LTPP Maintenance and Rehabilitation Data Review Final Report

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Research and Development
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FOREWORD

Complete and accurate data on pavement maintenance and rehabilitation (M&R) activities are crucial to the evaluation of treatment performance and the effect of maintenance and rehabilitation measures on pavement life. Since its inception, the Long Term Pavement Performance (LTPP) program has been collecting M&R data from the General Pavement Studies (GPS) and Specific Pavement Studies (SPS) test sections. This study documents the first detailed review of these M&R data elements. The report assesses the completeness and quality of the data, identifies anomalies in the data, and recommends remedial action for these anomalies.

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Director, Office of Infrastructure
Research and Development

NOTICE

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16. Abstract

Since its inception, the Long Term Pavement Performance (LTPP) program has collected maintenance and rehabilitation (M&R) data on all of the test sections included in the LTPP program. To date, there has been no detailed review of the M&R data elements. This report provides a detailed review of the M&R data and presents the findings from that review.

A total of 757 test sections have undergone some type of M&R activity. Of these test sections, only 23 anomalies were found. These anomalies consist primarily of sections that have patching recorded in the M&R tables, but no increase in patching area or number in the distress surveys.

All of the M&R data tables for these 757 test sections were reviewed for data completeness. For most these test sections, several fields are missing in almost all of the tables. A detailed list of the missing data fields is included as an appendix to the report. Although it might be difficult to obtain these data for the older M&R activities, an attempt should be made to collect the essential data elements, as a minimum.

The distress monitoring data and IRI values were reviewed for those test sections without any known M&R activity. The number of these test sections exceeded 1800. A review of the data from these test sections was completed to identify those sections that may have had some type of M&R treatment, but for which no treatment is recorded in the LTPP database. A total of 275 anomalies of this type was identified. Over 80 percent of these anomalies were found to be a result of an increase in patching from the distress surveys in the absence of any patching record in the M&R tables.

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SI* (MODERN METRIC) CONVERSION FACTORS

APPROXIMATE CONVERSIONS TO SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
	LENGTH			
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
	AREA			
in^2	square inches	645.2	square millimeters	mm^2
ft^2	square feet	0.093	square meters	m^2
yd^2	square yards	0.836	square meters	m^2
ac	acres	0.405	hectares	ha
mi^2	square miles	2.59	square kilometers	km^2
	VOLUME			
fl oz	fluid ounces	29.57	milliliters	mL
gal	gallons	3.785	liters	L
ft^3	cubic feet	0.028	cubic meters	m^3
yd^3	cubic yards	0.765	cubic meters	m^3
NOTE: Volumes greater than 1000 l shall be shown in m^3.				
	MASS			
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")
	TEMPERATURE (exact)			
°F	Fahrenheit temperature	5(F-32)/9 or (F-32)/1.8	Celcius temperature	°C
	ILLUMINATION			
fc	foot-candles	10.76	lux	lx
fl	foot-Lamberts	3.426	candela/m^2	cd/m^2
	FORCE and PRESSURE or STRESS			
lbf	poundforce	4.45	newtons	N
lbf/in^2	poundforce per square inch	6.89	kilopascals	kPa

APPROXIMATE CONVERSIONS FROM SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
	LENGTH			
mm	millimeters	0.039	inches	in
m	meters	3.28	feet	ft
m	meters	1.09	yards	yd
km	kilometers	0.621	miles	mi
	AREA			
mm^2	square millimeters	0.0016	square inches	in^2
m^2	square meters	10.764	square feet	ft^2
m^2	square meters	1.195	square yards	yd^2
ha	hectares	2.47	acres	ac
km^2	square kilometers	0.386	square miles	mi^2
	VOLUME			
mL	milliliters	0.034	fluid ounces	fl oz
L	liters	0.264	gallons	gal
m^3	cubic meters	35.71	cubic feet	ft^3
m^3	cubic meters	1.307	cubic yards	yd^3
	MASS			
g	grams	0.035	ounces	oz
kg	kilograms	2.202	pounds	lb
Mg (or "t")	megagrams (or "metric ton")	1.103	short tons (2000 lb)	T
	TEMPERATURE (exact)			
°C	Celcius temperature	1.8C + 32	Fahrenheit temperature	°F
	ILLUMINATION			
lx	lux	0.0929	foot-candles	fc
cd/m^2	candela/m^2	0.2919	foot-Lamberts	fl
	FORCE and PRESSURE or STRESS			
N	newtons	0.225	poundforce	lbf
kPa	kilopascals	0.145	poundforce per square inch	lbf/in^2

* SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.

(Revised September 1993)

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1. INTRODUCTION

BACKGROUND

The maintenance and rehabilitation (M&R) activities of pavement structures become increasingly important as pavements deteriorate with time and traffic. In fact, the emphasis in managing pavements is to preserve the initial investment through the timely application of proper M&R treatments to extend pavement life. Of particular interest to the managing agency is the condition of the pavement's surface as to when a particular M&R treatment should be placed. M&R activities range from correcting surface defects for improving ride quality to increasing structural capacity of the pavement structure.

The Long Term Pavement Performance (LTPP) component of the Strategic Highway Research Program (SHRP) recognized that the M&R activities are vital for understanding a pavement's service life and hence incorporated various M&R data elements into the LTPP database. Since its inception, LTPP has been collecting M&R data from the General Pavement Studies (GPS) and Special Pavement Studies (SPS) test sections. However, these M&R data elements must be complete and accurate to quantify the effect of M&R activities and materials on pavement life. To date, there has been no detailed review of these M&R data elements. Thus the data need to be examined to confirm their accuracy and completeness, and to identify any anomalies in the database.

The purpose of this report is to document the review process and present the findings from the first review of the LTPP M&R data, using the 1999 third quarter data release.

STUDY OBJECTIVE

The objective of this M&R data study is to determine the completeness and accuracy of the M&R data elements. To accomplish this objective, the following two basic activities were completed:

1. Examine the M&R data in the LTPP information management system (IMS):
    - To assess the completeness and quality of the M&R data in the LTPP IMS.
    - To identify anomalies in the data.
2. Recommend remedial action for any anomalies found in the database.

SCOPE OF REPORT

The report is divided into six chapters. Chapter 1 serves as the introduction, while chapter 2 provides an overview of the data review process. Chapter 3 focuses on the detailed review of the GPS and SPS test sections for which an M&R activity has been recorded in the LTPP database, and chapter 4 includes a review of the test sections for which no M&R activity is recorded in the database. Chapter 5 includes a review of the M&R data completeness and identifies other anomalies found in the data study. Chapter 6 is the final chapter, presenting the conclusions and recommendations.

2. DATA REVIEW PROCESS

To assess data quality, the GPS and SPS test sections initially were divided into two categories, as follows:

- Type 1: sections for which one or more M&R techniques have been documented in the database.

- Type 2: sections for which no M&R activity is documented in the database.

To assess the M&R data accuracy for the type 1 GPS and SPS test sections, the data review process was to confirm that there was an improvement in pavement performance after the date of the maintenance or rehabilitation activity recorded in the LTPP database. In other words, there is a decrease in distress and/or increase in the maintenance recorded in the distress surveys that corresponds to the date of the M&R application recorded in the database. To assess M&R data completeness, all missing data were identified for each recorded M&R application in the LTPP database.

For the type 2 sections, a more thorough review of the performance-monitoring database was required to identify potential M&R activities that are not recorded in the database. Various performance indicators were reviewed to identify test sections with a sudden improvement in performance in the absence of a corresponding record of an M&R activity.

To achieve the study objective, the data review process was organized into two basic activities: 1) data accumulation and organization, and 2) data inspection. Each activity is described in the following narrative.

DATA ACCUMULATION AND ORGANIZATION

The M&R tables were extracted from the IMS and organized to facilitate data retrieval and manipulation (e.g., importing database management software, statistical packages, etc.). Table 1 lists the M&R data elements included in the LTPP database and the frequency of occurrence. As tabulated, 757 test sections have undergone some type of M&R activity. These M&R data elements were organized by test section and type of treatment to facilitate the review process. As part of the initial activity, a preliminary inspection of the data was conducted to sort the test sections into the previously noted type 1 and type 2 categories.

The two most important data elements for the review process were the dates of the distress surveys and the magnitude of the distresses. The distress data were extracted and organized for each test section using the software developed under the distress consolidation study.[(1)] The interface of the distress viewer is shown in figure 1. This program combines both manual and automated distress data that are recorded in different tables.

Table 1. M&R work-type codes.

Code Description	Code	Number
Crack Sealing (linear ft.)	1	111
Transverse Joint Sealing (linear ft.)	2	14
Lane-Shoulder, Longitudinal Joint Sealing (linear ft.)	3	25
Fill Depth Joint Repair Patching of PCC (sq. yards)	4	16
Fill Depth Joint Repair Patching of PCC Pavement Other than at Joint (sq. yards)	5	7
Partial Depth Patching of PCC Pavement Other than at Joint (sq. yards)	6	17
PCC Slab Replacement (sq. yards)	7	0
PCC Shoulder Restoration (sq. yards)	8	0
PCC Shoulder Replacement (sq. yards)	9	0
AC Shoulder Restoration (sq. yards)	10	49
AC Shoulder Replacement (sq. yards)	11	7
Grinding/Milling Surface (sq. yards)	12	9
Grooving Surface (sq. yards)	13	0
Pressure Grout Subsealing (no. of holes)	14	0
Slab Jacking Depressions (no. of depressions)	15	0
Asphalt Subsealing (no. of holes)	16	0
Spreading of Sand or Aggregate (sq. yards)	17	0
Reconstruction (removal and replacement) (sq. yards)	18	0
Asphalt Concrete Overlay (sq. yards)	19	182
Portland Cement Concrete Overlay (sq. yards)	20	12
Mechanical Premix Match (using motor grader and roller) (sq. yards)	21	0
Manual Premix Spot Patch (hand spreading and compacting with roller) (sq. yards)	22	0
Machine Premix Patch (placing premix with paver, compacting with roller) (sq. yards)	23	0
Full Depth Patch of AC Pavement (removing damaged material, repairing supporting material, and repairing) (sq. yards)	24	20
Patch Pot Holes - Hand Spread, Compacted with Truck (no. of holes)	25	30
Skin Patching (hand tools/hot pot to apply liquid asphalt and aggregate) (sq. yards)	26	57
Strip Patching (using spreader and distributor to apply hot liquid asphalt and aggregate) (sq. yards)	27	3
Surface Treatment, single layer (sq. yards)	28	0
Surface Treatment, double layer (sq. yards)	29	0
Surface Treatment, three or more layers (sq. yards)	30	0
Aggregate Seal Coat (sq. yards)	31	31
Sand Seal Coat (sq. yards)	32	8
Slurry Seal Coat (sq. yards)	33	4
Fog Seal Coat (sq. yards)	34	12
Prime Coat (sq. yards)	35	0
Tack Coat (sq. yards)	36	1
Dust Layering (sq. yards)	37	0
Longitudinal Subdrains (linear ft.)	38	4
Transverse Subdrainage (linear ft.)	39	0
Drainage Blankets (sq. yards)	40	0
Well System	41	0
Drainage Blankets with Longitudinal Drains	42	0
Hot-Mix Recycled Asphalt Concrete (sq. yards)	43	35
Cold-Mix Recycled Asphalt Concrete (sq. yards)	44	0
Heater Scarification, Surface Recycled Asphalt Concrete (sq. yards)	45	2
Crack and Seat PCC Pavement as Base for New AC Surface (sq. yards)	46	0
Crack and Seat PCC Pavement as Base for New PCC Surface (sq. yards)	47	0
Recycled Portland Cement Concrete (sq. yards)	48	0
Pressure Relief Joints in PCC Pavements (linear ft.)	49	0
Joint Load Transfer Restoration in PCC Pavements (linear ft.)	50	14
Mill Off Existing Pavement and Overlay with AC (sq. yards)	51	53
Mill Off Existing Pavement and Overlay with PCC (sq. yards)	52	0
Other	53	0
Partial Depth Patching of PCC Pavement at Joints (sq. yards)	54	0
Mill Existing Pavement and Overlay with Hot-Mix Recycled Asphalt Concrete (sq. yards)	55	26
Mill Existing Pavement and Overlay with Cold-Mix Recycled Asphalt Concrete (sq. yards)	56	1
Thin Overlay	57	2
NON DEFINED (MICROSURFACING)		5
TOTAL		757

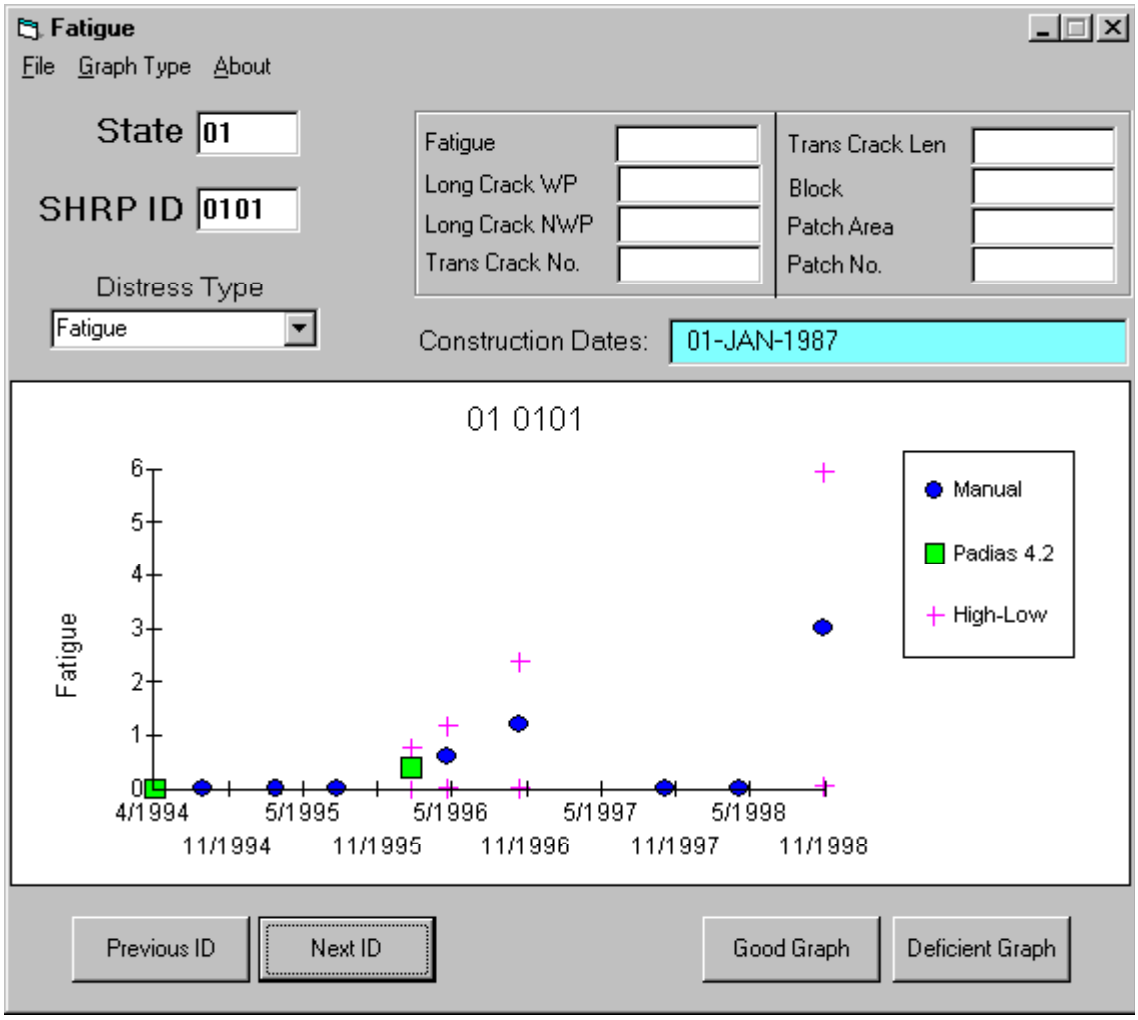

Figure 1. The distress viewer interface.

DATA INSPECTION

With more than 11,000 records of performance surveys and 757 records of treatment applications, this activity was time consuming and tedious. A detailed list of the M&R tables in the LTPP IMS is included in appendix A. Each table was reviewed thoroughly to determine the completeness of the numerous data elements. Missing data elements for specific M&R activities were identified and flagged. This review of the availability of data is summarized in chapter 5 by M&R activity.

Performance data from both type 1 and type 2 sections were examined to identify trends in the data. Table 2 lists those performance indicators that were examined for both types of test sections.

Table 2. Pavement performance indicators that were used in the M&R data review process.

PAVEMENT TYPE		
HMA-Surfaced Pavements	**PCC-Surfaced: Jointed Concrete Pavements**	**PCC-Surfaced; Continuously Reinforced Concrete Pavements**
1. Bleeding	1. Corner Breaks	1. Blowups
2. Block Cracking	2. Longitudinal Cracking	2. Longitudinal Crack Length
3. Fatigue Cracking	3. Longitudinal Spalling Length	3. Longitudinal Spalling Length
4. Longitudinal Cracking in Wheel Path	4. Patching, Flexible Patch-Area	4. Patching, Flexible Patch-Area
5. Longitudinal Cracking Outside Wheel Path	5. Patching, Flexible Patch-Number of	5. Patching, Flexible Patch-Number of
6. Patching-Area	6. Patching, Rigid Patch-Area	6. Patching, Rigid Patch-Area
7. Patching-Number of	7. Patching, Rigid Patch-Number of	7. Patching, Rigid Patch-Number of
8. Raveling	8. Transverse Cracking Length	8. Punchouts
9. Transverse Cracking Length	9. Transverse Cracks-Number of	9. Popouts
10. Transverse Cracks-Number of	10. Transverse Joint Seal-Restoration Number	10. Transverse Crack Length
11. Rutting	11. Transverse Spalling Length	11. Transverse Cracks-Number of
12. IRI	12. Transverse Spalling-Number of	12. IRI
	13. Faulting	
	14. IRI	

To identify anomalies in the data, the performance trends of both the type 1 and type 2 sections were observed. A significant change in performance was considered the best indicator of the occurrence of some M&R treatment. A significant change in performance was defined as that point at which the error bands of two consecutive points did not overlap. These error bands are discussed in more detail in the "Distress Data Consolidation" report.[(1)]

Type 1 sections are those for which rehabilitation measures have been documented in the database. For these sections, the following steps were taken to assess the M&R data:

- The sections and corresponding treatments were identified by examining the list of sections in the M&R history files.

- The data tables were examined to ensure the availability of all data elements for each test section. Both of the M&R Quality Control (QC) programs (chapters 9 and 10) were reviewed to check the range of the material data elements and extent of the M&R activity.[(2)] The current QC is believed to be totally effective because no additional outliers were identified.

- The performance of each section was plotted as a function of time using the distress viewer software developed under the Distress Data Study.[(1)] Changes in the International Roughness Index (IRI) and pavement distress after the application of the M&R activity (see table 2) were used to quantify the effect on the short-term performance history.

- For those sections where there was no apparent change in performance after M&R, confirmation of that M&R activity was requested from the Federal Highway Administration (FHWA) through data feedback forms that are summarized in appendix B.

Type 2 sections are those test sections for which there is no record of any M&R activity in the database. The following steps were performed to investigate these sections:

- Using the distress viewer, those test sections with sudden improvements in the performance indicators were identified.

- A list of these sections was furnished to the FHWA in the form of feedback reports for review. A copy of this list is provided in appendix C. Recommendations were made on how to reconcile the discrepancies between the expected and measured performance in the absence of any documentation of an M&R activity (e.g., inspection of records from regional offices and state highway agencies).

All observed anomalies were documented and forwarded to the FHWA in the form of feedback reports. In summary, the observed anomalies identified from the data review are summarized below:

- Sections with no improvement in performance after the recorded application of an M&R treatment (e.g., increase in IRI and distresses after an overlay).

- Sections with a significant increase in performance despite the absence of any record of maintenance or rehabilitation (e.g., decrease in all distresses and IRI, or an increase in patch number and area).

- Unavailability of some data elements for segments present in the M&R history tables.

- Data pertaining to hot mix asphalt (HMA) maintenance and rehabilitation measures listed in a portland cement concrete (PCC) table or vice versa.

- Survey data pertaining to HMA sections performed on PCC sections and vice versa.

The remainder of this report presents reviews of the individual test sections to identify any anomalies and includes the summary statistics for the missing data elements within each category.

3. SECTIONS WITH RECORDED M&R ACTIVITY – TYPE 1

Data from the M&R tables included in the LTPP IMS were extracted and reviewed. These tables, listed in appendix A, include all of the LTPP GPS and SPS test sections that had one or more M&R treatment recorded in the database. This list was used as a reference for all further work conducted within this study. Figure 2 shows the distribution of the M&R treatment applications for the different surface types, as reported in the 1999 third quarter release of the LTPP IMS database. Note that the majority of the M&R treatments have been placed on the HMA-surfaced pavements. Following is a summary of the total number of test sections in the LTPP program by surface type.

Surface Type	Total Number of Test Sections
HMA	1894
CRCP	631
JCP	140

The performance surveys of the sections with recorded M&R treatments (type 1 sections) were reviewed using the distress viewer. As mentioned in chapter 2, the distress viewer allows one to simultaneously display the time history of distresses, rutting, and IRI for a particular test section included in the IMS. Figures 3 and 4 illustrate examples of the expected performance trends for an HMA-surfaced pavement (test section 361643) and PCC-surfaced pavement (JCP-test section 463013) with maintenance activities. As shown, the area of patching (figure 3) and transverse joint sealing length (figure 4) increases after the date for the documented M&R activity for each test section. The recorded M&R activities for these test sections are noted in the figures.

The objective of this review, however, was to determine those sections that had M&R treatments applied, but for which no appropriate or expected change in performance was observed. Figures 5 and 6 illustrate examples of the unexpected performance trends for two test sections after an M&R activity was performed. Figure 5 shows that no patching was recorded during the distress surveys through May 1995 along test section 251002 (an HMA-surfaced pavement). However, the M&R data tables indicate that potholes were patched (maintenance code 25) in September 1993. Similarly, figure 6 shows no increase in the number of transverse joints that have been sealed even though the M&R data tables indicate that additional transverse joints were sealed in December 1993.

Distinct rules were developed for the three kinds of pavement surfaces present in the LTPP database [i.e., HMA-surfaced pavements, jointed concrete pavements (JCP), and continuously reinforced concrete pavements (CRCP)] to initially identify those test sections with potential discrepancies in an automated fashion. The rules for reviewing the performance of the different pavements noted above for the type 1 sections are tabulated within the subsection for each pavement type.

