SHRP-P-651

Layer Moduli Backcalculation Procedure: Software Selection

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PCS/Law Engineering

Strategic Highway Research Program
National Research Council
Washington, DC 1993

SHRP–P-651
Contract P-001
Product Code: 5028

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Program Area Secretary: *Cynthia Baker*

October 1993

key words:
backcalculation
deflection analysis
falling weight deflectometers
pavement deflections
pavement evaluation
structural analysis

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350/NAP/1093

Acknowledgments

The research described herein was supported by the Strategic Highway Research Program (SHRP). SHRP is a unit of the National Research Council that was authorized by section 128 of the Surface Transportation and Uniform Relocation Assistance Act of 1987.

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ABSTRACT

Deflection basin measurements for the purpose of structural capacity evaluation are a key component of the SHRP's Long-Term Pavement Performance monitoring program. In the near term, SHRP will apply a backcalculation procedure to these deflection measurements in order to estimate the in situ elastic moduli of the pavement layer materials.

Because a standard or generally accepted method for evaluating the structural capacity of flexible pavements from deflection data does not presently exist, a study was undertaken by SHRP to develop a layer moduli backcalculation procedure for use in the initial analysis of the SHRP deflection data. This procedure covers not only the software but also the rules, guidelines and criteria used in applying the program.

As part of this study, a literature review was undertaken to develop a listing of available backcalculation software. Six programs were selected for detailed evaluation -- ELCON and ILLI-BACK for rigid pavement, and ISSEM4, MODCOMP3, MODULUS and WESDEF for flexible pavements. Using deflection data and other pertinent information obtained from SHRP pavement test sections, the selected software was exercised by a group of evaluators which included the program developers. Backcalculation results were evaluated on the basis of reasonableness, robustness and stability, goodness of fit, and general suitability for SHRP's purposes.

This report discusses the process SHRP followed in selecting software and developing a backcalculation procedure, and presents the outcome of the software evaluation portion of the study.

INTRODUCTION

Since its introduction several decades ago, deflection testing has been an integral part of the structural evaluation of pavements. In the earliest years, this evaluation was based upon the analysis of a single deflection measurement resulting from a static load. As experience with deflection testing grew and technical advances were made, prediction capabilities greatly improved. Currently, the most accurate assessment of pavement structural capacity is achieved through the measurement and subsequent analysis of deflection basins resulting from dynamically applied loads.

Deflection basin measurements for the purpose of structural capacity evaluation are a key component of the Strategic Highway Research Program's Long Term Pavement Performance monitoring program. Since the Spring of 1988, SHRP has completed an initial round of deflection testing on some 800 in-service pavement test sections, and is well into the second round. Like the rest of the LTPP data, the raw deflection data is being stored in SHRP's National Pavement Performance Data Base, and will ultimately be available to all researchers to use as they see fit. In the near term, SHRP will apply a backcalculation procedure to these deflection data in order to estimate the in situ elastic moduli of the pavement layer materials. It is anticipated that these moduli will be used to characterize the pavement layer materials, and the variability therein, in analyses of the SHRP pavement performance data.

While numerous methods for evaluating the structural capacity of pavements from deflection basin data are available, a standard or generally accepted procedure does not presently exist. In view of this, a major effort was undertaken by SHRP to develop a layer moduli backcalculation procedure. The objective of this study was not to develop a state-of-the-art computer program (resource limitations prohibited this), but rather to select an existing backcalculation program as the best available for SHRP's purposes and to develop an evaluation procedure around it.

This report summarizes the process SHRP followed in selecting software and developing a backcalculation procedure, and presents the outcome of the software evaluation portion of the study. Before embarking on a detailed discussion, it is important to clarify the terminology used in the report. The term "backcalculation software" means just that -- the computer programs used in backcalculation. In referring to "backcalculation procedures", it should be clearly understood that it covers not only the software, but, more importantly, the "rules" by which that software is applied.

DEVELOPMENT PROCESS

The objective of SHRP's backcalculation procedure development process was to develop a backcalculation procedure, based on existing backcalculation software, which would provide the most accurate, repeatable, and reliable results possible, given the present state of the art. It was anticipated that this procedure might involve the use of different software for different pavement types, and that it would involve the development of detailed guidelines and specifications for the application of that software. Given the nature of the SHRP research, it was essential that the procedure ultimately developed be useable as a production pavement design tool, and not simply a research tool, so that the ultimate users of pavement design procedures developed from the products of the LTPP program would be able to reproduce the backcalculation process in their pavement design applications.

With this objective in mind, the process by which SHRP pursued the selection and development of a backcalculation procedure for use in the LTPP data analysis involved the following steps:

1. Software identification;
2. Development of preliminary software selection criteria;
3. Preliminary software selection;
4. Software evaluation;
5. Compilation of evaluation results;
6. Final software selection;
7. Procedure development and documentation.

The first six steps of this process are discussed in greater detail in the ensuing sections of this report. The reader is referred to Reference (5) for a more detailed description of the final SHRP layer moduli backcalculation procedure (i.e., Step No. 7).

Software Identification and Preliminary Software Selection

The first three steps in the process outlined above were quite straight-forward. Software identification involved a review of the literature to identify a number of the programs available, and their pertinent features. The outcome of the literature review is summarized in Table 1. The second and third steps were accomplished through discussions at a meeting of SHRP's LTPP Expert Task Group (ETG) for Deflection Testing and Backcalculation in November, 1990; a list of participants is given in Table 2.

In developing the preliminary software selection criteria, the following key considerations were addressed:

Backcalculation Method - Existing programs are based on the supposition that a unique set of layer moduli exists such that the theoretically predicted deflection basin is equivalent to the measured one. Two general approaches for arriving at the final set of

TABLE 1
PARTIAL LIST OF LAYER MODULI BACKCALCULATION PROGRAMS

PROGRAM NAME	DEVELOPED BY	FORWARD CALCULATION METHOD	FORWARD CALCULATION SUBROUTINE	BACK-CALCULATION METHOD	NON-LINEAR ANALYSIS	RIGID LAYER ANALYSIS	LAYER INTERFACE ANALYSIS	MAXIMUM NUMBER OF LAYERS	SEED MODULI	RANGE OF ACCEPTABLE MODULUS	ABILITY TO FIX MODULUS	CONVERGENCE SCHEME	ERROR WEIGHING FUNCTION
BISDEF	USACE-WES	MULTI-LAYER ELASTIC THEORY	BISAR (PROPRIETARY)	ITERATIVE	NO	YES	VARIABLE	CAN NOT EXCEED No. OF DEFLEC; WORKS BEST FOR 3 UNKNOWNS	REQUIRED	REQUIRED	YES	SUM OF SQUARES OF ABSOLUTE ERROR	YES
BOUZDEF	ZHOU, et.al. OREGON STATE UNIV.	MET - METHOD OF EQUIVALENT THICKNESS	MET	ITERATIVE	YES	NO	FIXED (ROUGH)	UNKNOWN, AT LEAST 4	REQUIRED	REQUIRED	UNKNOWN	SUM OF PERCENT ERRORS	UNKNOWN
CHEVDEF	USACE-WES	MULTI-LAYER ELASTIC THEORY	CHEVRON	ITERATIVE	NO	YES	FIXED (ROUGH)	CAN NOT EXCEED No. OF DEFLEC; WORKS BEST FOR 3 UNKNOWNS	REQUIRED	REQUIRED	YES	SUM OF SQUARES OF ABSOLUTE ERROR	YES
COMDEF	USACE-WES	MULTI-LAYER ELASTIC THEORY	BISAR (PROPRIETARY)	DATA BASE	NO	NO	FIXED (ROUGH)	3 (AC OVERLAY, PCC LAYER, SUBGRADE)	NO	NO	UNKNOWN	VARIOUS SCHEMES	NO
DBCONPAS	TIA et.al., U. OF FLORIDA	FINITE ELEMENT	FEACONS III	DATA BASE	YES?	YES?	YES?	UNKNOWN	NO	NO	UNKNOWN	UNKNOWN	UNKNOWN
ELMOD/ ELCON	P. ULLIDTZ, DYNATEST	METHOD OF EQUIV. THICKNESS	MET	ITERATIVE	YES (SUBGRADE ONLY)	YES	FIXED (ROUGH)	UP TO 4, EXCLUSIVE OF RIGID LAYER	NO	NO	YES	RELATIVE ERROR ON 5 SENSORS	NO
ELSDEF	TEXAS A&M U, USACE-WES	MULTI-LAYER ELASTIC THEORY	ELSYM5	ITERATIVE	NO	YES	FIXED (ROUGH)	CAN NOT EXCEED No. OF DEFLEC; WORKS BEST FOR 3 UNKNOWNS	REQUIRED	REQUIRED	YES	SUM OF SQUARES OF ABSOLUTE ERROR	YES
EMOD	PCS/LAW	MULTI-LAYER ELASTIC THEORY	CHEVRON	ITERATIVE	YES (SUBGRADE ONLY)	NO	FIXED (ROUGH)	3	REQUIRED	REQUIRED	YES	SUM OF RELATIVE SQUARED ERROR	NO
EVERCALC	J. MAHONEY, et.al,	MULTI-LAYER ELASTIC THEORY	CHEVRON	ITERATIVE	YES	YES	FIXED (ROUGH)	3 EXCLUSIVE OF RIGID LAYER	REQUIRED	REQUIRED	YES	SUM OF ABSOLUTE ERROR	NO
FPEDD1	W. UDDIN	MULTI-LAYER ELASTIC THEORY	BASINF?	ITERATIVE	YES	YES (VARIABLE)	FIXED? (ROUGH)	UNKNOWN	PROGRAM GENERATED	UNKNOWN	UNKNOWN	UNKNOWN	NO
ILLI-BACK	A. IONNIDES	CLOSED-FORM SOLUTION	CLOSED-FORM SOLUTION	CLOSED-FORM SOLUTION	NO	NO	NO	2	NO	NO	NO	CLOSED-FORM SOLUTION	N/A
ISSEM4	P. ULLIDTZ, R. STUBSTAD	MULTI-LAYER ELASTIC THEORY,	ELSYM5	ITERATIVE	YES (FINITE CY-LINDER CONCEPT)	NO	FIXED (ROUGH)	4	REQUIRED	REQUIRED	YES	RELATIVE DEFLEC. ERROR	NO
MODCOMP3	L. IRWIN, SZEBENYI	MULTI-LAYER ELASTIC THEORY	CHEVRON	ITERATIVE	YES	YES	FIXED (ROUGH)	2 TO 15 LAYERS, MAX 5 UNKNOWN LAYERS	REQUIRED	REQUIRED	YES	RELATIVE DEFLEC ERROR AT SENSORS	NO
MODULUS	TEXAS TRANS. INSTITUTE	MULTI-LAYER ELASTIC THEORY,	WESLEA	DATA BASE	YES?	YES (VARIABLE)	FIXED?	UP TO 4 UNKNOWNS PLUS STIFF LAYER	REQUIRED	REQUIRED	YES	SUM OF RELATIVE SQUARED ERROR	YES
PADAL	S.F. BROWN, et.al	MULTI-LAYER ELASTIC THEORY?	UNKNOWN	ITERATIVE	YES (SUBGRADE ONLY)	UNKNOWN	FIXED?	UNKNOWN	REQUIRED	UNKNOWN	UNKNOWN	SUM OF RELATIVE SQUARED ERROR	UNKNOWN
RPEDD1	W. UDDIN	MULTI-LAYER ELASTIC THEORY	BASINR?	ITERATIVE	YES	YES (VARIABLE)	FIXED? (ROUGH)	UNKNOWN	PROGRAM GENERATED	UNKNOWN	UNKNOWN	UNKNOWN	NO
WESDEF	USACE-WES,	MULTI-LAYER ELASTIC THEORY	WESLEA	ITERATIVE	NO	YES	VARIABLE	UP TO 5 LAYERS	REQUIRED	REQUIRED	YES	SUM OF SQUARES OF ABSOLUTE ERR.	YES

Table 2 - SHRP ETG Meeting: List of Participants

Participant	Agency/University
ETG Members:	
Robert C. Briggs	Texas State DOHPT
Albert J. Bush, III	Chair, USACE Waterways Experiment Station
Billy G. Connor	Alaska DOTPF
William Edwards	Ohio DOT
John Hallin	Federal Highway Administration
Frank Holman	Alabama Highway Department
Roger Larsen	Federal Highway Administration
Joe Mahoney	University of Washington
Richard N. Stubstad	Dynatest Consulting, Inc.
Marshall Thompson	University of Illinois
Jacob Uzan	Texas A&M
Wes Yang	New York State DOT
SHRP Contractor Personnel and Consultants:	
Lynne Irwin	Cornell University
Erland Lukanen	Braun Pavement Technologies
Scott Rabinow	PCS/Law Engineering
Gonzalo Rada	PCS/Law Engineering
Matthew Witczak	PCS/Law Engineering
SHRP Staff:	
Richard Rogers	on loan from Texas DOHPT
Denis Donnelly	on loan from Colorado DOT
Tord Lindahl	on loan from Sweden
Cheryl Richter	SHRP
Others:	
Gustav Rhodes	Federal Highway Administration
Govert T.H. Sweere	Netherlands SHRP

layer moduli for a given deflection basin exist. The first is an iterative approach in which a forward calculation scheme is used with an iterative process; theoretical deflections are first predicted for an initial set of layer moduli (seed moduli) and these moduli are then adjusted through various iterations until a set of values is found such that the error between the measured and predicted deflections is sufficiently small to meet a specified tolerance (which may be user-specified, or inherent to the program). The other approach uses a forward calculation scheme to built a data base which is then used with either (1) regression techniques to formulate equations from which the layer moduli may be calculated; or (2) interpolation and search techniques to compute the moduli directly from the data base. Either way, the need for time consuming iterative forward calculations during the backcalculation process is avoided. Other considerations relative to the method of backcalculation include: input requirements such as seed moduli and/or range of acceptable modulus as well as the stability of the program relative to these inputs; iteration, convergence and/or search techniques used to arrive at final set of layer moduli; tolerances on deflections and/or moduli; error minimization techniques (e.g., least squares, least square relative, absolute, etc.); and, weighting functions, if any, used to minimize deflection basin residual errors.

Method of Forward Calculation - Existing programs rely on a forward calculation scheme to predict deflection basins, which are then compared (directly or indirectly) to the measured ones. A number of analysis methods for estimating surface deflections associated with a given pavement structure presently exist. They include layered elastic theory, finite-element methods, method of equivalent thickness, and plate theory. Several computerized solutions have also been developed for each of these analysis schemes; e.g., BISAR, CHEVRON, ELSYM5 and WESLEA codes for the layered elastic methods. Depending on the analysis scheme (hence computer code) selected, other considerations include plate boundary (flexible or rigid) and layer interface (complete adhesion, frictionless slip, or variable slip) conditions.

Pavement-Subgrade Structure - Most existing programs rely on elastic theory concepts to estimate in-situ layer moduli from deflection measurements. There are several inherent assumptions to this analytical solution; e.g., materials are homogeneous and isotropic, layers are infinite in the lateral direction, etc. Pavement materials, however, can have a wide range of properties that may not always comply well with the assumptions used in elastic theory; e.g., many unbound materials exhibit a non-linear or stress dependent behavior. Another consideration is the capability of the program to handle complicated pavement structures; for example, the moduli of thin asphaltic concrete (AC) surface layers or AC overlays over portland cement concrete (PCC) are difficult to obtain, as surface deflections are often insensitive to changes of the moduli of these layers (changes in the subgrade moduli and/or other thick or stiff layers often mask changes in thin or weaker layers). Other pavement-subgrade structure considerations include: the treatment of deep stiff layers (fixed or variable depth; user-input or program calculated), if any; the maximum number of layers, having known or unknown moduli, that can be analyzed; and the ability to fix MODULUS values for one or more layers.

Computer Hardware and Software - From a technical viewpoint, the major considerations for selection of a backcalculation program have been addressed. Because thousands of deflection basins will be analyzed by SHRP, computer hardware and software considerations are also important. They include: hardware requirements (main-frame or microcomputer systems); software requirements (public domain or proprietary product); ease of software modification (ability to change input, output and/or other routines for SHRP's purposes); computational speed; costs associated with both the hardware and software as well as the operation of the program.

After review and discussion of these considerations, the ETG recommended that software selected for detailed evaluation meet the following criteria:

- look at both slab theory and an elastic layer model for rigid pavements;
- use layered elastic theory for flexible pavements;
- allow variable slip conditions at layer interfaces;
- flexible plate boundary conditions;
- user input for seed moduli required, but program results independent of seed moduli;
- goodness of fit reported for each deflection measurement;
- capability for user-defined depth to rigid layer;
- non-linear modelling capability for base and subgrade materials desirable, but not required;
- the capability for the user to fix a layer modulus must be provided;
- able to model at least five layers for flexible pavements;
- readily available at a reasonable price;
- source code must be available;
- capability for applying a weighing function to the error tolerances is desirable, but not essential.

Based on the above criteria (which were relaxed in a few cases), six programs were selected for further evaluation. ELCON and ILLI-BACK were selected for the rigid pavements, and MODULUS, WESDEF, MODCOMP, and ISSEM4 were selected for flexible pavements. A brief description of each of these programs is presented next.

Program ELCON - This program, developed by Ullidtz et.al. (7), calculates layer moduli and modulus of subgrade reaction for two- or three-layer PCC pavement systems. Odenmark's layer transformation approach (i.e., method of equivalent thickness) is used with Boussinesq's equations to calculate deflections, and an iterative procedure is used to determine those moduli that result in the same deflections as measured. ELCON considers the influence of stiff layers by first calculating the equivalent depth to rock using the measured deflections, and then carrying out the analyses for the layers above the rigid interface. All materials are assumed to be homogeneous, isotropic and linearly elastic, except the subgrade which is assumed to exhibit a non-linear response. The program works best when the pavement structure contains only one stiff layer, moduli decrease with depth, and the thickness of the upper layer is larger than half the radius

of the loading plate. Because a layer transformation approximation is used in this program, the computational process is much faster than conventional (i.e., numerical integration) layered elastic analysis backcalculation computer codes.

Program ILLI-BACK - This program, developed by Ioannides (3), is a computerized adaptation of a closed-form backcalculation procedure for rigid pavements. The procedure considers a two-layer system, consisting of a rigid pavement slab resting on an elastic solid or a dense liquid foundation. Solutions for these systems, in terms of deflection basins resulting from the application of a single, circular, interior load of uniform pressure intensity, are based on the work by Westergaard, Hogg and Losberg. The backcalculation process requires a number of sensor deflections, and utilizes the concept of "the area of the deflection basin", first proposed by Hoffman and Thompson. The program allows four or seven deflection sensors to be used, depending on the plate-sensor arrangement adopted. Each sensor reading provides an independent estimate of the backcalculated parameters (subgrade K and modulus and slab modulus). There is no need for the provision of seed moduli in the solution approach. Because a closed-form solution is used, the computational time is trivial.

Program ISSEM4 - Developed by Stubstad et.al. (2), ISSEM4 is a mechanistic-based pavement analysis computer program that uses the ELSYM5 computer code (layered elastic solution) as a forward calculation subroutine. The program uses an iterative procedure for matching the measured deflections with the theoretical surface deflections calculated from assumed elastic moduli. The program uses five deflection points in the backcalculation process; however, these points are from a fitted curve of the actual deflection measurements. ISSEM4 uses a "finite cylinder" concept in order to estimate the stress sensitivity of the unbound materials from a single FWD load. The program, which is primarily intended for the analysis of flexible pavements, can handle up to four layers and requires seed moduli in order to initiate the backcalculation process.

Program MODCOMP3 - This program was initially developed by Irwin and Speck for the U.S. Army Cold Regions Research and Engineering Laboratory; version 3 was developed by Irwin and Szebenyi (4). MODCOMP3 uses elastic layer theory, embodied in the CHEVRON computer code, as the method of forward calculation within an iterative analysis approach. The program first evaluates the modulus of the deepest layer and then works upward to the surface layer; i.e., modulus of each layer at some depth is related to a deflection at some distance from the load. The program can consider from two to fifteen layers in a pavement system, including the bottom layer which is assumed to be a semi-infinite half space. No more than five layers, which have upper interfaces at depths up to approximately 3 to 4 feet, should be treated as unknown layers whose moduli are to be determined. The program can accept data for up to six different load levels, and it can accept up to ten surface deflections for each load level. MODCOMP backcalculates the moduli for the unknown layers, assuming them to be either linearly elastic or non-linear. Some layers in the pavement system can be assigned to be known. The known layers can be either linearly elastic or stress dependent, in which case the

appropriate constitutive model can be assigned as an input parameter. The program is notable for its extensive controls on the seed moduli and the range of acceptable moduli.

Program MODULUS - This program, developed by the Texas Transportation Institute (6), utilizes a forward calculation scheme, WESLEA (layered elastic solution), to built a deflection basin data base for a given pavement system. A pattern search technique is then used to determine the set of layer moduli that best fits the measured basin. The number of unknowns is limited to four in order to minimize the errors from the interpolation technique and to produce acceptable results. Other salient features of the program include: automatic calculation of a depth to a stiff layer, which can be overridden by the user; automatic calculation of weighing factors for each deflection sensor; and, detection of non-linearity in the subgrade and automatic selection of the optimum number of sensors to use in the backcalculation process. Because the program does not use a forward calculation scheme in the iterative process, it is particularly suited for the analysis of large numbers of deflection basins measured on pavements with the same structure.

Program WESDEF - This program was developed by the U.S. Army Corps of Engineers (1, 8) to determine the set of modulus values that provide the best fit between a measured deflection basin and computed deflection basin when given seed moduli, a range of acceptable modulus values, and a set of measured deflections. The program is notable for its gradient search technique and it uses the WESLEA computer code as a forward calculation subroutine within an iterative process. WESLEA is a three-dimensional layered elastic solution that will handle up to five layers, although the maximum number of layers with unknown modulus values in WESDEF should be limited to three in the backcalculation process. The program incorporates a stiff layer (modulus of elasticity of 1,000,000 psi and infinite thickness), below the subgrade, into the analysis. This stiff layer is located at a depth of 20 feet, unless the user specifies otherwise based on soil profile or other data (i.e., presence of shallow rock). WESDEF is also capable of handling layers with varying interface conditions and multiple loads.

Software Evaluation: The Plan

The purpose of SHRP's backcalculation software evaluation exercise was twofold: (1) to provide a basis for selecting a program (or programs) for use in the SHRP backcalculation; and (2) to provide a basis for development of the procedural documentation to be provided with that software. For this endeavor a group composed of ETG members, the software developers, and SHRP contractors was assembled. Each evaluator was requested to work independently of the others to run all of the backcalculation programs using the same data sets from a number of actual SHRP test sections. The composition of this group was planned so that all participants would be conversant in the general principles of backcalculation, though not necessarily expert in the application of all programs evaluated. The program developers were invited to participate

in the exercise so that at least one of the evaluators would, presumably, be an "expert" in the use of each program.

By having a spectrum of users from "informed" to "expert" for each program, SHRP hoped to gain some insight into what was required in terms of user input and application "rules" to be successful with each program, and thus obtain information for the development of the SHRP backcalculation procedure document. In order to judge "success" of a backcalculation program, several criteria were planned. First, the participants were to make "informed estimates" of the material moduli, based on the results of the laboratory testing for the materials involved, for comparison with the backcalculation results. In addition, results were to be evaluated on the basis of "reasonableness", robustness and stability (i.e., the degree to which users were able to get "reasonable" results for all test sections evaluated), goodness of fit, and general suitability for SHRP's purposes.

Deflection data and other pertinent information from 16 SHRP pavement test sections were extracted from the SHRP Pavement Performance Data Base for use in this software evaluation exercise. A primary consideration in the selection of these data sets was coverage of the wide range of pavement structures (i.e., material types and layer thicknesses) that make up the SHRP experiments. Other considerations included the distribution of these sections by climatic region, SHRP region and geographical location within the U.S. Table 3 gives the final distribution of the study sections by SHRP experiment, state and SHRP region, while Figures 1 and 2 show the corresponding pavement structures -- 8 asphaltic concrete and 8 portland cement concrete surfaced.

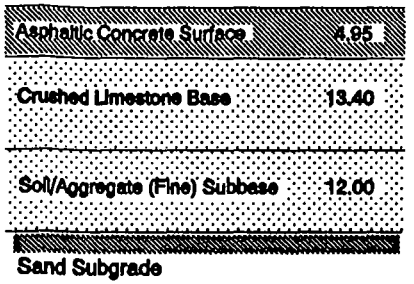
Due to the nature of this study, deflection basin data collected from the "test pit" location were used exclusively in the study. This is a location for which SHRP has deflection data, and accurate layer thickness information, as well as field and laboratory materials data, by virtue of the fact that destructive testing was conducted at this location within a few hours after the deflection testing was completed. Tables 4 and 5 summarize the measured deflections for the AC and PCC surfaced pavements, respectively. The number of deflection basins per test pit location shown in these tables correspond with the number of load levels used in the SHRP testing; i.e., four load levels for AC surfaced pavements and three for PCC surfaced pavements.

Software Evaluation: The Reality

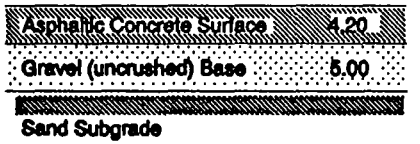
The SHRP backcalculation software evaluation exercise did not progress entirely according to plan. The first problem encountered was related to data availability. Laboratory materials data on which the "informed estimates" of the layer moduli were to be based were not available until after completion of the study, and hence that basis for evaluation of analysis results was lost. Since this data would have also helped the evaluators determine appropriate seed moduli, and other input values, their efforts were also hindered by the lack of laboratory materials data. The other significant deviation from the plan was that the evaluation process turned out to be sufficiently time consuming that several of the evaluators were not able to complete the

Table 3 - Distribution of Study Pavement Sections

Section ID	SHRP Experiment	State	SHRP Region
A	GPS-1: Asphalt Concrete Pavement with Granular Base	Florida	Southern
B	GPS-1: Asphalt Concrete Pavement with Granular Base	Michigan	North Central
C	GPS-2: Asphalt Concrete Pavement with Bound Base	North Carolina	North Atlantic
D	GPS-2: Asphalt Concrete Pavement with Bound Base	Virginia	North Atlantic
E	GPS-6A: AC Overlay of AC Pavement	Tennessee	Southern
F	GPS-6A: AC Overlay of AC Pavement	Kentucky	North Central
G	GPS-7A: AC Overlay of Concrete Pavement	Nebraska	North Central
H	GPS-7A: AC Overlay of Concrete Pavement	South Carolina	Southern
I	GPS-3: Jointed Plain Concrete Pavement - JPCP	Idaho	Western
J	GPS-3: Jointed Plain Concrete Pavement - JPCP	Pennsylvania	North Atlantic
K	GPS-4: Jointed Reinforced Concrete Pavement - JRCP	Texas	Southern
L	GPS-4: Jointed Reinforced Concrete Pavement - JRCP	Connecticut	North Atlantic
M	GPS-5: Continuously Reinforced Concrete Pavement - CRCP	Connecticut	North Atlantic
N	GPS-5: Continuously Reinforced Concrete Pavement - CRCP	Oregon	Western
O	GPS-9: Unbound PCC Overlays of Concrete Pavements	Ohio	North Central
P	GPS-9: Unbound PCC Overlays of Concrete Pavements	Oklahoma	Southern



Section A



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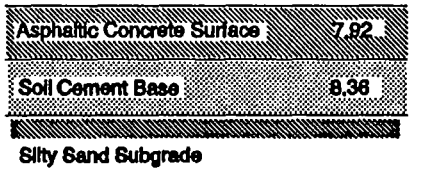

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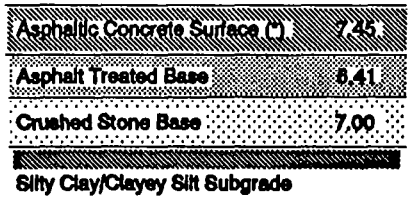
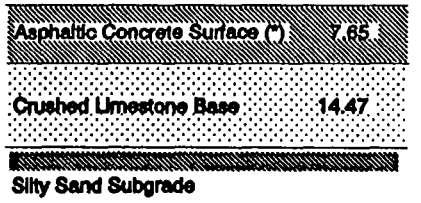
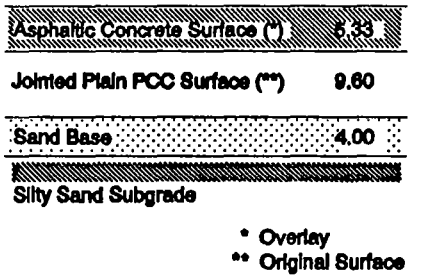
Section D



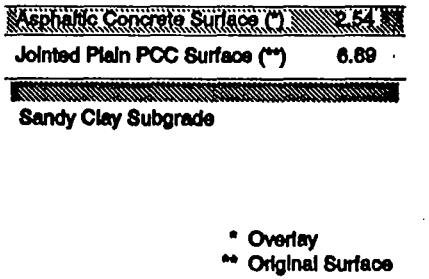
Section E



Section F



Section G



Section H

Figure 1. AC Surfaced Pavement Structures

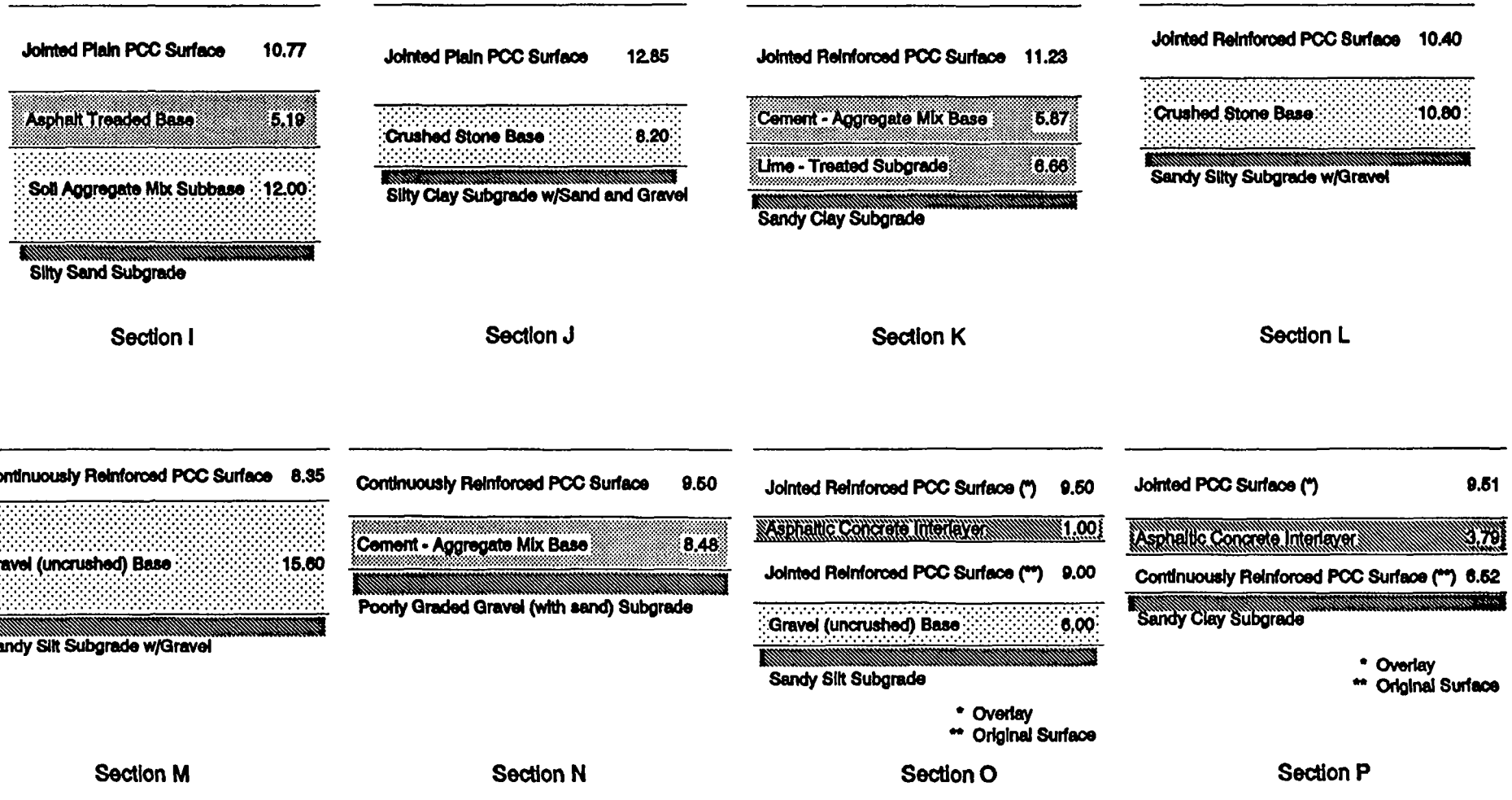


Figure 2. PCC Surfaced Pavement Structures

Table 4 - Summary of Deflection Data: AC Surfaced Pavements

Section ID	Load (lbs)	Deflection (mils) @						
		r=0"	r=8"	r=12"	r=18"	r=24"	r=36"	r=60"
A	7246	6.78	5.21	4.39	3.35	2.60	1.66	0.84
	10006	9.47	7.43	6.31	4.90	3.82	2.48	1.24
	12644	12.48	9.80	8.38	6.56	5.19	3.37	1.67
	17054	15.05	11.87	10.12	7.92	6.36	4.14	2.06
B	6460	8.50	6.63	5.34	3.94	2.93	1.78	0.99
	9596	12.21	9.43	7.65	5.72	4.32	2.62	1.36
	12700	15.16	11.83	9.66	7.31	5.55	3.40	1.79
	16362	18.87	14.69	12.06	9.21	7.04	4.34	2.33
C	6616	3.39	2.72	2.37	2.03	1.77	1.38	0.89
	9522	4.87	3.89	3.40	2.95	2.57	2.03	1.31
	12958	6.64	5.30	4.69	4.07	3.57	2.83	1.79
	16696	8.12	6.48	5.73	4.98	4.39	3.47	2.21
D	6264	3.30	3.17	2.98	2.70	2.45	2.04	1.38
	9474	5.67	5.27	4.97	4.50	4.10	3.42	2.38
	12914	7.97	7.48	7.06	6.51	5.96	5.01	3.48
	17474	10.41	9.68	9.17	8.47	7.78	6.58	4.62
E	7608	2.78	2.16	1.95	1.67	1.50	0.95	0.48
	9752	3.67	2.88	2.60	2.23	1.95	1.29	0.65
	12714	4.92	3.98	3.54	3.05	2.63	1.76	0.92
	17764	6.70	5.44	4.83	4.17	3.62	2.44	1.40

Table 4 - Summary of Deflection Data: AC Surfaced Pavements (Cont'd)

Section ID	Load (lbs)	Deflection (mils) @						
		r=0"	r=8"	r=12"	r=18"	r=24"	r=36"	r=60"
F	6534	3.28	2.69	2.33	1.88	1.56	1.09	0.68
	9512	5.07	4.32	3.67	2.99	2.40	1.69	1.01
	12662	7.28	5.97	5.17	4.26	3.49	2.37	1.33
	16812	9.71	8.17	7.11	5.88	4.81	3.29	1.83
G	6424	1.72	1.56	1.57	1.49	1.44	1.21	0.88
	9398	2.81	2.41	2.33	2.24	2.14	1.90	1.40
	12256	3.90	3.40	3.32	3.17	3.02	2.67	1.96
	16350	5.03	4.37	4.22	4.04	3.84	3.38	2.45
H	7734	4.55	3.74	3.60	3.26	2.88	2.16	1.15
	9704	5.77	4.79	4.66	4.26	3.75	2.80	1.49
	12504	7.99	6.72	6.53	5.92	5.27	4.03	2.17
	17706	10.90	9.25	8.99	8.27	7.34	5.63	3.10

Table 5 - Summary of Deflection Data: PCC Surfaced Pavements

Section ID	Load (lbs)	Deflection (mils) @						
		r=0"	r=8"	r=12"	r=18"	r=24"	r=36"	r=60"
I	9098	1.86	1.75	1.68	1.54	1.34	1.11	0.82
	11966	2.57	2.37	2.28	2.04	1.84	1.50	1.12
	16302	3.47	3.19	3.09	2.79	2.52	2.06	1.50
J	9554	1.44	1.44	1.32	1.30	1.23	1.16	0.95
	12922	2.03	1.98	1.82	1.78	1.66	1.52	1.27
	16544	2.62	2.61	2.37	2.34	2.22	2.05	1.68
K	10116	1.62	1.65	1.60	1.56	1.50	1.39	1.13
	13258	2.49	2.26	2.19	2.09	2.02	1.84	1.50
	18238	3.02	2.86	2.80	2.68	2.59	2.37	1.91
L	9462	4.16	4.01	3.89	3.74	3.54	3.07	1.95
	12668	5.74	5.55	5.36	5.16	4.88	4.20	2.71
	16642	7.15	6.84	6.72	6.43	6.06	5.24	3.34
M	9736	4.77	4.27	4.01	3.60	3.20	2.57	1.56
	12998	6.45	5.82	5.46	4.93	4.40	3.50	2.16
	16938	7.90	7.12	6.70	6.04	5.40	4.35	2.72
N	9234	3.27	3.13	2.96	2.71	2.53	2.13	1.55
	11660	4.18	4.00	3.78	3.49	3.19	2.78	1.97
	15566	5.37	5.12	4.84	4.46	4.11	3.56	2.54
O	9740	2.09	2.05	1.99	1.91	1.85	1.70	1.39
	12760	2.61	2.60	2.51	2.42	2.34	2.18	1.77
	16554	3.36	3.34	3.11	2.87	2.82	2.70	2.20
P	10054	1.88	1.91	1.71	1.49	1.48	1.14	0.84
	13164	2.88	2.61	2.36	2.07	2.01	1.60	1.14
	17840	3.72	3.34	3.11	2.80	2.64	2.17	1.52

evaluation of all of the software. However, enough of the work was completed to provide a basis for decision making and procedure development.

Evaluation Results

The initial backcalculation effort yielded thousands of layer moduli results along with comments from the evaluators summarizing their impression of each program. To facilitate the evaluation of these results, a comprehensive database was developed for use in this exercise. The database contents for AC surfaced pavements are included in Appendix A while those for PCC surfaced pavements are included in Appendix B.

All sections in the data base were also standardized as to layer configuration to eliminate varying layer material types and thicknesses between evaluators -- in many instances, the evaluator had combined or split up layers in order to arrive at a reasonable solution. The resulting layer configurations are shown in Table 6 for the asphalt surfaced sections; no more than four layers were assigned to any given section. In addition, all pavement layers in the data base were grouped into the following material categories: asphaltic concrete surface (AC) layers, portland cement concrete (PCC) layers, asphalt treated or cement stabilized base or subbase (STB) layers, unbound granular base or subbase (GBSB) layers, and subgrade (SG) layers.

Overview of Evaluator's Comments and Recommendations

Before proceeding with the detailed evaluation, an overview of the comments and recommendations provided by the evaluators was undertaken to determine how they viewed each program. Although the ranking of the programs varied from one evaluator to another, MODCOMP3, MODULUS and WESDEF were overwhelmingly ranked as the top three backcalculation programs. Programs ELCON, ILLI-BACK and ISSEM4 were consistently given the lowest ratings for the following reasons:

- Despite the fact that the ELCON software can handle more complex PCC pavement structures, the program had problems with non-decreasing deflections -- which are not uncommon in SHRP sections -- and yielded unreasonable results -- high slab modulus; greater than 7 million psi -- for a number of sections (in particular Sections K and O). In addition, the program does not give an indication of the quality of the backcalculated moduli; i.e., no predicted deflection basin is generated for comparison with the measured one. Based on these shortcomings, it was decided to eliminate the ELCON program from further consideration.

- The ILLI-BACK software was specifically developed for two-layer PCC pavement systems; i.e., slab-on-subgrade. Accordingly, the program is not particularly suitable for backcalculation of the slab modulus when a base layer is

Table 6 - Final Layer Configuration Used in Evaluation

Section	Thickness/ Type	Layer No.			
		1	2	3	4*
A	Thickness Type	4.95 AC	13.40 GBSB	12.0 GBSB	 SG
B	Thickness Type	4.20 AC	5.00 GBSB	30.0 SG	 SG
C	Thickness Type	7.92 AC	8.36 STB	24.0 SG	 SG
D	Thickness Type	7.25 AC	5.50 STB	60.0 SG	 SG
E	Thickness Type	7.45 AC	6.41 STB	7.0 GBSB	 SG
F	Thickness Type	7.65 AC	14.47 GBSB	72.0 SG	 SG
G	Thickness Type	5.33 AC	9.60 PCC	4.0 GBSB	 SG
H	Thickness Type	2.54 AC	6.89 PCC	96.0 SG	 SG

* Depth varied depending on whether or not a rigid base was included in the analysis

present. This was quite obvious from the analysis results, which showed the slab modulus to be considerably higher than what would be normally expected (i.e., 3 to 7 million psi) for a number of sections (in particular, Sections J, K and O, with moduli ranging from 8 to 30 million psi). Because the sections selected for use in this study are typical of those in the SHRP LTPP experiments, this program was eliminated from further consideration.

- The ISSEM4 software, developed for the evaluation of AC pavements, was not able to achieve a reasonable solution for a number of sections -- this is particularly true for Sections G and H, but the actual number varied by evaluator -- and had convergence problems with several other sections. In addition, the program does not appear to be capable of handling a deep, stiff layer nor does it calculate deflections at the set sensors for comparison with the measured deflections. In view of this, it was concluded that the ISSEM4 program was less well suited to SHRP's needs than the alternatives.

Because a preliminary evaluation of the backcalculation results confirmed the evaluator's findings, ELCON, ILLI-BACK, and ISSEM4 were eliminated from further study. Thus, the remainder of the software evaluation focused on MODCOMP3, MODULUS, and WESDEF.

Program to Program Comparison

Several analyses were conducted to aid in the selection of software for use by SHRP. First, a very broad program-to-program comparison of the backcalculated moduli was conducted. Figures 3 through 5 summarize the results of this analysis. While there is considerable variation, it is also apparent that a very definite correlation exists between these programs; i.e., the moduli results are consistent between the three programs. From these data, two additional observations are made:

- On the basis of the correlation coefficient (R^2), the best agreement exist between the MODULUS and WESDEF programs ($R^2 = 0.89$), followed by MODCOMP3 and MODULUS ($R^2 = 0.85$), and MODCOMP3 and WESDEF ($R^2 = 0.83$).

- In general, the MODCOMP3 program tends to predict higher subgrade moduli but lower base and subbase moduli, especially when compared to the WESDEF results. The modulus of the asphaltic concrete surface layer appears to be consistent among all three programs.

While several possible reasons can be offered to explain the global differences between MODCOMP3 and the other programs, it is postulated that they were primarily related to the inclusion or omission of a deep, stiff layer (i.e., rigid base) in the backcalculation. MODULUS automatically computes a hypothetical depth to a stiff layer and WESDEF uses a default depth of 20 feet -- in each case, the user can easily override the program value but this was not done

Figure 3. Comparison of MODCOMP and MODULUS Programs

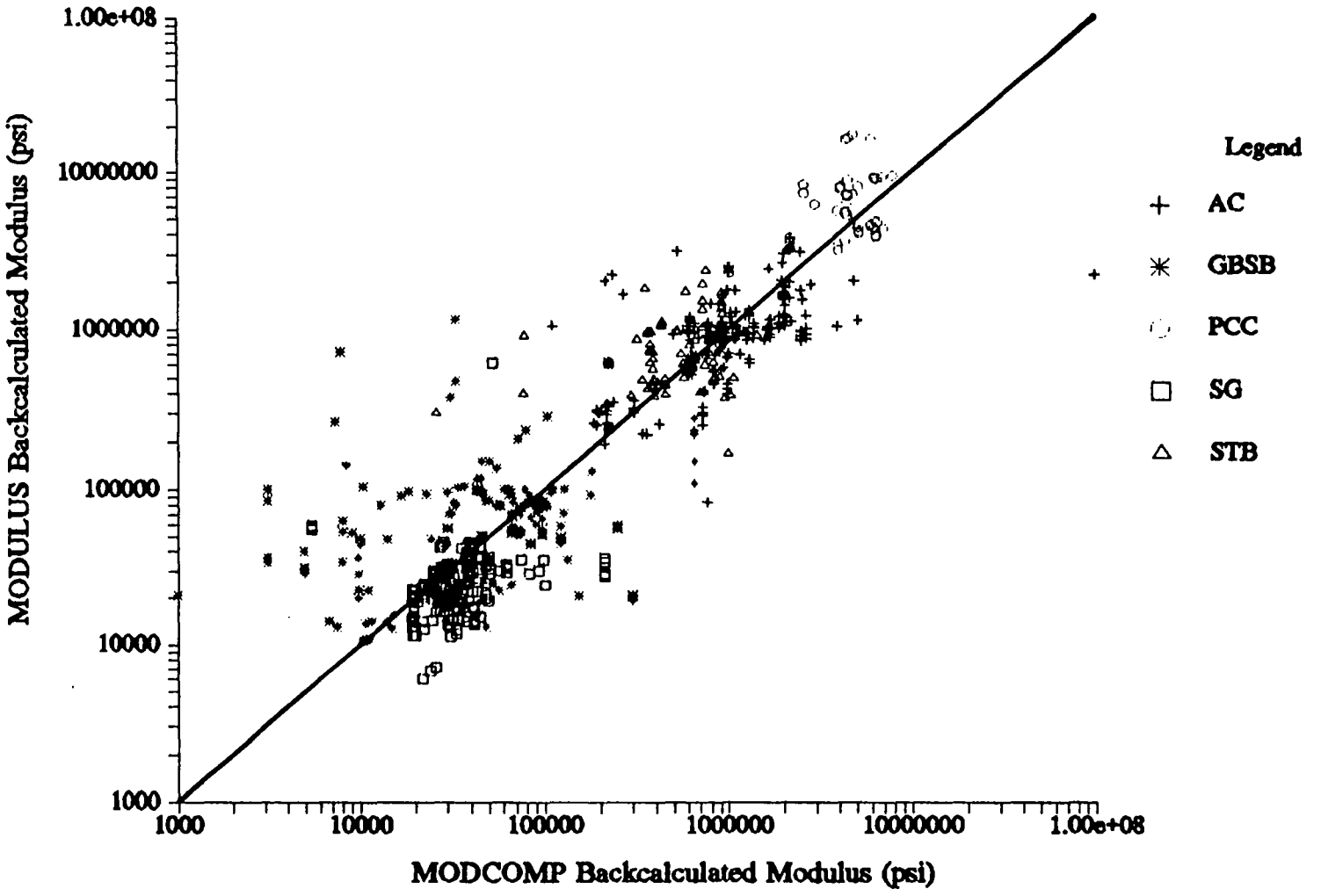


Figure 4. Comparison of Modcomp and Wesdef Programs

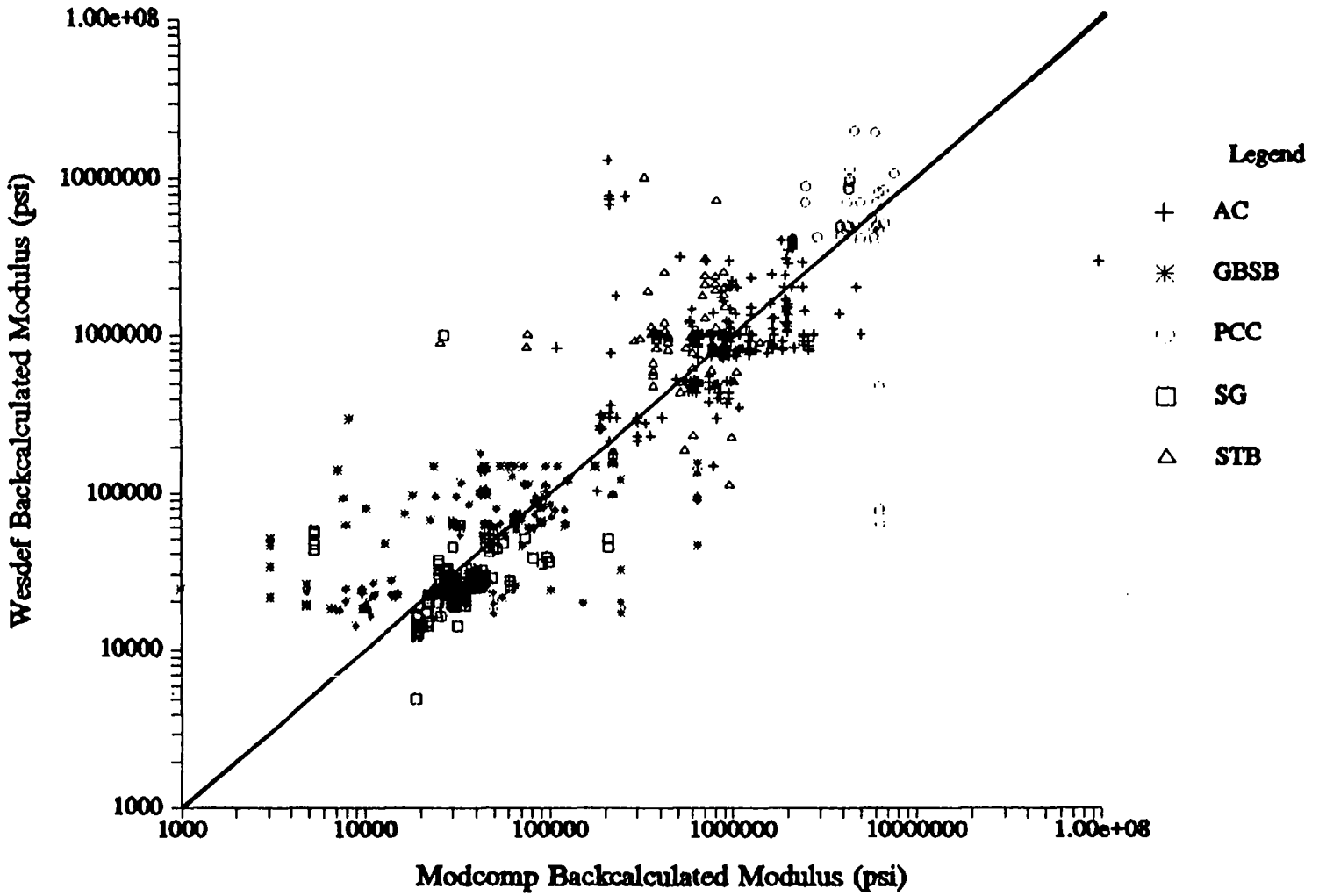
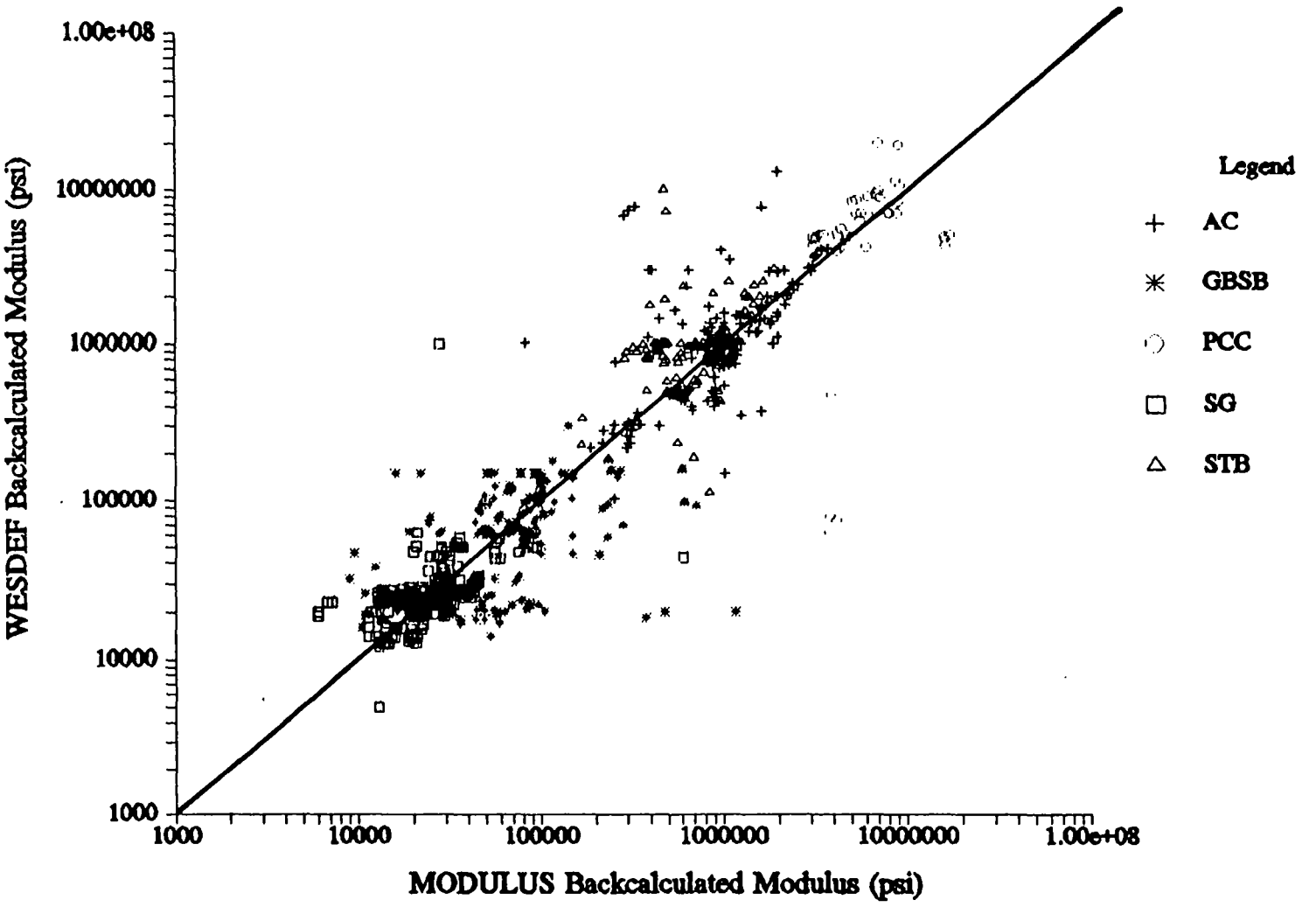


Figure 5. Comparison of MODULUS and WESDEF Programs



by most of the evaluators in the study. Since MODCOMP3 allows for the definition of as many as 15 layers, the user can easily specify a deep, stiff layer having fixed modulus. However, boring data for each section showed that bedrock was not present within the top 20 feet, thus most evaluators modeled the subgrade as a semi-infinite layer in the evaluation of this program.

If a stiff layer is included in the backcalculation, the subgrade moduli tend to be lower as compared to a solution in which such layer is not included. In turn, there is a compensating moduli effect on the remainder of the pavement layers as a result of the predicted subgrade modulus. As an example, Dr. J.P. Mahoney showed, on the basis of 63 program runs conducted as part of this study, that using a deep rigid base (at 240 to 999 inches below the pavement surface) as compared to an infinite subgrade results in mean modulus decreases of about 20% for asphaltic concrete surface layers and 70% for base layers, and a modulus increase of about 20% for the subgrade. Hence, the better correlation of results between MODULUS and WESDEF and the lower subgrade moduli for MODCOMP3. Unfortunately, this rigid base question can not be put to rest by this SHRP exercise, as true moduli or approximately true values are not known.

It should also be noted that both MODULUS and WESDEF use the WESLEA layered elastic solution as the method of forward calculation in the analysis while MODCOMP3 uses the CHEVRON code, but this was not felt to significantly influence the results. Also, the MODCOMP3 program, unlike the other two programs, can incorporate material non-linearity into the analysis. This, however, was not a factor in this study as all of the sections exhibited little, if any, stress dependency.

User Sensitivity

The next analysis in the software evaluation involved a comparison of the results generated by each individual evaluator in order to assess user variability. Since all three program developers -- Irwin, Uzan and Bush -- were a part of the evaluation panel, their results were used as the reference datum in this comparison. It was assumed that the program developers were experts in the use of their program and hence would arrive at the best set of results.

As part of this effort, plots of the moduli predicted by the program developer versus those predicted by the remaining evaluators were developed for each program. These plots are contained in Appendix C and are illustrated in Figures 6 through 8. Table 7 shows the degree of correlation associated with each individual program developer-evaluator comparison by program. Based on this information, the following observations are made:

- The ranking of the programs, in order of increasing variability (and hence lower R^2 value), is: MODULUS (average $R^2 = 0.93$), MODCOMP3 (average $R^2 = 0.77$), and WESDEF (average $R^2 = 0.72$). Thus, it appears that MODULUS is less user dependent than the other programs. However, this observation must be tempered by the fact that the degree of versatility and hence degree of

Figure 6. User Comparison: MODCOMP

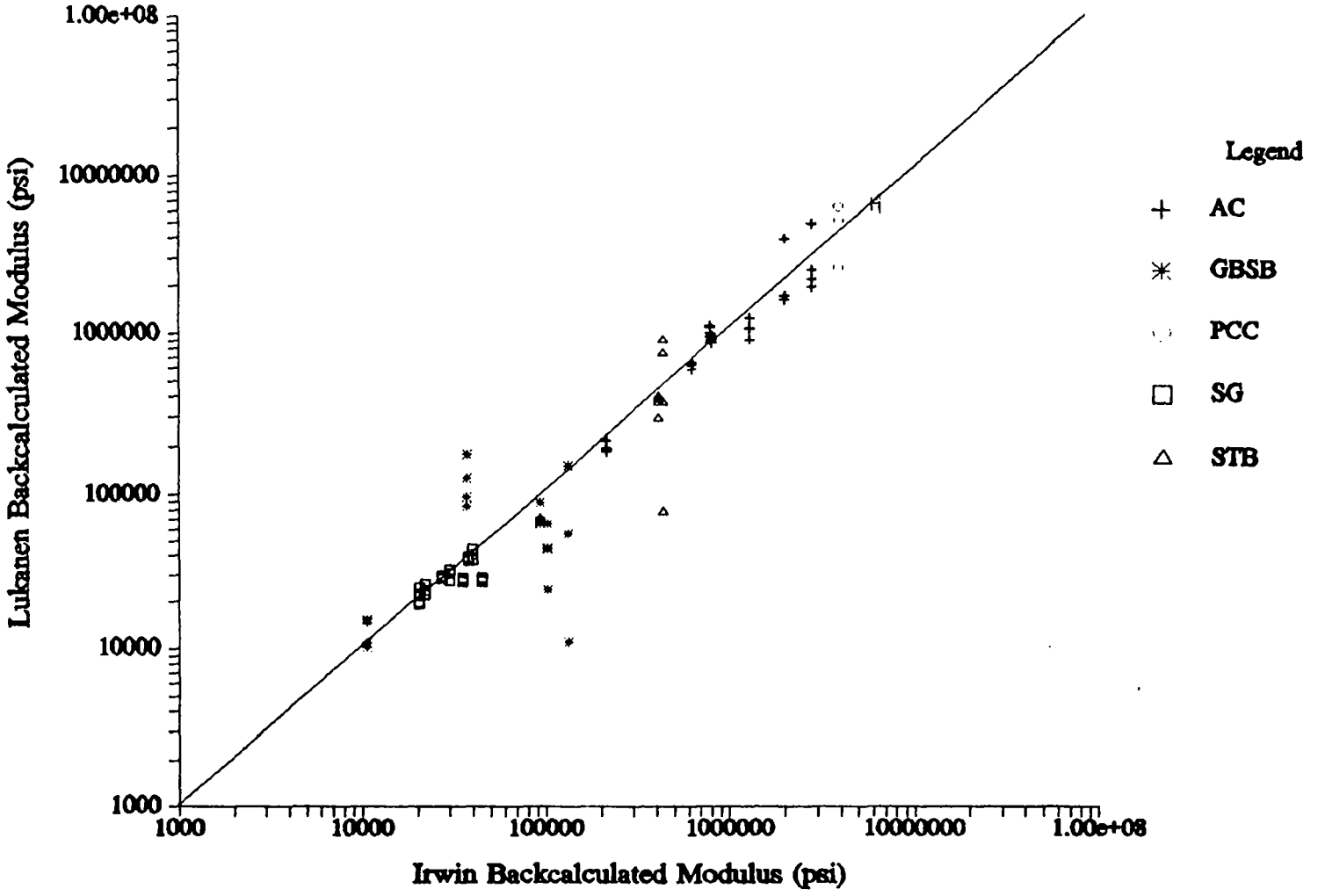


Figure 7. User Comparison: MODULUS

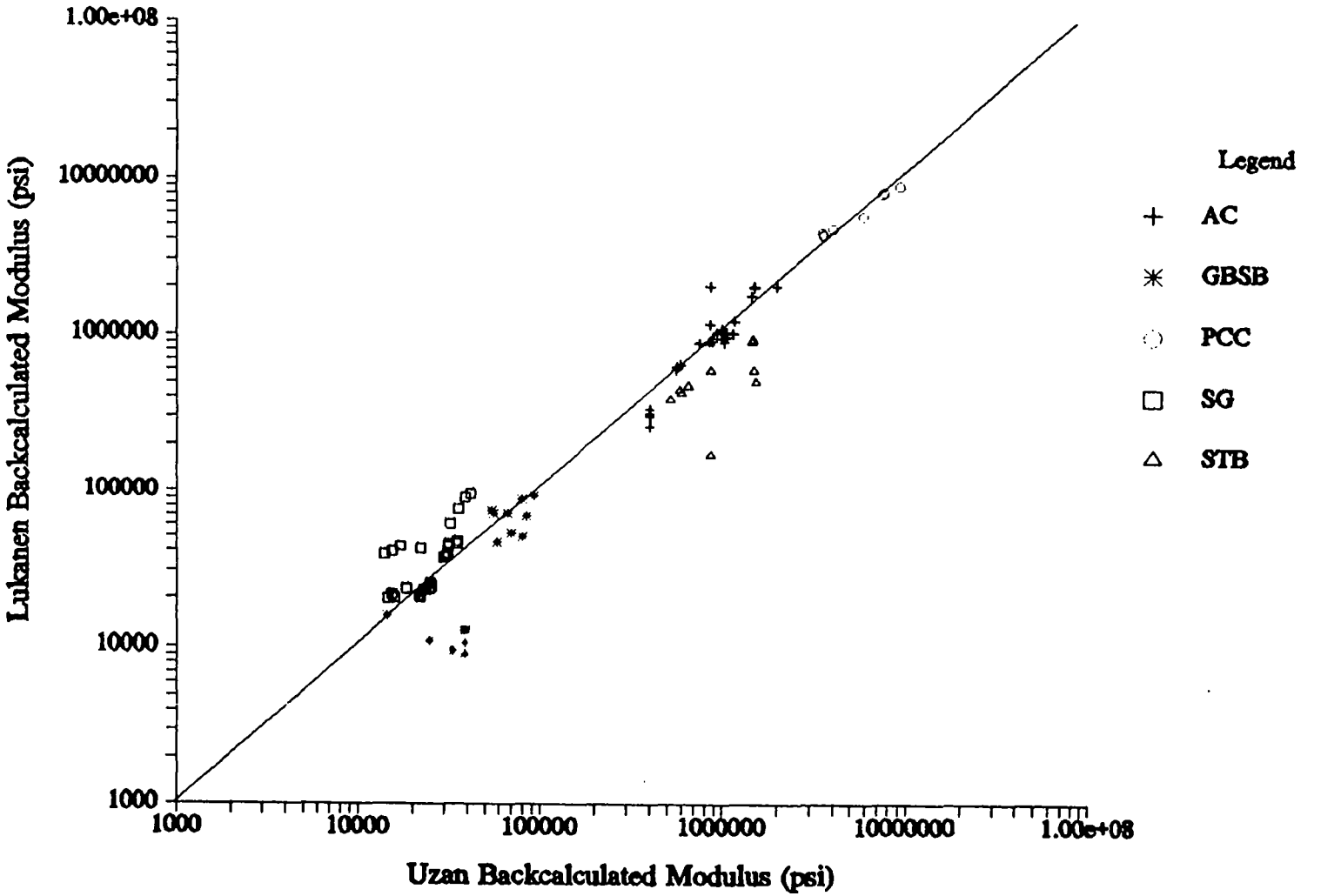


Figure 8. User Comparison: WESDEF

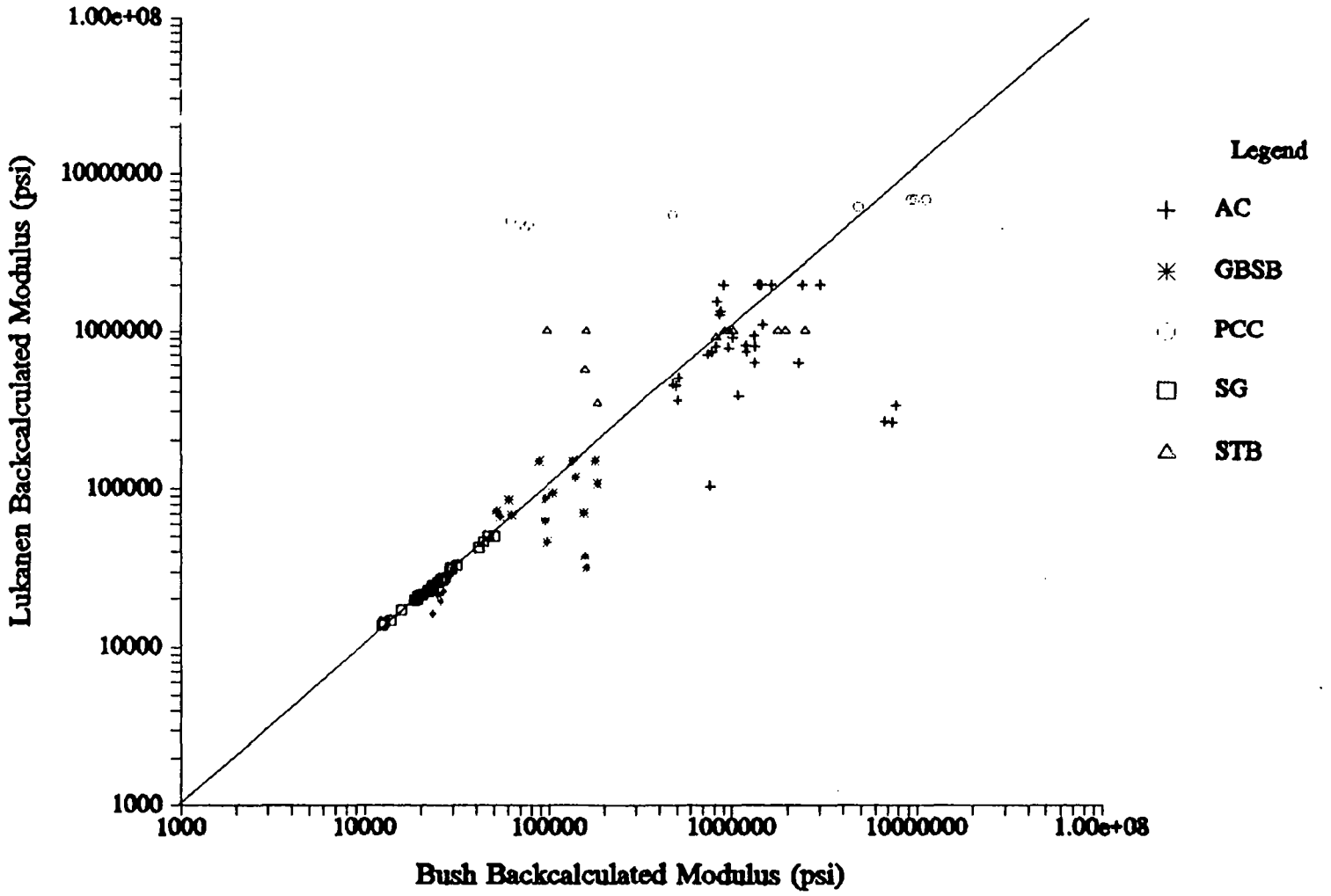


Table 7 - Results of User Comparison

User Comparison	Number of Data Points	Correlation Coefficient, R^2
MODCOMP3		
Irwin vs. Bush	128	0.80
Irwin vs. Briggs	128	0.83
Irwin vs. Connor	128	0.69
Irwin vs. Hallin	125	0.73
Irwin vs. Lukanen	108	0.83
Irwin vs. Mahoney	56	0.55
Irwin vs. Rada	116	0.91
Irwin vs. Yang	125	0.81
Average:		0.77
MODULUS		
Uzan vs. Bush	112	0.93
Uzan vs. Briggs	108	0.85
Uzan vs. Connor	112	0.93
Uzan vs. Hallin	112	0.93
Uzan vs. Irwin	28	0.88
Uzan vs. Lukanen	112	0.94
Uzan vs. Mahoney	108	0.96
Uzan vs. Rada	108	0.98
Uzan vs. Yang	112	0.96
Average:		0.93
WESDEF		
Bush vs. Briggs	116	0.75
Bush vs. Connor	128	0.76
Bush vs. Hallin	128	0.84
Bush vs. Irwin	28	0.29
Bush vs. Lukanen	128	0.74
Bush vs. Mahoney	128	0.75
Bush vs. Rada	96	0.86
Bush vs. Yang	128	0.75
Average:		0.72

sophistication required on the part of the user varies from program to program -- this is particularly true when comparing MODCOMP3 to MODULUS and WESDEF.

- The variability for the MODCOMP3 results appears to be primarily associated with the unbound granular base and subbase layers; the results for all other material layers are quite consistent from one user to another. In the case of MODULUS, the variability is mostly related to the subgrade and granular base/ subbase layers -- lower subgrade moduli and higher base/subbase moduli were generally predicted by the evaluators as compared to the program developer. For WESDEF, all material types contribute to the variability with the exception of the subgrade layer, which shows excellent agreement among all evaluators. For all three programs, it is hypothesized that the variability is primarily associated with the modeling of the pavement by each evaluator; e.g., multiple subgrade layers versus a single one in the case of MODCOMP3, variable depths to rigid base in the case of MODULUS, and definition of seed moduli and modulus ranges in the case of WESDEF.

More importantly, these findings clearly emphasize the need to develop detailed guidelines and specifications for the application of the selected software in order to achieve consistent and repeatable results from one program user to another.

Reasonableness of Results

While true moduli or approximately true values are not known, an analysis aimed at determining the reasonableness of the predicted moduli was undertaken. Using data generated by the program developers, a series of bar charts comparing the backcalculated moduli by program and pavement section were developed for each of the five material types defined earlier and are shown in Figures 9 through 13. Based on these figures, the following observations are made:

- Figure 9 shows that the backcalculated moduli for the asphaltic concrete layer appear reasonable for all three programs, except as follows. Modulus values predicted by MODCOMP3 for Sections D and G seem unusually high while that for Section H appears low. For Section G, the value predicted by MODULUS for the lowest load level appears to be high, especially when compared to the moduli for the remaining load levels. WESDEF results corresponding to the lowest load level for Sections D, F, and G seem unusually high as do the results for the three highest load levels in Section H. Also, the degree of variability associated with Section B seems somewhat high.

