	3934.1	
0.18	0.78	82057.1	4206.3	TQAV = 90416.7 LOAD = 5594.0 VEL = 3.0 MPH
0.20	0.83	86600.2	4417.9	
0.25	0.90	93877.5	4739.5	MUPEAK = 0.96 MULOCK = 0.87 RATIO = 1.11
0.30	0.94	98540.6	4929.6	
0.35	0.96	100353.9	5004.5	
0.40	0.96	100729.8	5018.6	
0.45	0.96	100448.3	5003.3	
0.50	0.95	99844.2	4973.3	
0.55	0.95	99079.4	4936.0	
0.60	0.94	98234.3	4895.1	
0.65	0.93	97349.1	4852.3	
0.70	0.92	96443.8	4808.6	
0.75	0.91	95528.5	4764.5	
0.80	0.90	94608.2	4720.1	
0.85	0.90	93685.4	4675.6	
0.90	0.89	92711.8	4629.6	
0.95	0.88	91638.6	4580.7	
1.00	0.87	90416.7	4527.5	

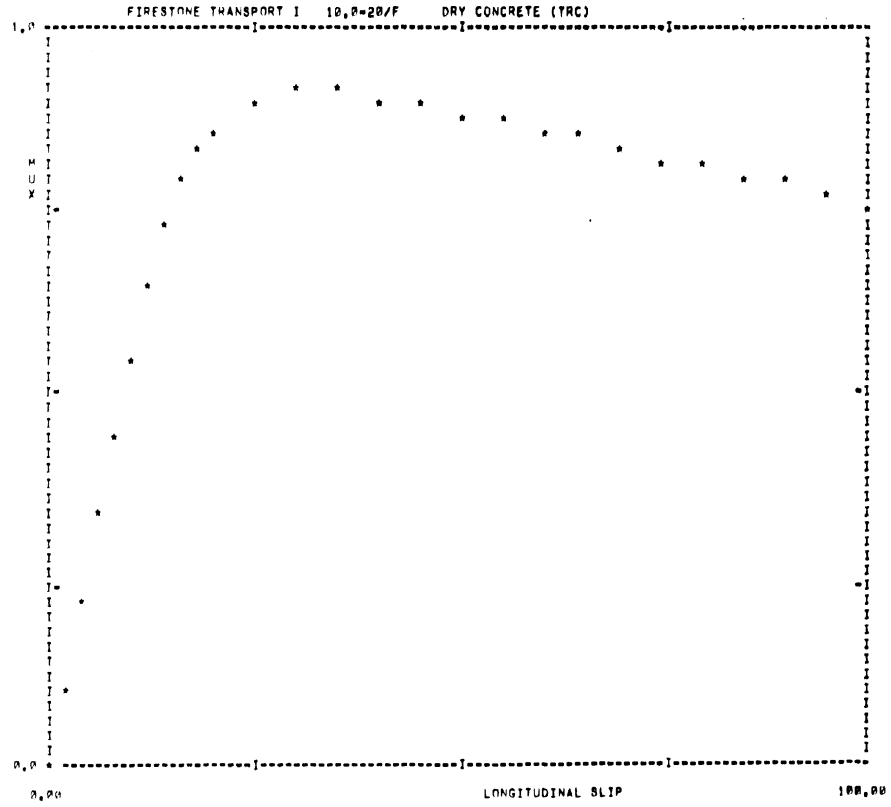


FZ = 5594.0 VEL = 3.0 MULOCK = 0.87 MUPEAK = 0.96 RATIO = 1.11 A=D FILE 94 NWFILE 151 SAMPLE 152

** A-D FILE 95 NEW FILE 152 TEST SAMPLE153 **

AVERAGE OF FILE 95 FOR 5 RECORDS. FIRESTONE TRANSPORT I 10,0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,09	9231,3	524,2	
0,04	0,23	23868,4	1295,7	
0,06	0,35	36670,0	1934,8	
0,08	0,46	48185,1	2523,4	
0,10	0,56	58495,7	3035,2	
0,12	0,65	68519,5	3526,5	
0,14	0,74	77314,3	3949,2	
0,16	0,80	83864,5	4262,5	
0,18	0,84	88376,2	4478,8	TQAV = 80600,0 LOAD = 5505,6 VEL = 10,0 MPH.
0,20	0,87	90939,7	4589,0	
0,25	0,90	95286,9	4727,2	MUPEAK = 0,91 MULOCK = 0,77 RATIO = 1,19
0,30	0,91	97837,4	4787,8	
0,35	0,91	98288,7	4782,7	
0,40	0,90	97525,7	4742,9	
0,45	0,90	96386,8	4690,7	
0,50	0,88	95123,5	4633,5	
0,55	0,87	93804,1	4574,1	
0,60	0,86	92457,4	4513,5	
0,65	0,85	91097,2	4452,3	
0,70	0,84	89730,1	4390,9	
0,75	0,83	88359,6	4329,3	
0,80	0,82	86987,5	4267,6	
0,85	0,80	85614,5	4205,9	
0,90	0,79	84151,7	4142,4	
0,95	0,78	82589,9	4075,6	
1,00	0,77	80600,0	4003,5	

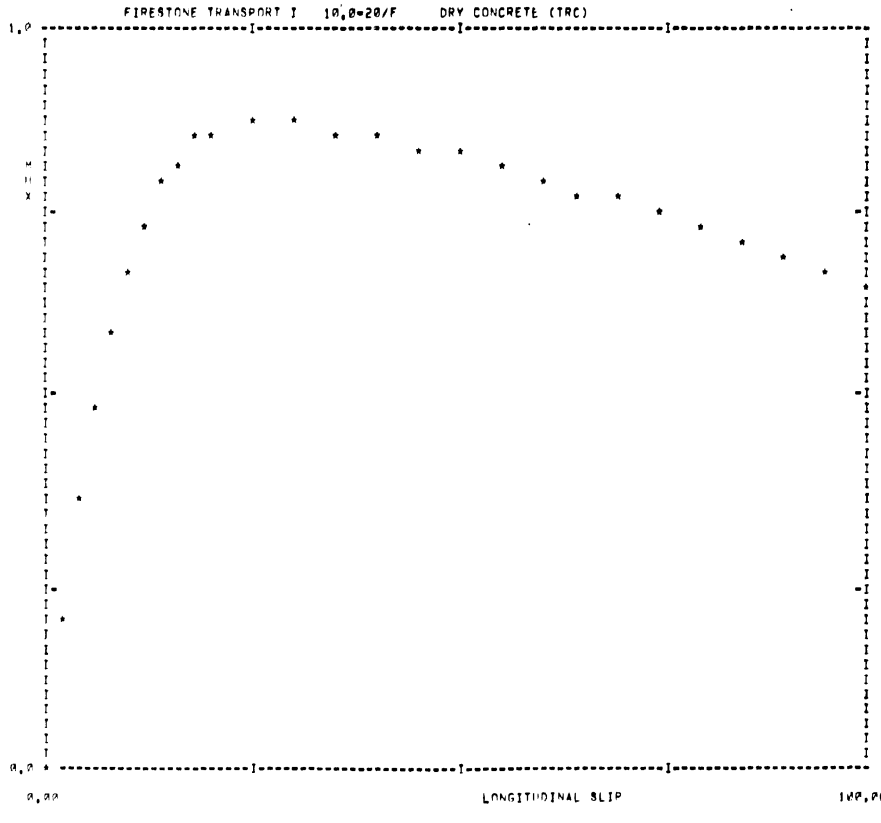


FZ = 5505,6 VEL = 10,0 MULOCK = 0,77 MUPEAK = 0,91 RATIO = 1,19 A-D FILE 95 NWFILE 152 SAMPLE 153

** A-D FILE 96 NEW FILE 153 TEST SAMPLE154 **

AVERAGE OF FILE 96 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.21	22489.1	1177.6	
0.04	0.36	38054.0	1975.9	
0.06	0.49	51460.6	2662.7	
0.08	0.60	63081.9	3233.3	
0.10	0.68	72243.5	3666.4	
0.12	0.74	78939.1	3990.9	
0.14	0.79	83698.5	4233.4	
0.16	0.83	87789.4	4485.3	
0.18	0.85	91145.9	4522.6	TQAV = 68208.3 LOAD = 5552.2 VEL = 20.0 MPH.
0.20	0.86	93348.5	4579.5	
0.25	0.87	97457.2	4617.4	MUPEAK = 0.87 MULOCK = 0.66 RATIO = 1.31
0.30	0.87	100759.4	4608.8	
0.35	0.87	103444.2	4572.2	
0.40	0.86	105800.0	4514.4	
0.45	0.84	108067.9	4447.1	
0.50	0.83	110460.5	4374.0	
0.55	0.82	112659.9	4298.0	
0.60	0.80	113765.5	4219.5	
0.65	0.78	113024.1	4139.6	
0.70	0.77	109781.8	4055.8	
0.75	0.75	104004.8	3965.4	
0.80	0.73	97242.0	3873.1	
0.85	0.72	90498.7	3780.9	
0.90	0.70	83624.4	3688.2	
0.95	0.68	76280.4	3594.4	
1.00	0.66	68208.3	3498.7	

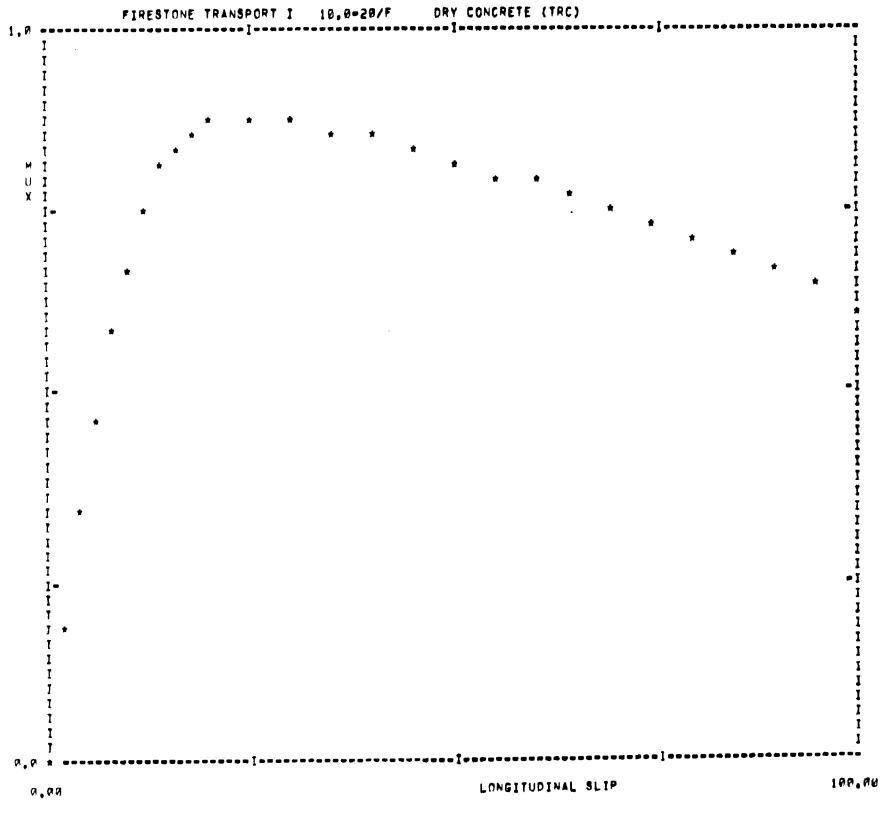


FZ = 5552.2 VEL = 20.0 MULOCK = 0.66 MUPEAK = 0.87 RATIO = 1.31 A-D FILE 96 NWFILE 153 SAMPLE 154

** A=D FILE 97 NEW FILE 154 TEST SAMPLE155 **

AVERAGE OF FILE 97 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.0=20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.18	17565.7	991.8	
0.04	0.34	34913.9	1841.6	
0.06	0.47	49106.4	2560.0	
0.08	0.59	61577.5	3168.4	
0.10	0.69	71860.2	3679.8	
0.12	0.76	80347.6	4064.2	
0.14	0.81	86616.1	4334.7	
0.16	0.85	91234.7	4522.8	
0.18	0.87	94784.2	4644.3	TQAV = 63083.3 LOAD = 5515.7 VEL = 30.0 MPH.
0.20	0.88	97116.3	4693.6	
0.25	0.88	101209.0	4714.5	MUPEAK = 0.88 MULOCK = 0.62 RATIO = 1.43
0.30	0.88	104379.6	4691.3	
0.35	0.87	106837.6	4640.3	
0.40	0.86	108797.5	4574.2	
0.45	0.84	110564.4	4493.9	
0.50	0.82	112441.1	4401.1	
0.55	0.81	114376.7	4309.8	
0.60	0.79	116329.0	4217.5	
0.65	0.77	117659.9	4124.1	
0.70	0.75	116756.5	4032.1	
0.75	0.74	113141.7	3939.6	
0.80	0.72	105209.7	3828.8	
0.85	0.70	95321.3	3700.4	
0.90	0.67	84796.3	3565.6	
0.95	0.65	74056.3	3425.1	
1.00	0.62	63083.3	3276.2	