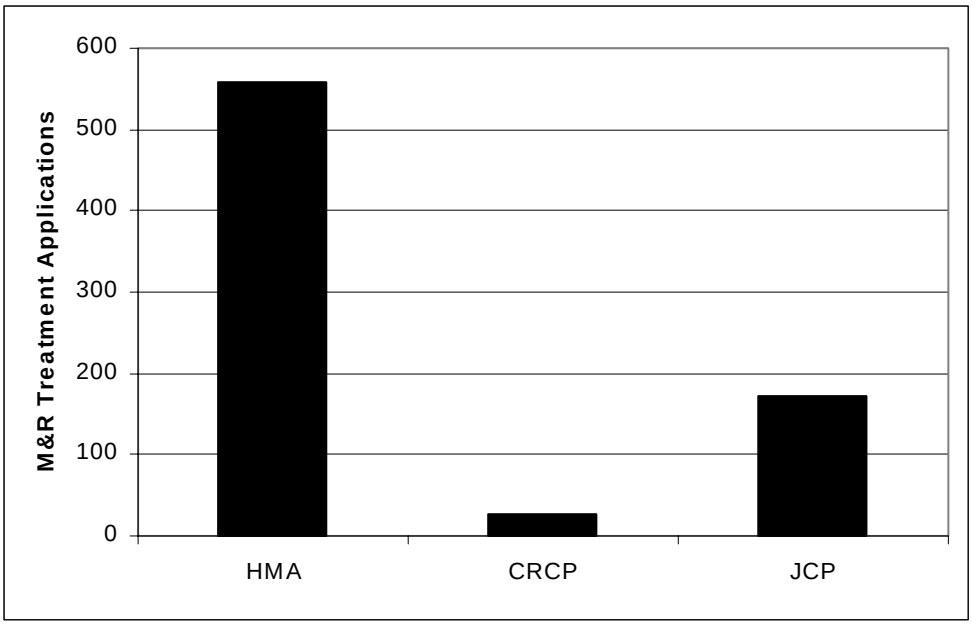

Figure 2. Distribution of M&R treatment applications by surface type (as reported in the 1999 quarter 3 release of the LTPP IMS database).

A list of the sections with unexpected performance trends after an M&R treatment was forwarded to the FHWA in feedback reports. This list can be found in appendix B. Note that each entry on the list represents a specific treatment application (i.e., a section may have more than one entry on that list, depending on how many treatments were followed by an unexpected trend). ***In appendix B of this report, each entry corresponds to a type 1 anomaly***. A type 1 anomaly represents those entries for which some type of maintenance or rehabilitation activity was recorded, but no change or decrease in the distresses occurred (i.e., these represent unexpected performance trends). Figure 7 shows the distribution of the type 1 anomalies by surface type. Very few inconsistencies in the data were observed (i.e., less than 3 percent of the total M&R treatments included in the LTPP database). In other words, improvements in the performance indicators were observed for the first survey date after the recorded date of the M&R treatment.

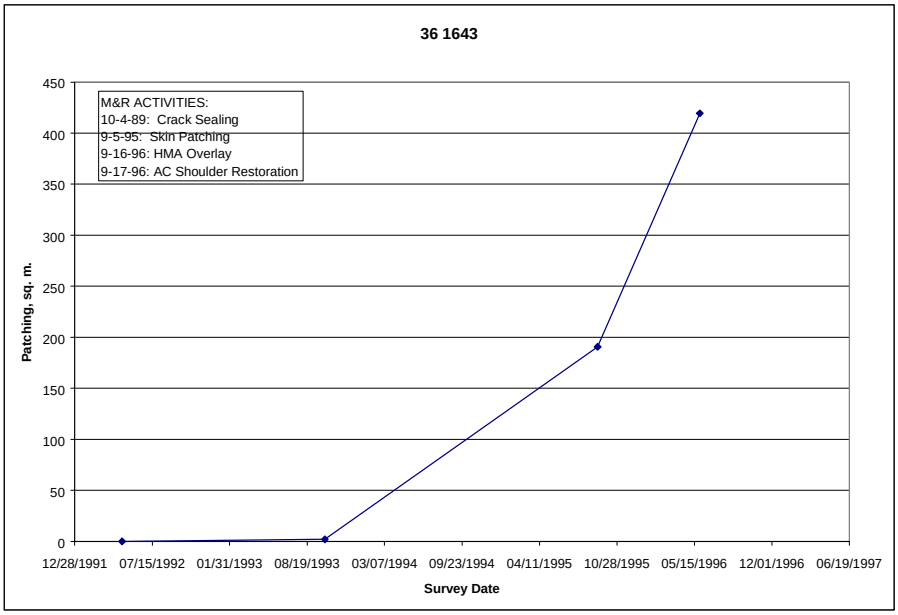

Figure 3. Expected increase in area of patching after the application of skin patching (maintenance code 26) on test section 361643, HMA-surfaced pavement.

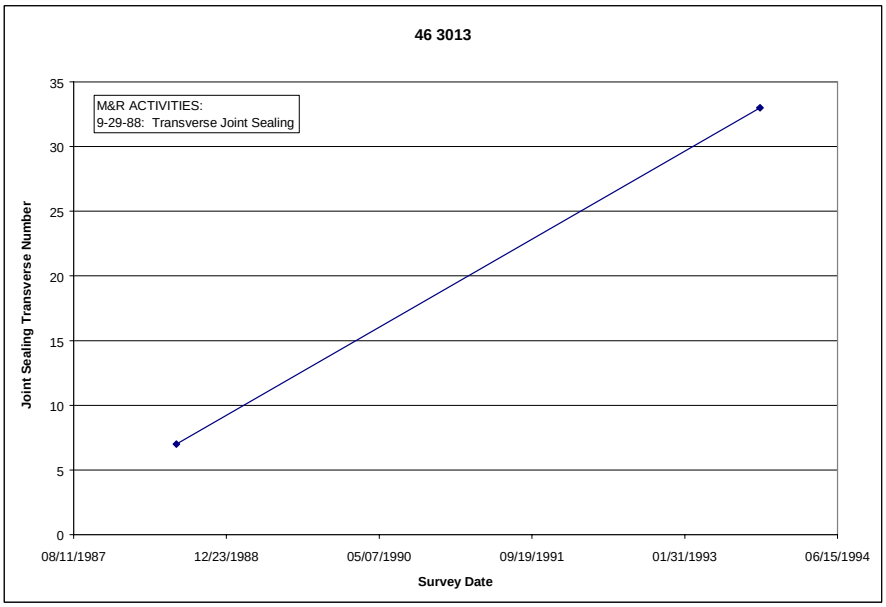

Figure 4. Expected increase in the number of transverse joints that were sealed in 1988 (maintenance code 2) along test section 463013, JCP.

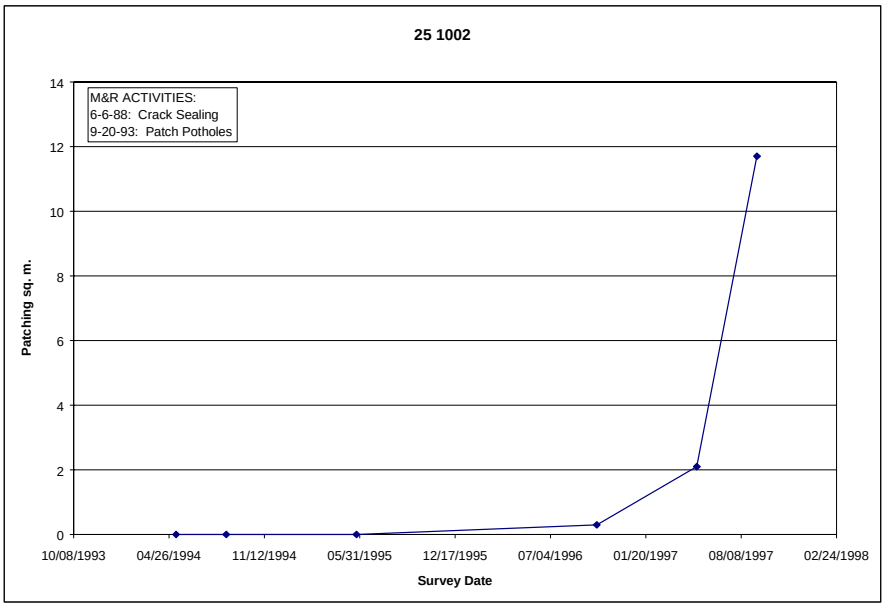

Figure 5. Discrepancy noted for test section 251002 – no area of patching recorded on 4/26/94 after potholes were patched on 9/20/93.

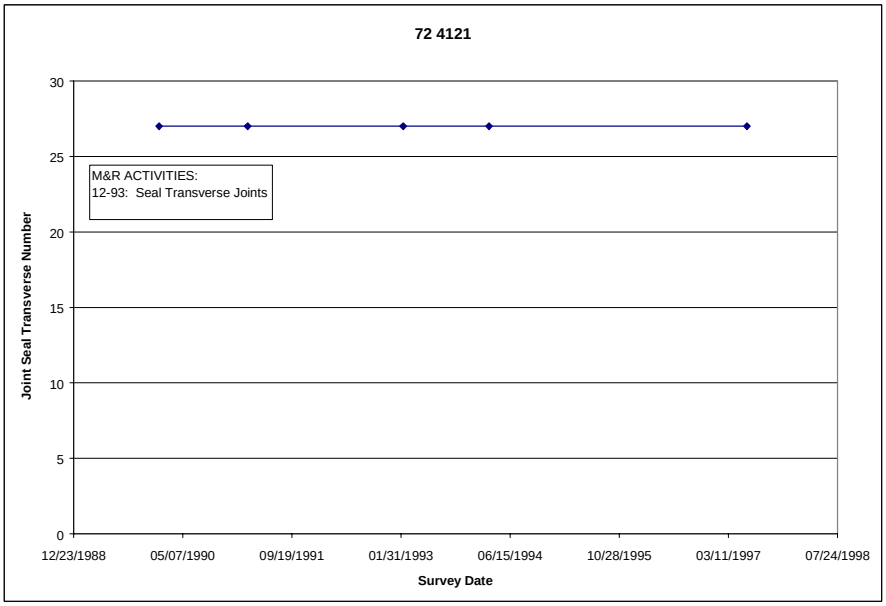

Figure 6. Discrepancy noted for test section 724121 – no increase in the number of transverse joints sealed after additional transverse joints were sealed in December 1993, as recorded in the LTPP database.

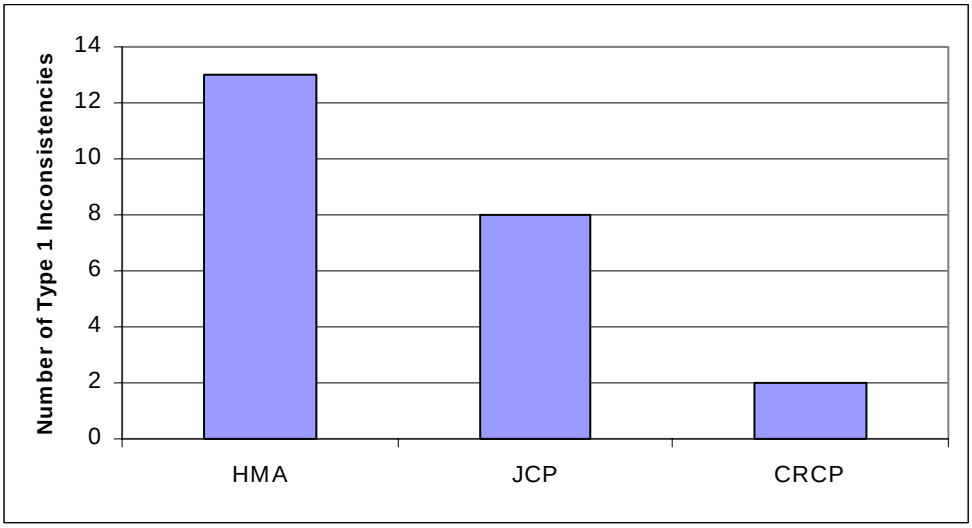

Figure 7. Distribution of type 1 anomalies by surface type.

No review of crack seal treatments was performed in this study. Sealed cracks can reopen in a relatively short period of time. According to distress survey guidelines, however, the sealed cracks are counted whether or not the sealed cracks have reopened. For this reason, it was not possible to verify sealing of cracks through performance observations.

PERFORMANCE REVIEW OF HMA-SURFACED PAVEMENTS

Using the distress viewer, each M&R activity of HMA-surfaced pavements was checked for discrepancies (757 type 1 sections). Performance indicators were reviewed before and after the M&R date to assess any change between the two readings (whether they increased, decreased, or stayed the same). Table 3 includes the relevant indicators that were checked for each M&R code.

Table 3. Rules for reviewing the performance of HMA-surfaced type 1 sections.

Treatment Code (Refer to Table 1)	Indicators to check	Expected change
Overlays 19, 43, 45, 51, 55, 56	All Indicators (Refer to Table 2)	Decrease
Patching 24, 25, 26, 27	Patch Area and Number of Patches	Increase
Seal Coat 31, 32, 33, 34, 35, 36	All Distresses – Cracking	Decrease
Hot Mix Seal Coat	All Distresses – Cracking	Decrease
Microsurfacing	All Indicators (Refer to Table 2)	Decrease
Blade Patch, Armor Coat	All Indicators (Refer to Table 2)	Decrease

A list of the sections with unexpected changes or a lack of an expected change (e.g., no increase in number and area of patches after patching) in performance was forwarded to the FHWA. This list is provided in appendix B.

Sections on this list represent those where the treatment may have been recorded for the wrong section or the wrong date. Accordingly, these sections will require a more thorough review to verify the accuracy of the data.

In summary, only a few of the M&R applications (13 out of 558 M&R activities performed on 397 test sections) on HMA-surfaced pavement sections fell into this category. Figure 8 shows the distribution of the HMA-surfaced type 1 anomalies with unexpected trends by type of treatment.

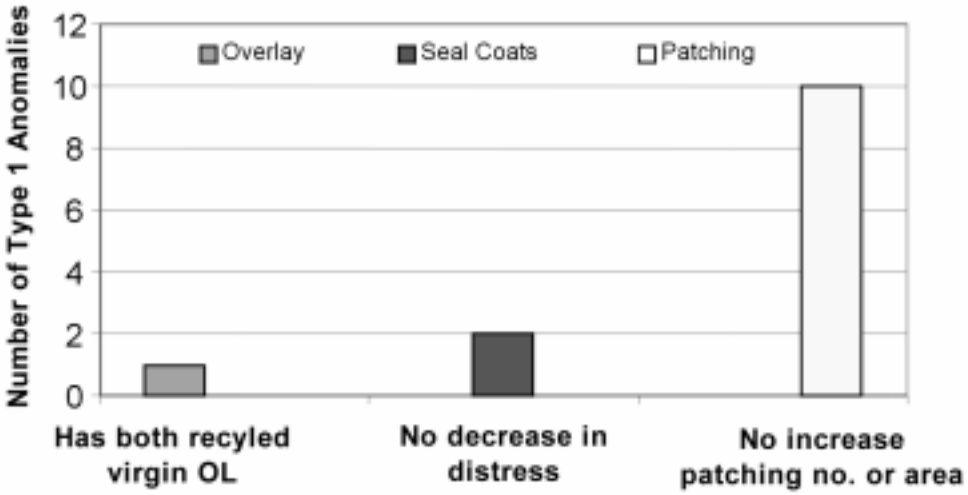

Figure 8. Distribution of HMA-surfaced pavements with type 1 anomalies by type of treatment.

As shown, most of the HMA-surfaced type 1 sections with unexpected performance trends or discrepancies are a result of no increase in the number of patches or patching area after patching was completed, as recorded in the LTPP database.

PERFORMANCE REVIEW OF PCC-SURFACED PAVEMENTS - JCP

Using the distress viewer, each M&R activity was checked for discrepancies. As previously stated for the HMA-surfaced pavements, the distress observations before and after the M&R date were examined to determine any change between the two readings. Table 4 summarizes the relevant indicators that were checked for each JCP M&R code.

Table 4. Rules for reviewing the performance of JCP type 1 sections.

Treatment	Treatment Code	Indicators to Check	Expected Change
Transverse Joint Sealing	2	Number of Joint Seal Damage of Transverse Joints	Decrease
Full Depth Transverse Joint Repair Patch	4	Patch Rigid Area and Number Patch Flex Area and Number	Increase
Full Depth Patching of PCC Pavement Other than at Joint	5		
Partial Depth Patching of PCC Pavement Other than at Joint	6		
Patch Pot Holes – Hand Spread, Compacted with Trucks	25		
Skin Patching	26		
Strip Patching	27		
Grinding Surface	12	All Indicators (Refer to Table 2)	Decrease
PCC Overlay	20		

The HMA overlays of JCP sections were included in the HMA type 1 sections. The M&R dates were rechecked to make sure that the M&R date fell between the two survey dates in which a difference in the observations was noted.

Similar to the HMA-surfaced test sections, a list of the JCP type 1 sections with unexpected changes in performance trends was forwarded to the FHWA. This list is included in appendix B. The sections on this list will require a more thorough review to verify the accuracy of the data. As for the HMA-surfaced pavements, only a few M&R applications (7 out of 173 M&R treatments on 107 test sections) on the JCP sections fell into this category. Figure 9 shows the distribution of the JCP type 1 anomalies with unexpected performance trends by type of treatment and discrepancy.

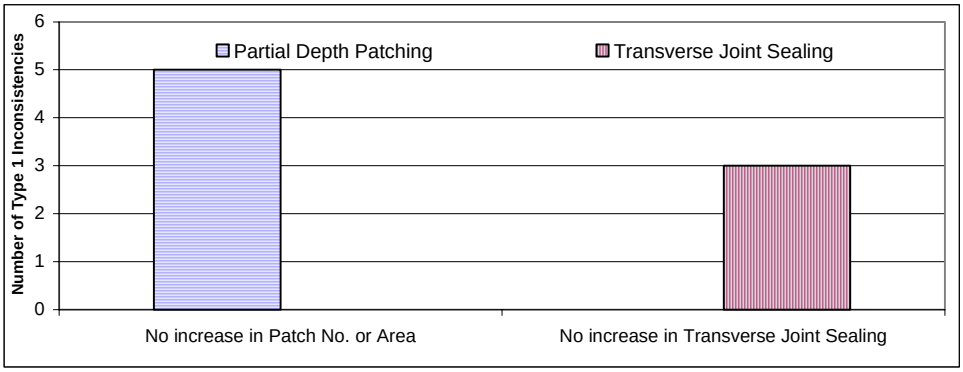

Figure 9. Distribution of JCP type 1 anomalies by type of treatment.

As shown in figure 9, most of the JCP type 1 sections with unexpected performance trends or discrepancies (only 5 of 173 treatment applications on 107 sections) are a result of an unrecorded increase in patch number or area after the patching was complete.

PERFORMANCE REVIEW OF CRCP PAVEMENTS

Using the distress viewer, each CRCP section was checked for discrepancies. For each M&R activity, the distress observations before and after the M&R data were examined and any differences between the surveys were noted. Table 5 includes the relevant indicators used to identify the anomalies.

Table 5. Rules for reviewing the performance of CRCP type 1 sections.

Code Description	Treatment Code	Indicators to Check	Expected Change
Lane-Shoulder Longitudinal Joint Sealing	3	Long Crack Seal	Increase
Full Depth Patching of PCC Pavement Other than at Joint	5	Patch Rigid Area and Number Patch Flex Area and Number	Increase
Grinding Surface	12	IRI	Decrease
PCC Overlay	20	Long Crack Length Number of Blowups Number of Punchouts Long Spalling Length	Decrease

HMA overlays of CRCP sections were included in the type 1 HMA sections. The M&R dates were rechecked to make sure that the application date fell between the two survey dates in which a difference between the observations was noted.

A list of the CRCP type 1 sections with unexpected changes in performance (as with the HMA and JCP sections) was forwarded to the FHWA. This list is included in appendix B.

As shown in appendix B, only 2 of 26 M&R treatments placed on 23 CRCP test sections fell into this category. Both of the CRCP type 1 anomalies with unexpected performance trends are a result of an increase in distress despite the placement of a PCC overlay.

4. SECTIONS WITH NO RECORDED M&R ACTIVITY– TYPE 2

All GPS and SPS test sections not categorized as type 1 sections were automatically categorized as type 2. The number of test sections within this category totaled more than 1800 sections. The performance indicators tabulated in table 2 were reviewed for each test section using the distress viewer. The objective of this review effort was to determine which sections had a substantial improvement in performance in the absence of any documented M&R activity.

For those test sections that exhibited an improvement in performance (e.g., a significant drop in distress or an increase in patch number), the M&R data tables were reviewed to ensure that the test section had been correctly identified as a type 2 section. If no M&R treatment was recorded before or after the improvement in performance, the sections were placed on a separate list of discrepancies. Each of these entries is called a type 2 anomaly.

Figures 10 and 11 are examples of improvements in performance of test sections for which no M&R activity was recorded (i.e., a type 2 anomaly). Figure 10 shows that; although an early April 1997 observation of test section 566031 (an HMA-surfaced pavement) showed fatigue cracking, longitudinal cracking in the wheel path; and transverse crack lengths, none were present during the late April 1997 distress survey. During the same period, there was a corresponding slight decrease in the calculated IRI value, but a slight increase in the measured rut depths. Although no M&R activity was recorded near these survey dates, some type of surface repair likely occurred to eliminate the cracking.

Figure 11 is an example of multi-discrepancies in the same section (test section 290607-JCP). This JCP test section has no HMA overlay recorded in the database. However, it is obvious that an HMA overlay was placed around October 1991 because the survey prior to that date was for a JCP. After October 1991 all data recorded for this section pertains to an HMA-surfaced pavement. M&R activities for this section were recorded in November of 1993 and in May 1994, as noted in figure 11.

Review rules were developed for the type 2 sections for the three pavement surfaces present in the LTPP database (i.e., HMA-surfaced pavements, PCC-surfaced pavements – JCP, and CRC pavements). Tables 6 to 8 summarize the rules used for reviewing the performance of the different types of pavements for the type 2 sections.

A list of the type 2 sections with anomalies for each surface type was forwarded to the FHWA. A listing of those test sections with the noted discrepancies is included in appendix C. Each entry reflects a survey date when a change in performance was observed without a corresponding M&R treatment. Therefore, a test section can have more than one entry, depending on the number of surveys that show an improvement without a corresponding M&R treatment. Figure 12 shows the distribution of the type 2 anomalies by pavement surface type. The majority of the discrepancies are for HMA-surfaced pavements, but they represent only about 10 percent of the total number of GPS and SPS test sections.