- While only two of the eight sections had a portland cement concrete layer (see Figure 10), the MODCOMP3 results appear reasonable for both

Figure 9. Comparison of Backcalculated Moduli by SHRP Section and Material Type

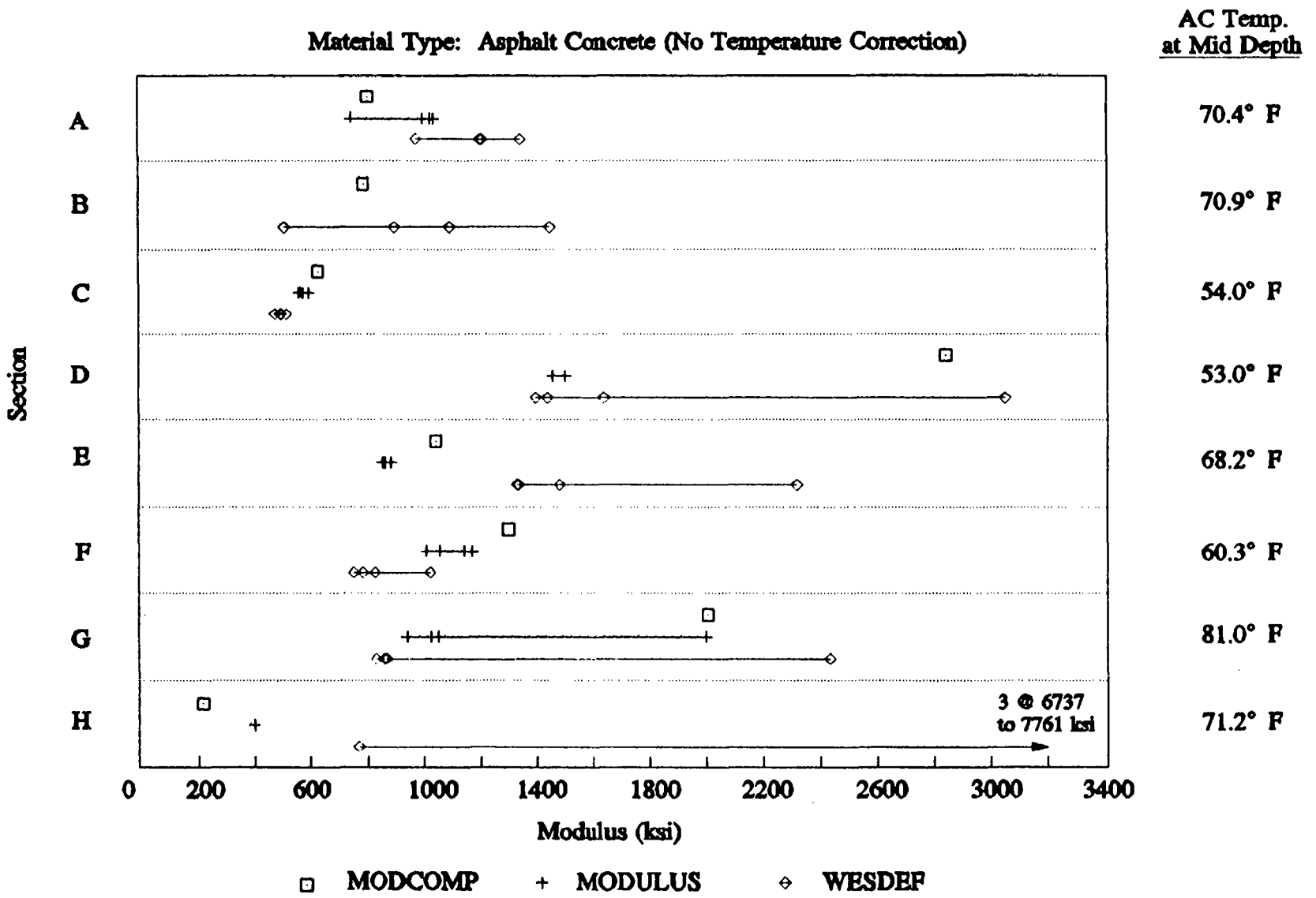


Figure 10. Comparison of Backcalculated Moduli by SHRP Section and Moduli Range

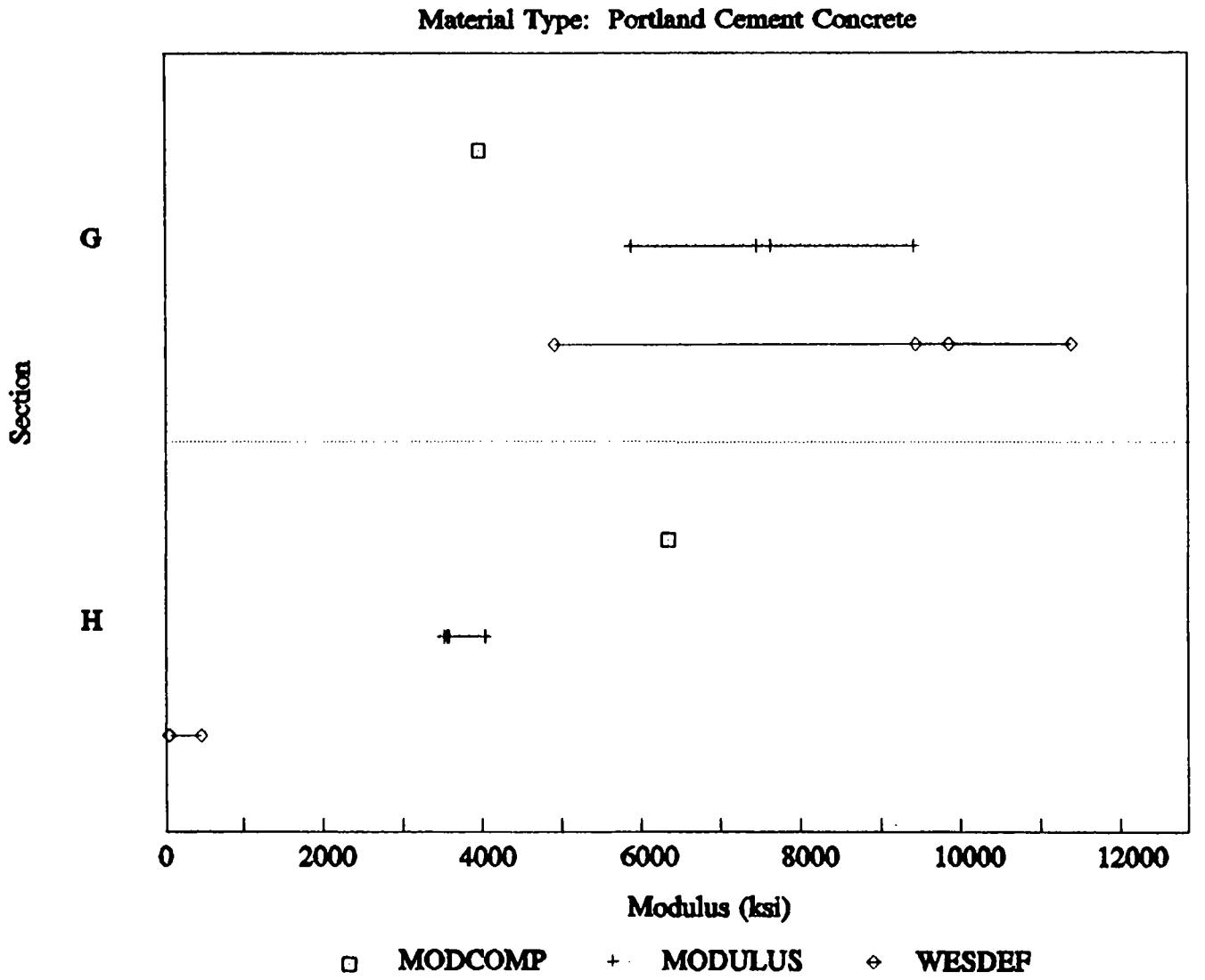


Figure 11. Comparison of Backcalculated Moduli by SHRP Section and Material Type

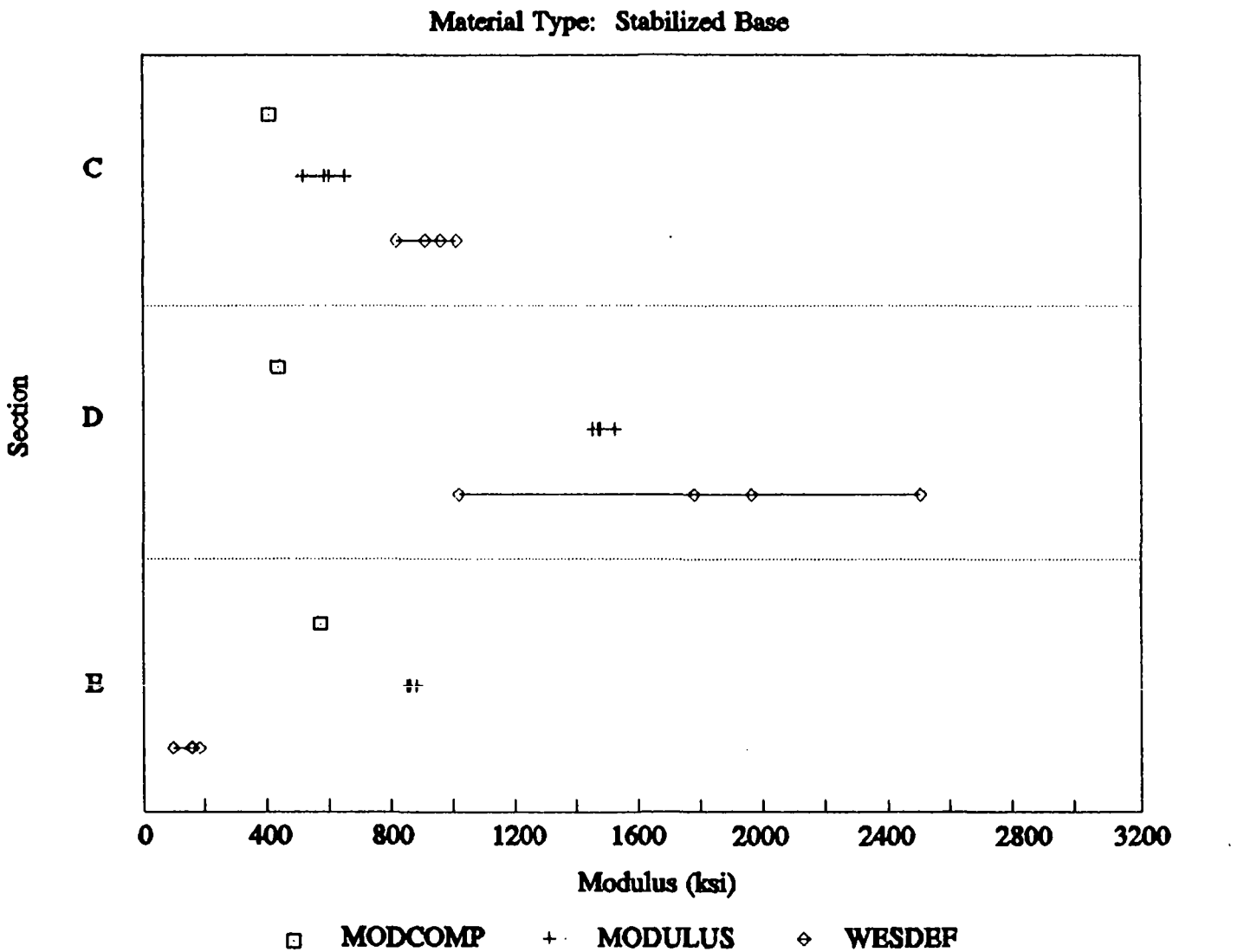


Figure 12. Comparison of Backcalculated Moduli by SHRP Section and Material Type

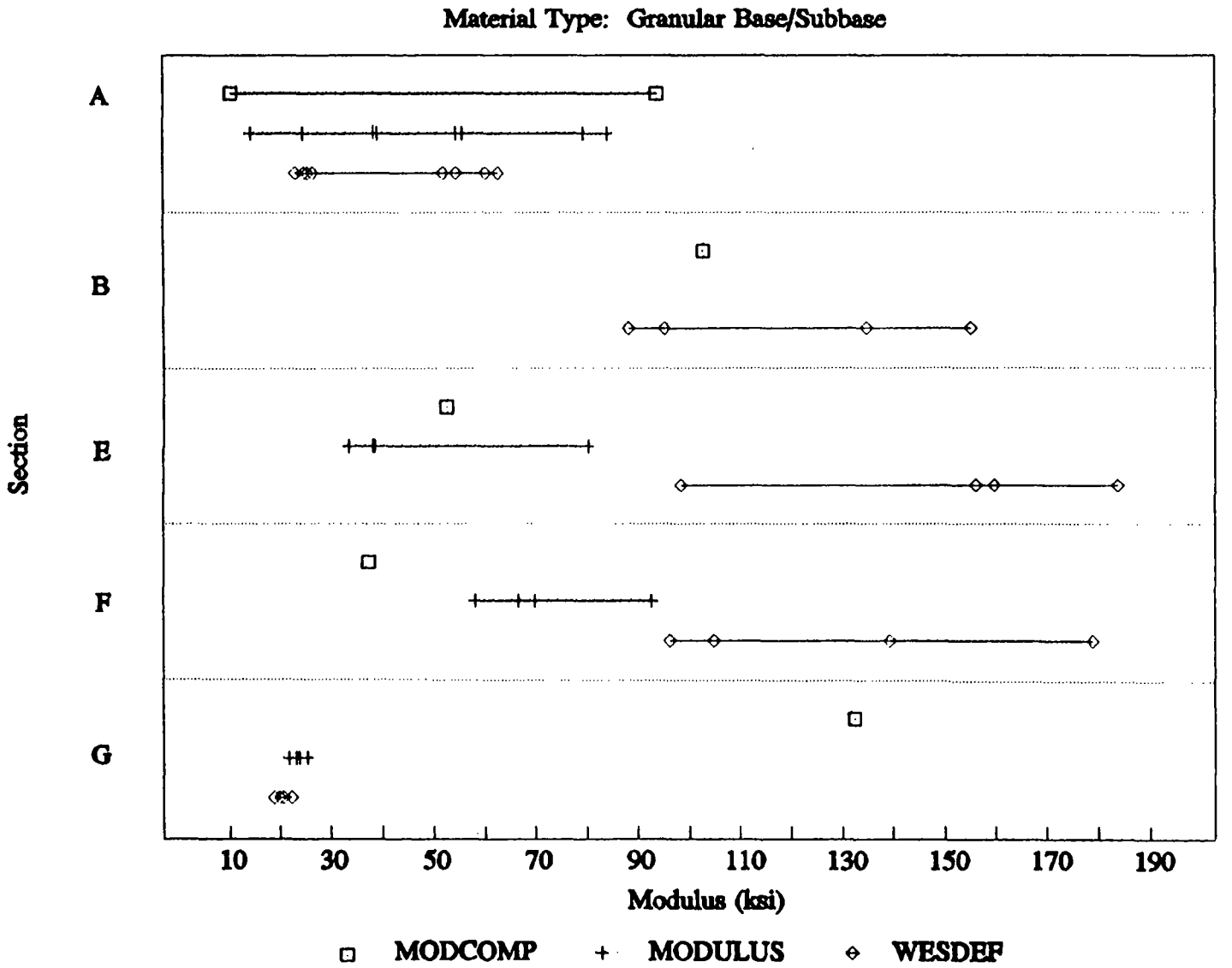
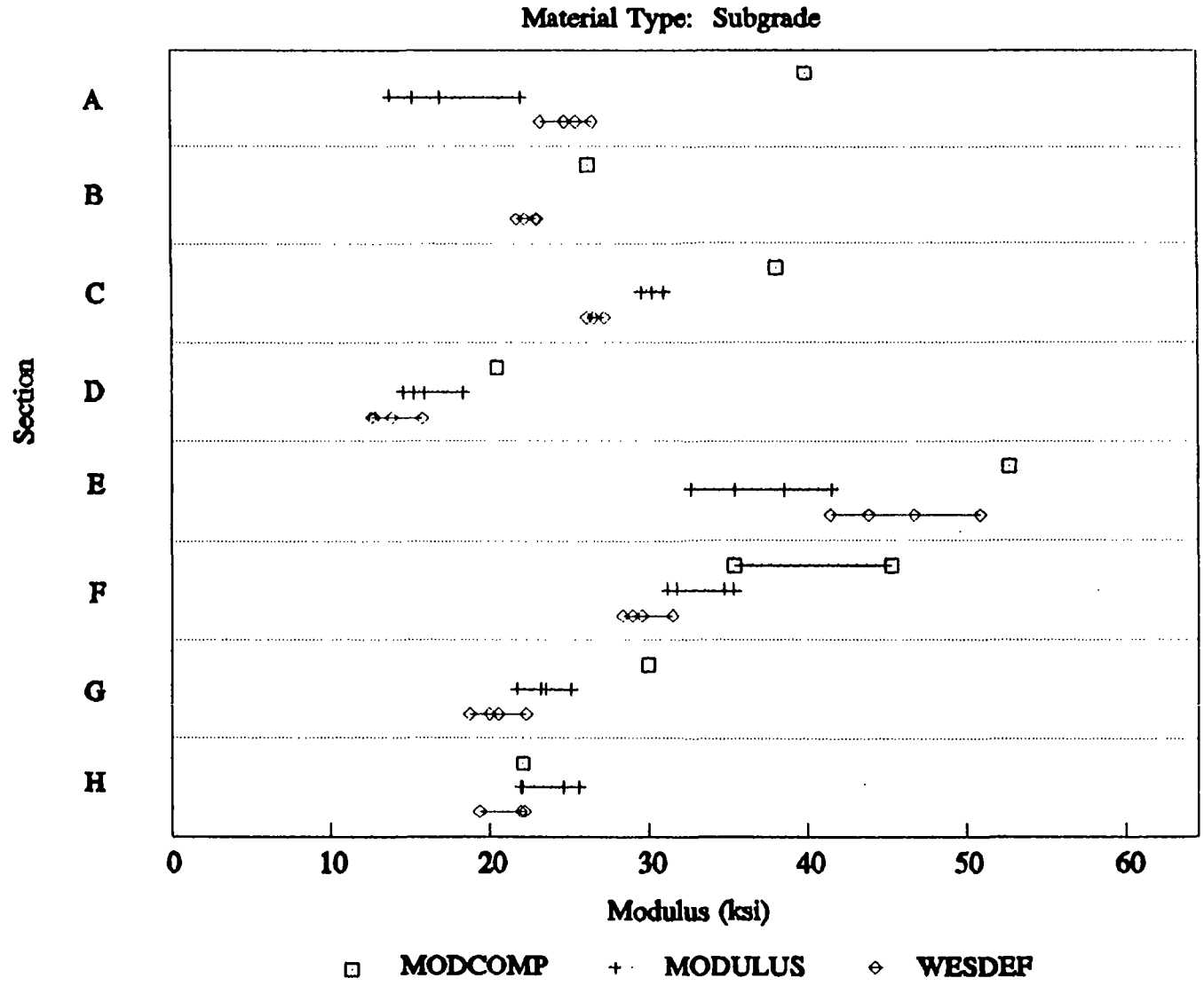


Figure 13. Comparison of Backcalculated Moduli by SHRP Section and Material Type



sections. The MODULUS results appear reasonable for Section H, but high and variable for Section G. WESDEF, on the other hand, seems to have a problem with this material type; three of the four values for Section G seem unusually high while all of those for Section H are very low.

- Figure 11 shows that the backcalculated moduli for the stabilized base and subbase materials appear reasonable, except as follows. For Section D, the MODCOMP3 modulus value seem somewhat low for a cement aggregate base, especially when compared to that of the soil cement in Section A or to the values obtained by the other two programs for this same section. The MODULUS results for Section E appear to be high at first glance, but this due to the fact that this layer was combined with the AC surface layer in the analysis. Hence, the values reflect a composite response of the two layers. WESDEF results for Section D are unusually variable and some of the values appear to be high. In addition, predicted moduli for Section E seem to be low.

- Compared to the previous material types, the results for the unbound granular base and subbase materials are considerably more variable, as shown in Figure 12, and thus more difficult to assess. MODCOMP3 results are mostly in the range of expected values, with the exception of Section G which has an unusually high modulus value especially when compared with those from the other two programs. All MODULUS predicted values appear reasonable, although somewhat high and variable for Section B. Likewise, WESDEF predicted moduli appear reasonable, although somewhat high and variable for Sections B and E.

- With regard to the backcalculated subgrade moduli, Figure 13 shows that MODCOMP3 consistently predicted higher modulus values than both MODULUS and WESDEF, which had similar values. From an earlier analysis, this difference between MODCOMP3 and the other two programs was attributed to the inclusion or omission of a deep, stiff layer. Furthermore, it was noted that the rigid base question could not be resolved through this SHRP exercise due to the absence of true moduli data.

Overall, the results of this analysis appear to indicate that both MODCOMP3 and MODULUS generate reasonable moduli more consistently than WESDEF. However, this conclusion must be tempered by the fact that reasonableness, as defined here in the absence of true moduli, refers to the subjective judgement of the P-001B staff.

Deflection Matching Errors

The most objective measure of the performance of a backcalculation program is how well it matches the measured deflection basin. As with the previous analysis, only the results generated by the program developers were used to evaluate the goodness of fit obtained with the programs. Table 8 summarizes the results of the analysis in terms of the absolute sum of errors and the root mean square parameters. Based on the work done for this evaluation, it appears that MODULUS does a better job of matching the measured deflection basin. This program, however, did not consider all of the deflections for some basins -- deflections at 60 inches from the center of the load plate were excluded from the analysis of Sections A, E and F, and those at 36 and 60 inches for Section B. Thus, it is postulated that the deflection matching errors would be worse for this program if the excluded deflections were considered.

A theoretical analysis was conducted in an attempt to further assess the accuracy of the moduli predicted by each program. Specifically, the BISAR layered elastic computer code was used to simulate deflection basins for nine pavement structures with varying material types and layer thicknesses. In turn, these basins were analyzed with the programs in question to backcalculate layer moduli for comparison with those assumed in the BISAR runs.

All simulated deflection basins were generated by Mr. R. Briggs (Texas Department of Transportation). These data were provided to the authors, along with information on the pavement structures (layer thicknesses and material types) but not the moduli used in the generation of the basins. These assumed moduli were later provided to the authors, after all backcalculation analyses had been completed. Thus, seed moduli or moduli ranges were assigned for each pavement layer on the basis of material type. In the absence of knowledge or algorithms to compute the depth to rigid layer, a semi-infinite subgrade was assumed in this simulated analysis.

Table 9 presents the pavement structure and simulated deflection basins used in the analysis; Table 10 summarizes the backcalculated moduli and the comparison of assumed and predicted values; and Table 11 gives the deflection matching errors (sum of absolute errors and root mean square) associated with the layer moduli presented in Table 10. In general, the analysis results show that all three programs do an excellent job of matching the assumed moduli as well as the corresponding deflection basins. However, MODULUS is given higher marks on the basis that it more closely and consistently matched the simulated moduli and deflections.

Other Factors and Program Features

It is clear from the preceding discussion, and the analyses which support it, that MODCOMP3, MODULUS, and WESDEF, are useful tools for backcalculation, which can produce good results. The programs do, however, have different strengths and weaknesses. Based on the work done for this evaluation, it can be concluded that MODCOMP3 produces results which match the measured deflection basins quite well, are reasonably independent of the user, and are

Table 8 - Summary of Deflection Errors

Section	Load	Absolute Sum of Errors (%)			Root Mean Square (%)		
		MODCOMP	MODULUS	WESDEF	MODCOMP	MODULUS	WESDEF
A	1		3.73[1]	11.80		0.73[1]	2.24
	2		2.80[1]	6.00		0.57[1]	1.22
	3		4.43[1]	5.54		0.82[1]	0.92
	4	4.57	3.02[1]	7.18	1.09	0.61[1]	1.36
B	1		2.81[2]	76.88		0.61[2]	12.15
	2		2.72[2]	59.21		0.60[2]	10.30
	3		2.70[2]	52.87		0.61[2]	9.11
	4	14.71	2.63[2]	49.43	4.35	0.63[2]	8.44
C	1		21.37	37.26		3.95	6.23
	2		17.21	24.92		3.25	4.42
	3		13.76	20.63		2.53	3.23
	4	8.25	13.76	21.01	2.02	2.61	3.52
D	1		12.71	11.32		2.30	1.96
	2		11.30	16.23		1.81	2.44
	3		8.21	9.05		1.36	1.52
	4	10.72	9.44	9.04	3.61	2.01	1.54
E	1		12.35[1]	23.03		3.11[1]	3.84
	2		9.41[1]	13.89		2.08[1]	3.15
	3		13.41[1]	9.30		2.69[1]	1.47
	4	22.31	18.19[1]	11.86	5.80	3.88[1]	1.91
F	1		4.47[1]	30.73		0.81[1]	6.11
	2		8.75[1]	21.56		1.70[1]	3.72
	3		12.52[1]	13.61		3.99[1]	2.48
	4	3.94	2.22[1]	12.90	0.85	0.44[1]	1.97
G	1		13.49	5.89		2.07	1.11
	2		2.73	5.12		0.49	0.94
	3		1.85	8.86		0.33	1.39
	4	5.45	1.73		1.71	0.31	
H	1		10.50	12.36		1.71	2.21
	2		12.46	7.09		2.17	1.22
	3		10.43	7.06		1.77	1.30
	4	30.38	9.85	10.54	10.75	1.71	1.92
Average		12.54	8.66	19.75	3.77	1.70	3.40
Std. Dev.		9.47	5.50	17.77	3.30	1.13	2.96
COV		0.76	0.64	0.90	0.87	0.67	0.87
Min		3.94	1.73	5.12	0.85	0.31	0.92
Max		30.38	21.37	76.88	10.75	3.99	12.15

[1] Excludes deflection at r=60 inches
[2] Excludes deflection at r=36 and 60 inches

Table 9 - BISAR Simulated Deflection Data

ID	Layer	Material	Thickness (inches)	Surface Deflection (mils)						
				r=0"	r=8"	r=12"	r=18"	r=24"	r=36"	r=60"
1	1	Asphalt Concrete	3	32.90	23.20	17.80	12.60	9.51	6.15	3.57
	2	Granular Base	6							
	3	Subgrade								
2	1	Asphalt Concrete	6	30.10	24.50	21.70	18.50	15.90	12.20	7.73
	2	Granular Base	12							
	3	Subgrade								
3	1	Asphalt Concrete	8	8.97	7.95	7.56	7.07	6.57	5.61	4.00
	2	Cement Stab. Base	6							
	3	Subgrade								
4	1	PCC Slab	9	8.94	8.41	8.05	7.48	6.91	5.80	4.02
	2	Lime Stab. Base	6							
	3	Subgrade								
5	1	PCC Slab	6	18.10	16.60	15.50	13.70	11.90	8.97	5.26
	2	Subgrade								
6	1	PCC Slab	12	8.38	8.06	7.91	7.71	7.50	7.05	6.10
	2	Cement Stab. Base	6							
	3	Subgrade								
7	1	Asphalt Concrete	3	7.50	6.13	5.87	5.43	4.97	4.09	2.72
	2	PCC Slab	9							
	3	Subgrade								
8	1	Asphalt Concrete	5	6.56	5.48	5.27	5.01	4.73	4.14	3.08
	2	PCC Slab	10							
	3	Lime Stab. Base	8							
	4	Subgrade								
9	1	Asphalt Concrete	4	6.89	5.87	5.74	5.59	5.42	5.05	4.28
	2	PCC Slab	12							
	3	Asphalt Stab. Base	8							
	4	Subgrade								

Load = 16,000 lbs Load Radius = 5.91 inches

TABLE 10

COMPARISON OF ASSUMED VERSUS BACKCALCULATED MODULI

Material Type	Layer Thickness (inches)	Assumed Moduli (BISAR) (psi)	Backcalulated Moduli			% Difference		
			Modcomp	Modulus	Wesdef	Modcomp	Modulus	Wesdef
AC	3	500000	553118	481700	480658	-10.62%	3.66%	3.87%
GB	6	50000	49520	51100	60371	0.96%	-2.20%	-20.74%
SG	---	20000	19973	20000	18723	0.14%	0.00%	6.39%
AC	6	300000	288840	311000	254599	3.72%	-3.67%	15.13%
GB	12	60000	65227	59100	75465	-8.71%	1.50%	-25.77%
SG	---	10000	9854	10000	9359	1.46%	0.00%	6.41%
AC	8	1000000	1100365	969700	960804	-10.04%	3.03%	3.92%
CTB	6	2000000	1610059	2130900	2436563	19.50%	-6.54%	-21.83%
SG	---	20000	19826	20100	18433	0.87%	-0.50%	7.84%
PCC	9	4000000	3572500	3118800	3645284	10.69%	22.03%	8.87%
LTB	6	60000	118685	237300	176950	-97.81%	-295.50%	-194.92%
SG	---	20000	19808	19700	18268	0.96%	1.50%	8.66%
PCC	6	3000000	2622308	2970800	3257227	12.59%	0.97%	-8.57%
SG	---	15000	15495	15100	13978	-3.30%	-0.67%	6.81%
PCC	12	4000000	4000000 *	4246400	3757139	0.00%	-6.16%	6.07%
CTB	6	2000000	1794517	1829600	2406254	10.27%	8.52%	-20.31%
SG	---	10000	9907	10000	8594	0.93%	0.00%	14.06%
AC	3	300000	298462	304000	256023	0.51%	-1.33%	14.66%
PCC	9	4000000	3240565	3883500	4899980	18.99%	2.91%	-22.50%
SG	---	30000	31381	30300	26828	-4.60%	-1.00%	10.57%
AC	5	600000	946524	649300	591949	-57.75%	-8.22%	1.34%
PCC	10	4000000	2223404	2764400	3871242	44.41%	30.89%	3.22%
LTB	8	100000	234554	254900	174140	-134.55%	-154.90%	-74.14%
SG	---	25000	24056	24700	22760	3.78%	1.20%	8.96%
AC	4	500000	500000 *	447900	493080	0.00%	10.42%	1.38%
PCC	12	4000000	4000000 *	7096600	3733876	0.00%	-77.42%	6.65%
STB	8	1000000	940431	367300	1300568	5.96%	63.27%	-30.06%
SG	---	15000	14796	15100	12996	1.36%	-0.67%	13.36%
AC	6	300000	261094	303700	288906	12.97%	-1.23%	3.70%
GB	12	60000	73236	59900	61677	-22.06%	0.17%	-2.80%
SG	36	10000	7817	10000	10175	21.83%	0.00%	-1.75%

Note: (1) AC = Asphalt Concrte, GB = Dense Graded Aggregate, PCC = Portland Cement Concrte, SG = Subgrade
CTB = Cement Stabilized Base, LTB = Lime Stabilized Base, ATB = Asphalt Stabilized Base

* Fixed Modulus Value

Table 11 - Summary of Deflection Errors: Simulated Data

Section	Absolute Sum of Errors (%)			Root Mean Square (%)		
	MODCOMP	MODULUS	WESDEF	MODCOMP	MODULUS	WESDEF
1	11.62	0.85[1]	14.20	2.36	0.16[1]	2.32
2	1.74	0.82	7.20	0.34	0.17	1.12
3	4.03	1.27	1.60	0.81	0.22	0.26
4	4.13	3.06	1.40	0.81	0.52	0.23
5	18.71	1.29	4.70	3.68	0.20	0.91
6	25.97	0.63	1.40	6.80	0.12	0.21
7	14.19	0.75	8.60	3.24	0.15	1.47
8	1.59	2.06	4.00	0.37	0.37	0.58
9	21.72	1.11	3.90	5.42	0.19	0.57
Average	11.52	1.32	5.22	2.65	0.23	0.85
Std. Dev.	9.20	0.78	4.21	2.34	0.13	0.70
COV	0.80	0.59	0.81	0.88	0.56	0.82
Min	1.59	0.63	1.40	0.34	0.12	0.21
Max	25.97	3.06	14.20	6.80	0.52	2.32

[1] Excludes deflection at r=60 inches

generally "reasonable". In addition, it is the most flexible of the programs evaluated by virtue of the fact that it allows the user to model up to fifteen layers (though not more than five should be modelled as having unknown moduli which are to be backcalculated), with the deepest layer treated as a layer of known high modulus (i.e., bedrock or a "rigid" layer), or not, as the user desires, and the fact that it is the only program of those evaluated which allows the user to model stress-sensitivity of the pavement layers. This ability was not significant in the analyses conducted for this evaluation, because the pavement investigated did not demonstrate significant non-linear materials behavior, but could be important in some circumstances.

In the same analyses, MODULUS does a slightly better job of matching the measured deflections basins, is slightly more independent of the user, and also produces results which are generally "reasonable". It is postulated that the closer fit of the measured deflection basins is due in part to the use of an algorithm in MODULUS to calculate effective depth to rigid layer, and to the exclusion of some of the outer deflections from the calculations for some of the deflection basins. Although it is widely recognized that the presence of a true or "effective" rigid layer in the pavement cross section can have a significant effect on measured deflections, and hence, backcalculated moduli, the book on how to address this effect in the analysis of pavement deflection data has clearly not been completed. Also, it is logical to conclude that the lower degree of user dependence of MODULUS, as compared to MODCOMP3, comes about as a result of fewer options with respect to modelling of the pavement structure (i.e., less flexibility).

The performance of WESDEF was similar to that of MODCOMP3 (i.e., not quite as good as MODULUS), with respect to the ability to match measured deflection basins. However, the results are somewhat less independent of the user, and are subjectively judged to be slightly less "reasonable" for the sections evaluated. Again, it may be postulated that these results are at least partially due to the manner in which the presence or absence of a rigid layer in the subgrade is handled.

Final Software Selection

The results of the software evaluation were compiled by members of the P-001B staff and submitted to the Deflection Testing and Backcalculation ETG members for review and comment. At about the same time, laboratory materials data became available for the pavement sections included in the evaluation, and they were subsequently provided to the ETG members to support their review efforts. Laboratory test data for the AC surfaced pavements is summarized in Appendix D, while that for PCC surfaced pavements is contained in Appendix E.

Comments and suggestions regarding the final software selection were solicited from the reviewers at a meeting of SHRP's LTPP Deflection Testing and Backcalculation ETG in October, 1991. In general, the ETG members agreed with the recommendations of the P-001B staff: Based on the evaluations that were performed, the demonstrated performance of MODULUS is somewhat superior to that of the other programs, although one or both of the other programs may be better for an individual section. Thus, MODULUS was selected as the

primary backcalculation program to be used in the initial analysis of the SHRP deflection data. In addition, it was tentatively planned to use MODCOMP3 (or at least try to do so) in instances where satisfactory solutions can not be achieved with MODULUS. However, in light of a serious flaw identified in the CHEVRON code, MODCOMP3 (which uses this code) was withdrawn from consideration by SHRP, leaving MODULUS as the sole backcalculation program.

Procedure Development and Application

Shortly after the final software selection, the procedure development stage of this study commenced. SHRP's goal in this stage of the process was to glean from the results of the software evaluation exercise as much information as possible as to what input criteria need to be applied to make the backcalculation process as straight forward, productive, successful, and consistent as possible. Backcalculation is a laborious process, requiring a high degree of skill, and the results are known to be moderately to highly dependent on the individual doing the backcalculation, as illustrated by the SHRP software evaluation results. This comes about for a number of reasons, including the lack of a consensus standard addressing all aspects of the backcalculation process.

The SHRP backcalculation procedure, which was recently completed, combines the MODULUS program with a rigorous set of application rules. These rules rely on the wealth of information stored in the LTPP data base -- deflection, pavement structure and materials, and surface layer temperature data -- to generate the input for the MODULUS program. The SHRP backcalculation rules address three major areas. The first group of rules focuses on the definition of the moduli ranges required to run the MODULUS program, the second set of rules addresses the modeling of the pavement structure for purposes of backcalculation, and the third and final set of rules focuses on the evaluation of the backcalculation results. A more detailed discussion of the final SHRP backcalculation procedure is presented in Reference (5).

The SHRP backcalculation procedure has also been automated to a high degree, thus reducing opportunities for operator error, and between user inconsistencies. Data base queries are used to generate the data files for input into the MODULUS backcalculation program. For example, the procedure draws on the laboratory materials data in the LTPP data base to determine ranges of moduli or seed moduli for each of the pavement layers in question. In instances where the surface layer is thin (e.g., less than three inches), a conditional query has been established to set the surface modulus as a known value, based on the temperature at the time of testing, and other known properties of the asphalt concrete.

Initially, the SHRP backcalculation procedure will be applied to the data from one test point on each of the SHRP test sections -- that point being the "test pit location" -- a point for which SHRP has deflection data and accurate layer thickness information, as well as field and laboratory materials data. Eventually, the procedure will be applied to all of the SHRP deflection data. Furthermore, despite the established rules and high degree of automation, the

evolving nature of the science (or art) of backcalculation makes it very likely that early experiences with the SHRP procedure will bring to light areas where further refinement is needed. Hence, it is anticipated that the initial release of the SHRP backcalculation procedure will be followed up, as we learn more about the strengths, weaknesses, and requirements of the process.

SUMMARY AND CONCLUSIONS

The objective of the study presented in this report was to evaluate existing backcalculation software for the purpose of developing a SHRP backcalculation procedure. This procedure is necessary in order to provide preliminary layer moduli values from deflection testing performed on SHRP LTPP test sections. The tremendous volume of deflection data combined with the wide variety of pavement structural cross sections dictates the need for a thorough and detailed approach to using the selected backcalculation software to ensure consistency in the results obtained by those responsible for the analysis.

With the concurrence of the ETG, the approach taken in this study consisted of a literature review to develop a listing of available backcalculation software. This listing was reviewed in the context of the numerous SHRP requirements to eliminate the programs which were obviously not useful on the basis of inability to function in a production level processing of NDT data, or had limitations with respect to output, or were not available for evaluation. From the list, six programs were selected for detailed evaluation: ELCON, ILLI-BACK, ISSEM4, MODCOMP3, MODULUS, and WESDEF. Once the software was selected for evaluation, 16 sets of deflection data, 8 asphalt surfaced and 8 PCC surfaced, were extracted from the test pit data files of LTPP sections distributed throughout the four SHRP environmental regions. The pavement structures included all GPS experiment types.

The software and data sets were provided to each member of a group of evaluators which also included the program developers. Each evaluator was requested to perform backcalculation of the data sets using all of the six programs provided. Not all evaluators used all of the programs for one reason or another, however, the body of results was deemed sufficient to perform comparative analyses of the programs.

Initial review of the backcalculation results provided information sufficient to cause three programs -- ELCON, ILLI-BACK, and ISSEM4 -- to be eliminated from further study. The three remaining programs -- MODCOMP3, MODULUS, WESDEF -- were analyzed for user repeatability, reasonableness of results, deflection matching errors, ability to match assumed moduli from simulated deflection basins, and versatility.

Based on these analysis, it was concluded that the performance of MODULUS was superior to that of the other programs. Hence, MODULUS was selected as the primary program to be used in the initial analysis of SHRP deflection data.

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APPENDIX A

LAYER MODULI RESULTS - AC PAVEMENTS

Appendix A contains the moduli results developed by the study participants for each AC backcalculation program, SHRP test section, FWD load, and layer material combination. In order to minimize space, material types have been assigned the following codes:

AC	=	Asphalt concrete
PCC	=	Portland cement concrete
STB	=	Asphalt treated or cement stabilized base or subbase
GBSB	=	Unbound granular base or subbase
SG	=	Subgrade

In many cases, the evaluators conducted multiple runs for a section. All such runs have been included in this appendix.

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	ISSEM4	A	7246	1	4.95	AC	491.0
Briggs	ISSEM4	A	7246	2	13.40	GBSB	102.0
Briggs	ISSEM4	A	7246	3	12.00	GBSB	12.7
Briggs	ISSEM4	A	7246	4		SG	37.1
Briggs	ISSEM4	A	10006	1	4.95	AC	586.0
Briggs	ISSEM4	A	10006	2	13.40	GBSB	94.0
Briggs	ISSEM4	A	10006	3	12.00	GBSB	8.1
Briggs	ISSEM4	A	10006	4		SG	46.5
Briggs	ISSEM4	A	12644	1	4.95	AC	413.0
Briggs	ISSEM4	A	12644	2	13.40	GBSB	125.0
Briggs	ISSEM4	A	12644	3	12.00	GBSB	10.6
Briggs	ISSEM4	A	12644	4		SG	28.4
Briggs	ISSEM4	A	17054	1	4.95	AC	648.0
Briggs	ISSEM4	A	17054	2	13.40	GBSB	120.0
Briggs	ISSEM4	A	17054	3	12.00	GBSB	10.0
Briggs	ISSEM4	A	17054	4		SG	33.8
Briggs	ISSEM4	B	6460	1	4.20	AC	616.0
Briggs	ISSEM4	B	6460	2	5.00	GBSB	109.0
Briggs	ISSEM4	B	6460	3	30.00	SG	23.7
Briggs	ISSEM4	B	6460	4		SG	23.7
Briggs	ISSEM4	B	9596	1	4.20	AC	506.0
Briggs	ISSEM4	B	9596	2	5.00	GBSB	121.0
Briggs	ISSEM4	B	9596	3	30.00	SG	25.6
Briggs	ISSEM4	B	9596	4		SG	25.6
Briggs	ISSEM4	B	12700	1	4.20	AC	818.0
Briggs	ISSEM4	B	12700	2	5.00	GBSB	116.0
Briggs	ISSEM4	B	12700	3	30.00	SG	25.0
Briggs	ISSEM4	B	12700	4		SG	25.0
Briggs	ISSEM4	B	16362	1	4.20	AC	505.0
Briggs	ISSEM4	B	16362	2	5.00	GBSB	165.0
Briggs	ISSEM4	B	16362	3	30.00	SG	27.2
Briggs	ISSEM4	B	16362	4		SG	27.2
Briggs	ISSEM4	C	6616	1	7.92	AC	924.0
Briggs	ISSEM4	C	6616	2	8.36	STB	168.0
Briggs	ISSEM4	C	6616	3	24.00	SG	40.5
Briggs	ISSEM4	C	6616	4		SG	40.5
Briggs	ISSEM4	C	9522	1	7.92	AC	905.0
Briggs	ISSEM4	C	9522	2	8.36	STB	165.0
Briggs	ISSEM4	C	9522	3	24.00	SG	41.3
Briggs	ISSEM4	C	9522	4		SG	41.3
Briggs	ISSEM4	C	12958	1	7.92	AC	781.0
Briggs	ISSEM4	C	12958	2	8.36	STB	199.0
Briggs	ISSEM4	C	12958	3	24.00	SG	41.2

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	ISSEM4	C	12958	4		SG	41.2
Briggs	ISSEM4	C	16696	1	7.92	AC	844.0
Briggs	ISSEM4	C	16696	2	8.36	STB	264.0
Briggs	ISSEM4	C	16696	3	24.00	SG	39.8
Briggs	ISSEM4	C	16696	4		SG	39.8
Briggs	ISSEM4	D	6264	1	7.25	AC	1200.0
Briggs	ISSEM4	D	6264	2	5.50	STB	711.0
Briggs	ISSEM4	D	6264	3	60.00	SG	29.5
Briggs	ISSEM4	D	6264	4		SG	29.5
Briggs	ISSEM4	D	9474	1	7.25	AC	1200.0
Briggs	ISSEM4	D	9474	2	5.50	STB	652.0
Briggs	ISSEM4	D	9474	3	60.00	SG	24.6
Briggs	ISSEM4	D	9474	4		SG	24.6
Briggs	ISSEM4	D	12914	1	7.25	AC	1200.0
Briggs	ISSEM4	D	12914	2	5.50	STB	863.0
Briggs	ISSEM4	D	12914	3	60.00	SG	21.8
Briggs	ISSEM4	D	12914	4		SG	21.8
Briggs	ISSEM4	D	17474	1	7.25	AC	1200.0
Briggs	ISSEM4	D	17474	2	5.50	STB	912.0
Briggs	ISSEM4	D	17474	3	60.00	SG	22.7
Briggs	ISSEM4	D	17474	4		SG	22.7
Briggs	ISSEM4	E	7608	1	7.45	AC	985.0
Briggs	ISSEM4	E	7608	2	6.41	STB	985.0
Briggs	ISSEM4	E	7608	3	7.00	GBSB	11.3
Briggs	ISSEM4	E	7608	4		SG	73.3
Briggs	ISSEM4	E	9752	1	7.45	AC	1000.0
Briggs	ISSEM4	E	9752	2	6.41	STB	1000.0
Briggs	ISSEM4	E	9752	3	7.00	GBSB	14.1
Briggs	ISSEM4	E	9752	4		SG	61.2
Briggs	ISSEM4	E	12714	1	7.45	AC	954.0
Briggs	ISSEM4	E	12714	2	6.41	STB	954.0
Briggs	ISSEM4	E	12714	3	7.00	GBSB	16.6
Briggs	ISSEM4	E	12714	4		SG	56.6
Briggs	ISSEM4	E	17764	1	7.45	AC	1020.0
Briggs	ISSEM4	E	17764	2	6.41	STB	1020.0
Briggs	ISSEM4	E	17764	3	7.00	GBSB	13.5
Briggs	ISSEM4	E	17764	4		SG	60.1
Briggs	ISSEM4	F	6534	1	7.65	AC	1150.0
Briggs	ISSEM4	F	6534	2	14.47	GBSB	74.4
Briggs	ISSEM4	F	6534	3	72.00	SG	46.8
Briggs	ISSEM4	F	6534	4		SG	46.8
Briggs	ISSEM4	F	9512	1	7.65	AC	1360.0
Briggs	ISSEM4	F	9512	2	14.47	GBSB	32.3

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	ISSEM4	F	9512	3	72.00	SG	59.7
Briggs	ISSEM4	F	9512	4		SG	59.7
Briggs	ISSEM4	F	12662	1	7.65	AC	870.0
Briggs	ISSEM4	F	12662	2	14.47	GBSB	81.8
Briggs	ISSEM4	F	12662	3	72.00	SG	39.2
Briggs	ISSEM4	F	12662	4		SG	39.2
Briggs	ISSEM4	F	16812	1	7.65	AC	1180.0
Briggs	ISSEM4	F	16812	2	14.47	GBSB	45.5
Briggs	ISSEM4	F	16812	3	72.00	SG	43.6
Briggs	ISSEM4	F	16812	4		SG	43.6
Briggs	ISSEM4	H	7734	1	2.54	AC	1300.0
Briggs	ISSEM4	H	7734	2	6.89	PCC	1300.0
Briggs	ISSEM4	H	7734	3	96.00	SG	32.5
Briggs	ISSEM4	H	7734	4		SG	32.5
Briggs	ISSEM4	H	9704	1	2.54	AC	1680.0
Briggs	ISSEM4	H	9704	2	6.89	PCC	1680.0
Briggs	ISSEM4	H	9704	3	96.00	SG	27.7
Briggs	ISSEM4	H	9704	4		SG	27.7
Briggs	ISSEM4	H	12504	1	2.54	AC	1040.0
Briggs	ISSEM4	H	12504	2	6.89	PCC	1040.0
Briggs	ISSEM4	H	12504	3	96.00	SG	32.8
Briggs	ISSEM4	H	12504	4		SG	32.8
Briggs	ISSEM4	H	17706	1	2.54	AC	1760.0
Briggs	ISSEM4	H	17706	2	6.89	PCC	1760.0
Briggs	ISSEM4	H	17706	3	96.00	SG	25.6
Briggs	ISSEM4	H	17706	4		SG	25.6
Briggs	MODCOMP	A	7246	1	4.95	AC	665.0
Briggs	MODCOMP	A	7246	2	13.40	GBSB	82.4
Briggs	MODCOMP	A	7246	3	12.00	GBSB	11.2
Briggs	MODCOMP	A	7246	4		SG	43.1
Briggs	MODCOMP	A	10006	1	4.95	AC	765.0
Briggs	MODCOMP	A	10006	2	13.40	GBSB	78.2
Briggs	MODCOMP	A	10006	3	12.00	GBSB	11.5
Briggs	MODCOMP	A	10006	4		SG	38.8
Briggs	MODCOMP	A	12644	1	4.95	AC	633.0
Briggs	MODCOMP	A	12644	2	13.40	GBSB	90.8
Briggs	MODCOMP	A	12644	3	12.00	GBSB	7.4
Briggs	MODCOMP	A	12644	4		SG	41.0
Briggs	MODCOMP	A	17054	1	4.95	AC	687.0
Briggs	MODCOMP	A	17054	2	13.40	GBSB	108.6
Briggs	MODCOMP	A	17054	3	12.00	GBSB	6.7
Briggs	MODCOMP	A	17054	4		SG	49.6
Briggs	MODCOMP	B	6460	1	4.20	AC	977.0

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	MODCOMP	B	6460	2	5.00	GBSB	37.0
Briggs	MODCOMP	B	6460	3	30.00	SB	27.4
Briggs	MODCOMP	B	6460	4		SB	27.4
Briggs	MODCOMP	B	9596	1	4.20	AC	731.0
Briggs	MODCOMP	B	9596	2	5.00	GBSB	72.3
Briggs	MODCOMP	B	9596	3	30.00	SB	26.5
Briggs	MODCOMP	B	9596	4		SB	26.5
Briggs	MODCOMP	B	12700	1	4.20	AC	833.0
Briggs	MODCOMP	B	12700	2	5.00	GBSB	79.3
Briggs	MODCOMP	B	12700	3	30.00	SB	27.4
Briggs	MODCOMP	B	12700	4		SB	27.4
Briggs	MODCOMP	B	16362	1	4.20	AC	737.0
Briggs	MODCOMP	B	16362	2	5.00	GBSB	104.2
Briggs	MODCOMP	B	16362	3	30.00	SB	27.5
Briggs	MODCOMP	B	16362	4		SB	27.5
Briggs	MODCOMP	C	6616	1	7.92	AC	634.0
Briggs	MODCOMP	C	6616	2	8.36	STB	318.0
Briggs	MODCOMP	C	6616	3	24.00	SG	38.7
Briggs	MODCOMP	C	6616	4		SG	38.7
Briggs	MODCOMP	C	9522	1	7.92	AC	600.0
Briggs	MODCOMP	C	9522	2	8.36	STB	365.0
Briggs	MODCOMP	C	9522	3	24.00	SG	38.0
Briggs	MODCOMP	C	9522	4		SG	38.0
Briggs	MODCOMP	C	12958	1	7.92	AC	614.0
Briggs	MODCOMP	C	12958	2	8.36	STB	380.0
Briggs	MODCOMP	C	12958	3	24.00	SG	36.9
Briggs	MODCOMP	C	12958	4		SG	36.9
Briggs	MODCOMP	C	16698	1	7.92	AC	628.0
Briggs	MODCOMP	C	16698	2	8.36	STB	431.0
Briggs	MODCOMP	C	16698	3	24.00	SG	38.5
Briggs	MODCOMP	C	16698	4		SG	38.5
Briggs	MODCOMP	D	6264	1	7.25	AC	2500.0
Briggs	MODCOMP	D	6264	2	5.50	STB	433.0
Briggs	MODCOMP	D	6264	3	60.00	SG	24.7
Briggs	MODCOMP	D	6264	4		SG	24.7
Briggs	MODCOMP	D	9474	1	7.25	AC	2543.0
Briggs	MODCOMP	D	9474	2	5.50	STB	353.0
Briggs	MODCOMP	D	9474	3	60.00	SG	22.3
Briggs	MODCOMP	D	9474	4		SG	22.3
Briggs	MODCOMP	D	12914	1	7.25	AC	2488.0
Briggs	MODCOMP	D	12914	2	5.50	STB	587.0
Briggs	MODCOMP	D	12914	3	60.00	SG	19.3
Briggs	MODCOMP	D	12914	4		SG	19.3

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	MODCOMP	D	17474	1	7.25	AC	2171.0
Briggs	MODCOMP	D	17474	2	5.50	STB	755.0
Briggs	MODCOMP	D	17474	3	60.00	SG	20.0
Briggs	MODCOMP	D	17474	4		SG	20.0
Briggs	MODCOMP	E	7608	1	7.45	AC	768.0
Briggs	MODCOMP	E	7608	2	6.41	STB	1063.0
Briggs	MODCOMP	E	7608	3	7.00	GBSB	10.3
Briggs	MODCOMP	E	7608	4		SG	98.0
Briggs	MODCOMP	E	9752	1	7.45	AC	776.0
Briggs	MODCOMP	E	9752	2	6.41	STB	1031
Briggs	MODCOMP	E	9752	3	7.00	GBSB	7.8
Briggs	MODCOMP	E	9752	4		SG	100.0
Briggs	MODCOMP	E	12714	1	7.45	AC	804.0
Briggs	MODCOMP	E	12714	2	6.41	STB	992.0
Briggs	MODCOMP	E	12714	3	7.00	GBSB	7.3
Briggs	MODCOMP	E	12714	4		SG	93.0
Briggs	MODCOMP	E	17764	1	7.45	AC	891.0
Briggs	MODCOMP	E	17764	2	6.41	STB	972.0
Briggs	MODCOMP	E	17764	3	7.00	GBSB	8.4
Briggs	MODCOMP	E	17764	4		SG	83.0
Briggs	MODCOMP	F	6534	1	7.65	AC	1567.0
Briggs	MODCOMP	F	6534	2	14.47	GBSB	55.0
Briggs	MODCOMP	F	6534	3	72.00	SG	38.0
Briggs	MODCOMP	F	6534	4		SG	38.0
Briggs	MODCOMP	F	9512	1	7.65	AC	1694.0
Briggs	MODCOMP	F	9512	2	14.47	GBSB	34.0
Briggs	MODCOMP	F	9512	3	72.00	SG	41.0
Briggs	MODCOMP	F	9512	4		SG	41.0
Briggs	MODCOMP	F	12662	1	7.65	AC	1367.0
Briggs	MODCOMP	F	12662	2	14.47	GBSB	46.0
Briggs	MODCOMP	F	12662	3	72.00	SG	34.0
Briggs	MODCOMP	F	12662	4		SG	34.0
Briggs	MODCOMP	F	16812	1	7.65	AC	1629.0
Briggs	MODCOMP	F	16812	2	14.47	GBSB	32.0
Briggs	MODCOMP	F	16812	3	72.00	SG	36.0
Briggs	MODCOMP	F	16812	4		SG	36.0
Briggs	MODCOMP	G	6424	1	5.33	AC	600.0
Briggs	MODCOMP	G	6424	2	9.60	PCC	7578.0
Briggs	MODCOMP	G	6424	3	4.00	GBSB	36.0
Briggs	MODCOMP	G	6424	4		SG	36
Briggs	MODCOMP	G	9398	1	5.33	AC	600.0
Briggs	MODCOMP	G	9398	2	9.60	PCC	7942.0
Briggs	MODCOMP	G	9398	3	4.00	GBSB	33.0

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	MODCOMP	G	9398	4		SG	33.0
Briggs	MODCOMP	G	12256	1	5.33	AC	600.0
Briggs	MODCOMP	G	12256	2	9.60	PCC	6948.0
Briggs	MODCOMP	G	12256	3	4.00	GBSB	31.0
Briggs	MODCOMP	G	12256	4		SG	31.0
Briggs	MODCOMP	G	16350	1	5.33	AC	600.0
Briggs	MODCOMP	G	16350	2	9.60	PCC	6522.0
Briggs	MODCOMP	G	16350	3	4.00	GBSB	33.0
Briggs	MODCOMP	G	16350	4		SG	33.0
Briggs	MODCOMP	H	7734	1	2.54	AC	191.0
Briggs	MODCOMP	H	7734	2	6.89	PCC	5172.0
Briggs	MODCOMP	H	7734	3	96.00	SG	27.0
Briggs	MODCOMP	H	7734	4		SG	27.0
Briggs	MODCOMP	H	9704	1	2.54	AC	194.0
Briggs	MODCOMP	H	9704	2	6.89	PCC	6131.0
Briggs	MODCOMP	H	9704	3	96.00	SG	25.0
Briggs	MODCOMP	H	9704	4		SG	25.0
Briggs	MODCOMP	H	12504	1	2.54	AC	201.0
Briggs	MODCOMP	H	12504	2	6.89	PCC	5110.0
Briggs	MODCOMP	H	12504	3	96.00	SG	23.0
Briggs	MODCOMP	H	12504	4		SG	23.0
Briggs	MODCOMP	H	17706	1	2.54	AC	218.0
Briggs	MODCOMP	H	17706	2	6.89	PCC	6072.0
Briggs	MODCOMP	H	17706	3	96.00	SG	23.0
Briggs	MODCOMP	H	17706	4		SG	23.0
Briggs	MODULUS	A	7246	1	4.95	AC	683.0
Briggs	MODULUS	A	7246	2	13.40	GBSB	91.0
Briggs	MODULUS	A	7246	3	12.00	GBSB	11.0
Briggs	MODULUS	A	7246	4		SG	22.0
Briggs	MODULUS	A	10006	1	4.95	AC	83.0
Briggs	MODULUS	A	10006	2	13.40	GBSB	82.0
Briggs	MODULUS	A	10006	3	12.00	GBSB	14.0
Briggs	MODULUS	A	10006	4		SG	19.0
Briggs	MODULUS	A	12644	1	4.95	AC	815.0
Briggs	MODULUS	A	12644	2	13.40	GBSB	81.0
Briggs	MODULUS	A	12644	3	12.00	GBSB	13.0
Briggs	MODULUS	A	12644	4		SG	17.0
Briggs	MODULUS	A	17054	1	4.95	AC	876.0
Briggs	MODULUS	A	17054	2	13.40	GBSB	95.0
Briggs	MODULUS	A	17054	3	12.00	GBSB	14.0
Briggs	MODULUS	A	17054	4		SG	19.0
Briggs	MODULUS	B	6460	1	4.20	AC	658.0
Briggs	MODULUS	B	6460	2	5.00	GBSB	104.8

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	MODULUS	B	6460	3	30.00	SG	19.0
Briggs	MODULUS	B	6460	4		SG	19.0
Briggs	MODULUS	B	9596	1	4.20	AC	397.0
Briggs	MODULUS	B	9596	2	5.00	GBSB	209.0
Briggs	MODULUS	B	9596	3	30.00	SG	18.5
Briggs	MODULUS	B	9596	4		SG	18.5
Briggs	MODULUS	B	12700	1	4.20	AC	450.0
Briggs	MODULUS	B	12700	2	5.00	GBSB	234.4
Briggs	MODULUS	B	12700	3	30.00	SG	19.0
Briggs	MODULUS	B	12700	4		SG	19.0
Briggs	MODULUS	B	16362	1	4.20	AC	413.0
Briggs	MODULUS	B	16362	2	5.00	GBSB	283.9
Briggs	MODULUS	B	16362	3	30.00	SG	19.3
Briggs	MODULUS	B	16362	4		SG	19.3
Briggs	MODULUS	C	6616	1	7.92	AC	517.0
Briggs	MODULUS	C	6616	2	8.36	STB	858.2
Briggs	MODULUS	C	6616	3	24.00	SG	25.5
Briggs	MODULUS	C	6616	4		SG	25.5
Briggs	MODULUS	C	9522	1	7.92	AC	512.0
Briggs	MODULUS	C	9522	2	8.36	STB	959.5
Briggs	MODULUS	C	9522	3	24.00	SG	24.8
Briggs	MODULUS	C	9522	4		SG	24.8
Briggs	MODULUS	C	12958	1	7.92	AC	527.0
Briggs	MODULUS	C	12958	2	8.36	STB	954.1
Briggs	MODULUS	C	12958	3	24.00	SG	24.2
Briggs	MODULUS	C	12958	4		SG	24.2
Briggs	MODULUS	C	16698	1	7.92	AC	550.0
Briggs	MODULUS	C	16698	2	8.36	STB	1046.4
Briggs	MODULUS	C	16698	3	24.00	SG	25.3
Briggs	MODULUS	C	16698	4		SG	25.3
Briggs	MODULUS	D	6264	1	7.25	AC	3064.0
Briggs	MODULUS	D	6264	2	5.50	STB	1029.2
Briggs	MODULUS	D	6264	3	60.00	SG	14.2
Briggs	MODULUS	D	6264	4		SG	14.2
Briggs	MODULUS	D	9474	1	7.25	AC	1523.0
Briggs	MODULUS	D	9474	2	5.50	STB	1810.5
Briggs	MODULUS	D	9474	3	60.00	SG	12.6
Briggs	MODULUS	D	9474	4		SG	12.6
Briggs	MODULUS	D	12914	1	7.25	AC	1760.0
Briggs	MODULUS	D	12914	2	5.50	STB	1724.5
Briggs	MODULUS	D	12914	3	60.00	SG	11.4
Briggs	MODULUS	D	12914	4		SG	11.4
Briggs	MODULUS	D	17474	1	7.25	AC	1559.0

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	MODULUS	D	17474	2	5.50	STB	2338.8
Briggs	MODULUS	D	17474	3	60.00	SG	11.5
Briggs	MODULUS	D	17474	4		SG	11.5
Briggs	MODULUS	E	7608	1	7.45	AC	1057.0
Briggs	MODULUS	E	7608	2	6.41	STB	493.0
Briggs	MODULUS	E	7608	3	7.00	GBSB	105.0
Briggs	MODULUS	E	7608	4		SG	35.2
Briggs	MODULUS	E	9752	1	7.45	AC	724.0
Briggs	MODULUS	E	9752	2	6.41	STB	385.0
Briggs	MODULUS	E	9752	3	7.00	GBSB	720.0
Briggs	MODULUS	E	9752	4		SG	24.1
Briggs	MODULUS	E	12714	1	7.45	AC	1454.0
Briggs	MODULUS	E	12714	2	6.41	STB	167.2
Briggs	MODULUS	E	12714	3	7.00	GBSB	266.1
Briggs	MODULUS	E	12714	4		SG	29.7
Briggs	MODULUS	E	17764	1	7.45	AC	854.0
Briggs	MODULUS	E	17764	2	6.41	STB	854.4
Briggs	MODULUS	E	17764	3	7.00	GBSB	142.5
Briggs	MODULUS	E	17764	4		SG	28.5
Briggs	MODULUS	F	6534	1	7.65	AC	846.0
Briggs	MODULUS	F	6534	2	14.47	GBSB	135.5
Briggs	MODULUS	F	6534	3	72.00	SG	30.3
Briggs	MODULUS	F	6534	4		SG	30.3
Briggs	MODULUS	F	9512	1	7.65	AC	924.0
Briggs	MODULUS	F	9512	2	14.47	GBSB	103.2
Briggs	MODULUS	F	9512	3	72.00	SG	29.3
Briggs	MODULUS	F	9512	4		SG	29.3
Briggs	MODULUS	F	12662	1	7.65	AC	870.0
Briggs	MODULUS	F	12662	2	14.47	GBSB	92.4
Briggs	MODULUS	F	12662	3	72.00	SG	28.2
Briggs	MODULUS	F	12662	4		SG	28.2
Briggs	MODULUS	F	16812	1	7.65	AC	987.0
Briggs	MODULUS	F	16812	2	14.47	GBSB	83.1
Briggs	MODULUS	F	16812	3	72.00	SG	27.1
Briggs	MODULUS	F	16812	4		SG	27.1
Briggs	MODULUS	G	9398	1	5.33	AC	952.0
Briggs	MODULUS	G	9398	2	9.60	PCC	9288.1
Briggs	MODULUS	G	9398	3	4.00	GBSB	1167.2
Briggs	MODULUS	G	9398	4		SG	11.8
Briggs	MODULUS	G	12256	1	5.33	AC	1041.0
Briggs	MODULUS	G	12256	2	9.60	PCC	9148.5
Briggs	MODULUS	G	12256	3	4.00	GBSB	376.8
Briggs	MODULUS	G	12256	4		SG	11.3

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	MODULUS	G	16350	1	5.33	AC	988.0
Briggs	MODULUS	G	16350	2	9.60	PCC	8922.0
Briggs	MODULUS	G	16350	3	4.00	GBSB	476.1
Briggs	MODULUS	G	16350	4		SG	12.4
Briggs	MODULUS	H	7734	1	2.54	AC	252.0
Briggs	MODULUS	H	7734	2	6.89	PCC	4401.7
Briggs	MODULUS	H	7734	3	96.00	SG	24.6
Briggs	MODULUS	H	7734	4		SG	24.6
Briggs	MODULUS	H	9704	1	2.54	AC	306.0
Briggs	MODULUS	H	9704	2	6.89	PCC	4236.8
Briggs	MODULUS	H	9704	3	96.00	SG	23.7
Briggs	MODULUS	H	9704	4		SG	23.7
Briggs	MODULUS	H	12504	1	2.54	AC	298.0
Briggs	MODULUS	H	12504	2	6.89	PCC	4224.5
Briggs	MODULUS	H	12504	3	96.00	SG	21.2
Briggs	MODULUS	H	12504	4		SG	21.2
Briggs	MODULUS	H	17706	1	2.54	AC	341.0
Briggs	MODULUS	H	17706	2	6.89	PCC	4571.4
Briggs	MODULUS	H	17706	3	96.00	SG	21.2
Briggs	MODULUS	H	17706	4		SG	21.2
Briggs	WESDEF	A	7246	1	4.95	AC	947.8
Briggs	WESDEF	A	7246	2	13.40	GBSB	58.1
Briggs	WESDEF	A	7246	3	12.00	GBSB	25.9
Briggs	WESDEF	A	7246	4		SG	28.2
Briggs	WESDEF	A	10006	1	4.95	AC	1019.6
Briggs	WESDEF	A	10006	2	13.40	GBSB	60.0
Briggs	WESDEF	A	10006	3	12.00	GBSB	21.9
Briggs	WESDEF	A	10006	4		SG	26.7
Briggs	WESDEF	A	12644	1	4.95	AC	946.3
Briggs	WESDEF	A	12644	2	13.40	GBSB	64.9
Briggs	WESDEF	A	12644	3	12.00	GBSB	17.4
Briggs	WESDEF	A	12644	4		SG	25.5
Briggs	WESDEF	A	17054	1	4.95	AC	1019.0
Briggs	WESDEF	A	17054	2	13.40	GBSB	77.4
Briggs	WESDEF	A	17054	3	12.00	GBSB	18.0
Briggs	WESDEF	A	17054	4		SG	28.3
Briggs	WESDEF	B	6460	1	4.20	AC	3000.0
Briggs	WESDEF	B	6460	2	5.00	GBSB	20.0
Briggs	WESDEF	B	6460	3	30.00	SG	21.0
Briggs	WESDEF	B	6460	4		SG	21.0
Briggs	WESDEF	B	9596	1	4.20	AC	3000.0
Briggs	WESDEF	B	9596	2	5.00	GBSB	45.0
Briggs	WESDEF	B	9596	3	30.00	SG	23.0

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	WESDEF	B	9596	4		SG	23.0
Briggs	WESDEF	B	12700	1	4.20	AC	300.0
Briggs	WESDEF	B	12700	2	5.00	GBSB	58.0
Briggs	WESDEF	B	12700	3	30.00	SG	23.0
Briggs	WESDEF	B	12700	4		SG	23.0
Briggs	WESDEF	B	16362	1	4.20	AC	3000.0
Briggs	WESDEF	B	16362	2	5.00	GBSB	70.0
Briggs	WESDEF	B	16362	3	30.00	SG	23.0
Briggs	WESDEF	B	16362	4		SG	23.0
Briggs	WESDEF	C	6616	1	7.92	AC	481.0
Briggs	WESDEF	C	6616	2	8.36	STB	936.9
Briggs	WESDEF	C	6616	3	24.00	SG	25.7
Briggs	WESDEF	C	6616	4		SG	25.7
Briggs	WESDEF	C	9522	1	7.92	AC	462.0
Briggs	WESDEF	C	9522	2	8.36	STB	1118.9
Briggs	WESDEF	C	9522	3	24.00	SG	24.8
Briggs	WESDEF	C	9522	4		SG	24.8
Briggs	WESDEF	C	12958	1	7.92	AC	481.0
Briggs	WESDEF	C	12958	2	8.36	STB	1053.0
Briggs	WESDEF	C	12958	3	24.00	SG	24.5
Briggs	WESDEF	C	12958	4		SG	24.5
Briggs	WESDEF	C	16698	1	7.92	AC	499.0
Briggs	WESDEF	C	16698	2	8.36	STB	1185.3
Briggs	WESDEF	C	16698	3	24.00	SG	25.4
Briggs	WESDEF	C	16698	4		SG	25.4
Briggs	WESDEF	D	6264	1	7.25	AC	2890.0
Briggs	WESDEF	D	6264	2	5.50	STB	1061.0
Briggs	WESDEF	D	6264	3	60.00	SG	16.0
Briggs	WESDEF	D	6264	4		SG	16.0
Briggs	WESDEF	D	9474	1	7.25	AC	1416.0
Briggs	WESDEF	D	9474	2	5.50	STB	1887.0
Briggs	WESDEF	D	9474	3	60.00	SG	14.0
Briggs	WESDEF	D	9474	4		SG	14.0
Briggs	WESDEF	E	7608	1	7.45	AC	974.0
Briggs	WESDEF	E	7608	2	6.41	STB	579.8
Briggs	WESDEF	E	7608	3	7.00	GBSB	80.0
Briggs	WESDEF	E	7608	4		SG	38.3
Briggs	WESDEF	E	9752	1	7.45	AC	1003.0
Briggs	WESDEF	E	9752	2	6.41	STB	508.1
Briggs	WESDEF	E	9752	3	7.00	GBSB	93.3
Briggs	WESDEF	E	9752	4		SG	35.5
Briggs	WESDEF	E	12714	1	7.45	AC	1377.0
Briggs	WESDEF	E	12714	2	6.41	STB	225.7

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	WESDEF	E	12714	3	7.00	GBSB	142.2
Briggs	WESDEF	E	12714	4		SG	34.6
Briggs	WESDEF	E	17764	1	7.45	AC	1720.0
Briggs	WESDEF	E	17764	2	6.41	STB	112.8
Briggs	WESDEF	E	17764	3	7.00	GBSB	300.7
Briggs	WESDEF	E	17764	4		SG	37.5
Briggs	WESDEF	F	6534	1	7.65	AC	771.0
Briggs	WESDEF	F	6534	2	14.47	GBSB	150.0
Briggs	WESDEF	F	6534	3	72.00	SG	32.4
Briggs	WESDEF	F	6534	4		SG	32.4
Briggs	WESDEF	F	9512	1	7.65	AC	820.0
Briggs	WESDEF	F	9512	2	14.47	GBSB	117.0
Briggs	WESDEF	F	9512	3	72.00	SG	31.3
Briggs	WESDEF	F	9512	4		SG	31.3
Briggs	WESDEF	F	12662	1	7.65	AC	797.0
Briggs	WESDEF	F	12662	2	14.47	GBSB	105.7
Briggs	WESDEF	F	12662	3	72.00	SG	28.2
Briggs	WESDEF	F	12662	4		SG	28.2
Briggs	WESDEF	F	16812	1	7.65	AC	910.0
Briggs	WESDEF	F	16812	2	14.47	GBSB	95.8
Briggs	WESDEF	F	16812	3	72.00	SG	27.2
Briggs	WESDEF	F	16812	4		SG	27.2
Briggs	WESDEF	G	9398	1	5.33	AC	936.0
Briggs	WESDEF	G	9398	2	9.60	PCC	10686.6
Briggs	WESDEF	G	9398	3	4.00	GBSB	20.1
Briggs	WESDEF	G	9398	4		SG	20.1
Briggs	WESDEF	G	12256	1	5.33	AC	1225.0
Briggs	WESDEF	G	12256	2	9.60	PCC	8318.6
Briggs	WESDEF	G	12256	3	4.00	GBSB	18.4
Briggs	WESDEF	G	12256	4		SG	18.4
Briggs	WESDEF	G	16350	1	5.33	AC	1198.0
Briggs	WESDEF	G	16350	2	9.60	PCC	8116.6
Briggs	WESDEF	G	16350	3	4.00	GBSB	20.1
Briggs	WESDEF	G	16350	4		SG	20.1
Briggs	WESDEF	H	7734	1	2.54	AC	269.0
Briggs	WESDEF	H	7734	2	6.89	PCC	4165.7
Briggs	WESDEF	H	7734	3	96.00	SG	25.0
Briggs	WESDEF	H	7734	4		SG	25.0
Briggs	WESDEF	H	9704	1	2.54	AC	316.0
Briggs	WESDEF	H	9704	2	6.89	PCC	3950.4
Briggs	WESDEF	H	9704	3	96.00	SG	24.3
Briggs	WESDEF	H	9704	4		SG	24.3
Briggs	WESDEF	H	12504	1	2.54	AC	303.0

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Briggs	WESDEF	H	12504	2	6.89	PCC	3933.3
Briggs	WESDEF	H	12504	3	96.00	SG	21.7
Briggs	WESDEF	H	12504	4		SG	21.7
Briggs	WESDEF	H	17706	1	2.54	AC	362.0
Briggs	WESDEF	H	17706	2	6.89	PCC	4194.3
Briggs	WESDEF	H	17706	3	96.00	SG	21.8
Briggs	WESDEF	H	17706	4		SG	21.8
Connor	Modcomp	A	7246	1	5.0	AC	892
Connor	Modcomp	A	7246	2	13.4	GBSB	67
Connor	Modcomp	A	7246	3	12.0	GBSB	14
Connor	Modcomp	A	7246	4		SG	41
Connor	Modcomp	A	10006	1	5.0	AC	985
Connor	Modcomp	A	10006	2	13.4	GBSB	66
Connor	Modcomp	A	10006	3	12.0	GBSB	14
Connor	Modcomp	A	10006	4		SG	38
Connor	Modcomp	A	12644	1	5.0	AC	900
Connor	Modcomp	A	12644	2	13.4	GBSB	72
Connor	Modcomp	A	12644	3	12.0	GBSB	10
Connor	Modcomp	A	12644	4		SG	38
Connor	Modcomp	A	17054	1	5.0	AC	937
Connor	Modcomp	A	17054	2	13.4	GBSB	89
Connor	Modcomp	A	17054	3	12.0	GBSB	10
Connor	Modcomp	A	17054	4		SG	45
Connor	Modcomp	B	6460	1	4.2	AC	1154
Connor	Modcomp	B	6460	2	5.0	GBSB	23
Connor	Modcomp	B	6460	3	30.0	SG	29
Connor	Modcomp	B	6460	4		SG	29
Connor	Modcomp	B	9596	1	4.2	AC	970
Connor	Modcomp	B	9596	2	5.0	GBSB	44
Connor	Modcomp	B	9596	3	30.0	SG	28
Connor	Modcomp	B	9596	4		SG	28
Connor	Modcomp	B	12700	1	4.2	AC	111
Connor	Modcomp	B	12700	2	5.0	GBSB	46
Connor	Modcomp	B	12700	3	30.0	SG	29
Connor	Modcomp	B	12700	4		SG	29
Connor	Modcomp	B	16362	1	4.2	AC	1034
Connor	Modcomp	B	16362	2	5.0	GBSB	64
Connor	Modcomp	B	16362	3	30.0	SG	29
Connor	Modcomp	B	16362	4		SG	29
Connor	Modcomp	C	6616	1	7.9	AC	846
Connor	Modcomp	C	6616	2	8.4	STB	563
Connor	Modcomp	C	6616	3	24.0	SG	27
Connor	Modcomp	C	6616	4		SG	27

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	Modcomp	C	9522	1	7.9	AC	826
Connor	Modcomp	C	9522	2	8.4	STB	629
Connor	Modcomp	C	9522	3	24.0	SG	27
Connor	Modcomp	C	9522	4		SG	27
Connor	Modcomp	C	12958	1	7.9	AC	916
Connor	Modcomp	C	12958	2	8.4	STB	553
Connor	Modcomp	C	12958	3	24.0	SG	26
Connor	Modcomp	C	12958	4		SG	26
Connor	Modcomp	C	16696	1	7.9	AC	948
Connor	Modcomp	C	16696	2	8.4	STB	612
Connor	Modcomp	C	16696	3	24.0	SG	28
Connor	Modcomp	C	16696	4		SG	28
Connor	Modcomp	D	6264	1	7.3	AC	533
Connor	Modcomp	D	6264	2	5.5	STB	26
Connor	Modcomp	D	6264	3	60.0	SG	26
Connor	Modcomp	D	6264	4		SG	26
Connor	Modcomp	D	9474	1	7.3	AC	268
Connor	Modcomp	D	9474	2	5.5	STB	340
Connor	Modcomp	D	9474	3	60.0	SG	22
Connor	Modcomp	D	9474	4		SG	22
Connor	Modcomp	D	12914	1	7.3	AC	237
Connor	Modcomp	D	12914	2	5.5	STB	700
Connor	Modcomp	D	12914	3	60.0	SG	19
Connor	Modcomp	D	12914	4		SG	19
Connor	Modcomp	D	17474	1	7.3	AC	214
Connor	Modcomp	D	17474	2	5.5	STB	847
Connor	Modcomp	D	17474	3	60.0	SG	19
Connor	Modcomp	D	17474	4		SG	19
Connor	Modcomp	E	7608	1	7.5	AC	1690
Connor	Modcomp	E	7608	2	6.4	STB	527
Connor	Modcomp	E	7608	3	7.0	GBSB	33
Connor	Modcomp	E	7608	4	240.0	SG	46
Connor	Modcomp	E	9752	1	7.5	AC	838
Connor	Modcomp	E	9752	2	6.4	STB	1430
Connor	Modcomp	E	9752	3	7.0	GBSB	8
Connor	Modcomp	E	9752	4	240.0	SG	75
Connor	Modcomp	E	9752	1	7.5	AC	1690
Connor	Modcomp	E	9752	2	6.4	STB	527
Connor	Modcomp	E	9752	3	7.0	GBSB	33
Connor	Modcomp	E	9752	4	240.0	SG	46
Connor	Modcomp	E	12714	1	7.5	AC	1210
Connor	Modcomp	E	12714	2	6.4	STB	778
Connor	Modcomp	E	12714	3	7.0	GBSB	13

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	Modcomp	E	12714	4	240.0	SG	57
Connor	Modcomp	E	12714	1	7.5	AC	1690
Connor	Modcomp	E	12714	2	6.4	STB	527
Connor	Modcomp	E	12714	3	7.0	GBSB	33
Connor	Modcomp	E	12714	4	240.0	SG	46
Connor	Modcomp	E	17764	1	7.5	AC	1690
Connor	Modcomp	E	17764	2	6.4	STB	527
Connor	Modcomp	E	17764	3	7.0	GBSB	33
Connor	Modcomp	E	17764	4	240.0	SG	46
Connor	Modcomp	E	17764	1	7.5	AC	1690
Connor	Modcomp	E	17764	2	6.4	STB	527
Connor	Modcomp	E	17764	3	7.0	GBSB	33
Connor	Modcomp	E	17764	4	240.0	SG	46
Connor	Modcomp	F	6534	1	7.7	AC	927
Connor	Modcomp	F	6534	2	14.5	GBSB	181
Connor	Modcomp	F	6534	3	72.0	SG	29
Connor	Modcomp	F	6534	4	38	SG	29
Connor	Modcomp	F	6534	1	7.7	AC	1278
Connor	Modcomp	F	6534	2	14.5	GBSB	85
Connor	Modcomp	F	6534	3	72.0	SG	27
Connor	Modcomp	F	6534	4	38	SG	27
Connor	Modcomp	F	9512	1	7.7	AC	1114
Connor	Modcomp	F	9512	2	14.5	GBSB	128
Connor	Modcomp	F	9512	3	72.0	SG	28
Connor	Modcomp	F	9512	4	38	SG	28
Connor	Modcomp	F	9512	1	7.7	AC	1278
Connor	Modcomp	F	9512	2	14.5	GBSB	85
Connor	Modcomp	F	9512	3	72.0	SG	27
Connor	Modcomp	F	9512	4	38	SG	27
Connor	Modcomp	F	12662	1	7.7	AC	1091
Connor	Modcomp	F	12662	2	14.5	GBSB	97
Connor	Modcomp	F	12662	3	72.0	SG	28
Connor	Modcomp	F	12662	4	38	SG	28
Connor	Modcomp	F	12662	1	7.7	AC	1278
Connor	Modcomp	F	12662	2	14.5	GBSB	85
Connor	Modcomp	F	12662	3	72.0	SG	27
Connor	Modcomp	F	12662	4	38	SG	27
Connor	Modcomp	F	16812	1	7.7	AC	1278
Connor	Modcomp	F	16812	2	14.5	GBSB	85
Connor	Modcomp	F	16812	3	72.0	SG	27
Connor	Modcomp	F	16812	4	38	SG	27
Connor	Modcomp	F	16812	1	7.7	AC	1278
Connor	Modcomp	F	16812	2	14.5	GBSB	85

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	Modcomp	F	16812	3	72.0	SG	27
Connor	Modcomp	F	16812	4	38	SG	27
Connor	Modcomp	G	6424	1	5.3	AC	100000
Connor	Modcomp	G	6424	2	9.6	PCC	3000
Connor	Modcomp	G	6424	3	4	GBSB	1
Connor	Modcomp	G	6424	4		SG	26
Connor	Modcomp	G	9398	1	5.3	AC	1887
Connor	Modcomp	G	9398	2	9.6	PCC	6275
Connor	Modcomp	G	9398	3	4.0	GBSB	9
Connor	Modcomp	G	9398	4		SG	32
Connor	Modcomp	G	12256	1	5.3	AC	5127
Connor	Modcomp	G	12256	2	9.6	PCC	2612
Connor	Modcomp	G	12256	3	4.0	GBSB	8
Connor	Modcomp	G	12256	4		SG	30
Connor	Modcomp	G	16350	1	5.3	AC	2054
Connor	Modcomp	G	16350	2	9.6	PCC	4840
Connor	Modcomp	G	16350	3	4.0	GBSB	8
Connor	Modcomp	G	16350	4		SG	33
Connor	Modcomp	H	7734	1	2.5	AC	212
Connor	Modcomp	H	7734	2	6.9	PCC	6056
Connor	Modcomp	H	7734	3	96.0	SG	26
Connor	Modcomp	H	7734	4		SG	26
Connor	Modcomp	H	9704	1	2.5	AC	339
Connor	Modcomp	H	9704	2	6.9	PCC	4576
Connor	Modcomp	H	9704	3	96.0	SG	24
Connor	Modcomp	H	9704	4		SG	24
Connor	Modcomp	H	12504	1	2.5	AC	363
Connor	Modcomp	H	12504	2	6.9	PCC	4448
Connor	Modcomp	H	12504	3	96.0	SG	22
Connor	Modcomp	H	12504	4		SG	22
Connor	Modcomp	H	17706	1	2.5	AC	422
Connor	Modcomp	H	17706	2	6.9	PCC	4859
Connor	Modcomp	H	17706	3	96.0	SG	22
Connor	Modcomp	H	17706	4		SG	22
Connor	ISSEM4	A	7246	1	5.0	AC	555
Connor	ISSEM4	A	7246	2	13.4	GBSB	72
Connor	ISSEM4	A	7246	3	12.0	GBSB	72
Connor	ISSEM4	A	7246	4		SG	26
Connor	ISSEM4	A	10006	1	5.0	AC	4360
Connor	ISSEM4	A	10006	2	13.4	GBSB	18
Connor	ISSEM4	A	10006	3	12.0	GBSB	18
Connor	ISSEM4	A	10006	4		SG	39
Connor	ISSEM4	A	12644	1	5.0	AC	647

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	ISSEM4	A	12644	2	13.4	GBSB	70
Connor	ISSEM4	A	12644	3	12.0	GBSB	70
Connor	ISSEM4	A	12644	4		SG	21
Connor	ISSEM4	A	17054	1	5.0	AC	821
Connor	ISSEM4	A	17054	2	13.4	GBSB	74
Connor	ISSEM4	A	17054	3	12.0	GBSB	74
Connor	ISSEM4	A	17054	4		SG	24
Connor	ISSEM4	B	6460	1	4.2	AC	333
Connor	ISSEM4	B	6460	2	5.0	GBSB	162
Connor	ISSEM4	B	6460	3	30.0	SG	25
Connor	ISSEM4	B	6460	4		SG	25
Connor	ISSEM4	B	9596	1	4.2	AC	371
Connor	ISSEM4	B	9596	2	5.0	GBSB	124
Connor	ISSEM4	B	9596	3	30.0	SG	28
Connor	ISSEM4	B	9596	4		SG	28
Connor	ISSEM4	B	12700	1	4.2	AC	404
Connor	ISSEM4	B	12700	2	5.0	GBSB	131
Connor	ISSEM4	B	12700	3	30.0	SG	30
Connor	ISSEM4	B	12700	4		SG	30
Connor	ISSEM4	B	16362	1	4.2	AC	408
Connor	ISSEM4	B	16362	2	5.0	GBSB	146
Connor	ISSEM4	B	16362	3	30.0	SG	31
Connor	ISSEM4	B	16362	4		SG	31
Connor	ISSEM4	C	6616	1	7.9	AC	708
Connor	ISSEM4	C	6616	2	8.4	STB	172
Connor	ISSEM4	C	6616	3	24.0	SG	48
Connor	ISSEM4	C	6616	4		SG	48
Connor	ISSEM4	C	9522	1	7.9	AC	680
Connor	ISSEM4	C	9522	2	8.4	STB	162
Connor	ISSEM4	C	9522	3	24.0	SG	50
Connor	ISSEM4	C	9522	4		SG	50
Connor	ISSEM4	C	12958	1	7.9	AC	742
Connor	ISSEM4	C	12985	2	8.4	STB	179
Connor	ISSEM4	C	12958	3	24.0	SG	45
Connor	ISSEM4	C	12958	4		SG	45
Connor	ISSEM4	C	16696	1	7.9	AC	675
Connor	ISSEM4	C	16696	2	8.4	STB	194
Connor	ISSEM4	C	16696	3	24.0	SG	32
Connor	ISSEM4	C	16696	4		SG	32
Connor	ISSEM4	D	6264	1	7.3	AC	3330
Connor	ISSEM4	D	6264	2	5.5	STB	164
Connor	ISSEM4	D	6264	3	60.0	SG	28
Connor	ISSEM4	D	6264	4		SG	28

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	ISSEM4	D	9474	1	7.3	AC	1780
Connor	ISSEM4	D	9474	2	5.5	STB	492
Connor	ISSEM4	D	9474	3	60.0	SG	24
Connor	ISSEM4	D	9474	4		SG	24
Connor	ISSEM4	D	12914	1	7.3	AC	2130
Connor	ISSEM4	D	12914	2	5.5	STB	697
Connor	ISSEM4	D	12914	3	60.0	SG	20
Connor	ISSEM4	D	12914	4		SG	20
Connor	ISSEM4	D	17474	1	7.3	AC	1680
Connor	ISSEM4	D	17474	2	5.5	STB	930
Connor	ISSEM4	D	17474	3	60.0	SG	21
Connor	ISSEM4	D	17474	4		SG	21
Connor	ISSEM4	E	7608	1	7.5	AC	990
Connor	ISSEM4	E	7608	2	6.4	STB	990
Connor	ISSEM4	E	7608	3	7.0	GBSB	14
Connor	ISSEM4	E	7608	4		SG	67
Connor	ISSEM4	E	9752	1	7.5	AC	1020
Connor	ISSEM4	E	9752	2	6.4	STB	1020
Connor	ISSEM4	E	9752	3	7.0	GBSB	21
Connor	ISSEM4	E	9752	4		SG	54
Connor	ISSEM4	E	12714	1	7.5	AC	999
Connor	ISSEM4	E	12714	2	6.4	STB	999
Connor	ISSEM4	E	12714	3	7.0	GBSB	24
Connor	ISSEM4	E	12714	4		SG	50
Connor	ISSEM4	E	17764	1	7.5	AC	1750
Connor	ISSEM4	E	17764	2	6.4	STB	1750
Connor	ISSEM4	E	17764	3	7.0	GBSB	29
Connor	ISSEM4	E	17764	4		SG	19
Connor	ISSEM4	F	6534	1	7.7	AC	1170
Connor	ISSEM4	F	6534	2	14.5	GBSB	75
Connor	ISSEM4	F	6534	3	72.0	SG	48
Connor	ISSEM4	F	6534	4		SG	48
Connor	ISSEM4	F	9512	1	7.7	AC	1320
Connor	ISSEM4	F	9512	2	14.5	GBSB	35
Connor	ISSEM4	F	9512	3	72.0	SG	59
Connor	ISSEM4	F	9512	4		SG	59
Connor	ISSEM4	F	12662	1	7.7	AC	7030
Connor	ISSEM4	F	12662	2	14.5	GBSB	91
Connor	ISSEM4	F	12662	3	72.0	SG	24
Connor	ISSEM4	F	12662	4		SG	24
Connor	ISSEM4	F	16812	1	7.7	AC	1190
Connor	ISSEM4	F	16812	2	14.5	GBSB	49
Connor	ISSEM4	F	16812	3	72.0	SG	43