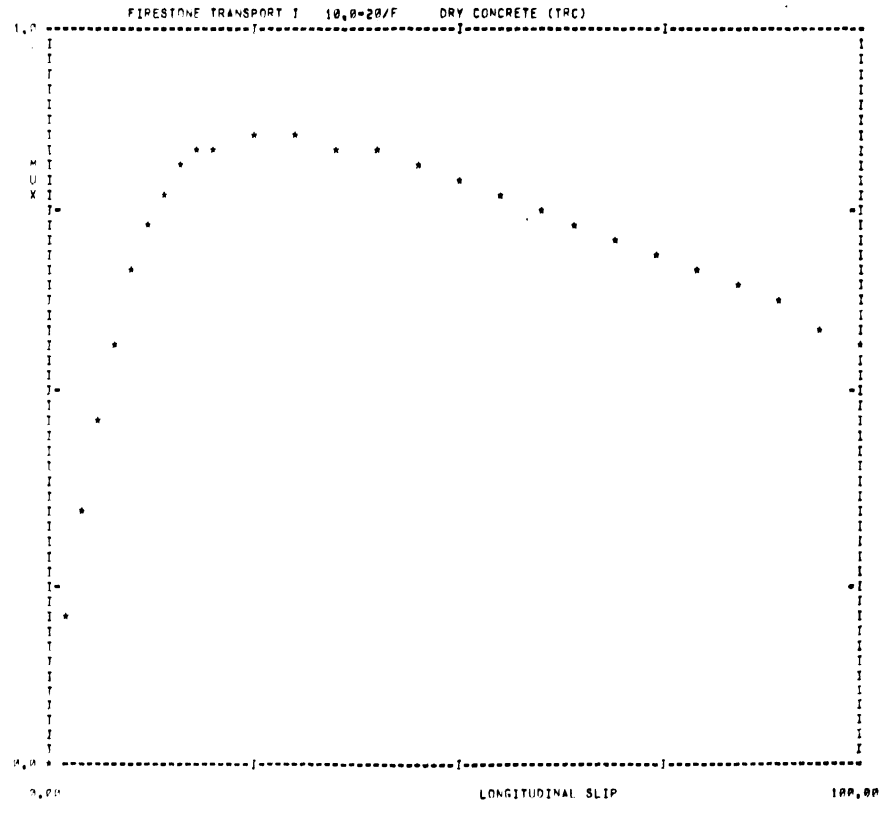


FZ = 5515.7 VEL = 30.0 MULOCK = 0.62 MUPEAK = 0.88 RATIO = 1.43 A=D FILE 97 NWFILE 154 SAMPLE 155

** A-D FILE 98 NEW FILE 155 TEST SAMPLE156 **

AVERAGE OF FILE 98 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10,0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,20	20142,7	1109,5	
0,04	0,35	36439,1	1914,7	
0,06	0,48	50203,4	2582,3	
0,08	0,58	61662,6	3130,3	
0,10	0,67	71150,0	3576,7	
0,12	0,73	79050,0	3898,6	
0,14	0,78	84677,1	4124,7	
0,16	0,81	88497,0	4281,3	
0,18	0,83	91563,6	4380,5	TQAV = 59270,8 LOAD = 5518,9 VEL = 40,0 MPH.
0,20	0,84	94388,0	4417,1	
0,25	0,85	99092,6	4444,7	MUPEAK = 0,85 MULOCK = 0,57 RATIO = 1,50
0,30	0,85	102532,6	4438,6	
0,35	0,84	105258,8	4402,8	
0,40	0,83	107689,0	4346,3	
0,45	0,82	109947,1	4275,6	
0,50	0,80	112000,5	4194,5	
0,55	0,78	113921,5	4102,3	
0,60	0,76	115754,2	4007,7	
0,65	0,74	117106,1	3915,5	
0,70	0,72	117110,2	3824,7	
0,75	0,70	114626,3	3734,2	
0,80	0,68	108026,0	3634,9	
0,85	0,66	97340,5	3512,9	
0,90	0,63	85187,3	3377,8	
0,95	0,60	72518,6	3235,4	
1,00	0,57	59270,8	3083,7	



FZ = 5518,9 VEL = 40,0 MULOCK = 0,57 MUPEAK = 0,85 RATIO = 1,50 A-D FILE 98 NWFILE 155 SAMPLE 156

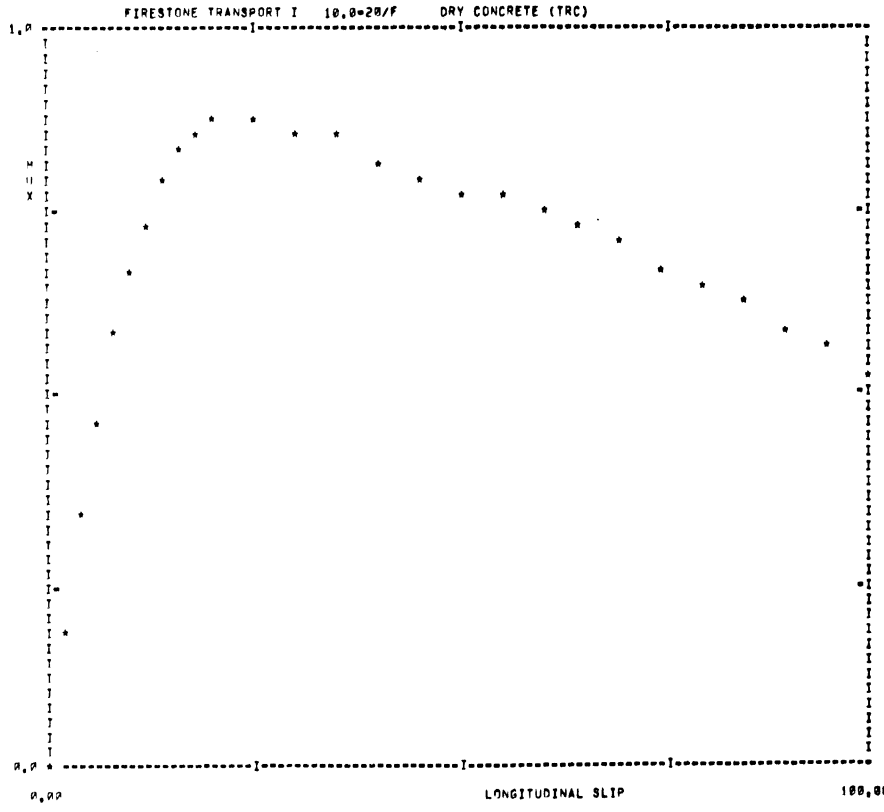
** A-D FILE 99 NEW FILE 156 TEST SAMPLE157 **

AVERAGE OF FILE 99 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.18	20107.3	1020.0
0.04	0.35	37504.0	1896.7
0.06	0.48	52084.5	2600.6
0.08	0.59	63842.9	3174.7
0.10	0.68	73347.4	3617.2
0.12	0.74	81411.9	3941.9
0.14	0.79	87674.5	4194.5
0.16	0.84	92513.4	4399.6
0.18	0.86	96807.3	4544.6
0.20	0.88	100119.8	4611.9
0.25	0.88	104565.0	4647.6
0.30	0.87	107723.8	4617.7
0.35	0.85	110805.9	4539.7
0.40	0.83	113943.3	4436.0
0.45	0.81	116670.3	4325.8
0.50	0.79	118698.9	4218.6
0.55	0.77	120221.1	4112.6
0.60	0.75	121526.1	4001.8
0.65	0.73	122730.6	3890.5
0.70	0.71	123709.6	3775.0
0.75	0.68	122957.2	3655.8
0.80	0.66	117552.8	3532.2
0.85	0.63	105879.8	3389.3
0.90	0.60	89960.1	3215.6
0.95	0.57	72854.1	3028.8
1.00	0.53	54750.0	2828.8

TQAV = 54750.0 LOAD = 5478.7 VEL = 55.0 MPH.

MUPEAK = 0.88 MULOCK = 0.53 RATIO = 1.67

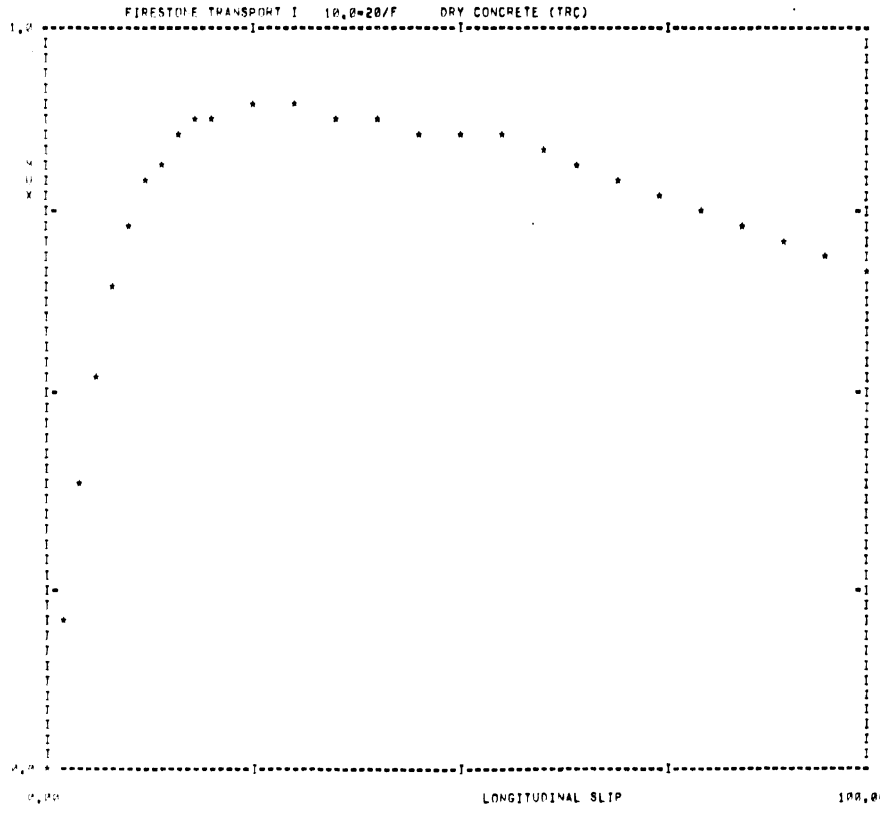


FZ = 5478.7 VEL = 55.0 MULOCK = 0.53 MUPEAK = 0.88 RATIO = 1.67 A-D FILE 99 NWFILE 156 SAMPLE 157

** A=D FILE 104 NEW FILE 158 TEST SAMPLE159 **

AVERAGE OF FILE 104 FOR 5 RECORDS, FIRESTONE TRANSPORT I 10.0=20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.21	10334.3	456.7	
0.04	0.38	18941.3	844.6	
0.06	0.53	25948.3	1160.6	
0.08	0.65	31896.4	1431.3	
0.10	0.74	36738.1	1638.4	
0.12	0.79	41130.8	1767.0	
0.14	0.83	44812.6	1844.3	
0.16	0.85	47479.5	1892.4	
0.18	0.87	49360.1	1923.2	TOAV = 30100.0 LOAD = 2147.4 VEL = 40.0 MPH.
0.20	0.89	50551.0	1940.5	
0.25	0.90	53738.7	1944.9	MUPEAK = 0.90 MULOCK = 0.68 RATIO = 1.33
0.30	0.90	57031.1	1923.5	
0.35	0.89	60132.3	1888.0	
0.40	0.87	62818.7	1851.3	
0.45	0.87	64910.0	1821.8	
0.50	0.86	66659.6	1796.4	
0.55	0.85	68259.5	1769.9	
0.60	0.84	70030.8	1739.1	
0.65	0.82	72138.4	1706.4	
0.70	0.80	73938.6	1671.9	
0.75	0.78	73508.1	1635.7	
0.80	0.76	70045.6	1598.7	
0.85	0.74	63122.1	1560.7	
0.90	0.72	53106.9	1520.4	
0.95	0.70	42070.4	1479.6	
1.00	0.68	30100.0	1438.5	

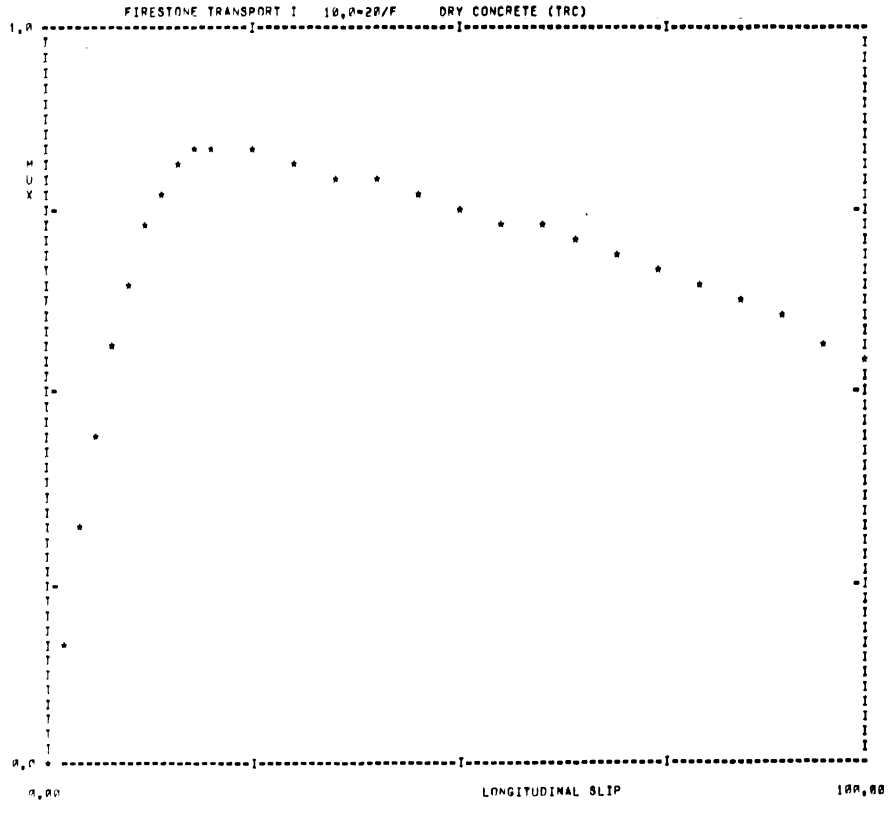


FZ = 2147.4 VEL = 40.4 MULOCK = 0.68 MUPEAK = 0.90 RATIO = 1.33 A=D FILE 104 NWFILE 158 SAMPLE 159

** A-D FILE 105 NEW FILE 159 TEST SAMPLE160 **

AVERAGE OF FILE 105 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10,0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,17	18453,0	951,8	
0,04	0,32	34999,1	1734,3	
0,06	0,45	49348,3	2440,5	
0,08	0,57	61590,2	3050,4	
0,10	0,66	71963,5	3543,4	
0,12	0,73	80424,6	3939,4	
0,14	0,78	87444,8	4236,3	
0,16	0,81	92802,1	4434,5	
0,18	0,83	96642,6	4547,0	TRAV = 56895,8 LOAD = 5496,0 VEL = 40,0 MPH.
0,20	0,84	98907,6	4573,5	
0,25	0,83	102925,0	4541,0	MUPEAK = 0,84 MULOCK = 0,55 RATIO = 1,53
0,30	0,82	106364,6	4467,2	
0,35	0,81	109305,4	4371,7	
0,40	0,79	111836,5	4269,2	
0,45	0,78	113870,6	4167,1	
0,50	0,76	115592,5	4065,0	
0,55	0,74	117093,9	3966,7	
0,60	0,73	118424,3	3870,4	
0,65	0,71	119381,4	3774,6	
0,70	0,70	119801,9	3680,5	
0,75	0,68	115508,1	3585,4	
0,80	0,66	108227,0	3477,4	
0,85	0,63	97315,4	3343,2	
0,90	0,61	84588,0	3198,0	
0,95	0,58	71144,9	3044,3	
1,00	0,55	56895,8	2878,7	