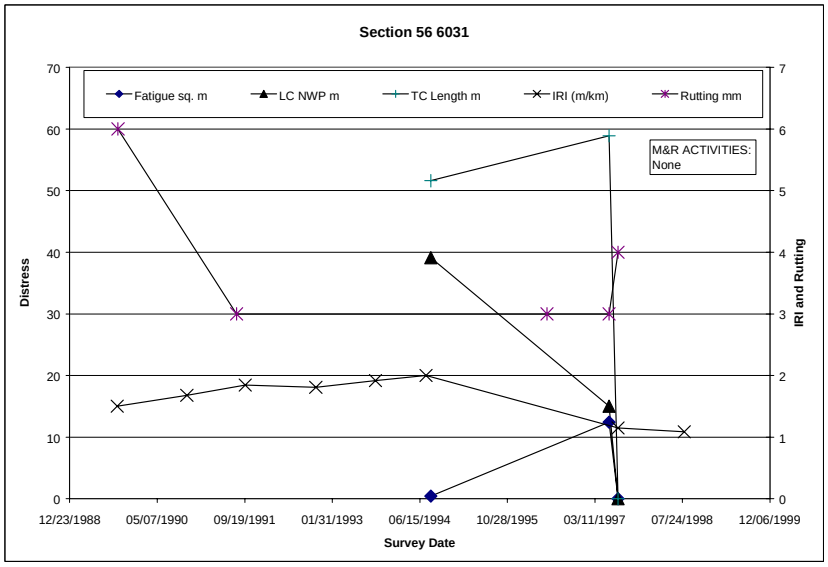

Figure 10. Time-series data for various performance indicators for HMA-surfaced test section 566031 that has no M&R activities recorded in the LTPP database.

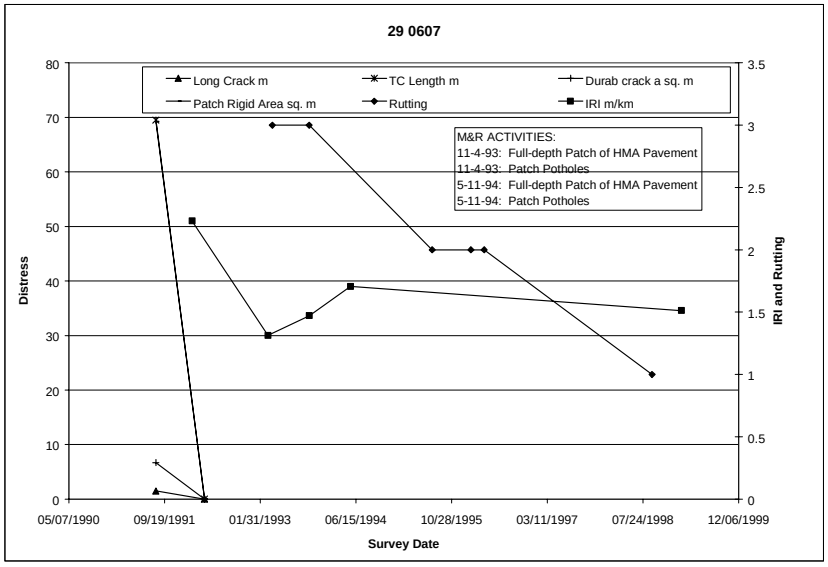

Figure 11. Time-series data for various performance indicators for PCC-surfaced (JCP) test section 290607 that has no M&R activities recorded in the LTPP database.

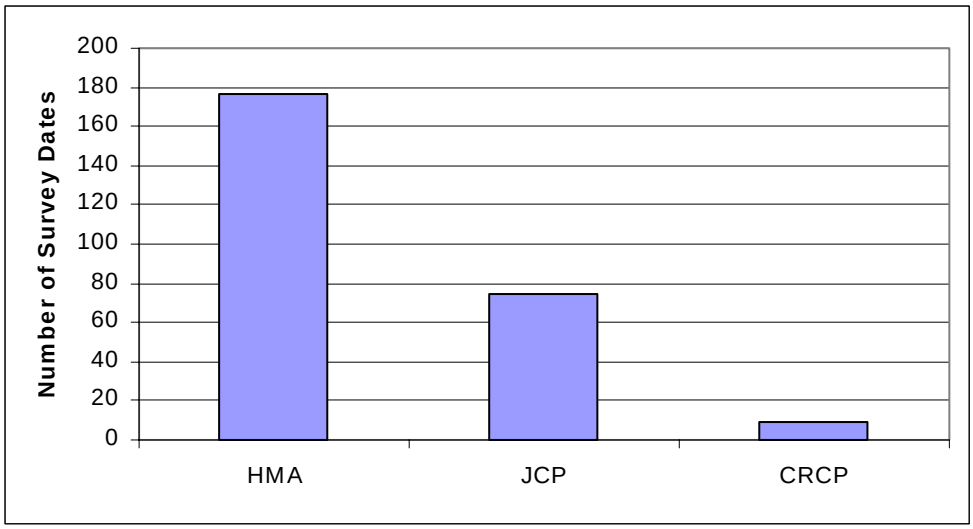

Figure 12. Distribution of type 2 anomalies by pavement surface type.

PERFORMANCE REVIEW OF HMA-SURFACED PAVEMENTS

The distress viewer was used to observe and compare the trends of the performance indicators listed in table 2 for each of the 1800 HMA-surfaced test sections. Each section was flagged using the rules listed in table 6 when the indicators suggested a possible M&R activity. The test section and survey dates for these improvements were compared with the M&R records. If no M&R records were found, that section and survey date corresponding to the change were placed on the HMA-surfaced type 2-anomaly list. This list, as shown in appendix C, was forwarded to the FHWA.

Table 6. Rules for reviewing the performance of HMA type 2 sections.

Indicators to Check	Criteria to Check	Possible M&R
Crack Seals	Increase shown in one or more	Crack sealing
	Decrease in all of them. Check to see if there is an overlay during that period.	Overlay, microsurfacing
Patch Area and Number	Increase shown in one or more	Patching
	Decrease in all of them. Check to see if there is an overlay during that period.	Overlay
All Indicators	Decrease in two or more of the indicators	Overlay, microsurfacing
All Distresses	Decrease in two or more of the indicators	Seal coats

Figure 13 shows the distribution of the HMA-surfaced type 2 anomalies by type of discrepancy. As shown, most anomalies are those associated with patching.

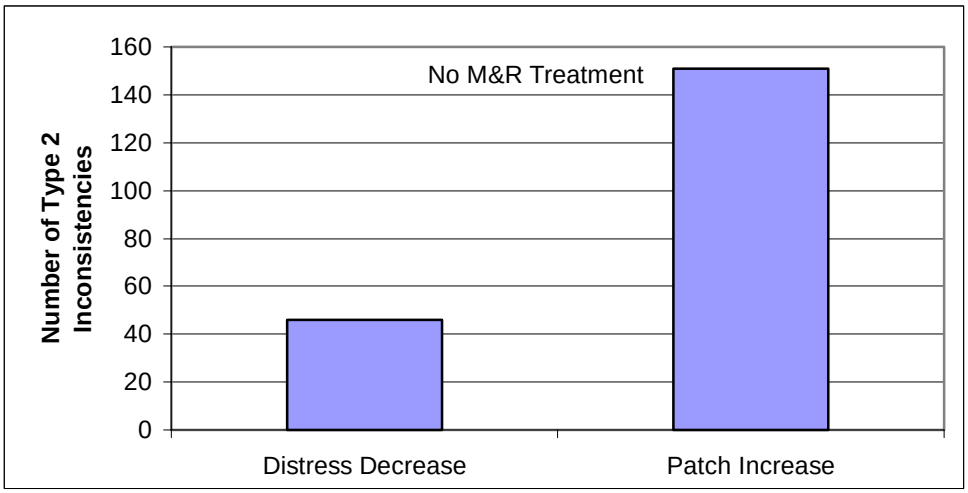

Figure 13. Distribution of HMA-surfaced type 2 anomalies by type of discrepancy.

PERFORMANCE REVIEW OF PCC-SURFACED PAVEMENTS – JCP

The distress viewer was used to observe and compare the performance indicators for each JCP section surveyed. All survey dates where changes or improvements in the performance indicators occurred without a corresponding M&R treatment were flagged and cross-checked against the list of M&R activities identified in chapter 3. These sections constituted the JCP type 2-anomaly list. The anomalies were identified in accordance with the criteria shown in table 7.

Table 7. Rules for reviewing the performance of JCP type 2 sections.

No	Indicators to Check	Criteria to Check	Possible M&R
1	Long Crack Seal Trans Crack Seal	Increase shown in one or more	Transverse Joint Sealing Lane-Shoulder Longitudinal Joint Sealing Crack Sealing
		Decrease in all of them	Check for possible M&R as in (4)
2	Joint Seal Trans No	Decrease	i. Transverse Joint Sealing ii. Check for possible M&R as in (4)
3	Patch Area and No (Rigid and Flex)	Increase shown in one or more	Full Depth Transverse Joint Repair Patch Full Depth Patching of PCC Pavement Other than at Joint Partial Depth Patching of PCC pavement Other than at Joint Patch Pot Holes – Hand Spread, Compacted with Trucks Skin Patching Strip Patching
		Decrease in all of them	Check for possible M&R as in (4)
4	All Except Long Crack Seal and Trans Crack Seal	Decrease in one or more of the indicators	Grinding Surface PCC Overlay

The JCP type 2-anomaly list was forwarded to the FHWA and is included in appendix C. Figure 14 shows the distribution of the JCP type 2 anomalies by type of discrepancy. As was the case for HMA-surfaced pavements, most of the anomalies are associated with patching.

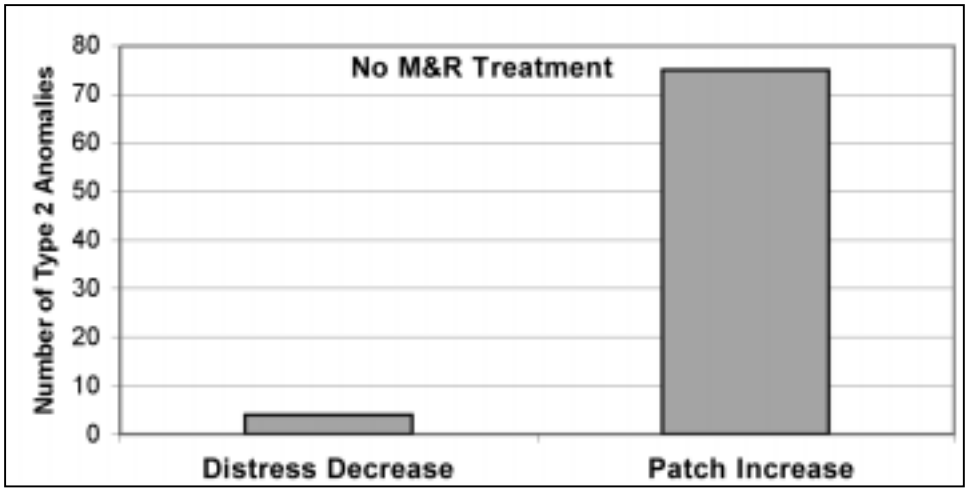

Figure 14. Distribution of JCP type 2 anomalies by type of discrepancy.

PERFORMANCE REVIEW OF CRC PAVEMENTS

The distress viewer was used to examine each CRCP section surveyed. All survey dates where improvements or changes in performance indicators occurred without a recorded M&R treatment were identified and flagged. These sections constituted the CRCP type 2-anomaly list, which is included in appendix C. Table 8 includes the criteria that were used to identify the CRCP type 2 anomalies. The CRCP type 2-anomaly list was forwarded to the FHWA.

Table 8. Rules for reviewing the performance of CRCP type 2 sections.

No	Indicators to check	Criteria to Check	Possible M&R
1	Long Crack Seal	Increase	Lane-Shoulder Longitudinal Joint Sealing Crack Sealing
2	Patch Area and No (Rigid and Flex)	Increase shown in one or more	Full Depth Patching of PCC Pavement Other than at Joint
		Decrease in all of them	Check for possible M&R as in (3)
3	Long Crack Length No of Blowups No of Punchouts Long Spalling Length	Decrease in one or more of the indicators	PCC Overlay

Figure 15 shows the distribution of the CRCP type 2 anomalies by type of discrepancy. Nearly all of the anomalies are a result of increases in the area of patching or in the number of patches.

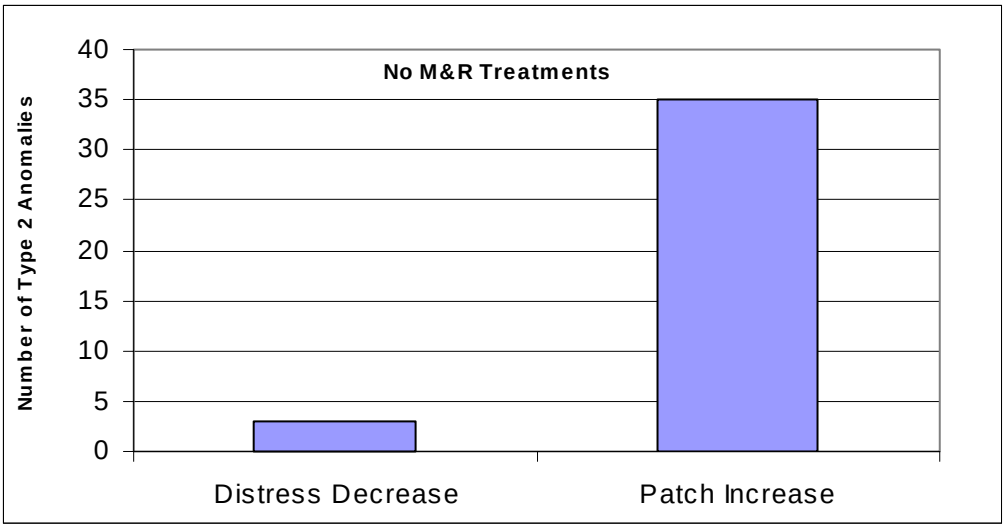

Figure 15. Distribution of CRCP type 2 anomalies by type of discrepancy.

NON-LEVEL E DATA

There are several GPS and SPS test sections with records that are not at level E in the M&R data tables. These sections were examined to ensure that they were not misclassified as type 2 sections as a result of missing data *only* because that data are not at level E. Very few test sections were removed from the anomaly/discrepancy list because the data had not moved through the QC process to level E. The determination of the cause for the non-level E data achieving that level was beyond the scope of this data study. The non-level E data that are considered as type 2 sections are included in appendix H.

5. M&R DATA COMPLETENESS AND DATA DISCREPANCIES

Chapter 5 is divided into two sections. The first section discusses the data completeness of the M&R activities that are documented in the LTPP database – the type 1 sections that were discussed in chapter 3 and listed in appendix A. Less than 3 percent of these test sections have a type 1 anomaly.

The second part of chapter 5 discusses the data discrepancies that were identified during the course of this M&R data study. These data discrepancies include M&R activities recorded for the wrong pavement surface, distress surveys recorded for the wrong surface, differences between the manual and automated distress surveys, and differences in distress definitions or interpretations with time and between distress surveyors.

M&R DATA COMPLETENESS

SPS-3 and SPS-4 Without Recorded Maintenance

The SPS-3 and SPS-4 experiments are directly concerned with the maintenance of HMA and PCC-surfaced pavements, respectively. The SPS-3 experiment includes four treatments that were applied to the HMA-surfaced pavements: 1) chip seals, 2) crack sealing, 3) slurry seals, and 4) thin overlays. The SPS-4 experiment includes two maintenance treatments of PCC-surfaced pavements: 1) crack sealing, and 2) joint sealing.

The maintenance records for thin overlays are stored in the M&R modules of the LTPP IMS. The maintenance records for the other treatments in the SPS-3 experiment, as well as all the treatments in the SPS-4 experiment, are placed in the SPS-3 and SPS-4 maintenance tables, which are separate from the maintenance module of the LTPP IMS. The SPS-3 (other than thin overlays) and SPS-4 data entries in the experiment section table that do not have entries in the corresponding maintenance tables, were placed on a list and forwarded to the FHWA in a feedback report. The experiment section table is the reference table for all sections admitted into the LTPP program. This list of maintenance data for specific SPS-3 and SPS-4 test sections is included in appendix D.

Figures 16 and 17 present a graphic representation of the number of SPS-3 and SPS-4 test sections in the experiment section table with missing entries in their corresponding maintenance tables. Note that while there are more SPS-3 test sections (84) with missing maintenance data than SPS-4 (11), the respective percentage of the corresponding sections in the experiment sections is almost the same (13 versus 10 percent).

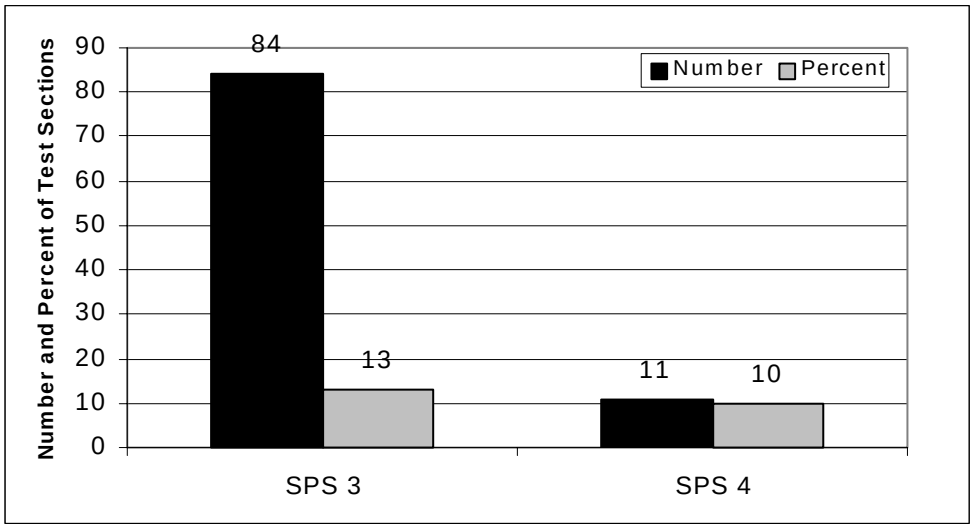

Figure 16. Number and percentage of SPS-3 and SPS-4 sections in the experiment section table that have missing entries in the maintenance tables.

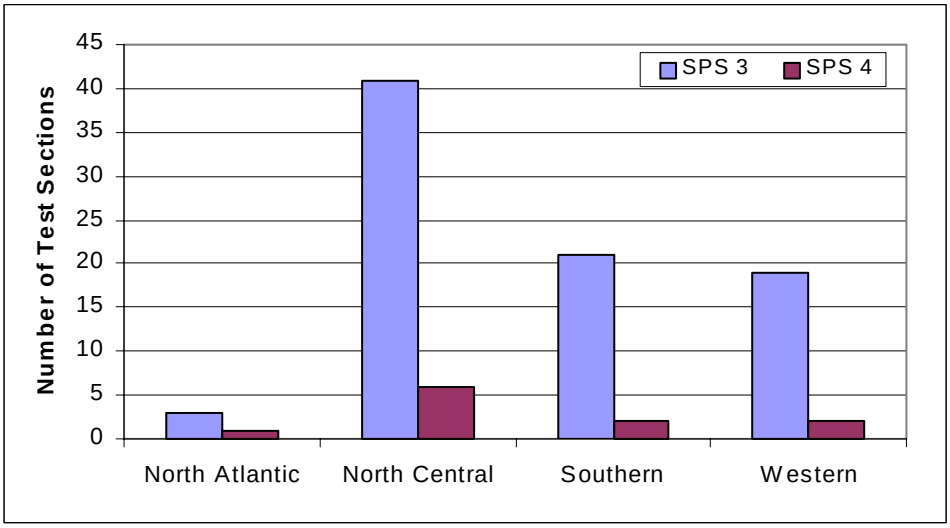

Figure 17. Number of SPS-3 and SPS-4 sections in the experiment section table that have missing entries in the maintenance tables by LTPP region.

SPS-5, SPS-6, SPS-7, GPS-6, and GPS-7 Test Sections Without Recorded Rehabilitation

There are several experiments in the LTPP program that were developed to study pavement rehabilitation. The SPS-5 and GPS-6 experiments were designed to study HMA overlays of HMA pavements; the SPS-6 and GPS-7 experiments were designed to study the rehabilitation of PCC pavements using HMA overlays, while the SPS-7 experiment concentrates on the study of bonded PCC overlays of PCC pavements.

The SPS test sections were reviewed to determine the overall presence of rehabilitation data in the LTPP database. The data for the rehabilitation experiments are stored in the M&R module of the LTPP IMS. Results from that review confirmed the absence of rehabilitation data for some of the test sections. Figure 18 presents a graphic display of the number and percentage of sections in the SPS-5, SPS-6, SPS-7, GPS-6, and GPS-7 experiments with missing rehabilitation data that are summarized in appendix I. The total number of test sections within each experiment is listed below for a relative comparison of the numbers presented in figure 18.

LTPP Experiment No.	Total Number of Test Sections
GPS-6	223
GPS-7	82
SPS-5	305
SPS-6	157
SPS-7	67

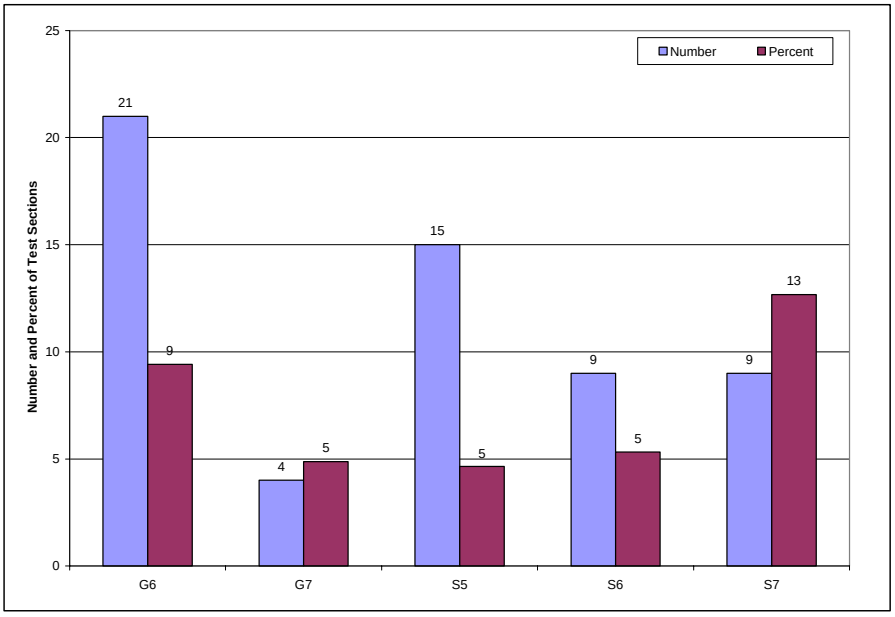

Figure 18. Graphical display of the number and percentage of sections in the LTPP experiments related to rehabilitation with missing data in the IMS.

Missing Data

Each data element in the M&R data tables in the SPS-3, SPS-4, SPS-5, and SPS-6 experiments were reviewed for completeness or missing data. The SPS-5 and SPS-6 experiments are concerned with the study of the rehabilitation treatments of HMA and PCC-surfaced pavements, respectively. While the M&R records of the SPS-5 and SPS-6 experiments are found in the maintenance and rehabilitation modules of the LTPP IMS, their construction data are stored separately in the SPS-5 and SPS-6 modules.

There are a large number of tables and data fields in the above-mentioned modules. All of the individual missing data fields are listed with the corresponding tables in appendix F. However, it was more convenient to produce summary statistics in this section to offer an easy overview of the missing data.