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	ISSEM4	F	16812	4		SG	43
Connor	MODULUS	A	7246	1	5.0	AC	714
Connor	MODULUS	A	7246	2	13.4	GBSB	83
Connor	MODULUS	A	7246	3	12.0	GBSB	14
Connor	MODULUS	A	7246	4	79.0	SB	22
Connor	MODULUS	A	10006	1	5.0	AC	1022
Connor	MODULUS	A	10006	2	13.4	GBSB	52
Connor	MODULUS	A	10006	3	12.0	GBSB	48
Connor	MODULUS	A	10006	4	77.0	SB	15
Connor	MODULUS	A	12644	1	5.0	AC	1004
Connor	MODULUS	A	12644	2	13.4	GBSB	52
Connor	MODULUS	A	12644	3	12.0	GBSB	44
Connor	MODULUS	A	12644	4	77.0	SB	14
Connor	MODULUS	A	17054	1	5.0	AC	1105
Connor	MODULUS	A	17054	2	13.4	GBSB	60
Connor	MODULUS	A	17054	3	12.0	GBSB	49
Connor	MODULUS	A	17054	4	76.0	SB	15
Connor	MODULUS	B	6460	1	4.2	AC	690
Connor	MODULUS	B	6460	2	5.0	GBSB	94
Connor	MODULUS	B	6460	3	30.0	SG	20
Connor	MODULUS	B	6460	4	66	SG	20
Connor	MODULUS	B	9596	1	4.2	AC	831
Connor	MODULUS	B	9596	2	5.0	GBSB	100
Connor	MODULUS	B	9596	3	30.0	SG	19
Connor	MODULUS	B	9596	4	66	SG	19
Connor	MODULUS	B	12700	1	4.2	AC	1040
Connor	MODULUS	B	12700	2	5.0	GBSB	100
Connor	MODULUS	B	12700	3	30.0	SG	20
Connor	MODULUS	B	12700	4	66	SG	20
Connor	MODULUS	B	16362	1	4.2	AC	1187
Connor	MODULUS	B	16362	2	5.0	GBSB	100
Connor	MODULUS	B	16362	3	30.0	SG	20
Connor	MODULUS	B	16362	4	66	SG	20
Connor	MODULUS	C	6616	1	7.9	AC	559
Connor	MODULUS	C	6616	2	8.4	STB	602
Connor	MODULUS	C	6616	3	24.0	SG	29
Connor	MODULUS	C	6616	4	259.7	SG	29
Connor	MODULUS	C	9522	1	7.9	AC	539
Connor	MODULUS	C	9522	2	8.4	STB	694
Connor	MODULUS	C	9522	3	24.0	SG	29
Connor	MODULUS	C	9522	4	259.7	SG	29
Connor	MODULUS	C	12958	1	7.9	AC	553
Connor	MODULUS	C	12958	2	8.4	STB	695

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	MODULUS	C	12958	3	24.0	SG	27
Connor	MODULUS	C	12958	4	259.7	SG	27
Connor	MODULUS	C	16696	1	7.9	AC	569
Connor	MODULUS	C	16696	2	8.4	STB	782
Connor	MODULUS	C	16696	3	24.0	SG	29
Connor	MODULUS	C	16696	4	259.7	SG	29
Connor	MODULUS	D	6264	1	7.9	AC	3099
Connor	MODULUS	D	6264	2	8.4	STB	300
Connor	MODULUS	D	6264	3	60.0	SG	16
Connor	MODULUS	D	6264	4	223.7	SG	16
Connor	MODULUS	D	9474	1	7.9	AC	1663
Connor	MODULUS	D	9474	2	8.4	STB	478
Connor	MODULUS	D	9474	3	60.0	SG	14
Connor	MODULUS	D	9474	4	223.7	SG	14
Connor	MODULUS	D	12914	1	7.9	AC	2209
Connor	MODULUS	D	12914	2	8.4	STB	400
Connor	MODULUS	D	12914	3	60.0	SG	13
Connor	MODULUS	D	12914	4	223.7	SG	13
Connor	MODULUS	D	17474	1	7.9	AC	2021
Connor	MODULUS	D	17474	2	8.4	STB	496
Connor	MODULUS	D	17474	3	60.0	SG	13
Connor	MODULUS	D	17474	4	223.7	SG	13
Connor	MODULUS	E	7608	1	7.5	AC	886
Connor	MODULUS	E	7608	2	6.4	STB	970
Connor	MODULUS	E	7608	3	7.0	GBSB	34
Connor	MODULUS	E	7608	4	106.5	SG	37
Connor	MODULUS	E	9752	1	7.5	AC	898
Connor	MODULUS	E	9752	2	6.4	STB	903
Connor	MODULUS	E	9752	3	7.0	GBSB	34
Connor	MODULUS	E	9752	4	106.5	SG	35
Connor	MODULUS	E	12714	1	7.5	AC	963
Connor	MODULUS	E	12714	2	6.4	STB	706
Connor	MODULUS	E	12714	3	7.0	GBSB	80
Connor	MODULUS	E	12714	4	106.5	SG	30
Connor	MODULUS	E	17764	1	7.5	AC	925
Connor	MODULUS	E	17764	2	6.4	STB	952
Connor	MODULUS	E	17764	3	7.0	GBSB	80
Connor	MODULUS	E	17764	4	106.5	SG	29
Connor	MODULUS	F	6534	1	7.7	AC	841
Connor	MODULUS	F	6534	2	14.5	GBSB	130
Connor	MODULUS	F	6534	3	72.0	SG	32
Connor	MODULUS	F	6534	4	105.3	SG	32
Connor	MODULUS	F	9512	1	7.7	AC	899

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	MODULUS	F	9512	2	14.5	GBSB	100
Connor	MODULUS	F	9512	3	72.0	SG	31
Connor	MODULUS	F	9512	4	105.3	SG	31
Connor	MODULUS	F	12662	1	7.7	AC	856
Connor	MODULUS	F	12662	2	14.5	GBSB	88
Connor	MODULUS	F	12662	3	72.0	SG	30
Connor	MODULUS	F	12662	4	105.3	SG	30
Connor	MODULUS	F	16812	1	7.7	AC	938
Connor	MODULUS	F	16812	2	14.5	GBSB	81
Connor	MODULUS	F	16812	3	72.0	SG	29
Connor	MODULUS	F	16812	4	105.3	SG	29
Connor	MODULUS	G	6424	1	5.3	AC	2186
Connor	MODULUS	G	6424	2	9.6	PCC	6079
Connor	MODULUS	G	6424	3	4.0	GBSB	21
Connor	MODULUS	G	6424	4	281.1	SG	22
Connor	MODULUS	G	9398	1	5.3	AC	997
Connor	MODULUS	G	9398	2	9.6	PCC	9113
Connor	MODULUS	G	9398	3	4.0	GBSB	53
Connor	MODULUS	G	9398	4	281.1	SG	21
Connor	MODULUS	G	12256	1	5.3	AC	1134
Connor	MODULUS	G	12256	2	9.6	PCC	7235
Connor	MODULUS	G	12256	3	4.0	GBSB	63
Connor	MODULUS	G	12256	4	281.1	SG	20
Connor	MODULUS	G	16350	1	5.3	AC	1103
Connor	MODULUS	G	16350	2	9.6	PCC	7109
Connor	MODULUS	G	16350	3	4.0	GBSB	54
Connor	MODULUS	G	16350	4	281.1	SG	21
Connor	MODULUS	H	7734	1	2.5	AC	190
Connor	MODULUS	H	7734	2	6.9	PCC	16252
Connor	MODULUS	H	7734	3	96.0	SG	7.2
Connor	MODULUS	H	7734	4	23.2	SG	7.2
Connor	MODULUS	H	9704	1	2.5	AC	223
Connor	MODULUS	H	9704	2	6.9	PCC	16357
Connor	MODULUS	H	9704	3	96.0	SG	6.8
Connor	MODULUS	H	9704	4	23.2	SG	6.8
Connor	MODULUS	H	12504	1	2.5	AC	220
Connor	MODULUS	H	12504	2	6.9	PCC	16118
Connor	MODULUS	H	12504	3	96.0	SG	6
Connor	MODULUS	H	12504	4	23.2	SG	6
Connor	MODULUS	H	17706	1	2.5	AC	256
Connor	MODULUS	H	17706	2	6.9	PCC	17355
Connor	MODULUS	H	17706	3	96.0	SG	6
Connor	MODULUS	H	17706	4	23.2	SG	6

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	WESDEF	A	7246	1	5.0	AC	1010
Connor	WESDEF	A	7246	2	13.4	GBSB	57
Connor	WESDEF	A	7246	3	12.0	GBSB	27
Connor	WESDEF	A	7246	4	209.7	SG	27
Connor	WESDEF	A	7246	1	5.0	AC	1014
Connor	WESDEF	A	7246	2	13.4	GBSB	57
Connor	WESDEF	A	7246	3	12.0	GBSB	27
Connor	WESDEF	A	7246	4	209.7	SG	27
Connor	WESDEF	A	7246	1	5.0	AC	1086
Connor	WESDEF	A	7246	2	13.4	GBSB	58
Connor	WESDEF	A	7246	3	12.0	GBSB	26
Connor	WESDEF	A	7246	4	209.7	SG	27
Connor	WESDEF	A	7246	1	5.0	AC	917
Connor	WESDEF	A	7246	2	13.4	GBSB	62
Connor	WESDEF	A	7246	3	12.0	GBSB	24
Connor	WESDEF	A	7246	4	209.7	SG	27
Connor	WESDEF	A	10006	1	5.0	AC	1000
Connor	WESDEF	A	10006	2	13.4	GBSB	62
Connor	WESDEF	A	10006	3	12.0	GBSB	22
Connor	WESDEF	A	10006	4	209.7	SG	25
Connor	WESDEF	A	12644	1	5.0	AC	960
Connor	WESDEF	A	12644	2	13.4	GBSB	66
Connor	WESDEF	A	12644	3	12.0	GBSB	18
Connor	WESDEF	A	12644	4	209.7	SG	24
Connor	WESDEF	A	17054	1	5.0	AC	990
Connor	WESDEF	A	17054	2	13.4	GBSB	81
Connor	WESDEF	A	17054	3	12.0	GBSB	18
Connor	WESDEF	A	17054	4	209.7	SG	27
Connor	WESDEF	B	6460	1	4.2	AC	813
Connor	WESDEF	B	6460	2	5.0	GBSB	67
Connor	WESDEF	B	6460	3	30.0	SG	24
Connor	WESDEF	B	6460	4	370.8	SG	24
Connor	WESDEF	B	9596	1	4.2	AC	1000
Connor	WESDEF	B	9596	2	5.0	GBSB	52
Connor	WESDEF	B	9596	3	30.0	SG	25
Connor	WESDEF	B	9596	4	370.8	SG	25
Connor	WESDEF	B	12700	1	4.2	AC	826
Connor	WESDEF	B	12700	2	5.0	GBSB	98
Connor	WESDEF	B	12700	3	30.0	SG	25
Connor	WESDEF	B	12700	4	370.8	SG	25
Connor	WESDEF	B	16352	1	4.2	AC	747
Connor	WESDEF	B	16362	2	5.0	GBSB	129
Connor	WESDEF	B	16362	3	30.0	SG	26

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	WESDEF	B	16362	4	370.8	SG	26
Connor	WESDEF	C	6616	1	7.9	AC	493
Connor	WESDEF	C	6616	2	8.4	STB	818
Connor	WESDEF	C	6616	3	24.0	SG	27
Connor	WESDEF	C	6616	4	199.7	SG	27
Connor	WESDEF	C	9522	1	7.9	AC	476
Connor	WESDEF	C	9522	2	8.4	STB	960
Connor	WESDEF	C	9522	3	24.0	SG	27
Connor	WESDEF	C	9522	4	199.7	SG	27
Connor	WESDEF	C	12958	1	7.9	AC	1624
Connor	WESDEF	C	12958	2	8.4	STB	188
Connor	WESDEF	C	12958	3	24.0	SG	26
Connor	WESDEF	C	12958	4	199.7	SG	26
Connor	WESDEF	C	16696	1	7.9	AC	515
Connor	WESDEF	C	16696	2	8.4	STB	1010
Connor	WESDEF	C	16696	3	24.0	SG	27
Connor	WESDEF	C	16696	4	199.7	SG	27
Connor	WESDEF	D	6264	1	7.3	AC	3147
Connor	WESDEF	D	6264	2	5.5	STB	889
Connor	WESDEF	D	6264	3	60.0	SG	16
Connor	WESDEF	D	6264	4	167.3	SG	16
Connor	WESDEF	D	9474	1	7.3	AC	7639
Connor	WESDEF	D	9474	2	5.5	STB	10000
Connor	WESDEF	D	9474	3	60.0	SG	15
Connor	WESDEF	D	9474	4	167.3	SG	15
Connor	WESDEF	D	12914	1	7.3	AC	1779
Connor	WESDEF	D	12914	2	5.5	STB	1758
Connor	WESDEF	D	12914	3	60.0	SG	12
Connor	WESDEF	D	12914	4	167.3	SG	12
Connor	WESDEF	D	17474	1	7.3	AC	13000
Connor	WESDEF	D	17474	2	5.5	STB	7175
Connor	WESDEF	D	17474	3	60.0	SG	5
Connor	WESDEF	D	17474	4	167.3	SG	5
Connor	WESDEF	E	7608	1	7.5	AC	1264
Connor	WESDEF	E	7608	2	6.4	STB	433
Connor	WESDEF	E	7608	3	7.0	GBSB	53
Connor	WESDEF	E	7608	4	219.1	SG	50
Connor	WESDEF	E	9752	1	7.5	AC	987
Connor	WESDEF	E	9752	2	6.4	STB	883
Connor	WESDEF	E	9752	3	7.0	GBSB	24
Connor	WESDEF	E	9752	4	219.1	SG	50
Connor	WESDEF	E	12714	1	7.5	AC	1130
Connor	WESDEF	E	12714	2	6.4	STB	594

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	WESDEF	E	12714	3	7.0	GBSB	47
Connor	WESDEF	E	12714	4	219.1	SG	47
Connor	WESDEF	E	17764	1	7.5	AC	1081
Connor	WESDEF	E	17764	2	6.4	STB	500
Connor	WESDEF	E	17764	3	7.0	GBSB	61
Connor	WESDEF	E	17764	4	219.1	SG	44
Connor	WESDEF	F	6534	1	7.7	AC	823
Connor	WESDEF	F	6534	2	14.5	GBSB	150
Connor	WESDEF	F	6534	3	72.0	SG	30
Connor	WESDEF	F	6534	4	104	SG	30
Connor	WESDEF	F	9512	1	7.7	AC	809
Connor	WESDEF	F	9512	2	14.5	GBSB	125
Connor	WESDEF	F	9512	3	72.0	SG	29
Connor	WESDEF	F	9512	4	104	SG	29
Connor	WESDEF	F	12662	1	7.7	AC	803
Connor	WESDEF	F	12662	2	14.5	GBSB	104
Connor	WESDEF	F	12662	3	72.0	SG	29
Connor	WESDEF	F	12662	4	104	SG	29
Connor	WESDEF	F	16812	1	7.7	AC	903
Connor	WESDEF	F	16812	2	14.5	GBSB	95
Connor	WESDEF	F	16812	3	72.0	SG	28
Connor	WESDEF	F	16812	4	104	SG	28
Connor	WESDEF	G	6424	1	5.3	AC	2948
Connor	WESDEF	G	6424	2	9.6	PCC	4191
Connor	WESDEF	G	6424	3	4.0	GBSB	24
Connor	WESDEF	G	6424	4	240.0	SG	24
Connor	WESDEF	G	9398	1	5.3	AC	4000
Connor	WESDEF	G	9398	2	9.6	PCC	19420
Connor	WESDEF	G	9398	3	4.0	GBSB	14
Connor	WESDEF	G	9398	4	240.0	SG	14
Connor	WESDEF	G	12256	1	5.3	AC	1014
Connor	WESDEF	G	12256	2	9.6	PCC	8870
Connor	WESDEF	G	12256	3	4.0	GBSB	20
Connor	WESDEF	G	12256	4	240.0	SG	20
Connor	WESDEF	G	16350	1	5.3	AC	3469
Connor	WESDEF	G	16350	2	9.6	PCC	20000
Connor	WESDEF	G	16350	3	4.0	GBSB	62
Connor	WESDEF	G	16350	4	240.0	SG	62
Connor	WESDEF	H	7734	1	2.5	AC	215
Connor	WESDEF	H	7734	2	6.9	PCC	4683
Connor	WESDEF	H	7734	3	96.0	SG	23
Connor	WESDEF	H	7734	4	144.6	SG	23
Connor	WESDEF	H	9704	1	2.5	AC	281

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
Connor	WESDEF	H	9704	2	6.9	PCC	4275
Connor	WESDEF	H	9704	3	96.0	SG	23
Connor	WESDEF	H	9704	4	144.6	SG	23
Connor	WESDEF	H	12504	1	2.5	AC	231
Connor	WESDEF	H	12504	2	6.9	PCC	4896
Connor	WESDEF	H	12504	3	96.0	SG	20
Connor	WESDEF	H	12504	4	144.6	SG	20
Connor	WESDEF	H	17706	1	2.5	AC	304
Connor	WESDEF	H	17706	2	6.9	PCC	5025
Connor	WESDEF	H	17706	3	96.0	SG	19
Connor	WESDEF	H	17706	4	144.6	SG	19
HALLIN	ISSEM4	A	7246	1	5.0	AC	409
HALLIN	ISSEM4	A	7246	2	13.4	GBSB	116
HALLIN	ISSEM4	A	7246	3	15.8	GBSB	13.4
HALLIN	ISSEM4	A	7246	4		SG	40
HALLIN	ISSEM4	A	12644	1	5.0	AC	463
HALLIN	ISSEM4	A	12644	2	13.4	GBSB	115
HALLIN	ISSEM4	A	12644	3	15.8	GBSB	14.2
HALLIN	ISSEM4	A	12644	4		SG	28.4
HALLIN	ISSEM4	A	17054	1	5.0	AC	632
HALLIN	ISSEM4	A	17054	2	13.4	GBSB	121
HALLIN	ISSEM4	A	17054	3	15.8	GBSB	13.8
HALLIN	ISSEM4	A	17054	4		SG	32.8
HALLIN	ISSEM4	B	6460	1	4.2	AC	1040
HALLIN	ISSEM4	B	6460	2	5.0	GBSB	56.2
HALLIN	ISSEM4	B	6460	3	30.0	SG	24.3
HALLIN	ISSEM4	B	6460	4		SG	24.3
HALLIN	ISSEM4	B	9596	1	4.2	AC	608
HALLIN	ISSEM4	B	9596	2	5.0	GBSB	108
HALLIN	ISSEM4	B	9596	3	30.0	SG	25.6
HALLIN	ISSEM4	B	9596	4		SG	25.6
HALLIN	ISSEM4	B	12700	1	4.2	AC	567
HALLIN	ISSEM4	B	12700	2	5.0	GBSB	153
HALLIN	ISSEM4	B	12700	3	30.0	SG	25.9
HALLIN	ISSEM4	B	12700	4		SG	25.9
HALLIN	ISSEM4	B	16362	1	4.2	AC	891
HALLIN	ISSEM4	B	16362	2	5.0	GBSB	120
HALLIN	ISSEM4	B	16362	3	30.0	SG	26
HALLIN	ISSEM4	B	16362	4		SG	26
HALLIN	ISSEM4	C	6616	1	7.9	AC	914
HALLIN	ISSEM4	C	6616	2	8.4	STB	180
HALLIN	ISSEM4	C	6616	3	24.0	SG	40.1
HALLIN	ISSEM4	C	6616	4		SG	40.1

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	ISSEM4	C	9522	1	7.9	AC	866
HALLIN	ISSEM4	C	9522	2	8.4	STB	159
HALLIN	ISSEM4	C	9522	3	24.0	SG	42.6
HALLIN	ISSEM4	C	9522	4		SG	42.6
HALLIN	ISSEM4	C	12958	1	7.9	AC	857
HALLIN	ISSEM4	C	12958	2	8.4	STB	239
HALLIN	ISSEM4	C	12958	3	24.0	SG	37.1
HALLIN	ISSEM4	C	12958	4		SG	37.1
HALLIN	ISSEM4	C	16696	1	7.9	AC	890
HALLIN	ISSEM4	C	16696	2	8.4	STB	294
HALLIN	ISSEM4	C	16696	3	24.0	SG	37.2
HALLIN	ISSEM4	C	16696	4		SG	37.2
HALLIN	ISSEM4	D	6264	1	7.3	AC	3790
HALLIN	ISSEM4	D	6264	2	5.5	STB	188
HALLIN	ISSEM4	D	6264	3	60.0	SG	25.3
HALLIN	ISSEM4	D	6264	4		SG	25.3
HALLIN	ISSEM4	D	9474	1	7.3	AC	2340
HALLIN	ISSEM4	D	9474	2	5.5	STB	360
HALLIN	ISSEM4	D	9474	3	60.0	SG	22.7
HALLIN	ISSEM4	D	9474	4		SG	22.7
HALLIN	ISSEM4	D	12914	1	7.3	AC	3060
HALLIN	ISSEM4	D	12914	2	5.5	STB	631
HALLIN	ISSEM4	D	12914	3	60.0	SG	17.7
HALLIN	ISSEM4	D	12914	4		SG	17.7
HALLIN	ISSEM4	D	17474	1	7.3	AC	3090
HALLIN	ISSEM4	D	17474	2	5.5	STB	984
HALLIN	ISSEM4	D	17474	3	60.0	SG	17
HALLIN	ISSEM4	D	17474	4		SG	17
HALLIN	ISSEM4	E	7608	1	7.5	AC	970
HALLIN	ISSEM4	E	7608	2	6.4	STB	970
HALLIN	ISSEM4	E	7608	3	7.0	GBSB	12.8
HALLIN	ISSEM4	E	7608	4		SG	62.5
HALLIN	ISSEM4	E	9752	1	7.5	AC	994
HALLIN	ISSEM4	E	9752	2	6.4	STB	994
HALLIN	ISSEM4	E	9752	3	7.0	GBSB	20.7
HALLIN	ISSEM4	E	9752	4		SG	51.6
HALLIN	ISSEM4	E	12714	1	7.5	AC	933
HALLIN	ISSEM4	E	12714	2	6.4	STB	933
HALLIN	ISSEM4	E	12714	3	7.0	GBSB	31.1
HALLIN	ISSEM4	E	12714	4		SG	48.1
HALLIN	ISSEM4	E	17764	1	7.5	AC	1010
HALLIN	ISSEM4	E	17764	2	6.4	STB	1010
HALLIN	ISSEM4	E	17764	3	7.0	GBSB	21.6

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	ISSEM4	E	17764	4		SG	49.5
HALLIN	ISSEM4	F	6534	1	7.7	AC	1160
HALLIN	ISSEM4	F	6534	2	14.5	GBSB	82
HALLIN	ISSEM4	F	6534	3	72.0	SG	45.3
HALLIN	ISSEM4	F	6534	4		SG	45.3
HALLIN	ISSEM4	F	9512	1	7.7	AC	1300
HALLIN	ISSEM4	F	9512	2	14.5	GBSB	37.4
HALLIN	ISSEM4	F	9512	3	72.0	SG	53.9
HALLIN	ISSEM4	F	9512	4		SG	53.9
HALLIN	ISSEM4	F	12662	1	7.7	AC	870
HALLIN	ISSEM4	F	12662	2	14.5	GBSB	86.6
HALLIN	ISSEM4	F	12662	3	72.0	SG	38.8
HALLIN	ISSEM4	F	12662	4		SG	38.8
HALLIN	ISSEM4	F	16812	1	7.7	AC	1160
HALLIN	ISSEM4	F	16812	2	14.5	GBSB	52.7
HALLIN	ISSEM4	F	16812	3	72.0	SG	41
HALLIN	ISSEM4	F	16812	4		SG	41
HALLIN	ISSEM4	G	6424	1	5.3	AC	
HALLIN	ISSEM4	G	6424	2	9.6	PCC	
HALLIN	ISSEM4	G	6424	3	4.0	GBSB	
HALLIN	ISSEM4	G	6424	4		SG	
HALLIN	ISSEM4	G	9398	1	5.3	AC	
HALLIN	ISSEM4	G	9398	2	9.6	PCC	
HALLIN	ISSEM4	G	9398	3	4.0	GBSB	
HALLIN	ISSEM4	G	9398	4		SG	
HALLIN	ISSEM4	G	12256	1	5.3	AC	
HALLIN	ISSEM4	G	12256	2	9.6	PCC	
HALLIN	ISSEM4	G	12256	3	4.0	GBSB	
HALLIN	ISSEM4	G	12256	4		SG	
HALLIN	ISSEM4	G	16350	1	5.3	AC	
HALLIN	ISSEM4	G	16350	2	9.6	PCC	
HALLIN	ISSEM4	G	16350	3	4.0	GBSB	
HALLIN	ISSEM4	G	16350	4		SG	
HALLIN	ISSEM4	H	7734	1	2.5	AC	1260
HALLIN	ISSEM4	H	7734	2	6.9	PCC	1260
HALLIN	ISSEM4	H	7734	3	96.0	SG	31
HALLIN	ISSEM4	H	7734	4		SG	31
HALLIN	ISSEM4	H	7734	1	2.5	AC	1240
HALLIN	ISSEM4	H	7734	2	6.9	PCC	1240
HALLIN	ISSEM4	H	7734	3	96.0	SG	31
HALLIN	ISSEM4	H	7734	4		SG	31
HALLIN	ISSEM4	H	9704	1	2.5	AC	1390
HALLIN	ISSEM4	H	9704	2	6.9	PCC	1390

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	ISSEM4	H	9704	3	96.0	SG	29
HALLIN	ISSEM4	H	9704	4		SG	29
HALLIN	ISSEM4	H	12504	1	2.5	AC	1130
HALLIN	ISSEM4	H	12504	2	6.9	PCC	1130
HALLIN	ISSEM4	H	12504	3	96.0	SG	29
HALLIN	ISSEM4	H	12504	4		SG	29
HALLIN	ISSEM4	H	17706	1	2.5	AC	1480
HALLIN	ISSEM4	H	17706	2	6.9	PCC	1480
HALLIN	ISSEM4	H	17706	3	96.0	SG	27
HALLIN	ISSEM4	H	17706	4		SG	27
HALLIN	MODCOMP	A	7246	1	5.0	AC	907.3
HALLIN	MODCOMP	A	7246	2	13.4	GBSB	91.3
HALLIN	MODCOMP	A	7246	3	12.0	GBSB	9.8
HALLIN	MODCOMP	A	7246	4		SG	41.5
HALLIN	MODCOMP	A	10006	1	5.0	AC	907.3
HALLIN	MODCOMP	A	10006	2	13.4	GBSB	91.3
HALLIN	MODCOMP	A	10006	3	12.0	GBSB	9.8
HALLIN	MODCOMP	A	10006	4		SG	41.5
HALLIN	MODCOMP	A	12644	1	5.0	AC	907.3
HALLIN	MODCOMP	A	12644	2	13.4	GBSB	91.3
HALLIN	MODCOMP	A	12644	3	12.0	GBSB	9.8
HALLIN	MODCOMP	A	12644	4		SG	41.5
HALLIN	MODCOMP	A	17054	1	5.0	AC	907.3
HALLIN	MODCOMP	A	17054	2	13.4	GBSB	91.3
HALLIN	MODCOMP	A	17054	3	12.0	GBSB	9.8
HALLIN	MODCOMP	A	17054	4		SG	41.5
HALLIN	MODCOMP	B	6460	1	4.2	AC	967.9
HALLIN	MODCOMP	B	6460	2	5.0	GBSB	73.5
HALLIN	MODCOMP	B	6460	3	30.0	SG	28.5
HALLIN	MODCOMP	B	6460	4		SG	28.5
HALLIN	MODCOMP	B	9596	1	4.2	AC	967.9
HALLIN	MODCOMP	B	9596	2	5.0	GBSB	73.5
HALLIN	MODCOMP	B	9596	3	30.0	SG	28.5
HALLIN	MODCOMP	B	9596	4		SG	28.5
HALLIN	MODCOMP	B	12700	1	4.2	AC	967.9
HALLIN	MODCOMP	B	12700	2	5.0	GBSB	73.5
HALLIN	MODCOMP	B	12700	3	30.0	SG	28.5
HALLIN	MODCOMP	B	12700	4		SG	28.5
HALLIN	MODCOMP	B	16362	1	4.2	AC	967.9
HALLIN	MODCOMP	B	16362	2	5.0	GBSB	73.5
HALLIN	MODCOMP	B	16362	3	30.0	SG	28.5
HALLIN	MODCOMP	B	16362	4		SG	28.5
HALLIN	MODCOMP	C	6616	1	7.9	AC	658.7

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	MODCOMP	C	6616	2	8.4	STB	393
HALLIN	MODCOMP	C	6616	3	24.0	SG	38.7
HALLIN	MODCOMP	C	6616	4		SG	38.7
HALLIN	MODCOMP	C	9522	1	7.9	AC	658.7
HALLIN	MODCOMP	C	9522	2	8.4	STB	393
HALLIN	MODCOMP	C	9522	3	24.0	SG	38.7
HALLIN	MODCOMP	C	9522	4		SG	38.7
HALLIN	MODCOMP	C	12958	1	7.9	AC	658.7
HALLIN	MODCOMP	C	12958	2	8.4	STB	393
HALLIN	MODCOMP	C	12958	3	24.0	SG	38.7
HALLIN	MODCOMP	C	12958	4		SG	38.7
HALLIN	MODCOMP	C	16696	1	7.9	AC	658.7
HALLIN	MODCOMP	C	16696	2	8.4	STB	393
HALLIN	MODCOMP	C	16696	3	24.0	SG	38.7
HALLIN	MODCOMP	C	16696	4		SG	38.7
HALLIN	MODCOMP	D	6264	1	7.3	AC	2072.6
HALLIN	MODCOMP	D	6264	2	5.5	STB	820.9
HALLIN	MODCOMP	D	6264	3	60.0	SG	19.5
HALLIN	MODCOMP	D	6264	4		SG	19.5
HALLIN	MODCOMP	D	9474	1	7.3	AC	2072.6
HALLIN	MODCOMP	D	9474	2	5.5	STB	820.9
HALLIN	MODCOMP	D	9474	3	60.0	SG	19.5
HALLIN	MODCOMP	D	9474	4		SG	19.5
HALLIN	MODCOMP	D	12914	1	7.3	AC	2072.6
HALLIN	MODCOMP	D	12914	2	5.5	STB	820.9
HALLIN	MODCOMP	D	12914	3	60.0	SG	19.5
HALLIN	MODCOMP	D	12914	4		SG	19.5
HALLIN	MODCOMP	D	17474	1	7.3	AC	2072.6
HALLIN	MODCOMP	D	17474	2	5.5	STB	820.9
HALLIN	MODCOMP	D	17474	3	60.0	SG	19.5
HALLIN	MODCOMP	D	17474	4		SG	19.5
HALLIN	MODCOMP	E	7608	1	7.5	AC	927.5
HALLIN	MODCOMP	E	7608	2	6.4	STB	927.5
HALLIN	MODCOMP	E	7608	3	7.0	GBSB	3.1
HALLIN	MODCOMP	E	7608	4		SG	210.2
HALLIN	MODCOMP	E	9752	1	7.5	AC	927.5
HALLIN	MODCOMP	E	9752	2	6.4	STB	927.5
HALLIN	MODCOMP	E	9752	3	7.0	GBSB	3.1
HALLIN	MODCOMP	E	9752	4		SG	210.2
HALLIN	MODCOMP	E	12714	1	7.5	AC	927.5
HALLIN	MODCOMP	E	12714	2	6.4	STB	927.5
HALLIN	MODCOMP	E	12714	3	7.0	GBSB	3.1
HALLIN	MODCOMP	E	12714	4		SG	210.2

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	MODCOMP	E	17764	1	7.5	AC	927.5
HALLIN	MODCOMP	E	17764	2	6.4	STB	927.5
HALLIN	MODCOMP	E	17764	3	7.0	GBSB	3.1
HALLIN	MODCOMP	E	17764	4		SG	210.2
HALLIN	MODCOMP	F	6534	1	7.7	AC	2681.5
HALLIN	MODCOMP	F	6534	2	14.5	GBSB	
HALLIN	MODCOMP	F	6534	3	72.0	SG	27.6
HALLIN	MODCOMP	F	6534	4	104	SG	27.6
HALLIN	MODCOMP	F	9512	1	7.7	AC	2681.5
HALLIN	MODCOMP	F	9512	2	14.5	GBSB	
HALLIN	MODCOMP	F	9512	3	72.0	SG	27.6
HALLIN	MODCOMP	F	9512	4	104	SG	27.6
HALLIN	MODCOMP	F	12662	1	7.7	AC	2681.5
HALLIN	MODCOMP	F	12662	2	14.5	GBSB	
HALLIN	MODCOMP	F	12662	3	72.0	SG	27.6
HALLIN	MODCOMP	F	12662	4	104	SG	27.6
HALLIN	MODCOMP	F	16812	1	7.7	AC	2681.5
HALLIN	MODCOMP	F	16812	2	14.5	GBSB	18.4
HALLIN	MODCOMP	F	16812	3	72.0	SG	27.6
HALLIN	MODCOMP	F	16812	4	104	SG	27.6
HALLIN	MODCOMP	G	6424	1	5.3	AC	2182.6
HALLIN	MODCOMP	G	6424	2	9.6	PCC	2182.6
HALLIN	MODCOMP	G	6424	3	4.0	GBSB	35.5
HALLIN	MODCOMP	G	6424	4		SG	35.5
HALLIN	MODCOMP	G	9398	1	5.3	AC	2182.6
HALLIN	MODCOMP	G	9398	2	9.6	PCC	2182.6
HALLIN	MODCOMP	G	9398	3	4.0	GBSB	35.5
HALLIN	MODCOMP	G	9398	4		SG	35.5
HALLIN	MODCOMP	G	12256	1	5.3	AC	2182.6
HALLIN	MODCOMP	G	12256	2	9.6	PCC	2182.6
HALLIN	MODCOMP	G	12256	3	4.0	GBSB	35.5
HALLIN	MODCOMP	G	12256	4		SG	35.5
HALLIN	MODCOMP	G	16350	1	5.3	AC	2182.6
HALLIN	MODCOMP	G	16350	2	9.6	PCC	2182.6
HALLIN	MODCOMP	G	16350	3	4.0	GBSB	35.5
HALLIN	MODCOMP	G	16350	4		SG	35.5
HALLIN	MODCOMP	H	7734	1	2.5	AC	1019.8
HALLIN	MODCOMP	H	7734	2	6.9	PCC	1019.8
HALLIN	MODCOMP	H	7734	3	96.0	SG	33.6
HALLIN	MODCOMP	H	7734	4		SG	33.6
HALLIN	MODCOMP	H	9704	1	2.5	AC	1019.8
HALLIN	MODCOMP	H	9704	2	6.9	PCC	1019.8
HALLIN	MODCOMP	H	9704	3	96.0	SG	33.6

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	MODCOMP	H	9704	4		SG	33.6
HALLIN	MODCOMP	H	12504	1	2.5	AC	1019.8
HALLIN	MODCOMP	H	12504	2	6.9	PCC	1019.8
HALLIN	MODCOMP	H	12504	3	96.0	SG	33.6
HALLIN	MODCOMP	H	12504	4		SG	33.6
HALLIN	MODCOMP	H	17706	1	2.5	AC	1019.8
HALLIN	MODCOMP	H	17706	2	6.9	PCC	1019.8
HALLIN	MODCOMP	H	17706	3	96.0	SG	33.6
HALLIN	MODCOMP	H	17706	4		SG	33.6
HALLIN	MODULUS	A	7246	1	5.0	AC	741
HALLIN	MODULUS	A	7246	2	13.4	GBSB	83
HALLIN	MODULUS	A	7246	3	12.0	GBSB	20
HALLIN	MODULUS	A	7246	4	77.4	SG	17.4
HALLIN	MODULUS	A	10006	1	5.0	AC	909
HALLIN	MODULUS	A	10006	2	13.4	GBSB	70.9
HALLIN	MODULUS	A	10006	3	12.0	GBSB	28.5
HALLIN	MODULUS	A	10006	4	77.4	SG	14.3
HALLIN	MODULUS	A	12644	1	5.0	AC	842
HALLIN	MODULUS	A	12644	2	13.4	GBSB	75.9
HALLIN	MODULUS	A	12644	3	12.0	GBSB	22.6
HALLIN	MODULUS	A	12644	4	77.4	SG	13.6
HALLIN	MODULUS	A	17054	1	5.0	AC	1009
HALLIN	MODULUS	A	17054	2	13.4	GBSB	76.6
HALLIN	MODULUS	A	17054	3	12.0	GBSB	36.5
HALLIN	MODULUS	A	17054	4	77.4	SG	13.5
HALLIN	MODULUS	A	7246	1	5.0	AC	1067.4
HALLIN	MODULUS	A	7246	2	13.4	GBSB	48.7
HALLIN	MODULUS	A	7246	3	12.0	GBSB	33.4
HALLIN	MODULUS	A	7246	4		SG	33.4
HALLIN	MODULUS	A	10006	1	5.0	AC	1139.6
HALLIN	MODULUS	A	10006	2	13.4	GBSB	49.2
HALLIN	MODULUS	A	10006	3	12.0	GBSB	31
HALLIN	MODULUS	A	10006	4		SG	31
HALLIN	MODULUS	A	12644	1	5.0	AC	115
HALLIN	MODULUS	A	12644	2	13.4	GBSB	49.4
HALLIN	MODULUS	A	12644	3	12.0	GBSB	28.7
HALLIN	MODULUS	A	12644	4		SG	28.7
HALLIN	MODULUS	A	17054	1	5.0	AC	1229.2
HALLIN	MODULUS	A	17054	2	13.4	GBSB	57.5
HALLIN	MODULUS	A	17054	3	12.0	GBSB	31.5
HALLIN	MODULUS	A	17054	4		SG	31.5
HALLIN	MODULUS	B	6460	1	4.2	AC	900
HALLIN	MODULUS	B	6460	2	5.0	GBSB	50.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	MODULUS	B	6460	3	30.0	SG	26.3
HALLIN	MODULUS	B	6460	4		SG	26.3
HALLIN	MODULUS	B	9596	1	4.2	AC	940
HALLIN	MODULUS	B	9596	2	5.0	GBSB	55.7
HALLIN	MODULUS	B	9596	3	30.0	SG	27
HALLIN	MODULUS	B	9596	4		SG	27
HALLIN	MODULUS	B	12700	1	4.2	AC	999
HALLIN	MODULUS	B	12700	2	5.0	GBSB	68.6
HALLIN	MODULUS	B	12700	3	30.0	SG	27.7
HALLIN	MODULUS	B	12700	4		SG	27.7
HALLIN	MODULUS	B	16362	1	4.2	AC	1025
HALLIN	MODULUS	B	16362	2	5.0	GBSB	77.8
HALLIN	MODULUS	B	16362	3	30.0	SG	28.2
HALLIN	MODULUS	B	16362	4		SG	28.2
HALLIN	MODULUS	B	6460	1	4.2	AC	778.7
HALLIN	MODULUS	B	6460	2	5.0	GBSB	100
HALLIN	MODULUS	B	6460	3	30.0	SG	18.3
HALLIN	MODULUS	B	6460	4	68.1	SG	18.3
HALLIN	MODULUS	B	9596	1	4.2	AC	1092.5
HALLIN	MODULUS	B	9596	2	5.0	GBSB	100
HALLIN	MODULUS	B	9596	3	30.0	SG	17.8
HALLIN	MODULUS	B	9596	4	68.1	SG	17.8
HALLIN	MODULUS	B	12700	1	4.2	AC	1390.5
HALLIN	MODULUS	B	12700	2	5.0	GBSB	100
HALLIN	MODULUS	B	12700	3	30.0	SG	18.2
HALLIN	MODULUS	B	12700	4	68.1	SG	18.2
HALLIN	MODULUS	B	16362	1	4.2	AC	1500
HALLIN	MODULUS	B	16362	2	5.0	GBSB	100
HALLIN	MODULUS	B	16362	3	30.0	SG	18.7
HALLIN	MODULUS	B	16362	4	68.1	SG	18.7
HALLIN	MODULUS	C	6616	1	7.9	AC	641
HALLIN	MODULUS	C	6616	2	8.4	STB	382.4
HALLIN	MODULUS	C	6616	3	24.0	SG	37.1
HALLIN	MODULUS	C	6616	4		SG	37.1
HALLIN	MODULUS	C	9522	1	7.9	AC	615
HALLIN	MODULUS	C	9522	2	8.4	STB	438.9
HALLIN	MODULUS	C	9522	3	24.0	SG	36.4
HALLIN	MODULUS	C	9522	4		SG	36.4
HALLIN	MODULUS	C	12958	1	7.9	AC	635
HALLIN	MODULUS	C	12958	2	8.4	STB	437.9
HALLIN	MODULUS	C	12958	3	24.0	SG	35.7
HALLIN	MODULUS	C	12958	4		SG	35.7
HALLIN	MODULUS	C	16696	1	7.9	AC	657

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	MODULUS	C	16696	2	8.4	STB	481.6
HALLIN	MODULUS	C	16696	3	24.0	SG	37.4
HALLIN	MODULUS	C	16696	4		SG	37.4
HALLIN	MODULUS	C	6616	1	7.9	AC	554.3
HALLIN	MODULUS	C	6616	2	8.4	STB	617.5
HALLIN	MODULUS	C	6616	3	24.0	SG	28.9
HALLIN	MODULUS	C	6616	4	259.7	SG	28.9
HALLIN	MODULUS	C	9522	1	7.9	AC	536.5
HALLIN	MODULUS	C	9522	2	8.4	STB	709.3
HALLIN	MODULUS	C	9522	3	24.0	SG	28.1
HALLIN	MODULUS	C	9522	4	259.7	SG	28.1
HALLIN	MODULUS	C	12958	1	7.9	AC	546.5
HALLIN	MODULUS	C	12958	2	8.4	STB	720.9
HALLIN	MODULUS	C	12958	3	24.0	SG	27.5
HALLIN	MODULUS	C	12958	4	259.7	SG	27.5
HALLIN	MODULUS	C	16696	1	7.9	AC	566.8
HALLIN	MODULUS	C	16696	2	8.4	STB	796.2
HALLIN	MODULUS	C	16696	3	24.0	SG	28.7
HALLIN	MODULUS	C	16696	4	259.7	SG	28.7
HALLIN	MODULUS	D	6264	1	7.3	AC	2000
HALLIN	MODULUS	D	6264	2	5.5	STB	996.2
HALLIN	MODULUS	D	6264	3	60.0	SG	22.2
HALLIN	MODULUS	D	6264	4		SG	22.2
HALLIN	MODULUS	D	9474	1	7.3	AC	1822
HALLIN	MODULUS	D	9474	2	5.5	STB	898.2
HALLIN	MODULUS	D	9474	3	60.0	SG	19.9
HALLIN	MODULUS	D	9474	4		SG	19.9
HALLIN	MODULUS	D	12914	1	7.3	AC	2000
HALLIN	MODULUS	D	12914	2	5.5	STB	482.4
HALLIN	MODULUS	D	12914	3	60.0	SG	20.2
HALLIN	MODULUS	D	12914	4		SG	20.2
HALLIN	MODULUS	D	17474	1	7.3	AC	2000
HALLIN	MODULUS	D	17474	2	5.5	STB	614
HALLIN	MODULUS	D	17474	3	60.0	SG	20.6
HALLIN	MODULUS	D	17474	4		SG	20.6
HALLIN	MODULUS	D	6264	1	7.3	AC	2000
HALLIN	MODULUS	D	6264	2	5.5	STB	979.2
HALLIN	MODULUS	D	6264	3	60.0	SG	17.7
HALLIN	MODULUS	D	6264	4	227.2	SG	17.7
HALLIN	MODULUS	D	9474	1	7.3	AC	2000
HALLIN	MODULUS	D	9474	2	5.5	STB	1000
HALLIN	MODULUS	D	9474	3	60.0	SG	15.1
HALLIN	MODULUS	D	9474	4	227.2	SG	15.1

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	MODULUS	D	12914	1	7.3	AC	2000
HALLIN	MODULUS	D	12914	2	5.5	STB	493.3
HALLIN	MODULUS	D	12914	3	60.0	SG	16.4
HALLIN	MODULUS	D	12914	4	227.2	SG	16.4
HALLIN	MODULUS	D	17474	1	7.3	AC	2000
HALLIN	MODULUS	D	17474	2	5.5	STB	413.2
HALLIN	MODULUS	D	17474	3	60.0	SG	17.8
HALLIN	MODULUS	D	17474	4	227.2	SG	17.8
HALLIN	MODULUS	E	7608	1	7.5	AC	907
HALLIN	MODULUS	E	7608	2	6.4	STB	907
HALLIN	MODULUS	E	7608	3	7.0	GBSB	36.4
HALLIN	MODULUS	E	7608	4	106.5	SG	36
HALLIN	MODULUS	E	9752	1	7.5	AC	893
HALLIN	MODULUS	E	9752	2	6.4	STB	893
HALLIN	MODULUS	E	9752	3	7.0	GBSB	34.3
HALLIN	MODULUS	E	9752	4	106.5	SG	34.4
HALLIN	MODULUS	E	12714	1	7.5	AC	843
HALLIN	MODULUS	E	12714	2	6.4	STB	843
HALLIN	MODULUS	E	12714	3	7.0	GBSB	85.6
HALLIN	MODULUS	E	12714	4	106.5	SG	28.6
HALLIN	MODULUS	E	17764	1	7.5	AC	901
HALLIN	MODULUS	E	17764	2	6.4	STB	901
HALLIN	MODULUS	E	17764	3	7.0	GBSB	100
HALLIN	MODULUS	E	17764	4	106.5	SG	27.5
HALLIN	MODULUS	E	7608	1	7.5	AC	831.9
HALLIN	MODULUS	E	7608	2	6.4	STB	1161.3
HALLIN	MODULUS	E	7608	3	7.0	GBSB	31.4
HALLIN	MODULUS	E	7608	4	87.8	SG	31.6
HALLIN	MODULUS	E	9752	1	7.5	AC	836.1
HALLIN	MODULUS	E	9752	2	6.4	STB	1122.2
HALLIN	MODULUS	E	9752	3	7.0	GBSB	26.8
HALLIN	MODULUS	E	9752	4	87.8	SG	30.7
HALLIN	MODULUS	E	12714	1	7.5	AC	1009
HALLIN	MODULUS	E	12714	2	6.4	STB	547
HALLIN	MODULUS	E	12714	3	7.0	GBSB	150
HALLIN	MODULUS	E	12714	4	87.8	SG	23.6
HALLIN	MODULUS	E	17764	1	7.5	AC	973.7
HALLIN	MODULUS	E	17764	2	6.4	STB	753.9
HALLIN	MODULUS	E	17764	3	7.0	GBSB	150
HALLIN	MODULUS	E	17764	4	87.8	SG	22.7
HALLIN	MODULUS	E	7608	1	7.5	AC	871.3
HALLIN	MODULUS	E	7608	2	6.4	STB	1022.4
HALLIN	MODULUS	E	7608	3	7.0	GBSB	32.2

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	MODULUS	E	7608	4	106.5	SG	36.3
HALLIN	MODULUS	E	9752	1	7.5	AC	879.6
HALLIN	MODULUS	E	9752	2	6.4	STB	962.1
HALLIN	MODULUS	E	9752	3	7.0	GBSB	30.5
HALLIN	MODULUS	E	9752	4	106.5	SG	34.8
HALLIN	MODULUS	E	12714	1	7.5	AC	993
HALLIN	MODULUS	E	12714	2	6.4	STB	622.3
HALLIN	MODULUS	E	12714	3	7.0	GBSB	100
HALLIN	MODULUS	E	12714	4	106.5	SG	28.6
HALLIN	MODULUS	E	17764	1	7.5	AC	956.4
HALLIN	MODULUS	E	17764	2	6.4	STB	845
HALLIN	MODULUS	E	17764	3	7.0	GBSB	100
HALLIN	MODULUS	E	17764	4	106.5	SG	27.7
HALLIN	MODULUS	F	6534	1	7.7	AC	1208
HALLIN	MODULUS	F	6534	2	14.5	GBSB	100
HALLIN	MODULUS	F	6534	3	72.0	SG	31.6
HALLIN	MODULUS	F	6534	4	102	SG	31.6
HALLIN	MODULUS	F	9512	1	7.7	AC	1006
HALLIN	MODULUS	F	9512	2	14.5	GBSB	100
HALLIN	MODULUS	F	9512	3	72.0	SG	29.4
HALLIN	MODULUS	F	9512	4	102	SG	29.4
HALLIN	MODULUS	F	12662	1	7.7	AC	864
HALLIN	MODULUS	F	12662	2	14.5	GBSB	100
HALLIN	MODULUS	F	12662	3	72.0	SG	27.6
HALLIN	MODULUS	F	12662	4	102	SG	27.6
HALLIN	MODULUS	F	16812	1	7.7	AC	924
HALLIN	MODULUS	F	16812	2	14.5	GBSB	97.4
HALLIN	MODULUS	F	16812	3	72.0	SG	26.2
HALLIN	MODULUS	F	16812	4	102	SG	26.2
HALLIN	MODULUS	G	6424	1	5.3	AC	3772
HALLIN	MODULUS	G	6424	2	9.6	PCC	3772
HALLIN	MODULUS	G	6424	3	4.0	GBSB	16.2
HALLIN	MODULUS	G	6424	4	281.0	SG	22.6
HALLIN	MODULUS	G	9398	1	5.3	AC	3511
HALLIN	MODULUS	G	9398	2	9.6	PCC	3511
HALLIN	MODULUS	G	9398	3	4.0	GBSB	16.1
HALLIN	MODULUS	G	9398	4	281.0	SG	21.6
HALLIN	MODULUS	G	12256	1	5.3	AC	3242
HALLIN	MODULUS	G	12256	2	9.6	PCC	3242
HALLIN	MODULUS	G	12256	3	4.0	GBSB	18.4
HALLIN	MODULUS	G	12256	4	281.0	SG	19.9
HALLIN	MODULUS	G	16350	1	5.3	AC	3168
HALLIN	MODULUS	G	16350	2	9.6	PCC	3168

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	MODULUS	G	16350	3	4.0	GBSB	16.4
HALLIN	MODULUS	G	16350	4	281.0	SG	21.7
HALLIN	MODULUS	H	7734	1	2.5	AC	2256.5
HALLIN	MODULUS	H	7734	2	6.9	PCC	2256.5
HALLIN	MODULUS	H	7734	3	96.0	SG	17.3
HALLIN	MODULUS	H	7734	4	46.7	SG	17.3
HALLIN	MODULUS	H	9704	1	2.5	AC	2272.2
HALLIN	MODULUS	H	9704	2	6.9	PCC	2272.2
HALLIN	MODULUS	H	9704	3	96.0	SG	16.6
HALLIN	MODULUS	H	9704	4	46.7	SG	16.6
HALLIN	MODULUS	H	12504	1	2.5	AC	2255.5
HALLIN	MODULUS	H	12504	2	6.9	PCC	2255.5
HALLIN	MODULUS	H	12504	3	96.0	SG	14.6
HALLIN	MODULUS	H	12504	4	46.7	SG	14.6
HALLIN	MODULUS	H	17706	1	2.5	AC	2467.7
HALLIN	MODULUS	H	17706	2	6.9	PCC	2467.7
HALLIN	MODULUS	H	17706	3	96.0	SG	14.5
HALLIN	MODULUS	H	17706	4	46.7	SG	14.5
HALLIN	MODULUS	H	7734	1	2.5	AC	2000
HALLIN	MODULUS	H	7734	2	6.9	PCC	2000
HALLIN	MODULUS	H	7734	3	96.0	SG	27.9
HALLIN	MODULUS	H	7734	4	46.7	SG	27.9
HALLIN	MODULUS	H	9704	1	2.5	AC	2000
HALLIN	MODULUS	H	9704	2	6.9	PCC	2000
HALLIN	MODULUS	H	9704	3	96.0	SG	26.9
HALLIN	MODULUS	H	9704	4	46.7	SG	26.9
HALLIN	MODULUS	H	12504	1	2.5	AC	2000
HALLIN	MODULUS	H	12504	2	6.9	PCC	2000
HALLIN	MODULUS	H	12504	3	96.0	SG	24
HALLIN	MODULUS	H	12504	4	46.7	SG	24
HALLIN	MODULUS	H	17706	1	2.5	AC	2000
HALLIN	MODULUS	H	17706	2	6.9	PCC	2000
HALLIN	MODULUS	H	17706	3	96.0	SG	24.7
HALLIN	MODULUS	H	17706	4	46.7	SG	24.7
HALLIN	MODULUS	H	7734	1	2.5	AC	1500
HALLIN	MODULUS	H	7734	2	6.9	PCC	5000
HALLIN	MODULUS	H	7734	3	96.0	SG	16.7
HALLIN	MODULUS	H	7734	4	194.5	SG	16.7
HALLIN	MODULUS	H	9704	1	2.5	AC	1500
HALLIN	MODULUS	H	9704	2	6.9	PCC	5000
HALLIN	MODULUS	H	9704	3	96.0	SG	16.7
HALLIN	MODULUS	H	9704	4	194.5	SG	16.7
HALLIN	MODULUS	H	12504	1	2.5	AC	986.8

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	MODULUS	H	12504	2	6.9	PCC	5000
HALLIN	MODULUS	H	12504	3	96.0	SG	16.7
HALLIN	MODULUS	H	12504	4	194.5	SG	16.7
HALLIN	MODULUS	H	17706	1	2.5	AC	1455.2
HALLIN	MODULUS	H	17706	2	6.9	PCC	4968.5
HALLIN	MODULUS	H	17706	3	96.0	SG	16.6
HALLIN	MODULUS	H	17706	4	194.5	SG	16.6
HALLIN	WESDEF	A	7246	1	5.0	AC	917.5
HALLIN	WESDEF	A	7246	2	13.4	GBSB	62.2
HALLIN	WESDEF	A	7246	3	12.0	GBSB	24.4
HALLIN	WESDEF	A	7246	4	209.7	SG	27.5
HALLIN	WESDEF	A	10006	1	5.0	AC	1000
HALLIN	WESDEF	A	10006	2	13.4	GBSB	62.4
HALLIN	WESDEF	A	10006	3	12.0	GBSB	22.4
HALLIN	WESDEF	A	10006	4	209.7	SG	25.4
HALLIN	WESDEF	A	12644	1	5.0	AC	957.1
HALLIN	WESDEF	A	12644	2	13.4	GBSB	66.3
HALLIN	WESDEF	A	12644	3	12.0	GBSB	17.9
HALLIN	WESDEF	A	12644	4	209.7	SG	24.3
HALLIN	WESDEF	A	17054	1	5.0	AC	992
HALLIN	WESDEF	A	17054	2	13.4	GBSB	80.9
HALLIN	WESDEF	A	17054	3	12.0	GBSB	17.9
HALLIN	WESDEF	A	17054	4	209.7	SG	27.1
HALLIN	WESDEF	B	6460	1	4.2	AC	399.6
HALLIN	WESDEF	B	6460	2	5.0	GBSB	150
HALLIN	WESDEF	B	6460	3	30.0	SG	21.9
HALLIN	WESDEF	B	6460	4	200.8	SG	21.9
HALLIN	WESDEF	B	9596	1	4.2	AC	434.7
HALLIN	WESDEF	B	9596	2	5.0	GBSB	150
HALLIN	WESDEF	B	9596	3	30.0	SG	22.4
HALLIN	WESDEF	B	9596	4	200.8	SG	22.4
HALLIN	WESDEF	B	12700	1	4.2	AC	1000
HALLIN	WESDEF	B	12700	2	5.0	GBSB	114.3
HALLIN	WESDEF	B	12700	3	30.0	SG	23.1
HALLIN	WESDEF	B	12700	4	200.8	SG	23.1
HALLIN	WESDEF	B	16362	1	4.2	AC	732.6
HALLIN	WESDEF	B	16362	2	5.0	GBSB	150
HALLIN	WESDEF	B	16362	3	30.0	SG	23.5
HALLIN	WESDEF	B	16362	4	200.8	SG	23.5
HALLIN	WESDEF	C	6616	1	7.9	AC	493.8
HALLIN	WESDEF	C	6616	2	8.4	STB	818.6
HALLIN	WESDEF	C	6616	3	24.0	SG	27.3
HALLIN	WESDEF	C	6616	4	199.7	SG	27.3

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	WESDEF	C	9522	1	7.9	AC	476.3
HALLIN	WESDEF	C	9522	2	8.4	STB	960.5
HALLIN	WESDEF	C	9522	3	24.0	SG	26.6
HALLIN	WESDEF	C	9522	4	199.7	SG	26.6
HALLIN	WESDEF	C	12958	1	7.9	AC	495.2
HALLIN	WESDEF	C	12958	2	8.4	STB	912.5
HALLIN	WESDEF	C	12958	3	24.0	SG	26.1
HALLIN	WESDEF	C	12958	4	199.7	SG	26.1
HALLIN	WESDEF	C	16696	1	7.9	AC	515.2
HALLIN	WESDEF	C	16696	2	8.4	STB	1010.8
HALLIN	WESDEF	C	16696	3	24.0	SG	27.3
HALLIN	WESDEF	C	16696	4	199.7	SG	27.3
HALLIN	WESDEF	D	6264	1	7.3	AC	2870
HALLIN	WESDEF	D	6264	2	5.5	STB	1094.6
HALLIN	WESDEF	D	6264	3	60.0	SG	15.7
HALLIN	WESDEF	D	6264	4	167.3	SG	15.7
HALLIN	WESDEF	D	9474	1	7.3	AC	1323.3
HALLIN	WESDEF	D	9474	2	5.5	STB	2101
HALLIN	WESDEF	D	9474	3	60.0	SG	13.9
HALLIN	WESDEF	D	9474	4	167.3	SG	13.9
HALLIN	WESDEF	D	12914	1	7.3	AC	1558.5
HALLIN	WESDEF	D	12914	2	5.5	STB	1898.2
HALLIN	WESDEF	D	12914	3	60.0	SG	12.7
HALLIN	WESDEF	D	12914	4	167.3	SG	12.7
HALLIN	WESDEF	D	17474	1	7.3	AC	1479.6
HALLIN	WESDEF	D	17474	2	5.5	STB	2348.4
HALLIN	WESDEF	D	17474	3	60.0	SG	12.8
HALLIN	WESDEF	D	17474	4	167.3	SG	12.8
HALLIN	WESDEF	E	7608	1	7.5	AC	750.5
HALLIN	WESDEF	E	7608	2	6.4	STB	750.5
HALLIN	WESDEF	E	7608	3	7.0	GBSB	50.4
HALLIN	WESDEF	E	7608	4	219.1	SG	50
HALLIN	WESDEF	E	9752	1	7.5	AC	789.1
HALLIN	WESDEF	E	9752	2	6.4	STB	789.1
HALLIN	WESDEF	E	9752	3	7.0	GBSB	33.3
HALLIN	WESDEF	E	9752	4	219.1	SG	50
HALLIN	WESDEF	E	12714	1	7.5	AC	833
HALLIN	WESDEF	E	12714	2	6.4	STB	833
HALLIN	WESDEF	E	12714	3	7.0	GBSB	21.1
HALLIN	WESDEF	E	12714	4	219.1	SG	50
HALLIN	WESDEF	E	17764	1	7.5	AC	828.5
HALLIN	WESDEF	E	17764	2	6.4	STB	828.5
HALLIN	WESDEF	E	17764	3	7.0	GBSB	45.8

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	WESDEF	E	17764	4	219.1	SG	44.5
HALLIN	WESDEF	E	7608	1	7.5	AC	687.6
HALLIN	WESDEF	E	7608	2	6.4	STB	1000
HALLIN	WESDEF	E	7608	3	7.0	GBSB	41.7
HALLIN	WESDEF	E	7608	4	219.1	SG	50
HALLIN	WESDEF	E	9752	1	7.5	AC	1000
HALLIN	WESDEF	E	9752	2	6.4	STB	561
HALLIN	WESDEF	E	9752	3	7.0	GBSB	36.3
HALLIN	WESDEF	E	9752	4	219.1	SG	50
HALLIN	WESDEF	E	12714	1	7.5	AC	1000
HALLIN	WESDEF	E	12714	2	6.4	STB	564.3
HALLIN	WESDEF	E	12714	3	7.0	GBSB	31.4
HALLIN	WESDEF	E	12714	4	219.1	SG	47.8
HALLIN	WESDEF	E	17764	1	7.5	AC	1000
HALLIN	WESDEF	E	17764	2	6.4	STB	499
HALLIN	WESDEF	E	17764	3	7.0	GBSB	78.4
HALLIN	WESDEF	E	17764	4	219.1	SG	43.2
HALLIN	WESDEF	F	6534	1	7.7	AC	843.6
HALLIN	WESDEF	F	6534	2	14.5	GBSB	150
HALLIN	WESDEF	F	6534	3	72.0	SG	29.8
HALLIN	WESDEF	F	6534	4	94	SG	29.8
HALLIN	WESDEF	F	9512	1	7.7	AC	805.2
HALLIN	WESDEF	F	9512	2	14.5	GBSB	128.6
HALLIN	WESDEF	F	9512	3	72.0	SG	28.5
HALLIN	WESDEF	F	9512	4	94	SG	28.5
HALLIN	WESDEF	F	12662	1	7.7	AC	791.4
HALLIN	WESDEF	F	12662	2	14.5	GBSB	107.2
HALLIN	WESDEF	F	12662	3	72.0	SG	27.9
HALLIN	WESDEF	F	12662	4	94	SG	27.9
HALLIN	WESDEF	F	16812	1	7.7	AC	905.7
HALLIN	WESDEF	F	16812	2	14.5	GBSB	97.1
HALLIN	WESDEF	F	16812	3	72.0	SG	26.9
HALLIN	WESDEF	F	16812	4	94	SG	26.9
HALLIN	WESDEF	G	6424	1	5.3	AC	4060.2
HALLIN	WESDEF	G	6424	2	9.6	PCC	4060.2
HALLIN	WESDEF	G	6424	3	4.0	GBSB	21.8
HALLIN	WESDEF	G	6424	4	221.1	SG	21.8
HALLIN	WESDEF	G	9398	1	5.3	AC	3975.7
HALLIN	WESDEF	G	9398	2	9.6	PCC	3975.7
HALLIN	WESDEF	G	9398	3	4.0	GBSB	20.3
HALLIN	WESDEF	G	9398	4	221.1	SG	20.3
HALLIN	WESDEF	G	12256	1	5.3	AC	3666.9
HALLIN	WESDEF	G	12256	2	9.6	PCC	3666.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
HALLIN	WESDEF	G	12256	3	4.0	GBSB	18.8
HALLIN	WESDEF	G	12256	4	221.1	SG	18.8
HALLIN	WESDEF	G	16350	1	5.3	AC	3576.7
HALLIN	WESDEF	G	16350	2	9.6	PCC	3576.7
HALLIN	WESDEF	G	16350	3	4.0	GBSB	20.5
HALLIN	WESDEF	G	16350	4	221.1	SG	20.5
HALLIN	WESDEF	H	7734	1	2.5	AC	2032.9
HALLIN	WESDEF	H	7734	2	6.9	PCC	2032.9
HALLIN	WESDEF	H	7734	3	96.0	SG	23.4
HALLIN	WESDEF	H	7734	4	134.6	SG	23.4
HALLIN	WESDEF	H	9704	1	2.5	AC	2029.3
HALLIN	WESDEF	H	9704	2	6.9	PCC	2029.3
HALLIN	WESDEF	H	9704	3	96.0	SG	22.6
HALLIN	WESDEF	H	9704	4	134.6	SG	22.6
HALLIN	WESDEF	H	12504	1	2.5	AC	2028
HALLIN	WESDEF	H	12504	2	6.9	PCC	2028
HALLIN	WESDEF	H	12504	3	96.0	SG	20
HALLIN	WESDEF	H	12504	4	134.6	SG	20
HALLIN	WESDEF	H	17706	1	2.5	AC	2225
HALLIN	WESDEF	H	17706	2	6.9	PCC	2225
HALLIN	WESDEF	H	17706	3	96.0	SG	20
HALLIN	WESDEF	H	17706	4	134.6	SG	20
IRWIN	ISSEM4	A	17054	1	5.0	AC	567
IRWIN	ISSEM4	A	17054	2	13.4	GBSB	123
IRWIN	ISSEM4	A	17054	3	24.0	GBSB	12.9
IRWIN	ISSEM4	A	17054	4		SG	40
IRWIN	ISSEM4	B	16362	1	4.2	AC	958
IRWIN	ISSEM4	B	16362	2	5.0	GBSB	40.8
IRWIN	ISSEM4	B	16362	3	30.0	SG	33.9
IRWIN	ISSEM4	B	16362	4		SG	33.9
IRWIN	ISSEM4	C	16696	1	7.9	AC	881
IRWIN	ISSEM4	C	16696	2	8.4	STB	246
IRWIN	ISSEM4	C	16696	3	24.0	SG	39
IRWIN	ISSEM4	C	16696	4		SG	39
IRWIN	ISSEM4	D	17474	1	7.3	AC	1750
IRWIN	ISSEM4	D	17474	2	5.5	STB	450
IRWIN	ISSEM4	D	17474	3	60.0	SG	23.9
IRWIN	ISSEM4	D	17474	4		SG	23.9
IRWIN	ISSEM4	F	16812	1	7.7	AC	1100
IRWIN	ISSEM4	F	16812	2	14.5	GBSB	61
IRWIN	ISSEM4	F	16812	3	72.0	SG	39.9
IRWIN	ISSEM4	F	16812	4		SG	39.9
IRWIN	ISSEM4	H	17706	1	2.5	AC	145

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
IRWIN	ISSEM4	H	17706	2	6.9	PCC	1540
IRWIN	ISSEM4	H	17706	3	96.0	SG	45.3
IRWIN	ISSEM4	H	17706	4		SG	45.3
IRWIN	MODCOMP	A	7246	1	5.0	AC	804
IRWIN	MODCOMP	A	7246	2	13.4	GBSB	94
IRWIN	MODCOMP	A	7246	3	12.0	GBSB	10.6
IRWIN	MODCOMP	A	7246	4		SG	40
IRWIN	MODCOMP	A	10006	1	5.0	AC	804
IRWIN	MODCOMP	A	10006	2	13.4	GBSB	94
IRWIN	MODCOMP	A	10006	3	12.0	GBSB	10.6
IRWIN	MODCOMP	A	10006	4		SG	40
IRWIN	MODCOMP	A	12644	1	5.0	AC	804
IRWIN	MODCOMP	A	12644	2	13.4	GBSB	94
IRWIN	MODCOMP	A	12644	3	12.0	GBSB	10.6
IRWIN	MODCOMP	A	12644	4		SG	40
IRWIN	MODCOMP	A	17054	1	5.0	AC	804
IRWIN	MODCOMP	A	17054	2	13.4	GBSB	94
IRWIN	MODCOMP	A	17054	3	12.0	GBSB	10.6
IRWIN	MODCOMP	A	17054	4		SG	40
IRWIN	MODCOMP	B	6460	1	4.2	AC	797
IRWIN	MODCOMP	B	6460	2	5.0	GBSB	103
IRWIN	MODCOMP	B	6460	3	30.0	SG	27.2
IRWIN	MODCOMP	B	6460	4		SG	27.2
IRWIN	MODCOMP	B	9596	1	4.2	AC	797
IRWIN	MODCOMP	B	9596	2	5.0	GBSB	103
IRWIN	MODCOMP	B	9596	3	30.0	SG	27.2
IRWIN	MODCOMP	B	9596	4		SG	27.2
IRWIN	MODCOMP	B	12700	1	4.2	AC	797
IRWIN	MODCOMP	B	12700	2	5.0	GBSB	103
IRWIN	MODCOMP	B	12700	3	30.0	SG	27.2
IRWIN	MODCOMP	B	12700	4		SG	27.2
IRWIN	MODCOMP	B	16362	1	4.2	AC	797
IRWIN	MODCOMP	B	16362	2	5.0	GBSB	103
IRWIN	MODCOMP	B	16362	3	30.0	SG	27.2
IRWIN	MODCOMP	B	16362	4		SG	27.2
IRWIN	MODCOMP	B	6460	1	4.2	AC	783.3
IRWIN	MODCOMP	B	6460	2	5.0	GBSB	114.4
IRWIN	MODCOMP	B	6460	3	30.0	SG	24.3
IRWIN	MODCOMP	B	6460	4		SG	29.9
IRWIN	MODCOMP	B	9596	1	4.2	AC	783.3
IRWIN	MODCOMP	B	9596	2	5.0	GBSB	114.4
IRWIN	MODCOMP	B	9596	3	30.0	SG	24.3
IRWIN	MODCOMP	B	9596	4		SG	29.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
IRWIN	MODCOMP	B	12700	1	4.2	AC	783.3
IRWIN	MODCOMP	B	12700	2	5.0	GBSB	114.4
IRWIN	MODCOMP	B	12700	3	30.0	SG	24.3
IRWIN	MODCOMP	B	12700	4		SG	29.9
IRWIN	MODCOMP	B	16362	1	4.2	AC	783.3
IRWIN	MODCOMP	B	16362	2	5.0	GBSB	114.4
IRWIN	MODCOMP	B	16362	3	30.0	SG	24.3
IRWIN	MODCOMP	B	16362	4		SG	29.9
IRWIN	MODCOMP	B	6460	1	4.2	AC	825.1
IRWIN	MODCOMP	B	6460	2	5.0	GBSB	75.9
IRWIN	MODCOMP	B	6460	3	30.0	SG	
IRWIN	MODCOMP	B	6460	4		SG	29.2
IRWIN	MODCOMP	B	9596	1	4.2	AC	825.1
IRWIN	MODCOMP	B	9596	2	5.0	GBSB	75.9
IRWIN	MODCOMP	B	9596	3	30.0	SG	
IRWIN	MODCOMP	B	9596	4		SG	29.2
IRWIN	MODCOMP	B	12700	1	4.2	AC	825.1
IRWIN	MODCOMP	B	12700	2	5.0	GBSB	75.9
IRWIN	MODCOMP	B	12700	3	30.0	SG	
IRWIN	MODCOMP	B	12700	4		SG	29.2
IRWIN	MODCOMP	B	16362	1	4.2	AC	825.1
IRWIN	MODCOMP	B	16362	2	5.0	GBSB	75.9
IRWIN	MODCOMP	B	16362	3	30.0	SG	30
IRWIN	MODCOMP	B	16362	4		SG	29.2
IRWIN	MODCOMP	C	6616	1	7.9	AC	629.7
IRWIN	MODCOMP	C	6616	2	8.4	STB	411.6
IRWIN	MODCOMP	C	6616	3	24.0	SG	38.1
IRWIN	MODCOMP	C	6616	4		SG	38.1
IRWIN	MODCOMP	C	9522	1	7.9	AC	629.7
IRWIN	MODCOMP	C	9522	2	8.4	STB	411.6
IRWIN	MODCOMP	C	9522	3	24.0	SG	38.1
IRWIN	MODCOMP	C	9522	4		SG	38.1
IRWIN	MODCOMP	C	12958	1	7.9	AC	629.7
IRWIN	MODCOMP	C	12958	2	8.4	STB	411.6
IRWIN	MODCOMP	C	12958	3	24.0	SG	38.1
IRWIN	MODCOMP	C	12958	4		SG	38.1
IRWIN	MODCOMP	C	16696	1	7.9	AC	629.7
IRWIN	MODCOMP	C	16696	2	8.4	STB	411.6
IRWIN	MODCOMP	C	16696	3	24.0	SG	38.1
IRWIN	MODCOMP	C	16696	4		SG	38.1
IRWIN	MODCOMP	C	6616	1	7.9	AC	658.2
IRWIN	MODCOMP	C	6616	2	8.4	STB	363.4
IRWIN	MODCOMP	C	6616	3	24.0	SG	47.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
IRWIN	MODCOMP	C	6616	4		SG	35.4
IRWIN	MODCOMP	C	9522	1	7.9	AC	658.2
IRWIN	MODCOMP	C	9522	2	8.4	STB	363.4
IRWIN	MODCOMP	C	9522	3	24.0	SG	47.9
IRWIN	MODCOMP	C	9522	4		SG	35.4
IRWIN	MODCOMP	C	12958	1	7.9	AC	658.2
IRWIN	MODCOMP	C	12958	2	8.4	STB	363.4
IRWIN	MODCOMP	C	12958	3	24.0	SG	47.9
IRWIN	MODCOMP	C	12958	4		SG	35.4
IRWIN	MODCOMP	C	16696	1	7.9	AC	658.2
IRWIN	MODCOMP	C	16696	2	8.4	STB	363.4
IRWIN	MODCOMP	C	16696	3	24.0	SG	47.9
IRWIN	MODCOMP	C	16696	4		SG	35.4
IRWIN	MODCOMP	D	6264	1	7.3	AC	2842.1
IRWIN	MODCOMP	D	6264	2	5.5	STB	438.3
IRWIN	MODCOMP	D	6264	3	60.0	SG	20.5
IRWIN	MODCOMP	D	6264	4		SG	20.5
IRWIN	MODCOMP	D	9474	1	7.3	AC	2842.1
IRWIN	MODCOMP	D	9474	2	5.5	STB	438.3
IRWIN	MODCOMP	D	9474	3	60.0	SG	20.5
IRWIN	MODCOMP	D	9474	4		SG	20.5
IRWIN	MODCOMP	D	12914	1	7.3	AC	2842.1
IRWIN	MODCOMP	D	12914	2	5.5	STB	438.3
IRWIN	MODCOMP	D	12914	3	60.0	SG	20.5
IRWIN	MODCOMP	D	12914	4		SG	20.5
IRWIN	MODCOMP	D	17474	1	7.3	AC	2842.1
IRWIN	MODCOMP	D	17474	2	5.5	STB	438.3
IRWIN	MODCOMP	D	17474	3	60.0	SG	20.5
IRWIN	MODCOMP	D	17474	4		SG	20.5
IRWIN	MODCOMP	D	6264	1	7.3	AC	3122
IRWIN	MODCOMP	D	6264	2	5.5	STB	505.3
IRWIN	MODCOMP	D	6264	3	60.0	SG	24.4
IRWIN	MODCOMP	D	6264	4		SG	16.6
IRWIN	MODCOMP	D	9474	1	7.3	AC	3122
IRWIN	MODCOMP	D	9474	2	5.5	STB	505.3
IRWIN	MODCOMP	D	9474	3	60.0	SG	24.4
IRWIN	MODCOMP	D	9474	4		SG	16.6
IRWIN	MODCOMP	D	12914	1	7.3	AC	3122
IRWIN	MODCOMP	D	12914	2	5.5	STB	505.3
IRWIN	MODCOMP	D	12914	3	60.0	SG	24.4
IRWIN	MODCOMP	D	12914	4		SG	16.6
IRWIN	MODCOMP	D	17474	1	7.3	AC	3122
IRWIN	MODCOMP	D	17474	2	5.5	STB	505.3

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
IRWIN	MODCOMP	D	17474	3	60.0	SG	24.4
IRWIN	MODCOMP	D	17474	4		SG	16.6
IRWIN	MODCOMP	E	7608	1	7.5	AC	1042.5
IRWIN	MODCOMP	E	7608	2	6.4	STB	571.5
IRWIN	MODCOMP	E	7608	3	36.0	GBSB	52.7
IRWIN	MODCOMP	E	7608	4		SG	52.7
IRWIN	MODCOMP	E	9752	1	7.5	AC	1042.5
IRWIN	MODCOMP	E	9752	2	6.4	STB	571.5
IRWIN	MODCOMP	E	9752	3	36.0	GBSB	52.7
IRWIN	MODCOMP	E	9752	4		SG	52.7
IRWIN	MODCOMP	E	12714	1	7.5	AC	1042.5
IRWIN	MODCOMP	E	12714	2	6.4	STB	571.5
IRWIN	MODCOMP	E	12714	3	36.0	GBSB	52.7
IRWIN	MODCOMP	E	12714	4		SG	52.7
IRWIN	MODCOMP	E	17764	1	7.5	AC	1042.5
IRWIN	MODCOMP	E	17764	2	6.4	STB	571.5
IRWIN	MODCOMP	E	17764	3	36.0	GBSB	52.7
IRWIN	MODCOMP	E	17764	4		SG	52.7
IRWIN	MODCOMP	E	7608	1	7.5	AC	930.2
IRWIN	MODCOMP	E	7608	2	6.4	STB	719.6
IRWIN	MODCOMP	E	7608	3	36.0	GBSB	39.3
IRWIN	MODCOMP	E	7608	4		SG	63.3
IRWIN	MODCOMP	E	9752	1	7.5	AC	930.2
IRWIN	MODCOMP	E	9752	2	6.4	STB	719.6
IRWIN	MODCOMP	E	9752	3	36.0	GBSB	39.3
IRWIN	MODCOMP	E	9752	4		SG	63.3
IRWIN	MODCOMP	E	12714	1	7.5	AC	930.2
IRWIN	MODCOMP	E	12714	2	6.4	STB	719.6
IRWIN	MODCOMP	E	12714	3	36.0	GBSB	39.3
IRWIN	MODCOMP	E	12714	4		SG	63.3
IRWIN	MODCOMP	E	17764	1	7.5	AC	930.2
IRWIN	MODCOMP	E	17764	2	6.4	STB	719.6
IRWIN	MODCOMP	E	17764	3	36.0	GBSB	39.3
IRWIN	MODCOMP	E	17764	4		SG	63.3
IRWIN	MODCOMP	F	6534	1	7.7	AC	1300
IRWIN	MODCOMP	F	6534	2	14.5	GBSB	37.3
IRWIN	MODCOMP	F	6534	3	176.0	SG	45.3
IRWIN	MODCOMP	F	6534	4		SG	35.4
IRWIN	MODCOMP	F	9512	1	7.7	AC	1300
IRWIN	MODCOMP	F	9512	2	14.5	GBSB	37.3
IRWIN	MODCOMP	F	9512	3	176.0	SG	45.3
IRWIN	MODCOMP	F	9512	4		SG	35.4
IRWIN	MODCOMP	F	12662	1	7.7	AC	1300