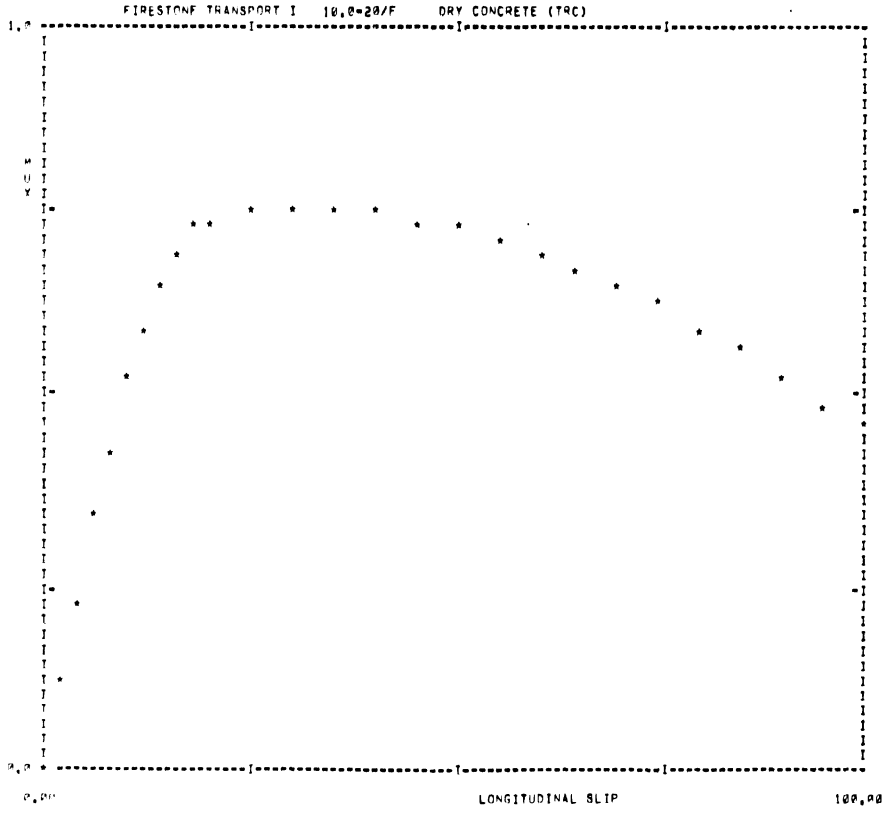


FZ = 5496,0 VEL = 40,0 MULOCK = 0,55 MUPEAK = 0,84 RATIO = 1,53 A-D FILE 105 NWFILE 159 SAMPLE 160

** A=D FILE 106 NEW FILE 160 TEST SAMPLE161 **

AVERAGE OF FILE 106 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10,0=20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,12	16005,7	1062,2	
0,04	0,23	39525,3	2046,0	
0,06	0,34	59713,9	3021,7	
0,08	0,44	77302,2	3876,7	
0,10	0,53	91887,6	4575,9	
0,12	0,60	103757,9	5121,9	
0,14	0,65	113345,8	5546,8	
0,16	0,70	120947,8	5868,2	
0,18	0,73	126848,8	6095,2	TQAV = 76250,0 LOAD = 8932,9 VEL = 40,0 MPH.
0,20	0,74	131054,8	6203,7	
0,25	0,76	138856,7	6304,5	MUPEAK = 0,76 MULOCK = 0,46 RATIO = 1,65
0,30	0,76	145025,5	6326,9	
0,35	0,76	149868,4	6295,4	
0,40	0,75	153712,1	6222,7	
0,45	0,74	157060,4	6117,4	
0,50	0,73	160154,8	5996,6	
0,55	0,71	163254,6	5866,2	
0,60	0,69	165687,9	5724,9	
0,65	0,67	165568,1	5572,9	
0,70	0,65	162408,6	5410,8	
0,75	0,63	154999,8	5234,3	
0,80	0,60	141988,9	5028,0	
0,85	0,57	125940,0	4782,8	
0,90	0,54	109141,7	4514,0	
0,95	0,50	92507,4	4231,8	
1,00	0,46	76250,0	3932,5	



FZ = 8932,9 VEL = 40,0 MULOCK = 0,46 MUPEAK = 0,76 RATIO = 1,65 A=D FILE 106 NWFILE 160 SAMPLE 161

** A-D FILE 70 NEW FILE 137 TEST SAMPLE101 **

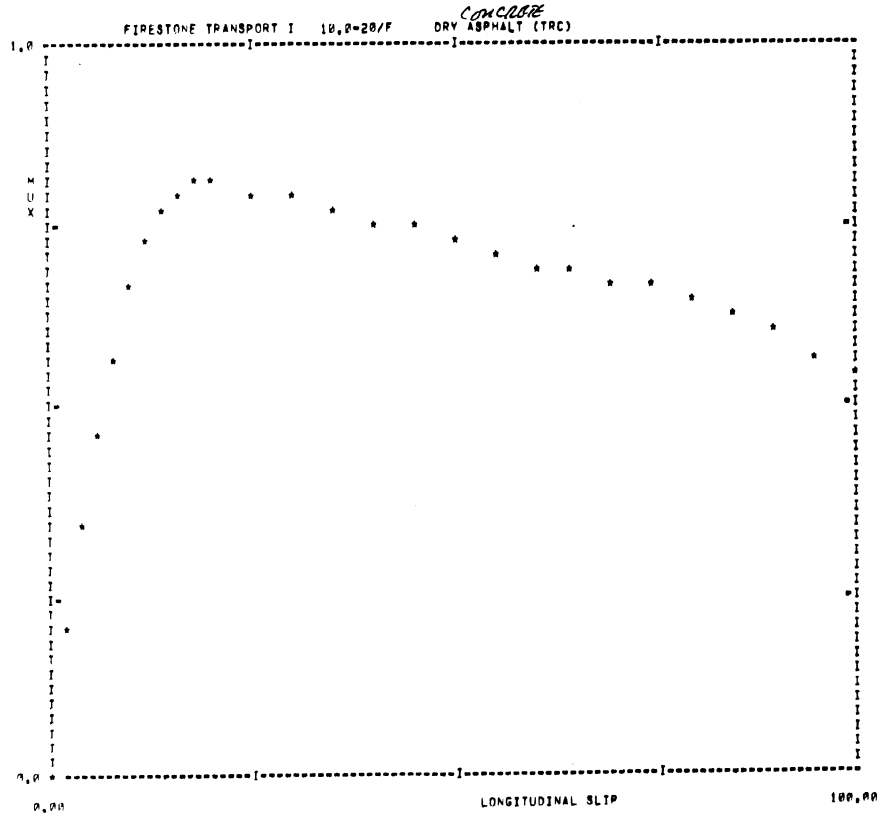
AVERAGE OF FILE 70 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10.0-20/F DRY ~~ASPHALT~~ CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.21	22753.4	1107.3
0.04	0.35	37796.8	1926.2
0.06	0.48	50685.3	2569.0
0.08	0.58	60975.2	3074.2
0.10	0.67	69952.9	3497.7
0.12	0.73	77832.1	3867.1
0.14	0.78	83882.4	4129.1
0.16	0.80	88538.4	4308.3
0.18	0.81	91931.4	4403.4
0.20	0.81	94313.3	4407.3
0.25	0.80	98124.1	4358.8
0.30	0.79	100459.6	4291.8
0.35	0.78	101976.6	4212.2
0.40	0.77	103229.3	4122.9
0.45	0.75	104449.7	4028.1
0.50	0.74	105871.0	3931.5
0.55	0.72	107352.7	3834.8
0.60	0.71	108863.8	3742.9
0.65	0.69	110428.6	3655.3
0.70	0.68	111244.3	3574.2
0.75	0.67	109291.2	3499.3
0.80	0.65	103692.3	3417.9
0.85	0.63	94063.4	3310.4
0.90	0.61	82470.1	3189.5
0.95	0.58	70131.0	3059.6
1.00	0.55	56958.3	2917.5

TQAV = 56958.3 LOAD = 5451.3 VEL = 40.0 MPH.

MUPEAK = 0.81 MULOCK = 0.55 RATIO = 1.47

Check Run #1



FZ = 5451.3 VEL = 40.0 MULOCK = 0.55 MUPEAK = 0.81 RATIO = 1.47 A-D FILE 70 NWFILE 137 SAMPLE 101

** A=D FILE 93 NEW FILE 150 TEST SAMPLE151 **

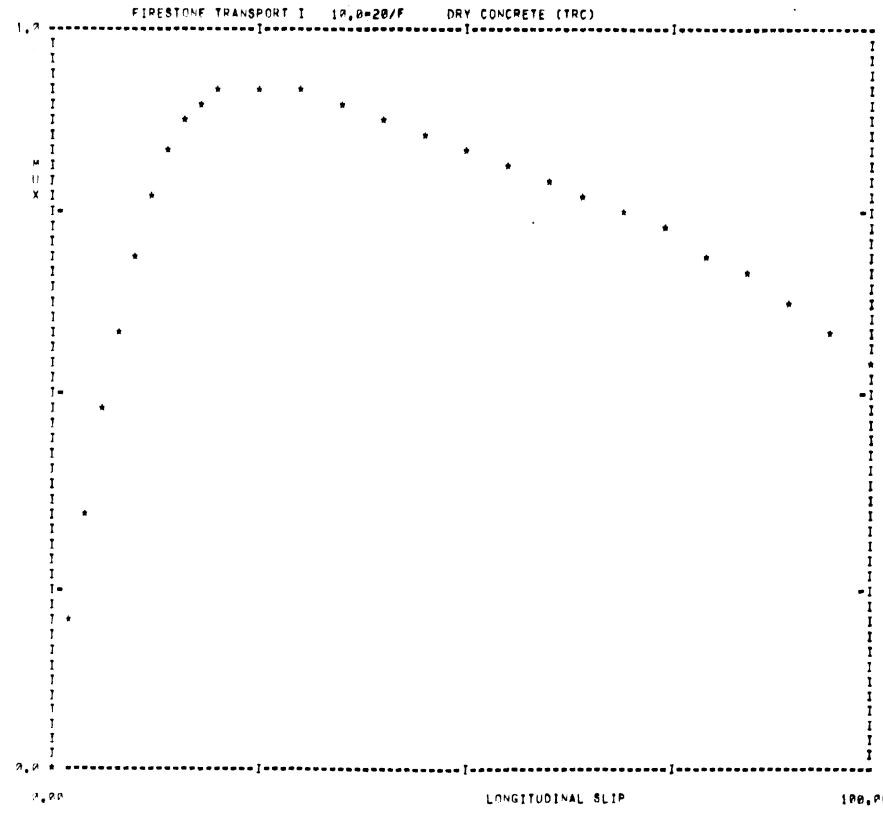
AVERAGE OF FILE 93 FOR 6 RECORDS, FIRESTONE TRANSPORT I 10,0=20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.20	20062.8	1080.7
0.04	0.35	36290.7	1877.7
0.06	0.48	49645.3	2537.1
0.08	0.59	60727.0	3072.2
0.10	0.69	69799.3	3509.6
0.12	0.77	77829.6	3881.1
0.14	0.84	84867.0	4204.1
0.16	0.88	90906.6	4439.7
0.18	0.91	95399.6	4591.9
0.20	0.92	98097.6	4664.8
0.25	0.92	102847.9	4720.5
0.30	0.91	106594.0	4718.3
0.35	0.90	109730.6	4678.6
0.40	0.88	112576.3	4614.9
0.45	0.87	115137.5	4537.8
0.50	0.85	117273.6	4454.2
0.55	0.83	119237.1	4362.3
0.60	0.80	120928.3	4262.7
0.65	0.78	122376.2	4155.8
0.70	0.76	122772.6	4041.6
0.75	0.73	120099.2	3920.8
0.80	0.70	112548.5	3781.0
0.85	0.67	100660.4	3605.9
0.90	0.63	86867.2	3409.2
0.95	0.59	72323.7	3199.3
1.00	0.55	56916.7	2972.5

TQAV = 56916.7 LOAD = 5376.1 VEL = 40.0 MPH.

MUPEAK = 0.92 MULOCK = 0.55 RATIO = 1.67

Check Run #2



FZ = 5376.1 VEL = 40.0 MULOCK = 0.55 MUPEAK = 0.92 RATIO = 1.67 A=D FILE 93 N=FILE 150 SAMPLE 151

** A-D FILE 103 NEW FILE 157 TEST SAMPLE158 **

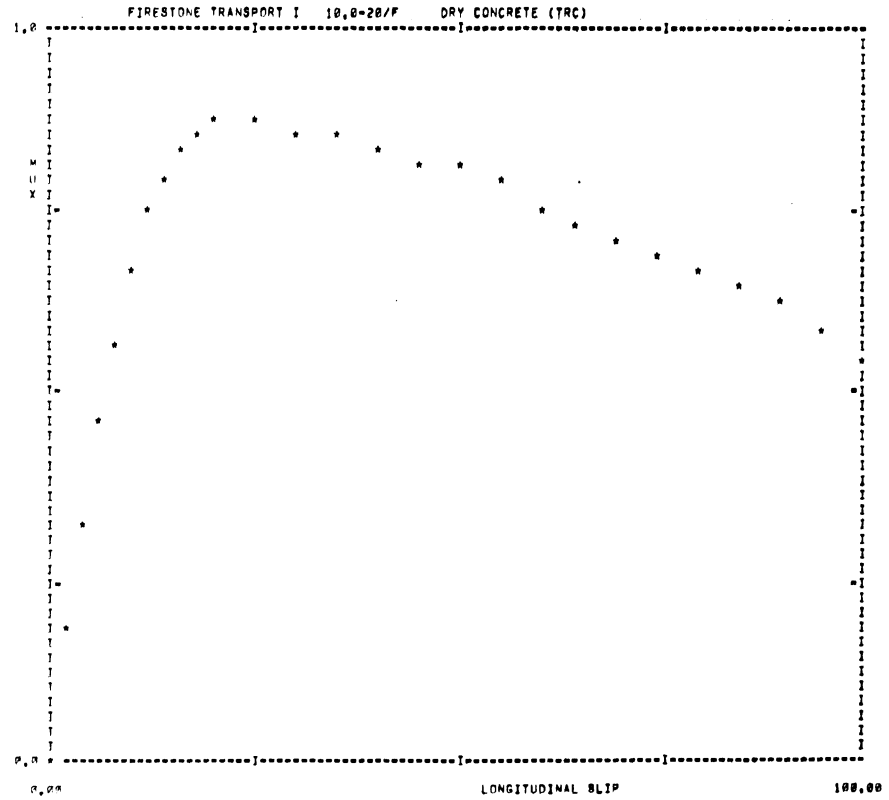
AVERAGE OF FILE 103 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.18	18732.1	972.5
0.04	0.34	36515.2	1839.4
0.06	0.47	50295.4	2526.0
0.08	0.58	62280.1	3098.4
0.10	0.68	72433.3	3584.6
0.12	0.75	80842.2	3971.3
0.14	0.80	87502.2	4266.7
0.16	0.84	92714.6	4472.8
0.18	0.86	96785.6	4597.4
0.20	0.87	99568.2	4632.6
0.25	0.87	104494.1	4621.0
0.30	0.86	108246.8	4573.8
0.35	0.86	111023.3	4509.1
0.40	0.84	113311.3	4431.6
0.45	0.83	115448.8	4342.3
0.50	0.81	117637.1	4248.4
0.55	0.79	119999.5	4129.5
0.60	0.77	122306.9	4017.6
0.65	0.74	124126.9	3904.7
0.70	0.72	124003.8	3795.4
0.75	0.70	120561.8	3688.8
0.80	0.68	112014.0	3577.8
0.85	0.66	99779.8	3448.8
0.90	0.63	85941.0	3289.7
0.95	0.59	71799.4	3117.8
1.00	0.56	57479.2	2930.0

TQAV = 57479.2 LOAD = 5482.8 VEL = 48.0 MPH.