The missing data are summarized by IMS modules. In each module, the data are grouped by type of treatment. The data have also been divided by level of importance. These levels of importance were defined by the authors and are given the numbers 1, 2, and 3: 1 is essential, 2 is important (but not essential), and 3 is informational only. The level of importance assigned to each data element was based on the author's opinion as to the need of that data element to accomplish the overall objectives of the LTPP program and individual experiments. A complete list of the missing data statistics is given in appendix F along with the definition of what data elements fall in the different importance categories. The following summary charts present the percentage of missing data currently present in each individual M&R table.

M&R Modules

Figure 19 shows summary statistics for the M&R modules. The figure presents the average percentage of missing data in the existing tables by level of importance. Almost half the records for the essential data elements in the existing M&R modules are missing. Figure 20 shows the percentage of missing data for the M&R IMS modules by the type of data. Note that a significant percentage of the essential data is missing for the cost, seal coats, and PCC depth repair.

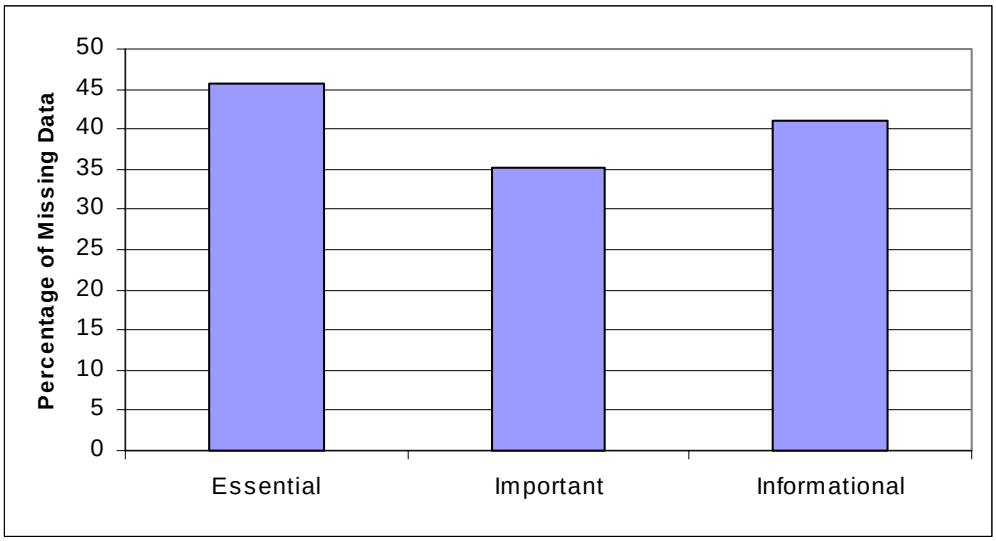

Figure 19. Percentage of missing data by level of importance for the M&R modules in the IMS.

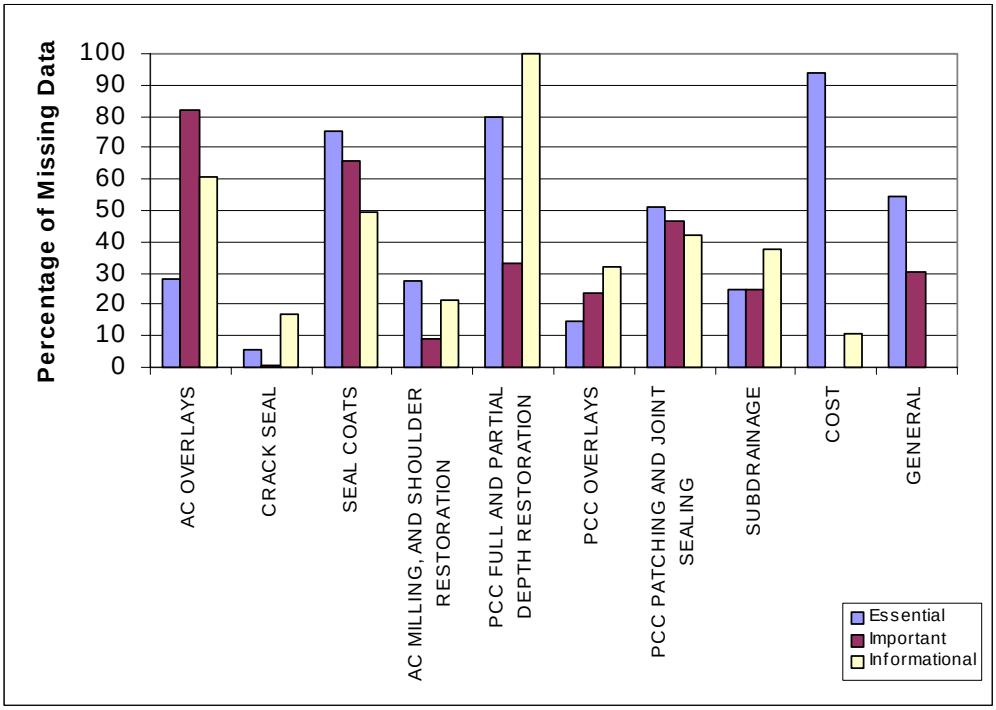

Figure 20. Summary of gaps in data currently in the M&R IMS modules by data type and level of importance.

SPS-3 and SPS-4 Modules

Figure 21 shows summary statistics for the SPS-3 and SPS-4 modules. The figure presents the average percentage of missing data in the existing tables by level of importance. Note that 14 percent of the records for the essential data elements are missing.

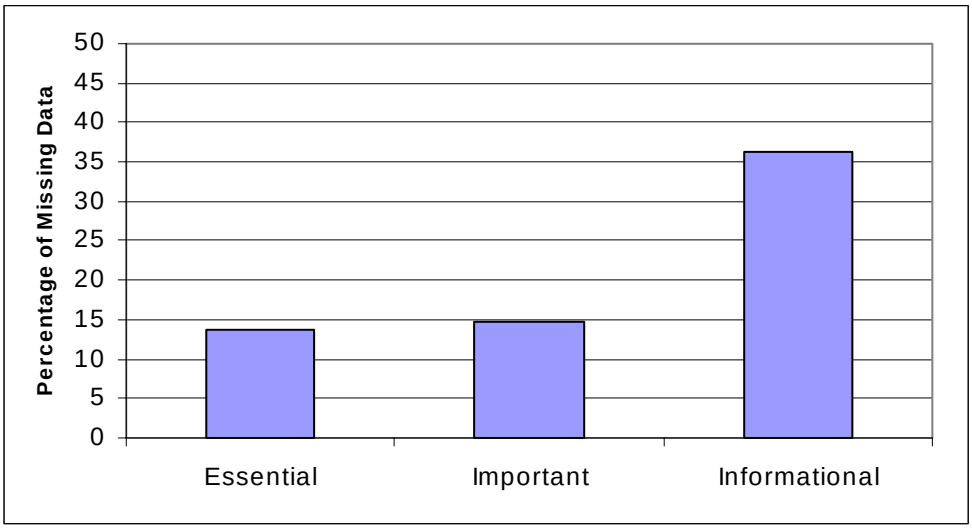

Figure 21. Percentage of missing data by level of importance for the SPS-3 and SPS-4 modules in the IMS.

Figure 22 shows the percentage of missing data for the SPS-3 and SPS-4 IMS modules by the type of data. Note that, except for the SPS-4 underseal, the essential data elements currently in the SPS-3 and SPS-4 tables have very little missing data.

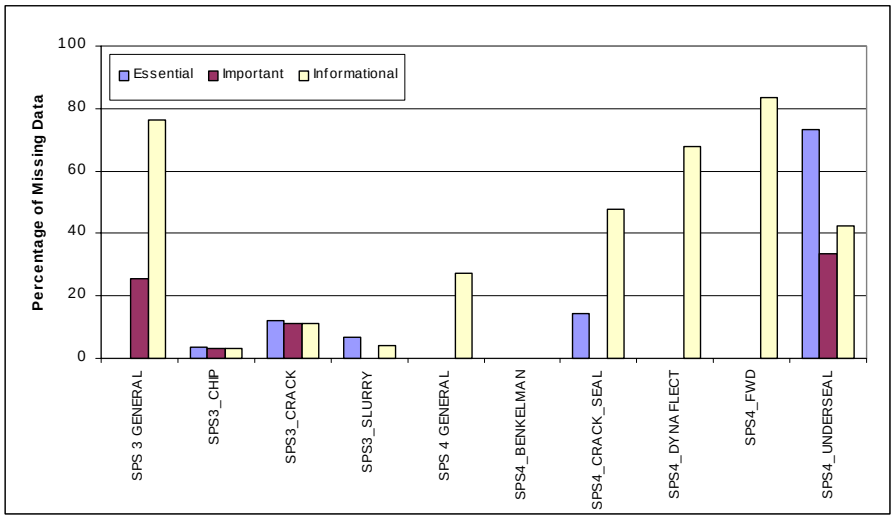

Figure 22. Summary of gaps in current data in the SPS-3 and SPS-4 IMS modules by M&R data type and level of importance.

SPS-5 and SPS-6 Modules

Figure 23 shows summary statistics for the SPS-5 and SPS-6 modules. The figure presents the average percentage of missing data in the existing tables by level of importance. Note that 23 percent of the records for the essential data elements are missing. In addition, about 36 percent of the important data elements currently in the data tables are missing.

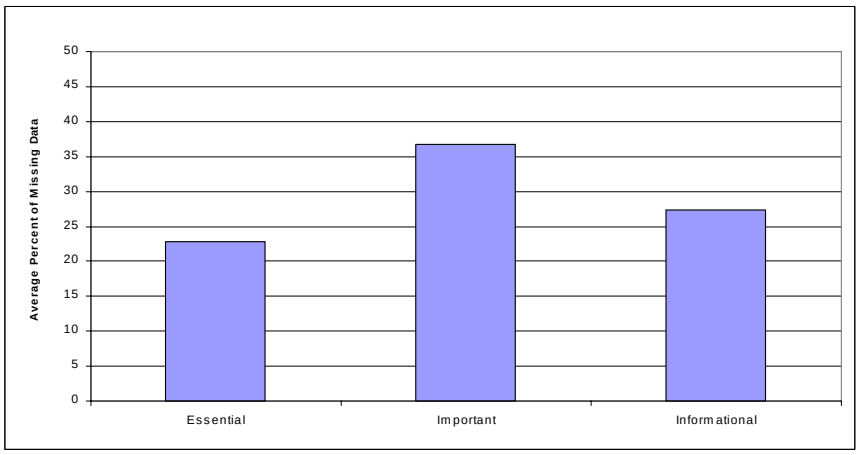

Figure 23. Percentage of missing data by level of importance for the SPS-5 and SPS-6 modules in the IMS.

Figure 24 shows the percentage of missing data for the SPS-5 and SPS-6 IMS modules by the type of data. As shown, not more than 47 percent of the essential data elements currently existing in the tables are missing. However, about 82 percent of the important data for the SPS-5 HMA patching category are missing.

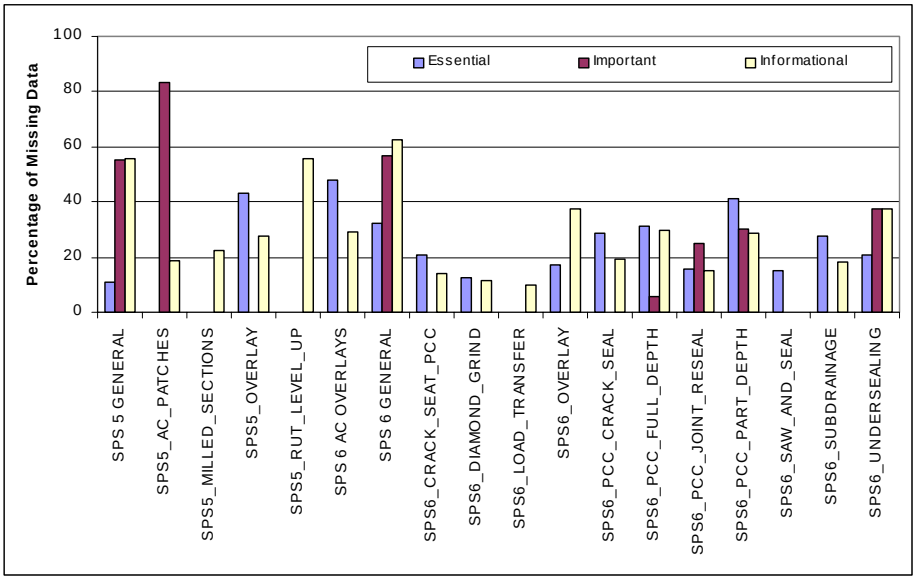

Figure 24. Summary of gaps in current data in the SPS-5 and SPS-6 IMS modules by M&R data type and level of importance.

DATA DISCREPANCIES

M&R Activity Reported on the Wrong Surface

During the review of the M&R data, it was noticed that there were seven instances in which PCC treatments were reportedly applied to HMA surfaces and vice versa. These sections are listed in appendix E. These discrepancies were forwarded to the FHWA. Figure 25 shows a distribution of these anomalies. These sections need to be reviewed to ensure that the sections' surfaces are correctly recorded.

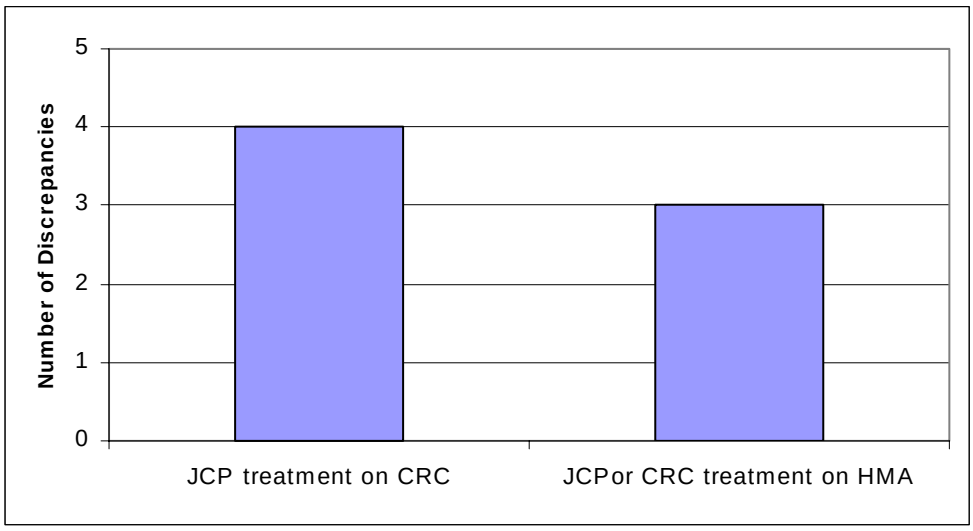

Figure 25. Maintenance treatments reported on wrong surfaces.

Distress Surveys Reported on the Wrong Surface

During the review of the M&R data, one section (29 5473) was identified that had a PCC surface, but the distress survey was recorded in the HMA survey table. This section was forwarded to the FHWA and is listed in appendix E. This section has two dates of survey found in the HMA survey tables: 14/May/1991 and 16/April/1996. This is a GPS-4 test section and has a JCP surface.

Automated and Manual Distress Survey Differences

During the review process, it was observed that there seemed to be inconsistent performance trends between performance indicators measured using automated and manual distress survey methods. Figures 26 and 27 show examples of the differences between the automated and manual distress surveys. These inconsistent trends made it much more difficult to identify improvements in performance that may have been caused by the application of some M&R activity.

The differences between the manual and automated surveys are defined as discrepancies in the distress data. This type of discrepancy is caused by an increase/decrease in a distress beyond the error bands of an adjacent survey that was completed using a different method when there is no recorded M&R activity. The error bands were taken from the definitions previously established in the distress viewer developed under the "Distress Data Consolidation" report.[(1)] Note that the discrepancy between the manual and automated data surveys consists of sections that were found in addition to those previously identified from the "Distress Data Consolidation" report.[(1)]

To determine the extent of these discrepancies, the type 2 anomalies were identified by initially combining the automated and manual survey data. This resulted in additional sections that showed type 2 anomalies that were not shown when only manual survey data were used. These sections were listed separately from those with a type 2 anomaly because this difference probably is related to the type of survey performed rather than a change in the surface condition. The list of discrepancies between the manual and automated survey data are included in appendix G. The manual distress surveys were used to identify discrepancies in the surface condition that may be related to maintenance and rehabilitation activities. The manual distress surveys were selected instead of the automated surveys because there are approximately 35 percent more manual surveys (6,252) than automated surveys (4,641) in the LTPP database.

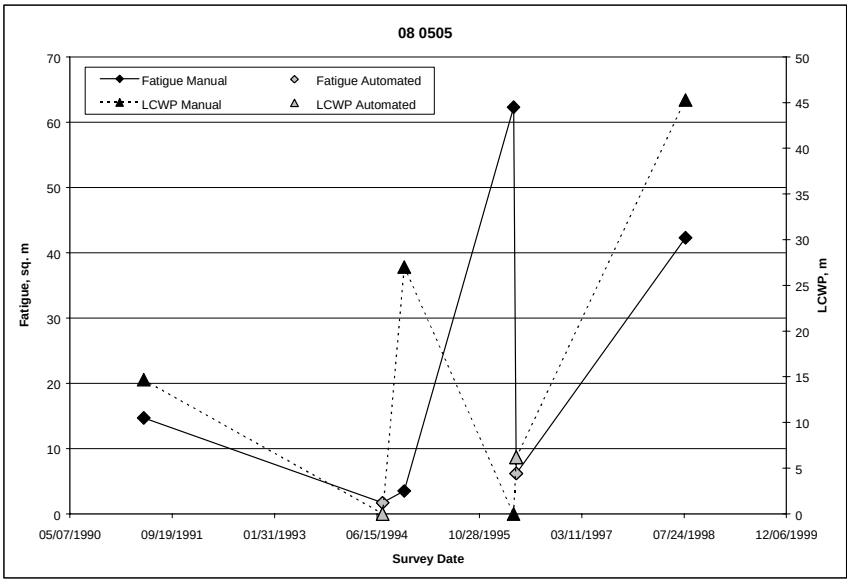

Figure 26. Examples of the difference between the automated and manual distress surveys for test section 080505.

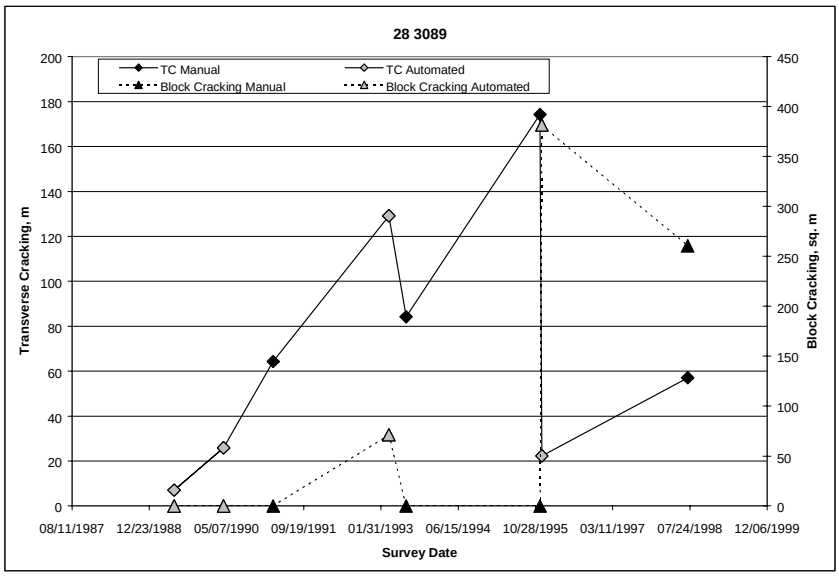

Figure 27. Examples of the difference between the automated and manual surveys for test section 283089.

Distress Interpretation Differences

Another difference between the distress surveys for a specific site was the misinterpretation of some distresses or a change in the distress definition with time. Figure 27 shows an example of this type of discrepancy related to transverse and longitudinal cracking and block cracking variations. Similar differences in visual observations have occurred between transverse and longitudinal reflection cracks and transverse and longitudinal cracks.

Those test sections that were identified as having potential differences in the distress definition or interpretation at the same site were added to the list of test sections with discrepancies or differences between the manual and automated distress surveys that were included in appendix G. This list includes a large number of survey dates and test sections. The differences between the distress magnitudes of adjacent surveys that were caused by the misinterpretation of the distress type increase the difficulty of identifying improvements in performance that could have been caused by the application of some M&R activity

6. CONCLUSIONS AND RECOMMENDATIONS

This study examined the M&R data in the LTPP IMS as of the third quarter release of 1999. The LTPP test sections were divided into two categories: 1) type 1 sections had recorded M&R treatments, and 2) type 2 sections did not have recorded M&R treatments. Anomalies identified for the two categories were defined as type 1 and type 2 anomalies. The results of the reviews for both categories are listed in appendices B through G. The following is summary of findings and recommendations for mitigation of the observed anomalies.

TYPE 1 ANOMALIES

Very few anomalies of this kind were found. Only 23 anomalies were identified in the 757 M&R treatments. They consist primarily of sections that have patching recorded in the M&R tables, but do not have corresponding increases in the number of patches number or area of patching in the distress surveys. These sections are listed in appendix B.

It is recommended that these sections be reviewed by the regions and the surveys around the treatment application times be reviewed. The correct amount of distress/patching can then be adjusted in the distress tables.

TYPE 2 ANOMALIES

During review of the type 2 anomalies, the automated survey data were eliminated because of the differences observed between the manual and automated distress surveys. The manual distress surveys were used in the study because there were 35 percent more manual distress surveys than automated surveys (6252 manual compared with 4641 automated). The discrepancies between the two types of surveys also were identified in the Distress Data Study. However, the consolidated data set that resulted from that study is not yet included in the IMS.

Using the manual distress data, a total of 275 type 2 anomalies were found in 1800 test sections. The vast majority of these anomalies (more than 80 percent) consisted of sections where there was an increase in the number of patches in the distress survey with no record of patching in the M&R tables. These anomalies are listed in appendix C.

It is recommended that these sections be reviewed by the regions together with the corresponding M&R data sheets. Some consultation with the relevant State Highway Agencies (SHAs) might be necessary to determine whether some of these sections received treatments that are not recorded in the IMS.

SPS-3 AND SPS-4 TEST SECTIONS WITHOUT MAINTENANCE RECORDS

Some SPS-3 and SPS-4 sections were defined in the experiment section table of the LTPP IMS but did not have records in the corresponding SPS-3 and SPS-4 tables. There were 84 SPS-3

sections and 11 SPS-4 sections with no recorded M&R data in the corresponding tables. These corresponding tables were: SPS3_CHIP, SPS3_CRACK, SPS3_SLURRY, SPS4_CRACK_SEAL_GENERAL, and SPS4_UNDERSEAL_GENERAL. These sections are LISTED in appendix D.

It is recommended that these sections be reviewed by the regions to determine the reason why their maintenance data is not yet loaded in the LTPP IMS.