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
IRWIN	MODCOMP	F	12662	2	14.5	GBSB	37.3
IRWIN	MODCOMP	F	12662	3	176.0	SG	45.3
IRWIN	MODCOMP	F	12662	4		SG	35.4
IRWIN	MODCOMP	F	16812	1	7.7	AC	1300
IRWIN	MODCOMP	F	16812	2	14.5	GBSB	37.3
IRWIN	MODCOMP	F	16812	3	176.0	SG	45.3
IRWIN	MODCOMP	F	16812	4		SG	35.4
IRWIN	MODCOMP	F	6534	1	7.7	AC	1777.5
IRWIN	MODCOMP	F	6534	2	14.5	GBSB	
IRWIN	MODCOMP	F	6534	3	72.0	SG	33.2
IRWIN	MODCOMP	F	6534	4		SG	51.5
IRWIN	MODCOMP	F	9512	1	7.7	AC	1777.5
IRWIN	MODCOMP	F	9512	2	14.5	GBSB	
IRWIN	MODCOMP	F	9512	3	72.0	SG	33.2
IRWIN	MODCOMP	F	9512	4		SG	51.5
IRWIN	MODCOMP	F	12662	1	7.7	AC	1777.5
IRWIN	MODCOMP	F	12662	2	14.5	GBSB	
IRWIN	MODCOMP	F	12662	3	72.0	SG	33.2
IRWIN	MODCOMP	F	12662	4		SG	51.5
IRWIN	MODCOMP	F	16812	1	7.7	AC	1777.5
IRWIN	MODCOMP	F	16812	2	14.5	GBSB	27.8
IRWIN	MODCOMP	F	16812	3	72.0	SG	33.2
IRWIN	MODCOMP	F	16812	4		SG	51.5
IRWIN	MODCOMP	G	6424	1	5.3	AC	2006.4
IRWIN	MODCOMP	G	6424	2	9.6	PCC	3982.4
IRWIN	MODCOMP	G	6424	3	4.0	GBSB	132.5
IRWIN	MODCOMP	G	6424	4		SG	30
IRWIN	MODCOMP	G	9398	1	5.3	AC	2006.4
IRWIN	MODCOMP	G	9398	2	9.6	PCC	3982.4
IRWIN	MODCOMP	G	9398	3	4.0	GBSB	132.5
IRWIN	MODCOMP	G	9398	4		SG	30
IRWIN	MODCOMP	G	12256	1	5.3	AC	2006.4
IRWIN	MODCOMP	G	12256	2	9.6	PCC	3982.4
IRWIN	MODCOMP	G	12256	3	4.0	GBSB	132.5
IRWIN	MODCOMP	G	12256	4		SG	30
IRWIN	MODCOMP	G	16350	1	5.3	AC	2006.4
IRWIN	MODCOMP	G	16350	2	9.6	PCC	3982.4
IRWIN	MODCOMP	G	16350	3	4.0	GBSB	132.5
IRWIN	MODCOMP	G	16350	4		SG	30
IRWIN	MODCOMP	G	16350	1	5.3	AC	2006
IRWIN	MODCOMP	G	16350	2	9.6	PCC	3982
IRWIN	MODCOMP	G	16350	3	4.0	GBSB	132
IRWIN	MODCOMP	G	16350	4		SG	30

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
IRWIN	MODCOMP	H	7734	1	2.5	AC	215.9
IRWIN	MODCOMP	H	7734	2	6.9	PCC	6348.6
IRWIN	MODCOMP	H	7734	3	96.0	SG	22.1
IRWIN	MODCOMP	H	7734	4		SG	22.1
IRWIN	MODCOMP	H	9704	1	2.5	AC	215.9
IRWIN	MODCOMP	H	9704	2	6.9	PCC	6348.6
IRWIN	MODCOMP	H	9704	3	96.0	SG	22.1
IRWIN	MODCOMP	H	9704	4		SG	22.1
IRWIN	MODCOMP	H	12504	1	2.5	AC	215.9
IRWIN	MODCOMP	H	12504	2	6.9	PCC	6348.6
IRWIN	MODCOMP	H	12504	3	96.0	SG	22.1
IRWIN	MODCOMP	H	12504	4		SG	22.1
IRWIN	MODCOMP	H	17706	1	2.5	AC	215.9
IRWIN	MODCOMP	H	17706	2	6.9	PCC	6348.6
IRWIN	MODCOMP	H	17706	3	96.0	SG	22.1
IRWIN	MODCOMP	H	17706	4		SG	22.1
IRWIN	MODCOMP	H	7734	1	2.5	AC	211.3
IRWIN	MODCOMP	H	7734	2	6.9	PCC	4834.4
IRWIN	MODCOMP	H	7734	3	96.0	SG	18.3
IRWIN	MODCOMP	H	7734	4		SG	42.6
IRWIN	MODCOMP	H	9704	1	2.5	AC	211.3
IRWIN	MODCOMP	H	9704	2	6.9	PCC	4834.4
IRWIN	MODCOMP	H	9704	3	96.0	SG	18.3
IRWIN	MODCOMP	H	9704	4		SG	42.6
IRWIN	MODCOMP	H	12504	1	2.5	AC	211.3
IRWIN	MODCOMP	H	12504	2	6.9	PCC	4834.4
IRWIN	MODCOMP	H	12504	3	96.0	SG	18.3
IRWIN	MODCOMP	H	12504	4		SG	42.6
IRWIN	MODCOMP	H	17706	1	2.5	AC	211.3
IRWIN	MODCOMP	H	17706	2	6.9	PCC	4834.4
IRWIN	MODCOMP	H	17706	3	96.0	SG	18.3
IRWIN	MODCOMP	H	17706	4		SG	42.6
IRWIN	MODULUS	A	17054	1	5.0	AC	1016
IRWIN	MODULUS	A	17054	2	13.4	GBSB	80.5
IRWIN	MODULUS	A	17054	3	12.0	GBSB	13.6
IRWIN	MODULUS	A	17054	4		SG	37.2
IRWIN	MODULUS	A	17054	1	5.0	AC	960.1
IRWIN	MODULUS	A	17054	2	13.4	GBSB	77.3
IRWIN	MODULUS	A	17054	3	12.0	GBSB	26.6
IRWIN	MODULUS	A	17054	4	76.1	SG	16.6
IRWIN	MODULUS	B	16362	1	4.2	AC	1025
IRWIN	MODULUS	B	16362	2	5.0	GBSB	77.8
IRWIN	MODULUS	B	16362	3	30.0	SG	28.2

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
IRWIN	MODULUS	B	16362	4		SG	28.2
IRWIN	MODULUS	B	16362	1	4.2	AC	1115.8
IRWIN	MODULUS	B	16362	2	5.0	GBSB	67.7
IRWIN	MODULUS	B	16362	3	30.0	SG	28.1
IRWIN	MODULUS	B	16362	4		SG	29.3
IRWIN	MODULUS	C	16696	1	7.9	AC	644
IRWIN	MODULUS	C	16696	2	8.4	STB	468
IRWIN	MODULUS	C	16696	3	24.0	SG	37.4
IRWIN	MODULUS	C	16696	4		SG	37.4
IRWIN	MODULUS	C	16696	1	7.9	AC	716.7
IRWIN	MODULUS	C	16696	2	8.4	STB	327.3
IRWIN	MODULUS	C	16696	3	24.0	SG	50.4
IRWIN	MODULUS	C	16696	4		SG	35.1
IRWIN	MODULUS	D	17474	1	7.3	AC	1894
IRWIN	MODULUS	D	17474	2	5.5	STB	1096
IRWIN	MODULUS	D	17474	3	60.0	SG	18.7
IRWIN	MODULUS	D	17474	4		SG	18.7
IRWIN	MODULUS	E	17764	1	7.5	AC	1267
IRWIN	MODULUS	E	17764	2	6.4	STB	497
IRWIN	MODULUS	E	17764	3	7.0	GBSB	24.7
IRWIN	MODULUS	E	17764	4		SG	612.4
IRWIN	MODULUS	E	17764	1	7.5	AC	1205.1
IRWIN	MODULUS	E	17764	2	6.4	STB	47.1
IRWIN	MODULUS	E	17764	3	7.0	GBSB	47.1
IRWIN	MODULUS	E	17764	4		SG	42.1
IRWIN	MODULUS	F	16812	1	7.7	AC	1205
IRWIN	MODULUS	F	16812	2	14.5	GBSB	47.1
IRWIN	MODULUS	F	16812	3	72.0	SG	42.1
IRWIN	MODULUS	F	16812	4		SG	42.1
IRWIN	MODULUS	G	16350	1	5.3	AC	1175
IRWIN	MODULUS	G	16350	2	9.6	PCC	5523
IRWIN	MODULUS	G	16350	3	4.0	GBSB	35.3
IRWIN	MODULUS	G	16350	4		SG	31.8
IRWIN	MODULUS	H	17706	1	2.5	AC	324
IRWIN	MODULUS	H	17706	2	6.9	PCC	4777
IRWIN	MODULUS	H	17706	3	96.0	SG	20.1
IRWIN	MODULUS	H	17706	4		SG	20.1
IRWIN	WESDEF	A	17054	1	5.0	AC	1000
IRWIN	WESDEF	A	17054	2	13.4	GBSB	86.5
IRWIN	WESDEF	A	17054	3	12.0	GBSB	12
IRWIN	WESDEF	A	17054	4	999.0	SG	39.3
IRWIN	WESDEF	A	17054	1	5.0	AC	992
IRWIN	WESDEF	A	17054	2	13.4	GBSB	80.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
IRWIN	WESDEF	A	17054	3	12.0	GBSB	17.9
IRWIN	WESDEF	A	17054	4	209.7	SG	27
IRWIN	WESDEF	B	16362	1	4.2	AC	150
IRWIN	WESDEF	B	16362	2	5.0	GBSB	23.5
IRWIN	WESDEF	B	16362	3	30.0	SG	1000
IRWIN	WESDEF	B	16362	4	200.8	SG	1000
IRWIN	WESDEF	C	16696	1	7.9	AC	515
IRWIN	WESDEF	C	16696	2	8.4	STB	1011
IRWIN	WESDEF	C	16696	3	24.0	SG	27.3
IRWIN	WESDEF	C	16696	4	199.28	SG	27.3
IRWIN	WESDEF	D	17474	1	7.3	AC	1000
IRWIN	WESDEF	D	17474	2	5.5	STB	2500
IRWIN	WESDEF	D	17474	3	60.0	SG	13.9
IRWIN	WESDEF	D	17474	4	167.25	SG	13.9
IRWIN	WESDEF	E	17764	1	7.5	AC	1000
IRWIN	WESDEF	E	17764	2	6.4	STB	499
IRWIN	WESDEF	E	17764	3	7.0	GBSB	78.3
IRWIN	WESDEF	E	17764	4	219.1	SG	43.1
IRWIN	WESDEF	F	16812	1	7.7	AC	1000
IRWIN	WESDEF	F	16812	2	14.5	GBSB	84.6
IRWIN	WESDEF	F	16812	3	72.0	SG	29.6
IRWIN	WESDEF	F	16812	4	145.88	SG	29.6
IRWIN	WESDEF	H	17706	1	2.5	AC	305
IRWIN	WESDEF	H	17706	2	6.9	PCC	5025
IRWIN	WESDEF	H	17706	3	96.0	SG	19.5
IRWIN	WESDEF	H	17706	4	134.57	SG	19.5

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	ISSEM4	A	7246	1	5.0	AC	800
LUKANEN	ISSEM4	A	7246	2	13.4	GBSB	58.3
LUKANEN	ISSEM4	A	7246	3	12	GBSB	58.3
LUKANEN	ISSEM4	A	7246	4		SG	28.1
LUKANEN	ISSEM4	A	7246	1	5.0	AC	858
LUKANEN	ISSEM4	A	7246	2	13.4	GBSB	52.2
LUKANEN	ISSEM4	A	7246	3	12	GBSB	36.1
LUKANEN	ISSEM4	A	7246	4		SG	36.7
LUKANEN	ISSEM4	A	10006	1	5.0	AC	903
LUKANEN	ISSEM4	A	10006	2	13.4	GBSB	57.5
LUKANEN	ISSEM4	A	10006	3	12	GBSB	57.5
LUKANEN	ISSEM4	A	10006	4		SG	25.4
LUKANEN	ISSEM4	A	10006	1	5.0	AC	948
LUKANEN	ISSEM4	A	10006	2	13.4	GBSB	50.8
LUKANEN	ISSEM4	A	10006	3	12	GBSB	28.2
LUKANEN	ISSEM4	A	10006	4		SG	37.5
LUKANEN	ISSEM4	A	12644	1	5.0	AC	847
LUKANEN	ISSEM4	A	12644	2	13.4	GBSB	58.8
LUKANEN	ISSEM4	A	12644	3	12	GBSB	58.8
LUKANEN	ISSEM4	A	12644	4		SG	22.8
LUKANEN	ISSEM4	A	12644	1	5.0	AC	885
LUKANEN	ISSEM4	A	12644	2	13.4	GBSB	60
LUKANEN	ISSEM4	A	12644	3	12	GBSB	24
LUKANEN	ISSEM4	A	12644	4		SG	30.9
LUKANEN	ISSEM4	A	17054	1	5.0	AC	1010
LUKANEN	ISSEM4	A	17054	2	13.4	GBSB	65.1
LUKANEN	ISSEM4	A	17054	3	12	GBSB	65.1
LUKANEN	ISSEM4	A	17054	4		SG	24.7
LUKANEN	ISSEM4	B	6460	1	4.2	AC	1040
LUKANEN	ISSEM4	B	6460	2	5.0	GBSB	39.4
LUKANEN	ISSEM4	B	6460	3	30.0	SG	27.2
LUKANEN	ISSEM4	B	6460	4		SG	27.2
LUKANEN	ISSEM4	B	9596	1	4.2	AC	892
LUKANEN	ISSEM4	B	9596	2	5.0	GBSB	45.9
LUKANEN	ISSEM4	B	9596	3	30.0	SG	29.2
LUKANEN	ISSEM4	B	9596	4		SG	29.2
LUKANEN	ISSEM4	B	12700	1	4.2	AC	994
LUKANEN	ISSEM4	B	12700	2	5.0	GBSB	51.9
LUKANEN	ISSEM4	B	12700	3	30.0	SG	30.5
LUKANEN	ISSEM4	B	12700	4		SG	30.5
LUKANEN	ISSEM4	B	16362	1	4.2	AC	1030
LUKANEN	ISSEM4	B	16362	2	5.0	GBSB	644
LUKANEN	ISSEM4	B	16362	3	30.0	SG	30

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	ISSEM4	B	16362	4		SG	30
LUKANEN	ISSEM4	C	6616	1	7.9	AC	690
LUKANEN	ISSEM4	C	6616	2	8.4	STB	663
LUKANEN	ISSEM4	C	6616	3	24.0	SG	61
LUKANEN	ISSEM4	C	6616	4		SG	61
LUKANEN	ISSEM4	C	9522	1	7.9	AC	490
LUKANEN	ISSEM4	C	9522	2	8.4	STB	1090
LUKANEN	ISSEM4	C	9522	3	24.0	SG	61.3
LUKANEN	ISSEM4	C	9522	4		SG	61.3
LUKANEN	ISSEM4	C	12958	1	7.9	AC	519
LUKANEN	ISSEM4	C	12958	2	8.4	STB	1010
LUKANEN	ISSEM4	C	12958	3	24.0	SG	60.7
LUKANEN	ISSEM4	C	12958	4		SG	60.7
LUKANEN	ISSEM4	C	16696	1	7.9	AC	445
LUKANEN	ISSEM4	C	16696	2	8.4	STB	1260
LUKANEN	ISSEM4	C	16696	3	24.0	SG	67.1
LUKANEN	ISSEM4	C	16696	4		SG	67.1
LUKANEN	ISSEM4	D	6264	1	7.3	AC	4720
LUKANEN	ISSEM4	D	6264	2	5.5	STB	298
LUKANEN	ISSEM4	D	6264	3	60.0	SG	22.8
LUKANEN	ISSEM4	D	6264	4		SG	22.8
LUKANEN	ISSEM4	D	9474	1	7.3	AC	2560
LUKANEN	ISSEM4	D	9474	2	5.5	STB	329
LUKANEN	ISSEM4	D	9474	3	60.0	SG	23.1
LUKANEN	ISSEM4	D	9474	4		SG	23.1
LUKANEN	ISSEM4	D	12914	1	7.3	AC	3860
LUKANEN	ISSEM4	D	12914	2	5.5	STB	757
LUKANEN	ISSEM4	D	12914	3	60.0	SG	16.7
LUKANEN	ISSEM4	D	12914	4		SG	16.7
LUKANEN	ISSEM4	D	17474	1	7.3	AC	3180
LUKANEN	ISSEM4	D	17474	2	5.5	STB	920
LUKANEN	ISSEM4	D	17474	3	60.0	SG	17.7
LUKANEN	ISSEM4	D	17474	4		SG	17.7
LUKANEN	ISSEM4	E	7608	1	7.5	AC	1120
LUKANEN	ISSEM4	E	7608	2	6.4	STB	1120
LUKANEN	ISSEM4	E	7608	3	7.0	GBSB	11.5
LUKANEN	ISSEM4	E	7608	4		SG	63.8
LUKANEN	ISSEM4	E	9752	1	7.5	AC	1020
LUKANEN	ISSEM4	E	9752	2	6.4	STB	1020
LUKANEN	ISSEM4	E	9752	3	7.0	GBSB	23.8
LUKANEN	ISSEM4	E	9752	4		SG	53.7
LUKANEN	ISSEM4	E	12714	1	7.5	AC	1050
LUKANEN	ISSEM4	E	12714	2	6.4	STB	1050

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	ISSEM4	E	12714	3	7.0	GBSB	27.1
LUKANEN	ISSEM4	E	12714	4		SG	48.1
LUKANEN	ISSEM4	F	6534	1	7.7	AC	1240
LUKANEN	ISSEM4	F	6534	2	14.5	GBSB	59.8
LUKANEN	ISSEM4	F	6534	3	72	SG	53.4
LUKANEN	ISSEM4	F	6534	4		SG	53.4
LUKANEN	ISSEM4	F	9512	1	7.7	AC	1440
LUKANEN	ISSEM4	F	9512	2	14.5	GBSB	32.1
LUKANEN	ISSEM4	F	9512	3	72	SG	59.8
LUKANEN	ISSEM4	F	9512	4		SG	59.8
LUKANEN	ISSEM4	F	12662	1	7.7	AC	983
LUKANEN	ISSEM4	F	12662	2	14.5	GBSB	67.6
LUKANEN	ISSEM4	F	12662	3	72	SG	43.2
LUKANEN	ISSEM4	F	12662	4		SG	43.2
LUKANEN	ISSEM4	F	16812	1	7.7	AC	1190
LUKANEN	ISSEM4	F	16812	2	14.5	GBSB	49
LUKANEN	ISSEM4	F	16812	3	72.0	SG	44.3
LUKANEN	ISSEM4	F	16812	4		SG	44.3
LUKANEN	ISSEM4	G	6424	1	5.3	AC	739
LUKANEN	ISSEM4	G	6424	2	9.6	PCC	7560
LUKANEN	ISSEM4	G	6424	3	4.0	GBSB	48
LUKANEN	ISSEM4	G	6424	4		SG	48
LUKANEN	MODCOMP	A	7246	1	5.0	AC	862
LUKANEN	MODCOMP	A	7246	2	13.4	GBSB	66.8
LUKANEN	MODCOMP	A	7246	3	12.0	GBSB	15.2
LUKANEN	MODCOMP	A	7246	4		SG	41
LUKANEN	MODCOMP	A	10006	1	5.0	AC	955
LUKANEN	MODCOMP	A	10006	2	13.4	GBSB	65.3
LUKANEN	MODCOMP	A	10006	3	12.0	GBSB	14.7
LUKANEN	MODCOMP	A	10006	4		SG	37.5
LUKANEN	MODCOMP	A	12644	1	5.0	AC	871
LUKANEN	MODCOMP	A	12644	2	13.4	GBSB	71.3
LUKANEN	MODCOMP	A	12644	3	12.0	GBSB	10.9
LUKANEN	MODCOMP	A	12644	4		SG	37.7
LUKANEN	MODCOMP	A	17054	1	5.0	AC	906
LUKANEN	MODCOMP	A	17054	2	13.4	GBSB	88.4
LUKANEN	MODCOMP	A	17054	3	12.0	GBSB	10.2
LUKANEN	MODCOMP	A	17054	4		SG	44.3
LUKANEN	MODCOMP	B	6460	1	4.2	AC	1111
LUKANEN	MODCOMP	B	6460	2	5.4	GBSB	23.9
LUKANEN	MODCOMP	B	6460	3	30.0	SG	29.3
LUKANEN	MODCOMP	B	6460	4		SG	29.3
LUKANEN	MODCOMP	B	9596	1	4.2	AC	943

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODCOMP	B	9596	2	5.4	GBSB	44.2
LUKANEN	MODCOMP	B	9596	3	30.0	SG	28.1
LUKANEN	MODCOMP	B	9596	4		SG	28.1
LUKANEN	MODCOMP	B	12700	1	4.2	AC	1090
LUKANEN	MODCOMP	B	12700	2	5.4	GBSB	45.1
LUKANEN	MODCOMP	B	12700	3	30.0	SG	29.3
LUKANEN	MODCOMP	B	12700	4		SG	29.3
LUKANEN	MODCOMP	B	16362	1	4.2	AC	996
LUKANEN	MODCOMP	B	16362	2	5.4	GBSB	65.2
LUKANEN	MODCOMP	B	16362	3	30.0	SG	29
LUKANEN	MODCOMP	B	16362	4		SG	29
LUKANEN	MODCOMP	C	6616	1	7.9	AC	643
LUKANEN	MODCOMP	C	6616	2	8.4	STB	294
LUKANEN	MODCOMP	C	6616	3	24.0	SG	39.2
LUKANEN	MODCOMP	C	6616	4		SG	39.2
LUKANEN	MODCOMP	C	9522	1	7.9	AC	584
LUKANEN	MODCOMP	C	9522	2	8.4	STB	380
LUKANEN	MODCOMP	C	9522	3	24.0	SG	37.7
LUKANEN	MODCOMP	C	9522	4		SG	37.7
LUKANEN	MODCOMP	C	12958	1	7.9	AC	616
LUKANEN	MODCOMP	C	12958	2	8.4	STB	364
LUKANEN	MODCOMP	C	12958	3	24.0	SG	37.1
LUKANEN	MODCOMP	C	12958	4		SG	37.1
LUKANEN	MODCOMP	C	16696	1	7.9	AC	639
LUKANEN	MODCOMP	C	16696	2	8.4	STB	397
LUKANEN	MODCOMP	C	16696	3	24.0	SG	38.9
LUKANEN	MODCOMP	C	16696	4		SG	38.9
LUKANEN	MODCOMP	D	6264	1	7.3	AC	4884
LUKANEN	MODCOMP	D	6264	2	5.5	STB	77.2
LUKANEN	MODCOMP	D	6264	3	60.0	SG	24.5
LUKANEN	MODCOMP	D	6264	4		SG	24.5
LUKANEN	MODCOMP	D	9474	1	7.3	AC	2490
LUKANEN	MODCOMP	D	9474	2	5.5	STB	364
LUKANEN	MODCOMP	D	9474	3	60.0	SG	22.3
LUKANEN	MODCOMP	D	9474	4		SG	22.3
LUKANEN	MODCOMP	D	12914	1	7.3	AC	2170
LUKANEN	MODCOMP	D	12914	2	5.5	STB	742
LUKANEN	MODCOMP	D	12914	3	60.0	SG	19.1
LUKANEN	MODCOMP	D	12914	4		SG	19.1
LUKANEN	MODCOMP	D	17474	1	7.3	AC	1960
LUKANEN	MODCOMP	D	17474	2	5.5	STB	896
LUKANEN	MODCOMP	D	17474	3	60.0	SG	19.8
LUKANEN	MODCOMP	D	17474	4		SG	19.8

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODCOMP	F	6534	1	7.7	AC	901
LUKANEN	MODCOMP	F	6534	2	14.5	GBSB	178
LUKANEN	MODCOMP	F	6534	3	72.0	SG	28.6
LUKANEN	MODCOMP	F	6534	4	104	SG	28.6
LUKANEN	MODCOMP	F	9512	1	7.7	AC	1073
LUKANEN	MODCOMP	F	9512	2	14.5	GBSB	127
LUKANEN	MODCOMP	F	9512	3	72.0	SG	27.9
LUKANEN	MODCOMP	F	9512	4	104	SG	27.9
LUKANEN	MODCOMP	F	12662	1	7.7	AC	1052
LUKANEN	MODCOMP	F	12662	2	14.5	GBSB	96.1
LUKANEN	MODCOMP	F	12662	3	72.0	SG	28
LUKANEN	MODCOMP	F	12662	4	104	SG	28
LUKANEN	MODCOMP	F	16812	1	7.7	AC	1238
LUKANEN	MODCOMP	F	16812	2	14.5	GBSB	84.1
LUKANEN	MODCOMP	F	16812	3	72.0	SG	27
LUKANEN	MODCOMP	F	16812	4	104	SG	27
LUKANEN	MODCOMP	G	9398	1	5.3	AC	1642
LUKANEN	MODCOMP	G	9398	2	9.6	PCC	6351
LUKANEN	MODCOMP	G	9398	3	4.0	GBSB	56.2
LUKANEN	MODCOMP	G	9398	4		SB	30.8
LUKANEN	MODCOMP	G	12256	1	5.3	AC	3952
LUKANEN	MODCOMP	G	12256	2	9.6	PCC	2595
LUKANEN	MODCOMP	G	12256	3	4.0	GBSB	152
LUKANEN	MODCOMP	G	12256	4		SB	27.4
LUKANEN	MODCOMP	G	16350	1	5.3	AC	1729
LUKANEN	MODCOMP	G	16350	2	9.6	PCC	5171
LUKANEN	MODCOMP	G	16350	3	4.0	GBSB	11
LUKANEN	MODCOMP	G	16350	4		SB	32.4
LUKANEN	MODCOMP	H	6424	1	2.5	AC	185
LUKANEN	MODCOMP	H	6424	2	6.9	PCC	5974
LUKANEN	MODCOMP	H	6424	3	96.0	SG	26
LUKANEN	MODCOMP	H	6424	4		SG	26
LUKANEN	MODCOMP	H	9398	1	2.5	AC	192
LUKANEN	MODCOMP	H	9398	2	6.9	PCC	7027
LUKANEN	MODCOMP	H	9398	3	96.0	SG	23.6
LUKANEN	MODCOMP	H	9398	4		SG	23.6
LUKANEN	MODCOMP	H	12256	1	2.5	AC	195
LUKANEN	MODCOMP	H	12256	2	6.9	PCC	6285
LUKANEN	MODCOMP	H	12256	3	96.0	SG	21.9
LUKANEN	MODCOMP	H	12256	4		SG	21.9
LUKANEN	MODCOMP	H	16350	1	2.5	AC	216
LUKANEN	MODCOMP	H	16350	2	6.9	PCC	6549
LUKANEN	MODCOMP	H	16350	3	96.0	SG	22.3

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODCOMP	H	16350	4		SG	22.3
LUKANEN	MODULUS	A	7246	1	5.0	AC	883
LUKANEN	MODULUS	A	7246	2	13.4	GBSB	67.5
LUKANEN	MODULUS	A	7246	3	12.0	GBSB	15.4
LUKANEN	MODULUS	A	7246	4		SG	41.3
LUKANEN	MODULUS	A	10006	1	5.0	AC	943
LUKANEN	MODULUS	A	10006	2	13.4	GBSB	70.5
LUKANEN	MODULUS	A	10006	3	12.0	GBSB	12.7
LUKANEN	MODULUS	A	10006	4		SG	39.5
LUKANEN	MODULUS	A	12644	1	5.0	AC	892
LUKANEN	MODULUS	A	12644	2	13.4	GBSB	73.5
LUKANEN	MODULUS	A	12644	3	12.0	GBSB	10.5
LUKANEN	MODULUS	A	12644	4		SG	38.2
LUKANEN	MODULUS	A	17054	1	5.0	AC	947
LUKANEN	MODULUS	A	17054	2	13.4	GBSB	88.1
LUKANEN	MODULUS	A	17054	3	12.0	GBSB	10.9
LUKANEN	MODULUS	A	17054	4		SG	42.8
LUKANEN	MODULUS	A	7246	1	5.0	AC	994.7
LUKANEN	MODULUS	A	7246	2	13.4	GBSB	53.4
LUKANEN	MODULUS	A	7246	3	12.0	GBSB	34
LUKANEN	MODULUS	A	7246	4	209.6	SG	26
LUKANEN	MODULUS	A	10006	1	5.0	AC	1069.9
LUKANEN	MODULUS	A	10006	2	13.4	GBSB	54.8
LUKANEN	MODULUS	A	10006	3	12.0	GBSB	29.1
LUKANEN	MODULUS	A	10006	4	209.6	SG	24.4
LUKANEN	MODULUS	A	12644	1	5.0	AC	1027.1
LUKANEN	MODULUS	A	12644	2	13.4	GBSB	58.5
LUKANEN	MODULUS	A	12644	3	12.0	GBSB	22.8
LUKANEN	MODULUS	A	12644	4	209.6	SG	23.2
LUKANEN	MODULUS	A	17054	1	5.0	AC	1133.4
LUKANEN	MODULUS	A	17054	2	13.4	GBSB	68.3
LUKANEN	MODULUS	A	17054	3	12.0	GBSB	24.6
LUKANEN	MODULUS	A	17054	4	209.6	SG	25.5
LUKANEN	MODULUS	A	7246	1	5.0	AC	826.8
LUKANEN	MODULUS	A	7246	2	13.4	GBSB	59.5
LUKANEN	MODULUS	A	7246	3	12.0	GBSB	59.5
LUKANEN	MODULUS	A	7246	4	77.4	SG	14.1
LUKANEN	MODULUS	A	10006	1	5.0	AC	954.3
LUKANEN	MODULUS	A	10006	2	13.4	GBSB	56.3
LUKANEN	MODULUS	A	10006	3	12.0	GBSB	56.3
LUKANEN	MODULUS	A	10006	4	77.4	SG	13.1
LUKANEN	MODULUS	A	12644	1	5.0	AC	1000.3
LUKANEN	MODULUS	A	12644	2	13.4	GBSB	52.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODULUS	A	12644	3	12.0	GBSB	52.9
LUKANEN	MODULUS	A	12644	4	77.4	SG	12.2
LUKANEN	MODULUS	A	17054	1	5.0	AC	1124.9
LUKANEN	MODULUS	A	17054	2	13.4	GBSB	59.7
LUKANEN	MODULUS	A	17054	3	12.0	GBSB	59.7
LUKANEN	MODULUS	A	17054	4	77.4	SG	13.3
LUKANEN	MODULUS	A	7246	1	5.0	AC	1130.5
LUKANEN	MODULUS	A	7246	2	13.4	GBSB	38.2
LUKANEN	MODULUS	A	7246	3	12.0	GBSB	136.7
LUKANEN	MODULUS	A	7246	4	77.4	SG	12.8
LUKANEN	MODULUS	A	10006	1	5.0	AC	1260.9
LUKANEN	MODULUS	A	10006	2	13.4	GBSB	37.1
LUKANEN	MODULUS	A	10006	3	12.0	GBSB	120.1
LUKANEN	MODULUS	A	10006	4	77.4	SG	12
LUKANEN	MODULUS	A	12644	1	5.0	AC	1214.6
LUKANEN	MODULUS	A	12644	2	13.4	GBSB	39.4
LUKANEN	MODULUS	A	12644	3	12.0	GBSB	87.4
LUKANEN	MODULUS	A	12644	4	77.4	SG	11.5
LUKANEN	MODULUS	A	17054	1	5.0	AC	1359.6
LUKANEN	MODULUS	A	17054	2	13.4	GBSB	45.2
LUKANEN	MODULUS	A	17054	3	12.0	GBSB	95.9
LUKANEN	MODULUS	A	17054	4	77.4	SG	12.6
LUKANEN	MODULUS	B	6460	1	4.2	AC	1275
LUKANEN	MODULUS	B	6460	2	5.0	GBSB	22
LUKANEN	MODULUS	B	6460	3	30.0	SG	28.6
LUKANEN	MODULUS	B	6460	4		SG	28.6
LUKANEN	MODULUS	B	9596	1	4.2	AC	1630
LUKANEN	MODULUS	B	9596	2	5.0	GBSB	15.9
LUKANEN	MODULUS	B	9596	3	30.0	SG	30.3
LUKANEN	MODULUS	B	9596	4		SG	30.3
LUKANEN	MODULUS	B	12700	1	4.2	AC	1759
LUKANEN	MODULUS	B	12700	2	5.0	GBSB	19.1
LUKANEN	MODULUS	B	12700	3	30.0	SG	30.7
LUKANEN	MODULUS	B	12700	4		SG	30.7
LUKANEN	MODULUS	B	16362	1	4.2	AC	1757
LUKANEN	MODULUS	B	16362	2	5.0	GBSB	24.4
LUKANEN	MODULUS	B	16362	3	30.0	SG	30.6
LUKANEN	MODULUS	B	16362	4		SG	30.6
LUKANEN	MODULUS	B	6460	1	4.2	AC	2000
LUKANEN	MODULUS	B	6460	2	5.0	GBSB	68.8
LUKANEN	MODULUS	B	6460	3	30.0	SG	16.6
LUKANEN	MODULUS	B	6460	4	68.1	SG	16.6
LUKANEN	MODULUS	B	9596	1	4.2	AC	2000

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODULUS	B	9596	2	5.0	GBSB	68.8
LUKANEN	MODULUS	B	9596	3	30.0	SG	17
LUKANEN	MODULUS	B	9596	4	68.1	SG	17
LUKANEN	MODULUS	B	12700	1	4.2	AC	2000
LUKANEN	MODULUS	B	12700	2	5.0	GBSB	150
LUKANEN	MODULUS	B	12700	3	30.0	SG	16.5
LUKANEN	MODULUS	B	12700	4	68.1	SG	16.5
LUKANEN	MODULUS	B	16362	1	4.2	AC	2000
LUKANEN	MODULUS	B	16362	2	5.0	GBSB	150
LUKANEN	MODULUS	B	16362	3	30.0	SG	17.1
LUKANEN	MODULUS	B	16362	4	68.1	SG	17.1
LUKANEN	MODULUS	B	6460	1	4.2	AC	588.4
LUKANEN	MODULUS	B	6460	2	5.0	GBSB	116.9
LUKANEN	MODULUS	B	6460	3	30.0	SG	22
LUKANEN	MODULUS	B	6460	4	200.8	SG	22
LUKANEN	MODULUS	B	9596	1	4.2	AC	592.1
LUKANEN	MODULUS	B	9596	2	5.0	GBSB	128.6
LUKANEN	MODULUS	B	9596	3	30.0	SG	22.6
LUKANEN	MODULUS	B	9596	4	200.8	SG	22.6
LUKANEN	MODULUS	B	12700	1	4.2	AC	692.3
LUKANEN	MODULUS	B	12700	2	5.0	GBSB	144.9
LUKANEN	MODULUS	B	12700	3	30.0	SG	23.1
LUKANEN	MODULUS	B	12700	4	200.8	SG	23.1
LUKANEN	MODULUS	B	16362	1	4.2	AC	707.1
LUKANEN	MODULUS	B	16362	2	5.0	GBSB	150
LUKANEN	MODULUS	B	16362	3	30.0	SG	23.6
LUKANEN	MODULUS	B	16362	4	200.8	SG	23.6
LUKANEN	MODULUS	C	6616	1	7.9	AC	618
LUKANEN	MODULUS	C	6616	2	8.4	STB	385
LUKANEN	MODULUS	C	6616	3	24.0	SG	37.5
LUKANEN	MODULUS	C	6616	4		SG	37.5
LUKANEN	MODULUS	C	9522	1	7.9	AC	594
LUKANEN	MODULUS	C	9522	2	8.4	STB	441
LUKANEN	MODULUS	C	9522	3	24.0	SG	36.8
LUKANEN	MODULUS	C	9522	4		SG	36.8
LUKANEN	MODULUS	C	12958	1	7.9	AC	627
LUKANEN	MODULUS	C	12958	2	8.4	STB	423
LUKANEN	MODULUS	C	12958	3	24.0	SG	36.2
LUKANEN	MODULUS	C	12958	4		SG	36.2
LUKANEN	MODULUS	C	16696	1	7.9	AC	645
LUKANEN	MODULUS	C	16696	2	8.4	STB	469
LUKANEN	MODULUS	C	16696	3	24.0	SG	37.9
LUKANEN	MODULUS	C	16696	4		SG	37.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODULUS	C	6616	1	7.9	AC	524.7
LUKANEN	MODULUS	C	6616	2	8.4	STB	689.3
LUKANEN	MODULUS	C	6616	3	24.0	SG	29.6
LUKANEN	MODULUS	C	6616	4	259.7	SG	29.6
LUKANEN	MODULUS	C	9522	1	7.9	AC	510.5
LUKANEN	MODULUS	C	9522	2	8.4	STB	786.4
LUKANEN	MODULUS	C	9522	3	24.0	SG	28.9
LUKANEN	MODULUS	C	9522	4	259.7	SG	28.9
LUKANEN	MODULUS	C	12958	1	7.9	AC	525.8
LUKANEN	MODULUS	C	12958	2	8.4	STB	765.3
LUKANEN	MODULUS	C	12958	3	24.0	SG	28.4
LUKANEN	MODULUS	C	12958	4	259.7	SG	28.4
LUKANEN	MODULUS	C	16696	1	7.9	AC	548
LUKANEN	MODULUS	C	16696	2	8.4	STB	840.5
LUKANEN	MODULUS	C	16696	3	24.0	SG	29.6
LUKANEN	MODULUS	C	16696	4	259.7	SG	29.6
LUKANEN	MODULUS	C	6616	1	7.9	AC	515.6
LUKANEN	MODULUS	C	6616	2	8.4	STB	882.2
LUKANEN	MODULUS	C	6616	3	24.0	SG	27.5
LUKANEN	MODULUS	C	6616	4	199.7	SG	27.5
LUKANEN	MODULUS	C	9522	1	7.9	AC	507.5
LUKANEN	MODULUS	C	9522	2	8.4	STB	1000
LUKANEN	MODULUS	C	9522	3	24.0	SG	26.7
LUKANEN	MODULUS	C	9522	4	199.7	SG	26.7
LUKANEN	MODULUS	C	12958	1	7.9	AC	517
LUKANEN	MODULUS	C	12958	2	8.4	STB	982.5
LUKANEN	MODULUS	C	12958	3	24.0	SG	26.3
LUKANEN	MODULUS	C	12958	4	199.7	SG	26.3
LUKANEN	MODULUS	C	16696	1	7.9	AC	566.2
LUKANEN	MODULUS	C	16696	2	8.4	STB	1000
LUKANEN	MODULUS	C	16696	3	24.0	SG	27.5
LUKANEN	MODULUS	C	16696	4	199.7	SG	27.5
LUKANEN	MODULUS	D	6264	1	7.3	AC	2000
LUKANEN	MODULUS	D	6264	2	5.5	STB	903
LUKANEN	MODULUS	D	6264	3	60.0	SG	22.8
LUKANEN	MODULUS	D	6264	4		SG	22.8
LUKANEN	MODULUS	D	9474	1	7.3	AC	1761
LUKANEN	MODULUS	D	9474	2	5.5	STB	929
LUKANEN	MODULUS	D	9474	3	60.0	SG	20.1
LUKANEN	MODULUS	D	9474	4		SG	20.1
LUKANEN	MODULUS	D	12914	1	7.3	AC	1975
LUKANEN	MODULUS	D	12914	2	5.5	STB	593
LUKANEN	MODULUS	D	12914	3	60.0	SG	19.8

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODULUS	D	12914	4		SG	19.8
LUKANEN	MODULUS	D	17474	1	7.3	AC	2000
LUKANEN	MODULUS	D	17474	2	5.5	STB	501
LUKANEN	MODULUS	D	17474	3	60.0	SG	20.9
LUKANEN	MODULUS	D	17474	4		SG	20.9
LUKANEN	MODULUS	D	6264	1	7.3	AC	2000
LUKANEN	MODULUS	D	6264	2	5.5	STB	974.7
LUKANEN	MODULUS	D	6264	3	60.0	SG	18.2
LUKANEN	MODULUS	D	6264	4	227.2	SG	18.2
LUKANEN	MODULUS	D	9474	1	7.3	AC	2000
LUKANEN	MODULUS	D	9474	2	5.5	STB	794.4
LUKANEN	MODULUS	D	9474	3	60.0	SG	16.3
LUKANEN	MODULUS	D	9474	4	227.2	SG	16.3
LUKANEN	MODULUS	D	12914	1	7.3	AC	2000
LUKANEN	MODULUS	D	12914	2	5.5	STB	794.3
LUKANEN	MODULUS	D	12914	3	60.0	SG	15.2
LUKANEN	MODULUS	D	12914	4	227.2	SG	15.2
LUKANEN	MODULUS	D	17474	1	7.3	AC	2000
LUKANEN	MODULUS	D	17474	2	5.5	STB	794.3
LUKANEN	MODULUS	D	17474	3	60.0	SG	15.7
LUKANEN	MODULUS	D	17474	4	227.2	SG	15.7
LUKANEN	MODULUS	D	6264	1	7.3	AC	2000
LUKANEN	MODULUS	D	6264	2	5.5	STB	1000
LUKANEN	MODULUS	D	6264	3	60.0	SG	17.1
LUKANEN	MODULUS	D	6264	4	167.2	SG	17.1
LUKANEN	MODULUS	D	9474	1	7.3	AC	2000
LUKANEN	MODULUS	D	9474	2	5.5	STB	794.3
LUKANEN	MODULUS	D	9474	3	60.0	SG	15.4
LUKANEN	MODULUS	D	9474	4	167.2	SG	15.4
LUKANEN	MODULUS	D	12914	1	7.3	AC	2000
LUKANEN	MODULUS	D	12914	2	5.5	STB	1000
LUKANEN	MODULUS	D	12914	3	60.0	SG	13.6
LUKANEN	MODULUS	D	12914	4	167.2	SG	13.6
LUKANEN	MODULUS	D	17474	1	7.3	AC	2000
LUKANEN	MODULUS	D	17474	2	5.5	STB	1000
LUKANEN	MODULUS	D	17474	3	60.0	SG	14.2
LUKANEN	MODULUS	D	17474	4	167.2	SG	14.2
LUKANEN	MODULUS	E	7608	1	7.5	AC	907
LUKANEN	MODULUS	E	7608	2	6.4	STB	933
LUKANEN	MODULUS	E	7608	3	7.0	GBSB	9.5
LUKANEN	MODULUS	E	7608	4		SG	94.9
LUKANEN	MODULUS	E	9752	1	7.5	AC	914
LUKANEN	MODULUS	E	9752	2	6.4	STB	904

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODULUS	E	9752	3	7.0	GBSB	9
LUKANEN	MODULUS	E	9752	4		SG	90.2
LUKANEN	MODULUS	E	12714	1	7.5	AC	1160
LUKANEN	MODULUS	E	12714	2	6.4	STB	592
LUKANEN	MODULUS	E	12714	3	7.0	GBSB	12.5
LUKANEN	MODULUS	E	12714	4		SG	75.8
LUKANEN	MODULUS	E	17764	1	7.5	AC	2000
LUKANEN	MODULUS	E	17764	2	6.4	STB	170
LUKANEN	MODULUS	E	17764	3	7.0	GBSB	49.4
LUKANEN	MODULUS	E	17764	4		SG	60
LUKANEN	MODULUS	E	7608	1	7.5	AC	1025.3
LUKANEN	MODULUS	E	7608	2	6.4	STB	506.9
LUKANEN	MODULUS	E	7608	3	7.0	GBSB	118.2
LUKANEN	MODULUS	E	7608	4	106.5	SG	34.8
LUKANEN	MODULUS	E	9752	1	7.5	AC	1062.7
LUKANEN	MODULUS	E	9752	2	6.4	STB	425.9
LUKANEN	MODULUS	E	9752	3	7.0	GBSB	134.1
LUKANEN	MODULUS	E	9752	4	106.5	SG	32.7
LUKANEN	MODULUS	E	12714	1	7.5	AC	1207.1
LUKANEN	MODULUS	E	12714	2	6.4	STB	322.1
LUKANEN	MODULUS	E	12714	3	7.0	GBSB	150
LUKANEN	MODULUS	E	12714	4	106.5	SG	30.2
LUKANEN	MODULUS	E	17764	1	7.5	AC	1125.6
LUKANEN	MODULUS	E	17764	2	6.4	STB	486.2
LUKANEN	MODULUS	E	17764	3	7.0	GBSB	150
LUKANEN	MODULUS	E	17764	4	106.5	SG	29.2
LUKANEN	MODULUS	E	7608	1	7.4	AC	988.8
LUKANEN	MODULUS	E	7608	2	6.4	STB	578.2
LUKANEN	MODULUS	E	7608	3	7.0	GBSB	109.8
LUKANEN	MODULUS	E	7608	4	106.5	SG	35
LUKANEN	MODULUS	E	9752	1	7.4	AC	1067.4
LUKANEN	MODULUS	E	9752	2	6.4	STB	431.3
LUKANEN	MODULUS	E	9752	3	7.0	GBSB	138.1
LUKANEN	MODULUS	E	9752	4	106.5	SG	32.7
LUKANEN	MODULUS	E	12714	1	7.4	AC	1234.6
LUKANEN	MODULUS	E	12714	2	6.4	STB	326.1
LUKANEN	MODULUS	E	12714	3	7.0	GBSB	150
LUKANEN	MODULUS	E	12714	4	106.5	SG	30.3
LUKANEN	MODULUS	E	17764	1	7.4	AC	1129.1
LUKANEN	MODULUS	E	17764	2	6.4	STB	504.9
LUKANEN	MODULUS	E	17764	3	7.0	GBSB	150
LUKANEN	MODULUS	E	17764	4	106.5	SG	29.2
LUKANEN	MODULUS	F	6534	1	7.7	AC	965

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODULUS	F	6534	2	14.5	GBSB	92.8
LUKANEN	MODULUS	F	6534	3	72.0	SG	45.9
LUKANEN	MODULUS	F	6534	4		SG	45.9
LUKANEN	MODULUS	F	9512	1	7.7	AC	1014
LUKANEN	MODULUS	F	9512	2	14.5	GBSB	70.4
LUKANEN	MODULUS	F	9512	3	72.0	SG	44.5
LUKANEN	MODULUS	F	9512	4		SG	44.5
LUKANEN	MODULUS	F	12662	1	7.7	AC	1087
LUKANEN	MODULUS	F	12662	2	14.5	GBSB	52.3
LUKANEN	MODULUS	F	12662	3	72.0	SG	44
LUKANEN	MODULUS	F	12662	4		SG	44
LUKANEN	MODULUS	F	16812	1	7.7	AC	1214
LUKANEN	MODULUS	F	16812	2	14.5	GBSB	45.4
LUKANEN	MODULUS	F	16812	3	72.0	SG	42.7
LUKANEN	MODULUS	F	16812	4		SG	42.7
LUKANEN	MODULUS	F	6534	1	7.7	AC	791.2
LUKANEN	MODULUS	F	6534	2	14.5	GBSB	147.7
LUKANEN	MODULUS	F	6534	3	72.0	SG	32.5
LUKANEN	MODULUS	F	6534	4	145.8	SG	32.5
LUKANEN	MODULUS	F	9512	1	7.7	AC	831.1
LUKANEN	MODULUS	F	9512	2	14.5	GBSB	115.6
LUKANEN	MODULUS	F	9512	3	72.0	SG	31.5
LUKANEN	MODULUS	F	9512	4	145.8	SG	31.5
LUKANEN	MODULUS	F	12662	1	7.7	AC	847.3
LUKANEN	MODULUS	F	12662	2	14.5	GBSB	92.7
LUKANEN	MODULUS	F	12662	3	72.0	SG	30.8
LUKANEN	MODULUS	F	12662	4	145.8	SG	30.8
LUKANEN	MODULUS	F	16812	1	7.7	AC	949
LUKANEN	MODULUS	F	16812	2	14.5	GBSB	83.8
LUKANEN	MODULUS	F	16812	3	72.0	SG	29.7
LUKANEN	MODULUS	F	16812	4	145.8	SG	29.7
LUKANEN	MODULUS	F	6534	1	7.7	AC	827.6
LUKANEN	MODULUS	F	6534	2	14.5	GBSB	150
LUKANEN	MODULUS	F	6534	3	72.0	SG	30.3
LUKANEN	MODULUS	F	6534	4	105.2	SG	30.3
LUKANEN	MODULUS	F	9512	1	7.7	AC	796.9
LUKANEN	MODULUS	F	9512	2	14.5	GBSB	127.6
LUKANEN	MODULUS	F	9512	3	72.0	SG	29
LUKANEN	MODULUS	F	9512	4	105.2	SG	29
LUKANEN	MODULUS	F	12662	1	7.7	AC	802.8
LUKANEN	MODULUS	F	12662	2	14.5	GBSB	103.8
LUKANEN	MODULUS	F	12662	3	72.0	SG	28.4
LUKANEN	MODULUS	F	12662	4	105.2	SG	28.4

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODULUS	F	16812	1	7.7	AC	908.8
LUKANEN	MODULUS	F	16812	2	14.5	GBSB	93.4
LUKANEN	MODULUS	F	16812	3	72.0	SG	27.4
LUKANEN	MODULUS	F	16812	4	105.2	SG	27.4
LUKANEN	MODULUS	G	6424	1	5.3	AC	2000
LUKANEN	MODULUS	G	6424	2	9.6	PCC	5679
LUKANEN	MODULUS	G	6424	3	4.0	SG	24.7
LUKANEN	MODULUS	G	6424	4	285	SG	24.7
LUKANEN	MODULUS	G	9398	1	5.3	AC	1033
LUKANEN	MODULUS	G	9398	2	9.6	PCC	9000
LUKANEN	MODULUS	G	9398	3	4.0	SG	22.5
LUKANEN	MODULUS	G	9398	4	285	SG	22.5
LUKANEN	MODULUS	G	12256	1	5.3	AC	1022
LUKANEN	MODULUS	G	12256	2	9.6	PCC	8176
LUKANEN	MODULUS	G	12256	3	4.0	SG	20.7
LUKANEN	MODULUS	G	12256	4	285	SG	20.7
LUKANEN	MODULUS	G	16350	1	5.3	AC	1010
LUKANEN	MODULUS	G	16350	2	9.6	PCC	7969
LUKANEN	MODULUS	G	16350	3	4.0	SG	22.5
LUKANEN	MODULUS	G	16350	4	285	SG	22.5
LUKANEN	MODULUS	G	6424	1	5.3	AC	2000
LUKANEN	MODULUS	G	6424	2	9.6	PCC	6342.3
LUKANEN	MODULUS	G	6424	3	4.0	SG	21.9
LUKANEN	MODULUS	G	6424	4	225.1	SG	21.9
LUKANEN	MODULUS	G	9398	1	5.3	AC	1089.1
LUKANEN	MODULUS	G	9398	2	9.6	PCC	9000
LUKANEN	MODULUS	G	9398	3	4.0	SG	20.2
LUKANEN	MODULUS	G	9398	4	225.1	SG	20.2
LUKANEN	MODULUS	G	12256	1	5.3	AC	1013.7
LUKANEN	MODULUS	G	12256	2	9.6	PCC	8678.1
LUKANEN	MODULUS	G	12256	3	4.0	SG	18.4
LUKANEN	MODULUS	G	12256	4	225.1	SG	18.4
LUKANEN	MODULUS	G	16350	1	5.3	AC	995.5
LUKANEN	MODULUS	G	16350	2	9.6	PCC	8463.6
LUKANEN	MODULUS	G	16350	3	4.0	SG	20.1
LUKANEN	MODULUS	G	16350	4	225.1	SG	20.1
LUKANEN	MODULUS	G	6424	1	5.3	AC	2000
LUKANEN	MODULUS	G	6424	2	9.6	PCC	4385.5
LUKANEN	MODULUS	G	6424	3	4.0	SG	34.7
LUKANEN	MODULUS	G	6424	4		SG	34.7
LUKANEN	MODULUS	G	9398	1	5.3	AC	1019.3
LUKANEN	MODULUS	G	9398	2	9.6	PCC	7361.4
LUKANEN	MODULUS	G	9398	3	4.0	SG	32.5

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODULUS	G	9398	4		SG	32.5
LUKANEN	MODULUS	G	12256	1	5.3	AC	1138.8
LUKANEN	MODULUS	G	12256	2	9.6	PCC	5831
LUKANEN	MODULUS	G	12256	3	4.0	SG	30.2
LUKANEN	MODULUS	G	12256	4		SG	30.2
LUKANEN	MODULUS	G	16350	1	5.3	AC	1145.6
LUKANEN	MODULUS	G	16350	2	9.6	PCC	5512.3
LUKANEN	MODULUS	G	16350	3	4.0	SG	32.5
LUKANEN	MODULUS	G	16350	4		SG	32.5
LUKANEN	MODULUS	H	7734	1	2.5	AC	257
LUKANEN	MODULUS	H	7734	2	6.9	PCC	4467
LUKANEN	MODULUS	H	7734	3	96.0	SG	23.4
LUKANEN	MODULUS	H	7734	4	134.6	SG	23.4
LUKANEN	MODULUS	H	9704	1	2.5	AC	312
LUKANEN	MODULUS	H	9704	2	6.9	PCC	4277
LUKANEN	MODULUS	H	9704	3	96.0	SG	22.6
LUKANEN	MODULUS	H	9704	4	134.6	SG	22.6
LUKANEN	MODULUS	H	12504	1	2.5	AC	298
LUKANEN	MODULUS	H	12504	2	6.9	PCC	4325
LUKANEN	MODULUS	H	12504	3	96.0	SG	20.1
LUKANEN	MODULUS	H	12504	4	134.6	SG	20.1
LUKANEN	MODULUS	H	17706	1	2.5	AC	333
LUKANEN	MODULUS	H	17706	2	6.9	PCC	4721
LUKANEN	MODULUS	H	17706	3	96.0	SG	20.1
LUKANEN	MODULUS	H	17706	4	134.6	SG	20.1
LUKANEN	MODULUS	H	7734	1	2.5	AC	300.4
LUKANEN	MODULUS	H	7734	2	6.9	PCC	3102.1
LUKANEN	MODULUS	H	7734	3	96.0	SG	31
LUKANEN	MODULUS	H	7734	4		SG	31
LUKANEN	MODULUS	H	9704	1	2.5	AC	301.4
LUKANEN	MODULUS	H	9704	2	6.9	PCC	3014.1
LUKANEN	MODULUS	H	9704	3	96.0	SG	30.1
LUKANEN	MODULUS	H	9704	4		SG	30.1
LUKANEN	MODULUS	H	12504	1	2.5	AC	298.6
LUKANEN	MODULUS	H	12504	2	6.9	PCC	3014.4
LUKANEN	MODULUS	H	12504	3	96.0	SG	27.1
LUKANEN	MODULUS	H	12504	4		SG	27.1
LUKANEN	MODULUS	H	17706	1	2.5	AC	335.2
LUKANEN	MODULUS	H	17706	2	6.9	PCC	3299.3
LUKANEN	MODULUS	H	17706	3	96.0	SG	27.1
LUKANEN	MODULUS	H	17706	4		SG	27.1
LUKANEN	MODULUS	H	7734	1	2.5	AC	277.4
LUKANEN	MODULUS	H	7734	2	6.9	PCC	4039.3

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	MODULUS	H	7734	3	96.0	SG	25.1
LUKANEN	MODULUS	H	7734	4	194.5	SG	25.1
LUKANEN	MODULUS	H	9704	1	2.5	AC	344.3
LUKANEN	MODULUS	H	9704	2	6.9	PCC	3835.9
LUKANEN	MODULUS	H	9704	3	96.0	SG	24.2
LUKANEN	MODULUS	H	9704	4	194.5	SG	24.2
LUKANEN	MODULUS	H	12504	1	2.5	AC	329.2
LUKANEN	MODULUS	H	12504	2	6.9	PCC	3878.4
LUKANEN	MODULUS	H	12504	3	96.0	SG	21.6
LUKANEN	MODULUS	H	12504	4	194.5	SG	21.6
LUKANEN	MODULUS	H	17706	1	2.5	AC	372.8
LUKANEN	MODULUS	H	17706	2	6.9	PCC	4224.1
LUKANEN	MODULUS	H	17706	3	96.0	SG	21.6
LUKANEN	MODULUS	H	17706	4	194.5	SG	21.6
LUKANEN	WESDEF	A	7246	1	5.0	AC	768
LUKANEN	WESDEF	A	7246	2	13.4	GBSB	68.6
LUKANEN	WESDEF	A	7246	3	12.0	GBSB	22.4
LUKANEN	WESDEF	A	7246	4	209.7	SG	27.2
LUKANEN	WESDEF	A	10006	1	5.0	AC	806
LUKANEN	WESDEF	A	10006	2	13.4	GBSB	66.7
LUKANEN	WESDEF	A	10006	3	12.0	GBSB	21.1
LUKANEN	WESDEF	A	10006	4	209.7	SG	25.7
LUKANEN	WESDEF	A	12644	1	5.0	AC	730
LUKANEN	WESDEF	A	12644	2	13.4	GBSB	72.9
LUKANEN	WESDEF	A	12644	3	12.0	GBSB	16.2
LUKANEN	WESDEF	A	12644	4	209.7	SG	24.6
LUKANEN	WESDEF	A	17054	1	5.0	AC	788
LUKANEN	WESDEF	A	17054	2	13.4	GBSB	85.3
LUKANEN	WESDEF	A	17054	3	12.0	GBSB	19.2
LUKANEN	WESDEF	A	17054	4	209.7	SG	26.6
LUKANEN	WESDEF	A	7246	1	5.0	AC	1060.6
LUKANEN	WESDEF	A	7246	2	13.4	GBSB	43.2
LUKANEN	WESDEF	A	7246	3	12.0	GBSB	43.2
LUKANEN	WESDEF	A	7246	4	209.7	SG	25.9
LUKANEN	WESDEF	A	10006	1	5.0	AC	1207.3
LUKANEN	WESDEF	A	10006	2	13.4	GBSB	40.9
LUKANEN	WESDEF	A	10006	3	12.0	GBSB	40.9
LUKANEN	WESDEF	A	10006	4	209.7	SG	24.1
LUKANEN	WESDEF	A	12644	1	5.0	AC	1263.7
LUKANEN	WESDEF	A	12644	2	13.4	GBSB	38.3
LUKANEN	WESDEF	A	12644	3	12.0	GBSB	38.3
LUKANEN	WESDEF	A	12644	4	209.7	SG	22.6
LUKANEN	WESDEF	A	17054	1	5.0	AC	1433.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	WESDEF	A	17054	2	13.4	GBSB	43.2
LUKANEN	WESDEF	A	17054	3	12.0	GBSB	43.2
LUKANEN	WESDEF	A	17054	4	209.7	SG	24.7
LUKANEN	WESDEF	B	6460	1	4.2	AC	351
LUKANEN	WESDEF	B	6460	2	5.0	GBSB	150
LUKANEN	WESDEF	B	6460	3	30.0	SG	21.9
LUKANEN	WESDEF	B	6460	4	200.8	SG	21.9
LUKANEN	WESDEF	B	9596	1	4.2	AC	373
LUKANEN	WESDEF	B	9596	2	5.0	GBSB	150
LUKANEN	WESDEF	B	9596	3	30.0	SG	22.7
LUKANEN	WESDEF	B	9596	4	200.8	SG	22.7
LUKANEN	WESDEF	B	12700	1	4.2	AC	1996
LUKANEN	WESDEF	B	12700	2	5.0	GBSB	62.8
LUKANEN	WESDEF	B	12700	3	30.0	SG	23.4
LUKANEN	WESDEF	B	12700	4	200.8	SG	23.4
LUKANEN	WESDEF	B	16362	1	4.2	AC	2000
LUKANEN	WESDEF	B	16362	2	5.0	GBSB	70.7
LUKANEN	WESDEF	B	16362	3	30.0	SG	23.7
LUKANEN	WESDEF	B	16362	4	200.8	SG	23.7
LUKANEN	WESDEF	C	6616	1	7.9	AC	436
LUKANEN	WESDEF	C	6616	2	8.4	STB	915
LUKANEN	WESDEF	C	6616	3	24.0	SG	27.4
LUKANEN	WESDEF	C	6616	4	199.7	SG	27.4
LUKANEN	WESDEF	C	9522	1	7.9	AC	440
LUKANEN	WESDEF	C	9522	2	8.4	STB	1000
LUKANEN	WESDEF	C	9522	3	24.0	SG	26.7
LUKANEN	WESDEF	C	9522	4	199.7	SG	26.7
LUKANEN	WESDEF	C	12958	1	7.9	AC	443
LUKANEN	WESDEF	C	12958	2	8.4	STB	1000
LUKANEN	WESDEF	C	12958	3	24.0	SG	26.3
LUKANEN	WESDEF	C	12958	4	199.7	SG	26.3
LUKANEN	WESDEF	C	16696	1	7.9	AC	492
LUKANEN	WESDEF	C	16696	2	8.4	STB	1000
LUKANEN	WESDEF	C	16696	3	24.0	SG	27.5
LUKANEN	WESDEF	C	16696	4	199.7	SG	27.5
LUKANEN	WESDEF	D	6264	1	7.3	AC	2000
LUKANEN	WESDEF	D	6264	2	5.5	STB	1000
LUKANEN	WESDEF	D	6264	3	60.0	SG	17
LUKANEN	WESDEF	D	6264	4	167.3	SG	17
LUKANEN	WESDEF	D	9474	1	7.3	AC	2000
LUKANEN	WESDEF	D	9474	2	5.5	STB	1000
LUKANEN	WESDEF	D	9474	3	60.0	SG	14.6
LUKANEN	WESDEF	D	9474	4	167.3	SG	14.6

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	WESDEF	D	12914	1	7.3	AC	2000
LUKANEN	WESDEF	D	12914	2	5.5	STB	1000
LUKANEN	WESDEF	D	12914	3	60.0	SG	13.6
LUKANEN	WESDEF	D	12914	4	167.3	SG	13.6
LUKANEN	WESDEF	D	17474	1	7.3	AC	2000
LUKANEN	WESDEF	D	17474	2	5.5	STB	1000
LUKANEN	WESDEF	D	17474	3	60.0	SG	14.2
LUKANEN	WESDEF	D	17474	4	167.3	SG	14.2
LUKANEN	WESDEF	E	7608	1	7.5	AC	619
LUKANEN	WESDEF	E	7608	2	6.4	STB	1000
LUKANEN	WESDEF	E	7608	3	7.0	GBSB	46.4
LUKANEN	WESDEF	E	7608	4	219.4	SG	50
LUKANEN	WESDEF	E	9752	1	7.5	AC	619
LUKANEN	WESDEF	E	9752	2	6.4	STB	1000
LUKANEN	WESDEF	E	9752	3	7.0	GBSB	32
LUKANEN	WESDEF	E	9752	4	219.4	SG	50
LUKANEN	WESDEF	E	12714	1	7.5	AC	928
LUKANEN	WESDEF	E	12714	2	6.4	STB	556
LUKANEN	WESDEF	E	12714	3	7.0	GBSB	37.8
LUKANEN	WESDEF	E	12714	4	219.4	SG	46.5
LUKANEN	WESDEF	E	17764	1	7.5	AC	1103
LUKANEN	WESDEF	E	17764	2	6.4	STB	337
LUKANEN	WESDEF	E	17764	3	7.0	GBSB	108
LUKANEN	WESDEF	E	17764	4	219.4	SG	42.7
LUKANEN	WESDEF	F	6534	1	7.7	AC	706
LUKANEN	WESDEF	F	6534	2	14.5	GBSB	150
LUKANEN	WESDEF	F	6534	3	72.0	SG	32.9
LUKANEN	WESDEF	F	6534	4	145.9	SG	32.9
LUKANEN	WESDEF	F	9512	1	7.7	AC	731
LUKANEN	WESDEF	F	9512	2	14.5	GBSB	119
LUKANEN	WESDEF	F	9512	3	72.0	SG	31.7
LUKANEN	WESDEF	F	9512	4	145.9	SG	31.7
LUKANEN	WESDEF	F	12662	1	7.7	AC	788
LUKANEN	WESDEF	F	12662	2	14.5	GBSB	94.4
LUKANEN	WESDEF	F	12662	3	72.0	SG	31.1
LUKANEN	WESDEF	F	12662	4	145.9	SG	31.1
LUKANEN	WESDEF	F	16812	1	7.7	AC	904
LUKANEN	WESDEF	F	16812	2	14.5	GBSB	86.8
LUKANEN	WESDEF	F	16812	3	72.0	SG	29.9
LUKANEN	WESDEF	F	16812	4	145.9	SG	29.9
LUKANEN	WESDEF	G	6424	1	5.3	AC	2000
LUKANEN	WESDEF	G	6424	2	9.6	PCC	6298
LUKANEN	WESDEF	G	6424	3	4.0	SG	22.6

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
LUKANEN	WESDEF	G	6424	4	221.1	SG	22.6
LUKANEN	WESDEF	G	9398	1	5.3	AC	1573
LUKANEN	WESDEF	G	9398	2	9.6	PCC	7000
LUKANEN	WESDEF	G	9398	3	4.0	SG	21.2
LUKANEN	WESDEF	G	9398	4	221.1	SG	21.2
LUKANEN	WESDEF	G	12256	1	5.3	AC	1343
LUKANEN	WESDEF	G	12256	2	9.6	PCC	7000
LUKANEN	WESDEF	G	12256	3	4.0	SG	19.6
LUKANEN	WESDEF	G	12256	4	221.1	SG	19.6
LUKANEN	WESDEF	G	16350	1	5.3	AC	1270
LUKANEN	WESDEF	G	16350	2	9.6	PCC	7000
LUKANEN	WESDEF	G	16350	3	4.0	SG	21.2
LUKANEN	WESDEF	G	16350	4	221.1	SG	21.2
LUKANEN	WESDEF	H	7734	1	2.5	AC	103
LUKANEN	WESDEF	H	7734	2	6.9	PCC	5542
LUKANEN	WESDEF	H	7734	3	96.0	SG	22.7
LUKANEN	WESDEF	H	7734	4	134.5	SG	22.7
LUKANEN	WESDEF	H	9704	1	2.5	AC	255
LUKANEN	WESDEF	H	9704	2	6.9	PCC	5120
LUKANEN	WESDEF	H	9704	3	96.0	SG	22
LUKANEN	WESDEF	H	9704	4	134.5	SG	22
LUKANEN	WESDEF	H	12504	1	2.5	AC	257
LUKANEN	WESDEF	H	12504	2	6.9	PCC	4894
LUKANEN	WESDEF	H	12504	3	96.0	SG	19.9
LUKANEN	WESDEF	H	12504	4	134.5	SG	19.9
LUKANEN	WESDEF	H	17706	1	2.5	AC	327
LUKANEN	WESDEF	H	17706	2	6.9	PCC	4623
LUKANEN	WESDEF	H	17706	3	96.0	SG	20.8
LUKANEN	WESDEF	H	17706	4	134.5	SG	20.8
UZAN	MODULUS	A	7246	1	5.0	AC	746
UZAN	MODULUS	A	7246	2	13.4	GBSB	84.2
UZAN	MODULUS	A	7246	3	12.0	GBSB	14.5
UZAN	MODULUS	A	7246	4	107.0	SG	22.1
UZAN	MODULUS	A	10006	1	5.0	AC	1037
UZAN	MODULUS	A	10006	2	13.4	GBSB	56
UZAN	MODULUS	A	10006	3	12.0	GBSB	39.2
UZAN	MODULUS	A	10006	4	107.0	SG	15.3
UZAN	MODULUS	A	12644	1	5.0	AC	1023
UZAN	MODULUS	A	12644	2	13.4	GBSB	54.6
UZAN	MODULUS	A	12644	3	12.0	GBSB	38.7
UZAN	MODULUS	A	12644	4	107.0	SG	13.9
UZAN	MODULUS	A	17054	1	5.0	AC	997
UZAN	MODULUS	A	17054	2	13.4	GBSB	79.6

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
UZAN	MODULUS	A	17054	3	12.0	GBSB	24.7
UZAN	MODULUS	A	17054	4	107.0	SG	17
UZAN	MODULUS	C	6616	1	7.9	AC	574
UZAN	MODULUS	C	6616	2	8.4	STB	518
UZAN	MODULUS	C	6616	3	24.0	SG	31
UZAN	MODULUS	C	6616	4		SG	31
UZAN	MODULUS	C	9522	1	7.9	AC	560
UZAN	MODULUS	C	9522	2	8.4	STB	587
UZAN	MODULUS	C	9522	3	24.0	SG	30.3
UZAN	MODULUS	C	9522	4		SG	30.3
UZAN	MODULUS	C	12958	1	7.9	AC	568
UZAN	MODULUS	C	12958	2	8.4	STB	602
UZAN	MODULUS	C	12958	3	24.0	SG	29.6
UZAN	MODULUS	C	12958	4		SG	29.6
UZAN	MODULUS	C	16696	1	7.9	AC	594
UZAN	MODULUS	C	16696	2	8.4	STB	653
UZAN	MODULUS	C	16696	3	24.0	SG	31
UZAN	MODULUS	C	16696	4		SG	31
UZAN	MODULUS	D	6264	1	7.3	AC	1500
UZAN	MODULUS	D	6264	2	5.5	STB	1453
UZAN	MODULUS	D	6264	3	60.0	SG	18.4
UZAN	MODULUS	D	6264	4		SG	18.4
UZAN	MODULUS	D	9474	1	7.3	AC	1455
UZAN	MODULUS	D	9474	2	5.5	STB	1471
UZAN	MODULUS	D	9474	3	60.0	SG	15.9
UZAN	MODULUS	D	9474	4		SG	15.9
UZAN	MODULUS	D	12914	1	7.3	AC	1500
UZAN	MODULUS	D	12914	2	5.5	STB	1477
UZAN	MODULUS	D	12914	3	60.0	SG	14.6
UZAN	MODULUS	D	12914	4		SG	14.6
UZAN	MODULUS	D	17474	1	7.3	AC	1500
UZAN	MODULUS	D	17474	2	5.5	STB	1527
UZAN	MODULUS	D	17474	3	60.0	SG	15.3
UZAN	MODULUS	D	17474	4		SG	15.3
UZAN	MODULUS	E	7608	1	7.5	AC	884
UZAN	MODULUS	E	7608	2	6.4	STB	884
UZAN	MODULUS	E	7608	3	7.0	GBSB	33.5
UZAN	MODULUS	E	7608	4		SG	41.6
UZAN	MODULUS	E	9752	1	7.5	AC	854
UZAN	MODULUS	E	9752	2	6.4	STB	854
UZAN	MODULUS	E	9752	3	7.0	GBSB	38.6
UZAN	MODULUS	E	9752	4		SG	38.6
UZAN	MODULUS	E	12714	1	7.5	AC	863

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
UZAN	MODULUS	E	12714	2	6.4	STB	863
UZAN	MODULUS	E	12714	3	7.0	GBSB	38.2
UZAN	MODULUS	E	12714	4		SG	35.5
UZAN	MODULUS	E	17764	1	7.5	AC	860
UZAN	MODULUS	E	17764	2	6.4	STB	860
UZAN	MODULUS	E	17764	3	7.0	GBSB	80.2
UZAN	MODULUS	E	17764	4		SG	32.7
UZAN	MODULUS	F	6534	1	7.7	AC	1054
UZAN	MODULUS	F	6534	2	14.5	GBSB	92.7
UZAN	MODULUS	F	6534	3	72.0	SG	35.4
UZAN	MODULUS	F	6534	4		SG	35.4
UZAN	MODULUS	F	9512	1	7.7	AC	1140
UZAN	MODULUS	F	9512	2	14.5	GBSB	66.7
UZAN	MODULUS	F	9512	3	72.0	SG	34.8
UZAN	MODULUS	F	9512	4		SG	34.8
UZAN	MODULUS	F	12662	1	7.7	AC	1006
UZAN	MODULUS	F	12662	2	14.5	GBSB	69.9
UZAN	MODULUS	F	12662	3	72.0	SG	31.8
UZAN	MODULUS	F	12662	4		SG	31.8
UZAN	MODULUS	F	16812	1	7.7	AC	1168
UZAN	MODULUS	F	16812	2	14.5	GBSB	58.2
UZAN	MODULUS	F	16812	3	72.0	SG	31.2
UZAN	MODULUS	F	16812	4		SG	31.2
UZAN	MODULUS	G	6424	1	5.3	AC	2000
UZAN	MODULUS	G	6424	2	9.6	PCC	5893
UZAN	MODULUS	G	6424	3	4.0	GBSB	25.2
UZAN	MODULUS	G	6424	4		SG	25.2
UZAN	MODULUS	G	9398	1	5.3	AC	940
UZAN	MODULUS	G	9398	2	9.6	PCC	9416
UZAN	MODULUS	G	9398	3	4.0	GBSB	23.2
UZAN	MODULUS	G	9398	4		SG	23.2
UZAN	MODULUS	G	12256	1	5.3	AC	1050
UZAN	MODULUS	G	12256	2	9.6	PCC	7637
UZAN	MODULUS	G	12256	3	4.0	GBSB	21.7
UZAN	MODULUS	G	12256	4		SG	21.7
UZAN	MODULUS	G	16350	1	5.3	AC	1026
UZAN	MODULUS	G	16350	2	9.6	PCC	7466
UZAN	MODULUS	G	16350	3	4.0	GBSB	23.6
UZAN	MODULUS	G	16350	4		SG	23.6
UZAN	MODULUS	H	7734	1	2.5	AC	400
UZAN	MODULUS	H	7734	2	6.9	PCC	3524
UZAN	MODULUS	H	7734	3	96.0	SG	25.7
UZAN	MODULUS	H	7734	4		SG	25.7

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
UZAN	MODULUS	H	9704	1	2.5	AC	400
UZAN	MODULUS	H	9704	2	6.9	PCC	3587
UZAN	MODULUS	H	9704	3	96.0	SG	24.7
UZAN	MODULUS	H	9704	4		SG	24.7
UZAN	MODULUS	H	12504	1	2.5	AC	400
UZAN	MODULUS	H	12504	2	6.9	PCC	3562
UZAN	MODULUS	H	12504	3	96.0	SG	22.1
UZAN	MODULUS	H	12504	4		SG	22.1
UZAN	MODULUS	H	17706	1	2.5	AC	400
UZAN	MODULUS	H	17706	2	6.9	PCC	4041
UZAN	MODULUS	H	17706	3	96.0	SG	22
UZAN	MODULUS	H	17706	4		SG	22
YANG	ISSEM4	A	7246	1	5.0	AC	505.8
YANG	ISSEM4	A	7246	2	13.4	GBSB	82.4
YANG	ISSEM4	A	7246	3	12.0	GBSB	15.9
YANG	ISSEM4	A	7246	4		SG	47.1
YANG	ISSEM4	A	10006	1	5.0	AC	545.7
YANG	ISSEM4	A	10006	2	13.4	GBSB	81.7
YANG	ISSEM4	A	10006	3	12.0	GBSB	16.6
YANG	ISSEM4	A	10006	4		SG	41.2
YANG	ISSEM4	A	12644	1	5.0	AC	514.6
YANG	ISSEM4	A	12644	2	13.4	GBSB	82.1
YANG	ISSEM4	A	12644	3	12.0	GBSB	16.5
YANG	ISSEM4	A	12644	4		SG	36.6
YANG	ISSEM4	A	17054	1	5.0	AC	489.1
YANG	ISSEM4	A	17054	2	13.4	GBSB	75.7
YANG	ISSEM4	A	17054	3	12.0	GBSB	29
YANG	ISSEM4	A	17054	4		SG	48.2
YANG	ISSEM4	B	6460	1	4.2	AC	1099.2
YANG	ISSEM4	B	6460	2	5.0	GBSB	54.6
YANG	ISSEM4	B	6460	3	30.0	SG	24.1
YANG	ISSEM4	B	6460	4		SG	24.1
YANG	ISSEM4	B	9596	1	4.2	AC	859.8
YANG	ISSEM4	B	9596	2	5.0	GBSB	70.8
YANG	ISSEM4	B	9596	3	30.0	SG	26.1
YANG	ISSEM4	B	9596	4		SG	26.1
YANG	ISSEM4	B	12700	1	4.2	AC	960.7
YANG	ISSEM4	B	12700	2	5.0	GBSB	75.1
YANG	ISSEM4	B	12700	3	30.0	SG	27.4
YANG	ISSEM4	B	12700	4		SG	27.4
YANG	ISSEM4	B	16362	1	4.2	AC	912.2
YANG	ISSEM4	B	16362	2	5.0	GBSB	81.9
YANG	ISSEM4	B	16362	3	30.0	SG	28.8

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	ISSEM4	B	16362	4		SG	28.8
YANG	ISSEM4	C	6616	1	7.9	AC	924.5
YANG	ISSEM4	C	6616	2	8.4	STB	181.9
YANG	ISSEM4	C	6616	3	24.0	SG	39.8
YANG	ISSEM4	C	6616	4		SG	39.8
YANG	ISSEM4	C	9522	1	7.9	AC	924.5
YANG	ISSEM4	C	9522	2	8.4	STB	178.9
YANG	ISSEM4	C	9522	3	24.0	SG	43.2
YANG	ISSEM4	C	9522	4		SG	43.2
YANG	ISSEM4	C	12958	1	7.9	AC	781.2
YANG	ISSEM4	C	12958	2	8.4	STB	226.8
YANG	ISSEM4	C	12958	3	24.0	SG	40
YANG	ISSEM4	C	12958	4		SG	40
YANG	ISSEM4	C	16696	1	7.9	AC	829.3
YANG	ISSEM4	C	16696	2	8.4	STB	275.2
YANG	ISSEM4	C	16696	3	24.0	SG	39.8
YANG	ISSEM4	C	16696	4		SG	39.8
YANG	ISSEM4	D	6264	1	7.3	AC	1085.1
YANG	ISSEM4	D	6264	2	5.5	STB	859
YANG	ISSEM4	D	6264	3	60.0	SG	28.7
YANG	ISSEM4	D	6264	4		SG	28.7
YANG	ISSEM4	D	9474	1	7.3	AC	1085.1
YANG	ISSEM4	D	9474	2	5.5	STB	581.4
YANG	ISSEM4	D	9474	3	60.0	SG	26.1
YANG	ISSEM4	D	9474	4		SG	26.1
YANG	ISSEM4	D	12914	1	7.3	AC	1088
YANG	ISSEM4	D	12914	2	5.5	STB	68.8
YANG	ISSEM4	D	12914	3	60.0	SG	41.1
YANG	ISSEM4	D	12914	4		SG	41.1
YANG	ISSEM4	D	17474	1	7.3	AC	1102.8
YANG	ISSEM4	D	17474	2	5.5	STB	68.8
YANG	ISSEM4	D	17474	3	60.0	SG	43.2
YANG	ISSEM4	D	17474	4		SG	43.2
YANG	ISSEM4	D	6264	1	7.3	AC	3210
YANG	ISSEM4	D	6264	2	5.5	STB	254
YANG	ISSEM4	D	6264	3	60.0	SG	26.1
YANG	ISSEM4	D	6264	4		SG	26.1
YANG	ISSEM4	D	9474	1	7.3	AC	1980
YANG	ISSEM4	D	9474	2	5.5	STB	306
YANG	ISSEM4	D	9474	3	60.0	SG	24.9
YANG	ISSEM4	D	9474	4		SG	24.9
YANG	ISSEM4	D	12914	1	7.3	AC	1080
YANG	ISSEM4	D	12914	2	5.5	STB	608