MUPEAK = 0.87 MULOCK = 0.56 RATIO = 1.56

Check Run #4



FZ = 5482.8 VEL = 48.0 MULOCK = 0.56 MUPEAK = 0.87 RATIO = 1.56 A-D FILE 103 NWFILE 157 SAMPLE 158

** A-D FILE 107 NEW FILE 161 TEST SAMPLE162 **

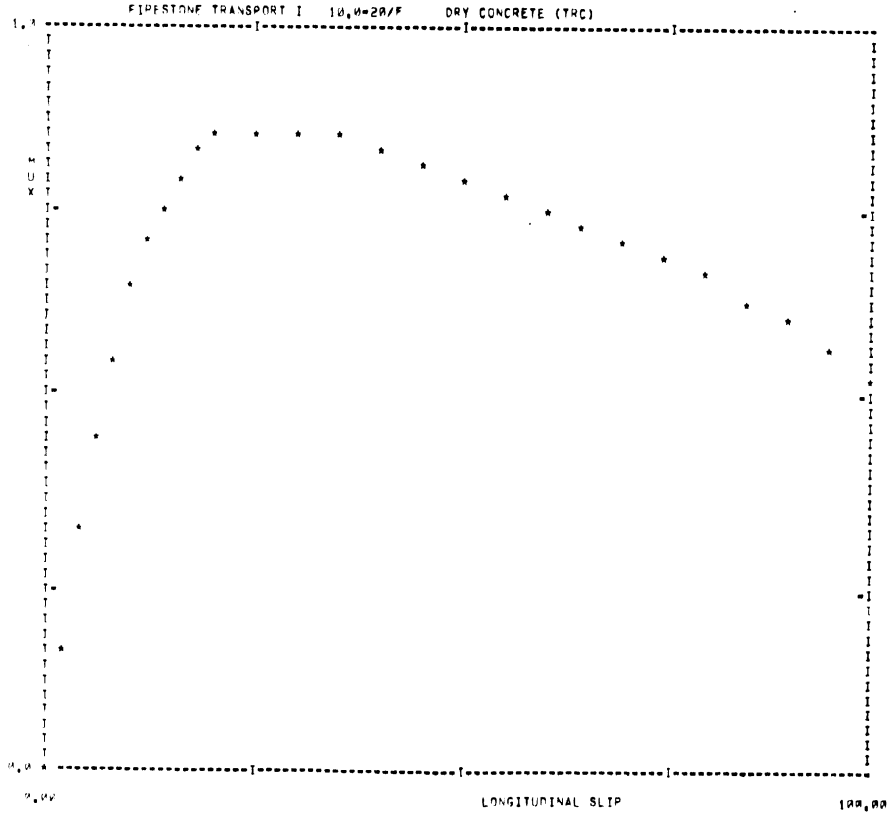
AVERAGE OF FILE 107 FOR 6 RECORDS. FIRESTONE TRANSPORT I 10,0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.17	21220.5	973.0
0.04	0.32	37141.7	1783.9
0.06	0.46	51947.1	2516.2
0.08	0.56	64289.7	3111.9
0.10	0.65	73946.9	3581.4
0.12	0.71	82101.7	3927.9
0.14	0.77	88705.9	4182.8
0.16	0.81	93841.9	4370.3
0.18	0.84	97583.6	4495.9
0.20	0.85	100055.6	4548.2
0.25	0.86	104143.5	4570.4
0.30	0.86	107156.0	4550.5
0.35	0.86	109615.9	4583.3
0.40	0.84	111992.0	4435.4
0.45	0.83	114447.1	4351.1
0.50	0.80	116928.1	4254.1
0.55	0.78	119246.2	4149.5
0.60	0.76	121346.5	4044.8
0.65	0.74	122791.5	3940.2
0.70	0.72	122516.1	3837.6
0.75	0.70	119336.7	3734.0
0.80	0.67	111664.5	3612.6
0.85	0.64	100047.7	3455.1
0.90	0.61	86679.0	3277.0
0.95	0.57	72746.1	3087.6
1.00	0.53	58229.2	2883.7

TQAV = 58229.2 LOAD = 5546.4 VEL = 40.0 MPH.

MUPEAK = 0.86 MULOCK = 0.53 RATIO = 1.62

Check Run #6



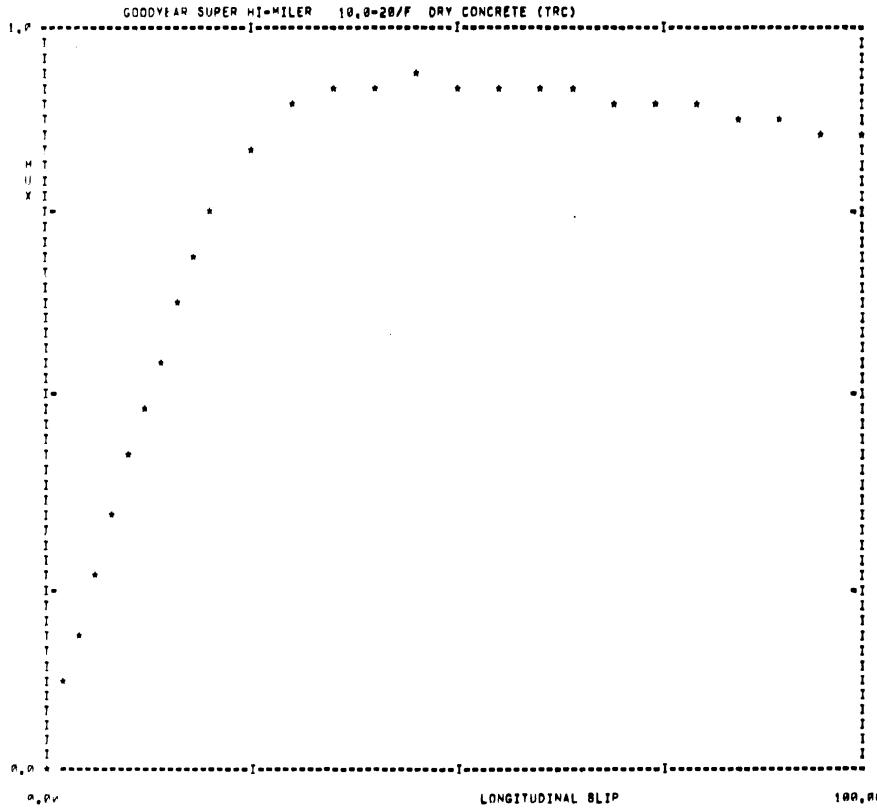
FZ = 5546.4 VEL = 40.0 MULOCK = 0.53 MUPEAK = 0.86 RATIO = 1.62 A-D FILE 107 NWFILE 161 [illegible]E 162

GOODYEAR SUPER HI MILER, 10.00 x 20/F, TRC CONCRETE

** A-D FILE 50 NEW FILE 126 TEST SAMPLE 52 **

AVERAGE OF FILE 50 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.13	13893.7	721.0	
0.04	0.19	20720.2	1045.8	
0.06	0.26	28532.8	1443.2	
0.08	0.34	37433.7	1869.9	
0.10	0.42	46236.9	2292.6	
0.12	0.49	53756.4	2658.6	
0.14	0.56	60921.7	3002.1	
0.16	0.63	68383.9	3373.2	
0.18	0.70	74916.2	3703.4	TQAV = 92500.0 LOAD = 5477.3 VEL = 3.0 MPH.
0.20	0.75	80233.7	3970.2	
0.25	0.84	89879.4	4396.8	MUPEAK = 0.93 MULOCK = 0.86 RATIO = 1.08
0.30	0.89	96262.4	4660.5	
0.35	0.92	99186.9	4786.4	
0.40	0.93	100135.2	4826.5	
0.45	0.93	100212.1	4827.0	
0.50	0.93	99884.9	4808.9	
0.55	0.92	99358.8	4781.7	
0.60	0.92	98733.5	4749.9	
0.65	0.91	98058.7	4715.9	
0.70	0.90	97359.1	4680.7	
0.75	0.90	96647.1	4645.0	
0.80	0.89	95929.0	4609.0	
0.85	0.88	95207.7	4572.8	
0.90	0.88	94431.2	4535.3	
0.95	0.87	93546.4	4495.2	
1.00	0.86	92500.0	4451.3	

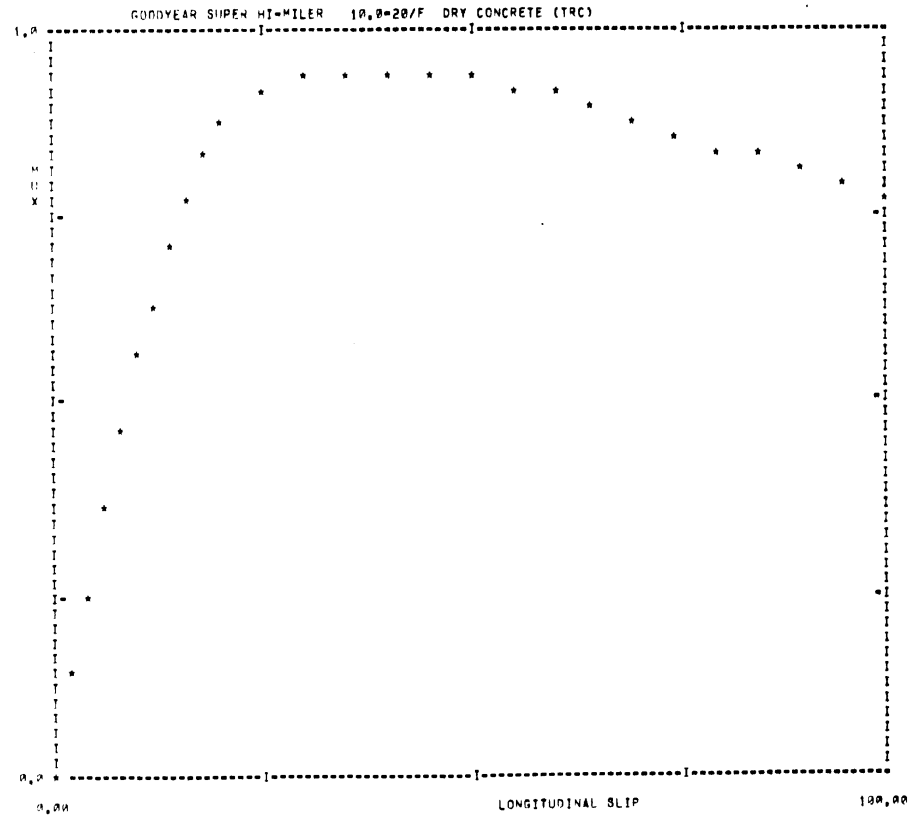


FZ = 5477.3 VEL = 3.0 MULOCK = 0.86 MUPEAK = 0.93 RATIO = 1.08 A-D FILE 50 NWFILE 126 SAMPLE 52

** A-D FILE 51 NEW FILE 127 TEST SAMPLE 53 **

AVERAGE OF FILE 51 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.14	15178.6	751.9	
0.04	0.25	27507.4	1376.5	
0.06	0.37	39984.1	2017.7	
0.08	0.47	50899.0	2561.8	
0.10	0.56	60701.9	3045.8	
0.12	0.64	69403.5	3472.1	
0.14	0.72	77345.0	3855.9	
0.16	0.78	84019.5	4180.9	
0.18	0.83	89347.3	4433.1	TQAV = 81166.7 LOAD = 5519.8 VEL = 10.0 MPH.
0.20	0.87	92792.4	4592.6	
0.25	0.91	98682.9	4787.6	MUPEAK = 0.95 MULOCK = 0.77 RATIO = 1.23
0.30	0.94	103099.2	4885.6	
0.35	0.95	106510.0	4918.1	
0.40	0.95	109292.1	4910.4	
0.45	0.94	111673.4	4881.7	
0.50	0.94	113160.3	4839.5	
0.55	0.93	112342.3	4778.8	
0.60	0.91	109825.3	4704.8	
0.65	0.90	106492.2	4622.4	
0.70	0.88	103152.1	4539.6	
0.75	0.86	99915.9	4457.6	
0.80	0.85	96742.3	4376.1	
0.85	0.83	93601.1	4295.0	
0.90	0.82	90168.7	4211.7	
0.95	0.80	86126.3	4124.1	
1.00	0.77	81166.7	4030.0	