SPS-5, SPS-6, SPS-7, AND THE GPS-7 TEST SECTIONS WITHOUT REHABILITATION RECORDS

Several rehabilitation experimental test sections were found to have missing data and were not listed in the rehabilitation module of the LTPP database. These test sections and data elements are listed in appendix I. It is recommended that these sections be reviewed by the regions to determine the reason the database does not include the rehabilitation data.

DATA RECORDED ON WRONG SURFACES

Two types of data were recorded for the wrong surfaces – distress surveys and M&R data. There were only two distress surveys that were recorded for a wrong surface type – surveys on a PCC section recorded in an HMA survey table. There were also seven maintenance treatments recorded for a wrong surface type – HMA treatments applied to PCC surfaces and vice versa. All these sections are listed in Appendix E.

It is recommended that the regions review the sections in the corresponding tables and the experiment section table to resolve the difference in the surface type definition at the time of discrepant surveys or treatment applications.

MISSING DATA

All the M&R tables in the IMS were reviewed for the detection of missing data. All the fields in the tables were inspected. For many sections, several fields have missing data in almost all the tables. The detailed list of these elements and tables is included in appendix F. The information in that appendix identifies the number of missing records for each data field. The data that correspond to those records that are not yet loaded in the database (i.e., non-level E data) are not accounted for in this list as missing data.

The data in appendix F are identified by the level of importance determined as essential, important; and informational. Although it might be difficult at this point to obtain some of this data, an attempt should be made to obtain the data for the essential data elements. This could be achieved through the regions by contacting the SHAs and consulting the regional data collection records.

DATA DISCREPANCIES

During the review of the distress survey data and M&R data, two types of discrepancies were found – data associated with an incorrect type of pavement surface and inconsistent trends in the distress/performance data. Few sections were found in which the distress survey or M&R activity had been recorded for the wrong type of surface. These types of discrepancy can be corrected easily. However, there were numerous inconsistent trends in the distress data. Those sections with inconsistent trends initially were included in the type 2 anomaly list, but were later removed after the cause for the discrepancy was identified. The causes for these inconsistent trends are a result of the following:

- Differences between the manual and automated distress surveys.
- Differences in the distress definition between surveyors and/or over time.

The differences between the manual and automated distress surveys, as well as the misinterpretation of distress types, increased the difficulty of identifying improvements in performance that could have been caused by the application of some M&R activity. Those test sections with an inconsistent trend or abrupt change in distress data with time were included in a separate list from the type 2 anomalies. That list of test sections and survey dates is included in appendix G.

SUMMARY

The observed anomalies found during the data review are summarized below:

- 23 sections with no improvement in performance after the recorded application of an M&R treatment (e.g., an increase in IRI and distresses after an overlay).
- 275 sections with a significant increase in performance despite the absence of any record of M&R (e.g., a decrease in all distresses and IRI or an increase in patch number and area).
- 84 SPS-3 test sections and 11 SPS-4 test sections have missing entries in the maintenance tables.
- 7 M&R activities pertaining to HMA measures listed in a PCC table or vice versa.
- 2 surveys pertaining to HMA sections performed on PCC sections and vice versa.
- Unavailability of many data elements for segments present in the M&R history tables.

The most important finding from this study is the number of test sections that show improved performance without any maintenance or rehabilitation activity recorded in the database. The cause of these discrepancies must be determined before studies or analyses of the performance trends and observations are performed using these test sections. If the discrepancies are not resolved, the variability in the distress data will make future analyses – and the ability to interpret these data in order to make conclusive statements – difficult. On the other hand, if the discrepancies are checked and the data are found to be correct, immediate steps should be taken to determine the reason(s) why the variability in the distress data is so great. After the reasons are identified, steps can be taken to reduce variability.

APPENDIX A. TEST SECTIONS WITH M&R ACTIVITIES

Appendix A includes a list of all type 1 sections and a listing of those sections with some type of M&R activity recorded in the LTPP database. Table 9 is a listing of all M&R tables in the LTPP IMS, including the file name and a description of each table. Table 10 lists all type 1 sections with recorded M&R including the state code, SHRP identification code, M&R activity, and the type of surface on which the M&R treatment was placed.

Table 9. List of type 1 M&R tables in the LTPP IMS.

File Name	Description	Maintenance/ Rehabilitation
MNT_ASPHALT_CRACK_SEAL	Crack sealing data for pavement with AC surfaces.	Maintenance
MNT_ASPHALT_PATCH	Patching data for pavements with AC surfaces.	Maintenance
MNT_ASPHALT_SEAL	Seal coat application data for pavements with AC surfaces.	Maintenance
MNT_COST	Cost data.	Maintenance
MNT_GMG	Diamond grinding, milling, or grooving data for pavement surfaces.	Maintenance
MNT_HIST	Historical maintenance information.	Maintenance
MNT_PCC_FULL_DEPTH	Full-depth repair data for PCC surfaces.	Maintenance
MNT_PCC_JOINT_RESEAL	Joint resealing data for PCC surfaces.	Maintenance
MNT_PCC_PART_DEPTH	Partial-depth patching data for PCC surfaces.	Maintenance
SPS3_CHIP	SPS-3 chip seal aggregate properties.	Maintenance
SPS3_CHIP_EQUIP	Equipment used in chip seal application.	Maintenance
SPS3_CRACK	Crack seal application data for pavement with AC surfaces.	Maintenance
SPS3_INTERSECTIONS	Test section information.	Maintenance
SPS3_PROJECT_STATIONS	Test section information.	Maintenance
SPS3_ROLLER	Roller equipment data used in chip seal application.	Maintenance
SPS3_SLURRY	Slurry seal application data for pavement with AC surfaces.	Maintenance
SPS3_SLURRY_EQUIP	Slurry seal application data for pavement with AC surfaces.	Maintenance
RHB_ACO_AGGR_PROP	AC Overlay – Aggregate properties.	Rehabilitation
RHB_ACO_LAB_AGED_AC	AC Overlay – Laboratory-aged asphalt cement properties.	Rehabilitation
RHB_ACO_LAB_MIX	AC Overlay – Laboratory mixture design.	Rehabilitation
RHB_ACO_MIX_PROP	AC Overlay – Mixture properties as placed.	Rehabilitation
RHB_ACO_PROP	AC Overlay – Asphalt cement properties.	Rehabilitation
RHB_CMRAP_COMBINED_AGG	Cold mix recycled asphalt pavement – combined aggregate.	Rehabilitation
RHB_CMRAP_COMBINE_AC	Cold mix recycled asphalt cement – combined AC properties.	Rehabilitation
RHB_CMRAP_GEN_INFO	Cold mix recycled asphalt pavement – general information and reclaimed aggregate.	Rehabilitation
RHB_CMRAP_LAB_AGED_AC	Cold mix recycled asphalt pavement – laboratory-aged.	Rehabilitation
RHB_CMRAP_LAB_MIX	Cold mix recycled asphalt pavement – laboratory mixture.	Rehabilitation
RHB_CMRAP_MIX_PROP	Cold mix recycled asphalt pavement – mixture properties.	Rehabilitation
RHB_CMRAP_NEW_AC_PROP	Cold mix recycled asphalt pavement – new AC properties.	Rehabilitation
RHB_CMRAP_RECLAIM_AC	Cold mix recycled asphalt pavement – reclaimed AC.	Rehabilitation
RHB_CMRAP_UNTREAT_AGGR	Cold mix recycled asphalt pavement – untreated.	Rehabilitation
RHB_CRACK_SEAT_PCC	Crack and seat PCC pavement.	Rehabilitation
RHB_HEATER_SCARIF	Heater scarification surface recycled asphalt pavement.	Rehabilitation
RHB_HMRAP_COMBINED_AGG	Hot mix recycled asphalt pavement – combined aggregate.	Rehabilitation
RHB_HMRAP_COMBINE_AC	Hot mix recycled asphalt cement – combined AC properties.	Rehabilitation

Table 9. List of type 1 M&R tables in the LTPP IMS, continued.

File Name	Description	Maintenance/ Rehabilitation
RHB_HMRAP_GEN_INFO	Hot mix recycled asphalt pavement – general information and reclaimed aggregate.	Rehabilitation
RHB_HMRAP_LAB_AGED_AC	Hot mix recycled asphalt pavement – laboratory-aged.	Rehabilitation
RHB_HMRAP_LAB_MIX	Hot mix recycled asphalt pavement – laboratory mixture.	Rehabilitation
RHB_HMRAP_MIX_PROP	Hot mix recycled asphalt pavement – mixture properties.	Rehabilitation
RHB_HMRAP_NEW_AC_PROP	Hot mix recycled asphalt pavement – new AC properties.	Rehabilitation
RHB_HMRAP_RECLAIM_AC	Hot mix recycled asphalt pavement – reclaimed AC.	Rehabilitation
RHB_HMRAP_UNTREAT_AGGR	Hot mix recycled asphalt pavement – untreated.	Rehabilitation
RHB_IMP	Improvement data.	Rehabilitation
RHB_LAYER	Layer descriptions.	Rehabilitation
RHB_LOAD_TRANSFER	Load transfer restoration data.	Rehabilitation
RHB_MILL_AND_GRIND	Milling and grinding data for pavement surfaces.	Rehabilitation
RHB_PCCO_AGGR	PCC Overlay – aggregate data.	Rehabilitation
RHB_PCCO_CONSTRUCTION	PCC Overlay – construction data.	Rehabilitation
RHB_PCCO_JOINT_DATA	PCC Overlay – joint data.	Rehabilitation
RHB_PCCO_MIXTURE	PCC Overlay – mixing data.	Rehabilitation
RHB_PCCO_STEEL	PCC Overlay – reinforcing steel.	Rehabilitation
RHB_PCCO_STRENGTH	PCC Overlay – strength data.	Rehabilitation
RHB_PMA_COMPACTION	AC Overlay – compaction data.	Rehabilitation
RHB_PMA_CONSTRUCTION	AC Overlay – construction data.	Rehabilitation
RHB_PMA_ROLLER	AC Overlay – roller data.	Rehabilitation
RHB_PRESSURE_RELIEF	Pressure relief joints in PCC pavements.	Rehabilitation
RHB_RCYPCC_COMBINED_AGGR	Recycled PCC – combined aggregate data.	Rehabilitation
RHB_RCYPCC_CONSTRUCTION	Recycled PCC – construction data.	Rehabilitation
RHB_RCYPCC_JOINT	Recycled PCC – joint data.	Rehabilitation
RHB_RCYPCC_MIXTURE	Recycled PCC – mixing data.	Rehabilitation
RHB_RCYPCC_NEW_AGGR	Recycled PCC – new aggregate data.	Rehabilitation
RHB_RCYPCC_STEEL	Recycled PCC – reinforcing steel.	Rehabilitation
RHB_RCYPCC_STRENGTH	Recycled PCC – strength data.	Rehabilitation
RHB_RESTORE_AC_SHOULDER	Restoration of AC shoulders.	Rehabilitation
RHB_RESTORE_PCC_SHOULDER	Restoration of PCC shoulders.	Rehabilitation
RHB_SUBDRAINAGE	Subdrainage.	Rehabilitation
RHB_SUBSEALING_PCC	Subsealing PCC pavement.	Rehabilitation
SPS5_AC_PATCHES	Asphalt concrete patching data.	Rehabilitation
SPS5_INTERSECTIONS	SPS-5 test section information.	Rehabilitation
SPS5_LAYER	Layer descriptions.	Rehabilitation
SPS5_LAYER_THICKNES	Layer thickness measurements.	Rehabilitation
SPS5_MILLED_SECTIONS	Preparation of milled test sections data.	Rehabilitation
SPS5_NOTES_AND_COMMENTS	Section notes and comments.	Rehabilitation
SPS5_OVERLAY	Overlay placement operations data.	Rehabilitation
SPS5_OVERLAY_LAYERS	Layer data for overlay placement.	Rehabilitation
SPS5_PMA_COMPACTION	Compaction data.	Rehabilitation
SPS5_PMA_CONSTRUCTION	Construction data.	Rehabilitation

Table 9. List of type 1 M&R tables in the LTPP IMS, continued.

File Name	Description	Maintenance/ Rehabilitation
SPS5_PMA_ROLLER	Roller data.	Rehabilitation
SPS5_PROJECT_STATIONS	SPS-5 test section information.	Rehabilitation
SPS5_QC_MEASUREMENTS	Construction quality control measurements.	Rehabilitation
SPS5_RUT_LEVEL_UP	Rut level-up data.	Rehabilitation
SPS6_CRACK_SEAT_PCC	Crack/break and seat data for PCC surfaces.	Rehabilitation
SPS6_DIAMOND_GRIND	Diamond grinding data for PCC surfaces.	Rehabilitation
SPS6_INTERSECTIONS	SPS test section information.	Rehabilitation
SPS6_LAYER	Layer descriptions.	Rehabilitation
SPS6_LAYER_THICKNESS	Layer thickness measurements.	Rehabilitation
SPS6_LOAD_TRANSFER	Load transfer restoration data.	Rehabilitation
SPS6_NOTES_AND_COMMENTS	Section notes and comments.	Rehabilitation
SPS6_OVERLAY	Overlay placement operations data.	Rehabilitation
SPS6_OVERLAY_LAYERS	Layer data for overlay placement.	Rehabilitation
SPS6_PCC_CRACK_SEAL	Crack resealing data for PCC surfaces.	Rehabilitation
SPS6_PCC_FULL_DEPTH	Full-depth repair data for PCC surfaces.	Rehabilitation
SPS6_PCC_JOINT_RESEAL	Joint resealing data for PCC surfaces.	Rehabilitation
SPS6_PCC_PART_DEPTH	Partial-depth patching data for PCC surfaces.	Rehabilitation
SPS6_PMA_COMPACTION	Compaction data.	Rehabilitation
SPS6_PMA_CONSTRUCTION	Construction data.	Rehabilitation
SPS6_PMA_ROLLER	Roller data.	Rehabilitation
SPS6_PROJECT_STATIONS	SPS test section information.	Rehabilitation
SPS6_QC_MEASUREMENTS	Construction quality control measurements.	Rehabilitation
SPS6_SAW_AND_SEAL	Saw and seal data for PCC surfaces.	Rehabilitation
SPS6_SUBDRAINAGE	Subdrainage.	Rehabilitation
SPS6_TRANSFER_EFFICIENCY	Load transfer restoration data, transfer efficiency.	Rehabilitation
SPS6_UNDERSEALING	Undersealing data for PCC surfaces.	Rehabilitation

Table 10. Type 1 sections with recorded M&R activities.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
1	0502	12/20/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
1	0503	12/20/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
1	0504	12/20/1991	19	Asphalt Concrete Overlay	RHB	AC
1	0505	12/20/1991	19	Asphalt Concrete Overlay	RHB	AC
1	0506	12/20/1991	51	Mill off AC and Overlay with AC	RHB	AC
1	0507	12/20/1991	51	Mill off AC and Overlay with AC	RHB	AC
1	0508	12/20/1991	55	Mill and Overlay with HMRAP	RHB	AC
1	0509	12/20/1991	55	Mill and Overlay with HMRAP	RHB	AC
1	6019	1/22/1994	51	Mill off AC and Overlay with AC	RHB	AC
2	1004	6/2/1991	19	Asphalt Concrete Overlay	RHB	AC
2	9035	8/1/1990	19	Asphalt Concrete Overlay	RHB	AC
4	0502	5/8/1990	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
4	0503	5/3/1990	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
4	0504	5/24/1990	19	Asphalt Concrete Overlay	RHB	AC
4	0505	5/24/1990	51	Mill off AC and Overlay with AC	RHB	AC
4	0506	5/24/1990	19	Asphalt Concrete Overlay	RHB	AC
4	0507	5/24/1990	19	Asphalt Concrete Overlay	RHB	AC
4	0508	5/8/1990	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
4	0509	5/8/1990	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
4	0603	8/12/1990	19	Asphalt Concrete Overlay	RHB	JCP
4	0603	3/8/1995	1	Crack Sealing	MNT	JCP
4	0604	10/6/1990	19	Asphalt Concrete Overlay	RHB	JCP
4	0604	3/8/1995	1	Crack Sealing	MNT	JCP
4	0606	10/6/1990	19	Asphalt Concrete Overlay	RHB	JCP
4	0606	3/7/1995	1	Crack Sealing	MNT	JCP
4	0607	10/6/1990	19	Asphalt Concrete Overlay	RHB	JCP
4	0607	3/7/1995	1	Crack Sealing	MNT	JCP
4	0608	10/6/1990	19	Asphalt Concrete Overlay	RHB	JCP
4	0608	3/7/1995	1	Crack Sealing	MNT	JCP
4	1036	9/17/1993	32	Sand Seal Coat	MNT	AC
4	1037	7/1/1993	32	Sand Seal Coat	MNT	AC
4	6055	11/2/1992	32	Sand Seal Coat	MNT	AC
5	0213	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	0214	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	0215	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	0216	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	0217	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	0218	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	0219	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	0220	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	0221	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	0222	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	0223	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	0224	2/5/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	3058	10/6/1995		HOT-MIX SEAL COAT	MNT	AC
5	3071	9/17/1996	33	Slurry Seal Coat	MNT	AC
5	3074	3/14/1997	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	4046	10/20/1996	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
5	4046	10/20/1996	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
5	4046	10/30/1996	2	Transverse Joint Sealing	MNT	JCP
5	4046	10/30/1996	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
5	A310	10/17/1990	19	Asphalt Concrete Overlay	RHB	AC
5	A603	12/20/1996	19	Asphalt Concrete Overlay	RHB	JCP

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
5	A604	12/20/1996	19	Asphalt Concrete Overlay	RHB	JCP
5	A606	12/20/1996	19	Asphalt Concrete Overlay	RHB	JCP
5	A607	12/20/1996	19	Asphalt Concrete Overlay	RHB	JCP
5	A608	12/20/1996	19	Asphalt Concrete Overlay	RHB	JCP
6	0501	4/20/1992	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
6	0502	4/20/1992	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
6	0503	4/20/1992	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
6	0504	4/20/1992	19	Asphalt Concrete Overlay	RHB	AC
6	0505	4/20/1992	19	Asphalt Concrete Overlay	RHB	AC
6	0506	4/20/1992	19	Asphalt Concrete Overlay	RHB	AC
6	0507	4/20/1992	19	Asphalt Concrete Overlay	RHB	AC
6	0508	4/20/1992	55	Mill and Overlay with HMRAP	RHB	AC
6	0509	4/20/1992	55	Mill and Overlay with HMRAP	RHB	AC
6	0603	9/1/1992	19	Asphalt Concrete Overlay	RHB	JCP
6	0604	9/1/1992	19	Asphalt Concrete Overlay	RHB	JCP
6	0606	9/1/1992	19	Asphalt Concrete Overlay	RHB	JCP
6	0607	9/1/1992	19	Asphalt Concrete Overlay	RHB	JCP
6	0608	9/1/1992	19	Asphalt Concrete Overlay	RHB	JCP
6	8153	8/23/1995	19	Asphalt Concrete Overlay	RHB	AC
6	8534	7/8/1991	19	Asphalt Concrete Overlay	RHB	AC
6	8535	7/29/1991	19	Asphalt Concrete Overlay	RHB	AC
6	A410	8/10/1990	2	Transverse Joint Sealing	MNT	JCP
6	A410	8/10/1990	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
8	0501	10/8/1991	19	Asphalt Concrete Overlay	RHB	AC
8	0502	10/4/1991	19	Asphalt Concrete Overlay	RHB	AC
8	0502	10/8/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
8	0503	10/4/1991	19	Asphalt Concrete Overlay	RHB	AC
8	0503	10/8/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
8	0504	10/4/1991	19	Asphalt Concrete Overlay	RHB	AC
8	0504	10/8/1991	19	Asphalt Concrete Overlay	RHB	AC
8	0505	10/4/1991	19	Asphalt Concrete Overlay	RHB	AC
8	0505	10/8/1991	19	Asphalt Concrete Overlay	RHB	AC
8	0506	10/4/1991	51	Mill off AC and Overlay with AC	RHB	AC
8	0506	10/8/1991	19	Asphalt Concrete Overlay	RHB	AC
8	0507	10/4/1991	51	Mill off AC and Overlay with AC	RHB	AC
8	0507	10/8/1991	19	Asphalt Concrete Overlay	RHB	AC
8	0508	10/3/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
8	0508	10/3/1991	55	Mill and Overlay with HMRAP	RHB	AC
8	0509	10/3/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
8	0509	10/3/1991	55	Mill and Overlay with HMRAP	RHB	AC
8	1029	10/16/1995	26	Skin Patching	MNT	AC
8	1057	8/13/1993	31	Aggregate Seal Coat	MNT	AC
8	6002	5/10/1996	19	Asphalt Concrete Overlay	RHB	AC
8	7035	8/22/1994	51	Mill off AC and Overlay with AC	RHB	AC
8	A310	10/15/1990	19	Asphalt Concrete Overlay	RHB	AC
8	A330	10/15/1993	1	Crack Sealing	MNT	AC
8	B310	7/10/1990	19	Asphalt Concrete Overlay	RHB	AC
9	1803	1/18/1995	1	Crack Sealing	MNT	AC
9	1803	7/25/1996	1	Crack Sealing	MNT	AC
9	4020	9/12/1990	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
9	4020	9/13/1990	19	Asphalt Concrete Overlay	RHB	JCP
9	4020	10/27/1995	1	Crack Sealing	MNT	JCP
9	5001	8/6/1996	4	Full Depth Transverse Joint Repair Patch	MNT	CRC
9	5001	8/26/1996	19	Asphalt Concrete Overlay	RHB	CRC