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	ISSEM4	D	12914	3	60.0	SG	24.5
YANG	ISSEM4	D	12914	4		SG	24.5
YANG	ISSEM4	D	17474	1	7.3	AC	1100
YANG	ISSEM4	D	17474	2	5.5	STB	682
YANG	ISSEM4	D	17474	3	60.0	SG	25
YANG	ISSEM4	D	17474	4		SG	25
YANG	ISSEM4	E	7608	1	7.5	AC	849.3
YANG	ISSEM4	E	7608	2	6.4	STB	510.1
YANG	ISSEM4	E	7608	3	7.0	GBSB	74.8
YANG	ISSEM4	E	7608	4		SG	61.7
YANG	ISSEM4	E	9752	1	7.5	AC	901.4
YANG	ISSEM4	E	9752	2	6.4	STB	456.5
YANG	ISSEM4	E	9752	3	7.0	GBSB	74.9
YANG	ISSEM4	E	9752	4		SG	58.4
YANG	ISSEM4	E	12714	1	7.5	AC	1109.7
YANG	ISSEM4	E	12714	2	6.4	STB	415.9
YANG	ISSEM4	E	12714	3	7.0	GBSB	72.7
YANG	ISSEM4	E	12714	4		SG	51.5
YANG	ISSEM4	E	17764	1	7.5	AC	1222.6
YANG	ISSEM4	E	17764	2	6.4	STB	876.8
YANG	ISSEM4	E	17764	3	7.0	GBSB	27.7
YANG	ISSEM4	E	17764	4		SG	45.6
YANG	ISSEM4	E	7608	1	7.5	AC	851
YANG	ISSEM4	E	7608	2	6.4	STB	366
YANG	ISSEM4	E	7608	3	7.0	GBSB	366
YANG	ISSEM4	E	7608	4		SG	48.4
YANG	ISSEM4	E	9752	1	7.5	AC	904
YANG	ISSEM4	E	9752	2	6.4	STB	433
YANG	ISSEM4	E	9752	3	7.0	GBSB	433
YANG	ISSEM4	E	9752	4		SG	40.7
YANG	ISSEM4	E	12714	1	7.5	AC	1110
YANG	ISSEM4	E	12714	2	6.4	STB	338
YANG	ISSEM4	E	12714	3	7.0	GBSB	338
YANG	ISSEM4	E	12714	4		SG	39.6
YANG	ISSEM4	E	17764	1	7.5	AC	1220
YANG	ISSEM4	E	17764	2	6.4	STB	283
YANG	ISSEM4	E	17764	3	7.0	GBSB	283
YANG	ISSEM4	E	17764	4		SG	43.4
YANG	ISSEM4	F	6534	1	7.7	AC	1213.3
YANG	ISSEM4	F	6534	2	14.5	GBSB	69.9
YANG	ISSEM4	F	6534	3	72.0	SG	47.2
YANG	ISSEM4	F	6534	4		SG	47.2
YANG	ISSEM4	F	9512	1	7.7	AC	1312.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	ISSEM4	F	9512	2	14.5	GBSB	43.2
YANG	ISSEM4	F	9512	3	72.0	SG	49.7
YANG	ISSEM4	F	9512	4		SG	49.7
YANG	ISSEM4	F	12662	1	7.7	AC	901.4
YANG	ISSEM4	F	12662	2	14.5	GBSB	83.6
YANG	ISSEM4	F	12662	3	72.0	SG	38.8
YANG	ISSEM4	F	12662	4		SG	38.8
YANG	ISSEM4	F	16812	1	7.7	AC	1087.2
YANG	ISSEM4	F	16812	2	14.5	GBSB	65
YANG	ISSEM4	F	16812	3	72.0	SG	38.9
YANG	ISSEM4	F	16812	4		SG	38.9
YANG	ISSEM4	G	6424	1	5.3	AC	548.8
YANG	ISSEM4	G	6424	2	9.6	PCC	714468
YANG	ISSEM4	G	6424	3	4.0	GBSB	21.5
YANG	ISSEM4	G	6424	4		SG	40.1
YANG	ISSEM4	G	9398	1	5.3	AC	548.8
YANG	ISSEM4	G	9398	2	9.6	PCC	8674.6
YANG	ISSEM4	G	9398	3	4.0	GBSB	59
YANG	ISSEM4	G	9398	4		SG	41.3
YANG	ISSEM4	G	12256	1	5.3	AC	454.3
YANG	ISSEM4	G	12256	2	9.6	PCC	8030.4
YANG	ISSEM4	G	12256	3	4.0	GBSB	59.6
YANG	ISSEM4	G	12256	4		SG	37.9
YANG	ISSEM4	G	16350	1	5.3	AC	449.3
YANG	ISSEM4	G	16350	2	9.6	PCC	8141.6
YANG	ISSEM4	G	16350	3	4.0	GBSB	59.9
YANG	ISSEM4	G	16350	4		SG	40.3
YANG	ISSEM4	H	7734	1	2.5	AC	1036.4
YANG	ISSEM4	H	7734	2	6.9	PCC	1036.4
YANG	ISSEM4	H	7734	3	96.0	SG	35
YANG	ISSEM4	H	7734	4		SG	35
YANG	ISSEM4	H	9704	1	2.5	AC	1429.5
YANG	ISSEM4	H	9704	2	6.9	PCC	1429.5
YANG	ISSEM4	H	9704	3	96.0	SG	28.5
YANG	ISSEM4	H	9704	4		SG	28.5
YANG	ISSEM4	H	12504	1	2.5	AC	1134.6
YANG	ISSEM4	H	12504	2	6.9	PCC	1134.6
YANG	ISSEM4	H	12504	3	96.0	SG	29.1
YANG	ISSEM4	H	12504	4		SG	29.1
YANG	ISSEM4	H	17706	1	2.5	AC	1522.9
YANG	ISSEM4	H	17706	2	6.9	PCC	1522.9
YANG	ISSEM4	H	17706	3	96.0	SG	26
YANG	ISSEM4	H	17706	4		SG	26

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	ISSEM4	H	7734	1	2.5	AC	284.4
YANG	ISSEM4	H	7734	2	6.9	PCC	3229
YANG	ISSEM4	H	7734	3	96.0	SG	29.3
YANG	ISSEM4	H	7734	4		SG	29.3
YANG	ISSEM4	H	9704	1	2.5	AC	290.1
YANG	ISSEM4	H	9704	2	6.9	PCC	3259.6
YANG	ISSEM4	H	9704	3	96.0	SG	28.4
YANG	ISSEM4	H	9704	4		SG	28.4
YANG	ISSEM4	H	12504	1	2.5	AC	290.1
YANG	ISSEM4	H	12504	2	6.9	PCC	3208.4
YANG	ISSEM4	H	12504	3	96.0	SG	25.3
YANG	ISSEM4	H	12504	4		SG	25.3
YANG	ISSEM4	H	17706	1	2.5	AC	329.5
YANG	ISSEM4	H	17706	2	6.9	PCC	3430
YANG	ISSEM4	H	17706	3	96.0	SG	25.6
YANG	ISSEM4	H	17706	4		SG	25.6
YANG	MODCOMP	A	7246	1	5	AC	620.1
YANG	MODCOMP	A	7246	2	13.4	GBSB	122.9
YANG	MODCOMP	A	7246	3	12	GBSB	4.9
YANG	MODCOMP	A	7246	4		SG	61.8
YANG	MODCOMP	A	10006	1	5	AC	620.1
YANG	MODCOMP	A	10006	2	13.4	GBSB	122.9
YANG	MODCOMP	A	10006	3	12	GBSB	4.9
YANG	MODCOMP	A	10006	4		SG	61.8
YANG	MODCOMP	A	12644	1	5	AC	620.1
YANG	MODCOMP	A	12644	2	13.4	GBSB	122.9
YANG	MODCOMP	A	12644	3	12	GBSB	4.9
YANG	MODCOMP	A	12644	4		SG	61.8
YANG	MODCOMP	A	17054	1	5	AC	620.1
YANG	MODCOMP	A	17054	2	13.4	GBSB	122.9
YANG	MODCOMP	A	17054	3	12	GBSB	4.9
YANG	MODCOMP	A	17054	4		SG	61.8
YANG	MODCOMP	B	6460	1	4.2	AC	869
YANG	MODCOMP	B	6460	2	5.0	GBSB	96.8
YANG	MODCOMP	B	6460	3	30.0	SG	28
YANG	MODCOMP	B	6460	4		SG	28
YANG	MODCOMP	B	9596	1	4.2	AC	869
YANG	MODCOMP	B	9596	2	5.0	GBSB	96.8
YANG	MODCOMP	B	9596	3	30.0	SG	28
YANG	MODCOMP	B	9596	4		SG	28
YANG	MODCOMP	B	12700	1	4.2	AC	869
YANG	MODCOMP	B	12700	2	5.0	GBSB	96.8
YANG	MODCOMP	B	12700	3	30.0	SG	28

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	MODCOMP	B	12700	4		SG	28
YANG	MODCOMP	B	16362	1	4.2	AC	869
YANG	MODCOMP	B	16362	2	5.0	GBSB	96.8
YANG	MODCOMP	B	16362	3	30.0	SG	28
YANG	MODCOMP	B	16362	4		SG	28
YANG	MODCOMP	C	6616	1	7.9	AC	628
YANG	MODCOMP	C	6616	2	8.4	STB	452.8
YANG	MODCOMP	C	6616	3	24.0	SG	37.8
YANG	MODCOMP	C	6616	4		SG	37.8
YANG	MODCOMP	C	9522	1	7.9	AC	628
YANG	MODCOMP	C	9522	2	8.4	STB	452.8
YANG	MODCOMP	C	9522	3	24.0	SG	37.8
YANG	MODCOMP	C	9522	4		SG	37.8
YANG	MODCOMP	C	12958	1	7.9	AC	628
YANG	MODCOMP	C	12958	2	8.4	STB	452.8
YANG	MODCOMP	C	12958	3	24.0	SG	37.8
YANG	MODCOMP	C	12958	4		SG	37.8
YANG	MODCOMP	C	16696	1	7.9	AC	628
YANG	MODCOMP	C	16696	2	8.4	STB	452.8
YANG	MODCOMP	C	16696	3	24.0	SG	37.8
YANG	MODCOMP	C	16696	4		SG	37.8
YANG	MODCOMP	D	6264	1	7.3	AC	2022.2
YANG	MODCOMP	D	6264	2	5.5	STB	925.8
YANG	MODCOMP	D	6264	3	60.0	SG	19.1
YANG	MODCOMP	D	6264	4		SG	19.1
YANG	MODCOMP	D	9474	1	7.3	AC	2022.2
YANG	MODCOMP	D	9474	2	5.5	STB	925.8
YANG	MODCOMP	D	9474	3	60.0	SG	19.1
YANG	MODCOMP	D	9474	4		SG	19.1
YANG	MODCOMP	D	12914	1	7.3	AC	2022.2
YANG	MODCOMP	D	12914	2	5.5	STB	925.8
YANG	MODCOMP	D	12914	3	60.0	SG	19.1
YANG	MODCOMP	D	12914	4		SG	19.1
YANG	MODCOMP	D	17474	1	7.3	AC	2022.2
YANG	MODCOMP	D	17474	2	5.5	STB	925.8
YANG	MODCOMP	D	17474	3	60.0	SG	19.1
YANG	MODCOMP	D	17474	4		SG	19.1
YANG	MODCOMP	E	7608	1	7.5	AC	612
YANG	MODCOMP	E	7608	2	6.4	STB	612
YANG	MODCOMP	E	7608	3	7.0	GBSB	248.5
YANG	MODCOMP	E	7608	4	24.0	SG	5.4
YANG	MODCOMP	E	9752	1	7.5	AC	612
YANG	MODCOMP	E	9752	2	6.4	STB	612

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	MODCOMP	E	9752	3	7.0	GBSB	248.5
YANG	MODCOMP	E	9752	4	24.0	SG	5.4
YANG	MODCOMP	E	12714	1	7.5	AC	612
YANG	MODCOMP	E	12714	2	6.4	STB	612
YANG	MODCOMP	E	12714	3	7.0	GBSB	248.5
YANG	MODCOMP	E	12714	4	24.0	SG	5.4
YANG	MODCOMP	E	17764	1	7.5	AC	612
YANG	MODCOMP	E	17764	2	6.4	STB	612
YANG	MODCOMP	E	17764	3	7.0	GBSB	248.5
YANG	MODCOMP	E	17764	4	24	SG	5.4
YANG	MODCOMP	E	7608	1	7.5	AC	623
YANG	MODCOMP	E	7608	2	6.4	STB	1796.3
YANG	MODCOMP	E	7608	3	7.0	GBSB	2.9
YANG	MODCOMP	E	7608	4		SG	219.6
YANG	MODCOMP	E	9752	1	7.5	AC	623
YANG	MODCOMP	E	9752	2	6.4	STB	1796.3
YANG	MODCOMP	E	9752	3	7.0	GBSB	2.9
YANG	MODCOMP	E	9752	4		SG	219.6
YANG	MODCOMP	E	12714	1	7.5	AC	623
YANG	MODCOMP	E	12714	2	6.4	STB	1796.3
YANG	MODCOMP	E	12714	3	7.0	GBSB	2.9
YANG	MODCOMP	E	12714	4		SG	219.6
YANG	MODCOMP	E	17764	1	7.5	AC	623
YANG	MODCOMP	E	17764	2	6.4	STB	1796.3
YANG	MODCOMP	E	17764	3	7.0	GBSB	2.9
YANG	MODCOMP	E	17764	4		SG	219.6
YANG	MODCOMP	E	7608	1	7.5	AC	904.5
YANG	MODCOMP	E	7608	2	6.4	STB	904.5
YANG	MODCOMP	E	7608	3	7.0	GBSB	5.2
YANG	MODCOMP	E	7608	4		SG	103.7
YANG	MODCOMP	E	9752	1	7.5	AC	904.5
YANG	MODCOMP	E	9752	2	6.4	STB	904.5
YANG	MODCOMP	E	9752	3	7.0	GBSB	5.2
YANG	MODCOMP	E	9752	4		SG	103.7
YANG	MODCOMP	E	12714	1	7.5	AC	904.5
YANG	MODCOMP	E	12714	2	6.4	STB	904.5
YANG	MODCOMP	E	12714	3	7.0	GBSB	5.2
YANG	MODCOMP	E	12714	4		SG	103.7
YANG	MODCOMP	E	17764	1	7.5	AC	904.5
YANG	MODCOMP	E	17764	2	6.4	STB	904.5
YANG	MODCOMP	E	17764	3	7.0	GBSB	5.2
YANG	MODCOMP	E	17764	4		SG	103.7
YANG	MODCOMP	E	7608	1	7.5	AC	834.1

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	MODCOMP	E	7608	2	6.4	STB	834.1
YANG	MODCOMP	E	7608	3	7.0	GBSB	3.7
YANG	MODCOMP	E	7608	4	48.0	SG	5490.1
YANG	MODCOMP	E	9752	1	7.5	AC	834.1
YANG	MODCOMP	E	9752	2	6.4	STB	834.1
YANG	MODCOMP	E	9752	3	7.0	GBSB	3.7
YANG	MODCOMP	E	9752	4	48.0	SG	5490.1
YANG	MODCOMP	E	12714	1	7.5	AC	834.1
YANG	MODCOMP	E	12714	2	6.4	STB	834.1
YANG	MODCOMP	E	12714	3	7.0	GBSB	3.7
YANG	MODCOMP	E	12714	4	48.0	SG	5490.1
YANG	MODCOMP	E	17764	1	7.5	AC	834.1
YANG	MODCOMP	E	17764	2	6.4	STB	834.1
YANG	MODCOMP	E	17764	3	7.0	GBSB	3.7
YANG	MODCOMP	E	17764	4	48	SG	5490.1
YANG	MODCOMP	F	6534	1	7.7	AC	1902.5
YANG	MODCOMP	F	6534	2	14.5	GBSB	
YANG	MODCOMP	F	6534	3	72.0	SG	39.5
YANG	MODCOMP	F	6534	4		SG	39.5
YANG	MODCOMP	F	9512	1	7.7	AC	1902.5
YANG	MODCOMP	F	9512	2	14.5	GBSB	
YANG	MODCOMP	F	9512	3	72.0	SG	39.5
YANG	MODCOMP	F	9512	4		SG	39.5
YANG	MODCOMP	F	12662	1	7.7	AC	1902.5
YANG	MODCOMP	F	12662	2	14.5	GBSB	
YANG	MODCOMP	F	12662	3	72.0	SG	39.5
YANG	MODCOMP	F	12662	4		SG	39.5
YANG	MODCOMP	F	16812	1	7.7	AC	1902.5
YANG	MODCOMP	F	16812	2	14.5	GBSB	24.4
YANG	MODCOMP	F	16812	3	72.0	SG	39.5
YANG	MODCOMP	F	16812	4		SG	39.5
YANG	MODCOMP	F	6534	1	7.7	AC	401.8
YANG	MODCOMP	F	6534	2	14.5	GBSB	193
YANG	MODCOMP	F	6534	3	50.0	SG	9.7
YANG	MODCOMP	F	6534	4	22	SG	9.7
YANG	MODCOMP	F	9512	1	7.7	AC	401.8
YANG	MODCOMP	F	9512	2	14.5	GBSB	193
YANG	MODCOMP	F	9512	3	50.0	SG	9.7
YANG	MODCOMP	F	9512	4	22	SG	9.7
YANG	MODCOMP	F	12662	1	7.7	AC	401.8
YANG	MODCOMP	F	12662	2	14.5	GBSB	193
YANG	MODCOMP	F	12662	3	50.0	SG	9.7
YANG	MODCOMP	F	12662	4	22	SG	9.7

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	MODCOMP	F	16812	1	7.7	AC	401.8
YANG	MODCOMP	F	16812	2	14.5	GBSB	193
YANG	MODCOMP	F	16812	3	50.0	SG	9.7
YANG	MODCOMP	F	16812	4	22	SG	9.7
YANG	MODCOMP	G	6424	1	5.3	AC	2033.5
YANG	MODCOMP	G	6424	2	9.6	PCC	4481.4
YANG	MODCOMP	G	6424	3	4.0	GBSB	30
YANG	MODCOMP	G	6424	4		SG	30
YANG	MODCOMP	G	9398	1	5.3	AC	2033.5
YANG	MODCOMP	G	9398	2	9.6	PCC	4481.4
YANG	MODCOMP	G	9398	3	4.0	GBSB	30
YANG	MODCOMP	G	9398	4		SG	30
YANG	MODCOMP	G	12256	1	5.3	AC	2033.5
YANG	MODCOMP	G	12256	2	9.6	PCC	4481.4
YANG	MODCOMP	G	12256	3	4.0	GBSB	30
YANG	MODCOMP	G	12256	4		SG	30
YANG	MODCOMP	G	16350	1	5.3	AC	2033.5
YANG	MODCOMP	G	16350	2	9.6	PCC	4481.4
YANG	MODCOMP	G	16350	3	4	GBSB	30
YANG	MODCOMP	G	16350	4		SG	30
YANG	MODCOMP	G	6424	1	5.3	AC	1803.2
YANG	MODCOMP	G	6424	2	9.6	PCC	2455
YANG	MODCOMP	G	6424	3	4.0	GBSB	1
YANG	MODCOMP	G	6424	4		SG	83.7
YANG	MODCOMP	G	9398	1	5.3	AC	1803.2
YANG	MODCOMP	G	9398	2	9.6	PCC	2455
YANG	MODCOMP	G	9398	3	4.0	GBSB	1
YANG	MODCOMP	G	9398	4		SG	83.7
YANG	MODCOMP	G	12256	1	5.3	AC	1803.2
YANG	MODCOMP	G	12256	2	9.6	PCC	2455
YANG	MODCOMP	G	12256	3	4.0	GBSB	1
YANG	MODCOMP	G	12256	4		SG	83.7
YANG	MODCOMP	G	16350	1	5.3	AC	1803.2
YANG	MODCOMP	G	16350	2	9.6	PCC	2455
YANG	MODCOMP	G	16350	3	4	GBSB	1
YANG	MODCOMP	G	16350	4		SG	83.7
YANG	MODCOMP	H	7734	1	2.5	AC	306.8
YANG	MODCOMP	H	7734	2	6.9	PCC	4005.9
YANG	MODCOMP	H	7734	3	96.0	SG	25.1
YANG	MODCOMP	H	7734	4		SG	25.1
YANG	MODCOMP	H	9704	1	2.5	AC	306.8
YANG	MODCOMP	H	9704	2	6.9	PCC	4005.9
YANG	MODCOMP	H	9704	3	96.0	SG	25.1

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	MODCOMP	H	9704	4		SG	25.1
YANG	MODCOMP	H	12504	1	2.5	AC	306.8
YANG	MODCOMP	H	12504	2	6.9	PCC	4005.9
YANG	MODCOMP	H	12504	3	96.0	SG	25.1
YANG	MODCOMP	H	12504	4		SG	25.1
YANG	MODCOMP	H	17706	1	2.5	AC	306.8
YANG	MODCOMP	H	17706	2	6.9	PCC	4005.9
YANG	MODCOMP	H	17706	3	96.0	SG	25.1
YANG	MODCOMP	H	17706	4		SG	25.1
YANG	MODCOMP	H	7734	1	2.5	AC	260
YANG	MODCOMP	H	7734	2	6.9	PCC	5068.7
YANG	MODCOMP	H	7734	3	96.0	SG	23.4
YANG	MODCOMP	H	7734	4		SG	23.4
YANG	MODCOMP	H	9704	1	2.5	AC	260
YANG	MODCOMP	H	9704	2	6.9	PCC	5068.7
YANG	MODCOMP	H	9704	3	96.0	SG	23.4
YANG	MODCOMP	H	9704	4		SG	23.4
YANG	MODCOMP	H	12504	1	2.5	AC	260
YANG	MODCOMP	H	12504	2	6.9	PCC	5068.7
YANG	MODCOMP	H	12504	3	96.0	SG	23.4
YANG	MODCOMP	H	12504	4		SG	23.4
YANG	MODCOMP	H	17706	1	2.5	AC	260
YANG	MODCOMP	H	17706	2	6.9	PCC	5068.7
YANG	MODCOMP	H	17706	3	96.0	SG	23.4
YANG	MODCOMP	H	17706	4		SG	23.4
YANG	MODULUS	A	7246	1	5.0	AC	1101.7
YANG	MODULUS	A	7246	2	13.4	GBSB	44.8
YANG	MODULUS	A	7246	3	12.0	GBSB	40.3
YANG	MODULUS	A	7246	4		SG	32.7
YANG	MODULUS	A	10006	1	5.0	AC	1138.7
YANG	MODULUS	A	10006	2	13.4	GBSB	49.4
YANG	MODULUS	A	10006	3	12.0	GBSB	31
YANG	MODULUS	A	10006	4		SG	31
YANG	MODULUS	A	12644	1	5.0	AC	1124.7
YANG	MODULUS	A	12644	2	13.4	GBSB	48.9
YANG	MODULUS	A	12644	3	12.0	GBSB	28.8
YANG	MODULUS	A	12644	4		SG	28.8
YANG	MODULUS	A	17054	1	5.0	AC	1200
YANG	MODULUS	A	17054	2	13.4	GBSB	58.5
YANG	MODULUS	A	17054	3	12.0	GBSB	31.4
YANG	MODULUS	A	17054	4		SG	31.4
YANG	MODULUS	B	6460	1	4.2	AC	905.4
YANG	MODULUS	B	6460	2	5.0	GBSB	50.4

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	MODULUS	B	6460	3	30.0	SG	26.4
YANG	MODULUS	B	6460	4		SG	26.4
YANG	MODULUS	B	9596	1	4.2	AC	939.1
YANG	MODULUS	B	9596	2	5.0	GBSB	55.7
YANG	MODULUS	B	9596	3	30.0	SG	27
YANG	MODULUS	B	9596	4		SG	27
YANG	MODULUS	B	12700	1	4.2	AC	1033.8
YANG	MODULUS	B	12700	2	5.0	GBSB	65.2
YANG	MODULUS	B	12700	3	30.0	SG	27.8
YANG	MODULUS	B	12700	4		SG	27.8
YANG	MODULUS	B	16362	1	4.2	AC	1030.7
YANG	MODULUS	B	16362	2	5.0	GBSB	77.3
YANG	MODULUS	B	16362	3	30.0	SG	28.2
YANG	MODULUS	B	16362	4		SG	28.2
YANG	MODULUS	C	6616	1	7.9	AC	641.5
YANG	MODULUS	C	6616	2	8.4	STB	391.4
YANG	MODULUS	C	6616	3	24.0	SG	37.1
YANG	MODULUS	C	6616	4		SG	37.1
YANG	MODULUS	C	9522	1	7.9	AC	617.8
YANG	MODULUS	C	9522	2	8.4	STB	444.5
YANG	MODULUS	C	9522	3	24.0	SG	36.4
YANG	MODULUS	C	9522	4		SG	36.4
YANG	MODULUS	C	12958	1	7.9	AC	633.8
YANG	MODULUS	C	12958	2	8.4	STB	448.1
YANG	MODULUS	C	12958	3	24.0	SG	35.7
YANG	MODULUS	C	12958	4		SG	35.7
YANG	MODULUS	C	16696	1	7.9	AC	663.8
YANG	MODULUS	C	16696	2	8.4	STB	484.9
YANG	MODULUS	C	16696	3	24.0	SG	37.4
YANG	MODULUS	C	16696	4		SG	37.4
YANG	MODULUS	D	6264	1	7.3	AC	1200
YANG	MODULUS	D	6264	2	5.5	STB	1449.7
YANG	MODULUS	D	6264	3	60.0	SG	22.7
YANG	MODULUS	D	6264	4		SG	22.7
YANG	MODULUS	D	9474	1	7.3	AC	1200
YANG	MODULUS	D	9474	2	5.5	STB	1243.4
YANG	MODULUS	D	9474	3	60.0	SG	20.2
YANG	MODULUS	D	9474	4		SG	20.2
YANG	MODULUS	D	12914	1	7.3	AC	1200
YANG	MODULUS	D	12914	2	5.5	STB	1242
YANG	MODULUS	D	12914	3	60.0	SG	18.8
YANG	MODULUS	D	12914	4		SG	18.8
YANG	MODULUS	D	17474	1	7.3	AC	1200

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	MODULUS	D	17474	2	5.5	STB	1375.8
YANG	MODULUS	D	17474	3	60.0	SG	19.5
YANG	MODULUS	D	17474	4		SG	19.5
YANG	MODULUS	E	7608	1	7.5	AC	976.5
YANG	MODULUS	E	7608	2	6.4	STB	589.9
YANG	MODULUS	E	7608	3	7.0	GBSB	59
YANG	MODULUS	E	7608	4		SG	59
YANG	MODULUS	E	9752	1	7.5	AC	953.3
YANG	MODULUS	E	9752	2	6.4	STB	569.1
YANG	MODULUS	E	9752	3	7.0	GBSB	56.9
YANG	MODULUS	E	9752	4		SG	56.9
YANG	MODULUS	E	12714	1	7.5	AC	851.9
YANG	MODULUS	E	12714	2	6.4	STB	556.2
YANG	MODULUS	E	12714	3	7.0	GBSB	55.6
YANG	MODULUS	E	12714	4		SG	55.6
YANG	MODULUS	E	17764	1	7.5	AC	935.7
YANG	MODULUS	E	17764	2	6.4	STB	561
YANG	MODULUS	E	17764	3	7.0	GBSB	56.1
YANG	MODULUS	E	17764	4		SG	56.1
YANG	MODULUS	F	6534	1	7.7	AC	1017.2
YANG	MODULUS	F	6534	2	14.5	GBSB	91.7
YANG	MODULUS	F	6534	3	72.0	SG	45.5
YANG	MODULUS	F	6534	4		SG	45.5
YANG	MODULUS	F	9512	1	7.7	AC	1085.9
YANG	MODULUS	F	9512	2	14.5	GBSB	67.5
YANG	MODULUS	F	9512	3	72.0	SG	44.1
YANG	MODULUS	F	9512	4		SG	44.1
YANG	MODULUS	F	12662	1	7.7	AC	1073.4
YANG	MODULUS	F	12662	2	14.5	GBSB	55.6
YANG	MODULUS	F	12662	3	72.0	SG	42.8
YANG	MODULUS	F	12662	4		SG	42.8
YANG	MODULUS	F	16812	1	7.7	AC	1200
YANG	MODULUS	F	16812	2	14.5	GBSB	47.8
YANG	MODULUS	F	16812	3	72.0	SG	41.6
YANG	MODULUS	F	16812	4		SG	41.6
YANG	MODULUS	G	6424	1	5.3	AC	1400
YANG	MODULUS	G	6424	2	9.6	PCC	6194
YANG	MODULUS	G	6424	3	4.0	GBSB	96.7
YANG	MODULUS	G	6424	4		SG	33.1
YANG	MODULUS	G	9398	1	5.3	AC	1041
YANG	MODULUS	G	9398	2	9.6	PCC	6965
YANG	MODULUS	G	9398	3	4.0	GBSB	55.8
YANG	MODULUS	G	9398	4		SG	31.5

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	MODULUS	G	12256	1	5.3	AC	1210.3
YANG	MODULUS	G	12256	2	9.6	PCC	5411
YANG	MODULUS	G	12256	3	4.0	GBSB	57
YANG	MODULUS	G	12256	4		SG	29.3
YANG	MODULUS	G	16350	1	5.3	AC	1222
YANG	MODULUS	G	16350	2	9.6	PCC	5154
YANG	MODULUS	G	16350	3	4.0	GBSB	44.2
YANG	MODULUS	G	16350	4		SG	31.7
YANG	MODULUS	H	7734	1	2.5	AC	298.5
YANG	MODULUS	H	7734	2	6.9	PCC	3134.2
YANG	MODULUS	H	7734	3	96.0	SG	29.8
YANG	MODULUS	H	7734	4		SG	29.8
YANG	MODULUS	H	9704	1	2.5	AC	320.5
YANG	MODULUS	H	9704	2	6.9	PCC	3128.8
YANG	MODULUS	H	9704	3	96.0	SG	28.7
YANG	MODULUS	H	9704	4		SG	28.7
YANG	MODULUS	H	12504	1	2.5	AC	313.5
YANG	MODULUS	H	12504	2	6.9	PCC	3144.1
YANG	MODULUS	H	12504	3	96.0	SG	25.8
YANG	MODULUS	H	12504	4		SG	25.8
YANG	MODULUS	H	17706	1	2.5	AC	357.5
YANG	MODULUS	H	17706	2	6.9	PCC	3400.3
YANG	MODULUS	H	17706	3	96.0	SG	25.9
YANG	MODULUS	H	17706	4		SG	25.9
YANG	WESDEF	A	7246	1	5.0	AC	922.5
YANG	WESDEF	A	7246	2	13.4	GBSB	61
YANG	WESDEF	A	7246	3	12.0	GBSB	25.7
YANG	WESDEF	A	7246	4	209.7	SG	27.1
YANG	WESDEF	A	10006	1	5.0	AC	1000
YANG	WESDEF	A	10006	2	13.4	GBSB	60.9
YANG	WESDEF	A	10006	3	12.0	GBSB	22.9
YANG	WESDEF	A	10006	4	209.7	SG	25.4
YANG	WESDEF	A	12644	1	5.0	AC	954.8
YANG	WESDEF	A	12644	2	13.4	GBSB	64
YANG	WESDEF	A	12644	3	12.0	GBSB	18.6
YANG	WESDEF	A	12644	4	209.7	SG	24.1
YANG	WESDEF	A	17054	1	5.0	AC	1000
YANG	WESDEF	A	17054	2	13.4	GBSB	77.9
YANG	WESDEF	A	17054	3	12.0	GBSB	19.1
YANG	WESDEF	A	17054	4	209.7	SG	26.6
YANG	WESDEF	B	6460	1	4.2	AC	399.6
YANG	WESDEF	B	6460	2	5.0	GBSB	150
YANG	WESDEF	B	6460	3	30.0	SG	21.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	WESDEF	B	6460	4	200.8	SG	21.9
YANG	WESDEF	B	9596	1	4.2	AC	435.2
YANG	WESDEF	B	9596	2	5.0	GBSB	150
YANG	WESDEF	B	9596	3	30.0	SG	22.4
YANG	WESDEF	B	9596	4	200.8	SG	22.4
YANG	WESDEF	B	12700	1	4.2	AC	1000
YANG	WESDEF	B	12700	2	5.0	GBSB	114.4
YANG	WESDEF	B	12700	3	30.0	SG	23.1
YANG	WESDEF	B	12700	4	200.8	SG	23.1
YANG	WESDEF	B	16362	1	4.2	AC	732.6
YANG	WESDEF	B	16362	2	5.0	GBSB	150
YANG	WESDEF	B	16362	3	30.0	SG	23.5
YANG	WESDEF	B	16362	4	200.8	SG	23.5
YANG	WESDEF	C	6616	1	7.9	AC	504.4
YANG	WESDEF	C	6616	2	8.4	STB	800.2
YANG	WESDEF	C	6616	3	24.0	SG	27.2
YANG	WESDEF	C	6616	4	199.7	SG	27.2
YANG	WESDEF	C	9522	1	7.9	AC	486.8
YANG	WESDEF	C	9522	2	8.4	STB	933.5
YANG	WESDEF	C	9522	3	24.0	SG	26.6
YANG	WESDEF	C	9522	4	199.7	SG	26.6
YANG	WESDEF	C	12958	1	7.9	AC	504.7
YANG	WESDEF	C	12958	2	8.4	STB	892.4
YANG	WESDEF	C	12958	3	24.0	SG	26.1
YANG	WESDEF	C	12958	4	199.7	SG	26.1
YANG	WESDEF	C	16696	1	7.9	AC	526.6
YANG	WESDEF	C	16696	2	8.4	STB	983.2
YANG	WESDEF	C	16696	3	24.0	SG	27.3
YANG	WESDEF	C	16696	4	199.7	SG	27.3
YANG	WESDEF	D	6264	1	7.3	AC	1500
YANG	WESDEF	D	6264	2	5.5	STB	1500
YANG	WESDEF	D	6264	3	60.0	SG	16.6
YANG	WESDEF	D	6264	4	167.3	SG	16.6
YANG	WESDEF	D	9474	1	7.3	AC	1500
YANG	WESDEF	D	9474	2	5.5	STB	1500
YANG	WESDEF	D	9474	3	60.0	SG	14.3
YANG	WESDEF	D	9474	4	167.3	SG	14.3
YANG	WESDEF	D	12914	1	7.3	AC	1500
YANG	WESDEF	D	12914	2	5.5	STB	1500
YANG	WESDEF	D	12914	3	60.0	SG	13.2
YANG	WESDEF	D	12914	4	167.3	SG	13.2
YANG	WESDEF	D	17474	1	7.3	AC	1500
YANG	WESDEF	D	17474	2	5.5	STB	1500

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	WESDEF	D	17474	3	60.0	SG	13.9
YANG	WESDEF	D	17474	4	167.3	SG	13.9
YANG	WESDEF	E	7608	1	7.5	AC	905.4
YANG	WESDEF	E	7608	2	6.4	STB	875.2
YANG	WESDEF	E	7608	3	7.0	GBSB	16.9
YANG	WESDEF	E	7608	4	219.1	SG	56.5
YANG	WESDEF	E	9752	1	7.5	AC	933.4
YANG	WESDEF	E	9752	2	6.4	STB	766.2
YANG	WESDEF	E	9752	3	7.0	GBSB	19.7
YANG	WESDEF	E	9752	4	219.1	SG	54.6
YANG	WESDEF	E	12714	1	7.5	AC	1130.1
YANG	WESDEF	E	12714	2	6.4	STB	610
YANG	WESDEF	E	12714	3	7.0	GBSB	31.8
YANG	WESDEF	E	12714	4	219.1	SG	46.4
YANG	WESDEF	E	17764	1	7.5	AC	1452.9
YANG	WESDEF	E	17764	2	6.4	STB	231.7
YANG	WESDEF	E	17764	3	7.0	GBSB	124
YANG	WESDEF	E	17764	4	219.1	SG	42.4
YANG	WESDEF	F	6534	1	7.7	AC	823.4
YANG	WESDEF	F	6534	2	14.5	GBSB	150
YANG	WESDEF	F	6534	3	72.0	SG	30.4
YANG	WESDEF	F	6534	4	104	SG	30.4
YANG	WESDEF	F	9512	1	7.7	AC	810.9
YANG	WESDEF	F	9512	2	14.5	GBSB	125.2
YANG	WESDEF	F	9512	3	72.0	SG	29.2
YANG	WESDEF	F	9512	4	104	SG	29.2
YANG	WESDEF	F	12662	1	7.7	AC	804.2
YANG	WESDEF	F	12662	2	14.5	GBSB	103.7
YANG	WESDEF	F	12662	3	72.0	SG	28.6
YANG	WESDEF	F	12662	4	104	SG	28.6
YANG	WESDEF	F	16812	1	7.7	AC	904.5
YANG	WESDEF	F	16812	2	14.5	GBSB	94.9
YANG	WESDEF	F	16812	3	72.0	SG	24.6
YANG	WESDEF	F	16812	4	104	SG	24.6
YANG	WESDEF	G	6424	1	5.3	AC	1200
YANG	WESDEF	G	6424	2	9.6	PCC	9000
YANG	WESDEF	G	6424	3	4.0	GBSB	22.2
YANG	WESDEF	G	6424	4	221.1	SG	22.2
YANG	WESDEF	G	9398	1	5.3	AC	1131.2
YANG	WESDEF	G	9398	2	9.6	PCC	9000
YANG	WESDEF	G	9398	3	4.0	GBSB	20.6
YANG	WESDEF	G	9398	4	221.1	SG	20.6
YANG	WESDEF	G	12256	1	5.3	AC	1069

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
YANG	WESDEF	G	12256	2	9.6	PCC	8581.7
YANG	WESDEF	G	12256	3	4.0	GBSB	18.9
YANG	WESDEF	G	12256	4	221.1	SG	18.9
YANG	WESDEF	G	16350	1	5.3	AC	1042
YANG	WESDEF	G	16350	2	9.6	PCC	8372.5
YANG	WESDEF	G	16350	3	4.0	GBSB	20.6
YANG	WESDEF	G	16350	4	221.1	SG	20.6
YANG	WESDEF	H	7734	1	2.5	AC	215.8
YANG	WESDEF	H	7734	2	6.9	PCC	4687.6
YANG	WESDEF	H	7734	3	96.0	SG	23.7
YANG	WESDEF	H	7734	4	134.6	SG	23.7
YANG	WESDEF	H	9704	1	2.5	AC	282.4
YANG	WESDEF	H	9704	2	6.9	PCC	4270.9
YANG	WESDEF	H	9704	3	96.0	SG	23
YANG	WESDEF	H	9704	4	134.6	SG	23
YANG	WESDEF	H	12504	1	2.5	AC	232.4
YANG	WESDEF	H	12504	2	6.9	PCC	4890.8
YANG	WESDEF	H	12504	3	96.0	SG	19.6
YANG	WESDEF	H	12504	4	134.6	SG	19.6
YANG	WESDEF	H	17706	1	2.5	AC	305.9
YANG	WESDEF	H	17706	2	6.9	PCC	5020.8
YANG	WESDEF	H	17706	3	96.0	SG	19.5
YANG	WESDEF	H	17706	4	134.6	SG	19.5
MAHONEY	WESDEF	A	7246	1	5.0	AC	974.7
MAHONEY	WESDEF	A	7246	2	13.4	GBSB	63
MAHONEY	WESDEF	A	7246	3	12.0	GBSB	26.6
MAHONEY	WESDEF	A	7246	4	210.0	SG	26.6
MAHONEY	WESDEF	A	10006	1	5.0	AC	1000
MAHONEY	WESDEF	A	10006	2	13.4	GBSB	62.6
MAHONEY	WESDEF	A	10006	3	12.0	GBSB	24.8
MAHONEY	WESDEF	A	10006	4	210.0	SG	24.8
MAHONEY	WESDEF	A	12644	1	5.0	AC	1000
MAHONEY	WESDEF	A	12644	2	13.4	GBSB	59.7
MAHONEY	WESDEF	A	12644	3	12.0	GBSB	23.2
MAHONEY	WESDEF	A	12644	4	210.0	SG	23.2
MAHONEY	WESDEF	A	17054	1	5.0	AC	1000
MAHONEY	WESDEF	A	17054	2	13.4	GBSB	73.6
MAHONEY	WESDEF	A	17054	3	12.0	GBSB	25.3
MAHONEY	WESDEF	A	17054	4	210.0	SG	25.3
MAHONEY	WESDEF	A	7246	1	5.0	AC	1000
MAHONEY	WESDEF	A	7246	2	13.4	GBSB	44.2
MAHONEY	WESDEF	A	7246	3	12.0	GBSB	44.2
MAHONEY	WESDEF	A	7246	4	969.0	SG	34.1

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
MAHONEY	WESDEF	A	10006	1	5.0	AC	1000
MAHONEY	WESDEF	A	10006	2	13.4	GBSB	45
MAHONEY	WESDEF	A	10006	3	12.0	GBSB	45
MAHONEY	WESDEF	A	10006	4	969.0	SG	31.7
MAHONEY	WESDEF	A	12644	1	5.0	AC	1000
MAHONEY	WESDEF	A	12644	2	13.4	GBSB	43.1
MAHONEY	WESDEF	A	12644	3	12.0	GBSB	43.1
MAHONEY	WESDEF	A	12644	4	969.0	SG	29.7
MAHONEY	WESDEF	A	17054	1	5.0	AC	1000
MAHONEY	WESDEF	A	17054	2	13.4	GBSB	53.4
MAHONEY	WESDEF	A	17054	3	12.0	GBSB	53.4
MAHONEY	WESDEF	A	17054	4	969.0	SG	32.3
MAHONEY	WESDEF	B	6460	1	4.2	AC	399.6
MAHONEY	WESDEF	B	6460	2	5.0	GBSB	150
MAHONEY	WESDEF	B	6460	3	30.0	SG	21.9
MAHONEY	WESDEF	B	6460	4	201	SG	21.9
MAHONEY	WESDEF	B	9596	1	4.2	AC	434.7
MAHONEY	WESDEF	B	9596	2	5.0	GBSB	150
MAHONEY	WESDEF	B	9596	3	30.0	SG	22.4
MAHONEY	WESDEF	B	9596	4	201	SG	22.4
MAHONEY	WESDEF	B	12700	1	4.2	AC	1000
MAHONEY	WESDEF	B	12700	2	5.0	GBSB	114.3
MAHONEY	WESDEF	B	12700	3	30.0	SG	23.1
MAHONEY	WESDEF	B	12700	4	201	SG	23.1
MAHONEY	WESDEF	B	16362	1	4.2	AC	732.6
MAHONEY	WESDEF	B	16362	2	5.0	GBSB	150
MAHONEY	WESDEF	B	16362	3	30.0	SG	23.5
MAHONEY	WESDEF	B	16362	4	201	SG	23.5
MAHONEY	WESDEF	B	6460	1	4.2	AC	1000
MAHONEY	WESDEF	B	6460	2	5.0	GBSB	38.3
MAHONEY	WESDEF	B	6460	3	30.0	SG	26.7
MAHONEY	WESDEF	B	6460	4	960	SG	26.7
MAHONEY	WESDEF	B	9596	1	4.2	AC	1000
MAHONEY	WESDEF	B	9596	2	5.0	GBSB	42.4
MAHONEY	WESDEF	B	9596	3	30.0	SG	27.5
MAHONEY	WESDEF	B	9596	4	960	SG	27.5
MAHONEY	WESDEF	B	12700	1	4.2	AC	1000
MAHONEY	WESDEF	B	12700	2	5.0	GBSB	57.7
MAHONEY	WESDEF	B	12700	3	30.0	SG	28
MAHONEY	WESDEF	B	12700	4	960	SG	28
MAHONEY	WESDEF	B	16362	1	4.2	AC	1000
MAHONEY	WESDEF	B	16362	2	5.0	GBSB	72.5
MAHONEY	WESDEF	B	16362	3	30.0	SG	28.1

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
MAHONEY	WESDEF	B	16362	4	960	SG	28.1
MAHONEY	WESDEF	C	6616	1	7.9	AC	504.7
MAHONEY	WESDEF	C	6616	2	8.4	STB	802.4
MAHONEY	WESDEF	C	6616	3	24.0	SG	27.2
MAHONEY	WESDEF	C	6616	4	200	SG	27.2
MAHONEY	WESDEF	C	9522	1	7.9	AC	486.1
MAHONEY	WESDEF	C	9522	2	8.4	STB	942
MAHONEY	WESDEF	C	9522	3	24.0	SG	26.5
MAHONEY	WESDEF	C	9522	4	200	SG	26.5
MAHONEY	WESDEF	C	12958	1	7.9	AC	505.4
MAHONEY	WESDEF	C	12958	2	8.4	STB	895
MAHONEY	WESDEF	C	12958	3	24.0	SG	26.1
MAHONEY	WESDEF	C	12958	4	200	SG	26.1
MAHONEY	WESDEF	C	16696	1	7.9	AC	526.2
MAHONEY	WESDEF	C	16696	2	8.4	STB	989.6
MAHONEY	WESDEF	C	16696	3	24.0	SG	27.3
MAHONEY	WESDEF	C	16696	4	200	SG	27.3
MAHONEY	WESDEF	C	6616	1	7.9	AC	609.8
MAHONEY	WESDEF	C	6616	2	8.4	STB	408.2
MAHONEY	WESDEF	C	6616	3	24.0	SG	35.4
MAHONEY	WESDEF	C	6616	4	959	SG	35.4
MAHONEY	WESDEF	C	9522	1	7.9	AC	587.6
MAHONEY	WESDEF	C	9522	2	8.4	STB	460.5
MAHONEY	WESDEF	C	9522	3	24.0	SG	34.7
MAHONEY	WESDEF	C	9522	4	959	SG	34.7
MAHONEY	WESDEF	C	12958	1	7.9	AC	600.6
MAHONEY	WESDEF	C	12958	2	8.4	STB	472.3
MAHONEY	WESDEF	C	12958	3	24.0	SG	34
MAHONEY	WESDEF	C	12958	4	959	SG	34
MAHONEY	WESDEF	C	16696	1	7.9	AC	624.3
MAHONEY	WESDEF	C	16696	2	8.4	STB	519.2
MAHONEY	WESDEF	C	16696	3	24.0	SG	35.6
MAHONEY	WESDEF	C	16696	4	959	SG	35.6
MAHONEY	WESDEF	D	6264	1	7.3	AC	2911.7
MAHONEY	WESDEF	D	6264	2	5.5	STB	1072.9
MAHONEY	WESDEF	D	6264	3	60.0	SG	15.7
MAHONEY	WESDEF	D	6264	4	167	SG	15.7
MAHONEY	WESDEF	D	9474	1	7.3	AC	1376.4
MAHONEY	WESDEF	D	9474	2	5.5	STB	1988.4
MAHONEY	WESDEF	D	9474	3	60.0	SG	13.9
MAHONEY	WESDEF	D	9474	4	167	SG	13.9
MAHONEY	WESDEF	D	12914	1	7.3	AC	1751.8
MAHONEY	WESDEF	D	12914	2	5.5	STB	1607.1

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
MAHONEY	WESDEF	D	12914	3	60.0	SG	12.6
MAHONEY	WESDEF	D	12914	4	167	SG	12.6
MAHONEY	WESDEF	D	17474	1	7.3	AC	1689.4
MAHONEY	WESDEF	D	17474	2	5.5	STB	2000
MAHONEY	WESDEF	D	17474	3	60.0	SG	12.8
MAHONEY	WESDEF	D	17474	4	167	SG	12.8
MAHONEY	WESDEF	D	6264	1	7.3	AC	3000
MAHONEY	WESDEF	D	6264	2	5.5	STB	694.3
MAHONEY	WESDEF	D	6264	3	60.0	SG	21.1
MAHONEY	WESDEF	D	6264	4	956	SG	21.1
MAHONEY	WESDEF	D	9474	1	7.3	AC	1495.6
MAHONEY	WESDEF	D	9474	2	5.5	STB	1239.2
MAHONEY	WESDEF	D	9474	3	60.0	SG	18.7
MAHONEY	WESDEF	D	9474	4	956	SG	18.7
MAHONEY	WESDEF	D	12914	1	7.3	AC	2008.3
MAHONEY	WESDEF	D	12914	2	5.5	STB	1032.5
MAHONEY	WESDEF	D	12914	3	60.0	SG	17.2
MAHONEY	WESDEF	D	12914	4	956	SG	17.2
MAHONEY	WESDEF	D	17474	1	7.3	AC	1710.2
MAHONEY	WESDEF	D	17474	2	5.5	STB	1375.2
MAHONEY	WESDEF	D	17474	3	60.0	SG	17.6
MAHONEY	WESDEF	D	17474	4	956	SG	17.6
MAHONEY	WESDEF	E	7608	1	7.5	AC	760.5
MAHONEY	WESDEF	E	7608	2	6.4	STB	760.5
MAHONEY	WESDEF	E	7608	3	7.0	GBSB	50.4
MAHONEY	WESDEF	E	7608	4	219.0	SG	50
MAHONEY	WESDEF	E	9752	1	7.5	AC	789.1
MAHONEY	WESDEF	E	9752	2	6.4	STB	789.1
MAHONEY	WESDEF	E	9752	3	7.0	GBSB	33.3
MAHONEY	WESDEF	E	9752	4	219.0	SG	50
MAHONEY	WESDEF	E	12714	1	7.5	AC	833
MAHONEY	WESDEF	E	12714	2	6.4	STB	833
MAHONEY	WESDEF	E	12714	3	7.0	GBSB	21
MAHONEY	WESDEF	E	12714	4	219.0	SG	50
MAHONEY	WESDEF	E	17764	1	7.5	AC	828.5
MAHONEY	WESDEF	E	17764	2	6.4	STB	828.5
MAHONEY	WESDEF	E	17764	3	7.0	GBSB	45.8
MAHONEY	WESDEF	E	17764	4	219.0	SG	44.5
MAHONEY	WESDEF	E	7608	1	7.5	AC	623.4
MAHONEY	WESDEF	E	7608	2	6.4	STB	623.4
MAHONEY	WESDEF	E	7608	3	7.0	GBSB	66.2
MAHONEY	WESDEF	E	7608	4	999.0	SG	50
MAHONEY	WESDEF	E	9752	1	7.5	AC	646.1

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
MAHONEY	WESDEF	E	9752	2	6.4	STB	646.1
MAHONEY	WESDEF	E	9752	3	7.0	GBSB	49.9
MAHONEY	WESDEF	E	9752	4	999.0	SG	50
MAHONEY	WESDEF	E	12714	1	7.5	AC	680.1
MAHONEY	WESDEF	E	12714	2	6.4	STB	680.1
MAHONEY	WESDEF	E	12714	3	7.0	GBSB	35.5
MAHONEY	WESDEF	E	12714	4	999.0	SG	50
MAHONEY	WESDEF	E	17764	1	7.5	AC	814.5
MAHONEY	WESDEF	E	17764	2	6.4	STB	814.5
MAHONEY	WESDEF	E	17764	3	7.0	GBSB	65.8
MAHONEY	WESDEF	E	17764	4	999.0	SG	50
MAHONEY	WESDEF	F	6534	1	7.7	AC	823.2
MAHONEY	WESDEF	F	6534	2	14.5	GBSB	150
MAHONEY	WESDEF	F	6534	3	72.0	SG	30.5
MAHONEY	WESDEF	F	6534	4	104	SG	30.5
MAHONEY	WESDEF	F	9512	1	7.7	AC	774.5
MAHONEY	WESDEF	F	9512	2	14.5	GBSB	139.2
MAHONEY	WESDEF	F	9512	3	72.0	SG	30.1
MAHONEY	WESDEF	F	9512	4	104	SG	30.1
MAHONEY	WESDEF	F	12662	1	7.7	AC	803.5
MAHONEY	WESDEF	F	12662	2	14.5	GBSB	103.8
MAHONEY	WESDEF	F	12662	3	72.0	SG	28.6
MAHONEY	WESDEF	F	12662	4	104	SG	28.6
MAHONEY	WESDEF	F	16812	1	7.7	AC	1000
MAHONEY	WESDEF	F	16812	2	14.5	GBSB	84.6
MAHONEY	WESDEF	F	16812	3	72.0	SG	29.6
MAHONEY	WESDEF	F	16812	4	104	SG	29.6
MAHONEY	WESDEF	G	9398	1	5.3	AC	1000
MAHONEY	WESDEF	G	9398	2	9.6	PCC	7000
MAHONEY	WESDEF	G	9398	3	4.0	GBSB	22.8
MAHONEY	WESDEF	G	9398	4	221	SG	22.8
MAHONEY	WESDEF	G	12256	1	5.3	AC	1000
MAHONEY	WESDEF	G	12256	2	9.6	PCC	7000
MAHONEY	WESDEF	G	12256	3	4.0	GBSB	20.4
MAHONEY	WESDEF	G	12256	4	221	SG	20.4
MAHONEY	WESDEF	G	16350	1	5.3	AC	1000
MAHONEY	WESDEF	G	16350	2	9.6	PCC	7000
MAHONEY	WESDEF	G	16350	3	4.0	GBSB	21.9
MAHONEY	WESDEF	G	16350	4	221	SG	21.9
MAHONEY	WESDEF	G	9398	1	5.3	AC	1000
MAHONEY	WESDEF	G	9398	2	9.6	PCC	7000
MAHONEY	WESDEF	G	9398	3	4.0	GBSB	30.5
MAHONEY	WESDEF	G	9398	4	980	SG	30.5

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
MAHONEY	WESDEF	H	7734	1	2.5	AC	215.7
MAHONEY	WESDEF	H	7734	2	6.9	PCC	4683.4
MAHONEY	WESDEF	H	7734	3	96.0	SG	23.7
MAHONEY	WESDEF	H	7734	4	135	SG	23.7
MAHONEY	WESDEF	H	9704	1	2.5	AC	281.2
MAHONEY	WESDEF	H	9704	2	6.9	PCC	4275.2
MAHONEY	WESDEF	H	9704	3	96.0	SG	23
MAHONEY	WESDEF	H	9704	4	135	SG	23
MAHONEY	WESDEF	H	12504	1	2.5	AC	231.4
MAHONEY	WESDEF	H	12504	2	6.9	PCC	4895.9
MAHONEY	WESDEF	H	12504	3	96.0	SG	19.6
MAHONEY	WESDEF	H	12504	4	135	SG	19.6
MAHONEY	WESDEF	H	17706	1	2.5	AC	304.8
MAHONEY	WESDEF	H	17706	2	6.9	PCC	5025.5
MAHONEY	WESDEF	H	17706	3	96.0	SG	19.5
MAHONEY	WESDEF	H	17706	4	135	SG	19.5
MAHONEY	MODULUS	A	7246	1	5.0	AC	703
MAHONEY	MODULUS	A	7246	2	13.4	GBSB	85.5
MAHONEY	MODULUS	A	7246	3	12.0	GBSB	13.1
MAHONEY	MODULUS	A	7246	4	110.0	SG	23.1
MAHONEY	MODULUS	A	10006	1	5.0	AC	1037
MAHONEY	MODULUS	A	10006	2	13.4	GBSB	50.6
MAHONEY	MODULUS	A	10006	3	12.0	GBSB	49.6
MAHONEY	MODULUS	A	10006	4	107.0	SG	14.7
MAHONEY	MODULUS	A	12644	1	5.0	AC	1005
MAHONEY	MODULUS	A	12644	2	13.4	GBSB	50.8
MAHONEY	MODULUS	A	12644	3	12.0	GBSB	46.5
MAHONEY	MODULUS	A	12644	4	107.0	SG	13.4
MAHONEY	MODULUS	A	17054	1	5.0	AC	1097
MAHONEY	MODULUS	A	17054	2	13.4	GBSB	58.6
MAHONEY	MODULUS	A	17054	3	12.0	GBSB	53.5
MAHONEY	MODULUS	A	17054	4	106.0	SG	14.4
MAHONEY	MODULUS	A	7246	1	5.0	AC	1041
MAHONEY	MODULUS	A	7246	2	13.4	GBSB	41.4
MAHONEY	MODULUS	A	7246	3	12.0	GBSB	98.9
MAHONEY	MODULUS	A	7246	4	109	SG	14.4
MAHONEY	MODULUS	A	10006	1	5.0	AC	1097.3
MAHONEY	MODULUS	A	10006	2	13.4	GBSB	43.7
MAHONEY	MODULUS	A	10006	3	12.0	GBSB	75.2
MAHONEY	MODULUS	A	10006	4	107	SG	13.6
MAHONEY	MODULUS	A	12644	1	5.0	AC	1074
MAHONEY	MODULUS	A	12644	2	13.4	GBSB	46.1
MAHONEY	MODULUS	A	12644	3	12.0	GBSB	56.7

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
MAHONEY	MODULUS	A	12644	4	107	SG	13
MAHONEY	MODULUS	A	17054	1	5.0	AC	1097.3
MAHONEY	MODULUS	A	17054	2	13.4	GBSB	55.6
MAHONEY	MODULUS	A	17054	3	12.0	GBSB	60.3
MAHONEY	MODULUS	A	17054	4	106	SG	14.2
MAHONEY	MODULUS	A	7246	1	5.0	AC	886
MAHONEY	MODULUS	A	7246	2	13.4	GBSB	62.7
MAHONEY	MODULUS	A	7246	3	12.0	GBSB	62.7
MAHONEY	MODULUS	A	7246	4	222	SG	26.5
MAHONEY	MODULUS	A	10006	1	5.0	AC	1000
MAHONEY	MODULUS	A	10006	2	13.4	GBSB	60.5
MAHONEY	MODULUS	A	10006	3	12.0	GBSB	60.5
MAHONEY	MODULUS	A	10006	4	222	SG	24.7
MAHONEY	MODULUS	A	12644	1	5.0	AC	1000
MAHONEY	MODULUS	A	12644	2	13.4	GBSB	58.3
MAHONEY	MODULUS	A	12644	3	12.0	GBSB	58.3
MAHONEY	MODULUS	A	12644	4	222	SG	23.1
MAHONEY	MODULUS	A	17054	1	5.0	AC	1000
MAHONEY	MODULUS	A	17054	2	13.4	GBSB	68.9
MAHONEY	MODULUS	A	17054	3	12.0	GBSB	68.9
MAHONEY	MODULUS	A	17054	4	222	SG	25.4
MAHONEY	MODULUS	B	6460	1	4.2	AC	679
MAHONEY	MODULUS	B	6460	2	5.0	GBSB	95.6
MAHONEY	MODULUS	B	6460	3	30.0	SG	19.5
MAHONEY	MODULUS	B	6460	4	74	SG	19.5
MAHONEY	MODULUS	B	9596	1	4.2	AC	830
MAHONEY	MODULUS	B	9596	2	5.0	GBSB	100
MAHONEY	MODULUS	B	9596	3	30.0	SG	19.4
MAHONEY	MODULUS	B	9596	4	74	SG	19.4
MAHONEY	MODULUS	B	12700	1	4.2	AC	1047
MAHONEY	MODULUS	B	12700	2	5.0	GBSB	100
MAHONEY	MODULUS	B	12700	3	30.0	SG	20
MAHONEY	MODULUS	B	12700	4	79	SG	20
MAHONEY	MODULUS	B	16362	1	4.2	AC	1097
MAHONEY	MODULUS	B	16362	2	5.0	GBSB	100
MAHONEY	MODULUS	B	16362	3	30.0	SG	20.7
MAHONEY	MODULUS	B	16362	4	84	SG	20.7
MAHONEY	MODULUS	C	6616	1	7.9	AC	925
MAHONEY	MODULUS	C	6616	2	8.4	STB	293.4
MAHONEY	MODULUS	C	6616	3	24.0	SG	30.8
MAHONEY	MODULUS	C	6616	4	276	SG	30.8
MAHONEY	MODULUS	C	9522	1	7.9	AC	904
MAHONEY	MODULUS	C	9522	2	8.4	STB	325.8

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
MAHONEY	MODULUS	C	9522	3	24.0	SG	30.1
MAHONEY	MODULUS	C	9522	4	276	SG	30.1
MAHONEY	MODULUS	C	12958	1	7.9	AC	886
MAHONEY	MODULUS	C	12958	2	8.4	STB	340.7
MAHONEY	MODULUS	C	12958	3	24.0	SG	29.5
MAHONEY	MODULUS	C	12958	4	276	SG	29.5
MAHONEY	MODULUS	C	16696	1	7.9	AC	927
MAHONEY	MODULUS	C	16696	2	8.4	STB	370.1
MAHONEY	MODULUS	C	16696	3	24.0	SG	30.9
MAHONEY	MODULUS	C	16696	4	276	SG	30.9
MAHONEY	MODULUS	D	6264	1	7.3	AC	1799
MAHONEY	MODULUS	D	6264	2	5.5	STB	865.2
MAHONEY	MODULUS	D	6264	3	60.0	SG	19.3
MAHONEY	MODULUS	D	6264	4	240		
MAHONEY	MODULUS	D	9474	1	7.3	AC	1435
MAHONEY	MODULUS	D	9474	2	5.5	STB	1395.4
MAHONEY	MODULUS	D	9474	3	60.0	SG	15.9
MAHONEY	MODULUS	D	9474	4	240		
MAHONEY	MODULUS	D	12914	1	7.3	AC	1671
MAHONEY	MODULUS	D	12914	2	5.5	STB	1332
MAHONEY	MODULUS	D	12914	3	60.0	SG	14.5
MAHONEY	MODULUS	D	12914	4	240		
MAHONEY	MODULUS	D	17474	1	7.3	AC	1631
MAHONEY	MODULUS	D	17474	2	5.5	STB	1612.9
MAHONEY	MODULUS	D	17474	3	60.0	SG	14.7
MAHONEY	MODULUS	D	17474	4	240		
MAHONEY	MODULUS	E	7608	1	7.5	AC	1122
MAHONEY	MODULUS	E	7608	2	6.4	STB	477.5
MAHONEY	MODULUS	E	7608	3	7.0	GBSB	84.7
MAHONEY	MODULUS	E	7608	4	116.0	SG	37.4
MAHONEY	MODULUS	E	9752	1	7.5	AC	1082
MAHONEY	MODULUS	E	9752	2	6.4	STB	487.5
MAHONEY	MODULUS	E	9752	3	7.0	GBSB	76.1
MAHONEY	MODULUS	E	9752	4	113.0	SG	36.1
MAHONEY	MODULUS	E	12714	1	7.5	AC	1046
MAHONEY	MODULUS	E	12714	2	6.4	STB	472.3
MAHONEY	MODULUS	E	12714	3	7.0	GBSB	82.9
MAHONEY	MODULUS	E	12714	4	125.0	SG	33.6
MAHONEY	MODULUS	E	17764	1	7.5	AC	1112
MAHONEY	MODULUS	E	17764	2	6.4	STB	396.7
MAHONEY	MODULUS	E	17764	3	7.0	GBSB	150
MAHONEY	MODULUS	E	17764	4	170.0	SG	31.7
MAHONEY	MODULUS	F	6534	1	7.7	AC	840

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
MAHONEY	MODULUS	F	6534	2	14.5	GBSB	129.9
MAHONEY	MODULUS	F	6534	3	72.0	SG	31.8
MAHONEY	MODULUS	F	6534	4	228	SG	31.8
MAHONEY	MODULUS	F	9512	1	7.7	AC	903
MAHONEY	MODULUS	F	9512	2	14.5	GBSB	99.1
MAHONEY	MODULUS	F	9512	3	72.0	SG	30.9
MAHONEY	MODULUS	F	9512	4	137	SG	30.9
MAHONEY	MODULUS	F	12662	1	7.7	AC	859
MAHONEY	MODULUS	F	12662	2	14.5	GBSB	87.2
MAHONEY	MODULUS	F	12662	3	72.0	SG	29.8
MAHONEY	MODULUS	F	12662	4	98	SG	29.8
MAHONEY	MODULUS	F	16812	1	7.7	AC	936
MAHONEY	MODULUS	F	16812	2	14.5	GBSB	80.9
MAHONEY	MODULUS	F	16812	3	72.0	SG	28.7
MAHONEY	MODULUS	F	16812	4	93	SG	28.7
MAHONEY	MODULUS	G	9398	1	5.3	AC	1046
MAHONEY	MODULUS	G	9398	2	9.6	PCC	7000
MAHONEY	MODULUS	G	9398	3	4.0	GBSB	72.8
MAHONEY	MODULUS	G	9398	4	300.0	SG	32.1
MAHONEY	MODULUS	G	12256	1	5.3	AC	1153
MAHONEY	MODULUS	G	12256	2	9.6	PCC	5743.5
MAHONEY	MODULUS	G	12256	3	4.0	GBSB	48.7
MAHONEY	MODULUS	G	12256	4	300.0	SG	29.8
MAHONEY	MODULUS	G	16350	1	5.3	AC	1146
MAHONEY	MODULUS	G	16350	2	9.6	PCC	5412.3
MAHONEY	MODULUS	G	16350	3	4.0	GBSB	69.2
MAHONEY	MODULUS	G	16350	4	300.0	SG	32
MAHONEY	MODULUS	H	7734	1	2.5	AC	301
MAHONEY	MODULUS	H	7734	2	6.9	PCC	3249.9
MAHONEY	MODULUS	H	7734	3	96.0	SG	30.7
MAHONEY	MODULUS	H	7734	4	204	SG	30.7
MAHONEY	MODULUS	H	9704	1	2.5	AC	317
MAHONEY	MODULUS	H	9704	2	6.9	PCC	3265.5
MAHONEY	MODULUS	H	9704	3	96.0	SG	29.5
MAHONEY	MODULUS	H	9704	4	204	SG	29.5
MAHONEY	MODULUS	H	12504	1	2.5	AC	307
MAHONEY	MODULUS	H	12504	2	6.9	PCC	3292.9
MAHONEY	MODULUS	H	12504	3	96.0	SG	26.5
MAHONEY	MODULUS	H	12504	4	204	SG	26.5
MAHONEY	MODULUS	H	17706	1	2.5	AC	347
MAHONEY	MODULUS	H	17706	2	6.9	PCC	3592.7
MAHONEY	MODULUS	H	17706	3	96.0	SG	26.6
MAHONEY	MODULUS	H	17706	4	204	SG	26.6

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
MAHONEY	MODCOMP	A	7246	1	5	AC	1011
MAHONEY	MODCOMP	A	7246	2	13.4	GBSB	48
MAHONEY	MODCOMP	A	7246	3	12	GBSB	48
MAHONEY	MODCOMP	A	7246	4	969	SG	33.7
MAHONEY	MODCOMP	A	10006	1	5	AC	1123
MAHONEY	MODCOMP	A	10006	2	13.4	GBSB	46.2
MAHONEY	MODCOMP	A	10006	3	12	GBSB	46.2
MAHONEY	MODCOMP	A	10006	4	969	SG	31.6
MAHONEY	MODCOMP	A	12644	1	5	AC	1103
MAHONEY	MODCOMP	A	12644	2	13.4	GBSB	44.8
MAHONEY	MODCOMP	A	12644	3	12	GBSB	44.8
MAHONEY	MODCOMP	A	12644	4	969	SG	29.7
MAHONEY	MODCOMP	A	17054	1	5	AC	928
MAHONEY	MODCOMP	A	17054	2	13.4	GBSB	66
MAHONEY	MODCOMP	A	17054	3	12	GBSB	66
MAHONEY	MODCOMP	A	17054	4	969	SG	32
MAHONEY	MODCOMP	A	7246	1	5	AC	1231
MAHONEY	MODCOMP	A	7246	2	13.4	GBSB	59.2
MAHONEY	MODCOMP	A	7246	3	12	GBSB	59.2
MAHONEY	MODCOMP	A	7246	4	210	SG	24.8
MAHONEY	MODCOMP	A	10006	1	5	AC	1423
MAHONEY	MODCOMP	A	10006	2	13.4	GBSB	55.6
MAHONEY	MODCOMP	A	10006	3	12	GBSB	55.6
MAHONEY	MODCOMP	A	10006	4	210	SG	23.2
MAHONEY	MODCOMP	A	12644	1	5	AC	1433
MAHONEY	MODCOMP	A	12644	2	13.4	GBSB	53.2
MAHONEY	MODCOMP	A	12644	3	12	GBSB	53.2
MAHONEY	MODCOMP	A	12644	4	210	SG	21.8
MAHONEY	MODCOMP	A	17054	1	5	AC	1593
MAHONEY	MODCOMP	A	17054	2	13.4	GBSB	61.7
MAHONEY	MODCOMP	A	17054	3	12	GBSB	61.7
MAHONEY	MODCOMP	A	17054	4	210	SG	24
MAHONEY	MODCOMP	B	6460	1	4.2	AC	839.2
MAHONEY	MODCOMP	B	6460	2	5.0	GBSB	65.9
MAHONEY	MODCOMP	B	6460	3	30.0	SG	24.9
MAHONEY	MODCOMP	B	6460	4	960	SG	24.9
MAHONEY	MODCOMP	B	9596	1	4.2	AC	851.9
MAHONEY	MODCOMP	B	9596	2	5.0	GBSB	60.1
MAHONEY	MODCOMP	B	9596	3	30.0	SG	26.9
MAHONEY	MODCOMP	B	9596	4	960	SG	26.9
MAHONEY	MODCOMP	B	12700	1	4.2	AC	895.6
MAHONEY	MODCOMP	B	12700	2	5.0	GBSB	78.6
MAHONEY	MODCOMP	B	12700	3	30.0	SG	27.2

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
MAHONEY	MODCOMP	B	12700	4	960	SG	27.2
MAHONEY	MODCOMP	B	16362	1	4.2	AC	771.8
MAHONEY	MODCOMP	B	16362	2	5.0	GBSB	111.1
MAHONEY	MODCOMP	B	16362	3	30.0	SG	27.1
MAHONEY	MODCOMP	B	16362	4	960	SG	27.1
MAHONEY	MODCOMP	B	6460	1	4.2	AC	553.7
MAHONEY	MODCOMP	B	6460	2	5.0	GBSB	205.7
MAHONEY	MODCOMP	B	6460	3	30.0	SG	18.2
MAHONEY	MODCOMP	B	6460	4	200	SG	18.2
MAHONEY	MODCOMP	B	9596	1	4.2	AC	541.9
MAHONEY	MODCOMP	B	9596	2	5.0	GBSB	200.4
MAHONEY	MODCOMP	B	9596	3	30.0	SG	19.6
MAHONEY	MODCOMP	B	9596	4	200	SG	19.6
MAHONEY	MODCOMP	B	12700	1	4.2	AC	589
MAHONEY	MODCOMP	B	12700	2	5.0	GBSB	238.5
MAHONEY	MODCOMP	B	12700	3	30.0	SG	19.9
MAHONEY	MODCOMP	B	12700	4	200	SG	19.9
MAHONEY	MODCOMP	B	16362	1	4.2	AC	451.4
MAHONEY	MODCOMP	B	16362	2	5.0	GBSB	337.4
MAHONEY	MODCOMP	B	16362	3	30.0	SG	19.9
MAHONEY	MODCOMP	B	16362	4	200	SG	19.9
MAHONEY	MODCOMP	C	16696	1	7.9	AC	501.8
MAHONEY	MODCOMP	C	16696	2	8.4	STB	957.7
MAHONEY	MODCOMP	C	16696	3	24.0	SG	33.5
MAHONEY	MODCOMP	C	16696	4	959	SG	33.5
MAHONEY	MODCOMP	C	16696	1	7.9	AC	673.8
MAHONEY	MODCOMP	C	16696	2	8.4	STB	390.5
MAHONEY	MODCOMP	C	16696	3	24.0	SG	38.8
MAHONEY	MODCOMP	C	16696	4		SG	38.8
MAHONEY	MODCOMP	D	17474	1	7.3	AC	1996.7
MAHONEY	MODCOMP	D	17474	2	5.5	STB	926.5
MAHONEY	MODCOMP	D	17474	3	60.0	SG	19.1
MAHONEY	MODCOMP	D	17474	4		SG	19.1
MAHONEY	MODCOMP	D	17474	1	7.3	AC	2291.4
MAHONEY	MODCOMP	D	17474	2	5.5	STB	1546.8
MAHONEY	MODCOMP	D	17474	3	60.0	SG	16.4
MAHONEY	MODCOMP	D	17474	4	956	SG	16.4
MAHONEY	MODCOMP	D	17474	1	7.3	AC	2080.8
MAHONEY	MODCOMP	D	17474	2	5.5	STB	1797
MAHONEY	MODCOMP	D	17474	3	60.0	SG	16.4
MAHONEY	MODCOMP	D	17474	4	956	SG	16.4
MAHONEY	MODCOMP	D	17474	1	7.3	AC	1895.9
MAHONEY	MODCOMP	D	17474	2	5.5	STB	986.5

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
MAHONEY	MODCOMP	D	17474	3	60.0	SG	19.2
MAHONEY	MODCOMP	D	17474	4		SG	19.2
MAHONEY	MODCOMP	E	17764	1	7.5	AC	2205.2
MAHONEY	MODCOMP	E	17764	2	6.4	STB	76.5
MAHONEY	MODCOMP	E	17764	3	7	GBSB	651.9
MAHONEY	MODCOMP	E	17764	4	149	SG	30.3
MAHONEY	MODCOMP	F	16812	1	7.7	AC	1119.2
MAHONEY	MODCOMP	F	16812	2	14.5	GBSB	102
MAHONEY	MODCOMP	F	16812	3	72.0	SG	25.2
MAHONEY	MODCOMP	F	16812	4	104	SG	25.2
MAHONEY	MODCOMP	F	16812	1	7.7	AC	1269.9
MAHONEY	MODCOMP	F	16812	2	14.5	GBSB	42.9
MAHONEY	MODCOMP	F	16812	3	72.0	SG	42.6
MAHONEY	MODCOMP	F	16812	4		SG	42.6
MAHONEY	MODCOMP	G	16350	1	5.3	AC	1710.5
MAHONEY	MODCOMP	G	16350	2	9.6	PCC	4386.1
MAHONEY	MODCOMP	G	16350	3	4.0	GBSB	31.2
MAHONEY	MODCOMP	G	16350	4		SG	31.2
MAHONEY	MODCOMP	G	16350	1	5.3	AC	2822.4
MAHONEY	MODCOMP	G	16350	2	9.6	PCC	4927.8
MAHONEY	MODCOMP	G	16350	3	4.0	GBSB	27.4
MAHONEY	MODCOMP	G	16350	4	980	SG	27.4
MAHONEY	MODCOMP	H	17706	1	2.5	AC	237
MAHONEY	MODCOMP	H	17706	2	6.9	PCC	4390
MAHONEY	MODCOMP	H	17706	3	96	SG	25.3
MAHONEY	MODCOMP	H	17706	4	894.0	SG	25.3
MAHONEY	MODCOMP	H	17706	1	2.5	AC	216
MAHONEY	MODCOMP	H	17706	2	6.9	PCC	6427.7
MAHONEY	MODCOMP	H	17706	3	96	SG	21.9
MAHONEY	MODCOMP	H	17706	4		SG	21.9
MAHONEY	ISSEM4	A	17054	1	5	AC	701.9
MAHONEY	ISSEM4	A	17054	2	13.4	GBSB	124.4
MAHONEY	ISSEM4	A	17054	3	12	GBSB	23.5
MAHONEY	ISSEM4	A	17054	4		SG	23.5
RADA	MODULUS	A	7246	1	5.0	AC	1024
RADA	MODULUS	A	7246	2	13.4	GBSB	47.9
RADA	MODULUS	A	7246	3	12.0	GBSB	71.7
RADA	MODULUS	A	7246	4	77.4	SG	12.7
RADA	MODULUS	A	10006	1	5.0	AC	954
RADA	MODULUS	A	10006	2	13.4	GBSB	66
RADA	MODULUS	A	10006	3	12.0	GBSB	28.4
RADA	MODULUS	A	10006	4	77.4	SG	14.3
RADA	MODULUS	A	12644	1	5.0	AC	928

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
RADA	MODULUS	A	12644	2	13.4	GBSB	65.4
RADA	MODULUS	A	12644	3	12.0	GBSB	27.7
RADA	MODULUS	A	12644	4	77.4	SG	12.9
RADA	MODULUS	A	17054	1	5.0	AC	1082
RADA	MODULUS	A	17054	2	13.4	GBSB	67
RADA	MODULUS	A	17054	3	12.0	GBSB	44
RADA	MODULUS	A	17054	4	77.4	SG	12.7
RADA	MODULUS	B	6460	1	4.2	AC	655
RADA	MODULUS	B	6460	2	5.0	GBSB	118.8
RADA	MODULUS	B	6460	3	30.0	SG	18.1
RADA	MODULUS	B	6460	4	68.1	SG	18.1
RADA	MODULUS	B	9596	1	4.2	AC	685
RADA	MODULUS	B	9596	2	5.0	GBSB	150
RADA	MODULUS	B	9596	3	30.0	SG	17.6
RADA	MODULUS	B	9596	4	68.1	SG	17.6
RADA	MODULUS	B	12700	1	4.2	AC	896
RADA	MODULUS	B	12700	2	5.0	GBSB	150
RADA	MODULUS	B	12700	3	30.0	SG	18.1
RADA	MODULUS	B	12700	4	68.1	SG	18.1
RADA	MODULUS	B	16362	1	4.2	AC	1023
RADA	MODULUS	B	16362	2	5.0	GBSB	150
RADA	MODULUS	B	16362	3	30.0	SG	18.4
RADA	MODULUS	B	16362	4	68.1	SG	18.4
RADA	MODULUS	C	6616	1	7.9	AC	558
RADA	MODULUS	C	6616	2	8.4	STB	612.7
RADA	MODULUS	C	6616	3	24.0	SG	28.9
RADA	MODULUS	C	6616	4	259.7	SG	28.9
RADA	MODULUS	C	9522	1	7.9	AC	534
RADA	MODULUS	C	9522	2	8.4	STB	713.3
RADA	MODULUS	C	9522	3	24.0	SG	28.1
RADA	MODULUS	C	9522	4	259.7	SG	28.1
RADA	MODULUS	C	12958	1	7.9	AC	540
RADA	MODULUS	C	12958	2	8.4	STB	732.9
RADA	MODULUS	C	12958	3	24.0	SG	27.5
RADA	MODULUS	C	12958	4	259.7	SG	27.5
RADA	MODULUS	C	16696	1	7.9	AC	567
RADA	MODULUS	C	16696	2	8.4	STB	796.2
RADA	MODULUS	C	16696	3	24.0	SG	28.7
RADA	MODULUS	C	16696	4	259.7	SG	28.7
RADA	MODULUS	D	6264	1	7.3	AC	2600
RADA	MODULUS	D	6264	2	5.5	STB	1012.6
RADA	MODULUS	D	6264	3	60.0	SG	16.2
RADA	MODULUS	D	6264	4	227.2	SG	16.2