FZ = 5519.8 VEL = 10.0 MULOCK = 0.77 MUPEAK = 0.95 RATIO = 1.23 A-D FILE 51 NWFILE 127 SAMPLE 53

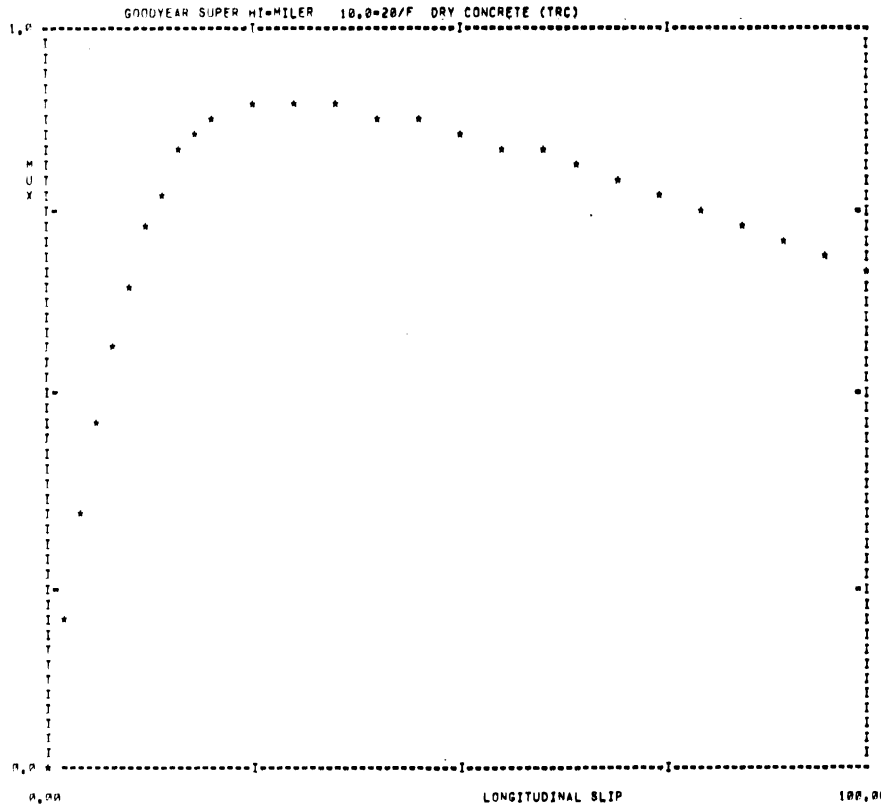
** A-D FILE 52 NEW FILE 128 TEST SAMPLE 54 **

AVERAGE OF FILE 52 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.21	22707.8	1134.9
0.04	0.35	38954.3	1901.6
0.06	0.47	51027.0	2553.5
0.08	0.57	63078.4	3136.3
0.10	0.66	72914.8	3604.8
0.12	0.73	80322.1	3948.9
0.14	0.79	85715.2	4199.8
0.16	0.83	89940.8	4388.5
0.18	0.86	93496.6	4524.5
0.20	0.88	96020.0	4587.6
0.25	0.90	99598.2	4650.5
0.30	0.90	102269.2	4665.0
0.35	0.90	100631.6	4602.4
0.40	0.89	106989.9	4592.0
0.45	0.87	109378.1	4524.4
0.50	0.86	111818.8	4452.0
0.55	0.84	114312.0	4376.0
0.60	0.83	115951.9	4300.1
0.65	0.81	115765.9	4226.8
0.70	0.80	113072.0	4148.9
0.75	0.78	107908.3	4062.6
0.80	0.76	101132.5	3965.2
0.85	0.74	94025.3	3866.1
0.90	0.72	86726.4	3764.7
0.95	0.70	79092.6	3658.1
1.00	0.68	70958.3	3543.7

TQAV = 70958.3 LOAD = 5500.8 VEL = 20.0 MPH.

MUPEAK = 0.90 MULOCK = 0.68 RATIO = 1.34

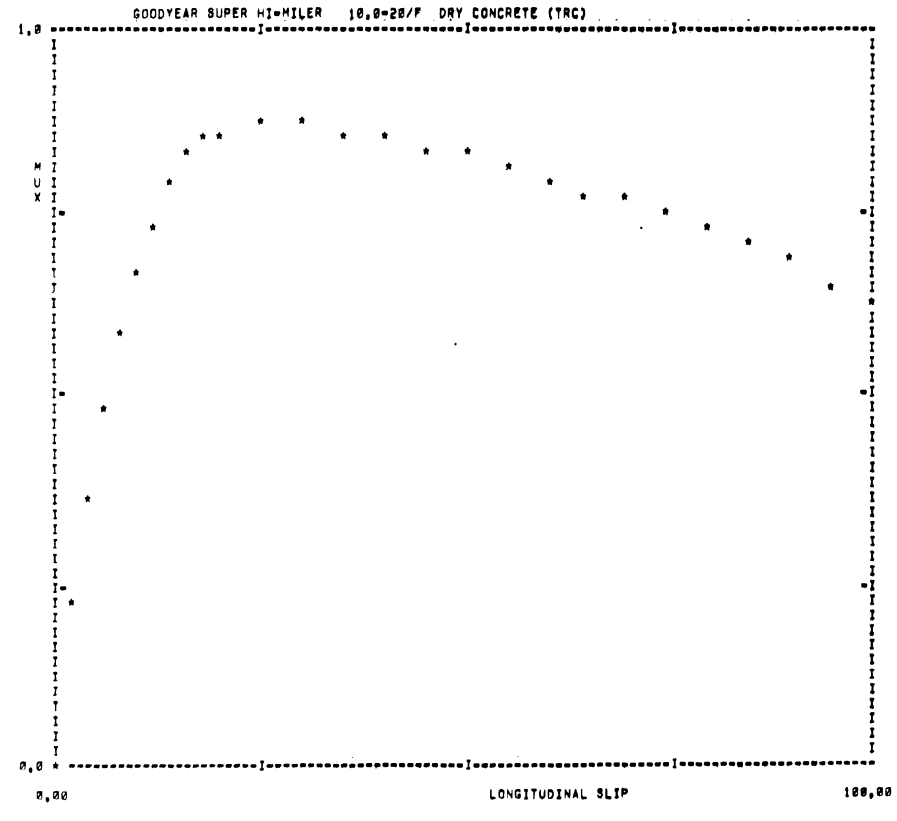


FZ = 5500.8 VEL = 20.0 MULOCK = 0.68 MUPEAK = 0.90 RATIO = 1.34 A-D FILE 52 NWFILE 128 SAMPLE 54

** A-D FILE 53 NEW FILE 129 TEST SAMPLE 55 **

AVERAGE OF FILE 53 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.22	24831.4	1201.8	
0.04	0.36	39623.7	1956.6	
0.06	0.48	53108.6	2681.9	
0.08	0.59	64809.7	3172.3	
0.10	0.67	74650.9	3656.5	
0.12	0.75	82744.5	4054.5	
0.14	0.80	89019.2	4343.1	
0.16	0.83	93739.8	4531.6	
0.18	0.86	97149.2	4645.2	TQAV = 68354.2 LOAD = 5471.7 VEL = 30.0 MPH.
0.20	0.87	99348.3	4688.8	
0.25	0.87	103648.6	4699.2	MUPEAK = 0.87 MULOCK = 0.64 RATIO = 1.37
0.30	0.87	107832.2	4673.2	
0.35	0.87	109512.4	4625.5	
0.40	0.86	111377.9	4567.0	
0.45	0.85	113025.5	4498.7	
0.50	0.84	114686.5	4422.9	
0.55	0.82	116551.1	4343.3	
0.60	0.80	118772.9	4256.7	
0.65	0.79	120464.4	4166.9	
0.70	0.77	119937.1	4075.8	
0.75	0.75	115685.8	3978.8	
0.80	0.73	108421.5	3868.2	
0.85	0.71	99271.5	3753.8	
0.90	0.69	89524.6	3635.8	
0.95	0.66	79298.6	3514.9	
1.00	0.64	68354.2	3388.8	



FZ = 5471.7 VEL = 30.0 MULOCK = 0.64 MUPEAK = 0.87 RATIO = 1.37 A-D FILE 53 NWFILE 129 SAMPLE 55

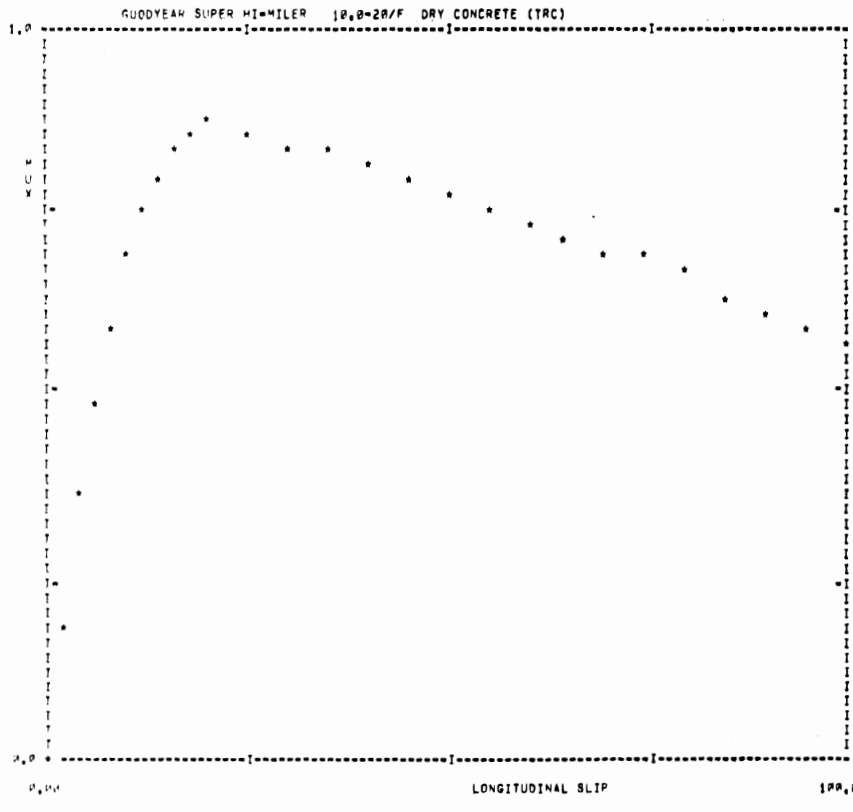
** A-D FILE 54 NEW FILE 130 TEST SAMPLE 56 **

AVERAGE OF FILE 54 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.19	21550.8	1050.8
0.04	0.36	39403.1	1934.3
0.06	0.50	54385.0	2665.3
0.08	0.60	66452.9	3242.3
0.10	0.69	75930.0	3697.3
0.12	0.76	84101.0	4072.0
0.14	0.81	91041.8	4362.6
0.16	0.84	95764.4	4562.3
0.18	0.87	99203.5	4680.5
0.20	0.87	101571.2	4699.8
0.25	0.86	105847.8	4648.4
0.30	0.85	109896.6	4567.1
0.35	0.83	111583.0	4470.3
0.40	0.81	113550.9	4367.1
0.45	0.80	115136.8	4262.4
0.50	0.78	116541.6	4152.9
0.55	0.76	117836.0	4041.7
0.60	0.74	118981.0	3937.2
0.65	0.72	119686.0	3836.7
0.70	0.70	118947.3	3738.6
0.75	0.69	115348.1	3638.4
0.80	0.67	107830.3	3529.1
0.85	0.64	97179.8	3406.2
0.90	0.62	84956.7	3273.5
0.95	0.60	72337.7	3135.5
1.00	0.57	59395.8	2991.2

TQAV = 59395.8 LOAD = 5424.3 VEL = 40.0 MPH.

MUPEAK = 0.87 MULOCK = 0.57 RATIO = 1.53



FZ = 5424.3 VEL = 40.0 MULOCK = 0.57 MUPEAK = 0.87 RATIO = 1.53 A-D FILE 54 NWFILE 130 SAMPLE 56

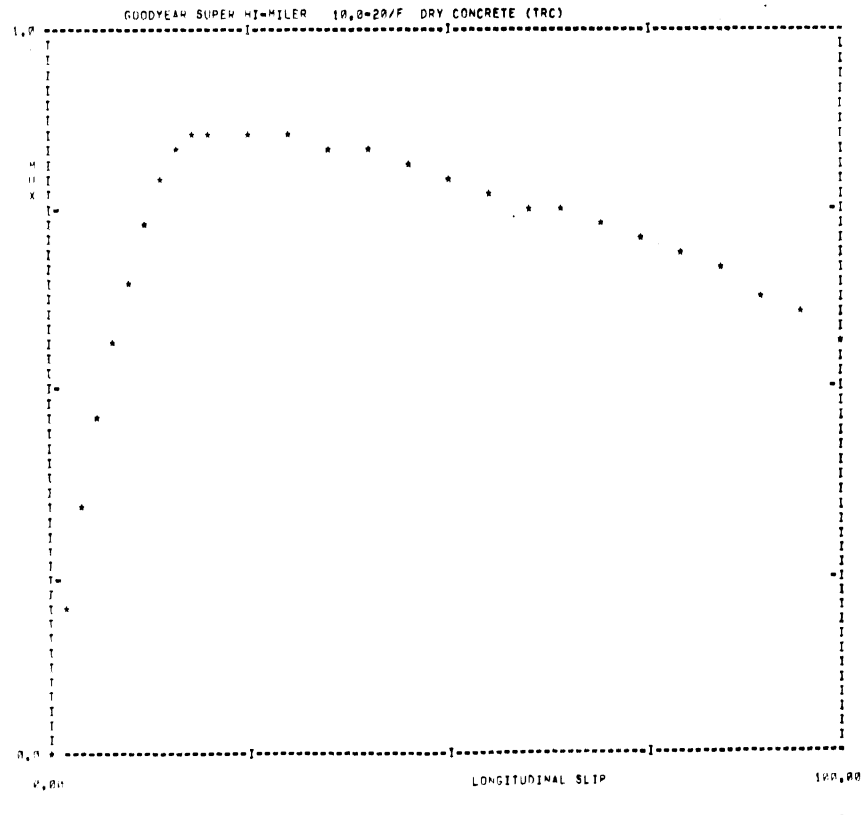
** A-D FILE 55 NEW FILE 131 TEST SAMPLE 57 **

AVERAGE OF FILE 55 FOR 4 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.21	22629.1	1137.5
0.04	0.35	38186.7	1893.0
0.06	0.48	51975.8	2555.9
0.08	0.58	64319.3	3135.0
0.10	0.66	73999.5	3593.8
0.12	0.74	81753.2	3941.4
0.14	0.80	87829.0	4223.1
0.16	0.84	93187.7	4443.5
0.18	0.86	96685.5	4591.2
0.20	0.87	99998.5	4629.4
0.25	0.87	100596.4	4620.9
0.30	0.86	107748.8	4564.4
0.35	0.84	109908.3	4479.4
0.40	0.83	111602.3	4380.0
0.45	0.81	113076.6	4279.1
0.50	0.80	114378.0	4183.1
0.55	0.78	115629.6	4092.4
0.60	0.77	116939.5	4002.9
0.65	0.75	118373.4	3911.0
0.70	0.73	119930.4	3816.1
0.75	0.71	120350.7	3718.9
0.80	0.69	116587.9	3618.2
0.85	0.67	106988.1	3503.3
0.90	0.64	92598.1	3362.3
0.95	0.61	76764.7	3210.4
1.00	0.57	59687.5	3047.5

TQAV = 59687.5 LOAD = 5467.8 VFL = 55.0 MPH.