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
10	4002	10/29/1993	10	AC Shoulder Restoration	RHB	JCP
11	1400	11/21/1989	51	Mill off AC and Overlay with AC	RHB	AC
12	0502	4/18/1995	55	Mill and Overlay with HMRAP	RHB	AC
12	0503	4/17/1995	55	Mill and Overlay with HMRAP	RHB	AC
12	0504	4/18/1995	51	Mill off AC and Overlay with AC	RHB	AC
12	0505	4/18/1995	51	Mill off AC and Overlay with AC	RHB	AC
12	0506	4/18/1995	51	Mill off AC and Overlay with AC	RHB	AC
12	0507	4/14/1995	51	Mill off AC and Overlay with AC	RHB	AC
12	0508	4/17/1995	55	Mill and Overlay with HMRAP	RHB	AC
12	0509	4/18/1995	55	Mill and Overlay with HMRAP	RHB	AC
12	4101	8/2/1991	19	Asphalt Concrete Overlay	RHB	AC
12	4135	5/1/1994	19	Asphalt Concrete Overlay	RHB	AC
12	4136	5/1/1994	19	Asphalt Concrete Overlay	RHB	AC
12	4137	5/1/1994	19	Asphalt Concrete Overlay	RHB	AC
12	A310	2/20/1991	19	Asphalt Concrete Overlay	RHB	AC
12	B310	12/20/1991	19	Asphalt Concrete Overlay	RHB	AC
12	C310	11/19/1990	19	Asphalt Concrete Overlay	RHB	AC
13	0502	6/16/1993	55	Mill and Overlay with HMRAP	RHB	AC
13	0503	6/16/1993	55	Mill and Overlay with HMRAP	RHB	AC
13	0504	6/16/1993	51	Mill off AC and Overlay with AC	RHB	AC
13	0505	6/16/1993	51	Mill off AC and Overlay with AC	RHB	AC
13	0506	6/16/1993	51	Mill off AC and Overlay with AC	RHB	AC
13	0507	6/16/1993	51	Mill off AC and Overlay with AC	RHB	AC
13	0508	6/16/1993	55	Mill and Overlay with HMRAP	RHB	AC
13	0509	6/16/1993	55	Mill and Overlay with HMRAP	RHB	AC
13	4092	7/15/1990	11	AC Shoulder Replacement	RHB	AC
13	4093	7/15/1990	11	AC Shoulder Replacement	RHB	AC
13	4420	4/16/1989	11	AC Shoulder Replacement	RHB	AC
13	4420	10/14/1992	19	Asphalt Concrete Overlay	RHB	AC
16	1005	8/10/1993	31	Aggregate Seal Coat	MNT	AC
16	1009	10/20/1992		Polymer Modified Micro-Surfacing Pavement	MNT	AC
16	1020	4/14/1993	1	Crack Sealing	MNT	AC
16	6027	8/16/1991	31	Aggregate Seal Coat	MNT	AC
16	9032	8/22/1994	31	Aggregate Seal Coat	MNT	AC
16	A310	8/13/1990	19	Asphalt Concrete Overlay	RHB	AC
16	B310	9/24/1990	19	Asphalt Concrete Overlay	RHB	AC
16	C310	9/24/1990	19	Asphalt Concrete Overlay	RHB	AC
17	0603	7/1/1990	10	AC Shoulder Restoration	RHB	JCP
17	0604	7/1/1990	10	AC Shoulder Restoration	RHB	JCP
17	0606	7/1/1990	10	AC Shoulder Restoration	RHB	JCP
17	0607	7/1/1990	10	AC Shoulder Restoration	RHB	JCP
17	5151	6/15/1990	4	Full Depth Transverse Joint Repair Patch	MNT	CRC
17	5217	6/8/1992	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
17	5217	6/8/1992	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
17	7937	9/9/1994	24	Full Depth Patch of AC Pavement	MNT	AC
17	9327	6/5/1992	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
17	9327	6/5/1992	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
17	A310	7/31/1991	19	Asphalt Concrete Overlay	RHB	AC
17	B310	8/12/1991	19	Asphalt Concrete Overlay	RHB	AC
17	B310	6/15/1993	1	Crack Sealing	MNT	AC
18	0603	8/30/1990	19	Asphalt Concrete Overlay	RHB	JCP
18	0604	8/30/1990	19	Asphalt Concrete Overlay	RHB	JCP
18	0606	8/30/1990	19	Asphalt Concrete Overlay	RHB	JCP
18	0607	8/30/1990	19	Asphalt Concrete Overlay	RHB	JCP
18	0608	8/30/1990	19	Asphalt Concrete Overlay	RHB	JCP

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
18	5022	5/16/1993	19	Asphalt Concrete Overlay	RHB	CRC
18	5518	5/14/1992	4	Full Depth Transverse Joint Repair Patch	MNT	CRC
18	5518	5/14/1992	50	Joint Load Transfer Restoration in PCC Pavements	MNT	CRC
18	5518	11/15/1993	19	Asphalt Concrete Overlay	RHB	CRC
19	0601	10/12/1990	1	Crack Sealing	MNT	JCP
19	0601	1/30/1992	1	Crack Sealing	MNT	JCP
19	0602	10/10/1990	1	Crack Sealing	MNT	JCP
19	0602	1/30/1992	1	Crack Sealing	MNT	JCP
19	0603	10/18/1990	1	Crack Sealing	MNT	JCP
19	0604	10/22/1990	1	Crack Sealing	MNT	JCP
19	0605	1/30/1992	1	Crack Sealing	MNT	JCP
19	0605	4/15/1992	5	Full Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
19	0606	10/22/1990	1	Crack Sealing	MNT	JCP
19	0606	4/15/1992	5	Full Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
19	0607	10/18/1990	1	Crack Sealing	MNT	JCP
19	0607	4/15/1992	5	Full Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
19	0608	10/18/1990	1	Crack Sealing	MNT	JCP
19	0608	4/15/1992	5	Full Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
19	1044	8/12/1995	24	Full Depth Patch of AC Pavement	MNT	AC
19	1044	8/30/1995	1	Crack Sealing	MNT	AC
19	1044	10/17/1995	34	Fog Seal Coat	MNT	AC
19	6049	7/13/1992	1	Crack Sealing	MNT	AC
19	9126	9/26/1990	1	Crack Sealing	MNT	JCP
19	A310	7/24/1990	19	Asphalt Concrete Overlay	RHB	AC
19	A340	3/23/1994	27	Strip Patching	MNT	AC
19	A350	3/28/1994	26	Skin Patching	MNT	AC
20	0201	12/5/1995	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
20	0201	12/5/1995	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
20	0201	12/5/1995	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
20	0201	12/5/1995	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
20	0201	12/5/1995	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
20	0201	12/5/1995	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
20	0201	12/5/1995	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
20	0201	12/5/1995	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
20	6026	4/13/1992	19	Asphalt Concrete Overlay	RHB	AC
20	7085	9/16/1992	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
20	9037	9/15/1992	5	Full Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
21	1034	8/20/1993	51	Mill off AC and Overlay with AC	RHB	AC
22	0702	4/30/1992	20	PCC Overlay	RHB	CRC
22	0703	4/29/1992	20	PCC Overlay	RHB	CRC
22	0704	4/29/1992	20	PCC Overlay	RHB	CRC
22	0705	4/29/1992	20	PCC Overlay	RHB	CRC
22	0706	4/24/1992	20	PCC Overlay	RHB	CRC
22	0707	4/24/1992	20	PCC Overlay	RHB	CRC
22	0708	4/24/1992	20	PCC Overlay	RHB	CRC
22	0709	4/22/1992	20	PCC Overlay	RHB	CRC
23	0502	6/27/1995	10	AC Shoulder Restoration	RHB	AC
23	0502	6/27/1995	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
23	0503	6/27/1995	10	AC Shoulder Restoration	RHB	AC
23	0504	6/27/1995	10	AC Shoulder Restoration	RHB	AC
23	0504	6/27/1995	19	Asphalt Concrete Overlay	RHB	AC
23	0505	6/27/1995	10	AC Shoulder Restoration	RHB	AC
23	0505	6/27/1995	19	Asphalt Concrete Overlay	RHB	AC
23	0506	6/27/1995	10	AC Shoulder Restoration	RHB	AC
23	0507	6/27/1995	10	AC Shoulder Restoration	RHB	AC

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
23	0509	6/27/1995	10	AC Shoulder Restoration	RHB	AC
23	1001	6/16/1995	10	AC Shoulder Restoration	RHB	AC
23	1001	6/16/1995	51	Mill off AC and Overlay with AC	RHB	AC
23	1009	8/23/1993	10	AC Shoulder Restoration	RHB	AC
23	1009	8/23/1993	19	Asphalt Concrete Overlay	RHB	AC
23	1026	9/27/1996	10	AC Shoulder Restoration	RHB	AC
23	1026	9/27/1996	19	Asphalt Concrete Overlay	RHB	AC
23	1028	5/13/1992	26	Skin Patching	MNT	AC
23	1028	9/7/1994	19	Asphalt Concrete Overlay	RHB	AC
24	0501	5/14/1992	1	Crack Sealing	MNT	AC
24	1632	9/13/1997	19	Asphalt Concrete Overlay	RHB	AC
24	1634	6/3/1998	10	AC Shoulder Restoration	RHB	AC
24	1634	6/3/1998	19	Asphalt Concrete Overlay	RHB	AC
24	2805	1/31/1992	12	Grinding Surface	MNT	AC
24	2805	10/7/1992	10	AC Shoulder Restoration	RHB	AC
24	2805	10/7/1992	51	Mill off AC and Overlay with AC	RHB	AC
24	5807	11/2/1990	12	Grinding Surface	MNT	CRC
24	A310	11/5/1990	19	Asphalt Concrete Overlay	RHB	AC
25	1002	6/6/1988	1	Crack Sealing	MNT	AC
25	1002	9/20/1993	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
25	1002	9/20/1993	26	Skin Patching	MNT	AC
25	1003	6/8/1988	1	Crack Sealing	MNT	AC
26	0602	5/11/1990	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
26	1004	6/5/1991	1	Crack Sealing	MNT	AC
26	1013	6/15/1990	1	Crack Sealing	MNT	AC
26	3068	5/1/1991	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
26	3068	5/1/1991	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
26	3068	5/1/1992	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
26	7072	11/15/1990	1	Crack Sealing	MNT	AC
26	A310	6/15/1990	1	Crack Sealing	MNT	AC
27	0706	10/2/1990	20	PCC Overlay	RHB	CRC
27	0707	10/2/1990	20	PCC Overlay	RHB	CRC
27	0708	10/2/1990	20	PCC Overlay	RHB	CRC
27	0709	10/2/1990	20	PCC Overlay	RHB	CRC
27	1018	8/29/1994		BLADE PATCH	MNT	AC
27	1018	6/22/1995	12	Grinding Surface	MNT	AC
27	4037	8/5/1995	2	Transverse Joint Sealing	MNT	JCP
27	4037	8/5/1995	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
27	6064	9/8/1990	19	Asphalt Concrete Overlay	RHB	AC
27	6064	10/1/1990	1	Crack Sealing	MNT	AC
28	0502	9/25/1990	55	Mill and Overlay with HMRAP	RHB	AC
28	0503	9/25/1990	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
28	0504	9/24/1990	19	Asphalt Concrete Overlay	RHB	AC
28	0505	9/24/1990	19	Asphalt Concrete Overlay	RHB	AC
28	0506	9/24/1990	51	Mill off AC and Overlay with AC	RHB	AC
28	0507	9/24/1990	51	Mill off AC and Overlay with AC	RHB	AC
28	0508	9/25/1990	55	Mill and Overlay with HMRAP	RHB	AC
28	0509	9/25/1990	55	Mill and Overlay with HMRAP	RHB	AC
28	2807	9/20/1994	51	Mill off AC and Overlay with AC	RHB	AC
28	3081	8/8/1996	51	Mill off AC and Overlay with AC	RHB	AC
28	3087	8/16/1996	19	Asphalt Concrete Overlay	RHB	AC
28	3091	6/30/1995	51	Mill off AC and Overlay with AC	RHB	AC
28	3093	6/2/1989	51	Mill off AC and Overlay with AC	RHB	AC
28	3094	6/2/1989	51	Mill off AC and Overlay with AC	RHB	AC
28	3099	1/19/1994	19	Asphalt Concrete Overlay	RHB	CRC

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
28	A310	10/15/1990	19	Asphalt Concrete Overlay	RHB	AC
28	A330	1/27/1993	1	Crack Sealing	MNT	AC
29	0601	6/30/1993	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
29	0601	6/30/1993	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
29	0601	11/9/1995	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
29	0601	11/9/1995	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
29	0601	11/9/1995	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
29	0602	11/9/1995	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
29	0602	11/9/1995	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
29	0605	11/7/1995	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
29	0605	11/7/1995	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
29	0607	11/4/1993	24	Full Depth Patch of AC Pavement	MNT	JCP
29	0607	11/4/1993	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	JCP
29	0607	5/11/1994	24	Full Depth Patch of AC Pavement	MNT	JCP
29	0607	5/11/1994	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	JCP
29	4069	9/20/1991	19	Asphalt Concrete Overlay	RHB	JCP
29	5393	7/16/1990	19	Asphalt Concrete Overlay	RHB	JCP
29	5483	8/15/1991	19	Asphalt Concrete Overlay	RHB	JCP
29	7054	6/25/1993	51	Mill off AC and Overlay with AC	RHB	AC
29	A410	8/4/1994	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
29	A410	8/4/1994	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
29	A430	8/4/1994	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
29	A430	8/4/1994	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
30	0502	9/12/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
30	0503	9/12/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
30	0504	9/11/1991	19	Asphalt Concrete Overlay	RHB	AC
30	0505	9/11/1991	19	Asphalt Concrete Overlay	RHB	AC
30	0506	9/11/1991	19	Asphalt Concrete Overlay	RHB	AC
30	0507	9/11/1991	19	Asphalt Concrete Overlay	RHB	AC
30	0508	9/12/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
30	0509	9/12/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
30	7066	9/13/1991	19	Asphalt Concrete Overlay	RHB	AC
30	7076	6/7/1991	19	Asphalt Concrete Overlay	RHB	AC
30	7076	8/5/1995	31	Aggregate Seal Coat	MNT	AC
30	7088	9/4/1991	19	Asphalt Concrete Overlay	RHB	AC
31	1030	9/9/1988	34	Fog Seal Coat	MNT	AC
31	7005	10/19/1994	12	Grinding Surface	MNT	AC
31	7017	7/31/1997		Armor Coat	MNT	AC
31	7040	7/3/1991	19	Asphalt Concrete Overlay	RHB	AC
31	7050	8/22/1995	12	Grinding Surface	MNT	AC
31	A310	4/10/1996	1	Crack Sealing	MNT	AC
31	A320	4/10/1996	1	Crack Sealing	MNT	AC
31	A330	4/9/1996	1	Crack Sealing	MNT	AC
31	A330	8/7/1996	31	Aggregate Seal Coat	MNT	AC
31	A350	4/9/1996	1	Crack Sealing	MNT	AC
31	C410	5/7/1992	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
32	1030	1/13/1993	19	Asphalt Concrete Overlay	RHB	AC
32	1030	1/14/1993	19	Asphalt Concrete Overlay	RHB	AC
32	2027	9/23/1992		Micro-Surfacing Agg. & Emulsion.	MNT	AC
32	B310	9/27/1990	19	Asphalt Concrete Overlay	RHB	AC
32	C310	9/26/1990	19	Asphalt Concrete Overlay	RHB	AC
34	0502	8/19/1992	10	AC Shoulder Restoration	RHB	AC
34	0503	8/13/1992	10	AC Shoulder Restoration	RHB	AC
34	0504	8/21/1992	10	AC Shoulder Restoration	RHB	AC
34	0505	8/21/1992	10	AC Shoulder Restoration	RHB	AC

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
34	0507	8/13/1992	10	AC Shoulder Restoration	RHB	AC
34	0508	8/13/1992	10	AC Shoulder Restoration	RHB	AC
34	0509	8/20/1992	10	AC Shoulder Restoration	RHB	AC
34	0801	8/5/1993	24	Full Depth Patch of AC Pavement	MNT	AC
34	1003	4/15/1994	51	Mill off AC and Overlay with AC	RHB	AC
34	1030	2/21/1991	1	Crack Sealing	MNT	AC
34	1031	5/14/1996	19	Asphalt Concrete Overlay	RHB	AC
34	4042	11/17/1992	2	Transverse Joint Sealing	MNT	JCP
35	0501	9/11/1996	51	Mill off AC and Overlay with AC	RHB	AC
35	0502	9/16/1996	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
35	0503	9/17/1996	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
35	0504	9/16/1996	19	Asphalt Concrete Overlay	RHB	AC
35	0505	9/11/1996	19	Asphalt Concrete Overlay	RHB	AC
35	0506	9/11/1996	51	Mill off AC and Overlay with AC	RHB	AC
35	0507	9/16/1996	51	Mill off AC and Overlay with AC	RHB	AC
35	0508	9/17/1996	55	Mill and Overlay with HMRAP	RHB	AC
35	0509	9/17/1996	55	Mill and Overlay with HMRAP	RHB	AC
35	1002	3/18/1994	32	Sand Seal Coat	MNT	AC
35	2007	8/2/1990	56	Mill and Overlay with CMRAP	RHB	AC
35	2007	8/10/1990	19	Asphalt Concrete Overlay	RHB	AC
35	6035	6/2/1993	26	Skin Patching	MNT	AC
36	1011	9/15/1993	10	AC Shoulder Restoration	RHB	AC
36	1011	9/15/1993	19	Asphalt Concrete Overlay	RHB	AC
36	1643	10/4/1989	1	Crack Sealing	MNT	AC
36	1643	9/5/1995	26	Skin Patching	MNT	AC
36	1643	9/16/1996	19	Asphalt Concrete Overlay	RHB	AC
36	1643	9/17/1996	10	AC Shoulder Restoration	RHB	AC
36	1644	6/20/1996	38	Longitudinal Subdrains	RHB	AC
36	1644	7/25/1996	10	AC Shoulder Restoration	RHB	AC
36	1644	7/25/1996	51	Mill off AC and Overlay with AC	RHB	AC
36	4017	7/26/1996	38	Longitudinal Subdrains	RHB	JCP
36	4017	7/31/1996	10	AC Shoulder Restoration	RHB	JCP
36	4018	7/8/1993	38	Longitudinal Subdrains	RHB	JCP
36	4018	7/12/1993	10	AC Shoulder Restoration	RHB	JCP
36	A310	8/17/1990	19	Asphalt Concrete Overlay	RHB	AC
36	B310	8/15/1990	19	Asphalt Concrete Overlay	RHB	AC
37	1006	8/28/1991	26	Skin Patching	MNT	AC
37	1006	8/28/1991		LATEX MODIFIED EMULSION (MICRO-SURFACE)	MNT	AC
37	1006	10/9/1994	55	Mill and Overlay with HMRAP	RHB	AC
37	1024	11/10/1992	51	Mill off AC and Overlay with AC	RHB	AC
37	1040	6/21/1995	19	Asphalt Concrete Overlay	RHB	AC
37	1352	10/30/1989	51	Mill off AC and Overlay with AC	RHB	AC
37	1801	9/20/1996	19	Asphalt Concrete Overlay	RHB	AC
37	1801	9/20/1996	55	Mill and Overlay with HMRAP	RHB	AC
37	1802	5/1/1996	19	Asphalt Concrete Overlay	RHB	AC
37	1803	8/1/1990	51	Mill off AC and Overlay with AC	RHB	AC
37	1817	11/15/1990	26	Skin Patching	MNT	AC
37	1817	11/15/1990		LATEX MODIFIED EMULSION MICRO-SURFACING	MNT	AC
37	1817	5/5/1994	26	Skin Patching	MNT	AC
37	1817	11/19/1995	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
37	2819	6/10/1992	31	Aggregate Seal Coat	MNT	AC
37	2824	9/18/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
37	5826	12/1/1995	19	Asphalt Concrete Overlay	RHB	CRC
38	2001	8/17/1990	31	Aggregate Seal Coat	MNT	AC
39	3013	6/29/1993	19	Asphalt Concrete Overlay	RHB	JCP

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
40	0503	7/16/1997	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
40	0504	7/8/1997	19	Asphalt Concrete Overlay	RHB	AC
40	0505	7/8/1997	19	Asphalt Concrete Overlay	RHB	AC
40	0506	7/8/1997	51	Mill off AC and Overlay with AC	RHB	AC
40	0507	7/8/1997	51	Mill off AC and Overlay with AC	RHB	AC
40	0508	7/16/1997	55	Mill and Overlay with HMRAP	RHB	AC
40	0509	7/16/1997	55	Mill and Overlay with HMRAP	RHB	AC
40	0602	8/28/1992	11	AC Shoulder Replacement	RHB	JCP
40	0603	8/10/1992	19	Asphalt Concrete Overlay	RHB	JCP
40	0603	8/28/1992	10	AC Shoulder Restoration	RHB	JCP
40	0604	8/10/1992	19	Asphalt Concrete Overlay	RHB	JCP
40	0604	8/28/1992	10	AC Shoulder Restoration	RHB	JCP
40	0605	8/28/1992	11	AC Shoulder Replacement	RHB	JCP
40	0606	8/12/1992	19	Asphalt Concrete Overlay	RHB	JCP
40	0606	8/28/1992	10	AC Shoulder Restoration	RHB	JCP
40	0607	8/7/1992	19	Asphalt Concrete Overlay	RHB	JCP
40	0608	8/28/1992	10	AC Shoulder Restoration	RHB	JCP
40	4086	8/4/1989	19	Asphalt Concrete Overlay	RHB	AC
40	4087	9/17/1997	19	Asphalt Concrete Overlay	RHB	AC
40	4163	10/21/1992	34	Fog Seal Coat	MNT	AC
40	4163	10/4/1993	34	Fog Seal Coat	MNT	AC
40	4163	9/28/1995	34	Fog Seal Coat	MNT	AC
40	4163	4/20/1998	34	Fog Seal Coat	MNT	AC
40	4164	8/26/1994	19	Asphalt Concrete Overlay	RHB	AC
40	A350	9/16/1997	19	Asphalt Concrete Overlay	RHB	AC
40	B310	11/15/1990	19	Asphalt Concrete Overlay	RHB	AC
40	B330	3/29/1994	1	Crack Sealing	MNT	AC
41	2002	8/28/1993	19	Asphalt Concrete Overlay	RHB	AC
41	2002	8/28/1993	51	Mill off AC and Overlay with AC	RHB	AC
41	2002	9/19/1993	19	Asphalt Concrete Overlay	RHB	AC
41	6011	6/9/1992	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
41	6011	6/9/1992	26	Skin Patching	MNT	AC
41	6011	7/29/1993	19	Asphalt Concrete Overlay	RHB	AC
41	7018	6/27/1991	51	Mill off AC and Overlay with AC	RHB	AC
42	0603	10/1/1992	10	AC Shoulder Restoration	RHB	JCP
42	0604	10/1/1992	10	AC Shoulder Restoration	RHB	JCP
42	0605	10/1/1992	10	AC Shoulder Restoration	RHB	JCP
42	0606	10/1/1992	10	AC Shoulder Restoration	RHB	JCP
42	0607	9/29/1992	10	AC Shoulder Restoration	RHB	JCP
42	0608	9/29/1992	10	AC Shoulder Restoration	RHB	JCP
42	1597	6/13/1990	1	Crack Sealing	MNT	AC
42	1613	6/18/1990	10	AC Shoulder Restoration	RHB	JCP
42	1614	8/1/1989	11	AC Shoulder Replacement	RHB	JCP
42	1614	8/1/1989	19	Asphalt Concrete Overlay	RHB	JCP
42	1617	8/15/1990	10	AC Shoulder Restoration	RHB	CRC
42	1618	8/29/1989	11	AC Shoulder Replacement	RHB	AC
42	1690	7/25/1990	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
42	1690	10/30/1990	2	Transverse Joint Sealing	MNT	JCP
42	1690	10/30/1990	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
42	3044	4/26/1990	2	Transverse Joint Sealing	MNT	JCP
42	3044	4/26/1990	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
42	7037	10/10/1989	1	Crack Sealing	MNT	AC
42	7037	8/6/1993	51	Mill off AC and Overlay with AC	RHB	AC
42	7037	8/26/1993	10	AC Shoulder Restoration	RHB	AC
42	9027	4/26/1990	2	Transverse Joint Sealing	MNT	JCP