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
RADA	MODULUS	D	9474	1	7.3	AC	1533
RADA	MODULUS	D	9474	2	5.5	STB	1498.9
RADA	MODULUS	D	9474	3	60.0	SG	14.4
RADA	MODULUS	D	9474	4	227.2	SG	14.4
RADA	MODULUS	D	12914	1	7.3	AC	1865
RADA	MODULUS	D	12914	2	5.5	STB	1326.5
RADA	MODULUS	D	12914	3	60.0	SG	13.1
RADA	MODULUS	D	12914	4	227.2	SG	13.1
RADA	MODULUS	D	17474	1	7.3	AC	1574
RADA	MODULUS	D	17474	2	5.5	STB	1921.7
RADA	MODULUS	D	17474	3	60.0	SG	13.2
RADA	MODULUS	D	17474	4	227.2	SG	13.2
RADA	MODULUS	E	7608	1	7.5	AC	906
RADA	MODULUS	E	7608	2	6.4	STB	906
RADA	MODULUS	E	7608	3	7.0	GBSB	35.8
RADA	MODULUS	E	7608	4	106.5	SG	36.5
RADA	MODULUS	E	9752	1	7.5	AC	892
RADA	MODULUS	E	9752	2	6.4	STB	892
RADA	MODULUS	E	9752	3	7.0	GBSB	34
RADA	MODULUS	E	9752	4	106.5	SG	34.8
RADA	MODULUS	E	12714	1	7.5	AC	837
RADA	MODULUS	E	12714	2	6.4	STB	837
RADA	MODULUS	E	12714	3	7.0	GBSB	85.6
RADA	MODULUS	E	12714	4	106.5	SG	28.6
RADA	MODULUS	E	17764	1	7.5	AC	828
RADA	MODULUS	E	17764	2	6.4	STB	828
RADA	MODULUS	E	17764	3	7.0	GBSB	150
RADA	MODULUS	E	17764	4	106.5	SG	26.7
RADA	MODULUS	F	6534	1	7.7	AC	832
RADA	MODULUS	F	6534	2	14.5	GBSB	150
RADA	MODULUS	F	6534	3	72.0	SG	29.2
RADA	MODULUS	F	6534	4	105.2	SG	29.2
RADA	MODULUS	F	9512	1	7.7	AC	897
RADA	MODULUS	F	9512	2	14.5	GBSB	115.6
RADA	MODULUS	F	9512	3	72.0	SG	28.3
RADA	MODULUS	F	9512	4	105.2	SG	28.3
RADA	MODULUS	F	12622	1	7.7	AC	846
RADA	MODULUS	F	12622	2	14.5	GBSB	102.4
RADA	MODULUS	F	12622	3	72.0	SG	27.3
RADA	MODULUS	F	12622	4	105.2	SG	27.3
RADA	MODULUS	F	16812	1	7.7	AC	961
RADA	MODULUS	F	16812	2	14.5	GBSB	91.7
RADA	MODULUS	F	16812	3	72.0	SG	26.3

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
RADA	MODULUS	F	16812	4	105.2	SG	26.3
RADA	MODULUS	G	9398	1	5.3	AC	1088
RADA	MODULUS	G	9398	2	9.6	PCC	8000
RADA	MODULUS	G	9398	3	4.0	GBSB	20.9
RADA	MODULUS	G	9398	4	281.1	SG	20.9
RADA	MODULUS	G	12256	1	5.3	AC	1026
RADA	MODULUS	G	12256	2	9.6	PCC	7810
RADA	MODULUS	G	12256	3	4.0	GBSB	18.9
RADA	MODULUS	G	12256	4	281.1	SG	18.9
RADA	MODULUS	G	16350	1	5.3	AC	1021
RADA	MODULUS	G	16350	2	9.6	PCC	7564.2
RADA	MODULUS	G	16350	3	4.0	GBSB	20.7
RADA	MODULUS	G	16350	4	281.1	SG	20.7
RADA	MODULUS	H	7734	1	2.5	AC	252
RADA	MODULUS	H	7734	2	6.9	PCC	4129.8
RADA	MODULUS	H	7734	3	96.0	SG	23.4
RADA	MODULUS	H	7734	4	194.5	SG	23.4
RADA	MODULUS	H	9704	1	2.5	AC	298
RADA	MODULUS	H	9704	2	6.9	PCC	4019
RADA	MODULUS	H	9704	3	96.0	SG	22.5
RADA	MODULUS	H	9704	4	194.5	SG	22.5
RADA	MODULUS	H	12504	1	2.5	AC	288
RADA	MODULUS	H	12504	2	6.9	PCC	4021.6
RADA	MODULUS	H	12504	3	96.0	SG	20.1
RADA	MODULUS	H	12504	4	194.5	SG	20.1
RADA	MODULUS	H	17706	1	2.5	AC	326
RADA	MODULUS	H	17706	2	6.9	PCC	4395.8
RADA	MODULUS	H	17706	3	96.0	SG	20
RADA	MODULUS	H	17706	4	194.5	SG	20
RADA	WESDEF	A	7246	1	5.0	AC	724.3
RADA	WESDEF	A	7246	2	13.4	GBSB	65.627
RADA	WESDEF	A	7246	3	12	GBSB	65.627
RADA	WESDEF	A	7246	4	209.7	SG	26.152
RADA	WESDEF	A	10006	1	5.0	AC	839.949
RADA	WESDEF	A	10006	2	13.4	GBSB	63.07
RADA	WESDEF	A	10006	3	12	GBSB	63.07
RADA	WESDEF	A	10006	4	209.7	SG	24.436
RADA	WESDEF	A	12644	1	5.0	AC	875.429
RADA	WESDEF	A	12644	2	13.4	GBSB	60.25
RADA	WESDEF	A	12644	3	12	GBSB	60.25
RADA	WESDEF	A	12644	4	209.7	SG	22.804
RADA	WESDEF	A	17054	1	5.0	AC	1052.087
RADA	WESDEF	A	17054	2	13.4	GBSB	72.048

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
RADA	WESDEF	A	17054	3	12	GBSB	72.048
RADA	WESDEF	A	17054	4	209.7	SG	24.669
RADA	WESDEF	B	6460	1	4.2	AC	501.421
RADA	WESDEF	B	6460	2	5.0	GBSB	97.93
RADA	WESDEF	B	6460	3	30.0	SG	22.943
RADA	WESDEF	B	6460	4	200.8	SG	22.943
RADA	WESDEF	B	9596	1	4.2	AC	379.735
RADA	WESDEF	B	9596	2	5.0	GBSB	137.184
RADA	WESDEF	B	9596	3	30.0	SG	23.296
RADA	WESDEF	B	9596	4	200.8	SG	23.296
RADA	WESDEF	B	12700	1	4.2	AC	455.888
RADA	WESDEF	B	12700	2	5.0	GBSB	150
RADA	WESDEF	B	12700	3	30.0	SG	23.959
RADA	WESDEF	B	12700	4	200.8	SG	23.959
RADA	WESDEF	B	16362	1	4.2	AC	549.376
RADA	WESDEF	B	16362	2	5.0	GBSB	150
RADA	WESDEF	B	16362	3	30.0	SG	24.371
RADA	WESDEF	B	16362	4	200.8	SG	24.371
RADA	WESDEF	C	6616	1	7.9	AC	513.323
RADA	WESDEF	C	6616	2	8.4	STB	475.728
RADA	WESDEF	C	6616	3	24.0	SG	30.189
RADA	WESDEF	C	6616	4	199.7	SG	30.189
RADA	WESDEF	C	9522	1	7.9	AC	481.581
RADA	WESDEF	C	9522	2	8.4	STB	547.833
RADA	WESDEF	C	9522	3	24.0	SG	29.296
RADA	WESDEF	C	9522	4	199.7	SG	29.296
RADA	WESDEF	C	12958	1	7.9	AC	474.98
RADA	WESDEF	C	12958	2	8.4	STB	584.069
RADA	WESDEF	C	12958	3	24.0	SG	27.752
RADA	WESDEF	C	12958	4	199.7	SG	27.752
RADA	WESDEF	C	16696	1	7.9	AC	502.987
RADA	WESDEF	C	16696	2	8.4	STB	659.656
RADA	WESDEF	C	16696	3	24.0	SG	29.636
RADA	WESDEF	C	16696	4	199.7	SG	29.636
RADA	WESDEF	D	6264	1	7.3	AC	2406.85
RADA	WESDEF	D	6264	2	5.5	STB	1261.281
RADA	WESDEF	D	6264	3	60.0	SG	15.775
RADA	WESDEF	D	6264	4	167.3	SG	15.775
RADA	WESDEF	D	9474	1	7.3	AC	1183.443
RADA	WESDEF	D	9474	2	5.5	STB	2377.146
RADA	WESDEF	D	9474	3	60.0	SG	13.887
RADA	WESDEF	D	9474	4	167.3	SG	13.887
RADA	WESDEF	D	12914	1	7.3	AC	1388.102

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
RADA	WESDEF	D	12914	2	5.5	STB	2087.134
RADA	WESDEF	D	12914	3	60.0	SG	12.688
RADA	WESDEF	D	12914	4	167.3	SG	12.688
RADA	WESDEF	D	17474	1	7.3	AC	1200.016
RADA	WESDEF	D	17474	2	5.5	STB	3046.58
RADA	WESDEF	D	17474	3	60.0	SG	12.872
RADA	WESDEF	D	17474	4	167.3	SG	12.872
RADA	WESDEF	E	7608	1	7.5	AC	864.996
RADA	WESDEF	E	7608	2	6.4	STB	864.996
RADA	WESDEF	E	7608	3	7.0	GBSB	16.827
RADA	WESDEF	E	7608	4	219.1	SG	57.373
RADA	WESDEF	E	9752	1	7.5	AC	832.975
RADA	WESDEF	E	9752	2	6.4	STB	832.975
RADA	WESDEF	E	9752	3	7.0	GBSB	19.27
RADA	WESDEF	E	9752	4	219.1	SG	53.876
RADA	WESDEF	E	12714	1	7.5	AC	799.7
RADA	WESDEF	E	12714	2	6.4	STB	799.7
RADA	WESDEF	E	12714	3	7.0	GBSB	22.666
RADA	WESDEF	E	12714	4	219.1	SG	49.009
RADA	WESDEF	E	17764	1	7.5	AC	764.788
RADA	WESDEF	E	17764	2	6.4	STB	764.788
RADA	WESDEF	E	17764	3	7.0	GBSB	58.94
RADA	WESDEF	E	17764	4	219.1	SG	43.954
RADA	WESDEF	F	6534	1	7.7	AC	902.312
RADA	WESDEF	F	6534	2	14.5	GBSB	103.987
RADA	WESDEF	F	6534	3	72.0	SG	36.431
RADA	WESDEF	F	6534	4	145.9	SG	36.431
RADA	WESDEF	F	9512	1	7.7	AC	970.356
RADA	WESDEF	F	9512	2	14.5	GBSB	84.089
RADA	WESDEF	F	9512	3	72.0	SG	34.714
RADA	WESDEF	F	9512	4	145.9	SG	34.714
RADA	WESDEF	F	12662	1	7.7	AC	858.903
RADA	WESDEF	F	12662	2	14.5	GBSB	84.186
RADA	WESDEF	F	12662	3	72.0	SG	32.133
RADA	WESDEF	F	12662	4	145.9	SG	32.133
RADA	WESDEF	F	16812	1	7.7	AC	996.454
RADA	WESDEF	F	16812	2	14.5	GBSB	73.477
RADA	WESDEF	F	16812	3	72.0	SG	31.308
RADA	WESDEF	F	16812	4	145.9	SG	31.308
RADA	MODCOMP	A	7246	1	5	AC	658.618
RADA	MODCOMP	A	7246	2	13.4	GBSB	
RADA	MODCOMP	A	7246	3	12	GBSB	30.475
RADA	MODCOMP	A	7246	4		SG	30.475

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
RADA	MODCOMP	A	10006	1	5	AC	658.618
RADA	MODCOMP	A	10006	2	13.4	GBSB	
RADA	MODCOMP	A	10006	3	12	GBSB	30.475
RADA	MODCOMP	A	10006	4		SG	30.475
RADA	MODCOMP	A	12644	1	5	AC	658.618
RADA	MODCOMP	A	12644	2	13.4	GBSB	
RADA	MODCOMP	A	12644	3	12	GBSB	30.475
RADA	MODCOMP	A	12644	4		SG	30.475
RADA	MODCOMP	A	17054	1	5.0	AC	658.618
RADA	MODCOMP	A	17054	2	13.4	GBSB	84.204
RADA	MODCOMP	A	17054	3	12	GBSB	84.204
RADA	MODCOMP	A	17054	4		SG	30.475
RADA	MODCOMP	B	6460	1	4.2	AC	754.105
RADA	MODCOMP	B	6460	2	5.0	GBSB	45.596
RADA	MODCOMP	B	6460	3	30.0	SG	
RADA	MODCOMP	B	6460	4		SG	
RADA	MODCOMP	B	9596	1	4.2	AC	754.105
RADA	MODCOMP	B	9596	2	5.0	GBSB	45.596
RADA	MODCOMP	B	9596	3	30.0	SG	
RADA	MODCOMP	B	9596	4		SG	
RADA	MODCOMP	B	12700	1	4.2	AC	754.105
RADA	MODCOMP	B	12700	2	5.0	GBSB	45.596
RADA	MODCOMP	B	12700	3	30.0	SG	
RADA	MODCOMP	B	12700	4		SG	
RADA	MODCOMP	B	16362	1	4.2	AC	754.105
RADA	MODCOMP	B	16362	2	5.0	GBSB	45.596
RADA	MODCOMP	B	16362	3	30.0	SG	34.424
RADA	MODCOMP	B	16362	4		SG	34.424
RADA	MODCOMP	C	6616	1	7.9	AC	600.465
RADA	MODCOMP	C	6616	2	8.4	STB	374.132
RADA	MODCOMP	C	6616	3	24.0	SG	38.55
RADA	MODCOMP	C	6616	4		SG	38.55
RADA	MODCOMP	C	9522	1	7.9	AC	600.465
RADA	MODCOMP	C	9522	2	8.4	STB	374.132
RADA	MODCOMP	C	9522	3	24.0	SG	38.55
RADA	MODCOMP	C	9522	4		SG	38.55
RADA	MODCOMP	C	12958	1	7.9	AC	600.465
RADA	MODCOMP	C	12958	2	8.4	STB	374.132
RADA	MODCOMP	C	12958	3	24.0	SG	38.55
RADA	MODCOMP	C	12958	4		SG	38.55
RADA	MODCOMP	C	16696	1	7.9	AC	600.465
RADA	MODCOMP	C	16696	2	8.4	STB	374.132
RADA	MODCOMP	C	16696	3	24.0	SG	38.55

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
RADA	MODCOMP	C	16696	4		SG	38.55
RADA	MODCOMP	D	6264	1	7.3	AC	1981.691
RADA	MODCOMP	D	6264	2	5.5	STB	721.487
RADA	MODCOMP	D	6264	3	60.0	SG	19.61
RADA	MODCOMP	D	6264	4		SG	19.61
RADA	MODCOMP	D	9474	1	7.3	AC	1981.691
RADA	MODCOMP	D	9474	2	5.5	STB	721.487
RADA	MODCOMP	D	9474	3	60.0	SG	19.61
RADA	MODCOMP	D	9474	4		SG	19.61
RADA	MODCOMP	D	12914	1	7.3	AC	1981.691
RADA	MODCOMP	D	12914	2	5.5	STB	721.487
RADA	MODCOMP	D	12914	3	60.0	SG	19.61
RADA	MODCOMP	D	12914	4		SG	19.61
RADA	MODCOMP	D	17474	1	7.3	AC	1981.691
RADA	MODCOMP	D	17474	2	5.5	STB	721.487
RADA	MODCOMP	D	17474	3	60.0	SG	19.61
RADA	MODCOMP	D	17474	4		SG	19.61
RADA	MODCOMP	E	7608	1	7.5	AC	785.73
RADA	MODCOMP	E	7608	2	6.4	STB	785.73
RADA	MODCOMP	E	7608	3	7.0	GBSB	50.156
RADA	MODCOMP	E	7608	4		SG	50.156
RADA	MODCOMP	E	9752	1	7.5	AC	785.73
RADA	MODCOMP	E	9752	2	6.4	STB	785.73
RADA	MODCOMP	E	9752	3	7.0	GBSB	50.156
RADA	MODCOMP	E	9752	4		SG	50.156
RADA	MODCOMP	E	12714	1	7.5	AC	785.73
RADA	MODCOMP	E	12714	2	6.4	STB	785.73
RADA	MODCOMP	E	12714	3	7.0	GBSB	50.156
RADA	MODCOMP	E	12714	4		SG	50.156
RADA	MODCOMP	E	17764	1	7.5	AC	785.73
RADA	MODCOMP	E	17764	2	6.4	STB	785.73
RADA	MODCOMP	E	17764	3	7	GBSB	50.156
RADA	MODCOMP	E	17764	4		SG	50.156
RADA	MODCOMP	F	6534	1	7.7	AC	2485.182
RADA	MODCOMP	F	6534	2	14.5	GBSB	
RADA	MODCOMP	F	6534	3	72.0	SG	25.189
RADA	MODCOMP	F	6534	4	104	SG	25.189
RADA	MODCOMP	F	9512	1	7.7	AC	2485.182
RADA	MODCOMP	F	9512	2	14.5	GBSB	
RADA	MODCOMP	F	9512	3	72.0	SG	25.189
RADA	MODCOMP	F	9512	4	104	SG	25.189
RADA	MODCOMP	F	12662	1	7.7	AC	2485.182
RADA	MODCOMP	F	12662	2	14.5	GBSB	

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
RADA	MODCOMP	F	12662	3	72.0	SG	25.189
RADA	MODCOMP	F	12662	4	104	SG	25.189
RADA	MODCOMP	F	16812	1	7.7	AC	2485.182
RADA	MODCOMP	F	16812	2	14.5	GBSB	16.708
RADA	MODCOMP	F	16812	3	72.0	SG	25.189
RADA	MODCOMP	F	16812	4	104	SG	25.189
RADA	MODCOMP	G	6424	1	5.3	AC	1374.111
RADA	MODCOMP	G	6424	2	9.6	PCC	4130.456
RADA	MODCOMP	G	6424	3	4.0	GBSB	299.266
RADA	MODCOMP	G	6424	4		SG	30.065
RADA	MODCOMP	G	9398	1	5.3	AC	1374.111
RADA	MODCOMP	G	9398	2	9.6	PCC	4130.456
RADA	MODCOMP	G	9398	3	4.0	GBSB	299.266
RADA	MODCOMP	G	9398	4		SG	30.065
RADA	MODCOMP	G	12256	1	5.3	AC	1374.111
RADA	MODCOMP	G	12256	2	9.6	PCC	4130.456
RADA	MODCOMP	G	12256	3	4.0	GBSB	299.266
RADA	MODCOMP	G	12256	4		SG	30.065
RADA	MODCOMP	G	16350	1	5.3	AC	1374.111
RADA	MODCOMP	G	16350	2	9.6	PCC	4130.456
RADA	MODCOMP	G	16350	3	4.0	GBSB	299.266
RADA	MODCOMP	G	16350	4		SG	30.065
RADA	MODCOMP	H	7734	1	2.5	AC	720
RADA	MODCOMP	H	7734	2	6.9	PCC	5196.479
RADA	MODCOMP	H	7734	3	96.0	SG	21.788
RADA	MODCOMP	H	7734	4		SG	21.788
RADA	MODCOMP	H	9704	1	2.5	AC	720
RADA	MODCOMP	H	9704	2	6.9	PCC	5196.479
RADA	MODCOMP	H	9704	3	96.0	SG	21.788
RADA	MODCOMP	H	9704	4		SG	21.788
RADA	MODCOMP	H	12504	1	2.5	AC	720
RADA	MODCOMP	H	12504	2	6.9	PCC	5196.479
RADA	MODCOMP	H	12504	3	96.0	SG	21.788
RADA	MODCOMP	H	12504	4		SG	21.788
RADA	MODCOMP	H	16350	1	2.5	AC	720
RADA	MODCOMP	H	16350	2	6.9	PCC	5196.479
RADA	MODCOMP	H	16350	3	96.0	SG	21.788
RADA	MODCOMP	H	16350	4		SG	21.788
RADA	ISSEM4	A	7246	1	5	AC	656
RADA	ISSEM4	A	7246	2	13.4	GBSB	75.2
RADA	ISSEM4	A	7246	3	12	GBSB	26.2
RADA	ISSEM4	A	7246	4		SG	26.2
RADA	ISSEM4	A	10006	1	5	AC	753

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
RADA	ISSEM4	A	10006	2	13.4	GBSB	70.2
RADA	ISSEM4	A	10006	3	12	GBSB	25.3
RADA	ISSEM4	A	10006	4		SG	25.3
RADA	ISSEM4	A	12644	1	5	AC	784
RADA	ISSEM4	A	12644	2	13.4	GBSB	49.5
RADA	ISSEM4	A	12644	3	12	GBSB	29.2
RADA	ISSEM4	A	12644	4		SG	29.2
RADA	ISSEM4	A	17054	1	5	AC	809
RADA	ISSEM4	A	17054	2	13.4	GBSB	55.5
RADA	ISSEM4	A	17054	3	12	GBSB	33.6
RADA	ISSEM4	A	17054	4		SG	33.6
RADA	ISSEM4	B	6460	1	4.2	AC	1140
RADA	ISSEM4	B	6460	2	5.0	GBSB	43.9
RADA	ISSEM4	B	6460	3	30.0	SG	24.6
RADA	ISSEM4	B	6460	4		SG	24.6
RADA	ISSEM4	B	9596	1	4.2	AC	1010
RADA	ISSEM4	B	9596	2	5.0	GBSB	49
RADA	ISSEM4	B	9596	3	30.0	SG	26.4
RADA	ISSEM4	B	9596	4		SG	26.4
RADA	ISSEM4	B	12700	1	4.2	AC	1180
RADA	ISSEM4	B	12700	2	5.0	GBSB	72.9
RADA	ISSEM4	B	12700	3	30.0	SG	25.2
RADA	ISSEM4	B	12700	4		SG	25.2
RADA	ISSEM4	B	16362	1	4.2	AC	1090
RADA	ISSEM4	B	16362	2	5.0	GBSB	95.1
RADA	ISSEM4	B	16362	3	30.0	SG	25.7
RADA	ISSEM4	B	16362	4		SG	25.7
RADA	ISSEM4	C	6616	1	7.9	AC	896
RADA	ISSEM4	C	6616	2	8.4	STB	175
RADA	ISSEM4	C	6616	3	24.0	SG	40.7
RADA	ISSEM4	C	6616	4		SG	40.7
RADA	ISSEM4	C	9522	1	7.9	AC	853
RADA	ISSEM4	C	9522	2	8.4	STB	462
RADA	ISSEM4	C	9522	3	24.0	SG	42.5
RADA	ISSEM4	C	9522	4		SG	42.5
RADA	ISSEM4	C	12958	1	7.9	AC	844
RADA	ISSEM4	C	12958	2	8.4	STB	239
RADA	ISSEM4	C	12958	3	24.0	SG	37.4
RADA	ISSEM4	C	12958	4		SG	37.4
RADA	ISSEM4	C	16696	1	7.9	AC	956
RADA	ISSEM4	C	16696	2	8.4	STB	269
RADA	ISSEM4	C	16696	3	24.0	SG	37.4
RADA	ISSEM4	C	16696	4		SG	37.4

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
RADA	ISSEM4	D	6264	1	7.3	AC	6020
RADA	ISSEM4	D	6264	2	5.5	STB	54.5
RADA	ISSEM4	D	6264	3	60.0	SG	22.7
RADA	ISSEM4	D	6264	4		SG	22.7
RADA	ISSEM4	D	9474	1	7.3	AC	4090
RADA	ISSEM4	D	9474	2	5.5	STB	234
RADA	ISSEM4	D	9474	3	60.0	SG	20
RADA	ISSEM4	D	9474	4		SG	20
RADA	ISSEM4	D	12914	1	7.3	AC	5120
RADA	ISSEM4	D	12914	2	5.5	STB	340
RADA	ISSEM4	D	12914	3	60.0	SG	17.1
RADA	ISSEM4	D	12914	4		SG	17.1
RADA	ISSEM4	D	17474	1	7.3	AC	3990
RADA	ISSEM4	D	17474	2	5.5	STB	453
RADA	ISSEM4	D	17474	3	60.0	SG	18.7
RADA	ISSEM4	D	17474	4		SG	18.7
RADA	ISSEM4	E	7608	1	7.5	AC	986
RADA	ISSEM4	E	7608	2	6.4	STB	986
RADA	ISSEM4	E	7608	3	7	GBSB	12.7
RADA	ISSEM4	E	7608	4		SG	66.6
RADA	ISSEM4	E	9752	1	7.5	AC	1000
RADA	ISSEM4	E	9752	2	6.4	STB	1000
RADA	ISSEM4	E	9752	3	7	GBSB	17.8
RADA	ISSEM4	E	9752	4		SG	55
RADA	ISSEM4	E	12714	1	7.5	AC	958
RADA	ISSEM4	E	12714	2	6.4	STB	958
RADA	ISSEM4	E	12714	3	7	GBSB	24.8
RADA	ISSEM4	E	12714	4		SG	50.1
RADA	ISSEM4	E	17764	1	7.5	AC	1030
RADA	ISSEM4	E	17764	2	6.4	STB	1030
RADA	ISSEM4	E	17764	3	7	GBSB	17.5
RADA	ISSEM4	E	17764	4		SG	53
RADA	ISSEM4	F	6534	1	7.7	AC	1110
RADA	ISSEM4	F	6534	2	14.5	GBSB	75.4
RADA	ISSEM4	F	6534	3	72.0	SG	47.9
RADA	ISSEM4	F	6534	4		SG	47.9
RADA	ISSEM4	F	9512	1	7.7	AC	1350
RADA	ISSEM4	F	9512	2	14.5	GBSB	29.5
RADA	ISSEM4	F	9512	3	72.0	SG	63
RADA	ISSEM4	F	9512	4		SG	63
RADA	ISSEM4	F	12662	1	7.7	AC	871
RADA	ISSEM4	F	12662	2	14.5	GBSB	82.1
RADA	ISSEM4	F	12662	3	72.0	SG	39.5

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
RADA	ISSEM4	F	12662	4		SG	39.5
RADA	ISSEM4	F	16812	1	7.7	AC	1170
RADA	ISSEM4	F	16812	2	14.5	GBSB	37.3
RADA	ISSEM4	F	16812	3	72.0	SG	49.6
RADA	ISSEM4	F	16812	4		SG	49.6
RADA	ISSEM4	G	6424	1	5.3	AC	502
RADA	ISSEM4	G	6424	2	9.6	PCC	10400
RADA	ISSEM4	G	6424	3	4	GBSB	46.6
RADA	ISSEM4	G	6424	4		SG	46.6
RADA	ISSEM4	G	9398	1	5.3	AC	502
RADA	ISSEM4	G	9398	2	9.6	PCC	3680
RADA	ISSEM4	G	9398	3	4	GBSB	54.3
RADA	ISSEM4	G	9398	4		SG	54.3
RADA	ISSEM4	H	7734	1	2.5	AC	1360
RADA	ISSEM4	H	7734	2	6.9	PCC	106
RADA	ISSEM4	H	7734	3	96	SG	106
RADA	ISSEM4	H	7734	4		SG	106
RADA	ISSEM4	H	9704	1	2.5	AC	1310
RADA	ISSEM4	H	9704	2	6.9	PCC	106
RADA	ISSEM4	H	9704	3	96	SG	106
RADA	ISSEM4	H	9704	4		SG	106
RADA	ISSEM4	H	12504	1	2.5	AC	1390
RADA	ISSEM4	H	12504	2	6.9	PCC	96.8
RADA	ISSEM4	H	12504	3	96	SG	96.8
RADA	ISSEM4	H	12504	4		SG	96.8
RADA	ISSEM4	H	17706	1	2.5	AC	1650
RADA	ISSEM4	H	17706	2	6.9	PCC	97.6
RADA	ISSEM4	H	17706	3	96	SG	97.6
RADA	ISSEM4	H	17706	4		SG	97.6
BUSH	ISSEM4	A	7246	1	5	AC	680
BUSH	ISSEM4	A	7246	2	13.4	GBSB	62.7
BUSH	ISSEM4	A	7246	3	12	GBSB	62.7
BUSH	ISSEM4	A	7246	4		SG	27.1
BUSH	ISSEM4	A	10006	1	5	AC	4260
BUSH	ISSEM4	A	10006	2	13.4	GBSB	16.5
BUSH	ISSEM4	A	10006	3	12	GBSB	16.5
BUSH	ISSEM4	A	10006	4		SG	42.3
BUSH	ISSEM4	A	12644	1	5	AC	851
BUSH	ISSEM4	A	12644	2	13.4	GBSB	56.7
BUSH	ISSEM4	A	12644	3	12	GBSB	56.7
BUSH	ISSEM4	A	12644	4		SG	22.7
BUSH	ISSEM4	A	17054	1	5	AC	990
BUSH	ISSEM4	A	17054	2	13.4	GBSB	63.8

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	ISSEM4	A	17054	3	12	GBSB	63.8
BUSH	ISSEM4	A	17054	4		SG	24.6
BUSH	ISSEM4	A	7246	1	5	AC	404
BUSH	ISSEM4	A	7246	2	13.4	GBSB	118
BUSH	ISSEM4	A	7246	3	12	GBSB	26.5
BUSH	ISSEM4	A	7246	4		SG	26.5
BUSH	ISSEM4	A	10006	1	5	AC	4130
BUSH	ISSEM4	A	10006	2	13.4	GBSB	10.3
BUSH	ISSEM4	A	10006	3	12	GBSB	46.3
BUSH	ISSEM4	A	10006	4		SG	46.3
BUSH	ISSEM4	A	12644	1	5	AC	605
BUSH	ISSEM4	A	12644	2	13.4	GBSB	95.2
BUSH	ISSEM4	A	12644	3	12	GBSB	23.5
BUSH	ISSEM4	A	12644	4		SG	23.5
BUSH	ISSEM4	B	6460	1	4.2	AC	1140
BUSH	ISSEM4	B	6460	2	5.0	GBSB	39.8
BUSH	ISSEM4	B	6460	3	30.0	SG	25.2
BUSH	ISSEM4	B	6460	4		SG	25.2
BUSH	ISSEM4	B	9596	1	4.2	AC	1140
BUSH	ISSEM4	B	9596	2	5.0	GBSB	39.9
BUSH	ISSEM4	B	9596	3	30.0	SG	26.6
BUSH	ISSEM4	B	9596	4		SG	26.6
BUSH	ISSEM4	B	12700	1	4.2	AC	1130
BUSH	ISSEM4	B	12700	2	5.0	GBSB	74.9
BUSH	ISSEM4	B	12700	3	30.0	SG	25.6
BUSH	ISSEM4	B	12700	4		SG	25.6
BUSH	ISSEM4	B	16362	1	4.2	AC	1020
BUSH	ISSEM4	B	16362	2	5.0	GBSB	68.7
BUSH	ISSEM4	B	16362	3	30.0	SG	28.6
BUSH	ISSEM4	B	16362	4		SG	28.6
BUSH	ISSEM4	C	6616	1	7.9	AC	872
BUSH	ISSEM4	C	6616	2	8.4	STB	178
BUSH	ISSEM4	C	6616	3	24.0	SG	41.2
BUSH	ISSEM4	C	6616	4		SG	41.2
BUSH	ISSEM4	C	9522	1	7.9	AC	833
BUSH	ISSEM4	C	9522	2	8.4	STB	155
BUSH	ISSEM4	C	9522	3	24.0	SG	43.8
BUSH	ISSEM4	C	9522	4		SG	43.8
BUSH	ISSEM4	C	12958	1	7.9	AC	844
BUSH	ISSEM4	C	12958	2	8.4	STB	241
BUSH	ISSEM4	C	12958	3	24.0	SG	37.4
BUSH	ISSEM4	C	12958	4		SG	37.4
BUSH	ISSEM4	C	16696	1	7.9	AC	929

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	ISSEM4	C	16696	2	8.4	STB	283
BUSH	ISSEM4	C	16696	3	24.0	SG	37.5
BUSH	ISSEM4	C	16696	4		SG	37.5
BUSH	ISSEM4	D	6264	1	7.3	AC	6160
BUSH	ISSEM4	D	6264	2	5.5	STB	136
BUSH	ISSEM4	D	6264	3	60.0	SG	21.4
BUSH	ISSEM4	D	6264	4		SG	21.4
BUSH	ISSEM4	D	9474	1	7.3	AC	3020
BUSH	ISSEM4	D	9474	2	5.5	STB	241
BUSH	ISSEM4	D	9474	3	60.0	SG	22.3
BUSH	ISSEM4	D	9474	4		SG	22.3
BUSH	ISSEM4	D	12914	1	7.3	AC	5060
BUSH	ISSEM4	D	12914	2	5.5	STB	524
BUSH	ISSEM4	D	12914	3	60.0	SG	16.2
BUSH	ISSEM4	D	12914	4		SG	16.2
BUSH	ISSEM4	D	17474	1	7.3	AC	7590
BUSH	ISSEM4	D	17474	2	5.5	STB	641
BUSH	ISSEM4	D	17474	3	60.0	SG	14.9
BUSH	ISSEM4	D	17474	4		SG	14.9
BUSH	ISSEM4	E	7608	1	7.5	AC	802
BUSH	ISSEM4	E	7608	2	6.4	STB	381
BUSH	ISSEM4	E	7608	3	7	GBSB	381
BUSH	ISSEM4	E	7608	4		SG	48.4
BUSH	ISSEM4	E	9752	1	7.5	AC	848
BUSH	ISSEM4	E	9752	2	6.4	STB	406
BUSH	ISSEM4	E	9752	3	7	GBSB	406
BUSH	ISSEM4	E	9752	4		SG	43.6
BUSH	ISSEM4	E	12714	1	7.5	AC	1110
BUSH	ISSEM4	E	12714	2	6.4	STB	313
BUSH	ISSEM4	E	12714	3	7	GBSB	313
BUSH	ISSEM4	E	12714	4		SG	41
BUSH	ISSEM4	E	17764	1	7.5	AC	1190
BUSH	ISSEM4	E	17764	2	6.4	STB	292
BUSH	ISSEM4	E	17764	3	7	GBSB	292
BUSH	ISSEM4	E	17764	4		SG	43.6
BUSH	ISSEM4	F	6534	1	7.7	AC	1170
BUSH	ISSEM4	F	6534	2	14.5	GBSB	74.6
BUSH	ISSEM4	F	6534	3	72.0	SG	46.7
BUSH	ISSEM4	F	6534	4		SG	46.7
BUSH	ISSEM4	F	9512	1	7.7	AC	1370
BUSH	ISSEM4	F	9512	2	14.5	GBSB	30.7
BUSH	ISSEM4	F	9512	3	72.0	SG	59.9
BUSH	ISSEM4	F	9512	4		SG	59.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	ISSEM4	F	12662	1	7.7	AC	893
BUSH	ISSEM4	F	12662	2	14.5	GBSB	82.7
BUSH	ISSEM4	F	12662	3	72.0	SG	39
BUSH	ISSEM4	F	12662	4		SG	39
BUSH	ISSEM4	F	16812	1	7.7	AC	1180
BUSH	ISSEM4	F	16812	2	14.5	GBSB	48.5
BUSH	ISSEM4	F	16812	3	72.0	SG	42.2
BUSH	ISSEM4	F	16812	4		SG	42.2
BUSH	MODCOMP	A	7246	1	5	AC	921.4
BUSH	MODCOMP	A	7246	2	13.4	GBSB	55
BUSH	MODCOMP	A	7246	3	12	GBSB	32
BUSH	MODCOMP	A	7246	4		SG	32
BUSH	MODCOMP	A	10006	1	5	AC	984.1
BUSH	MODCOMP	A	10006	2	13.4	GBSB	57.3
BUSH	MODCOMP	A	10006	3	12	GBSB	29.3
BUSH	MODCOMP	A	10006	4		SG	29.3
BUSH	MODCOMP	A	12644	1	5	AC	943.5
BUSH	MODCOMP	A	12644	2	13.4	GBSB	57.9
BUSH	MODCOMP	A	12644	3	12	GBSB	27.1
BUSH	MODCOMP	A	12644	4		SG	27.1
BUSH	MODCOMP	A	17054	1	5.0	AC	1061
BUSH	MODCOMP	A	17054	2	13.4	GBSB	64.6
BUSH	MODCOMP	A	17054	3	12	GBSB	30.2
BUSH	MODCOMP	A	17054	4		SG	30.2
BUSH	MODCOMP	B	6460	1	4.2	AC	997
BUSH	MODCOMP	B	6460	2	5.0	GBSB	651
BUSH	MODCOMP	B	6460	3	30.0	SG	29.1
BUSH	MODCOMP	B	6460	4		SG	29.1
BUSH	MODCOMP	B	9596	1	4.2	AC	997
BUSH	MODCOMP	B	9596	2	5.0	GBSB	651
BUSH	MODCOMP	B	9596	3	30.0	SG	29.1
BUSH	MODCOMP	B	9596	4		SG	29.1
BUSH	MODCOMP	B	12700	1	4.2	AC	997
BUSH	MODCOMP	B	12700	2	5.0	GBSB	651
BUSH	MODCOMP	B	12700	3	30.0	SG	29.1
BUSH	MODCOMP	B	12700	4		SG	29.1
BUSH	MODCOMP	B	16362	1	4.2	AC	997
BUSH	MODCOMP	B	16362	2	5.0	GBSB	651
BUSH	MODCOMP	B	16362	3	30.0	SG	29.1
BUSH	MODCOMP	B	16362	4		SG	29.1
BUSH	MODCOMP	C	6616	1	7.9	AC	637.1
BUSH	MODCOMP	C	6616	2	8.4	STB	388.5
BUSH	MODCOMP	C	6616	3	24.0	SG	38.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	MODCOMP	C	6616	4		SG	38.9
BUSH	MODCOMP	C	9522	1	7.9	AC	637.1
BUSH	MODCOMP	C	9522	2	8.4	STB	388.5
BUSH	MODCOMP	C	9522	3	24.0	SG	38.9
BUSH	MODCOMP	C	9522	4		SG	38.9
BUSH	MODCOMP	C	12958	1	7.9	AC	637.1
BUSH	MODCOMP	C	12958	2	8.4	STB	388.5
BUSH	MODCOMP	C	12958	3	24.0	SG	38.9
BUSH	MODCOMP	C	12958	4		SG	38.9
BUSH	MODCOMP	C	16696	1	7.9	AC	637.1
BUSH	MODCOMP	C	16696	2	8.4	STB	388.5
BUSH	MODCOMP	C	16696	3	24.0	SG	38.9
BUSH	MODCOMP	C	16696	4		SG	38.9
BUSH	MODCOMP	D	6264	1	7.3	AC	2010
BUSH	MODCOMP	D	6264	2	5.5	STB	911.5
BUSH	MODCOMP	D	6264	3	60.0	SG	19.5
BUSH	MODCOMP	D	6264	4		SG	19.5
BUSH	MODCOMP	D	9474	1	7.3	AC	2010
BUSH	MODCOMP	D	9474	2	5.5	STB	911.5
BUSH	MODCOMP	D	9474	3	60.0	SG	19.5
BUSH	MODCOMP	D	9474	4		SG	19.5
BUSH	MODCOMP	D	12914	1	7.3	AC	2010
BUSH	MODCOMP	D	12914	2	5.5	STB	911.5
BUSH	MODCOMP	D	12914	3	60.0	SG	19.5
BUSH	MODCOMP	D	12914	4		SG	19.5
BUSH	MODCOMP	D	17474	1	7.3	AC	2010
BUSH	MODCOMP	D	17474	2	5.5	STB	911.5
BUSH	MODCOMP	D	17474	3	60.0	SG	19.5
BUSH	MODCOMP	D	17474	4		SG	19.5
BUSH	MODCOMP	E	7608	1	7.5	AC	1310.4
BUSH	MODCOMP	E	7608	2	6.4	STB	222.5
BUSH	MODCOMP	E	7608	3	7.0	GBSB	222.5
BUSH	MODCOMP	E	7608	4		SG	47.7
BUSH	MODCOMP	E	9752	1	7.5	AC	1310.4
BUSH	MODCOMP	E	9752	2	6.4	STB	222.5
BUSH	MODCOMP	E	9752	3	7.0	GBSB	222.5
BUSH	MODCOMP	E	9752	4		SG	47.7
BUSH	MODCOMP	E	12714	1	7.5	AC	1310.4
BUSH	MODCOMP	E	12714	2	6.4	STB	222.5
BUSH	MODCOMP	E	12714	3	7.0	GBSB	222.5
BUSH	MODCOMP	E	12714	4		SG	47.7
BUSH	MODCOMP	E	17764	1	7.5	AC	1310.4
BUSH	MODCOMP	E	17764	2	6.4	STB	222.5

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	MODCOMP	E	17764	3	7	GBSB	222.5
BUSH	MODCOMP	E	17764	4		SG	47.7
BUSH	MODCOMP	F	6534	1	7.7	AC	1258.9
BUSH	MODCOMP	F	6534	2	14.5	GBSB	42.7
BUSH	MODCOMP	F	6534	3	72.0	SG	43.4
BUSH	MODCOMP	F	6534	4		SG	43.4
BUSH	MODCOMP	F	9512	1	7.7	AC	1258.9
BUSH	MODCOMP	F	9512	2	14.5	GBSB	42.7
BUSH	MODCOMP	F	9512	3	72.0	SG	43.4
BUSH	MODCOMP	F	9512	4		SG	43.4
BUSH	MODCOMP	F	12662	1	7.7	AC	1258.9
BUSH	MODCOMP	F	12662	2	14.5	GBSB	42.7
BUSH	MODCOMP	F	12662	3	72.0	SG	43.4
BUSH	MODCOMP	F	12662	4		SG	43.4
BUSH	MODCOMP	F	16812	1	7.7	AC	1258.9
BUSH	MODCOMP	F	16812	2	14.5	GBSB	42.7
BUSH	MODCOMP	F	16812	3	72.0	SG	43.4
BUSH	MODCOMP	F	16812	4		SG	43.4
BUSH	MODCOMP	F	6534	1	7.7	AC	997.9
BUSH	MODCOMP	F	6534	2	14.5	GBSB	152.6
BUSH	MODCOMP	F	6534	3	72.0	SG	
BUSH	MODCOMP	F	6534	4		SG	
BUSH	MODCOMP	F	9512	1	7.7	AC	997.9
BUSH	MODCOMP	F	9512	2	14.5	GBSB	152.6
BUSH	MODCOMP	F	9512	3	72.0	SG	
BUSH	MODCOMP	F	9512	4		SG	
BUSH	MODCOMP	F	12662	1	7.7	AC	997.9
BUSH	MODCOMP	F	12662	2	14.5	GBSB	152.6
BUSH	MODCOMP	F	12662	3	72.0	SG	
BUSH	MODCOMP	F	12662	4		SG	
BUSH	MODCOMP	F	16812	1	7.7	AC	997.9
BUSH	MODCOMP	F	16812	2	14.5	GBSB	152.6
BUSH	MODCOMP	F	16812	3	72.0	SG	26.6
BUSH	MODCOMP	F	16812	4		SG	26.6
BUSH	MODCOMP	G	6424	1	5.3	AC	1678.4
BUSH	MODCOMP	G	6424	2	9.6	PCC	4536.5
BUSH	MODCOMP	G	6424	3	4.0	GBSB	31.8
BUSH	MODCOMP	G	6424	4		SG	31.8
BUSH	MODCOMP	G	9398	1	5.3	AC	1678.4
BUSH	MODCOMP	G	9398	2	9.6	PCC	4536.5
BUSH	MODCOMP	G	9398	3	4.0	GBSB	31.8
BUSH	MODCOMP	G	9398	4		SG	31.8
BUSH	MODCOMP	G	12256	1	5.3	AC	1678.4

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	MODCOMP	G	12256	2	9.6	PCC	4536.5
BUSH	MODCOMP	G	12256	3	4.0	GBSB	31.8
BUSH	MODCOMP	G	12256	4		SG	31.8
BUSH	MODCOMP	G	16350	1	5.3	AC	1678.4
BUSH	MODCOMP	G	16350	2	9.6	PCC	4536.5
BUSH	MODCOMP	G	16350	3	4.0	GBSB	31.8
BUSH	MODCOMP	G	16350	4		SG	31.8
BUSH	MODCOMP	H	7734	1	2.5	AC	216.7
BUSH	MODCOMP	H	7734	2	6.9	PCC	6444
BUSH	MODCOMP	H	7734	3	96.0	SG	22.3
BUSH	MODCOMP	H	7734	4		SG	22.3
BUSH	MODCOMP	H	9704	1	2.5	AC	216.7
BUSH	MODCOMP	H	9704	2	6.9	PCC	6444
BUSH	MODCOMP	H	9704	3	96.0	SG	22.3
BUSH	MODCOMP	H	9704	4		SG	22.3
BUSH	MODCOMP	H	12504	1	2.5	AC	216.7
BUSH	MODCOMP	H	12504	2	6.9	PCC	6444
BUSH	MODCOMP	H	12504	3	96.0	SG	22.3
BUSH	MODCOMP	H	12504	4		SG	22.3
BUSH	MODCOMP	H	16350	1	2.5	AC	216.7
BUSH	MODCOMP	H	16350	2	6.9	PCC	6444
BUSH	MODCOMP	H	16350	3	96.0	SG	22.3
BUSH	MODCOMP	H	16350	4		SG	22.3
BUSH	MODULUS	A	7246	1	5	AC	761.4
BUSH	MODULUS	A	7246	2	13.4	GBSB	79
BUSH	MODULUS	A	7246	3	12	GBSB	19.3
BUSH	MODULUS	A	7246	4	79.4	SG	19.3
BUSH	MODULUS	A	10006	1	5	AC	835.2
BUSH	MODULUS	A	10006	2	13.4	GBSB	79.9
BUSH	MODULUS	A	10006	3	12	GBSB	17.5
BUSH	MODULUS	A	10006	4	79.4	SG	17.5
BUSH	MODULUS	A	12644	1	5	AC	803.8
BUSH	MODULUS	A	12644	2	13.4	GBSB	80.5
BUSH	MODULUS	A	12644	3	12	GBSB	16
BUSH	MODULUS	A	12644	4	79.4	SG	16
BUSH	MODULUS	A	17054	1	5.0	AC	865.9
BUSH	MODULUS	A	17054	2	13.4	GBSB	94.4
BUSH	MODULUS	A	17054	3	12	GBSB	17.4
BUSH	MODULUS	A	17054	4	79.4	SG	17.4
BUSH	MODULUS	A	7246	1	5	AC	923
BUSH	MODULUS	A	7246	2	13.4	GBSB	60.5
BUSH	MODULUS	A	7246	3	12	GBSB	26.8
BUSH	MODULUS	A	7246	4	209.7	SG	26.8

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	MODULUS	A	10006	1	5	AC	1000
BUSH	MODULUS	A	10006	2	13.4	GBSB	60.8
BUSH	MODULUS	A	10006	3	12	GBSB	24.8
BUSH	MODULUS	A	10006	4	209.7	SG	24.8
BUSH	MODULUS	A	12644	1	5	AC	962.8
BUSH	MODULUS	A	12644	2	13.4	GBSB	61.8
BUSH	MODULUS	A	12644	3	12	GBSB	22.8
BUSH	MODULUS	A	12644	4	209.7	SG	22.8
BUSH	MODULUS	A	17054	1	5.0	AC	1000
BUSH	MODULUS	A	17054	2	13.4	GBSB	72.9
BUSH	MODULUS	A	17054	3	12	GBSB	25
BUSH	MODULUS	A	17054	4	209.7	SG	25
BUSH	MODULUS	B	6460	1	4.2	AC	662
BUSH	MODULUS	B	6460	2	5.0	GBSB	108.5
BUSH	MODULUS	B	6460	3	30.0	SG	18.8
BUSH	MODULUS	B	6460	4	64.3	SG	18.8
BUSH	MODULUS	B	9596	1	4.2	AC	392.3
BUSH	MODULUS	B	9596	2	5.0	GBSB	219.2
BUSH	MODULUS	B	9596	3	30.0	SG	18.2
BUSH	MODULUS	B	9596	4	64.3	SG	18.2
BUSH	MODULUS	B	12700	1	4.2	AC	451.4
BUSH	MODULUS	B	12700	2	5.0	GBSB	235.3
BUSH	MODULUS	B	12700	3	30.0	SG	19.1
BUSH	MODULUS	B	12700	4	64.3	SG	19.1
BUSH	MODULUS	B	16362	1	4.2	AC	419.4
BUSH	MODULUS	B	16362	2	5.0	GBSB	276.2
BUSH	MODULUS	B	16362	3	30.0	SG	19.8
BUSH	MODULUS	B	16362	4	64.3	SG	19.8
BUSH	MODULUS	B	6460	1	4.2	AC	833.1
BUSH	MODULUS	B	6460	2	5.0	GBSB	65.6
BUSH	MODULUS	B	6460	3	30.0	SG	23.3
BUSH	MODULUS	B	6460	4	200	SG	23.3
BUSH	MODULUS	B	9596	1	4.2	AC	667.7
BUSH	MODULUS	B	9596	2	5.0	GBSB	102.8
BUSH	MODULUS	B	9596	3	30.0	SG	23.2
BUSH	MODULUS	B	9596	4	200	SG	23.2
BUSH	MODULUS	B	12700	1	4.2	AC	719.5
BUSH	MODULUS	B	12700	2	5.0	GBSB	120.4
BUSH	MODULUS	B	12700	3	30.0	SG	23.8
BUSH	MODULUS	B	12700	4	200	SG	23.8
BUSH	MODULUS	B	16362	1	4.2	AC	679.2
BUSH	MODULUS	B	16362	2	5.0	GBSB	144.1
BUSH	MODULUS	B	16362	3	30.0	SG	24.2

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	MODULUS	B	16362	4	200	SG	24.2
BUSH	MODULUS	C	6616	1	7.9	AC	570.3
BUSH	MODULUS	C	6616	2	8.4	STB	561
BUSH	MODULUS	C	6616	3	24.0	SG	30.2
BUSH	MODULUS	C	6616	4	259.7	SG	30.2
BUSH	MODULUS	C	9522	1	7.9	AC	550.6
BUSH	MODULUS	C	9522	2	8.4	STB	645.6
BUSH	MODULUS	C	9522	3	24.0	SG	29.5
BUSH	MODULUS	C	9522	4	259.7	SG	29.5
BUSH	MODULUS	C	12958	1	7.9	AC	564.4
BUSH	MODULUS	C	12958	2	8.4	STB	648.1
BUSH	MODULUS	C	12958	3	24.0	SG	28.8
BUSH	MODULUS	C	12958	4	259.7	SG	28.8
BUSH	MODULUS	C	16696	1	7.9	AC	587.6
BUSH	MODULUS	C	16696	2	8.4	STB	709.9
BUSH	MODULUS	C	16696	3	24.0	SG	30.1
BUSH	MODULUS	C	16696	4	259.7	SG	30.1
BUSH	MODULUS	D	6264	1	7.3	AC	2972.8
BUSH	MODULUS	D	6264	2	5.5	STB	856.2
BUSH	MODULUS	D	6264	3	60.0	SG	17.3
BUSH	MODULUS	D	6264	4	227.2	SG	17.3
BUSH	MODULUS	D	9474	1	7.3	AC	1606
BUSH	MODULUS	D	9474	2	5.5	STB	1344
BUSH	MODULUS	D	9474	3	60.0	SG	15.3
BUSH	MODULUS	D	9474	4	227.2	SG	15.3
BUSH	MODULUS	D	12914	1	7.3	AC	1652
BUSH	MODULUS	D	12914	2	5.5	STB	1483.8
BUSH	MODULUS	D	12914	3	60.0	SG	13.9
BUSH	MODULUS	D	12914	4	227.2	SG	13.9
BUSH	MODULUS	D	17474	1	7.3	AC	1713.7
BUSH	MODULUS	D	17474	2	5.5	STB	1678.3
BUSH	MODULUS	D	17474	3	60.0	SG	14.2
BUSH	MODULUS	D	17474	4	227.2	SG	14.2
BUSH	MODULUS	E	7608	1	7.5	AC	648.6
BUSH	MODULUS	E	7608	2	6.4	STB	622.6
BUSH	MODULUS	E	7608	3	7.0	GBSB	622.6
BUSH	MODULUS	E	7608	4	78.1	SG	20.8
BUSH	MODULUS	E	9752	1	7.5	AC	607.1
BUSH	MODULUS	E	9752	2	6.4	STB	596.6
BUSH	MODULUS	E	9752	3	7.0	GBSB	596.6
BUSH	MODULUS	E	9752	4	78.1	SG	19.9
BUSH	MODULUS	E	12714	1	7.5	AC	1256.9
BUSH	MODULUS	E	12714	2	6.4	STB	244.6

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	MODULUS	E	12714	3	7.0	GBSB	244.6
BUSH	MODULUS	E	12714	4	78.1	SG	24.8
BUSH	MODULUS	E	17764	1	7.5	AC	1323.1
BUSH	MODULUS	E	17764	2	6.4	STB	236.1
BUSH	MODULUS	E	17764	3	7	GBSB	236.1
BUSH	MODULUS	E	17764	4	78.1	SG	31.8
BUSH	MODULUS	F	6534	1	7.7	AC	921.8
BUSH	MODULUS	F	6534	2	14.5	GBSB	116.4
BUSH	MODULUS	F	6534	3	72.0	SG	36.1
BUSH	MODULUS	F	6534	4	205.8	SG	36.1
BUSH	MODULUS	F	9512	1	7.7	AC	945.4
BUSH	MODULUS	F	9512	2	14.5	GBSB	101.2
BUSH	MODULUS	F	9512	3	72.0	SG	30.8
BUSH	MODULUS	F	9512	4	205.8	SG	30.8
BUSH	MODULUS	F	12662	1	7.7	AC	846.9
BUSH	MODULUS	F	12662	2	14.5	GBSB	100.1
BUSH	MODULUS	F	12662	3	72.0	SG	26.8
BUSH	MODULUS	F	12662	4	205.8	SG	26.8
BUSH	MODULUS	F	16812	1	7.7	AC	919.7
BUSH	MODULUS	F	16812	2	14.5	GBSB	96.1
BUSH	MODULUS	F	16812	3	72.0	SG	25.4
BUSH	MODULUS	F	16812	4	205.8	SG	25.4
BUSH	MODULUS	F	6534	1	7.7	AC	857.9
BUSH	MODULUS	F	6534	2	14.5	GBSB	136.5
BUSH	MODULUS	F	6534	3	72.0	SG	30.7
BUSH	MODULUS	F	6534	4	205.8	SG	30.7
BUSH	MODULUS	F	6534	1	7.7	AC	730.2
BUSH	MODULUS	F	6534	2	14.5	GBSB	184.6
BUSH	MODULUS	F	6534	3	72.0	SG	22.5
BUSH	MODULUS	F	6534	4	205.8	SG	22.5
BUSH	MODULUS	G	6424	1	5.3	AC	2413.4
BUSH	MODULUS	G	6424	2	9.6	PCC	5161.9
BUSH	MODULUS	G	6424	3	4.0	GBSB	24.1
BUSH	MODULUS	G	6424	4	281.1	SG	24.1
BUSH	MODULUS	G	9398	1	5.3	AC	1002.3
BUSH	MODULUS	G	9398	2	9.6	PCC	8785.4
BUSH	MODULUS	G	9398	3	4.0	GBSB	22.5
BUSH	MODULUS	G	9398	4	281.1	SG	22.5
BUSH	MODULUS	G	12256	1	5.3	AC	1154.8
BUSH	MODULUS	G	12256	2	9.6	PCC	7095.8
BUSH	MODULUS	G	12256	3	4.0	GBSB	21
BUSH	MODULUS	G	12256	4	281.1	SG	21
BUSH	MODULUS	G	16350	1	5.3	AC	1138.8

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	MODULUS	G	16350	2	9.6	PCC	6909.1
BUSH	MODULUS	G	16350	3	4.0	GBSB	22.8
BUSH	MODULUS	G	16350	4	281.1	SG	22.8
BUSH	MODULUS	H	7734	1	2.5	AC	259.6
BUSH	MODULUS	H	7734	2	6.9	PCC	3905.4
BUSH	MODULUS	H	7734	3	96.0	SG	24.7
BUSH	MODULUS	H	7734	4	194.5	SG	24.7
BUSH	MODULUS	H	9704	1	2.5	AC	309.1
BUSH	MODULUS	H	9704	2	6.9	PCC	3786.8
BUSH	MODULUS	H	9704	3	96.0	SG	23.8
BUSH	MODULUS	H	9704	4	194.5	SG	23.8
BUSH	MODULUS	H	12504	1	2.5	AC	292.5
BUSH	MODULUS	H	12504	2	6.9	PCC	3838.4
BUSH	MODULUS	H	12504	3	96.0	SG	21.2
BUSH	MODULUS	H	12504	4	194.5	SG	21.2
BUSH	MODULUS	H	16350	1	2.5	AC	336.6
BUSH	MODULUS	H	16350	2	6.9	PCC	4165.7
BUSH	MODULUS	H	16350	3	96.0	SG	21.2
BUSH	MODULUS	H	16350	4	194.5	SG	21.2
BUSH	WESDEF	A	7246	1	5	AC	975
BUSH	WESDEF	A	7246	2	13.4	GBSB	62.9
BUSH	WESDEF	A	7246	3	12	GBSB	26.6
BUSH	WESDEF	A	7246	4	209.7	SG	26.6
BUSH	WESDEF	A	10006	1	5	AC	1200
BUSH	WESDEF	A	10006	2	13.4	GBSB	54.7
BUSH	WESDEF	A	10006	3	12	GBSB	24.9
BUSH	WESDEF	A	10006	4	209.7	SG	24.9
BUSH	WESDEF	A	12644	1	5	AC	1207
BUSH	WESDEF	A	12644	2	13.4	GBSB	52.1
BUSH	WESDEF	A	12644	3	12	GBSB	23.3
BUSH	WESDEF	A	12644	4	209.7	SG	23.3
BUSH	WESDEF	A	17054	1	5.0	AC	1345
BUSH	WESDEF	A	17054	2	13.4	GBSB	60.5
BUSH	WESDEF	A	17054	3	12	GBSB	25.6
BUSH	WESDEF	A	17054	4	209.7	SG	25.6
BUSH	WESDEF	A	7246	1	5	AC	915.3
BUSH	WESDEF	A	7246	2	13.4	GBSB	62.3
BUSH	WESDEF	A	7246	3	12	GBSB	24.3
BUSH	WESDEF	A	7246	4	209.7	SG	27.4
BUSH	WESDEF	A	10006	1	5	AC	613
BUSH	WESDEF	A	10006	2	13.4	GBSB	102.9
BUSH	WESDEF	A	10006	3	12	GBSB	17.8
BUSH	WESDEF	A	10006	4	98	SG	17.8

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	WESDEF	B	6460	1	4.2	AC	507.8
BUSH	WESDEF	B	6460	2	5.0	GBSB	134.9
BUSH	WESDEF	B	6460	3	30.0	SG	21.8
BUSH	WESDEF	B	6460	4	200.8	SG	21.8
BUSH	WESDEF	B	9596	1	4.2	AC	1093
BUSH	WESDEF	B	9596	2	5.0	GBSB	88.4
BUSH	WESDEF	B	9596	3	30.0	SG	22.3
BUSH	WESDEF	B	9596	4	200.8	SG	22.3
BUSH	WESDEF	B	12700	1	4.2	AC	1447.3
BUSH	WESDEF	B	12700	2	5.0	GBSB	95.3
BUSH	WESDEF	B	12700	3	30.0	SG	23
BUSH	WESDEF	B	12700	4	200.8	SG	23
BUSH	WESDEF	B	16362	1	4.2	AC	899
BUSH	WESDEF	B	16362	2	5.0	GBSB	155.3
BUSH	WESDEF	B	16362	3	30.0	SG	23.1
BUSH	WESDEF	B	16362	4	200.8	SG	23.1
BUSH	WESDEF	B	6460	1	4.2	AC	394.9
BUSH	WESDEF	B	6460	2	5.0	GBSB	150
BUSH	WESDEF	B	6460	3	30.0	SG	22
BUSH	WESDEF	B	6460	4	200.8	SG	22
BUSH	WESDEF	B	12700	1	4.2	AC	1500
BUSH	WESDEF	B	12700	2	5.0	GBSB	90.8
BUSH	WESDEF	B	12700	3	30.0	SG	22.9
BUSH	WESDEF	B	12700	4	200	SG	22.9
BUSH	WESDEF	C	6616	1	7.9	AC	493.6
BUSH	WESDEF	C	6616	2	8.4	STB	818.2
BUSH	WESDEF	C	6616	3	24.0	SG	27.3
BUSH	WESDEF	C	6616	4	199.7	SG	27.3
BUSH	WESDEF	C	9522	1	7.9	AC	475.9
BUSH	WESDEF	C	9522	2	8.4	STB	961.4
BUSH	WESDEF	C	9522	3	24.0	SG	26.6
BUSH	WESDEF	C	9522	4	199.7	SG	26.6
BUSH	WESDEF	C	12958	1	7.9	AC	494.8
BUSH	WESDEF	C	12958	2	8.4	STB	912.9
BUSH	WESDEF	C	12958	3	24.0	SG	26.2
BUSH	WESDEF	C	12958	4	199.7	SG	26.2
BUSH	WESDEF	C	16696	1	7.9	AC	514.5
BUSH	WESDEF	C	16696	2	8.4	STB	1012.1
BUSH	WESDEF	C	16696	3	24.0	SG	27.3
BUSH	WESDEF	C	16696	4	199.7	SG	27.3
BUSH	WESDEF	C	6616	1	7.9	AC	682
BUSH	WESDEF	C	6616	2	8.4	STB	682
BUSH	WESDEF	C	6616	3	24.0	SG	27.4

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	WESDEF	C	6616	4	199.7	SG	27.4
BUSH	WESDEF	C	6616	1	7.9	AC	621.6
BUSH	WESDEF	C	6616	2	8.4	STB	621.6
BUSH	WESDEF	C	6616	3	24.0	SG	27.3
BUSH	WESDEF	C	6616	4	199.7	SG	27.3
BUSH	WESDEF	D	6264	1	7.3	AC	3050.9
BUSH	WESDEF	D	6264	2	5.5	STB	1018.7
BUSH	WESDEF	D	6264	3	60.0	SG	15.8
BUSH	WESDEF	D	6264	4	167.3	SG	15.8
BUSH	WESDEF	D	9474	1	7.3	AC	1397.6
BUSH	WESDEF	D	9474	2	5.5	STB	1966.7
BUSH	WESDEF	D	9474	3	60.0	SG	13.9
BUSH	WESDEF	D	9474	4	167.3	SG	13.9
BUSH	WESDEF	D	12914	1	7.3	AC	1641
BUSH	WESDEF	D	12914	2	5.5	STB	1781
BUSH	WESDEF	D	12914	3	60.0	SG	12.6
BUSH	WESDEF	D	12914	4	167.3	SG	12.6
BUSH	WESDEF	D	17474	1	7.3	AC	1436.9
BUSH	WESDEF	D	17474	2	5.5	STB	2507.5
BUSH	WESDEF	D	17474	3	60.0	SG	12.8
BUSH	WESDEF	D	17474	4	167.3	SG	12.8
BUSH	WESDEF	E	7608	1	7.5	AC	2319
BUSH	WESDEF	E	7608	2	6.4	STB	98.4
BUSH	WESDEF	E	7608	3	7.0	GBSB	98.4
BUSH	WESDEF	E	7608	4	219.1	SG	50.9
BUSH	WESDEF	E	9752	1	7.5	AC	1328.6
BUSH	WESDEF	E	9752	2	6.4	STB	159.7
BUSH	WESDEF	E	9752	3	7.0	GBSB	159.7
BUSH	WESDEF	E	9752	4	219.1	SG	46.8
BUSH	WESDEF	E	12714	1	7.5	AC	1337.7
BUSH	WESDEF	E	12714	2	6.4	STB	156.2
BUSH	WESDEF	E	12714	3	7.0	GBSB	156.2
BUSH	WESDEF	E	12714	4	219.1	SG	43.9
BUSH	WESDEF	E	17764	1	7.5	AC	1479.9
BUSH	WESDEF	E	17764	2	6.4	STB	183.8
BUSH	WESDEF	E	17764	3	7	GBSB	183.8
BUSH	WESDEF	E	17764	4	219.1	SG	41.5
BUSH	WESDEF	F	6534	1	7.7	AC	752.1
BUSH	WESDEF	F	6534	2	13.4	GBSB	179
BUSH	WESDEF	F	6534	3	72.0	SG	31.5
BUSH	WESDEF	F	6534	4	120	SG	31.5
BUSH	WESDEF	F	9512	1	7.7	AC	784.3
BUSH	WESDEF	F	9512	2	13.4	GBSB	139.4

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	WESDEF	F	9512	3	72.0	SG	29
BUSH	WESDEF	F	9512	4	98	SG	29
BUSH	WESDEF	F	12662	1	7.7	AC	826.2
BUSH	WESDEF	F	12662	2	13.4	GBSB	104.9
BUSH	WESDEF	F	12662	3	72.0	SG	29.6
BUSH	WESDEF	F	12662	4	120	SG	29.6
BUSH	WESDEF	F	16812	1	7.7	AC	1021.3
BUSH	WESDEF	F	16812	2	13.4	GBSB	96.3
BUSH	WESDEF	F	16812	3	72.0	SG	28.4
BUSH	WESDEF	F	16812	4	120	SG	28.4
BUSH	WESDEF	F	6534	1	7.7	AC	782.9
BUSH	WESDEF	F	6534	2	13.4	GBSB	165.9
BUSH	WESDEF	F	6534	3	72.0	SG	33.1
BUSH	WESDEF	F	6534	4	147.14	SG	33.1
BUSH	WESDEF	F	6534	1	7.7	AC	678.5
BUSH	WESDEF	F	6534	2	13.4	GBSB	229.2
BUSH	WESDEF	F	6534	3	72.0	SG	24.9
BUSH	WESDEF	F	6534	4	48	SG	24.9
BUSH	WESDEF	G	6424	1	5.3	AC	2435.3
BUSH	WESDEF	G	6424	2	9.6	PCC	4921.2
BUSH	WESDEF	G	6424	3	4.0	GBSB	22.3
BUSH	WESDEF	G	6424	4	221.1	SG	22.3
BUSH	WESDEF	G	9398	1	5.3	AC	831.8
BUSH	WESDEF	G	9398	2	9.6	PCC	11400.6
BUSH	WESDEF	G	9398	3	4.0	GBSB	20
BUSH	WESDEF	G	9398	4	221.1	SG	20
BUSH	WESDEF	G	12256	1	5.3	AC	870.3
BUSH	WESDEF	G	12256	2	9.6	PCC	9867.8
BUSH	WESDEF	G	12256	3	4.0	GBSB	18.8
BUSH	WESDEF	G	12256	4	221.1	SG	18.8
BUSH	WESDEF	G	16350	1	5.3	AC	860.8
BUSH	WESDEF	G	16350	2	9.6	PCC	9448.7
BUSH	WESDEF	G	16350	3	4.0	GBSB	20.6
BUSH	WESDEF	G	16350	4	221.1	SG	20.6
BUSH	WESDEF	H	7734	1	5.3	AC	767.9
BUSH	WESDEF	H	7734	2	9.6	PCC	476.6
BUSH	WESDEF	H	7734	3	96.0	SG	22
BUSH	WESDEF	H	7734	4	129	SG	22
BUSH	WESDEF	H	9704	1	5.3	AC	7395.3
BUSH	WESDEF	H	9704	2	9.6	PCC	62.5
BUSH	WESDEF	H	9704	3	96.0	SG	22.2
BUSH	WESDEF	H	9704	4	129	SG	22.2
BUSH	WESDEF	H	12504	1	5.3	AC	6737.9

Flexible Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Layer Number	Layer Thick (inches)	Layer Material	Layer Modulus (ksi)
BUSH	WESDEF	H	12504	2	9.6	PCC	78.9
BUSH	WESDEF	H	12504	3	96.0	SG	19.4
BUSH	WESDEF	H	12504	4	129	SG	19.4
BUSH	WESDEF	H	16350	1	5.3	AC	7761.7
BUSH	WESDEF	H	16350	2	9.6	PCC	74.4
BUSH	WESDEF	H	16350	3	96.0	SG	19.4
BUSH	WESDEF	H	16350	4	129	SG	19.4

APPENDIX B

LAYER MODULI RESULTS - PCC PAVEMENTS

Appendix B contains the moduli results developed by the study participants for each PCC backcalculation program, SHRP test section, FWD load, and layer material combination. In order to minimize space, material types have been assigned the following codes:

AC	=	Asphalt concrete
PCC	=	Portland cement concrete
STB	=	Asphalt treated or cement stabilized base or subbase
GBSB	=	Unbound granular base or subbase
SG	=	Subgrade

In many cases, the evaluators conducted multiple runs for a section. All such runs have been included in this appendix.