MUPEAK = 0.87 MULOCK = 0.57 RATIO = 1.51

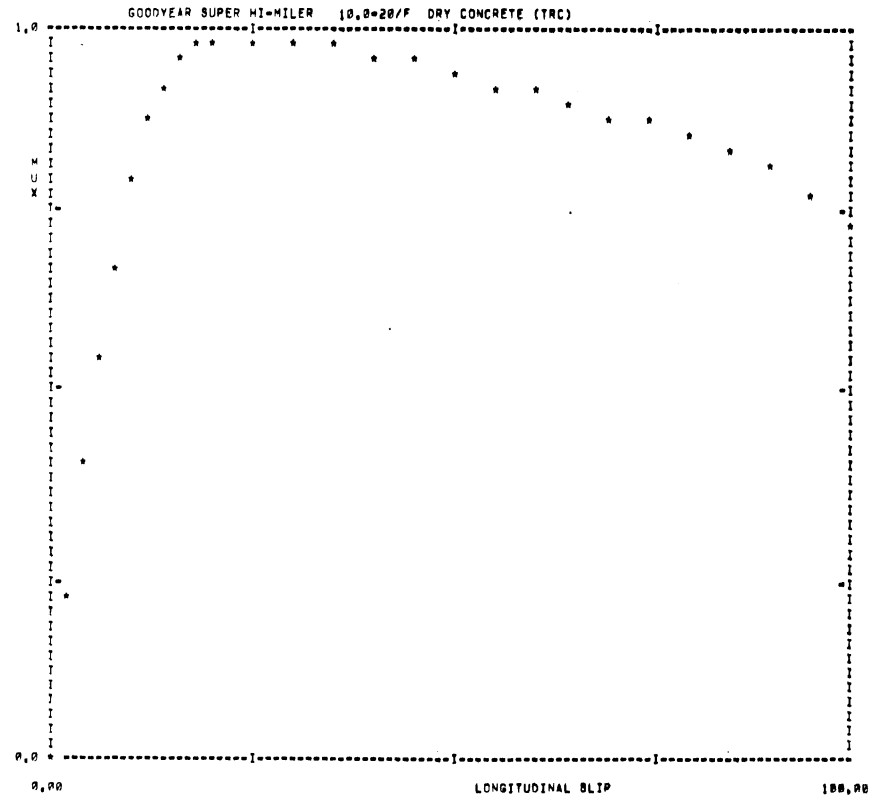


FZ = 5467.8 VFL = 55.0 MULOCK = 0.57 MUPEAK = 0.87 RATIO = 1.51 A-D FILE 55 NWFILE 131 SAMPLE 57

** A-D FILE 60 NEW FILE 133 TEST SAMPLE 59 **

AVERAGE OF FILE 60 FOR 5 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.22	10872.2	458.4	
0.04	0.40	18294.9	816.1	
0.06	0.55	25172.1	1127.5	
0.08	0.68	30871.4	1374.2	
0.10	0.79	35346.5	1593.8	
0.12	0.88	39861.3	1775.8	
0.14	0.93	44598.0	1923.2	
0.16	0.96	48334.8	2011.0	
0.18	0.98	50882.6	2057.6	TQAV = 30625.0 LOAD = 2131.3 VEL = 40.0 MPH.
0.20	0.99	52420.0	2071.7	
0.25	0.99	55622.5	2061.6	MUPEAK = 0.99 MULOCK = 0.74 RATIO = 1.34
0.30	0.98	58425.4	2037.5	
0.35	0.98	60811.0	2007.2	
0.40	0.96	62894.3	1973.1	
0.45	0.95	64754.4	1939.6	
0.50	0.94	66589.0	1904.5	
0.55	0.93	68532.9	1866.2	
0.60	0.91	70622.7	1826.9	
0.65	0.90	72958.4	1791.7	
0.70	0.88	74848.9	1762.8	
0.75	0.87	74834.6	1739.9	
0.80	0.86	71284.7	1719.6	
0.85	0.85	63519.7	1685.8	
0.90	0.82	53433.3	1632.0	
0.95	0.78	42490.0	1568.9	
1.00	0.74	30625.0	1495.5	

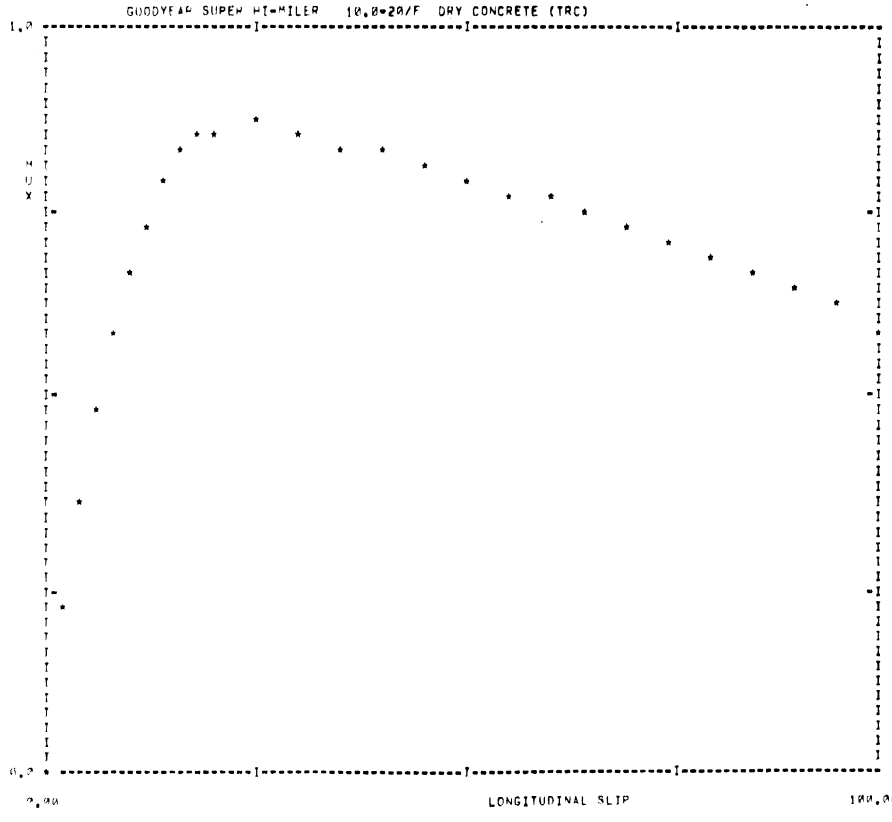


FZ = 2131.3 VEL = 40.0 MULOCK = 0.74 MUPEAK = 0.99 RATIO = 1.34 A-D FILE 60 NWFILE 133 SAMPLE 59

** A-D FILE 61 NEW FILE 134 TEST SAMPLE 60 **

AVERAGE OF FILE 61 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0.00	0.00	0.0	0.0	
0.02	0.22	24093.6	1187.1	
0.04	0.36	38649.9	1901.5	
0.06	0.49	51726.1	2554.4	
0.08	0.60	62778.1	3110.4	
0.10	0.68	72061.3	3538.6	
0.12	0.74	79778.2	3876.5	
0.14	0.80	86075.1	4166.0	
0.16	0.83	91390.2	4378.3	
0.18	0.86	95422.4	4518.7	TQAV = 59000.0 LOAD = 5294.4 VEL = 40.0 MPH.
0.20	0.87	98001.4	4575.8	
0.25	0.87	102360.9	4590.3	MUPEAK = 0.87 MULOCK = 0.60 RATIO = 1.46
0.30	0.86	106122.1	4544.7	
0.35	0.85	109478.0	4461.2	
0.40	0.83	112313.7	4361.2	
0.45	0.82	114257.7	4260.6	
0.50	0.80	115537.4	4162.9	
0.55	0.79	116422.7	4067.9	
0.60	0.77	117167.2	3973.0	
0.65	0.76	117818.1	3880.4	
0.70	0.74	117709.9	3788.3	
0.75	0.72	115128.4	3691.1	
0.80	0.70	108529.8	3581.0	
0.85	0.68	98168.4	3452.5	
0.90	0.65	86074.8	3315.6	
0.95	0.63	73094.9	3173.0	
1.00	0.60	59000.0	3022.5	



FZ = 5294.4 VEL = 40.0 MULOCK = 0.60 MUPEAK = 0.87 RATIO = 1.46 A-D FILE 61 NWFILE 134 SAMPLE 60

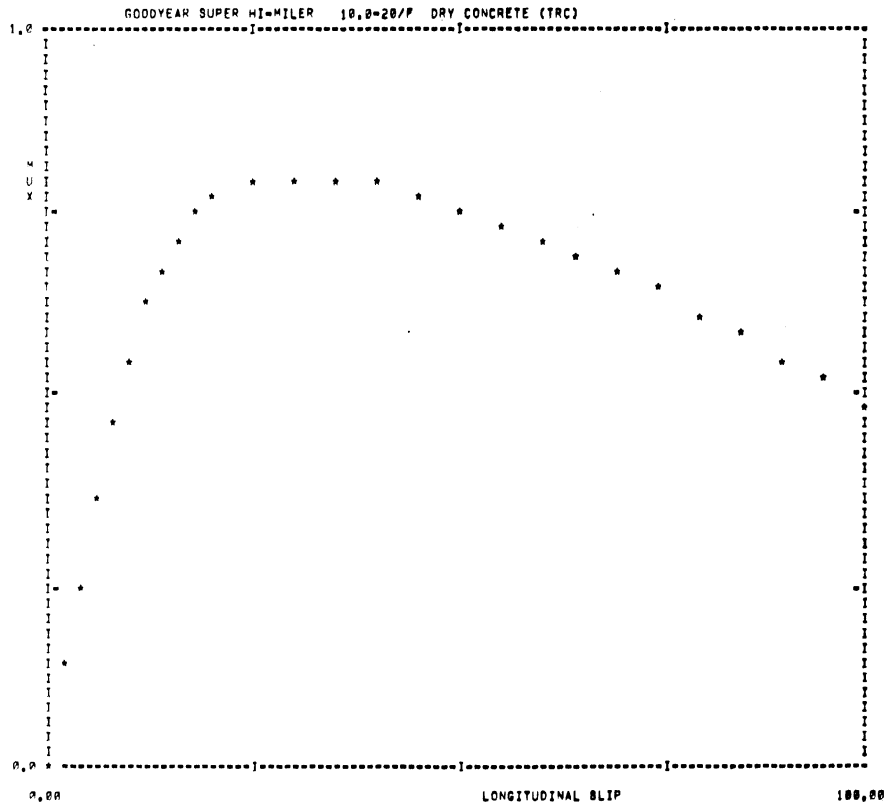
** A-D FILE 62 NEW FILE 135 TEST SAMPLE 61 **

AVERAGE OF FILE 62 FOR 6 RECORDS, GOODYEAR SUPER HI-MILER 10,0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0,00	0,00	0,0	0,0
0,02	0,14	20011,3	1216,7
0,04	0,25	43459,5	2226,7
0,06	0,37	63928,8	3221,6
0,08	0,47	81378,2	4101,5
0,10	0,56	96096,6	4821,0
0,12	0,62	108211,3	5384,8
0,14	0,68	117951,2	5819,9
0,16	0,72	125746,9	6151,9
0,18	0,76	131988,6	6398,1
0,20	0,77	136416,8	6499,3
0,25	0,79	144296,8	6597,7
0,30	0,80	150154,6	6612,9
0,35	0,80	154461,7	6572,0
0,40	0,79	157959,9	6491,2
0,45	0,78	161033,6	6378,5
0,50	0,76	163921,3	6243,7
0,55	0,74	166754,4	6095,6
0,60	0,72	169816,2	5930,7
0,65	0,70	168954,7	5758,8
0,70	0,67	165831,1	5576,2
0,75	0,65	157026,8	5380,3
0,80	0,62	142515,1	5167,2
0,85	0,59	125385,5	4931,7
0,90	0,56	108657,7	4677,4
0,95	0,52	92645,9	4412,9
1,00	0,49	77604,2	4136,2

TQAV = 77604,2 LOAD = 8891,3 VEL = 40,0 MPH.