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
42	A410	6/25/1990	2	Transverse Joint Sealing	MNT	JCP
42	A410	6/25/1990	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
42	A410	10/30/1990	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
46	0603	6/27/1995	32	Sand Seal Coat	MNT	JCP
46	0604	6/27/1995	32	Sand Seal Coat	MNT	JCP
46	0606	9/25/1992	10	AC Shoulder Restoration	RHB	JCP
46	0607	9/24/1992	10	AC Shoulder Restoration	RHB	JCP
46	0608	9/24/1992	10	AC Shoulder Restoration	RHB	JCP
46	3009	9/22/1990	2	Transverse Joint Sealing	MNT	JCP
46	3012	7/12/1989	2	Transverse Joint Sealing	MNT	JCP
46	7049	6/16/1995	32	Sand Seal Coat	MNT	AC
46	7049	10/3/1996	1	Crack Sealing	MNT	AC
46	7049	8/27/1997	31	Aggregate Seal Coat	MNT	AC
46	9106	5/21/1991	1	Crack Sealing	MNT	AC
46	9106	8/11/1992	31	Aggregate Seal Coat	MNT	AC
46	9187	6/13/1991	1	Crack Sealing	MNT	AC
46	9187	8/6/1992	31	Aggregate Seal Coat	MNT	AC
46	9197	10/22/1991	1	Crack Sealing	MNT	AC
46	9197	8/22/1995	31	Aggregate Seal Coat	MNT	AC
47	1023	6/9/1990	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
47	1023	6/9/1990	26	Skin Patching	MNT	AC
47	3104	10/26/1989	24	Full Depth Patch of AC Pavement	MNT	AC
47	3108	1/31/1990	19	Asphalt Concrete Overlay	RHB	AC
47	3109	6/26/1989	19	Asphalt Concrete Overlay	RHB	AC
47	6022	2/21/1992	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
47	6022	2/21/1992	26	Skin Patching	MNT	AC
47	A310	8/15/1990	19	Asphalt Concrete Overlay	RHB	AC
47	A330	5/6/1991	1	Crack Sealing	MNT	AC
47	B310	7/6/1990	19	Asphalt Concrete Overlay	RHB	AC
47	B330	2/4/1993	1	Crack Sealing	MNT	AC
47	C310	6/5/1990	1	Crack Sealing	MNT	AC
47	C310	6/11/1990	19	Asphalt Concrete Overlay	RHB	AC
47	C320	6/5/1990	1	Crack Sealing	MNT	AC
47	C330	7/13/1992	1	Crack Sealing	MNT	AC
47	C350	6/5/1990	1	Crack Sealing	MNT	AC
48	0001	3/6/1997	1	Crack Sealing	MNT	AC
48	1039	9/19/1989	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
48	1039	9/19/1989	26	Skin Patching	MNT	AC
48	1039	11/6/1989	33	Slurry Seal Coat	MNT	AC
48	1039	10/13/1996	19	Asphalt Concrete Overlay	RHB	AC
48	1046	12/22/1988	1	Crack Sealing	MNT	AC
48	1047	12/1/1988	1	Crack Sealing	MNT	AC
48	1056	7/2/1988	31	Aggregate Seal Coat	MNT	AC
48	1068	10/15/1992	34	Fog Seal Coat	MNT	AC
48	1068	8/15/1993	36	Tack Coat	MNT	AC
48	1069	9/13/1990	1	Crack Sealing	MNT	AC
48	1077	11/17/1992	34	Fog Seal Coat	MNT	AC
48	1087	8/28/1997		MICROSURFACING	MNT	AC
48	1092	8/28/1991	31	Aggregate Seal Coat	MNT	AC
48	1093	9/15/1988	19	Asphalt Concrete Overlay	RHB	AC
48	1096	7/2/1996	31	Aggregate Seal Coat	MNT	AC
48	1109	10/7/1996	31	Aggregate Seal Coat	MNT	AC
48	1113	6/8/1992	31	Aggregate Seal Coat	MNT	AC
48	1113	8/2/1992	19	Asphalt Concrete Overlay	RHB	AC
48	1119	8/3/1989	19	Asphalt Concrete Overlay	RHB	AC

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
48	1130	10/22/1992	19	Asphalt Concrete Overlay	RHB	AC
48	1174	3/15/1995	12	Grinding Surface	MNT	AC
48	1178		1	Crack Sealing	MNT	AC
48	1183	12/12/1990	26	Skin Patching	MNT	AC
48	1183	1/31/1992	1	Crack Sealing	MNT	AC
48	1183	3/6/1992	26	Skin Patching	MNT	AC
48	2172	7/13/1994	31	Aggregate Seal Coat	MNT	AC
48	2172	1/18/1995	26	Skin Patching	MNT	AC
48	2176	7/2/1997	31	Aggregate Seal Coat	MNT	AC
48	3589	12/3/1990	2	Transverse Joint Sealing	MNT	JCP
48	3589	12/3/1990	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
48	3629	6/13/1990	33	Slurry Seal Coat	MNT	AC
48	3679	4/24/1995	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
48	3679	4/24/1995	26	Skin Patching	MNT	AC
48	3679	6/5/1995	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
48	3679	6/5/1995	26	Skin Patching	MNT	AC
48	3689	6/5/1995	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
48	3689	6/5/1995	26	Skin Patching	MNT	AC
48	3739	9/26/1994	31	Aggregate Seal Coat	MNT	AC
48	3739	2/7/1995	34	Fog Seal Coat	MNT	AC
48	3749	11/28/1995	24	Full Depth Patch of AC Pavement	MNT	AC
48	3835	9/14/1992	1	Crack Sealing	MNT	AC
48	3855	7/1/1998	26	Skin Patching	MNT	AC
48	3875	6/27/1991	19	Asphalt Concrete Overlay	RHB	AC
48	5154	10/25/1990	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	CRC
48	5323	5/3/1995	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	CRC
48	6079	4/15/1991	27	Strip Patching	MNT	AC
48	6086	11/15/1996	31	Aggregate Seal Coat	MNT	AC
48	7165	8/14/1992	51	Mill off AC and Overlay with AC	RHB	AC
48	A310	12/5/1989	19	Asphalt Concrete Overlay	RHB	AC
48	A502	9/26/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
48	A503	9/25/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
48	A504	10/21/1991	19	Asphalt Concrete Overlay	RHB	AC
48	A505	10/21/1991	19	Asphalt Concrete Overlay	RHB	AC
48	A506	10/21/1991	19	Asphalt Concrete Overlay	RHB	AC
48	A507	10/16/1991	19	Asphalt Concrete Overlay	RHB	AC
48	A508	9/25/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
48	A509	9/26/1991	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
48	B310	9/13/1990	1	Crack Sealing	MNT	AC
48	B310	9/19/1990	19	Asphalt Concrete Overlay	RHB	AC
48	B320	9/13/1990	1	Crack Sealing	MNT	AC
48	B350	9/13/1990	1	Crack Sealing	MNT	AC
48	C420	7/23/1993	5	Full Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
48	D310	8/9/1990	1	Crack Sealing	MNT	AC
48	D310	10/12/1990	19	Asphalt Concrete Overlay	RHB	AC
48	D320	8/9/1990	1	Crack Sealing	MNT	AC
48	D330	8/9/1990	1	Crack Sealing	MNT	AC
48	D330	2/26/1991	34	Fog Seal Coat	MNT	AC
48	D330	7/12/1994	31	Aggregate Seal Coat	MNT	AC
48	D330	1/18/1995	26	Skin Patching	MNT	AC
48	D350	8/9/1990	1	Crack Sealing	MNT	AC
48	E310	8/2/1990	1	Crack Sealing	MNT	AC
48	E310	8/2/1990	26	Skin Patching	MNT	AC
48	E310	9/25/1990	19	Asphalt Concrete Overlay	RHB	AC
48	E320	8/2/1990	1	Crack Sealing	MNT	AC

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
48	E320	4/10/1991	26	Skin Patching	MNT	AC
48	E320	3/6/1992	26	Skin Patching	MNT	AC
48	E330	8/19/1991	1	Crack Sealing	MNT	AC
48	E330	1/31/1992	1	Crack Sealing	MNT	AC
48	E330	3/6/1992	26	Skin Patching	MNT	AC
48	E340	8/2/1990	24	Full Depth Patch of AC Pavement	MNT	AC
48	E340	8/2/1990	26	Skin Patching	MNT	AC
48	E340	4/10/1991	26	Skin Patching	MNT	AC
48	E340	3/6/1992	26	Skin Patching	MNT	AC
48	E350	8/2/1990	1	Crack Sealing	MNT	AC
48	E350	8/2/1990	24	Full Depth Patch of AC Pavement	MNT	AC
48	E350	8/2/1990	26	Skin Patching	MNT	AC
48	E350	4/10/1991	26	Skin Patching	MNT	AC
48	E350	3/6/1992	26	Skin Patching	MNT	AC
48	F350	9/7/1994	26	Skin Patching	MNT	AC
48	F350	4/13/1995	24	Full Depth Patch of AC Pavement	MNT	AC
48	G310	10/15/1990	19	Asphalt Concrete Overlay	RHB	AC
48	G350	9/16/1991	24	Full Depth Patch of AC Pavement	MNT	AC
48	G350	9/16/1991	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
48	G350	3/16/1995	24	Full Depth Patch of AC Pavement	MNT	AC
48	G350	3/16/1995	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
48	H310	10/15/1990	19	Asphalt Concrete Overlay	RHB	AC
48	H320	9/25/1990	1	Crack Sealing	MNT	AC
48	H330	9/25/1990	1	Crack Sealing	MNT	AC
48	H330	3/4/1993	1	Crack Sealing	MNT	AC
48	I310	11/30/1990	19	Asphalt Concrete Overlay	RHB	AC
48	J310	10/31/1990	19	Asphalt Concrete Overlay	RHB	AC
48	K310	6/20/1990	1	Crack Sealing	MNT	AC
48	K310	10/31/1990	19	Asphalt Concrete Overlay	RHB	AC
48	K320	6/20/1990	1	Crack Sealing	MNT	AC
48	K350	6/20/1990	1	Crack Sealing	MNT	AC
48	L310	8/20/1990	1	Crack Sealing	MNT	AC
48	L310	4/18/1991	19	Asphalt Concrete Overlay	RHB	AC
48	L320	8/20/1990	1	Crack Sealing	MNT	AC
48	L350	8/20/1990	1	Crack Sealing	MNT	AC
48	M310	8/15/1990	19	Asphalt Concrete Overlay	RHB	AC
48	M310	11/28/1995	24	Full Depth Patch of AC Pavement	MNT	AC
48	M320	11/28/1995	24	Full Depth Patch of AC Pavement	MNT	AC
48	M330	11/28/1995	24	Full Depth Patch of AC Pavement	MNT	AC
48	M340	11/28/1995	24	Full Depth Patch of AC Pavement	MNT	AC
48	N310	8/15/1990	19	Asphalt Concrete Overlay	RHB	AC
48	N320	12/18/1990	26	Skin Patching	MNT	AC
48	N330	9/27/1991	24	Full Depth Patch of AC Pavement	MNT	AC
48	N330	9/27/1991	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
48	N330	1/22/1992	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
48	N330	1/22/1992	26	Skin Patching	MNT	AC
48	Q310	9/25/1990	19	Asphalt Concrete Overlay	RHB	AC
48	Q350	11/20/1990	34	Fog Seal Coat	MNT	AC
49	1008	6/14/1990	19	Asphalt Concrete Overlay	RHB	AC
49	1017	8/21/1988	31	Aggregate Seal Coat	MNT	AC
50	1681	9/9/1991	19	Asphalt Concrete Overlay	RHB	AC
50	1682	9/9/1991	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
50	1682	9/9/1991	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
50	1682	9/24/1991	19	Asphalt Concrete Overlay	RHB	JCP
51	1417	9/14/1990	19	Asphalt Concrete Overlay	RHB	AC

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
51	1423	10/8/1989	19	Asphalt Concrete Overlay	RHB	AC
51	1464	8/30/1997	51	Mill off AC and Overlay with AC	RHB	AC
51	2021	10/25/1995	19	Asphalt Concrete Overlay	RHB	AC
53	1005	7/1/1989	19	Asphalt Concrete Overlay	RHB	AC
53	1006	7/23/1997	31	Aggregate Seal Coat	MNT	AC
53	1007	6/25/1991	19	Asphalt Concrete Overlay	RHB	AC
53	1007	6/15/1995	31	Aggregate Seal Coat	MNT	AC
53	1008	7/26/1994	19	Asphalt Concrete Overlay	RHB	AC
53	1801	5/12/1994	1	Crack Sealing	MNT	AC
53	6048	8/19/1992	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
53	6049	8/9/1994	1	Crack Sealing	MNT	AC
53	6056	7/2/1997	51	Mill off AC and Overlay with AC	RHB	AC
53	6056	7/23/1997	19	Asphalt Concrete Overlay	RHB	AC
53	7322	5/5/1998	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
53	7322	5/5/1998	26	Skin Patching	MNT	AC
53	A330	5/5/1993	1	Crack Sealing	MNT	AC
53	B330	10/27/1993	1	Crack Sealing	MNT	AC
53	C330	2/16/1993	1	Crack Sealing	MNT	AC
54	4004	6/28/1996	4	Full Depth Transverse Joint Repair Patch	MNT	JCP
54	4004	6/28/1996	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
54	4004	6/28/1996	50	Joint Load Transfer Restoration in PCC Pavements	MNT	JCP
54	4004	9/12/1996	38	Longitudinal Subdrains	RHB	JCP
54	4004	11/7/1996	19	Asphalt Concrete Overlay	RHB	JCP
55	3009	5/22/1995	12	Grinding Surface	MNT	JCP
56	7772	11/2/1990	1	Crack Sealing	MNT	AC
56	7772	8/1/1992	31	Aggregate Seal Coat	MNT	AC
56	A310	7/30/1991	19	Asphalt Concrete Overlay	RHB	AC
56	B310	7/26/1991	19	Asphalt Concrete Overlay	RHB	AC
72	4121	5/4/1993	5	Full Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
72	4121	5/4/1993	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
72	4121	12/15/1993	2	Transverse Joint Sealing	MNT	JCP
72	4121	12/15/1993	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
72	4121	12/15/1993	3	Lane-Shoulder Longitudinal Joint Sealing	MNT	JCP
81	0502	10/10/1990	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
81	0503	10/10/1990	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
81	0504	10/3/1990	19	Asphalt Concrete Overlay	RHB	AC
81	0505	10/3/1990	19	Asphalt Concrete Overlay	RHB	AC
81	0506	10/3/1990	19	Asphalt Concrete Overlay	RHB	AC
81	0506	10/3/1990	51	Mill off AC and Overlay with AC	RHB	AC
81	0507	10/3/1990	19	Asphalt Concrete Overlay	RHB	AC
81	0507	10/3/1990	51	Mill off AC and Overlay with AC	RHB	AC
81	0508	10/10/1990	55	Mill and Overlay with HMRAP	RHB	AC
81	0509	10/10/1990	55	Mill and Overlay with HMRAP	RHB	AC
81	1803	5/15/1995	1	Crack Sealing	MNT	AC
81	1804	6/16/1993	19	Asphalt Concrete Overlay	RHB	AC
81	1805	7/18/1995	19	Asphalt Concrete Overlay	RHB	AC
81	2812	8/18/1992	31	Aggregate Seal Coat	MNT	AC
82	1005	7/1/1993	45	Heater Scarification, Surface Recycled Asphalt	RHB	AC
83	0501	4/21/1993	1	Crack Sealing	MNT	AC
83	0501	5/13/1996	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
83	0501	5/13/1996	26	Skin Patching	MNT	AC
83	0502	9/13/1989	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
83	0502	4/21/1993	1	Crack Sealing	MNT	AC
83	0503	9/13/1989	43	Hot-Mix Recycled Asphalt Concrete	RHB	AC
83	0503	4/21/1993	1	Crack Sealing	MNT	AC

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
83	0504	4/21/1993	1	Crack Sealing	MNT	AC
83	0505	9/13/1989	19	Asphalt Concrete Overlay	RHB	AC
83	0505	4/21/1993	1	Crack Sealing	MNT	AC
83	0506	9/13/1989	51	Mill off AC and Overlay with AC	RHB	AC
83	0506	4/21/1993	1	Crack Sealing	MNT	AC
83	0507	9/13/1989	51	Mill off AC and Overlay with AC	RHB	AC
83	0507	4/21/1993	1	Crack Sealing	MNT	AC
83	0508	4/21/1993	1	Crack Sealing	MNT	AC
83	0509	4/21/1993	1	Crack Sealing	MNT	AC
83	6450	9/13/1989	19	Asphalt Concrete Overlay	RHB	AC
83	6450	4/21/1993	1	Crack Sealing	MNT	AC
83	6451	9/13/1989	19	Asphalt Concrete Overlay	RHB	AC
83	6451	4/21/1993	1	Crack Sealing	MNT	AC
83	6452	8/31/1989	19	Asphalt Concrete Overlay	RHB	JCP
83	6454	6/6/1990	1	Crack Sealing	MNT	AC
83	6454	6/6/1990	24	Full Depth Patch of AC Pavement	MNT	AC
83	6454	8/31/1991	1	Crack Sealing	MNT	AC
83	6454	9/18/1991	31	Aggregate Seal Coat	MNT	AC
83	6454	9/23/1992	1	Crack Sealing	MNT	AC
83	6454	3/2/1993	26	Skin Patching	MNT	AC
83	6454	10/20/1994	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
83	6454	10/20/1994	26	Skin Patching	MNT	AC
83	6454	3/22/1995	24	Full Depth Patch of AC Pavement	MNT	AC
83	6454	6/19/1995	26	Skin Patching	MNT	AC
83	6454	5/27/1996	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
83	6454	5/27/1996	26	Skin Patching	MNT	AC
83	6454	9/15/1997	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
83	6454	9/15/1997	26	Skin Patching	MNT	AC
83	A310	6/14/1990	1	Crack Sealing	MNT	AC
84	1684	8/28/1996	55	Mill and Overlay with HMRAP	RHB	AC
84	1684	9/5/1996	19	Asphalt Concrete Overlay	RHB	AC
84	3803	10/31/1989	2	Transverse Joint Sealing	MNT	JCP
84	6804	10/17/1991	51	Mill off AC and Overlay with AC	RHB	AC
84	6804	7/30/1998	51	Mill off AC and Overlay with AC	RHB	AC
85	1803	8/1/1990	1	Crack Sealing	MNT	AC
86	6802	7/31/1991	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
86	6802	7/31/1991	27	Strip Patching	MNT	AC
86	6802	2/19/1996	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
86	6802	2/19/1996	26	Skin Patching	MNT	AC
87	1620	9/2/1998	51	Mill off AC and Overlay with AC	RHB	AC
87	1680	8/2/1996	51	Mill off AC and Overlay with AC	RHB	AC
87	1806	7/4/1995	51	Mill off AC and Overlay with AC	RHB	AC
87	A310	8/29/1990	19	Asphalt Concrete Overlay	RHB	AC
87	B310	9/13/1990	19	Asphalt Concrete Overlay	RHB	AC
88	1646	8/22/1995	1	Crack Sealing	MNT	AC
88	1647	9/11/1990	1	Crack Sealing	MNT	AC
88	1647	8/28/1991	1	Crack Sealing	MNT	AC
88	1647	8/22/1995	1	Crack Sealing	MNT	AC
89	3015	9/3/1992	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
89	3015	9/6/1994	6	Partial Depth Patching of PCC Pavement Other than at Joint	MNT	JCP
90	6405	7/27/1995	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
90	6405	7/27/1995	26	Skin Patching	MNT	AC
90	6420	5/12/1994	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
90	6420	9/7/1995	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
90	6420	9/7/1995	26	Skin Patching	MNT	AC

Table 10. Type 1 sections with recorded M&R activities, continued.

State	SHRP ID	Date	Treat. Code	Treatment Description	Module	Surface Type
90	A320	5/12/1994	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
90	A320	5/12/1994	26	Skin Patching	MNT	AC
90	A330	6/9/1993	12	Grinding Surface	MNT	AC
90	A330	6/9/1993	26	Skin Patching	MNT	AC
90	A340	5/14/1993	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
90	A340	5/14/1993	26	Skin Patching	MNT	AC
90	A340	5/17/1993	26	Skin Patching	MNT	AC
90	A340	6/19/1993	26	Skin Patching	MNT	AC
90	A340	5/12/1994	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
90	A340	9/7/1995	31	Aggregate Seal Coat	MNT	AC
90	A350	8/19/1992	26	Skin Patching	MNT	AC
90	B310	8/16/1990	19	Asphalt Concrete Overlay	RHB	AC
90	B320	7/27/1995	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
90	B320	7/27/1995	26	Skin Patching	MNT	AC
90	B340	7/27/1995	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
90	B340	7/27/1995	26	Skin Patching	MNT	AC
90	B350	7/27/1995	25	Patch Pot Holes - Hand Spread, Compacted with Trucks	MNT	AC
90	B350	7/27/1995	26	Skin Patching	MNT	AC

APPENDIX B. TYPE 1 ANOMALIES

Appendix B lists the sections with a type 1 anomaly. Table 11 lists HMA type 1 anomalies; table 12 lists JCP type 1 anomalies, and table 13 lists CRCP type 1 anomalies. These listings include the state code, the M&R treatment date, type of treatment, and the reason the section was flagged as an anomaly.

Table 11. HMA type 1 anomalies.

State	SHRP ID	Treatment Date	Treatment Type	Type 1 Anomaly
8	0502	10/4/1991 10/8/1991	Overlay	Has both recycled and virgin OL codes.
17	7937	9/9/94	Patching	No increase in patching no. or area.
19	1044	8/5/95	Fog Seal	No decrease in most distresses.
25	1002	9/20/93	Patching	No increase in patching no. or area.
29	0607	5/11/94	Patching	No increase in patching no. or area.
30	7076	8/5/95	Chip Seal	No decrease in most distresses.
34	0801	8/5/93	Patching	No increase in patching no. or area.
47	1023	6/9/90	Patching	No increase in patching no. or area.
48	E300	3/6/92	Patching	No increase in patching no. or area.
48	E350	8/2/90	Patching	No increase in patching no. or area.
48	M320	11/28/95	Patching	No increase in patching no. or area.
83	6454	5/27/96	Patching	No increase in patching no. or area.
90	A300 B300	7/27/95	Patching	No increase in patching no. or area.

Table 12. JCP type 1 anomalies.

State	SHRP ID	CN	Treatment Date	Treatment Type	Type 1 Anomaly
5	4046	1	10/30/1996	Transverse Joint Sealing	No increase in Joint Sealing Transverse
27	4037	1	08/05/1995	Transverse Joint Sealing	No increase in Joint Sealing Transverse
31	C410	1	05/07/1992	Partial Depth Patching of PCC Pavement other than at Joint	No increase in Patch No. or Area
42	1690	1	07/25/1990	Partial Depth Patching of PCC Pavement other than at Joint	No increase in Patch No. or Area
42	A410	1	10/30/1990	Partial Depth Patching of PCC Pavement other than at Joint	No increase in Patch No. or Area
72	4121	1	12/15/1993	Transverse Joint Sealing	No increase in Joint Sealing Transverse
89	3015	1	09/03/1992	Partial Depth Patching of PCC Pavement other than at Joint	No increase in Patch No. or Area
89	3015	1	09/06/1994	Partial Depth Patching of PCC Pavement other than at Joint	No increase in Patch No. or Area

Table 13. CRCP type 1 anomalies.