Rigid Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Elastic Theory		Plate Theory	
				PCC Mod (ksi)	SG Mod (ksi)	PCC Mod (ksi)	SG kc (pci)
Hallin	Elcon	I	9098	4578	63		748
Hallin	Elcon	I	11966	4199	61		733
Hallin	Elcon	I	16302	4334	61		730
Hallin	Elcon	J	9554	6357	64		576
Hallin	Elcon	J	12922	5722	66		612
Hallin	Elcon	J	16544	6225	62		554
Hallin	Elcon	K	10116	10691	56		488
Hallin	Elcon	K	13258	6596	55		558
Hallin	Elcon	K	18238	8399	60		578
Hallin	Elcon	L	9462	3378	23		242
Hallin	Elcon	L	12668	3322	23		236
Hallin	Elcon	L	16642	3506	24		246
Hallin	Elcon	M	9736	2999	29		421
Hallin	Elcon	M	12998	3002	28		403
Hallin	Elcon	M	16938	3388	30		411
Hallin	Elcon	N	9234	4114	33		392
Hallin	Elcon	N	11660	4325	32		374
Hallin	Elcon	N	15566	4552	33		385
Hallin	Elcon	O	9740	10613	44		429
Hallin	Elcon	O	12760	11998	43		406
Hallin	Elcon	O	16554	10490	46		462
Hallin	Elcon	P	10054	7765	65		778
Hallin	Elcon	P	13164	5405	61		799
Hallin	Elcon	P	17840	5982	63		802
Hallin	Illi-Back	I	9098	4651	63	6611	505
Hallin	Illi-Back	I	11966	4060	63	5858	518
Hallin	Illi-Back	I	16302	4246	62	6088	508
Hallin	Illi-Back	J	9554	12169	49	14918	252
Hallin	Illi-Back	J	12922	8320	55	10515	328
Hallin	Illi-Back	J	16544	10080	50	12524	272
Hallin	Illi-Back	K	10116	30164	39	34603	144
Hallin	Illi-Back	K	13258	8741	58	11339	323
Hallin	Illi-Back	K	18238	14037	55	17485	268
Hallin	Illi-Back	L	9462	4485	23	5844	143
Hallin	Illi-Back	L	12668	4302	23	5616	140
Hallin	Illi-Back	L	16642	4479	24	5860	149
Hallin	Illi-Back	M	9736	2664	33	4079	302
Hallin	Illi-Back	M	12998	2749	32	4174	288
Hallin	Illi-Back	M	16938	3021	33	4562	299
Hallin	Illi-Back	N	9234	4992	36	6865	241
Hallin	Illi-Back	N	11660	5036	35	6906	233

Rigid Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Elastic Theory		Plate Theory	
				PCC Mod (ksi)	SG Mod (ksi)	PCC Mod (ksi)	SG kc (pci)
Hallin	Illi-Back	N	15566	5194	37	7131	244
Hallin	Illi-Back	O	9740	23543	39	27048	161
Hallin	Illi-Back	O	12760	29285	38	34600	146
Hallin	Illi-Back	O	16554	20627	46	25468	202
Hallin	Illi-Back	P	10054	8452	78	9855	501
Hallin	Illi-Back	P	13164	4602	84	6908	618
Hallin	Illi-Back	P	17840	5402	83	7977	590
Lukanen	Elcon	I	9098	6871	63		505
Lukanen	Elcon	I	11966	6235	61		500
Lukanen	Elcon	I	16302	6468	61		495
Lukanen	Elcon	J	9554	9699	64		380
Lukanen	Elcon	J	12922	8724	66		405
Lukanen	Elcon	J	16544	9424	62		369
Lukanen	Elcon	K	10116				
Lukanen	Elcon	K	13258				
Lukanen	Elcon	K	18238				
Lukanen	Elcon	L	9462	3686	23		222
Lukanen	Elcon	L	12668	3590	23		218
Lukanen	Elcon	L	16642	3841	24		225
Lukanen	Elcon	M	9736	2411	29		519
Lukanen	Elcon	M	12998	2483	28		483
Lukanen	Elcon	M	16938	2535	30		543
Lukanen	Elcon	N	9234	4413	33		366
Lukanen	Elcon	N	11660	4617	32		351
Lukanen	Elcon	N	15566	4897	33		359
Lukanen	Elcon	O	9740	855	44		4205
Lukanen	Elcon	O	12760	962	43		4324
Lukanen	Elcon	O	16554	977	46		4669
Lukanen	Elcon	P	10054	1433	65		3781
Lukanen	Elcon	P	13164	930	61		4054
Lukanen	Elcon	P	17840	1040	63		4054
Lukanen	Illi-Back	I	9098	4651	67	6611	505
Lukanen	Illi-Back	I	11966	4060	66	5858	518
Lukanen	Illi-Back	I	16302	4246	66	6087	508
Lukanen	Illi-Back	J	9554	12169	51	14918	252
Lukanen	Illi-Back	J	12922	8319	58	10515	328
Lukanen	Illi-Back	J	16544	10080	52	12524	272
Lukanen	Illi-Back	K	10116	30164	36	34602	144
Lukanen	Illi-Back	K	13258	8742	54	11340	323
Lukanen	Illi-Back	K	18238	14037	51	17486	268
Lukanen	Illi-Back	L	9462	4485	23	5844	143

Rigid Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Elastic Theory		Plate Theory	
				PCC Mod (ksi)	SG Mod (ksi)	PCC Mod (ksi)	SG kc (pci)
Lukanen	Illi-Back	L	12668	4302	23	5616	139
Lukanen	Illi-Back	L	16642	4479	24	5860	148
Lukanen	Illi-Back	M	9736	2664	35	4079	302
Lukanen	Illi-Back	M	12998	2749	34	4174	288
Lukanen	Illi-Back	M	16938	3020	35	4562	299
Lukanen	Illi-Back	N	9234	4992	34	6865	241
Lukanen	Illi-Back	N	11660	5036	34	6906	233
Lukanen	Illi-Back	N	15566	5194	35	7130	244
Lukanen	Illi-Back	O	9740	23543	34	28491	161
Lukanen	Illi-Back	O	12760	29285	33	24600	146
Lukanen	Illi-Back	O	16554	20627	40	25468	202
Lukanen	Illi-Back	P	10054	8452	68	11783	501
Lukanen	Illi-Back	P	13164	4602	73	6908	618
Lukanen	Illi-Back	P	17840	5402	73	7976	590
Thompson	Elcon	I	9098	4578	63		748
Thompson	Elcon	I	11966	4199	61		733
Thompson	Elcon	I	16302	4334	61		730
Thompson	Elcon	J	9554	6357	64		576
Thompson	Elcon	J	12922	5722	66		612
Thompson	Elcon	J	16544	6225	62		554
Thompson	Elcon	K	10116	10691	56		488
Thompson	Elcon	K	13258	6596	55		558
Thompson	Elcon	K	18238	8399	60		578
Thompson	Elcon	L	9462	3378	23		242
Thompson	Elcon	L	12668	3322	23		236
Thompson	Elcon	L	16642	3506	24		246
Thompson	Elcon	M	9736	2999	29		421
Thompson	Elcon	M	12998	3002	28		403
Thompson	Elcon	M	16938	3388	30		411
Thompson	Elcon	N	9234	4114	33		392
Thompson	Elcon	N	11660	4325	32		374
Thompson	Elcon	N	15566	4552	33		385
Thompson	Elcon	O	9740	10613	44		429
Thompson	Elcon	O	12760	11998	43		406
Thompson	Elcon	O	16554	10490	46		462
Thompson	Elcon	P	10054	7765	65		778
Thompson	Elcon	P	13164	5405	61		799
Thompson	Elcon	P	17840	5982	63		802
Thompson	Illi-Back	I	9098	4651	63	6611	505
Thompson	Illi-Back	I	11966	4060	63	5858	518
Thompson	Illi-Back	I	16302	4246	62	6087	508

Rigid Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Elastic Theory		Plate Theory	
				PCC Mod (ksi)	SG Mod (ksi)	PCC Mod (ksi)	SG kc (pci)
Thompson	Illi-Back	J	9554	12169	49	14918	252
Thompson	Illi-Back	J	12922	8319	55	10515	328
Thompson	Illi-Back	J	16544	10080	50	12524	272
Thompson	Illi-Back	K	10116	30164	34	34603	144
Thompson	Illi-Back	K	13258	8742	51	11340	323
Thompson	Illi-Back	K	18238	14037	48	17486	268
Thompson	Illi-Back	L	9462	4485	22	5844	143
Thompson	Illi-Back	L	12668	4302	22	5616	139
Thompson	Illi-Back	L	16642	4479	23	5860	149
Thompson	Illi-Back	M	9736	2664	33	4079	302
Thompson	Illi-Back	M	12998	2749	32	4174	288
Thompson	Illi-Back	M	16938	3021	33	4562	299
Thompson	Illi-Back	N	9234	4992	33	6865	241
Thompson	Illi-Back	N	11660	5036	32	6906	233
Thompson	Illi-Back	N	15566	5194	33	7130	244
Thompson	Illi-Back	O	9740	23543	32	28491	161
Thompson	Illi-Back	O	12760	29285	31	34600	146
Thompson	Illi-Back	O	16554	20627	38	25468	202
Thompson	Illi-Back	P	10054	8452	65	11783	501
Thompson	Illi-Back	P	13164	4602	70	6908	618
Thompson	Illi-Back	P	17840	5402	69	7977	590
Yang	Illi-Back	I	9098	4651	63	6611	505
Yang	Illi-Back	I	11966	4060	63	5858	518
Yang	Illi-Back	I	16302	4246	62	6088	508
Yang	Illi-Back	J	9554	12169	49	14918	252
Yang	Illi-Back	J	12922	8319	55	10515	328
Yang	Illi-Back	J	16544	10080	50	12524	272
Yang	Illi-Back	K	10166	30164	34	34603	144
Yang	Illi-Back	K	13258	8742	51	11340	323
Yang	Illi-Back	K	18238	14037	48	17486	268
Yang	Illi-Back	L	9462	4485	22	5844	143
Yang	Illi-Back	L	12668	4302	22	5616	140
Yang	Illi-Back	L	16642	4479	23	5860	149
Yang	Illi-Back	M	9736	2664	33	4079	302
Yang	Illi-Back	M	12998	2749	32	4174	288
Yang	Illi-Back	M	16938	3020	33	4562	299
Yang	Illi-Back	N	9234	4992	33	6865	241
Yang	Illi-Back	N	11660	5036	32	6906	233
Yang	Illi-Back	N	15566	5194	33	7130	244
Yang	Illi-Back	O	9740	23542	32	28491	161
Yang	Illi-Back	O	12760	29285	31	34600	146

Rigid Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Elastic Theory		Plate Theory	
				PCC Mod (ksi)	SG Mod (ksi)	PCC Mod (ksi)	SG kc (pci)
Yang	Illi-Back	O	16554	20626	38	25468	202
Yang	Illi-Back	P	10054	8452	65	11783	501
Yang	Illi-Back	P	13164	4602	70	6908	618
Yang	Illi-Back	P	17840	5402	69	7976	590
Ioannides	Elcon	I	9098	4578	63		748
Ioannides	Elcon	I	11966	4199	61		733
Ioannides	Elcon	I	16302	4334	61		730
Ioannides	Elcon	J	9554	6357	64		576
Ioannides	Elcon	J	12922	5722	66		612
Ioannides	Elcon	J	16544	6225	62		554
Ioannides	Elcon	K	10116	10691	56		488
Ioannides	Elcon	K	13258	6596	55		558
Ioannides	Elcon	K	18238	8399	60		578
Ioannides	Elcon	L	9462	3378	23		242
Ioannides	Elcon	L	12668	3322	23		236
Ioannides	Elcon	L	16642	3506	24		246
Ioannides	Elcon	M	9736	2999	29		421
Ioannides	Elcon	M	12998	3002	28		403
Ioannides	Elcon	M	16938	3388	29		411
Ioannides	Elcon	N	9234	4114	33		392
Ioannides	Elcon	N	11660	4325	32		374
Ioannides	Elcon	N	15566	4552	33		385
Ioannides	Elcon	O	9740	10613	44		429
Ioannides	Elcon	O	12760	11998	43		406
Ioannides	Elcon	O	16554	10490	46		462
Ioannides	Elcon	P	10054	7765	65		778
Ioannides	Elcon	P	13164	5405	61		799
Ioannides	Elcon	P	17840	5982	63		802
Ioannides	Illi-Back	I	9098	4651	63	6611	505
Ioannides	Illi-Back	I	11966	4060	63	5858	518
Ioannides	Illi-Back	I	16302	4246	62	6087	508
Ioannides	Illi-Back	J	9554	12169	49	14918	252
Ioannides	Illi-Back	J	12922	8319	55	10515	328
Ioannides	Illi-Back	J	16544	10080	50	12523	272
Ioannides	Illi-Back	K	10116	30164	34	34603	144
Ioannides	Illi-Back	K	13258	8741	51	11340	323
Ioannides	Illi-Back	K	18238	14037	48	17486	268
Ioannides	Illi-Back	L	9462	4485	22	5844	143
Ioannides	Illi-Back	L	12668	4302	22	5616	139
Ioannides	Illi-Back	L	16642	4479	23	5860	149
Ioannides	Illi-Back	M	9736	2664	33	4079	302

Rigid Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Elastic Theory		Plate Theory	
				PCC Mod (ksi)	SG Mod (ksi)	PCC Mod (ksi)	SG kc (pci)
Ioannides	Illi-Back	M	12998	2749	32	4174	288
Ioannides	Illi-Back	M	16938	3021	33	4562	299
Ioannides	Illi-Back	N	9234	4992	33	6865	241
Ioannides	Illi-Back	N	11660	5036	32	6906	233
Ioannides	Illi-Back	N	15566	5194	33	7130	244
Ioannides	Illi-Back	O	9740	23543	32	28491	161
Ioannides	Illi-Back	O	12760	29285	31	34600	146
Ioannides	Illi-Back	O	16554	20627	38	25468	202
Ioannides	Illi-Back	P	10054	8452	65	11783	501
Ioannides	Illi-Back	P	13164	4602	70	6908	618
Ioannides	Illi-Back	P	17840	5402	69	7977	590
Rada	Elcon	I	9098	4578	63		748
Rada	Elcon	I	11966	4199	61		733
Rada	Elcon	I	16302	4334	61		730
Rada	Elcon	J	9554	6357	64		576
Rada	Elcon	J	12922	5722	66		612
Rada	Elcon	J	16544	6225	62		554
Rada	Elcon	K	10116	10691	56		488
Rada	Elcon	K	13258	6596	55		558
Rada	Elcon	K	18238	8399	60		578
Rada	Elcon	L	9462	3378	23		242
Rada	Elcon	L	12668	3322	23		236
Rada	Elcon	L	16642	3506	24		246
Rada	Elcon	M	9736	2999	29		421
Rada	Elcon	M	12998	3002	28		403
Rada	Elcon	M	16938	3388	30		411
Rada	Elcon	N	9234	4114	33		392
Rada	Elcon	N	11660	4325	32		374
Rada	Elcon	N	15566	4552	33		385
Rada	Elcon	O	9740	10613	44		429
Rada	Elcon	O	12760	11998	43		406
Rada	Elcon	O	16554	10490	46		462
Rada	Elcon	P	10054	7765	61		799
Rada	Elcon	P	13164	5405	63		802
Rada	Illi-Back	I	9098	4700	63	6600	505
Rada	Illi-Back	I	11966	4100	63	5900	518
Rada	Illi-Back	I	16302	4200	62	6100	508
Rada	Illi-Back	J	9554	11200	51	13900	274
Rada	Illi-Back	J	12922	8300	56	10500	333
Rada	Illi-Back	J	16544	11500	48	14100	250
Rada	Illi-Back	K	10116	4700	32	41300	125

Rigid Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Elastic Theory		Plate Theory	
				PCC Mod (ksi)	SG Mod (ksi)	PCC Mod (ksi)	SG kc (pci)
Rada	Illi-Back	K	13258	4100	50	12300	312
Rada	Illi-Back	K	18238	4200	49	18300	267
Rada	Illi-Back	L	9462	4600	22	5900	141
Rada	Illi-Back	L	12668	4300	22	5600	141
Rada	Illi-Back	L	16642	4700	22	6100	144
Rada	Illi-Back	M	9736	2600	34	4000	309
Rada	Illi-Back	M	12998	2700	32	4100	290
Rada	Illi-Back	M	16938	3100	33	4600	299
Rada	Illi-Back	N	9234	4900	32	6800	239
Rada	Illi-Back	N	11660	5000	32	6800	236
Rada	Illi-Back	N	15566	5500	33	7500	236
Rada	Illi-Back	O	9740	2500	34	3100	174
Rada	Illi-Back	O	12760	3900	29	4500	127
Rada	Illi-Back	O	16554	2400	37	2900	196
Rada	Illi-Back	P	10054	9700	62	13400	461
Rada	Illi-Back	P	13164	4700	70	700	619
Rada	Illi-Back	P	17840	5400	70	800	593
Briggs	Elcon	I	9098	3694	63		920
Briggs	Elcon	I	11966	3320	61		919
Briggs	Elcon	I	16302	3454	61		908
Briggs	Elcon	J	9554	6357	64		575
Briggs	Elcon	J	12922	5722	66		611
Briggs	Elcon	J	16544	6225	62		554
Briggs	Elcon	K	10116	5840	56		763
Briggs	Elcon	K	13258	4255	55		954
Briggs	Elcon	K	18238	5796	60		829
Briggs	Elcon	L	9462	4180	23		196
Briggs	Elcon	L	12668	4066	23		193
Briggs	Elcon	L	16642	4350	24		199
Briggs	Elcon	M	9736	2411	29		518
Briggs	Elcon	M	12998	2483	28		483
Briggs	Elcon	M	16938	2535	30		542
Briggs	Elcon	N	9234	2960	33		538
Briggs	Elcon	N	11660	3121	32		512
Briggs	Elcon	N	15566	3331	33		520
Briggs	Elcon	O	9740	3536	44		1239
Briggs	Elcon	O	12760	4198	43		1122
Briggs	Elcon	O	16554	3567	46		1306
Briggs	Elcon	P	10054	5357	65		1112
Briggs	Elcon	P	13164	3262	61		1293
Briggs	Elcon	P	17840	3804	63		1237

Rigid Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Elastic Theory		Plate Theory	
				PCC Mod (ksi)	SG Mod (ksi)	PCC Mod (ksi)	SG kc (pci)
Briggs	Illi-Back	I	9098	4651	67	6600	505
Briggs	Illi-Back	I	11966	4060	66	5858	517
Briggs	Illi-Back	I	16302	4246	66	6087	508
Briggs	Illi-Back	J	9554	12169	51	14918	252
Briggs	Illi-Back	J	12922	8319	58	10515	328
Briggs	Illi-Back	J	16544	10080	52	12524	272
Briggs	Illi-Back	K	10116	30164	36	34603	143
Briggs	Illi-Back	K	13258	7574	53	9205	322
Briggs	Illi-Back	K	18238	14037	51	17486	267
Briggs	Illi-Back	L	9462	4485	23	5844	142
Briggs	Illi-Back	L	12668	4302	23	5616	139
Briggs	Illi-Back	L	16642	4479	24	5860	148
Briggs	Illi-Back	M	9736	2664	35	4079	301
Briggs	Illi-Back	M	12998	2749	34	4174	288
Briggs	Illi-Back	M	16938	3021	35	4562	298
Briggs	Illi-Back	N	9234	4992	34	6865	240
Briggs	Illi-Back	N	11660	5036	34	6906	233
Briggs	Illi-Back	N	15566	5194	35	7130	244
Bush	Elcon	I	9098	12948	63		
Bush	Elcon	I	11966	8074	61		
Bush	Elcon	I	16302	8911	61		
Bush	Elcon	L	9462	7753	23		
Bush	Elcon	L	12668	6977	23		
Bush	Elcon	L	16642	11023	24		
Bush	Elcon	M	9736	2411	29		
Bush	Elcon	M	12998	2483	28		
Bush	Elcon	M	16938	2535	30		
Bush	Elcon	N	9234	5896	33		
Bush	Elcon	N	11660	5848	32		
Bush	Elcon	N	15566	5987	33		
Bush	Elcon	O	9740	19274	44		
Bush	Elcon	O	12760	29385	43		
Bush	Elcon	O	16554	14083	46		
Bush	Elcon	P	10054	24513	65		
Bush	Elcon	P	13164	3262	61		
Bush	Elcon	P	17840	4224	63		
Bush	Illi-Back	I	9098	4651	63	6611	505
Bush	Illi-Back	I	11966	4060	63	5858	518
Bush	Illi-Back	I	16302	4246	62	6087	508
Bush	Illi-Back	J	9554	12169	49	14918	252
Bush	Illi-Back	J	12922	8319	55	10515	328

Rigid Pavement Layer Moduli Results

Analyst	Program	Section	Load (lbs.)	Elastic Theory PCC Mod (ksi)	Elastic Theory SG Mod (ksi)	Plate Theory PCC Mod (ksi)	Plate Theory SG kc (pci)
Bush	Illi-Back	J	16544	10080	50	12524	272
Bush	Illi-Back	K	10116	30164	34	34603	144
Bush	Illi-Back	K	13258	8742	51	11340	322
Bush	Illi-Back	K	18238	389	48	809	268
Bush	Illi-Back	L	9462	4485	22	5844	143
Bush	Illi-Back	L	12668	4302	22	5616	139
Bush	Illi-Back	L	16642	4479	23	5860	149
Bush	Illi-Back	M	9736	2664	33	4079	301
Bush	Illi-Back	M	12998	2749	32	4174	288
Bush	Illi-Back	M	16938	3021	33	4562	298
Bush	Illi-Back	N	9234	4992	33	6865	240
Bush	Illi-Back	N	11660	5036	32	6906	233
Bush	Illi-Back	N	15566	7130	33	5194	244
Bush	Illi-Back	O	9740	3188	32	3858	161
Bush	Illi-Back	O	12760	3966	31	4685	146
Bush	Illi-Back	O	16554	2793	38	3449	202
Bush	Illi-Back	P	10054	1765	65	2460	501
Bush	Illi-Back	P	13164	961	6	1442	618
Bush	Illi-Back	P	17840	1128	69	1666	590

APPENDIX C

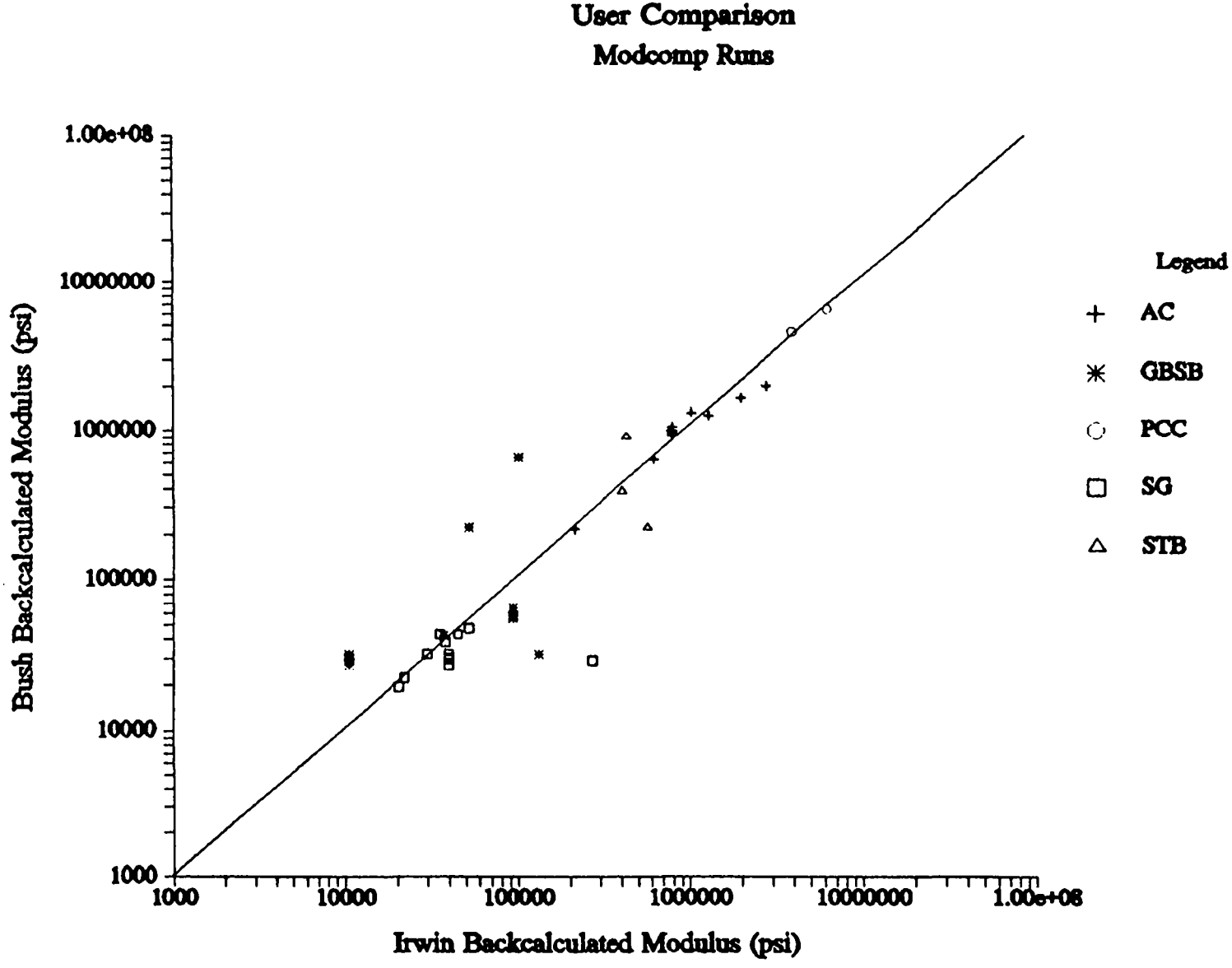
RESULTS OF USER COMPARISON

Appendix C contains the results of the modulus companion study undertaken to assess user variability. Since all three program developers -- Irwin (MODCOMP3), Uzan (MODULUS), and Bush (WESDEF) -- were a part of the evaluation, their results were used as the reference datum in this comparison. It was assumed that the program developers were experts in the use of their program and hence would arrive at the most reasonable set of results.

This appendix has been divided into three parts: MODCOMP3, MODULUS, and WESDEF results. Within each, plots of the moduli predicted by the program developer versus those predicted by the remaining evaluators are presented. In order to minimize space, the results for all possible SHRP test section, FWD load, and layer material combinations are included in each plot. Also note that material types have been assigned the following codes:

AC	=	Asphalt concrete
PCC	=	Portland cement concrete
STB	=	Asphalt treated or cement stabilized base or subbase
GBSB	=	Unbound granular base or subbase
SG	=	Subgrade

MODCOMP (IRWIN)


User Comparison
Modcomp Runs
Bush Backcalculated Modulus (psi)
Irwin Backcalculated Modulus (psi)
1.00e+08
10000000
1000000
100000
10000
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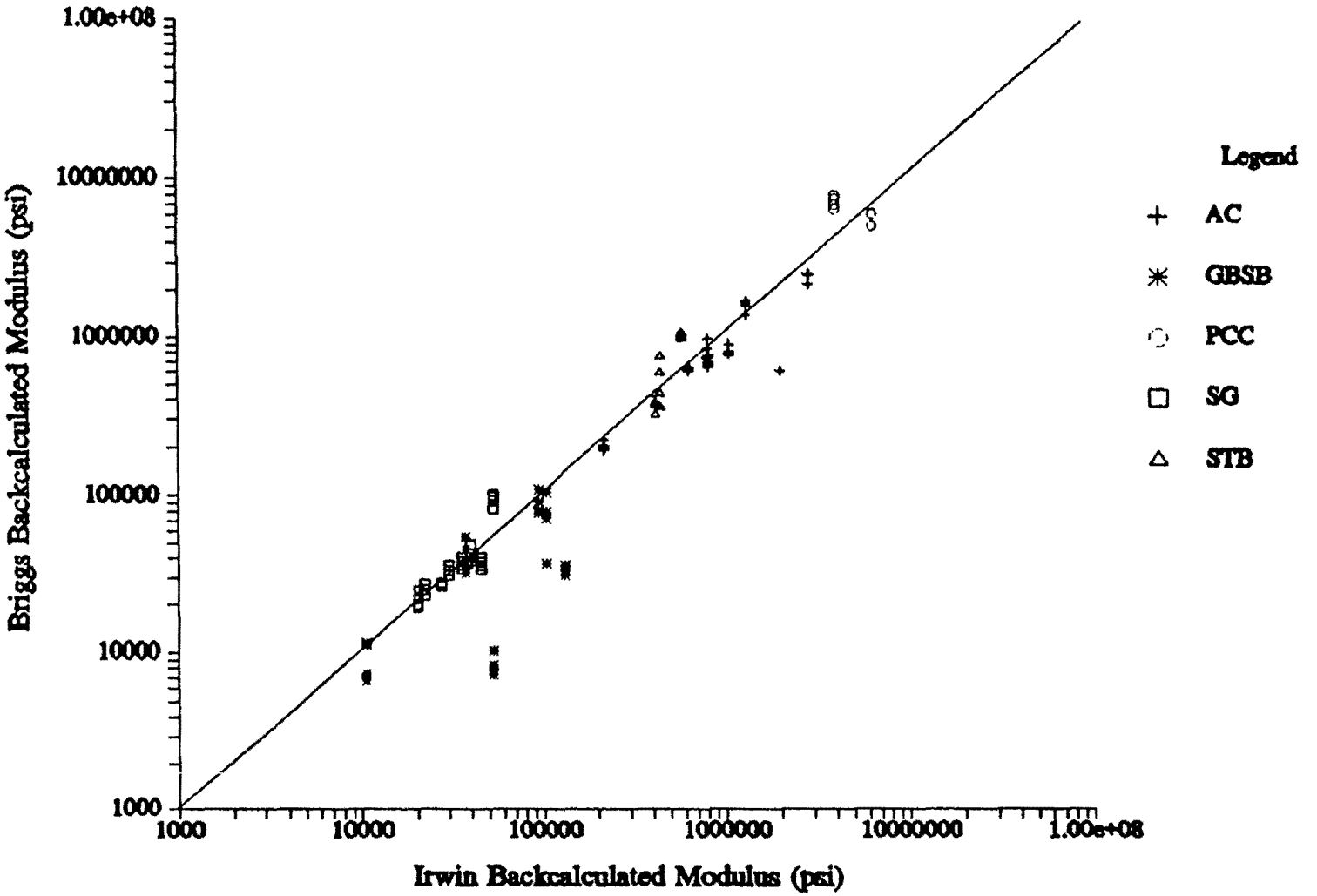
10000
100000
1000000
10000000
1.00e+08
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modcomp Runs
Briggs Backcalculated Modulus (psi)
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1000000
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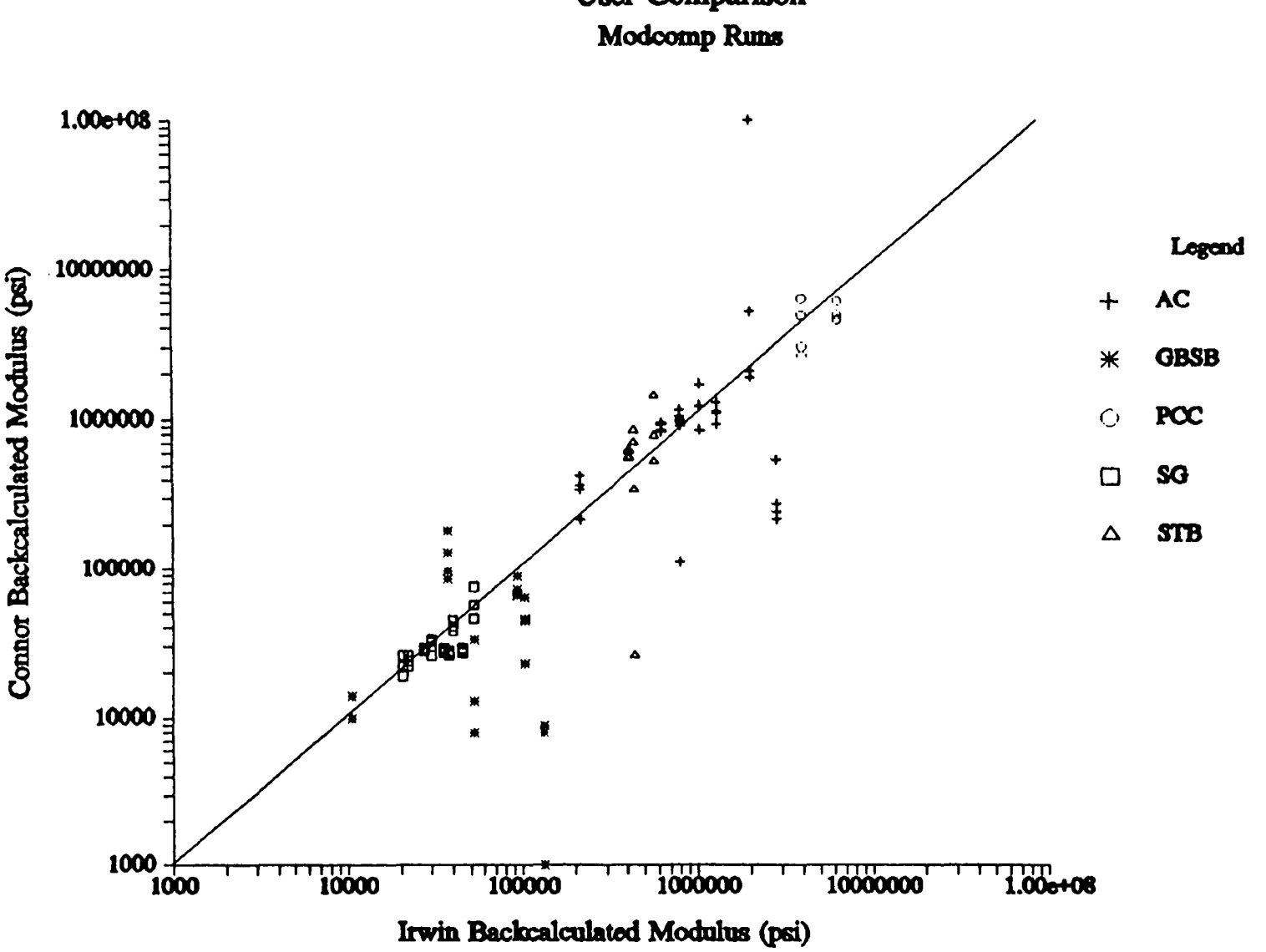
10000000
1.00e+08
Irwin Backcalculated Modulus (psi)
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modcomp Runs
Connor Backcalculated Modulus (psi)
Irwin Backcalculated Modulus (psi)
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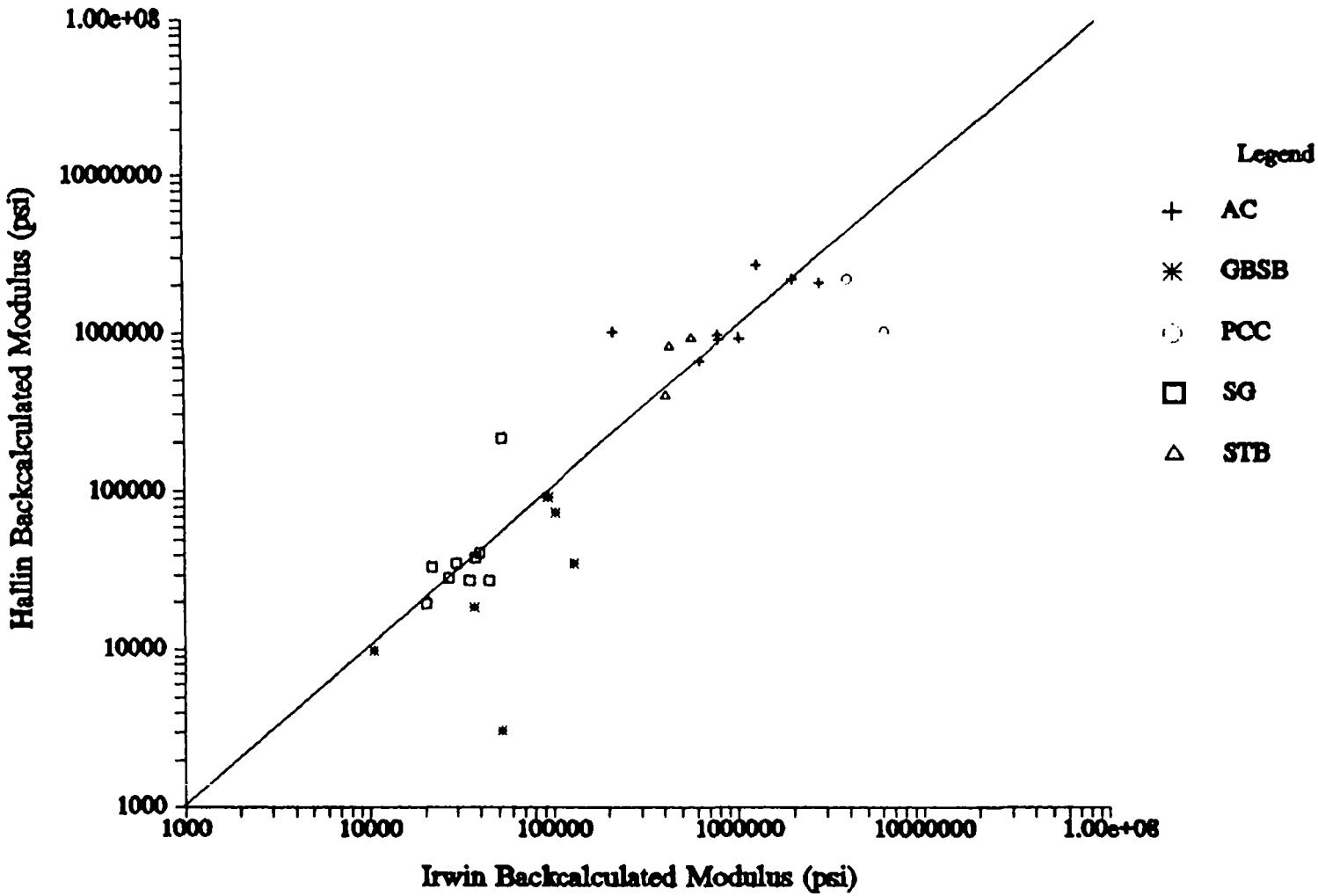
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modcomp Runs
Hallin Backcalculated Modulus (psi)
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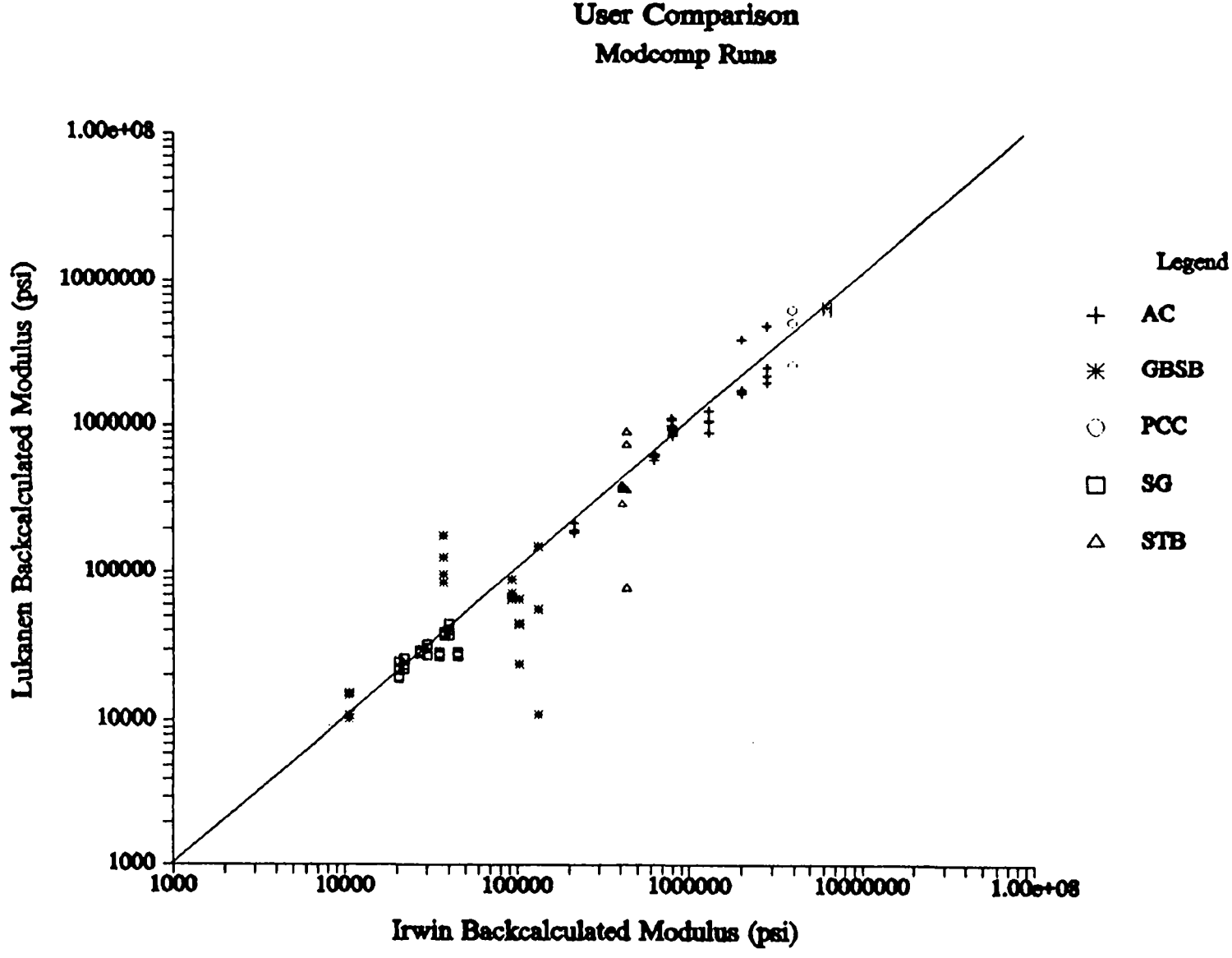
1.00e+08
Irwin Backcalculated Modulus (psi)
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modcomp Runs
Lukanen Backcalculated Modulus (psi)
Irwin Backcalculated Modulus (psi)
1.00e+08
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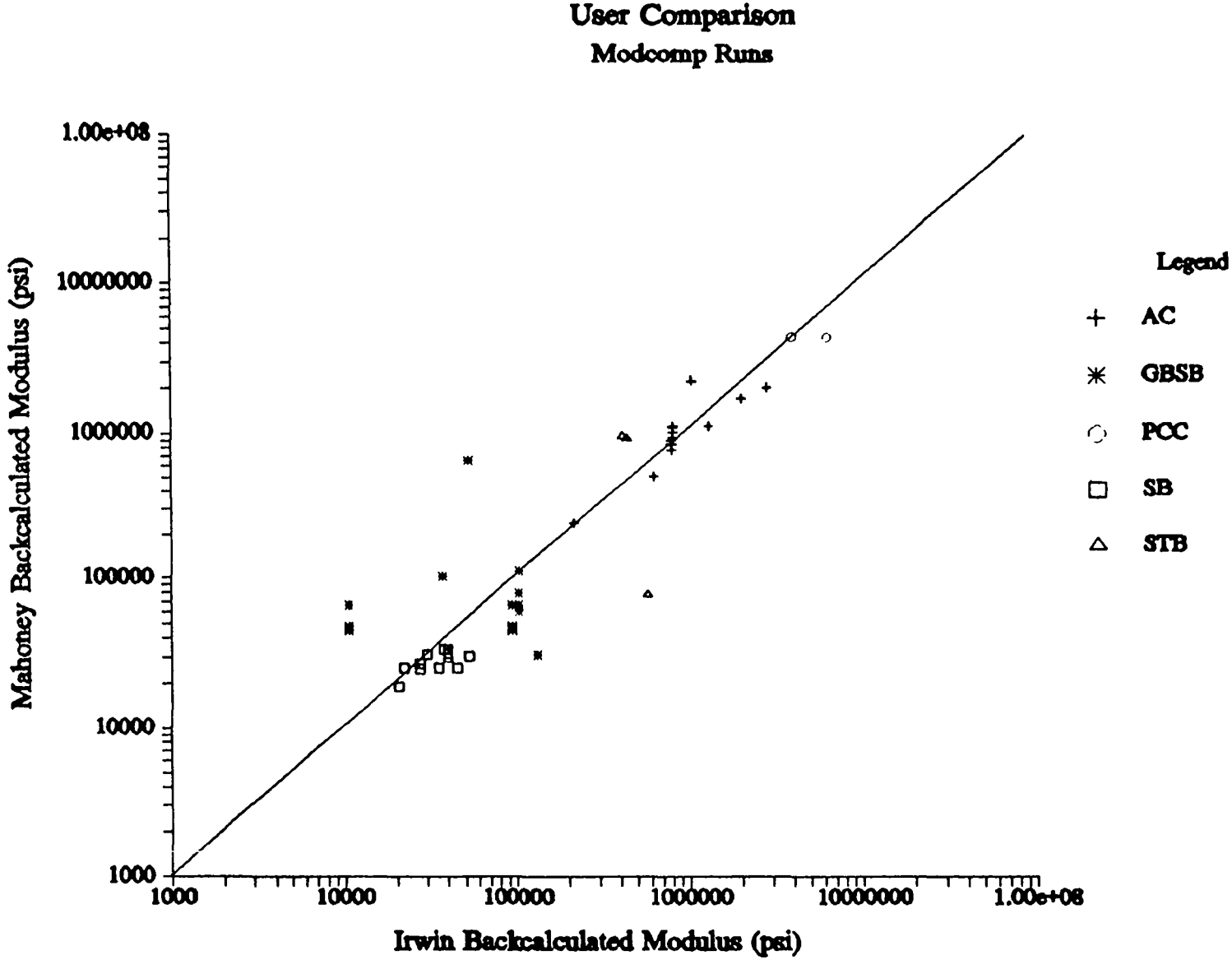
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modcomp Runs
Mahoney Backcalculated Modulus (psi)
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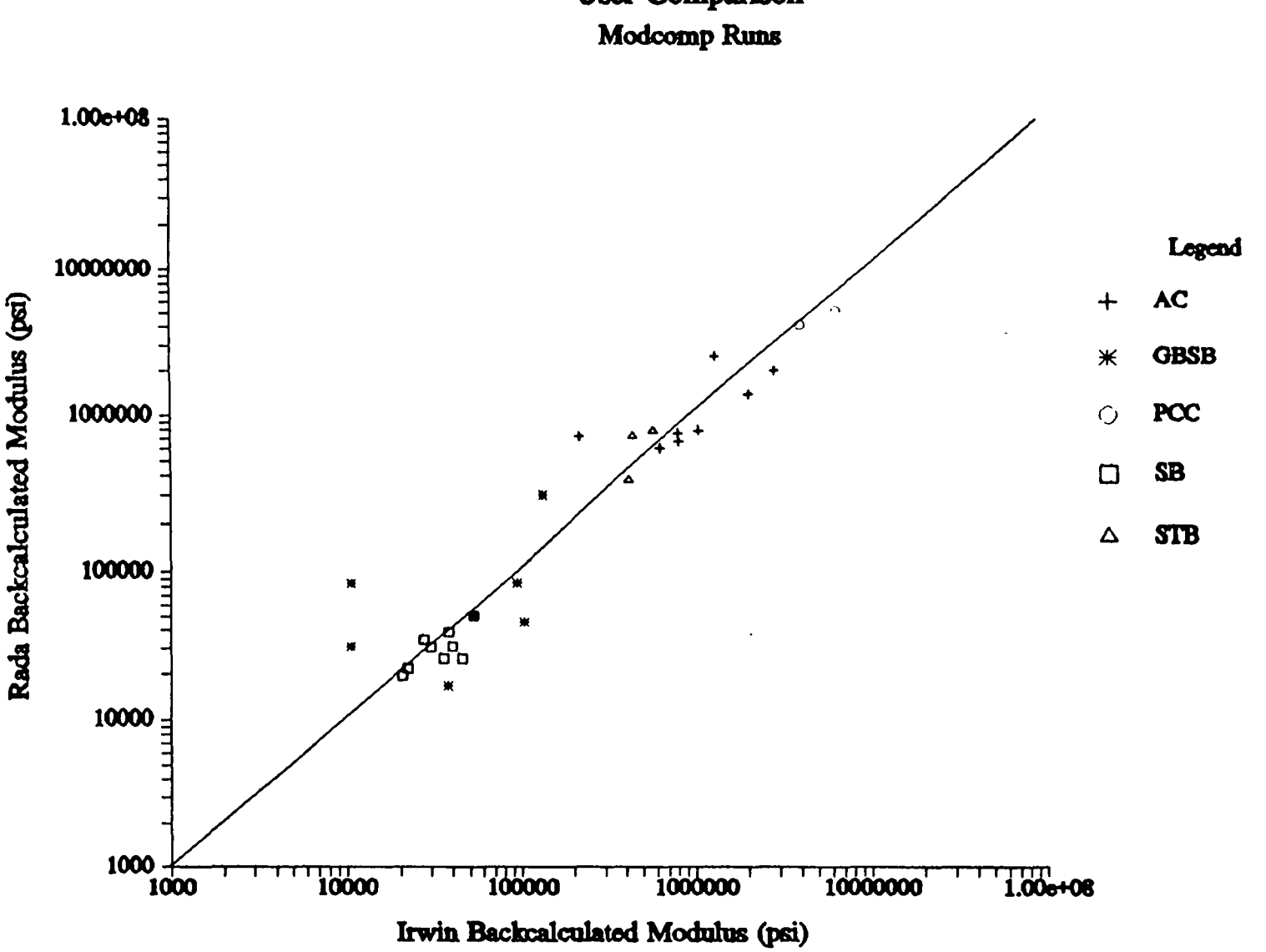
10000000
1.00e+08
Irwin Backcalculated Modulus (psi)
Legend
AC
GBSB
PCC
SB
STB


User Comparison
Modcomp Runs
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Irwin Backcalculated Modulus (psi)
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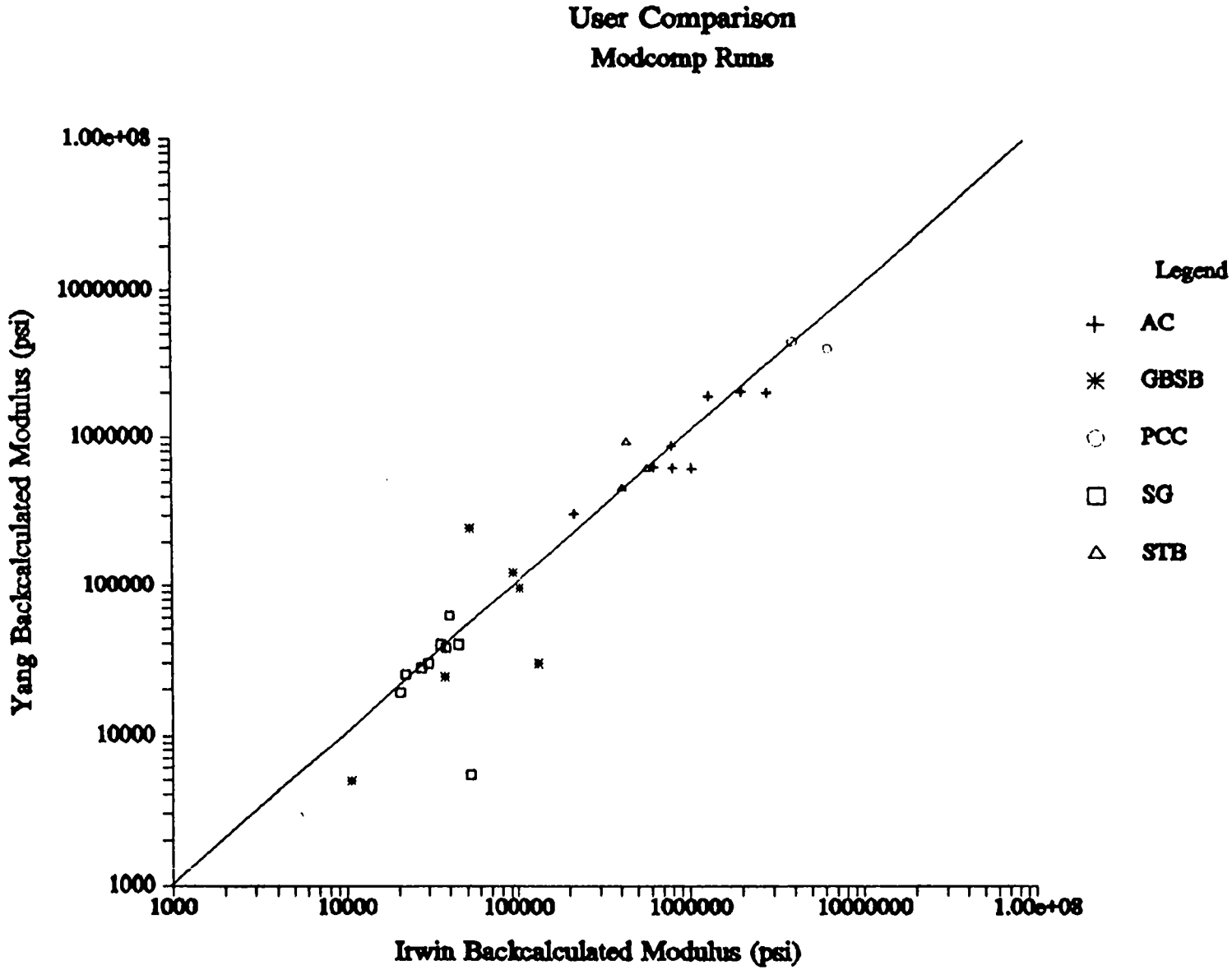
Legend
AC
GBSB
PCC
SB
STB


User Comparison
Modcomp Runs
Yang Backcalculated Modulus (psi)
Irwin Backcalculated Modulus (psi)
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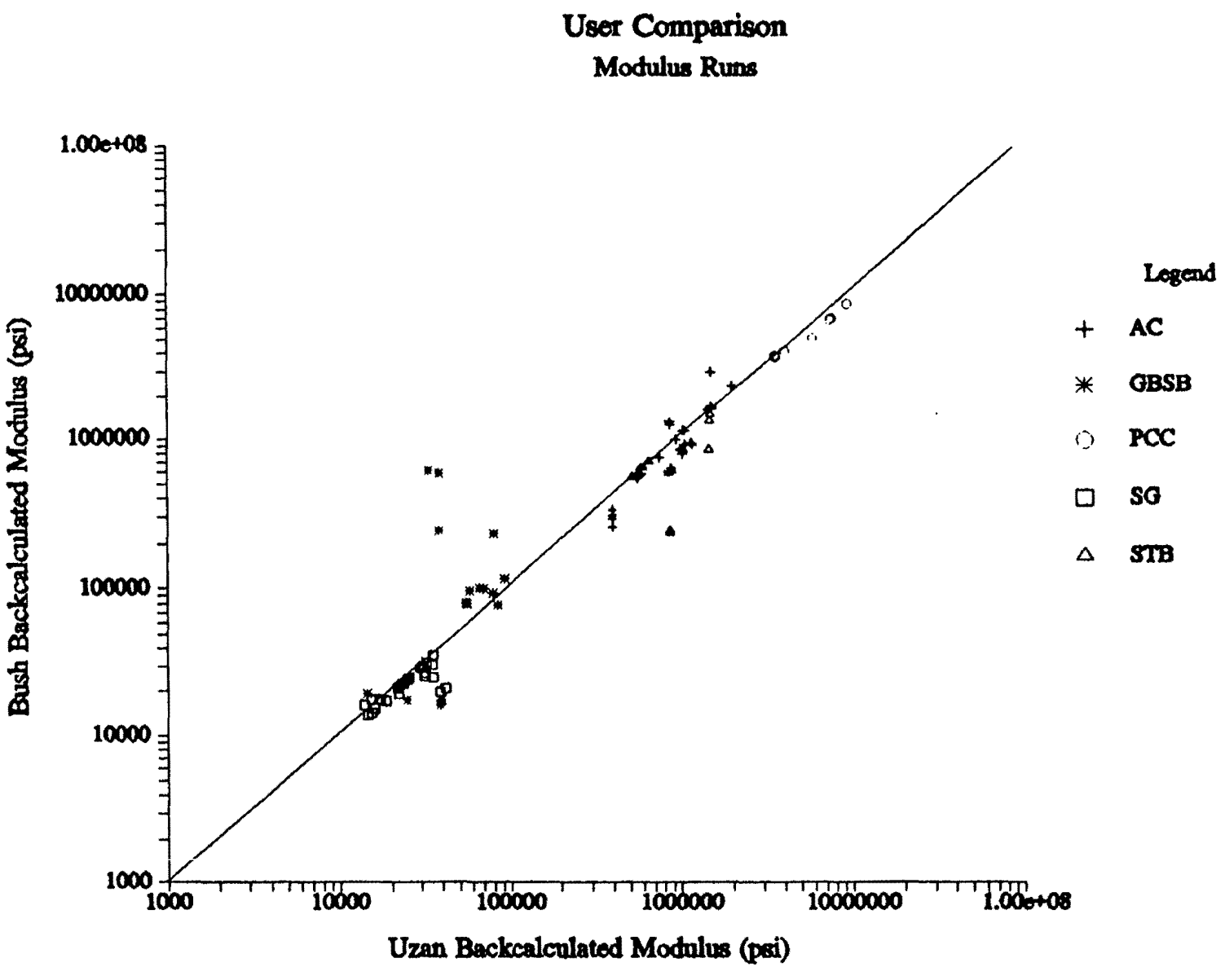
100000
1000000
10000000
1.00e+08
Legend
AC
GBSB
PCC
SG
STB

MODULUS (UZAN)


User Comparison
Modulus Runs
Bush Backcalculated Modulus (psi)
Uzan Backcalculated Modulus (psi)
1.00e+08
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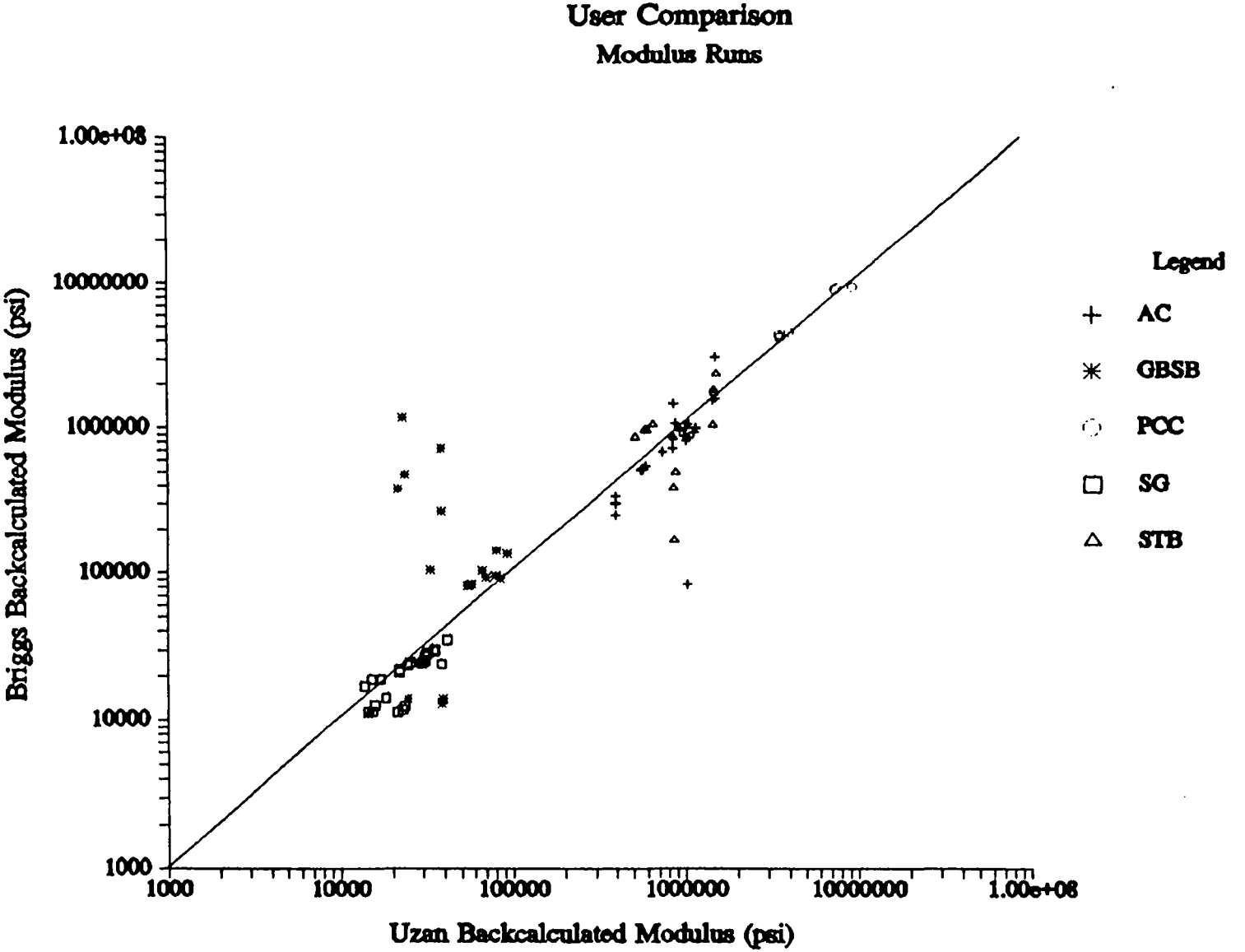
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modulus Runs
Briggs Backcalculated Modulus (psi)
Uzan Backcalculated Modulus (psi)
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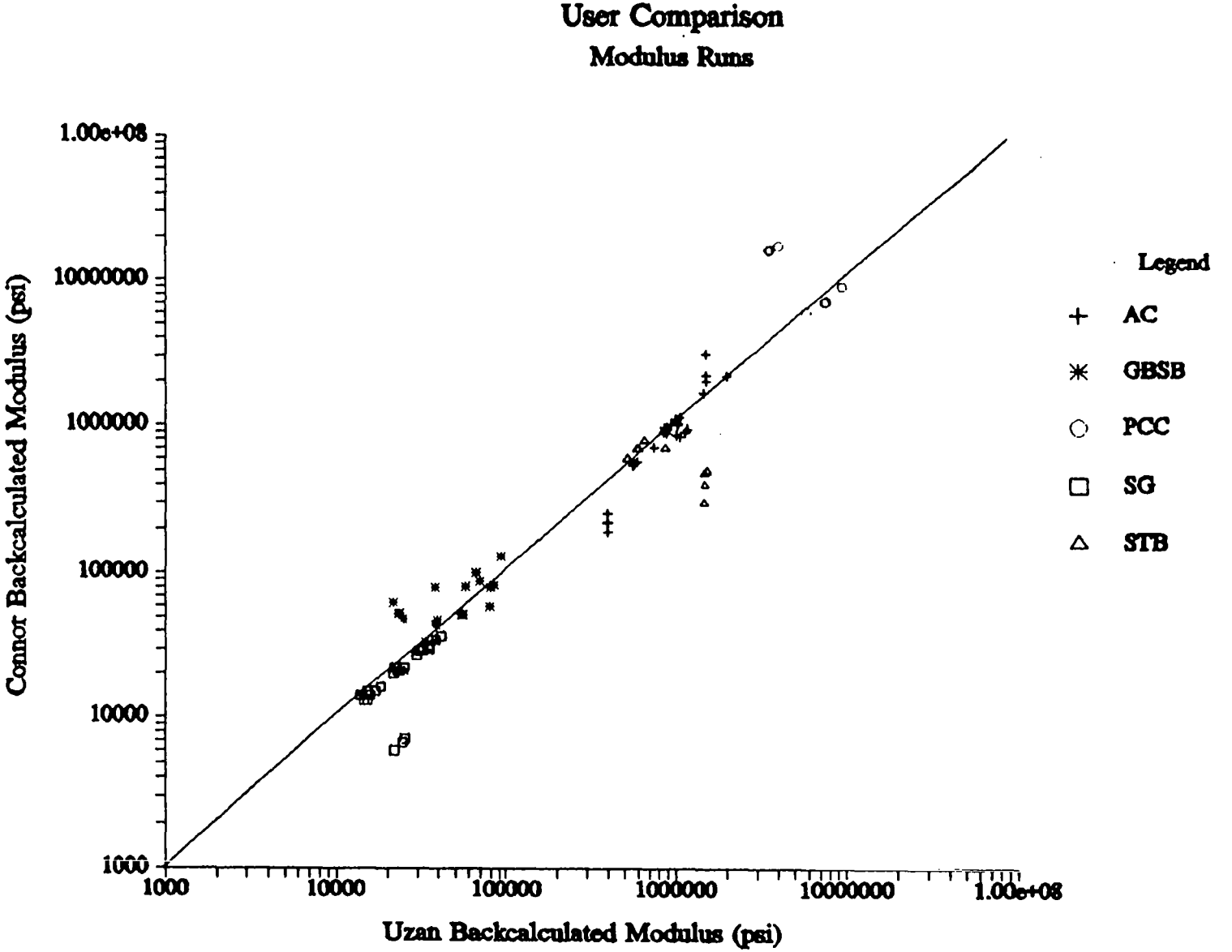
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modulus Runs
Connor Backcalculated Modulus (psi)
Uzan Backcalculated Modulus (psi)
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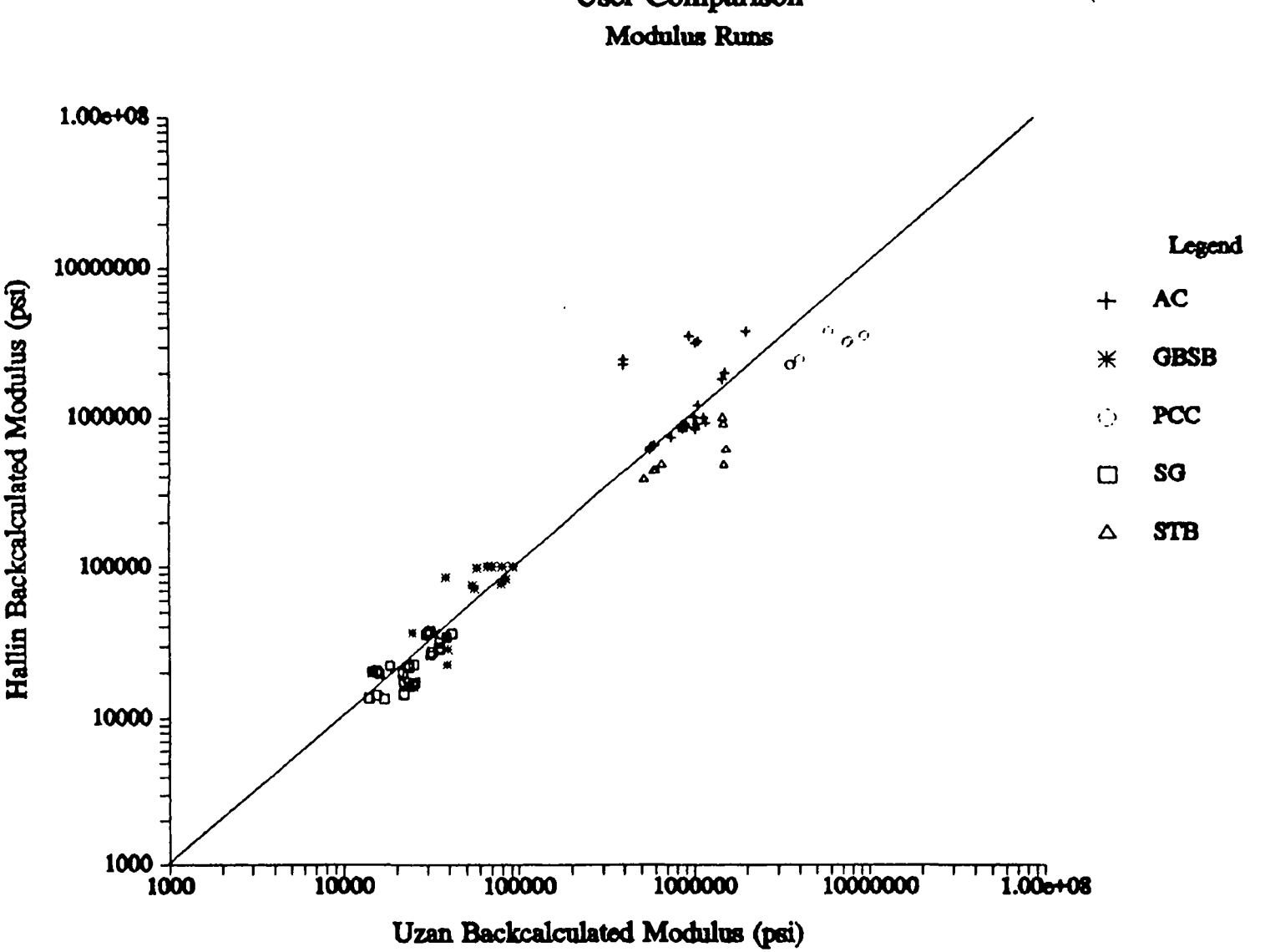
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modulus Runs
Hallin Backcalculated Modulus (psi)
Uzan Backcalculated Modulus (psi)
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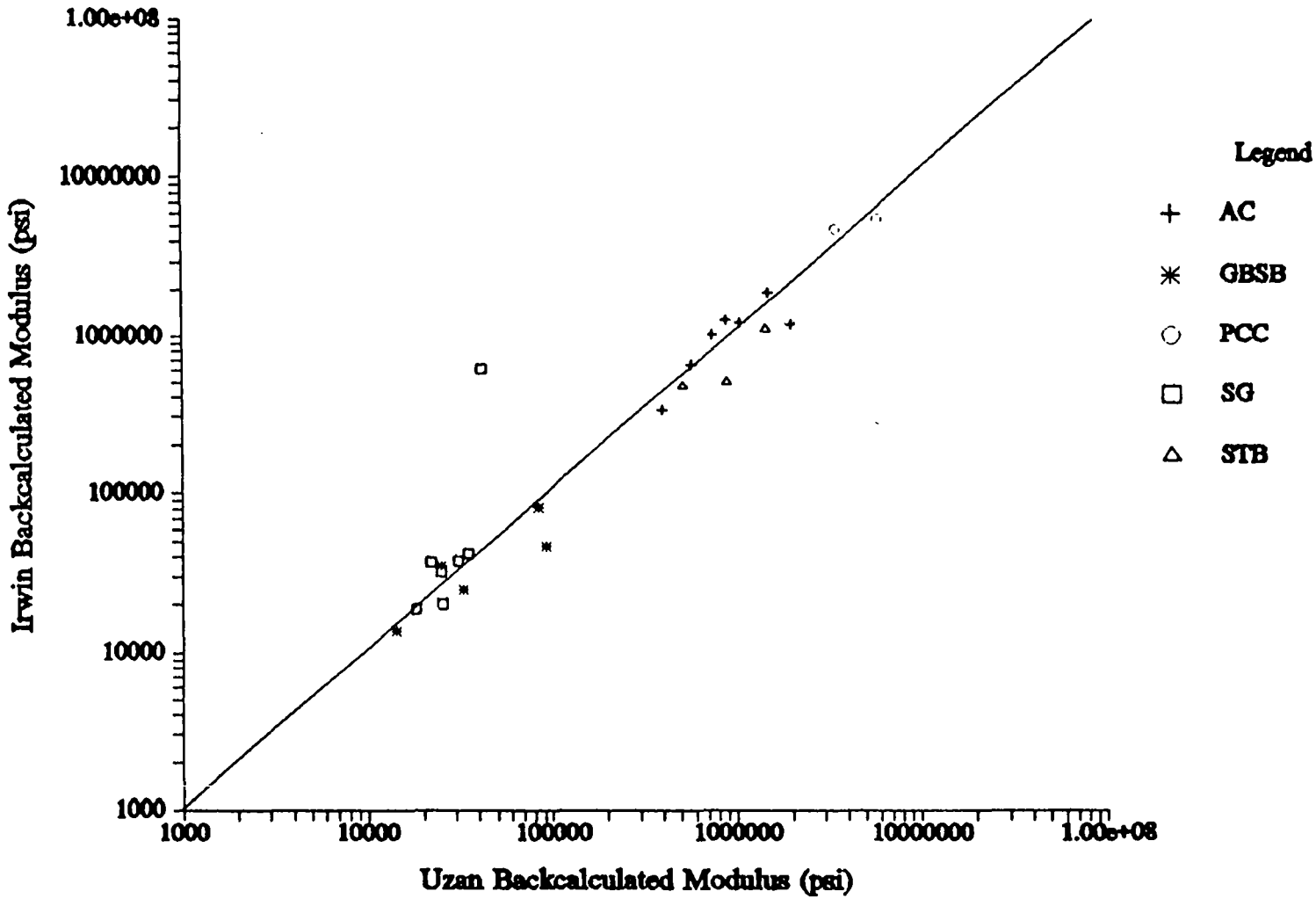
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modulus Runs
Irwin Backcalculated Modulus (psi)
Uzan Backcalculated Modulus (psi)
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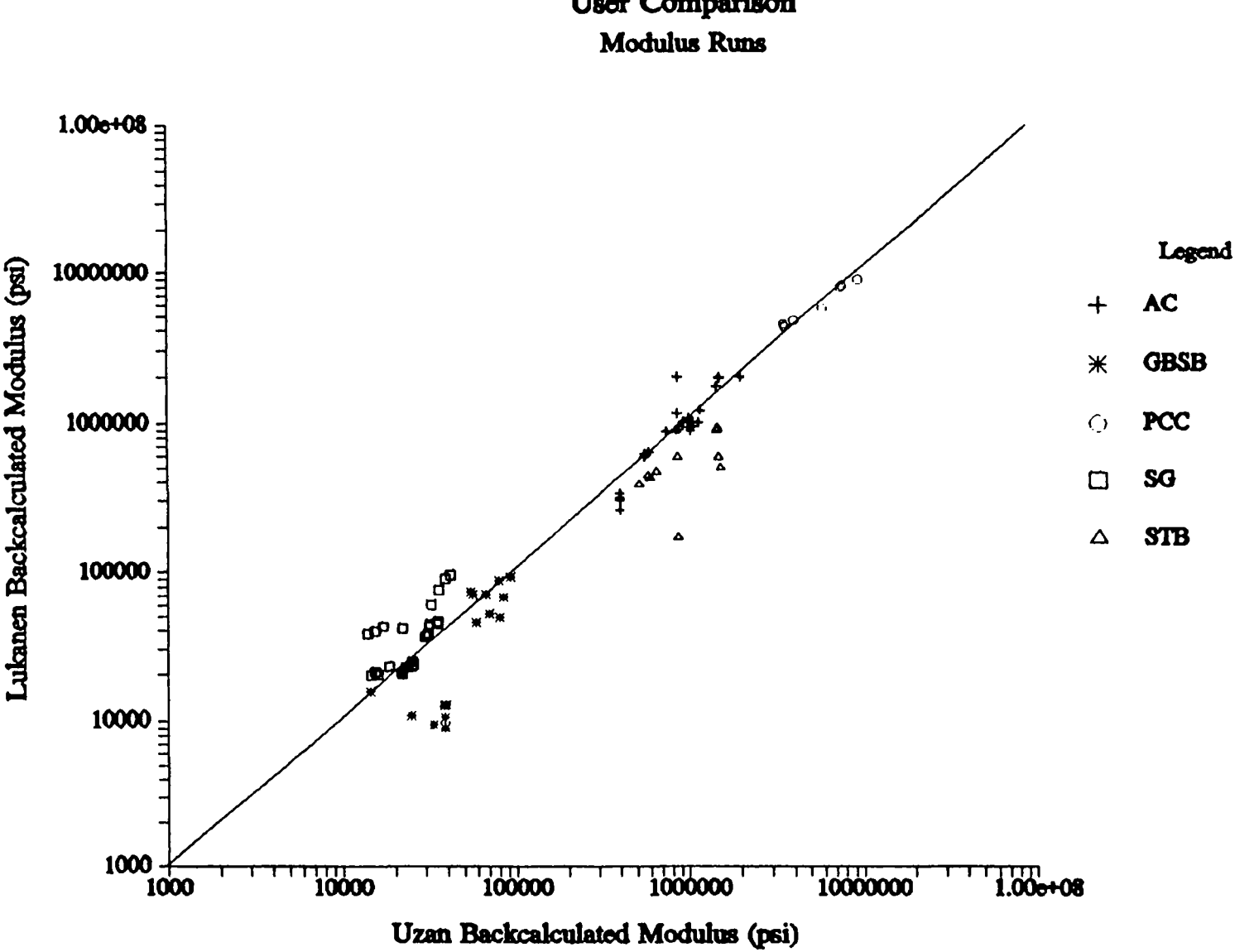
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modulus Runs
Lukanen Backcalculated Modulus (psi)
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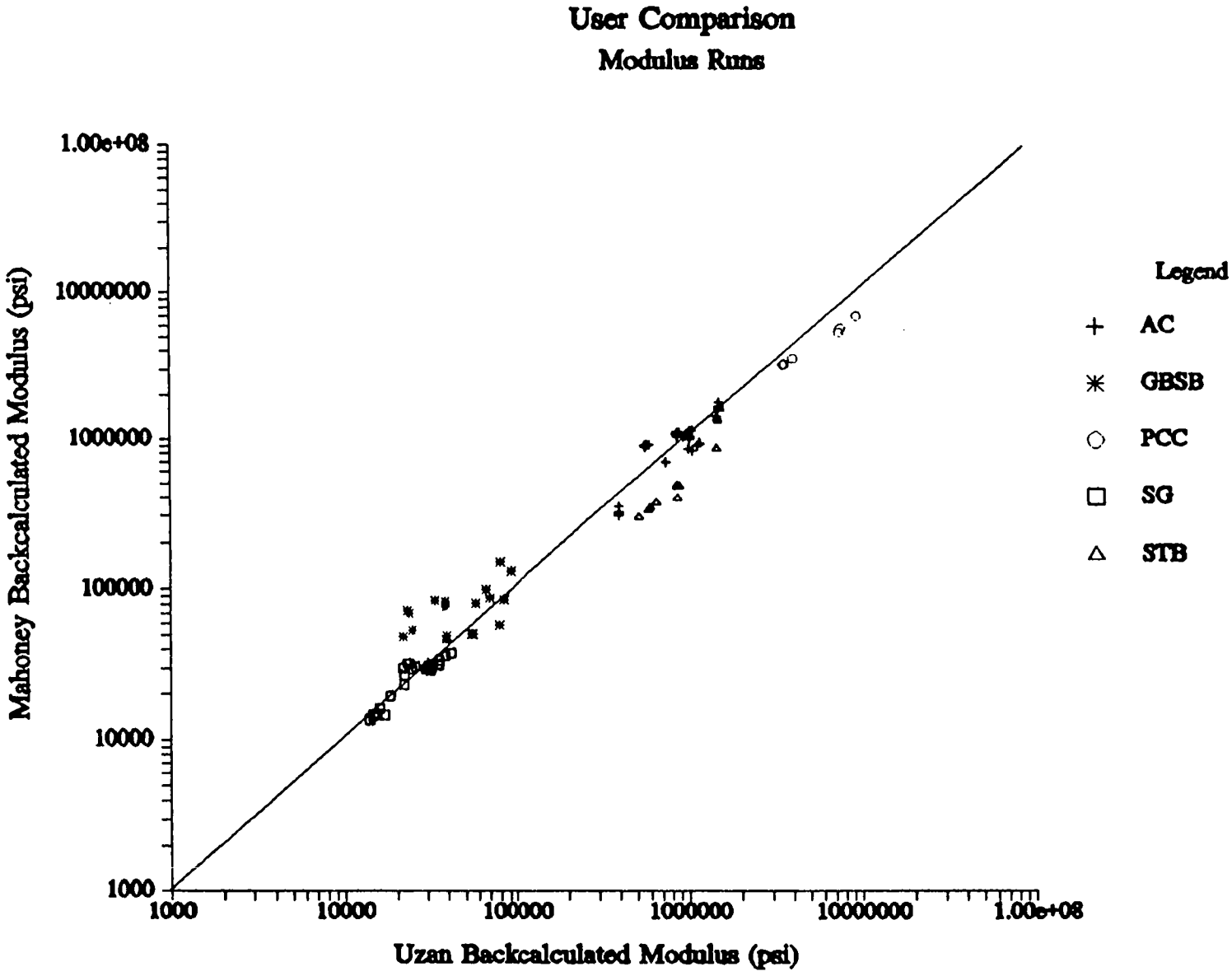
1.00e+08
Uzan Backcalculated Modulus (psi)
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modulus Runs
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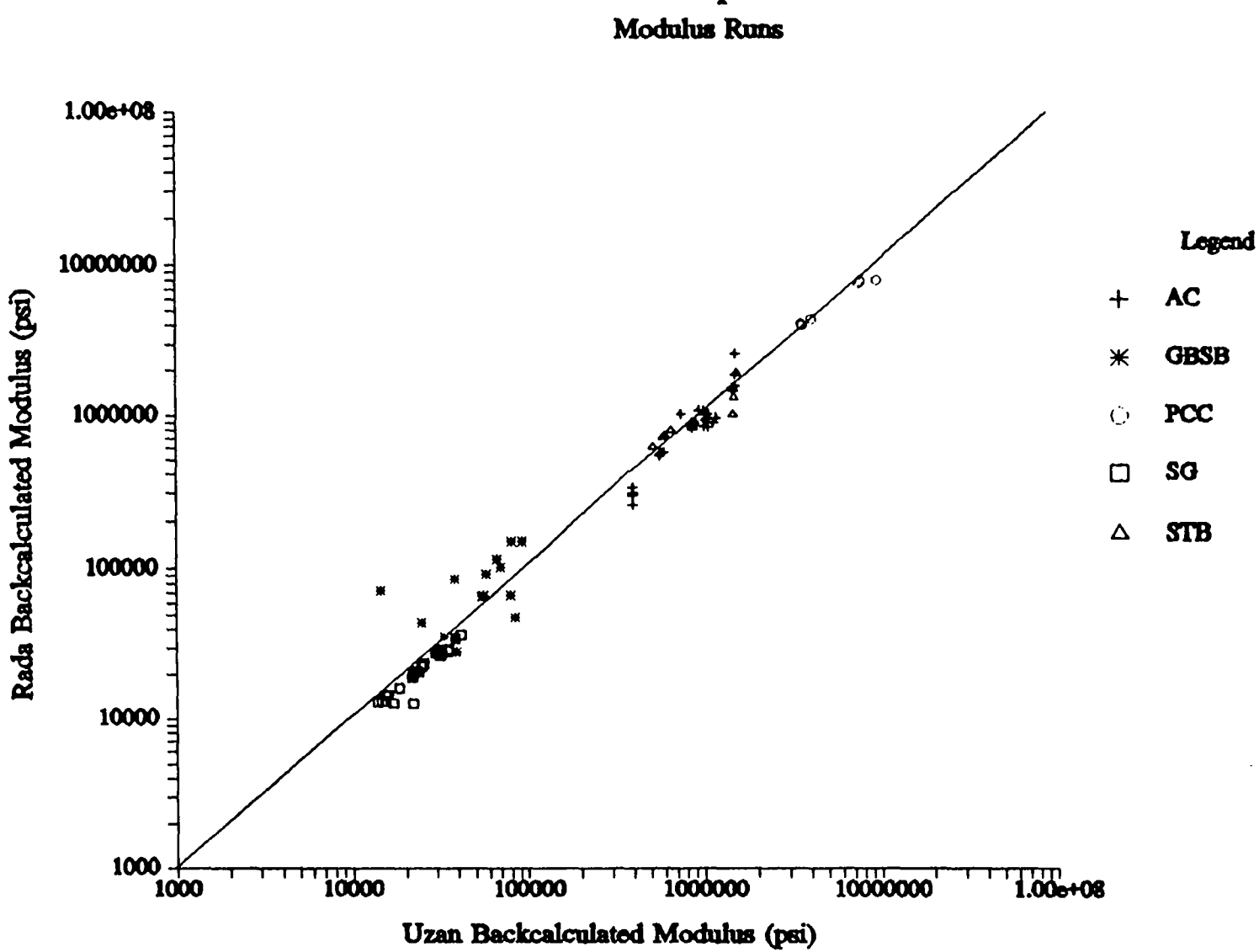
1.00e+08
Uzan Backcalculated Modulus (psi)
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modulus Runs
Rada Backcalculated Modulus (psi)
Uzan Backcalculated Modulus (psi)
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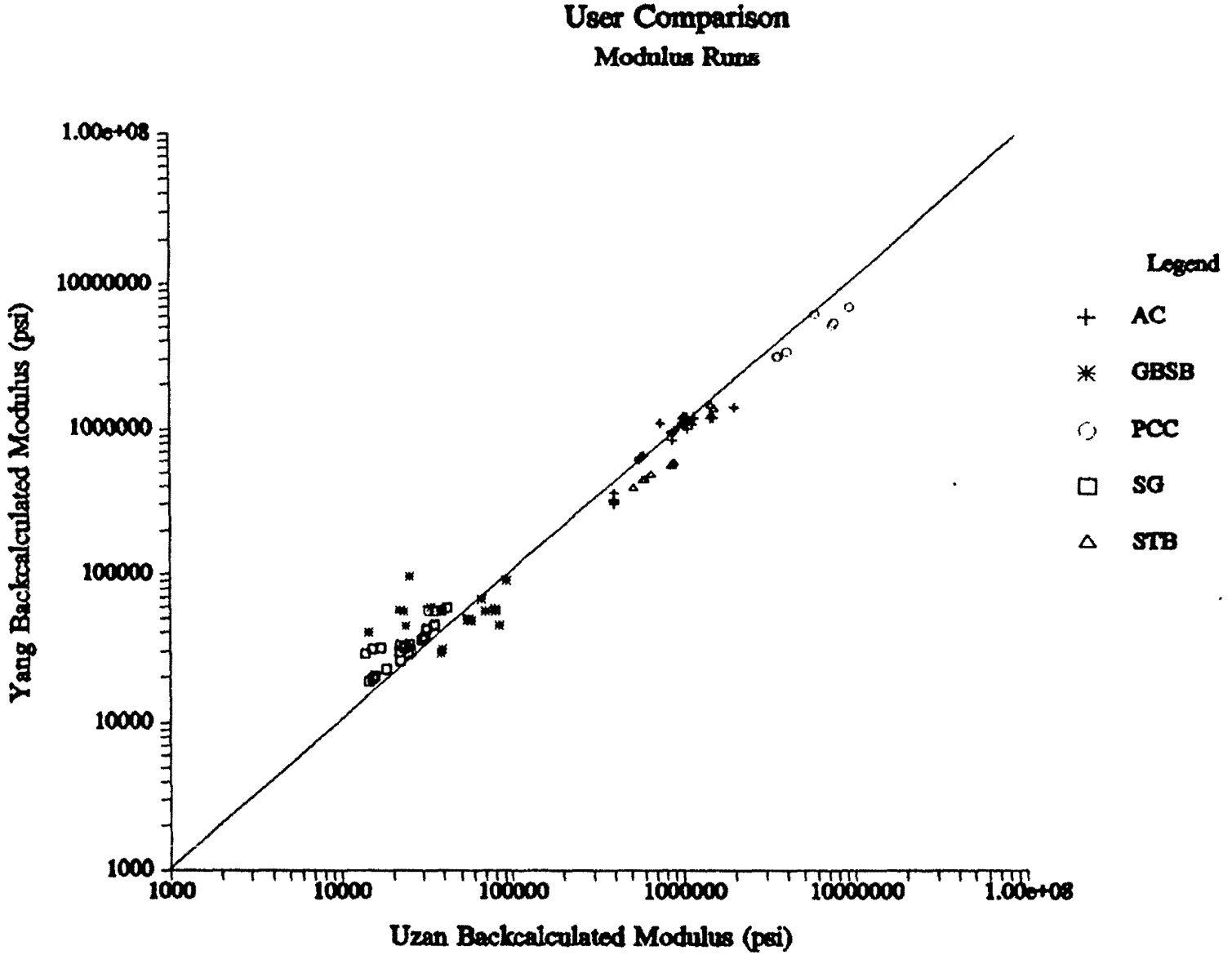
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Modulus Runs
Yang Backcalculated Modulus (psi)
Uzan Backcalculated Modulus (psi)
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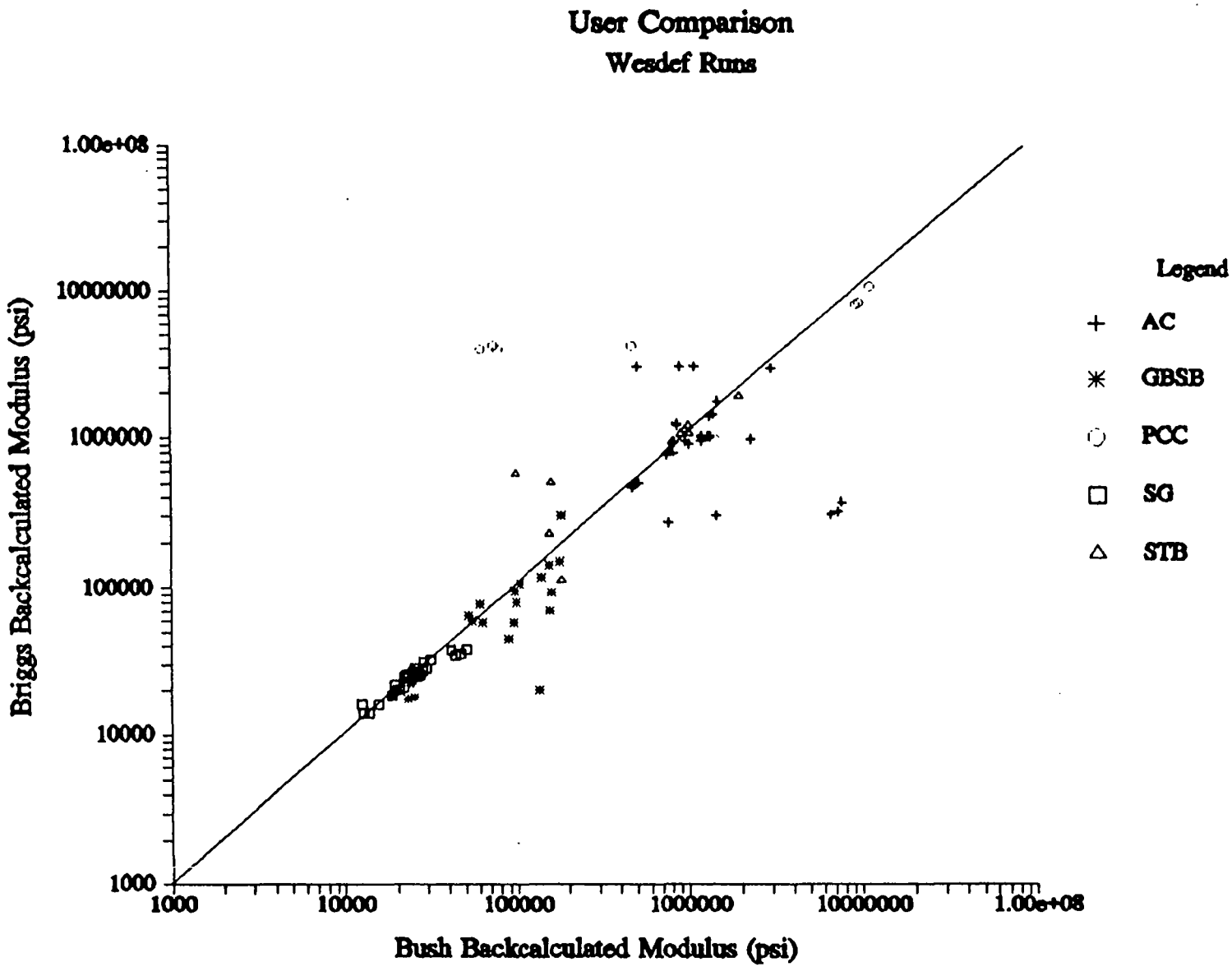
10000000
1.00e+08
Legend
AC
GBSB
PCC
SG
STB