MUPEAK = 0,80 MULOCK = 0,49 RATIO = 1,64



FZ = 8891,3 VEL = 40,0 MULOCK = 0,49 MUPEAK = 0,80 RATIO = 1,64 A-D FILE 62 NWFILE 135 SAMPLE 61

** A-D FILE 4 NEW FILE 114 TEST SAMPLE 1 **

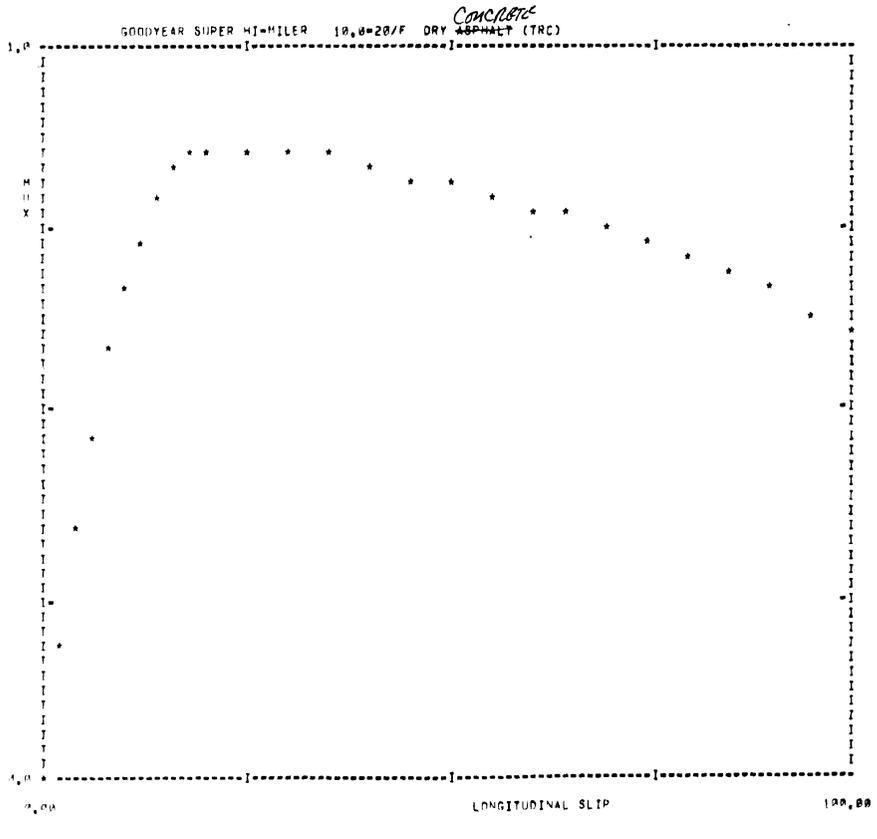
AVERAGE OF FILE 4 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY ~~ASPHALT~~ CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.19	20924.5	1082.7
0.04	0.35	37896.3	1919.0
0.06	0.48	51412.5	2608.2
0.08	0.59	62377.4	3177.5
0.10	0.67	71599.2	3636.2
0.12	0.74	78867.9	3968.8
0.14	0.79	84254.5	4227.3
0.16	0.84	89868.9	4452.1
0.18	0.86	92831.8	4605.4
0.20	0.87	95690.9	4642.7
0.25	0.87	99576.2	4627.3
0.30	0.86	101856.2	4579.9
0.35	0.85	103647.2	4510.0
0.40	0.84	105368.5	4425.3
0.45	0.83	106958.3	4335.2
0.50	0.81	108309.2	4247.5
0.55	0.80	109281.3	4166.5
0.60	0.79	109899.3	4088.5
0.65	0.77	110340.8	4012.9
0.70	0.76	110596.0	3937.8
0.75	0.74	109959.0	3859.4
0.80	0.72	106694.7	3769.8
0.85	0.70	98981.6	3662.4
0.90	0.67	87611.8	3534.9
0.95	0.64	74784.3	3398.8
1.00	0.61	60416.7	3253.7

TQAV = 60416.7 LOAD = 5503.4 VEL = 40.0 MPH.

MUPEAK = 0.87 MULOCK = 0.61 RATIO = 1.42

Check Run #2



FZ = 5503.4 VEL = 40.0 MULOCK = 0.61 MUPEAK = 0.87 RATIO = 1.42 A-D FILE 4 NWFILE 114 SAMPLE 1

** A-D FILE 49 NEW FILE 125 TEST SAMPLE 51 **

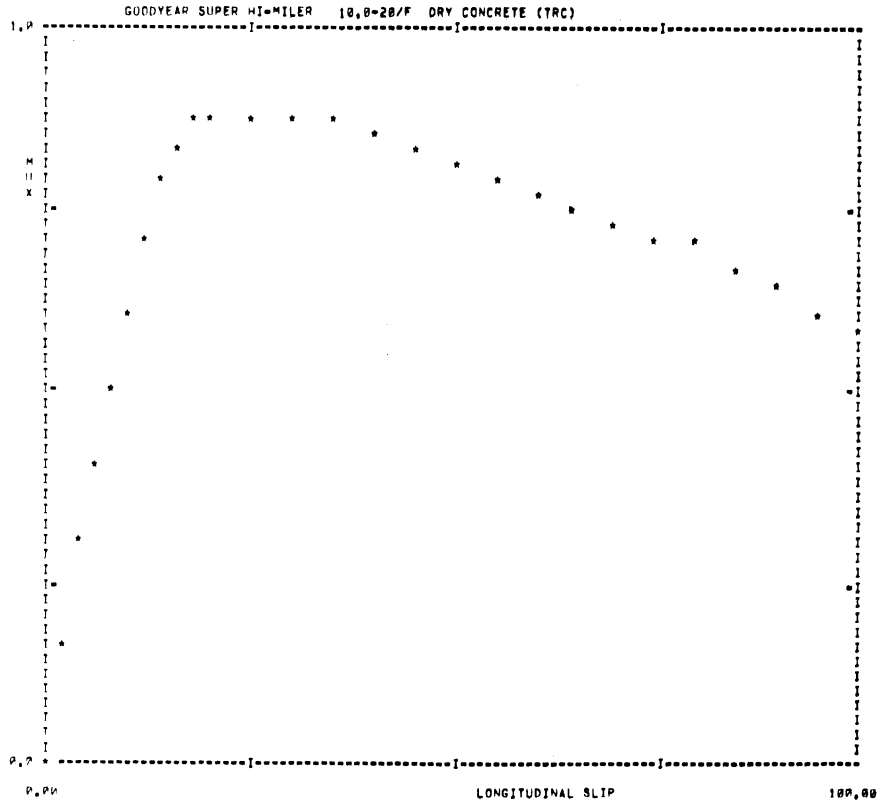
AVERAGE OF FILE 49 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.17	18500.2	919.6
0.04	0.30	33546.8	1643.3
0.06	0.41	45574.8	2219.3
0.08	0.51	55608.4	2694.3
0.10	0.61	65693.3	3177.8
0.12	0.71	77684.7	3752.2
0.14	0.79	87089.2	4171.9
0.16	0.84	93627.9	4432.3
0.18	0.87	98071.7	4585.5
0.20	0.88	100534.3	4642.4
0.25	0.89	104846.3	4662.1
0.30	0.88	107946.4	4636.7
0.35	0.88	110278.5	4585.1
0.40	0.86	112364.7	4514.5
0.45	0.84	114459.8	4430.7
0.50	0.83	116511.2	4339.1
0.55	0.80	118662.1	4235.1
0.60	0.78	120816.7	4129.9
0.65	0.76	122786.4	4028.0
0.70	0.74	123135.5	3931.9
0.75	0.73	120655.9	3838.1
0.80	0.71	114524.7	3738.6
0.85	0.68	103257.7	3611.4
0.90	0.65	89749.1	3459.8
0.95	0.62	75839.4	3297.3
1.00	0.58	61687.5	3122.5

TQAV = 61687.5 LOAD = 5505.4 VEL = 40.0 MPH.

MUPEAK = 0.89 MULOCK = 0.58 RATIO = 1.52

Check Run #2

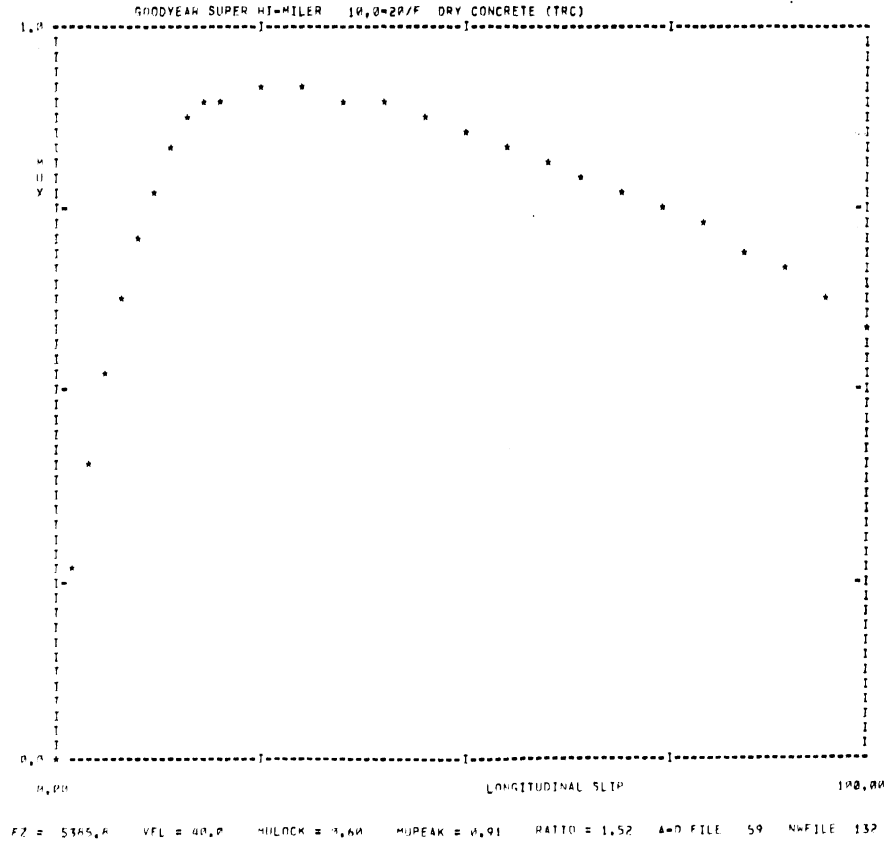


FZ = 5505.4 VEL = 40.0 MULOCK = 0.58 MUPEAK = 0.89 RATIO = 1.52 A-D FILE 49 NWFILE 125 SAMPLE 51

** A=0 FILE 59 NEW FILE 132 TEST SAMPLE 58 **

AVERAGE OF FILE 59 FOR 5 RECORDS. GOODYEAR SUPER HI-MILER 10,0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX	
0,00	0,00	0,0	0,0	
0,02	0,27	26730,4	1463,7	
0,04	0,41	42752,7	2184,9	
0,06	0,53	55840,4	2798,7	
0,08	0,63	67366,8	3362,1	
0,10	0,72	77563,5	3836,4	
0,12	0,78	85631,6	4200,1	
0,14	0,83	91517,5	4462,7	
0,16	0,87	96350,5	4629,6	
0,18	0,89	100194,8	4728,3	TQAV = 61150,0 LOAD = 5385,8 VEL = 40,0 MPH.
0,20	0,90	102477,9	4773,5	
0,25	0,91	106569,9	4789,1	MUPEAK = 0,91 MULOCK = 0,60 RATIO = 1,52
0,30	0,91	109812,9	4761,2	
0,35	0,90	112418,1	4706,9	Check Run #4
0,40	0,89	114647,8	4635,6	
0,45	0,88	116728,5	4553,4	
0,50	0,86	118641,4	4464,1	
0,55	0,84	120579,3	4361,7	
0,60	0,82	122512,5	4256,8	
0,65	0,80	124205,9	4149,7	
0,70	0,78	124316,6	4041,4	
0,75	0,75	121283,6	3931,4	
0,80	0,73	114689,7	3812,2	
0,85	0,70	103696,8	3673,0	
0,90	0,67	90151,4	3509,6	
0,95	0,64	75932,5	3335,6	
1,00	0,60	61150,0	3150,0	



FZ = 5385,8 VEL = 40,0 MULOCK = 0,60 MUPEAK = 0,91 RATIO = 1,52 A=0 FILE 59 NWFILE 132 SAMPLE 58

** A-D FILE 63 NEW FILE 136 TEST SAMPLE 62 **

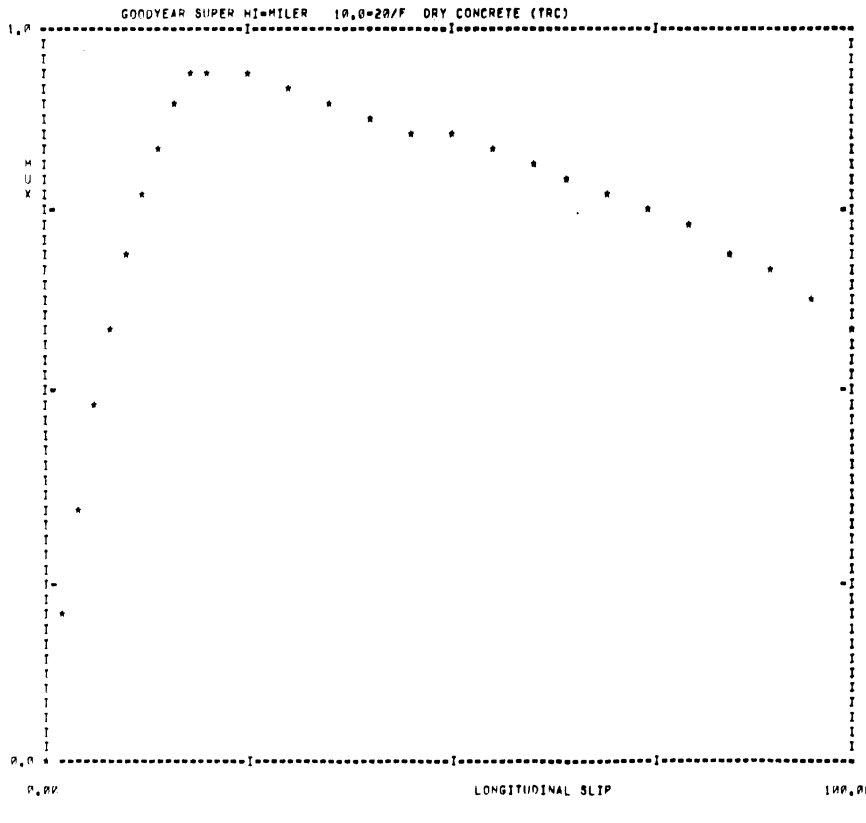
AVERAGE OF FILE 63 FOR 6 RECORDS. GOODYEAR SUPER HI-MILER 10.0-20/F DRY CONCRETE (TRC)

SLIP	MUX	TORQUE	FX
0.00	0.00	0.0	0.0
0.02	0.20	21609.7	1098.2
0.04	0.36	38210.5	1933.6
0.06	0.49	52825.9	2635.0
0.08	0.60	65364.1	3218.7
0.10	0.70	74998.8	3694.1
0.12	0.78	83173.6	4073.1
0.14	0.85	89920.7	4404.9
0.16	0.90	95937.4	4685.7
0.18	0.94	101186.7	4899.2
0.20	0.94	104727.4	4970.1
0.25	0.94	109997.7	4987.9
0.30	0.92	113705.5	4944.6
0.35	0.91	116547.9	4863.7
0.40	0.89	118959.1	4762.9
0.45	0.87	121021.3	4654.6
0.50	0.85	122877.3	4548.7
0.55	0.83	124643.0	4426.7
0.60	0.81	126269.8	4315.7
0.65	0.79	127640.3	4207.8
0.70	0.77	127683.9	4100.7
0.75	0.76	123851.2	3995.8
0.80	0.73	115831.6	3877.4
0.85	0.70	104351.7	3729.5
0.90	0.67	90897.8	3557.6
0.95	0.64	76854.5	3373.5
1.00	0.60	62270.8	3175.0

TQAV = 62270.8 LOAD = 5403.0 VEL = 40.0 MPH.

MUPEAK = 0.94 MULOCK = 0.60 RATIO = 1.58

Check Run #6



FZ = 5403.0 VEL = 40.0 MULOCK = 0.60 MUPEAK = 0.94 RATIO = 1.58 A-D FILE 63 NWFILE 136 SAMPLE 62

APPENDIX B

TEST APPARATUS

The longitudinal force dynamometer developed at HSRI for over-the-road testing of truck tires is a semi-trailer device which mounts a single tire sample with its wheel plane lying along the trailer's centerline. As was shown in the text (Figure 1), the trailer is towed by a highway tractor which provides hydraulic, pneumatic, and electrical power services as well as on-board water delivery. The system is controlled by an operator who rides in a cushioned module on the tractor. In current configuration the tractor-trailer vehicle weighs 38,000 lbs. and is 46 feet long.

TRACTOR SERVICE VEHICLE

The tractor/service vehicle is equipped to provide the specific capabilities listed below:

Basic Tractor Configuration

(The tractor vehicle was a gift to the University from the International Harvester Corp.)

International Harvester Model CO4070A (cab-over) tractor with 213-inch wheel base and an IH air-tandem rear suspension. GVW is 50,000 lbs. The engine is a GM diesel #8V-71N (338 Hp. at 2400 rpm). The vehicle's transmission is a Fuller "Road Ranger" w/overdrive (13 speeds). The extra-long truck frame is stiffened with a nestled C-beam, consisting of 3 elements, and is outfitted with a Holland extra heavy duty fifth wheel hitch.

Hydraulic Power - 5 gallon/minute flow rate at 2000 psi from a pressure-compensated piston pump

Hydraulic Accumulator - 1 gallon nominal volume

Pneumatic Power - delivery rate of 40 ft^3/min at 120 psi from a single stage compressor

Air Storage Tank - 6 cubic feet nominal volume

Electrical Power - diesel-driven 30 kilowatt generator, supplying 110 VAC, single phase and 208 VAC, three phase power

Electrical Distribution - all electrical power switching is done through a single panel providing

1) the selection of either on-board power generation or a shunt connection to available garage power source for set-up and indoor calibration
2) main circuit current breakers
3) motor start circuits
4) remote generator start circuit
5) instrument power circuit switching
6) generator voltage monitoring

Water Delivery - (for pavement wetting)	200 gallon/minute discharge from an impeller-type pump (provides .040 inch water film thickness over an 18-inch wide swath at a test speed of 60 mph)
Water Storage Tank -	720 gallon capacity

Data Acquisition Services

The operator's station is situated just behind the tractor's cab and is mounted on a coil spring and automotive shock absorber suspension. This 1600-lb. module is suspended to provide nominally 1 Hz fundamental frequencies in jounce and roll with a longitudinal torsion bar providing auxiliary pitch-stiffness for achievement of a 3 Hz fundamental frequency in pitch. The increased pitch stiffness is needed to minimize the pitching deflections which might derive under severe braking. The module's high quality ride environment and associated noise reduction capability permits the keeping of a legible, hand-written log during mobile operations and otherwise enhances the operator's overall performance. The module (whose control panel was shown in the text, Figure 3), is insulated, heated, air-conditioned, and well illuminated for day or night measurement activities. While it might appear to some that the operator comfort matter has been taken to an unnecessary degree of extravagence, our extensive experience in mobile measurements has led us to place these qualities in high priority—in the interests of high quality data, over long test days, in otherwise hostile and demanding field environments. The module is a completely self-contained data acquisition laboratory with five channels of signal conditioning for strain gage transducers, two channels of thermocouple conditioning and five additional channels for conditioning of potentiometric and tachometric devices. All data signals are scaled and zeroed through a common interfacing module which has interchangeable circuitry and direct operator access for zero and gain adjustment. While the basic data recording scheme involves

a 14-track FM analog tape recorder, there is also the capability for the simultaneous recording of selected signals on a six-channel pen-chart oscillograph. The input signals to the pen-chart recorder can be selected from either raw data signals such as are recorded directly on tape, or from the full array of playback signals which are output simultaneously from the tape recorder as the tape passes by the machine's playback heads. The recording of playback signals on a permanent chart constitutes the normal operating mode as it permits continual monitoring of the quality of data signals which have actually been recorded on tape.

For diagnostic activities related to maintaining the instrument package, a multiple-function digital meter has been provided, permitting access to every major signal by way of "hard-wired" connections to the meter's various selector switches. In addition, the entire instrument rack assembly has been situated to provide full access to the back of each individual circuit module.

In addition to data acquisition, the operator also has control of certain hydraulically and pneumatically actuated elements, through the use of switch-controlled valves and various pressure monitoring gages. From his seat in the control module, the operator has a full view of the upcoming roadway by way of a window in the module which permits sight through the rear and front wind screens of the tractor. Thus the operator determines the timing of application of the test wheel brake based upon his view of the desired portion of test pavement, together with his visual monitoring of a display of vehicle speed. The operator is in continuous two-way voice communication with the driver of the tractor, requesting test velocities and guiding the sequence of events through use of a head-set. The operator also can select a switch which places his voice signal as an edge-track-recording on the magnetic tape for purposes of run annotation and general comment. The voice

track annotation augments a digital "run I.D. number" signal which is recorded prior to each test run through use of an ordinary phone dial pulsing system.

Longitudinal Force Trailer

The longitudinal force trailer is a welded structure of pipe and plate sections, designed for economy of construction and for stiffness. The test wheel is situated approximately at the trailer c.g. position and is supported by a parallelogram suspension. This configuration, shown in Figure A-1, derives from attempts to achieve three fundamental qualities in a mobile traction measurement machine, viz.,

1) The elimination of kinematic interactions between the loads applied to the test wheel and resulting shear forces and moments.

2) The employment of a low-spring rate loading mechanism (an air spring), to assure the attainment of the desired load levels while neither (a) sacrificing frequency response in the vertical degree of freedom of the test wheel, nor (b) imposing a significant through-coupling of the vibrations of the foundation vehicle to the test wheel.

3) The minimization of the value of the "unsprung" mass, i.e., the mass which is displaced with the vertical motion of the test wheel spin axis.

The parallelogram linkage suspension is thus provided to assure kinematic isolation of forces while assuring a zero inclination (camber) of the test wheel plane. Brake torque is reacted through opposing longitudinal forces in the upper and lower arms—which arms have been constructed to provide a large beam section modulus in the fore-aft loading direction. The articulation of the parallel arms does permit a minimal

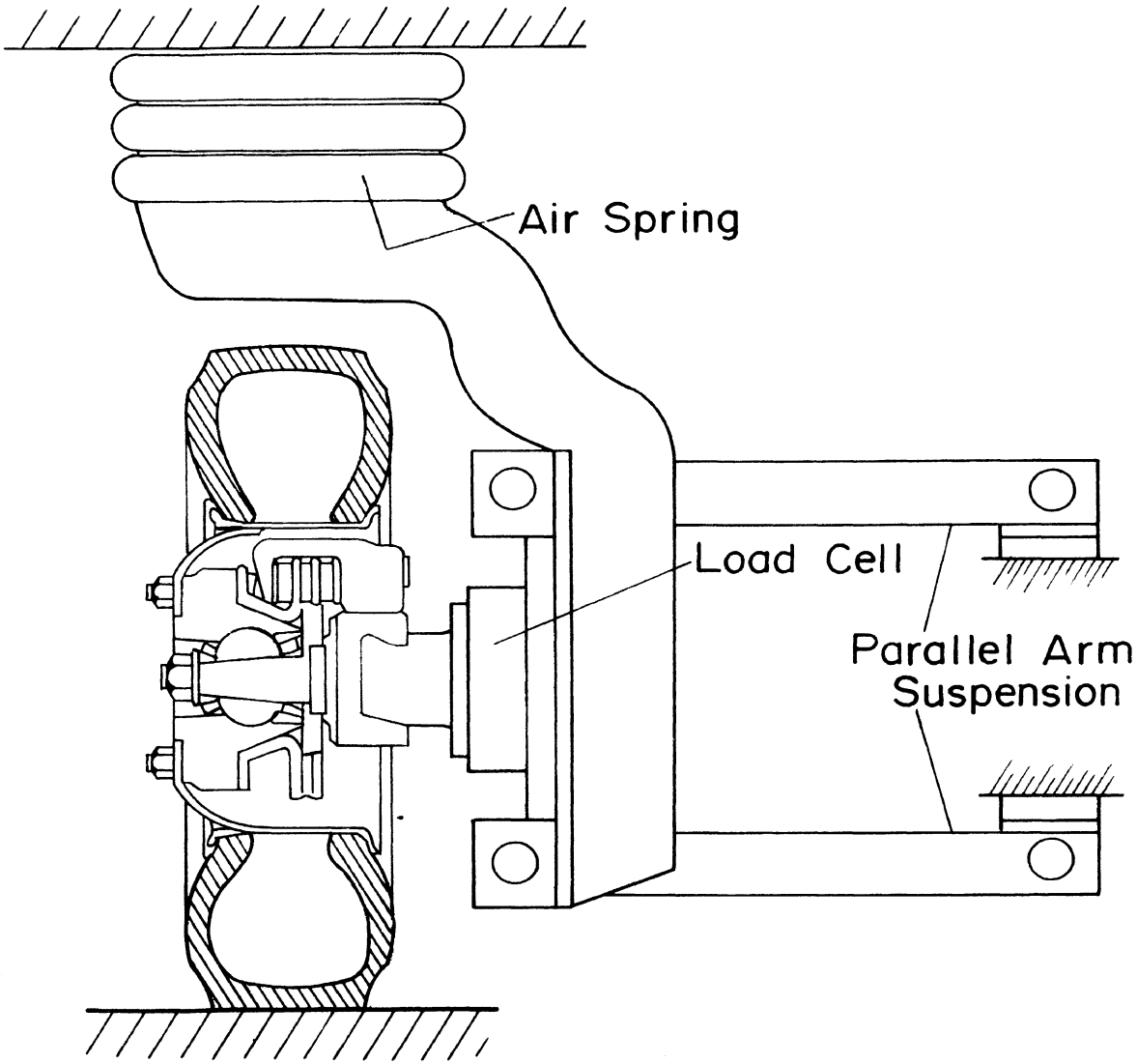


Figure A-1. Test wheel suspension.

lateral scrubbing of the test tire, in proportion to the cosine of the arm inclination—the resulting transverse motion is typically within ± 0.020 inches.

The use of an air spring loading mechanism permits a controllable vertical load condition and, in the case of the HSRI machine, imposes a nominally 350 lb/in coupling between the trailer and the test wheel—while operating at a common mid-range load of 5000 lb., F_z. At higher loads, the spring rate rises to a maximum value of 1000 lb/in at a load of 20,000 lbs., while the spring rate, of course, diminishes to zero at zero inflation of the air spring. These spring rates contrast with corresponding leaf suspension rates of trucks which are five to eight times stiffer at comparable rated wheel loads.

The basic design principle behind air spring loading, then, is that the machine thus incorporates a relatively "soft" loading member (which is also virtually frictionless) and thereby attains features which serve to enhance the quality of the vertical load condition which is imposed upon the test tire. With such a mechanism, it is then straightforward to obtain precision selections of vertical load through the use of commercially available precision regulators.

The unsprung mass which is associated with the vertical degree of freedom of the test wheel on the HSRI machine weighs 1850 lbs., including, say, a 10.00 x 20/F tire and the corresponding 20 x 7.50 disc wheel rim. By such a configuration, the "wheel hop" system indicates a natural frequency of approximately 5 Hz (for an effective radial spring rate of the tire of 5000 lb/in). In general, a high frequency wheel hop system permits a minimal vertical load fluctuation as the tire follows the varying profile of the test surface. In the design of HSRI's longitudinal force dynamometer, the "quality" deriving from a reduced size of the unsprung mass was

compromised with the obvious needs of strength, stiffness, and economy of construction of the wheel support assembly.

The primary system transducer, the multi-component load cell, provided by GSE, Inc., employs four parallel beams whose shear strains, at an octagonal section along each beam, are sensed with an array of strain gages. In the development of this transducer it has become clear that the primary design challenges derive from the mounting scheme employed. Thus, a set of strains are induced through bolt, key, taper, and/or dowel pin fasteners which strains may become redistributed through the sensitive sections as a result of loading. The HSRI longitudinal force dynamometer incorporates a load cell whose sensitivity to mounting-induced strains is minimal, although, in earlier stages of development, this sensitivity was a paramount difficulty. Thus, while a single, cantilever-loaded, multi-component transducer provides a system whose outputs are universally interpretable, regardless of either load level or wheel radius, the mounting configuration and flexure design do, indeed, require special consideration.

From a broader view of overall trailer construction, certain additional features were deemed mandatory, or at least very desirable. The nominal pitch and jounce trim of the HSRI trailer are controlled through the use of self-leveling air suspensions on both the trailer rear axle and the tractor rear tandem. Thus, as a given vertical load is transferred from the two respective axle sets to the test wheel, through inflation of the test wheel air spring, the tractor and trailer leveling systems adjust to a running equilibrium at which the trailer assumes its design trim attitude. The use of air suspensions on both ends of the trailer also contributes to attenuation of ride motions, thus further assuring quality in the vertical load condition.

In the event of a blow-out of the test tire, while operating under load, a plasto-elastic limit stop has been provided as a mechanism for absorbing the energy imparted to

the unsprung mass by the air spring during the deflation transient.

To permit efficient removal and remounting of the test wheel/tire assembly, a hand-valve-controlled hydraulic lift cylinder is provided—thereby eliminating the need for "muscling" the wheel into position. The open test bay of the HSRI trailer permits the test wheel to be merely rolled into position for fastening to mounting studs as the hub and spindle assembly is maneuvered into alignment using the hydraulic lift. During testing, the hydraulic lift cylinder is fully extended, thus over-traveling the "lift" position and becoming kinematically decoupled with the test wheel suspension.

The spindle supporting the test wheel has been designed to accommodate the mounting of virtually all heavy truck air brakes. Thus the machine has been applied in studies of the torque effectiveness of S-cam and dual wedge brakes, either as operated directly, or as modulated through the use of active anti-wheel-lock systems. In the case of anti-lock braking, the machine is capable of characterizing (a) the traction properties of the installed tire, (b) the torque production properties of the brake, and (c) the modulation dynamics of the anti-lock controller.

The test trailer is capable of mounting any tire in the 20-inch rim size, and above, which is:

a) less than 46 inches in free diameter, and

b) 18 inches or less in maximum section width.

Tires can be loaded to a maximum level of 20,000 lb., although, to date, brake torque limitations have prevented the lockup of tires on high friction surfaces at loads exceeding about 15,500 lbs.