WESDEF (BUSH)


User Comparison
Wesdef Runs
Briggs Backcalculated Modulus (psi)
Bush Backcalculated Modulus (psi)
1.00e+08
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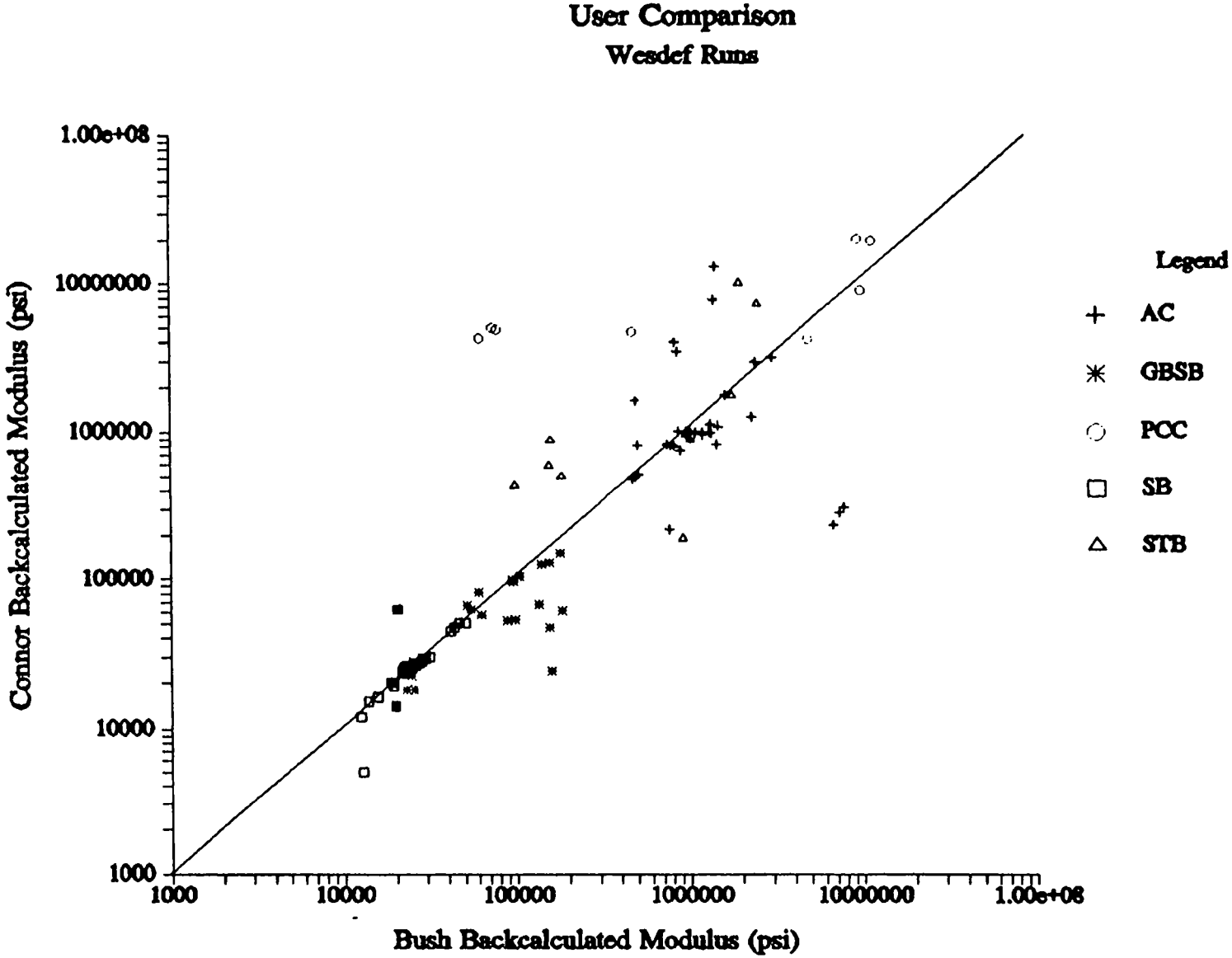
Legend
AC
GBSB
PCC
SG
STB


User Comparison
Wesdef Runs
Connor Backcalculated Modulus (psi)
Bush Backcalculated Modulus (psi)
1.00e+08
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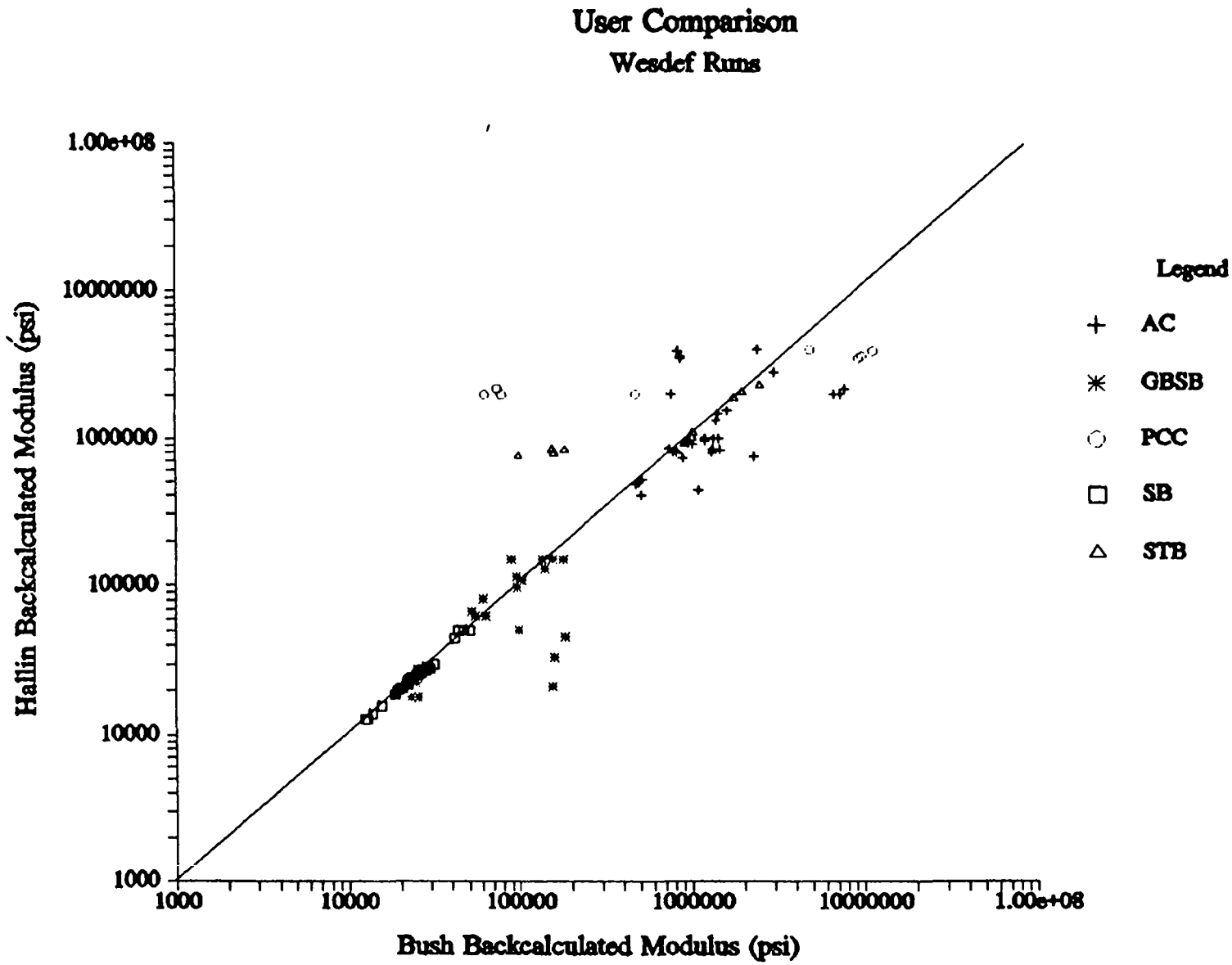
Legend
AC
GBSB
PCC
SB
STB


User Comparison
Wesdef Runs
Hallin Backcalculated Modulus (psi)
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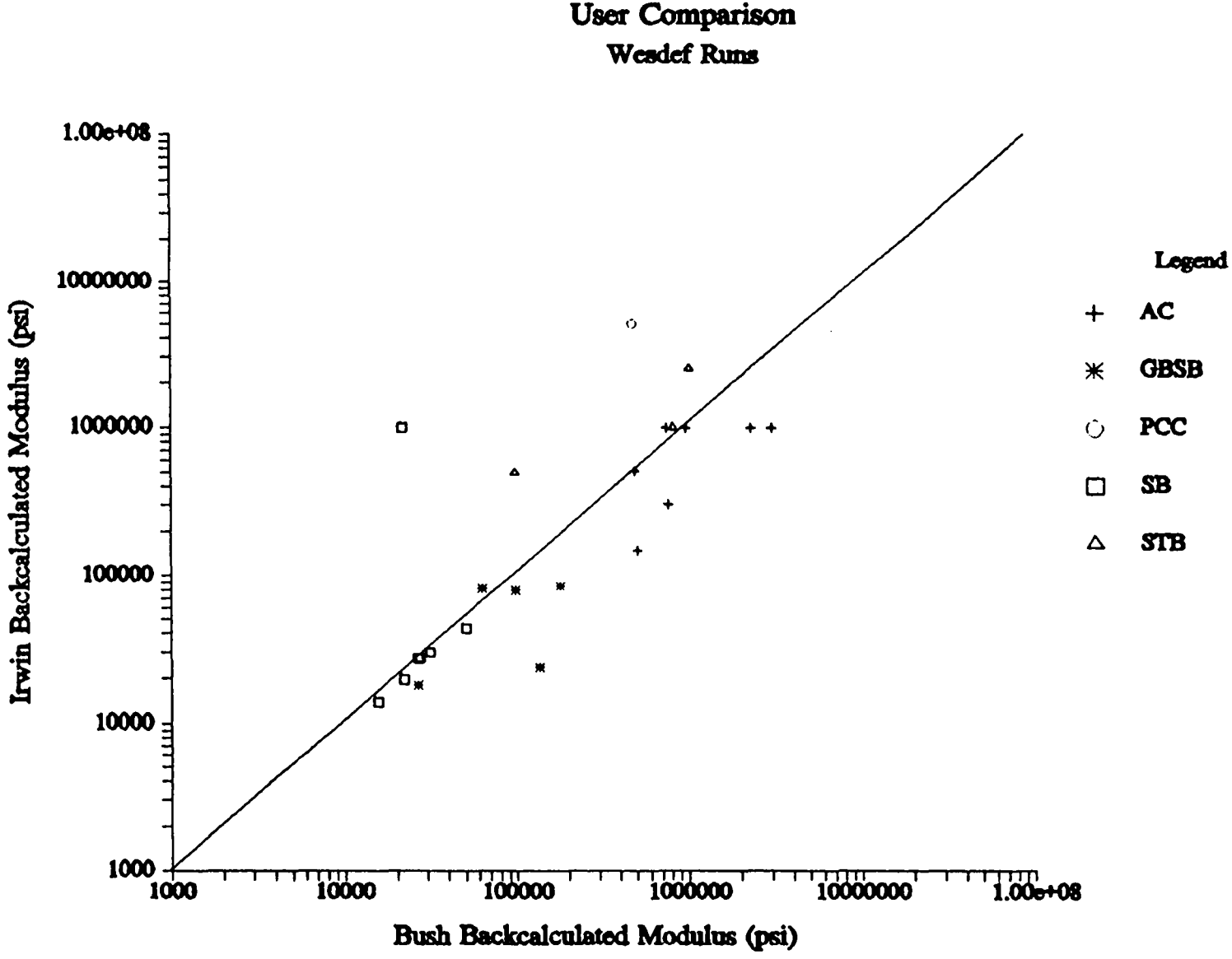
10000000
1.00e+08
Bush Backcalculated Modulus (psi)
Legend
AC
GBSB
PCC
SB
STB


User Comparison
Wesdef Runs
Irwin Backcalculated Modulus (psi)
Bush Backcalculated Modulus (psi)
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Legend
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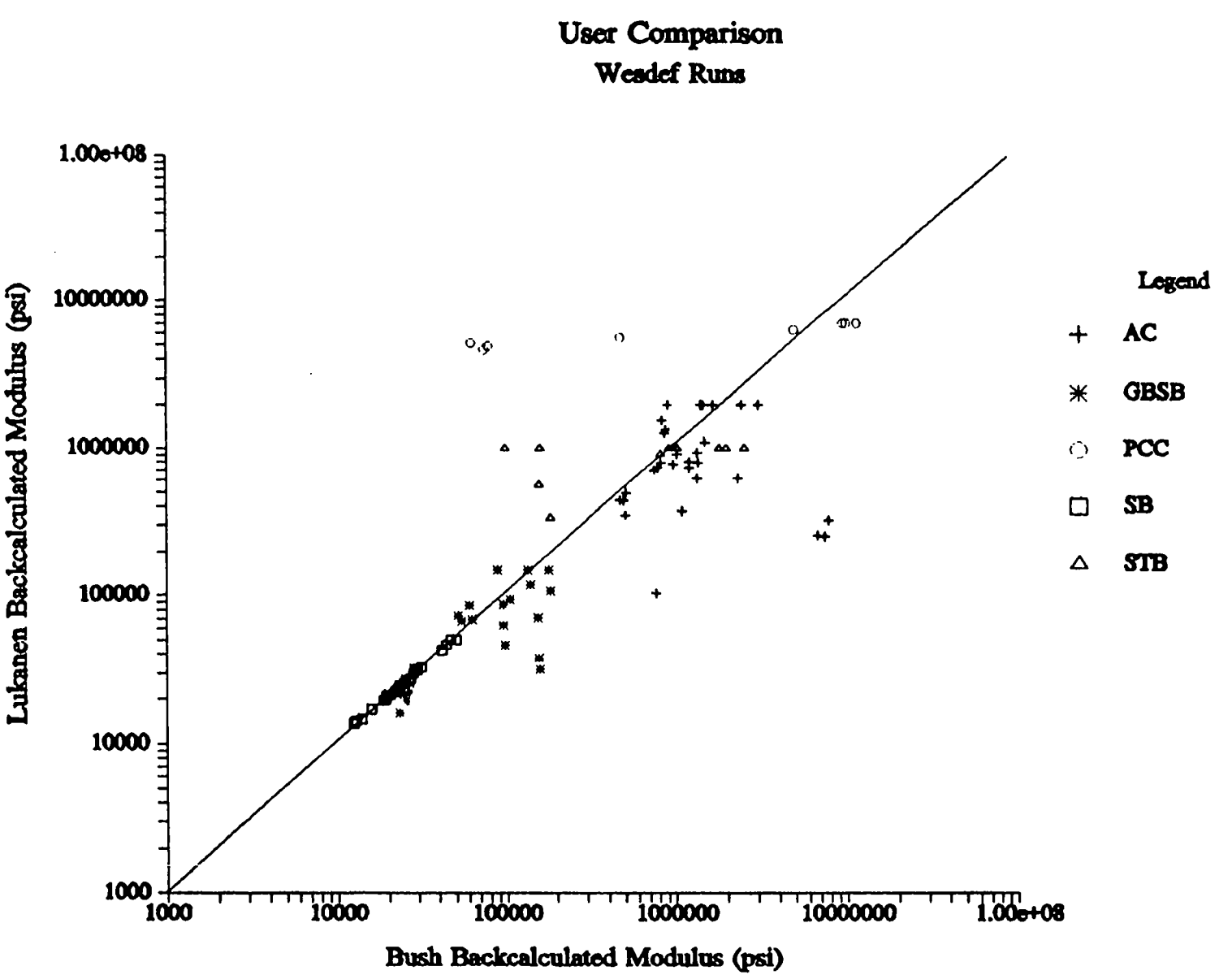
GBSB
PCC
SB
STB


User Comparison
Wesdef Runs
Lukanen Backcalculated Modulus (psi)
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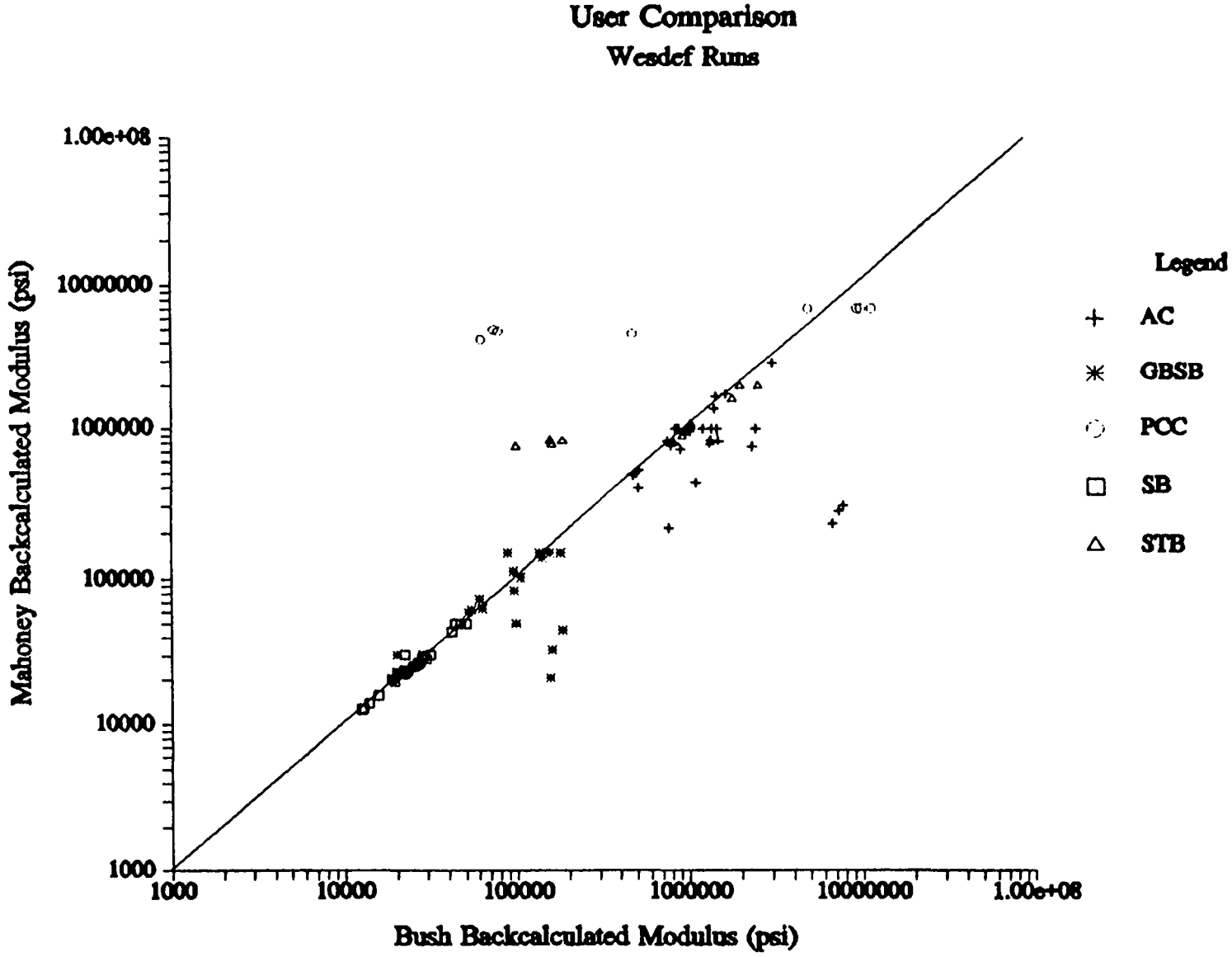
1.00e+08
Bush Backcalculated Modulus (psi)
Legend
AC
GBSB
PCC
SB
STB


User Comparison
Wesdef Runs
Mahoney Backcalculated Modulus (psi)
Bush Backcalculated Modulus (psi)
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Legend
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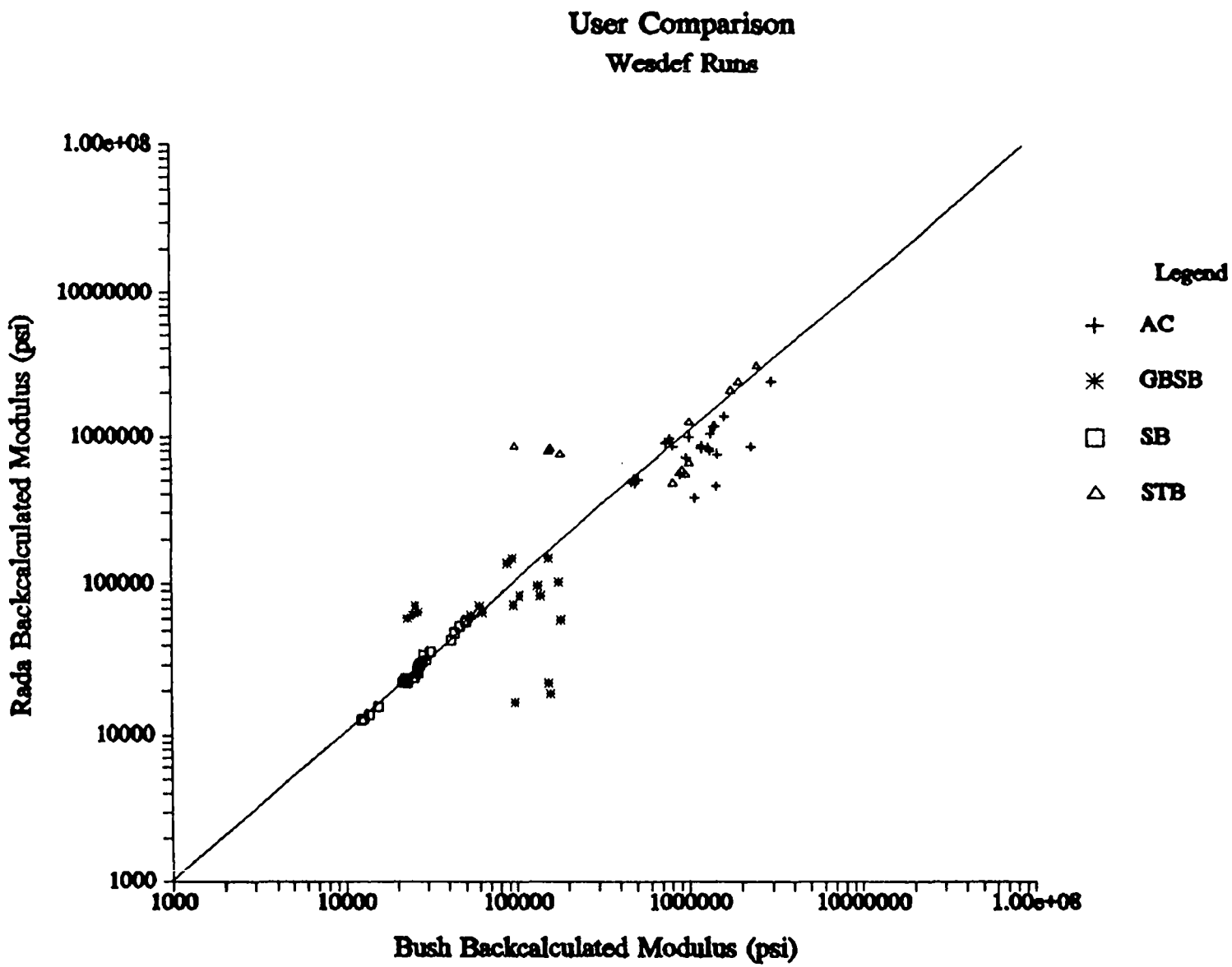
STB


User Comparison
Wesdef Runs
Rada Backcalculated Modulus (psi)
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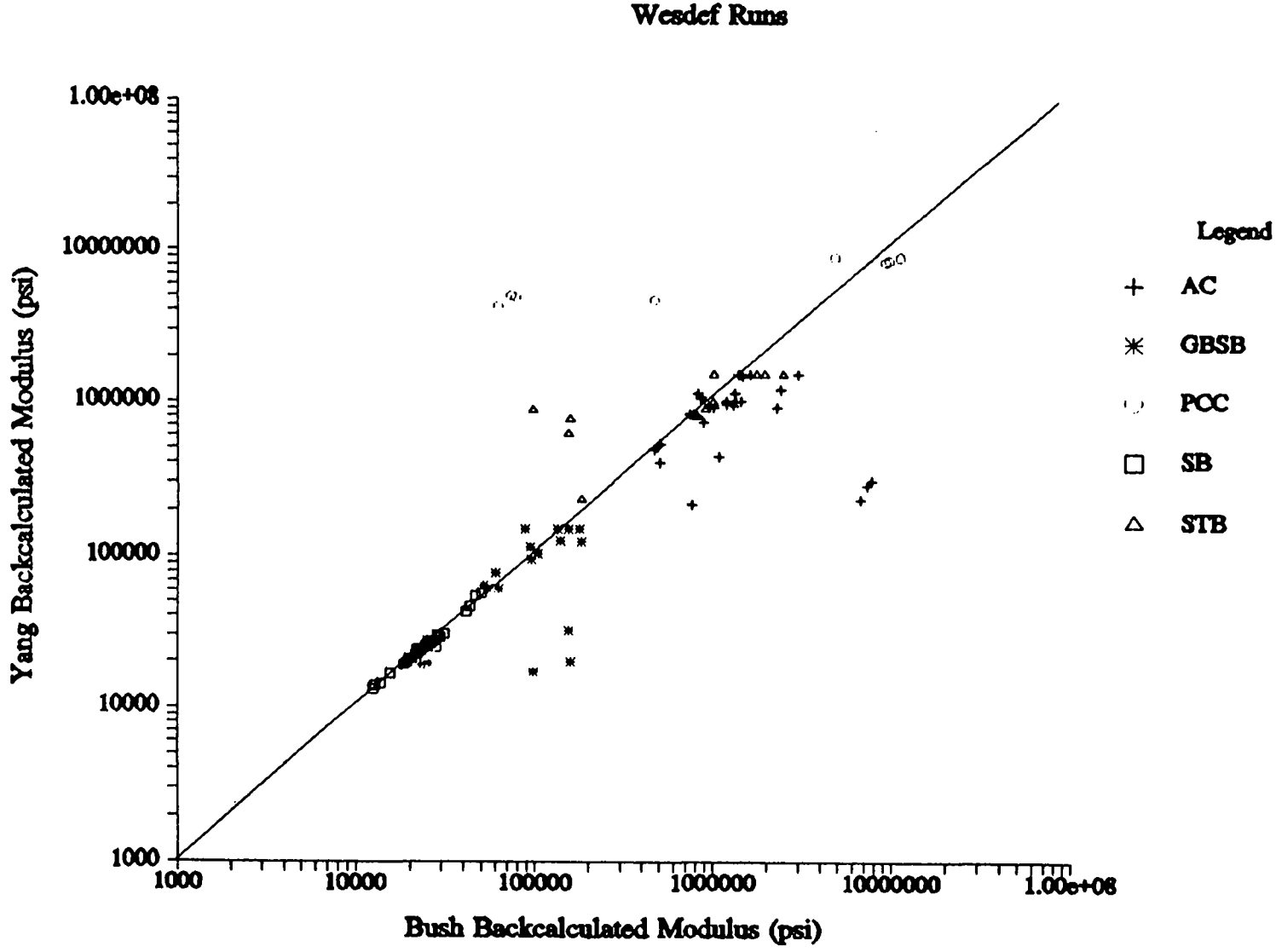
Bush Backcalculated Modulus (psi)
Legend
AC
GBSB
SB
STB


User Comparison
Wesdef Runs
Yang Backcalculated Modulus (psi)
Bush Backcalculated Modulus (psi)
1.00e+08
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10000
100000
1000000
10000000
1.00e+08
Legend
AC
GBSB
PCC
SB
STB

APPENDIX D

MATERIALS DATA AND OTHER INFORMATION
AC SURFACED PAVEMENTS

Layer 1: Asphaltic Concrete Surface

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.219
Maximum Specific Gravity:	2.371
Asphalt Content:	5.6%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	100.0%
Passing 3/4":	100.0%
Passing 1/2":	99.1%
Passing 3/8":	92.7%
Passing #4:	60.6%
Passing #10:	39.2%
Passing #40:	25.2%
Passing #80:	15.6%
Passing #200:	4.8%

Layer 2: Crushed Limestone Base

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	98.0%	99.0%
Passing 1.0":	96.0%	94.0%	95.0%
Passing 3/4":	90.0%	89.0%	90.0%
Passing 1/2":	80.0%	78.0%	79.0%
Passing 3/8":	69.0%	71.0%	70.0%
Passing #4:	58.0%	53.0%	56.0%
Passing #10:	44.0%	51.0%	48.0%
Passing #40:	34.0%	22.0%	28.0%
Passing #80:	24.0%	5.0%	15.0%
Pass. #200:	13.2%	1.9%	7.6%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		133.6 pcf
Density, Dry:		126.0 pcf
Moisture:		6.1%

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	5.1%	5.9%	5.3%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	7.0%	9.0%	8.0%
Maximum Density:	136.0 pcf	130.0 pcf	133.0 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

This appendix contains the materials data and other pertinent information for each of the eight (8) AC surfaced pavement sections looked at in the study. The purpose of this information was to help ETG members in assessing the reasonableness of the moduli backcalculated by each program. This information was not available until late in the software evaluation process.

MATERIALS DATA AND OTHER INFORMATION

Section: A

Project Information

State:	Florida
Pavement Type:	AC on Granular Base
Year Open:	1974
Environment:	
Moisture:	Wet
Temperature:	No-freeze
Traffic:	
AADT:	102,795
ESALs:	490,000/year
Trucks:	7.7%
Year:	1987
Shoulder Type:	AC Surfaced

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Asphaltic Concrete Surface (1.1" of porous friction course, 3.9" original AC surface)	5.0
2	Crushed Limestone Base	13.4
3	Soil/Aggregate (Fine) Subbase	12.0
4	Sand Subgrade	

Temperature Data

Air Temperature:	75.0°F	
Pavement Temperature		
Surface:	67.0°F	
Depth = 1":	70.7°F	(1.5 hrs after testing)
Depth = 3":	70.4°F	(1.5 hrs after testing)
Depth = 4":	70.8°F	(1.5 hrs after testing)

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 3: Soil/Aggregate (Fine) Subbase

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	94.0%	97.0%
Passing 3/4":	100.0%	93.0%	97.0%
Passing 1/2":	97.0%	90.0%	94.0%
Passing 3/8":	94.0%	89.0%	92.0%
Passing #4:	88.0%	85.0%	87.0%
Passing #10:	84.0%	83.0%	84.0%
Passing #40:	74.0%	73.0%	74.0%
Passing #80:	33.0%	29.0%	31.0%
Pass. #200:	8.6%	4.1%	6.4%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		111.5 pcf
Density, Dry:		107.4 pcf
Moisture:		3.8%

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	3.1%	3.1%	3.1%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	10.0%	9.0%	10.0%
Maximum Density:	117.0 pcf	112.0 pcf	115.0 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

Layer 4: Sand Subgrade (AASHTO Classification: A-3)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	100.0%	100.0%
Passing 3/4":	100.0%	100.0%	100.0%
Passing 1/2":	100.0%	100.0%	100.0%
Passing 3/8":	100.0%	100.0%	100.0%
Passing #4:	99.0%	100.0%	100.0%
Passing #10:	99.0%	100.0%	100.0%
Passing #40:	91.0%	73.0%	82.0%
Passing #80:	37.0%	29.0%	33.0%
Pass #200:	2.6%	1.0%	1.8%
< 0.02mm:	2.4%	1.3%	1.9%
< 0.002mm:	1.8%	0.7%	1.3%
< 0.001mm:	1.8%	0.4%	1.1%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		105.9 pcf
Density, Dry:		104.7 pcf
Moisture:		1.2%

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	2.4%	5.9%	4.2%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	11.0%	12.0%	12.0%
Maximum Density:	106.0 pcf	102.0 pcf	104.0 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

MATERIALS DATA AND OTHER INFORMATION

Section: **B**

Project Information

State:	Michigan
Pavement Type:	AC on Granular Base
Year Open:	1984
Environment:	
Moisture:	Wet
Temperature:	Freeze
Traffic:	
AADT:	8,400
ESALs:	58,000/year
Trucks:	5.0%
Year:	1984
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Asphaltic Concrete Surface	4.2
2	Soil Aggregate Mix Base	5.0
3	Sand Subgrade	

Temperature Data

Air Temperature:	63.0°F	
Pavement Temperature		
Surface:	63.0°F	
Depth = 1":	72.6°F	(1.5 hrs after testing)
Depth = 1.5":	70.9°F	(1.5 hrs after testing)
Depth = ___:	_____	

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Asphaltic Concrete Surface

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.362
Maximum Specific Gravity:	2.489
Asphalt Content:	5.0%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	100.0%
Passing 3/4":	100.0%
Passing 1/2":	96.0%
Passing 3/8":	87.0%
Passing #4:	70.0%
Passing #10:	56.0%
Passing #40:	29.0%
Passing #80:	13.0%
Passing #200:	7.0%

Layer 2: Soil Aggregate Mix Base

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	100.0%	100.0%
Passing 3/4":	98.0%	97.0%	98.0%
Passing 1/2":	87.0%	85.0%	86.0%
Passing 3/8":	80.0%	76.0%	78.0%
Passing #4:	62.0%	59.0%	61.0%
Passing #10:	45.0%	46.0%	46.0%
Passing #40:	22.0%	22.0%	22.0%
Passing #80:	12.0%	12.0%	12.0%
Pass. #200:	7.5%	7.1%	7.3%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:	Device not Working	
Density, Dry:	Device not Working	
Moisture:	Device not Working	

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	2.9%	3.0%	3.0%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	6.0%	6.0%	6.0%
Maximum Density:	143.0 pcf	144.0 pcf	144.0 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

Layer 3: Sand Subgrade (AASHTO Classification: A-3)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	100.0%	100.0%
Passing 3/4":	100.0%	100.0%	100.0%
Passing 1/2":	99.0%	100.0%	100.0%
Passing 3/8":	99.0%	100.0%	100.0%
Passing #4:	97.0%	100.0%	99.0%
Passing #10:	96.0%	100.0%	98.0%
Passing #40:	65.0%	88.0%	77.0%
Passing #80:	8.0%	18.0%	13.0%
Pass #200:	1.9%	1.0%	1.5%
< 0.02mm:	1.2%	0.5%	0.9%
< 0.002mm:	0.5%	0.3%	0.4%
< 0.001mm:	0.0%	0.0%	0.0%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:	Device not Working	
Density, Dry:	Device not Working	
Moisture:	Device not Working	

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	4.4%	4.0%	4.2%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	7.0%	13.0%	10.0%
Maximum Density:	110.0 pcf	104.0 pcf	107.0 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

MATERIALS DATA AND OTHER INFORMATION

Section: C

Project Information

State:	North Carolina
Pavement Type:	AC on Bound Base
Year Open:	1985
Environment:	
Moisture:	Wet
Temperature:	No freeze
Traffic:	
AADT:	8,800
ESALs:	400,000/year
Trucks:	27.0%
Year:	1985
Shoulder Type:	AC Surfaced

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Asphaltic Concrete Surface	1.9
2	Asphaltic Concrete Below Surf.	6.0
3	Soil Cement Base	8.4
4	Silty Sand Subgrade	

Temperature Data

Air Temperature:	46.0°F	
Pavement Temperature		
Surface:	45.0°F	
Depth = 1" :	50.0°F	(30 min. after testing)
Depth = 2" :	53.0°F	(30 min. after testing)
Depth = 4" :	54.0°F	(30 min. after testing)

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Asphaltic Concrete Surface

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.335
Maximum Specific Gravity:	2.451
Asphalt Content:	4.1%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	99.0%
Passing 3/4":	94.0%
Passing 1/2":	72.0%
Passing 3/8":	60.0%
Passing #4:	43.0%
Passing #10:	35.0%
Passing #40:	18.0%
Passing #80:	8.0%
Passing #200:	3.0%

Layer 2: Asphaltic Concrete Below Surface

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.353
Maximum Specific Gravity:	2.445
Asphalt Content:	4.2%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	100.0%
Passing 3/4":	100.0%
Passing 1/2":	99.0%
Passing 3/8":	94.0%
Passing #4:	66.5%
Passing #10:	51.5%
Passing #40:	27.5%
Passing #80:	11.5%
Passing #200:	5.5%

Layer 3: Soil Cement Base

Aggregate Type:	Fine Sand
Treatment Type:	Portland Cement
Comp. Strength:	1,220 psi

Layer 4: Silty Sand Subgrade (AASHTO Classification: A-3)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	100.0%	100.0%
Passing 3/4":	100.0%	100.0%	100.0%
Passing 1/2":	100.0%	100.0%	100.0%
Passing 3/8":	100.0%	100.0%	100.0%
Passing #4:	100.0%	100.0%	100.0%
Passing #10:	100.0%	100.0%	100.0%
Passing #40:	93.0%	88.0%	91.0%
Passing #80:	49.0%	43.0%	46.0%
Pass #200:	6.3%	2.6%	4.5%
< 0.02mm:	3.4%	2.0%	2.7%
< 0.002mm:	1.2%	0.0%	0.6%
< 0.001mm:	1.1%	0.0%	0.6%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:	Device not Working	
Density, Dry:	Device not Working	
Moisture:	Device not Working	

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	Not Available		

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	12.0%	12.0%	12.0%
Maximum Density:	107.0 pcf	105.0 pcf	106.0 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

MATERIALS DATA AND OTHER INFORMATION

Section: **D**

Project Information

State:	Virginia
Pavement Type:	AC on Bound Base
Year Open:	1981
Environment:	
Moisture:	Wet
Temperature:	Freeze
Traffic:	
AADT:	1,960
ESALs:	49,000/year
Trucks:	16.3%
Year:	1985
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Asphaltic Concrete Surface	1.5
2	Asphaltic Concrete Below Surf.	5.8
3	Cement Treated Base	5.5
4	Silty Subgrade	

Temperature Data

Air Temperature:	45.0°F	
Pavement Temperature		
Surface:	40.0°F	
Depth = 1" :	53.0°F	(10 min. after testing)
Depth = 4" :	53.0°F	(10 min. after testing)
Depth = 6" :	52.0°F	(10 min. after testing)

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Asphaltic Concrete Surface

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.230
Maximum Specific Gravity:	2.358
Asphalt Content:	6.4%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	100.0%
Passing 3/4":	100.0%
Passing 1/2":	97.0%
Passing 3/8":	96.0%
Passing #4:	67.0%
Passing #10:	43.0%
Passing #40:	18.0%
Passing #80:	10.0%
Passing #200:	5.9%

Layer 2: Asphaltic Concrete Below Surface

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.321
Maximum Specific Gravity:	2.433
Asphalt Content:	4.6%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	99.0%
Passing 3/4":	86.0%
Passing 1/2":	58.0%
Passing 3/8":	50.0%
Passing #4:	41.0%
Passing #10:	36.0%
Passing #40:	15.0%
Passing #80:	8.0%
Passing #200:	4.8%

Layer 3: Cement Treated Base

Aggregate Type:	Crushed Stone
Treatment Type:	Portland Cement
Com. Strength:	1,490 psi

Layer 4: Silty Sand Subgrade (AASHTO Classification: A-4 at station 0- and A-1-b at station 5+)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	93.0%	97.0%
Passing 2.0":	100.0%	92.0%	96.0%
Passing 1.5":	100.0%	90.0%	95.0%
Passing 1.0":	100.0%	87.0%	94.0%
Passing 3/4":	100.0%	84.0%	92.0%
Passing 1/2":	100.0%	79.0%	90.0%
Passing 3/8":	100.0%	74.0%	87.0%
Passing #4:	99.0%	64.0%	82.0%
Passing #10:	98.0%	56.0%	77.0%
Passing #40:	98.0%	35.0%	66.0%
Passing #80:	97.2%	22.0%	60.0%
Pass #200:	34.0%	9.2%	53.2%
< 0.02mm:	16.3%	1.6%	17.8%
< 0.002mm:	16.3%	0.9%	8.6%
< 0.001mm:	1.1%	0.9%	8.6%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		117.3 pcf
Density, Dry:		91.3 pcf
Moisture:		28.5%

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	27.4%	20.2%	25.6%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	25.0%	18.0%	22.0%
Maximum Density:	92.0 pcf	105.0 pcf	99.0 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

MATERIALS DATA AND OTHER INFORMATION

Section: E

Project Information

State:	Tennessee
Pavement Type:	AC Overlay of AC Pavement
Year Open:	1974
Year Overlaid:	1985
Environment:	
Moisture:	Wet
Temperature:	No freeze
Traffic:	
AADT:	17,000
ESALs:	555,000/year
Trucks:	19.0%
Year:	1985
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Asphaltic Concrete Overlay	1.2
2	Asphaltic Concrete Leveler	1.6
3	Asphaltic Concrete Binder	2.5
4	Asphaltic Concrete Surf./Binder	2.4
5	Asphaltic Concrete Base	6.4
6	Crushed Stone Base	7.0
7	Lime Treated Subgrade ??	6.0
8	Silty Clay/Clayey Silt Subgrade	

Temperature Data

Air Temperature:	62.0°F	
Pavement Temperature		
Surface:	60.0°F	
Depth = 1":	67.0°F	(30 min. after testing)
Depth = 4":	68.2°F	(30 min. after testing)
Depth = 7":	71.1°F	(30 min. after testing)

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Asphaltic Concrete Overlay

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	Not Available
Maximum Specific Gravity:	Not Available
Asphalt Content:	Not Available
Aggregate Gradation:	
Passing 1.5":	Not Available
Passing 1.0":	Not Available
Passing 3/4":	Not Available
Passing 1/2":	Not Available
Passing 3/8":	Not Available
Passing #4:	Not Available
Passing #10:	Not Available
Passing #40:	Not Available
Passing #80:	Not Available
Passing #200:	Not Available

Layer 2: Asphaltic Concrete Leveler

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.354
Maximum Specific Gravity:	2.524
Asphalt Content:	5.0%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	100.0%
Passing 3/4":	100.0%
Passing 1/2":	97.7%
Passing 3/8":	84.7%
Passing #4:	48.5%
Passing #10:	28.8%
Passing #40:	14.5%
Passing #80:	10.5%
Passing #200:	8.5%

Layer 3: Asphaltic Concrete Binder

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.473
Maximum Specific Gravity:	2.535
Asphalt Content:	4.4%
Aggregate Gradation:	
Passing 1.5":	99.3%
Passing 1.0":	89.0%
Passing 3/4":	84.0%
Passing 1/2":	77.8%
Passing 3/8":	70.0%
Passing #4:	50.9%
Passing #10:	31.4%
Passing #40:	14.9%
Passing #80:	10.6%
Passing #200:	8.6%

Layer 4: Asphaltic Concrete Surface/Binder

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.237
Maximum Specific Gravity:	2.486
Asphalt Content:	4.3%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	100.0%
Passing 3/4":	100.0%
Passing 1/2":	89.3%
Passing 3/8":	76.6%
Passing #4:	55.7%
Passing #10:	34.1%
Passing #40:	13.8%
Passing #80:	9.4%
Passing #200:	7.1%

Layer 5: Asphaltic Concrete Base

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.380
Maximum Specific Gravity:	2.572
Asphalt Content:	2.8%
Aggregate Gradation:	
Passing 1.5":	84.2%
Passing 1.0":	48.5%
Passing 3/4":	40.9%
Passing 1/2":	36.0%
Passing 3/8":	32.7%
Passing #4:	25.7%
Passing #10:	17.3%
Passing #40:	8.6%
Passing #80:	6.2%
Passing #200:	4.7%

Layer 6: Crushed Stone Base

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	Not Available		
Passing 2.0":	Not Available		
Passing 1.5":	Not Available		
Passing 1.0":	Not Available		
Passing 3/4":	Not Available		
Passing 1/2":	Not Available		
Passing 3/8":	Not Available		
Passing #4:	Not Available		
Passing #10:	Not Available		
Passing #40:	Not Available		
Passing #80:	Not Available		
Pass #200:	Not Available		
< 0.02mm:	Not Available		
< 0.002mm:	Not Available		
< 0.001mm:	Not Available		

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		138.9 pcf
Density, Dry:		134.1 pcf
Moisture:		3.5%

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	Not Available		

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	Not Available		
Maximum Density:	Not Available		

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	Not Available	
Plastic Limit:	Not Available	
Plastic Index:	Not Available	

Layer 7: Lime Treated Subgrade

This particular layer is included in the Section Field Verification Form but does not appear in any of the actual coring/boring sheets.

Layer 8: Silty Clay to Clayey Silt Subgrade (AASHTO Classification: ??)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	Not Available		
Passing 2.0":	Not Available		
Passing 1.5":	Not Available		
Passing 1.0":	Not Available		
Passing 3/4":	Not Available		
Passing 1/2":	Not Available		
Passing 3/8":	Not Available		
Passing #4:	Not Available		
Passing #10:	Not Available		
Passing #40:	Not Available		
Passing #80:	Not Available		
Pass #200:	Not Available		
< 0.02mm:	Not Available		
< 0.002mm:	Not Available		
< 0.001mm:	Not Available		

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		116.6 pcf
Density, Dry:		91.9 pcf
Moisture:		26.9%

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	Not Available		

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	Not Available		
Maximum Density:	Not Available		

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	Not Available	
Plastic Limit:	Not Available	
Plastic Index:	Not Available	

Section: F

Project Information

State:	Kentucky
Pavement Type:	AC Overlay over AC Pavement
Year Open:	1971
Year Overlaid:	1979
Environment:	
Moisture:	Wet
Temperature:	Freeze
Traffic:	
AADT:	4,800
ESALs:	629,000/year
Trucks:	15.1%
Year:	1987
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Asphaltic Concrete Overlay	1.4
2	Asphaltic Concrete Binder	0.8
3	Asphaltic Concrete Surface	2.6
4	Asphaltic Concrete Binder	2.9
5	Crushed Limestone Base	14.5
6	Silty Sand Subgrade (pieces of shale and sandstone, weathered in some cases, are found at variable depths)	

Temperature Data

Air Temperature:	55.0°F	
Pavement Temperature		
Surface:	50.0°F	
Depth = 1":	62.0°F	(25 min. after testing)
Depth = 4":	60.3°F	(25 min. after testing)
Depth = 6.8":	61.4°F	(25 min. after testing)

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Asphaltic Concrete Overlay

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	Not Available
Maximum Specific Gravity:	Not Available
Asphalt Content:	Not Available
Aggregate Gradation:	
Passing 1.5":	Not Available
Passing 1.0":	Not Available
Passing 3/4":	Not Available
Passing 1/2":	Not Available
Passing 3/8":	Not Available
Passing #4:	Not Available
Passing #10:	Not Available
Passing #40:	Not Available
Passing #80:	Not Available
Passing #200:	Not Available

Layer 2: Asphaltic Concrete Binder

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	Not Available
Maximum Specific Gravity:	Not Available
Asphalt Content:	Not Available
Aggregate Gradation:	
Passing 1.5":	Not Available
Passing 1.0":	Not Available
Passing 3/4":	Not Available
Passing 1/2":	Not Available
Passing 3/8":	Not Available
Passing #4:	Not Available
Passing #10:	Not Available
Passing #40:	Not Available
Passing #80:	Not Available
Passing #200:	Not Available

Layer 3: Asphaltic Concrete Surface

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.458
Maximum Specific Gravity:	2.493
Asphalt Content:	4.6%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	100.0%
Passing 3/4":	92.0%
Passing 1/2":	80.0%
Passing 3/8":	70.0%
Passing #4:	51.0%
Passing #10:	38.0%
Passing #40:	21.0%
Passing #80:	13.0%
Passing #200:	8.0%

Layer 4: Asphaltic Concrete Binder

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.461
Maximum Specific Gravity:	2.495
Asphalt Content:	5.0%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	98.0%
Passing 3/4":	92.0%
Passing 1/2":	70.0%
Passing 3/8":	62.0%
Passing #4:	48.0%
Passing #10:	33.0%
Passing #40:	21.0%
Passing #80:	12.0%
Passing #200:	7.2%

Layer 5: Crushed Limestone Base

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	100.0%	100.0%
Passing 3/4":	99.0%	99.0%	99.0%
Passing 1/2":	89.0%	85.0%	87.0%
Passing 3/8":	80.0%	75.0%	78.0%
Passing #4:	59.0%	55.0%	57.0%
Passing #10:	44.0%	40.0%	42.0%
Passing #40:	25.0%	23.0%	24.0%
Passing #80:	17.0%	15.0%	16.0%
Pass. #200:	11.5%	10.9%	11.2%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		141.4 pcf
Density, Dry:		137.5 pcf
Moisture:		2.9%

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	2.7%	2.5%	2.6%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	6.0%	6.0%	6.0%
Maximum Density:	143.0 pcf	142.0 pcf	143.0 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

Layer 6: Silty Sand Subgrade (AASHTO Classification: A-1-b)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	98.0%	99.0%
Passing 2.0":	100.0%	96.0%	98.0%
Passing 1.5":	99.0%	94.0%	97.0%
Passing 1.0":	95.0%	89.0%	92.0%
Passing 3/4":	92.0%	84.0%	88.0%
Passing 1/2":	86.0%	76.0%	81.0%
Passing 3/8":	81.0%	69.0%	75.0%
Passing #4:	69.0%	52.0%	61.0%
Passing #10:	57.0%	42.0%	50.0%
Passing #40:	34.0%	33.0%	34.0%
Passing #80:	23.0%	30.0%	27.0%
Pass. #200:	17.8%	27.2%	22.5%
< 0.02mm:	13.3%	18.2%	15.8%
< 0.002mm:	4.2%	5.4%	4.8%
< 0.001mm:	0.0%	0.0%	0.0%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		145.2 pcf
Density, Dry:		132.0 pcf
Moisture:		10.2%

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	4.9%	9.0%	7.0%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	9.0%	13.0%	11.0%
Maximum Density:	130.0 pcf	128.0 pcf	11290 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	20	27
Plastic Limit:	17	21
Plastic Index:	3	6

Section: G

Project Information

State:	Nebraska
Pavement Type:	AC Overlay over PCC Pavement
Year Open:	1961
Year Overlaid:	1983
Environment:	
Moisture:	Dry
Temperature:	Freeze
Traffic:	
AADT:	16,860
ESALs:	380,000/year
Trucks:	19.0%
Year:	1985
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Asphaltic Concrete Surface (0.8" of porous friction course, 4.5" of AC surface)	5.3
2	Jointed Plain PCC Surface	9.6
3	Sand Base	4.0
4	Silty Sand Subgrade	

Temperature Data

Air Temperature:	77.0°F	
Pavement Temperature		
Surface:	86.0°F	
Depth = 1":	85.4°F	(5 min. before testing)
Depth = 2.5":	81.0°F	(5 min. before testing)
Depth = 4.5":	78.6°F	(5 min. before testing)
Depth = 8.6":	79.6°F	(5 min. before testing)
Depth = 13.0":	81.9°F	(5 min. before testing)

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Asphaltic Concrete Surface

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.430
Maximum Specific Gravity:	2.486
Asphalt Content:	4.0%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	100.0%
Passing 3/4":	95.0%
Passing 1/2":	72.0%
Passing 3/8":	64.0%
Passing #4:	60.0%
Passing #10:	40.0%
Passing #40:	18.0%
Passing #80:	12.0%
Passing #200:	8.8%

Layer 2: Portland Cement Concrete

Compressive Strength:	6,890 psi
Splitting Tensile Strength:	519 psi
Static Modulus:	4,500,000 psi

Layer 3: Sand Subbase

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	100.0%	100.0%
Passing 3/4":	100.0%	100.0%	100.0%
Passing 1/2":	99.0%	100.0%	100.0%
Passing 3/8":	98.0%	98.0%	98.0%
Passing #4:	90.0%	89.0%	90.0%
Passing #10:	67.0%	66.0%	66.0%
Passing #40:	34.0%	34.0%	34.0%
Passing #80:	19.0%	18.0%	18.0%
Pass. #200:	13.0%	11.2%	12.1%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	5.9%	6.1%	6.0%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	5.0%	6.0%	6.0%
Maximum Density:	139.0 pcf	137.0 pcf	138.0 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

Layer 4: Silty Sand Subgrade (AASHTO Classification: A-4)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	100.0%	100.0%
Passing 3/4":	100.0%	100.0%	100.0%
Passing 1/2":	100.0%	100.0%	100.0%
Passing 3/8":	100.0%	100.0%	100.0%
Passing #4:	99.0%	100.0%	100.0%
Passing #10:	98.0%	99.0%	98.0%
Passing #40:	96.0%	97.0%	96.0%
Passing #80:	94.0%	94.0%	94.0%
Pass #200:	84.4%	82.4%	83.4%
< 0.02mm:	24.6%	22.5%	23.6%
< 0.002mm:	8.0%	10.2%	9.1%
< 0.001mm:	0.0%	0.0%	0.0%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	21.0%	16.5%	18.8%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	15.0%	14.0%	14.0%
Maximum Density:	111.0 pcf	112.0 pcf	112.0 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

MATERIALS DATA AND OTHER INFORMATION

Section: H

Project Information

State:	South Carolina
Pavement Type:	AC Overlay over PCC Pavement
Year Open:	1946
Year Overlaid:	1985
Environment:	
Moisture:	Wet
Temperature:	No-freeze
Traffic:	
AADT:	16,100
ESALs:	76,000/year
Trucks:	5.0%
Year:	1985
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Asphaltic Concrete Surface (1.8" of AC surface, 0.7 of AC below AC surface)	2.5
2	Jointed Plain PCC Surface	6.9
3	Sandy Silt to Sandy Clay Subgrade	

Temperature Data

Air Temperature:	63.0°F	
Pavement Temperature		
Surface:	60.0°F	
Depth = 1":	71.2°F	(1 hr after testing)
Depth = 3":	69.7°F	(1 hr after testing)
Depth = 6":	69.9°F	(1 hr after testing)
Depth = 8":	70.4°F	(1 hr after testing)

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Asphaltic Concrete Surface

Asphalt Concrete Mixture:	
Bulk Specific Gravity:	2.342
Maximum Specific Gravity:	2.513
Asphalt Content:	5.1%
Aggregate Gradation:	
Passing 1.5":	100.0%
Passing 1.0":	100.0%
Passing 3/4":	100.0%
Passing 1/2":	100.0%
Passing 3/8":	93.0%
Passing #4:	57.0%
Passing #10:	35.0%
Passing #40:	20.0%
Passing #80:	11.0%
Passing #200:	5.6%

Layer 2: Portland Cement Concrete

Compressive Strength:	8,550 psi
Splitting Tensile Strength:	604 psi
Static Modulus:	3,200,000 psi

Layer 3: Sand Subbase

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	Not Available		
Passing 2.0":	Not Available		
Passing 1.5":	Not Available		
Passing 1.0":	Not Available		
Passing 3/4":	Not Available		
Passing 1/2":	Not Available		
Passing 3/8":	Not Available		
Passing #4:	Not Available		
Passing #10:	Not Available		
Passing #40:	Not Available		
Passing #80:	Not Available		
Pass #200:	Not Available		

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	Not Available		

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	Not Available		
Maximum Density:	Not Available		

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	Not Available	
Plastic Limit:	Not Available	
Plastic Index:	Not Available	

Layer 4: Silty Sand Subgrade (AASHTO Classification: ??)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	Not Available		
Passing 2.0":	Not Available		
Passing 1.5":	Not Available		
Passing 1.0":	Not Available		
Passing 3/4":	Not Available		
Passing 1/2":	Not Available		
Passing 3/8":	Not Available		
Passing #4:	Not Available		
Passing #10:	Not Available		
Passing #40:	Not Available		
Passing #80:	Not Available		
Pass #200:	Not Available		
< 0.02mm:	Not Available		
< 0.002mm:	Not Available		
< 0.001mm:	Not Available		

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	Not Available		

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	Not Available		
Maximum Density:	Not Available		

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	Not Available	
Plastic Limit:	Not Available	
Plastic Index:	Not Available	

APPENDIX E

MATERIALS DATA AND OTHER INFORMATION
PCC SURFACED PAVEMENTS

This appendix contains the materials data and other pertinent information for each of the eight (8) PCC surfaced pavement sections looked at in the study. The purpose of this information was to help ETG members in assessing the reasonableness of the moduli backcalculated by each program. This information was not available until late in the software evaluation process.

MATERIALS DATA AND OTHER INFORMATION

Section: I

Project Information

State:	Idaho
Pavement Type:	Jointed Plain Concrete
Year Open:	1986
Environment:	
Moisture:	Dry
Temperature:	Freeze
Traffic:	
AADT:	3,720
ESALs:	200,000/year
Trucks:	27.0%
Year:	1983
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Jointed Plain PCC Surface	10.0
2	Asphalt Treated Base	5.2
3	Soil/Aggregate (Coarse) Subbase	12.0
4	Silty Sand Subgrade	

Temperature Data

Air Temperature:	53.0°F
Pavement Temperature	
Surface:	54.0°F
Depth = ____:	N/A
Depth = ____:	N/A
Depth = ____:	N/A

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Jointed Plain Portland Cement Concrete Surface

Compressive Strength:	7,220 psi
Splitting Tensile Strength:	542 psi
Static Modulus:	4,550,000 psi

Layer 2: Asphaltic Treated Base

Information not available for this layer

Layer 3: Soil-Aggregate (Coarse) Subbase

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	98.0%	98.0%	98.0%
Passing 1.5":	97.0%	95.0%	96.0%
Passing 1.0":	94.0%	94.0%	94.0%
Passing 3/4":	91.0%	93.0%	92.0%
Passing 1/2":	83.0%	88.0%	86.0%
Passing 3/8":	79.0%	84.0%	82.0%
Passing #4:	64.0%	72.0%	68.0%
Passing #10:	55.0%	58.0%	56.0%
Passing #40:	24.0%	29.0%	26.0%
Passing #80:	11.0%	17.0%	14.0%
Pass. #200:	8.1%	14.0%	11.6%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	2.1%	2.7%	2.4%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	7.2%	7.4%	7.3%
Maximum Density:	127.7 pcf	128.9 pcf	128.3 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

Layer 4: Silty Sand Subgrade (AASHTO Classification: A-4)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	100.0%	100.0%
Passing 3/4":	99.0%	100.0%	100.0%
Passing 1/2":	97.0%	99.0%	98.0%
Passing 3/8":	95.0%	99.0%	97.0%
Passing #4:	88.0%	97.0%	92.0%
Passing #10:	80.0%	95.0%	88.0%
Passing #40:	63.0%	92.0%	78.0%
Passing #80:	57.0%	90.0%	74.0%
Pass #200:	53.1%	82.8%	68.0%
< 0.02mm:	16.2%	19.1%	17.6%
< 0.002mm:	6.3%	6.5%	6.4%
< 0.001mm:	5.4%	5.4%	5.4%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	7.5%	7.9%	7.7%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	10.3%	12.8%	11.6%
Maximum Density:	119.4 pcf	112.6 pcf	116.0 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	21	21
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

MATERIALS DATA AND OTHER INFORMATION

Section: **J**

Project Information

State:	Pennsylvania
Pavement Type:	Jointed Plain Concrete
Year Open:	1986
Environment:	
Moisture:	Wet
Temperature:	Freeze
Traffic:	
AADT:	7,500
ESALs:	625,000/year
Trucks:	42.0%
Year:	1985
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Jointed Plain PCC Surface	12.9
2	Crushed Stone Base	8.2
3	Silty Clay Subgrade	

Temperature Data

Air Temperature:	73.0°F
Pavement Temperature	
Surface:	73.0°F
Depth = 1" :	77.0°F
Depth = 6" :	72.0°F
Depth = 12" :	72.0°F

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Jointed Plain Portland Cement Concrete Surface

Compressive Strength:	4,800 psi
Splitting Tensile Strength:	552 psi
Static Modulus:	3,350,000 psi

Layer 2: Crushed Stone Base

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	96.0%	99.0%	99.0%
Passing 3/4":	87.0%	96.0%	92.0%
Passing 1/2":	69.0%	90.0%	75.0%
Passing 3/8":	57.0%	84.0%	71.0%
Passing #4:	40.0%	71.0%	56.0%
Passing #10:	28.0%	57.0%	43.0%
Passing #40:	18.0%	34.0%	26.0%
Passing #80:	15.0%	28.0%	22.0%
Pass. #200:	11.7%	22.4%	17.1%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	3.6%	3.7%	3.6%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	5.9%	6.0%	6.0%
Maximum Density:	148.1 pcf	147.2 pcf	147.7 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	17	17
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

Layer 3: Silty Clay Subgrade (AASHTO Classification: A-2-4)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	99.0%	100.0%
Passing 3/4":	99.0%	97.0%	98.0%
Passing 1/2":	97.0%	85.0%	91.0%
Passing 3/8":	94.0%	74.0%	84.0%
Passing #4:	87.0%	57.0%	67.0%
Passing #10:	78.0%	41.0%	60.0%
Passing #40:	61.0%	30.0%	46.0%
Passing #80:	31.0%	26.0%	29.0%
Pass #200:	21.2%	22.0%	21.6%
< 0.02mm:	15.2%	18.0%	16.6%
< 0.002mm:	1.6%	9.9%	5.8%
< 0.001mm:	1.6%	8.4%	3.5%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	7.8%	6.7%	7.1%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	10.7%	8.7%	9.7%
Maximum Density:	126.8 pcf	130.2 pcf	128.5 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	27	27
Plastic Limit:	17	18
Plastic Index:	10	9

MATERIALS DATA AND OTHER INFORMATION

Section: **K**

Project Information

State:	Texas
Pavement Type:	Jointed Reinforced Concrete
Year Open:	1981
Environment:	
Moisture:	Wet
Temperature:	No-freeze
Traffic:	
AADT:	4,000
ESALs:	100,000/year
Trucks:	12.5%
Year:	1985
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Jointed Reinforced PCC Surface	11.2
2	Cement Aggregate Mix Base	5.9
3	Lime Treated Subgrade	6.7
4	Sandy Clay Subgrade	

Temperature Data

Air Temperature:	84.0°F
Pavement Temperature	
Surface:	90.0°F
Depth = 1" :	90.0°F
Depth = 5" :	90.0°F
Depth = 9" :	90.0°F

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Jointed Reinforced Portland Cement Concrete Surface

Compressive Strength:	6,010 psi
Splitting Tensile Strength:	642 psi
Static Modulus:	4,850,000 psi

Layer 2: Cement Aggregate Mix Base

Information not available for this layer

Layer 3: Lime Treated Subgrade

Information not available for this layer

Layer 4: Sandy Clay Subgrade (AASHTO Classification: A-4)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	100.0%	100.0%
Passing 3/4":	100.0%	100.0%	100.0%
Passing 1/2":	100.0%	100.0%	100.0%
Passing 3/8":	100.0%	100.0%	100.0%
Passing #4:	100.0%	100.0%	100.0%
Passing #10:	99.0%	98.0%	99.0%
Passing #40:	98.0%	93.0%	96.0%
Passing #80:	97.0%	77.0%	87.0%
Pass #200:	55.6%	53.1%	54.4%
< 0.02mm:	28.0%	32.5%	30.3%
< 0.002mm:	20.0%	20.0%	20.0%
< 0.001mm:	0.0%	0.0%	0.0%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	17.7%	22.1%	19.9%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	15.0%	13.0%	14.5%
Maximum Density:	109.0 pcf	108.0 pcf	108.5 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	25	27
Plastic Limit:	24	18
Plastic Index:	1	9

MATERIALS DATA AND OTHER INFORMATION

Section: L

Project Information

State:	Connecticut
Pavement Type:	Jointed Reinforced Concrete
Year Open:	1986
Environment:	
Moisture:	Wet
Temperature:	Freeze
Traffic:	
AADT:	62,000
ESALs:	900,000/year
Trucks:	12.0%
Year:	1985
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Jointed Reinforced PCC Surface	10.4
2	Crushed Stone Base	10.8
3	Sandy Silty Subgrade	

Temperature Data

Air Temperature:	81.0°F
Pavement Temperature	
Surface:	88.0°F
Depth = 1" :	90.0°F
Depth = 6" :	82.0°F
Depth = 10" :	78.0°F

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Jointed Reinforced Portland Cement Concrete Surface

Compressive Strength:	8,079 psi
Splitting Tensile Strength:	673 psi
Static Modulus:	4,950,000 psi

Layer 2: Crushed Stone Base

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	97.0%	98.0%	98.0%
Passing 1.0":	84.0%	76.0%	80.0%
Passing 3/4":	78.0%	60.0%	69.0%
Passing 1/2":	70.0%	44.0%	57.0%
Passing 3/8":	63.0%	38.0%	51.0%
Passing #4:	52.0%	29.0%	41.0%
Passing #10:	39.0%	22.0%	31.0%
Passing #40:	25.0%	14.0%	20.0%
Passing #80:	19.0%	10.0%	15.0%
Pass. #200:	13.0%	7.0%	10.0%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	3.4	3.8%	3.7%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	6.3%	7.2%	6.8%
Maximum Density:	149.0 pcf	146.8 pcf	147.9 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

Layer 3: Sandy Silty Subgrade (AASHTO Classification: A-2-4)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	98.0%	100.0%	99.0%
Passing 1.5":	98.0%	100.0%	99.0%
Passing 1.0":	96.0%	98.0%	97.0%
Passing 3/4":	94.0%	96.0%	95.0%
Passing 1/2":	91.0%	94.0%	93.0%
Passing 3/8":	89.0%	92.0%	91.0%
Passing #4:	85.0%	88.0%	87.0%
Passing #10:	80.0%	82.0%	81.0%
Passing #40:	63.0%	55.0%	59.0%
Passing #80:	50.0%	28.0%	39.0%
Pass #200:	32.8%	14.4%	23.6%
< 0.02mm:	14.4%	11.7%	13.1%
< 0.002mm:	8.0%	2.8%	5.4%
< 0.001mm:	8.0%	2.5%	5.3%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	9.9%	7.6%	8.8%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	9.6%	9.2%	9.4%
Maximum Density:	123.6 pcf	123.2 pcf	123.4 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

MATERIALS DATA AND OTHER INFORMATION

Section: **M**

Project Information

State:	Connecticut
Pavement Type:	Continuously Reinforced Concrete
Year Open:	1980
Environment:	
Moisture:	Wet
Temperature:	Freeze
Traffic:	
AADT:	46,500
ESALs:	320,000/year
Trucks:	6.0%
Year:	1985
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Cont. Reinforced PCC Surface	8.4
2	Gravel (Uncrushed) Base	15.6
3	Sandy Silty Subgrade	

Temperature Data

Air Temperature:	66.0°F
Pavement Temperature	
Surface:	63.0°F
Depth = 1" :	69.0°F
Depth = 4" :	68.0°F
Depth = 8" :	69.0°F

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Cont. Reinforced Portland Cement Concrete Surface

Compressive Strength:	9,130 psi
Splitting Tensile Strength:	664 psi
Static Modulus:	5,350,000 psi

Layer 2: Gravel (Uncrushed) Base

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	92.0%	88.0%	90.0%
Passing 2.0":	91.0%	81.0%	86.0%
Passing 1.5":	90.0%	79.0%	85.0%
Passing 1.0":	82.0%	75.0%	79.0%
Passing 3/4":	75.0%	71.0%	73.0%
Passing 1/2":	68.0%	63.0%	66.0%
Passing 3/8":	62.0%	58.0%	60.0%
Passing #4:	54.0%	49.0%	52.0%
Passing #10:	47.0%	40.0%	44.0%
Passing #40:	32.0%	26.0%	29.0%
Passing #80:	16.0%	18.0%	17.0%
Pass. #200:	4.7%	11.3%	8.0%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	5.7	6.0%	5.8%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	6.3%	6.2%	6.3%
Maximum Density:	129.1 pcf	133.8 pcf	131.5 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

Layer 3: Sandy Silty Subgrade (AASHTO Classification: A-2-4)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	99.0%	100.0%
Passing 1.0":	94.0%	97.0%	96.0%
Passing 3/4":	93.0%	94.0%	94.0%
Passing 1/2":	88.0%	89.0%	89.0%
Passing 3/8":	84.0%	84.0%	84.0%
Passing #4:	76.0%	75.0%	76.0%
Passing #10:	68.0%	68.0%	68.0%
Passing #40:	52.0%	53.0%	52.0%
Passing #80:	34.0%	34.0%	34.0%
Pass #200:	20.3%	18.5%	19.4%
< 0.02mm:	6.0%	8.5%	7.3%
< 0.002mm:	2.1%	4.3%	3.2%
< 0.001mm:	1.4%	4.1%	2.8%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	5.9%	7.3%	6.4%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	9.0%	9.1%	9.1%
Maximum Density:	124.6 pcf	125.1 pcf	124.9 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

Section: **N**

Project Information

State:	Oregon
Pavement Type:	Continuously Reinforced Concrete
Year Open:	1984
Environment:	
Moisture:	Wet
Temperature:	No-Freeze
Traffic:	
AADT:	16,300
ESALs:	68,000/year
Trucks:	30.1%
Year:	1984
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Cont. Reinforced PCC Surface	9.5
2	Cement Aggregate Mix Base	8.5
3	Poorly Graded Gravel Subbase	6.6
4	Unknown Subgrade (auger refusal; no sample recovered)	

Temperature Data

Air Temperature:	54.0°F
Pavement Temperature	
Surface:	47.0°F
Depth = 1":	57.0°F
Depth = 5.5":	58.0°F
Depth = 9.8":	59.0°F

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Cont. Reinforced Portland Cement Concrete Surface

Compressive Strength:	6,540 psi
Splitting Tensile Strength:	774 psi
Static Modulus:	3,350,000 psi

Layer 2: Cement Aggregate Mix Base

Aggregate Type:	Natural Sand
Treatment Type:	Portland Cement
Comp. Strength:	2,730 psi

Layer 3: Poorly Graded Gravel Subbase

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	82.0%	84.0%	100.0%
Passing 1.5":	71.0%	82.0%	100.0%
Passing 1.0":	60.0%	75.0%	96.0%
Passing 3/4":	51.0%	68.0%	94.0%
Passing 1/2":	41.0%	56.0%	89.0%
Passing 3/8":	37.0%	51.0%	84.0%
Passing #4:	26.0%	39.0%	76.0%
Passing #10:	18.0%	32.0%	68.0%
Passing #40:	8.0%	15.0%	52.0%
Passing #80:	6.0%	11.0%	34.0%
Pass #200:	4.8%	8.8%	19.4%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	8.1%	7.9%	8.0%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	8.2%	7.5%	7.9%
Maximum Density:	136.6 pcf	132.8 pcf	134.7 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	30	32
Plastic Limit:	21	21
Plastic Index:	9	11

Layer 4: Unknown Subgrade

Auger refusal; no sample recovered.

MATERIALS DATA AND OTHER INFORMATION

Section: **O**

Project Information

State:	Ohio
Pavement Type:	Jointed Reinforced Concrete Overlay of JRCP
Year Open:	1964
Year Overlaid:	1985
Environment:	
Moisture:	Wet
Temperature:	Freeze
Traffic:	
AADT:	18,800
ESALs:	Not Available
Trucks:	28.0%
Year:	1982
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Jointed Reinforced PCC Overlay	9.5
2	AC Interlayer	1.0
3	Jointed Reinforced PCC Surface	9.0
4	Gravel (Uncrushed) Base	6.0
5	Sandy Silt Subgrade	

Temperature Data

Air Temperature:	52.0°F
Pavement Temperature	
Surface:	45.0°F
Depth = 1" :	63.5°F
Depth = 4.5" :	66.4°F
Depth = 8" :	67.8°F
Depth = 11.2":	70.6°F
Depth = 17.5":	71.8°F

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Jointed Reinforced Portland Cement Concrete Overlay

Compressive Strength:	Not Available
Splitting Tensile Strength:	Not Available
Static Modulus:	Not Available

Layer 2: Asphalt Concrete Interlayer

Information not available for this layer.

Layer 3: Jointed Reinforced Portland Cement Concrete Surface

Compressive Strength:	Not Available
Splitting Tensile Strength:	Not Available
Static Modulus:	Not Available

Layer 4: Gravel (Uncrushed) Base

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	90.0%
Passing 2.0":	100.0%	95.0%	86.0%
Passing 1.5":	100.0%	94.0%	85.0%
Passing 1.0":	97.0%	93.0%	79.0%
Passing 3/4":	95.0%	90.0%	73.0%
Passing 1/2":	91.0%	87.0%	66.0%
Passing 3/8":	87.0%	83.0%	60.0%
Passing #4:	77.0%	73.0%	52.0%
Passing #10:	63.0%	58.0%	44.0%
Passing #40:	34.0%	30.0%	29.0%
Passing #80:	23.0%	19.0%	17.0%
Pass. #200:	13.7%	9.4%	8.0%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	9.5	9.6%	9.6%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	6.8%	7.3%	7.1%
Maximum Density:	133.1 pcf	134.3 pcf	133.7 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	NP	NP
Plastic Limit:	NP	NP
Plastic Index:	NP	NP

Layer 5: Sandy Silty Subgrade (AASHTO Classification: A-6 at station 0+, A-7-6 at station 5+)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	100.0%	100.0%
Passing 1.0":	100.0%	100.0%	100.0%
Passing 3/4":	99.0%	100.0%	100.0%
Passing 1/2":	99.0%	100.0%	100.0%
Passing 3/8":	98.0%	100.0%	99.0%
Passing #4:	96.0%	99.0%	98.0%
Passing #10:	92.0%	98.0%	95.0%
Passing #40:	85.0%	94.0%	90.0%
Passing #80:	79.0%	91.0%	85.0%
Pass #200:	71.5%	87.2%	80.4%
< 0.02mm:	51.1%	66.1%	58.6%
< 0.002mm:	21.6%	30.6%	26.1%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	14.5%	21.1%	17.8%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	19.2%	15.2%	17.2%
Maximum Density:	116.8 pcf	110.9 pcf	113.9 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	29	41
Plastic Limit:	18	20
Plastic Index:	11	21

MATERIALS DATA AND OTHER INFORMATION

Section: **P**

Project Information

State:	Oklahoma
Pavement Type:	Cont. Reinforced Concrete Overlay of JPCP
Year Open:	19??
Year Overlaid:	1990
Environment:	
Moisture:	Wet
Temperature:	No-Freeze
Traffic:	
AADT:	8,000
ESALs:	Not Available
Trucks:	13.0%
Year:	1988
Shoulder Type:	Unknown

Pavement Structure

Layer Number	Material Type	Thickness, (in.)
1	Cont. Reinforced PCC Overlay	9.5
2	AC Interlayer	3.8
3	Jointed Plain PCC Surface	6.5
4	Sandy Clay Subgrade	

Temperature Data

Air Temperature:	62.0°F
Pavement Temperature	
Surface:	54.0°F
Depth = 1" :	68.8°F
Depth = 5" :	72.0°F
Depth = 9" :	74.8°F

Materials Data

Field and laboratory material tests were performed at both ends of the SHRP GPS tests sections; i.e., at stations 0- and 5+. Where applicable, material test results obtained from both ends of the section are presented along with a section average. All deflection basin test results used in the software evaluation were measured at station 0-.

Layer 1: Jointed Reinforced Portland Cement Concrete Overlay

Compressive Strength:	6,390 psi
Splitting Tensile Strength:	658 psi
Static Modulus:	4,650,000 psi

Layer 2: Asphalt Concrete Interlayer

Information not available for this layer.

Layer 3: Jointed Reinforced Portland Cement Concrete Surface

Compressive Strength:	6,440 psi
Splitting Tensile Strength:	699 psi
Static Modulus:	4,000,000 psi

Layer 5: Sandy Clay Subgrade (AASHTO Classification: A-4)

Aggregate Gradation:

Sieve	Station 0-	Station 5+	Average
Passing 3.0":	100.0%	100.0%	100.0%
Passing 2.0":	100.0%	100.0%	100.0%
Passing 1.5":	100.0%	98.0%	99.0%
Passing 1.0":	100.0%	95.0%	98.0%
Passing 3/4":	100.0%	93.0%	97.0%
Passing 1/2":	99.0%	88.0%	94.0%
Passing 3/8":	98.0%	85.0%	92.0%
Passing #4:	96.0%	79.0%	88.0%
Passing #10:	93.0%	78.0%	86.0%
Passing #40:	88.0%	73.0%	81.0%
Passing #80:	82.0%	69.0%	76.0%
Pass #200:	56.3%	43.0%	49.7%
< 0.02mm:	30.0%	20.0%	25.0%
< 0.002mm:	15.0%	11.0%	13.0%

In-Situ Moisture and Density (nuclear device):

Parameter	Station 0-	Station 5+
Density, Wet:		Not Available
Density, Dry:		Not Available
Moisture:		Not Available

Natural Moisture Content (laboratory)

Parameter	Station 0-	Station 5+	Average
Moisture:	20.5%	15.5%	18.0%

Moisture-Density Relations:

Parameter	Station 0-	Station 5+	Average
Optimum Moisture:	14.0%	12.0%	13.0%
Maximum Density:	115.0 pcf	118.0 pcf	116.5 pcf

Atterberg Limits:

Parameter	Station 0-	Station 5+
Liquid Limit:	24	NP
Plastic Limit:	21	NP
Plastic Index:	4	NP

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