State	SHRP ID	Treatment Date	Treatment Type	Type 1 Anomaly
22	0702	4/30/92	PCC overlay	Longitudinal cracking increase
27	0709	10/2/90	PCC overlay	Longitudinal cracking, punchout increase

APPENDIX C. TYPE 2 ANOMALIES

Appendix C lists the sections with type 2 anomalies. Table 14 lists HMA type 2 anomalies; table 15 lists JCP type 2 anomalies; and table 16 lists CRCP type 2 anomalies. These lists include the state code, SHRP identification code, construction event number, survey dates of the discrepancy, and the reason the section was flagged as an anomaly.

Table 14. HMA type 2 anomalies.

State	SHRP ID	CN	Previous Survey	Survey Date	Type 2 Anomaly
1	4073	1	3/30/93	12/5/97	Patch Increase
1	B310	2	1/23/98	7/23/95	Patch Increase
2	1001	1	8/21/91	8/26/93	Patch Increase
2	1001	1	8/22/97	8/26/98	Patch Increase
4	0603	2	9/25/91	9/21/94	Distress Decrease
4	1015	1	12/7/94	3/10/99	Distress Decrease
4	1016	1	9/18/96	12/15/98	Distress Decrease
4	1017	1	9/26/96	1/22/98	Distress Decrease
4	1021	1	2/10/94	2/23/98	Distress Decrease
4	1024	1	6/13/96	8/14/96	Distress Decrease
4	1024	1	8/14/96	8/15/96	Patch Increase
4	6060	1	12/6/94	12/16/98	Distress Decrease
5	2042	1	9/11/91	7/19/93	Patch Increase
6	0503	2	3/2/98	2/22/99	Patch Increase
6	0604	2	8/17/95	6/20/96	Distress Decrease
6	0604	2	6/20/96	4/22/98	Patch Increase
6	0606	2	10/7/92	8/16/95	Patch Increase
6	0606	2	6/19/96	4/17/98	Patch Increase
6	2002	1	6/30/94	4/24/98	Patch Increase
6	2002	1	4/24/98	10/22/98	Distress Decrease and Patch Increase
6	2040	1	5/7/98	10/20/98	Distress Decrease
6	2041	1	8/8/95	3/20/96	Distress Decrease
6	7491	1	7/28/97	4/28/98	Distress Decrease
6	8534	2	1/14/97	1/14/99	Patch Increase
8	0502	2	4/11/96	7/29/98	Patch Increase
8	0503	2	4/11/96	7/29/98	Patch Increase
8	0504	2	4/11/96	7/30/98	Patch Increase
8	0508	2	4/11/96	7/30/98	Patch Increase
8	0509	2	4/11/96	7/29/98	Patch Increase
8	1029	1	10/21/91	9/8/95	Patch Increase
8	2008	1	10/25/91	6/6/94	Patch Increase
8	A310	2	10/14/98	9/19/95	Patch Increase
12	1030	1	1/23/97	5/19/98	Patch Increase
12	1370	1	3/10/93	4/18/97	Patch Increase
12	4154	1	11/19/90	8/10/95	Patch Increase
12	4154	1	8/10/95	9/19/96	Patch Increase
13	1005	1	4/8/91	7/21/92	Patch Increase
13	1005	1	4/24/98	11/18/98	Patch Increase
13	4112	1	4/9/91	10/27/94	Patch Increase
13	4113	1	4/9/91	10/27/94	Patch Increase
13	4119	1	2/24/92	10/24/94	Patch Increase
16	1007	1	5/1/97	5/5/98	Distress Decrease
16	1010	1	3/14/97	4/16/97	Patch Increase
16	1021	1	9/12/95	7/25/97	Patch Increase
16	1021	1	7/25/97	7/29/97	Distress Decrease
17	0603	2	6/22/95	9/16/98	Patch Increase
17	0606	2	7/1/92	8/4/93	Patch Increase
17	0606	2	8/4/93	6/22/95	Patch Increase
17	0606	2	6/22/95	9/15/98	Patch Increase
17	0607	2	6/29/92	9/16/98	Patch Increase
17	7937	1	8/3/88	7/29/94	Patch Increase
18	A310	1	11/19/90	4/4/90	Distress Decrease
18	A310	1	12/19/91	7/11/91	Distress Decrease

Table 14. HMA type 2 anomalies, continued.

State	SHRP ID	CN	Previous Survey	Survey Date	Type 2 Anomaly
19	0603	2	9/2/93	5/6/97	Patch Increase
19	0606	2	9/2/93	5/7/97	Patch Increase
19	0607	2	8/31/93	5/6/97	Patch Increase
19	0608	2	9/1/93	5/6/97	Patch Increase
19	1044	1	9/1/94	9/14/95	Patch Increase
20	1005	1	8/23/88	11/30/90	Patch Increase
20	1010	1	4/22/93	4/13/95	Patch Increase
20	1010	1	4/13/95	3/24/97	Patch Increase
20	B310	2	4/22/93	4/29/91	Patch Increase
21	1010	1	8/3/88	7/9/91	Patch Increase
21	1010	1	8/18/92	3/9/93	Patch Increase
21	1014	1	8/3/88	3/18/99	Patch Increase
21	1034	1	8/4/88	7/10/91	Patch Increase
21	1034	1	8/17/92	3/10/93	Patch Increase
22	3056	1	7/11/94	5/5/98	Patch Increase
24	0501	1	5/15/90	2/19/92	Patch Increase
24	0504	2	10/17/95	5/8/97	Patch Increase
24	0505	1	5/15/90	2/20/92	Patch Increase
24	0506	1	5/15/90	2/21/92	Patch Increase
25	1002	1	5/24/95	10/9/96	Patch Increase
25	1002	1	10/9/96	5/7/97	Patch Increase
25	1002	1	5/7/97	9/10/97	Patch Increase
26	0123	1	11/6/95	10/7/96	Patch Increase
26	0604	2	5/18/95	8/26/95	Distress Decrease
27	0502	2	9/29/93	11/9/94	Distress Decrease
27	0503	2	9/29/93	11/9/94	Distress Decrease
27	1017	1	6/13/94	8/16/98	Patch Increase
27	1018	1	7/14/93	7/26/93	Patch Increase
27	1019	1	9/7/89	6/1/92	Patch Increase
27	1019	1	7/12/93	8/17/94	Patch Increase
27	1023	1	4/24/89	9/27/93	Patch Increase
27	1028	1	3/9/94	8/9/94	Patch Increase
27	1085	1	5/9/89	9/17/93	Patch Increase
27	2018	1	6/2/94	8/16/98	Patch Increase
28	1802	1	4/11/96	5/1/98	Patch Increase
28	2807	1	3/5/91	7/13/93	Patch Increase
28	2807	2	12/1/95	7/10/98	Patch Increase
28	3089	1	11/28/95	7/10/98	Patch Increase
28	3097	1	3/5/91	10/21/94	Patch Increase
29	0603	2	4/11/96	9/10/98	Patch Increase
29	0604	2	7/20/95	4/11/96	Distress Decrease
29	1010	1	8/18/88	3/26/93	Patch Increase
29	5403	2	9/14/94	3/2/99	Patch Increase
29	6067	1	9/12/94	3/4/99	Distress Decrease
32	1021	1	7/1/91	7/24/95	Patch Increase
32	2027	1	9/12/91	8/13/92	Distress Decrease
32	2027	1	6/6/95	5/6/97	Patch Increase
32	7000	1	9/13/91	9/28/95	Patch Increase
34	1033	1	7/23/97	10/22/97	Distress Decrease
36	1643	1	4/28/92	10/4/93	Patch Increase
36	1643	1	10/4/93	9/8/95	Patch Increase
36	A310	2	5/29/96	9/11/95	Patch Increase
36	B310	2	11/17/93	5/4/92	Patch Increase
36	B310	2	5/15/96	9/6/95	Patch Increase

Table 14. HMA type 2 anomalies, continued.

State	SHRP ID	CN	Previous Survey	Survey Date	Type 2 Anomaly
39	0105	1	12/19/97	6/18/98	Patch Increase
40	4088	1	10/11/91	11/2/94	Patch Increase
40	4088	1	11/2/94	6/21/95	Patch Increase
42	1597	1	9/13/95	9/2/97	Patch Increase
42	1605	1	4/19/95	10/25/95	Distress Decrease
42	A310	1	10/19/90	8/11/89	Distress Decrease
42	B310	1	10/18/90	8/15/89	Distress Decrease
45	7019	1	6/10/93	6/23/97	Distress Decrease
47	A310	2	8/5/93	11/16/90	Patch Increase
47	C310	2	4/15/97	6/2/94	Patch Increase
48	1039	2	8/9/93	6/28/95	Patch Increase
48	1047	1	8/10/95	5/14/97	Patch Increase
48	1048	1	7/8/93	6/5/95	Patch Increase
48	1048	1	6/5/95	6/6/96	Patch Increase
48	1050	1	7/24/95	11/22/96	Patch Increase
48	1069	1	6/29/95	6/2/98	Distress Decrease
48	1070	1	7/17/91	8/10/93	Patch Increase
48	1070	1	6/29/95	6/4/98	Patch Increase
48	1076	1	11/6/91	7/6/93	Patch Increase
48	1077	1	9/16/97	3/26/98	Patch Increase
48	1092	1	3/23/95	7/1/97	Distress Decrease
48	1093	2	3/23/95	7/3/97	Patch Increase
48	1130	1	3/25/91	3/19/92	Patch Increase
48	1169	1	1/16/91	6/25/91	Distress Decrease
48	1178	1	3/17/95	5/11/95	Distress Decrease
48	1183	1	9/25/90	3/7/91	Patch Increase
48	1183	1	3/7/91	11/6/91	Patch Increase
48	2108	1	4/27/93	8/17/94	Patch Increase
48	2172	1	4/15/94	7/28/95	Patch Increase
48	3669	1	5/10/95	7/18/97	Patch Increase
48	3679	1	5/11/93	5/10/95	Patch Increase
48	3689	1	5/11/93	5/10/95	Patch Increase
48	3749	1	2/16/93	3/29/93	Distress Decrease
48	6079	1	6/10/91	5/17/93	Patch Increase
48	6079	1	8/8/95	5/12/97	Patch Increase
48	B310	2	12/20/90	9/19/90	Distress Decrease
48	M310	2	3/28/97	3/22/95	Patch Increase
49	1001	1	5/4/95	10/17/96	Distress Decrease
51	0113	1	3/11/98	7/15/98	Distress Decrease
51	1023	1	12/7/93	9/18/95	Patch Increase
51	1417	2	10/28/97	4/21/98	Patch Increase
53	1008	1	10/25/90	6/16/94	Patch Increase
53	6048	2	5/8/97	6/22/98	Patch Increase
56	2017	1	9/19/94	7/17/97	Distress Decrease
56	2019	1	9/20/94	6/17/97	Distress Decrease
56	6031	1	5/31/97	7/21/97	Distress Decrease
56	6032	1	9/28/94	8/26/96	Distress Decrease
56	7772	1	8/18/94	6/22/98	Distress Decrease
81	0501	1	5/7/91	8/30/95	Patch Increase
81	0505	2	5/7/91	8/30/95	Patch Increase
81	1803	1	6/23/96	7/8/97	Patch Increase
81	1804	2	6/24/96	7/9/97	Patch Increase
83	0501	1	7/21/92	6/11/93	Patch Increase
83	0507	1	5/19/89	8/22/89	Distress Decrease

Table 14. HMA type 2 anomalies, continued.

State	SHRP ID	CN	Previous Survey	Survey Date	Type 2 Anomaly
83	0508	1	5/19/89	8/22/89	Distress Decrease
83	1801	1	4/11/95	6/21/95	Patch Increase
83	6454	1	3/26/97	8/13/98	Distress Decrease
84	1802	1	8/2/95	12/1/98	Patch Increase
87	1806	2	9/27/95	10/21/98	Patch Increase
89	1021	1	9/27/93	6/14/95	Patch Increase
90	6400	1	9/13/88	8/17/94	Patch Increase
90	6405	1	5/8/91	7/24/92	Patch Increase
90	6405	1	6/16/93	8/16/94	Patch Increase
90	6405	1	4/10/95	6/23/95	Patch Increase
90	6405	1	10/18/96	6/13/97	Patch Increase
90	6405	1	6/13/97	9/19/97	Patch Increase
90	6420	1	5/7/91	5/22/92	Patch Increase
90	6801	1	9/14/88	8/17/94	Patch Increase

Table 15. JCP type 2 anomalies.

State	SHRP ID	CN	Survey date	Previous Survey	Type 2 Anomaly
1	4007	1	12/2/97	3/30/93	Patch Increase
4	220	1	1/7/99	11/3/97	Distress Decrease
4	605	1	9/25/91	4/12/91	Patch Increase
5	3059	1	9/9/91	3/11/91	Distress Decrease
5	3059	1	12/6/94	9/9/91	Patch Increase
5	3073	1	11/28/94	9/10/91	Patch Increase
5	A601	1	10/2/97	9/13/96	Patch Increase
5	A602	1	10/2/97	9/12/96	Patch Increase
5	A605	1	10/2/97	9/12/96	Patch Increase
6	602	1	10/9/92	5/5/92	Patch Increase
6	602	1	4/20/98	6/18/96	Patch Increase
6	3005	1	4/17/98	5/6/92	Patch Increase
6	3042	1	11/28/95	12/18/91	Patch Increase
6	3042	1	4/11/96	2/15/96	Patch Increase
6	9049	1	11/3/98	12/18/91	Patch Increase
12	4138	1	4/21/97	3/9/93	Patch Increase
17	601	1	9/15/98	6/26/92	Patch Increase
17	602	1	9/14/98	8/3/93	Patch Increase
17	605	1	9/14/98	8/3/93	Patch Increase
18	602	1	7/7/98	8/10/93	Patch Increase
18	605	1	7/8/98	8/10/93	Patch Increase
18	3002	1	10/2/97	1/26/96	Patch Increase
18	4021	1	7/26/94	7/13/88	Patch Increase
18	4042	1	2/3/99	7/26/88	Patch Increase
20	204	1	5/27/97	4/6/93	Patch Increase
20	4054	1	11/6/97	8/5/96	Patch Increase
21	3016	1	3/12/93	4/18/91	Patch Increase
21	4025	1	4/11/95	11/15/88	Patch Increase
26	224	1	5/23/95	11/30/94	Patch Increase
27	4034	1	7/6/94	10/13/88	Patch Increase
27	9075	1	6/1/95	9/20/88	Patch Increase
29	601	1	10/14/93	8/7/91	Patch Increase
29	602	1	10/14/93	4/15/92	Patch Increase
29	605	1	10/13/93	4/16/92	Patch Increase
29	607	1	4/15/92	8/5/91	Distress Decrease
29	704	2	12/9/98	9/27/95	Patch Increase
29	5000	1	7/18/95	7/29/93	Patch Increase
29	5081	1	3/5/98	3/21/89	Patch Increase
29	5091	1	3/5/98	3/21/89	Patch Increase
31	3023	1	8/14/97	4/20/95	Distress Decrease
31	4019	1	8/12/97	7/19/93	Patch Increase
32	201	1	12/14/98	3/26/96	Patch Increase
32	204	1	10/8/96	3/27/96	Patch Increase
32	206	1	6/3/97	4/2/96	Patch Increase
32	207	1	12/15/98	3/26/96	Patch Increase
34	4042	1	10/10/96	6/28/95	Patch Increase
36	4017	2	6/17/98	4/15/97	Patch Increase
36	4018	2	9/19/96	5/23/95	Patch Increase
36	4018	2	7/8/97	9/19/96	Patch Increase
39	3013	1	6/16/93	8/18/88	Patch Increase
40	605	2	3/30/94	11/5/92	Patch Increase
42	601	1	6/16/94	7/24/90	Patch Increase
42	602	1	6/15/94	7/24/90	Patch Increase
42	603	1	7/24/90	11/16/89	Patch Increase

Table 15. JCP type 2 anomalies, continued.

State	SHRP ID	CN	Survey date	Previous Survey	Type 2 Anomaly
42	604	1	7/25/90	11/16/89	Patch Increase
42	605	1	7/24/90	11/30/89	Patch Increase
42	606	1	7/24/90	11/16/89	Patch Increase
42	607	1	7/24/90	11/16/89	Patch Increase
42	608	1	7/25/90	11/16/89	Patch Increase
42	1606	1	8/10/95	4/7/93	Patch Increase
46	601	1	8/9/95	6/7/94	Patch Increase
46	601	1	8/7/98	8/9/95	Patch Increase
46	602	1	8/6/98	8/10/95	Patch Increase
46	605	1	8/9/95	10/8/92	Patch Increase
46	605	1	8/6/98	8/9/95	Patch Increase
48	3589	1	5/10/94	6/20/91	Patch Increase
48	3589	1	4/15/98	5/10/94	Patch Increase
49	3011	1	3/9/94	11/30/93	Patch Increase
49	3015	1	10/8/97	7/7/94	Patch Increase
55	3009	1	5/4/95	11/4/94	Patch Increase
56	3027	1	5/7/98	7/25/97	Patch Increase
83	3802	1	9/15/97	6/20/97	Patch Increase
89	3015	1	8/11/94	5/19/94	Patch Increase
89	3015	1	11/19/96	6/13/95	Patch Increase

Table 16. CRCP type 2 anomalies.

State	SHRP ID	CN	Survey Date	Previous Survey Date	Type 2 Anomaly
17	5843	1	8/5/98	8/3/94	Patch Increase
19	5042	1	8/31/94	9/7/89	Patch Increase
19	5046	1	8/30/94	7/20/88	Patch Increase
22	0709	2	7/12/94	12/9/92	Patch Increase
26	5363	1	5/19/97	5/21/93	Patch Increase
27	0708	2	7/13/95	8/19/93	Patch Increase
28	5803	1	7/14/93	3/5/91	Patch Increase
48	5301	1	2/13/97	8/4/93	Patch Increase
48	5317	1	2/11/97	4/16/91	Patch Increase

APPENDIX D. SPS-3 AND SPS-4 SECTIONS WITHOUT RECORDED M&R ACTIVITY

Appendix D is a listing of the SPS-3 (table 17) and SPS-4 (table 18) test sections that do not have the maintenance activity recorded in the maintenance tables.

Table 17. SPS-3 sections without recorded M&R activities.

State	SHRP ID	CN	CN Assign Date	GPS/SPS	Experiment Number
1	A310	2	15-Jul-90	S	3
1	A350	2	07-Aug-90	S	3
1	B310	2	15-Nov-90	S	3
1	B330	1	01-Jan-87	S	3
1	C310	2	15-Jul-90	S	3
1	C350	2	09-Aug-90	S	3
4	A310	2	19-Nov-90	S	3
4	B310	2	28-Nov-90	S	3
4	C310	2	04-Jun-90	S	3
4	D310	2	04-Jun-90	S	3
5	A330	1	01-Jan-87	S	3
6	A310	2	11-Jun-90	S	3
8	B350	2	24-Jul-90	S	3
17	A330	1	01-Jan-87	S	3
17	B330	1	01-Jan-87	S	3
18	A310	2	31-Mar-92	S	3
18	A330	1	01-Jan-87	S	3
19	A330	1	01-Jan-87	S	3
20	A310	2	30-Oct-90	S	3
20	A330	1	01-Jan-87	S	3
20	B310	2	05-Nov-90	S	3
20	B330	1	01-Jan-87	S	3
21	A310	2	07-Nov-90	S	3
21	A330	1	01-Jan-87	S	3
21	B310	2	28-Sep-90	S	3
21	B330	1	01-Jan-87	S	3
26	A310	2	02-Oct-90	S	3
26	A330	1	01-Jan-87	S	3
26	B310	2	02-Oct-90	S	3
26	B330	1	01-Jan-87	S	3
26	C310	2	03-Oct-90	S	3
26	C330	1	01-Jan-87	S	3
26	D310	2	11-Oct-90	S	3
26	D330	1	01-Jan-87	S	3
27	A310	2	13-Sep-90	S	3
27	A330	1	01-Jan-87	S	3
27	B310	2	14-Sep-90	S	3
27	B330	1	01-Jan-87	S	3
27	C310	2	28-Aug-90	S	3
27	C330	1	01-Jan-87	S	3
27	D310	2	15-Aug-92	S	3
27	D330	1	01-Jan-87	S	3
29	A310	2	05-Oct-90	S	3
29	A330	1	01-Jan-87	S	3
29	B310	2	05-Oct-90	S	3
29	B330	1	01-Jan-87	S	3
29	B350	2	18-Aug-90	S	3
30	A310	2	10-Aug-90	S	3
31	A310	2	16-Oct-90	S	3
31	A330	1	01-Jan-87	S	3
32	A310	2	22-Aug-90	S	3
32	B350	2	29-Jul-90	S	3
32	C350	2	28-Jul-90	S	3

Table 17. SPS-3 sections without recorded M&R activities, continued.

State	SHRP ID	CN	CN Assign Date	GPS/SPS	Experiment Number
36	A310	2	16-Aug-90	S	3
40	A330	1	01-Jan-87	S	3
40	C310	2	14-Nov-90	S	3
42	B330	1	01-Aug-88	S	3
47	B330	1	01-Jan-87	S	3
48	A320	2	04-Dec-89	S	3
48	A330	1	01-Jan-87	S	3
48	E330	1	01-Jan-87	S	3
48	F310	2	15-Oct-90	S	3
48	G330	1	01-Jan-87	S	3
48	I330	1	01-Jan-87	S	3
48	J330	1	01-Jan-87	S	3
48	K330	1	01-Jan-87	S	3
48	M330	1	01-Jan-87	S	3
48	N330	1	01-Jan-87	S	3
48	Q330	1	01-Jan-87	S	3
49	A310	2	02-Jul-90	S	3
49	A350	2	02-Jul-90	S	3
49	B310	2	18-Jul-90	S	3
49	C310	2	13-Jul-90	S	3
53	A310	2	30-Aug-90	S	3
53	B310	2	19-Sep-90	S	3
56	A330	1	01-Jan-87	S	3
56	A350	2	06-Aug-90	S	3
56	B350	2	26-Jul-90	S	3
83	A310	2	31-Aug-90	S	3
83	A330	1	01-Jan-87	S	3
89	A310	2	31-Jul-90	S	3
90	A310	2	16-Aug-90	S	3
90	A330	1	01-Jan-87	S	3
90	B330	1	01-Jan-87	S	3

Table 18. SPS-4 sections without recorded M&R activities.

State	SHRP ID	CN	CN Assign Date	GPS/SPS	Experiment Number
6	B420	1	1-Jan-89	S	4
19	A410	1	1-Jan-91	S	4
19	B410	1	1-Jan-91	S	4
20	A410	1	1-Jan-91	S	4
20	B410	1	1-Jan-91	S	4
32	A420	1	1-Jun-90	S	4
42	C410	1	1-Sep-88	S	4
46	A410	1	1-Jan-87	S	4
46	A420	1	1-Jan-87	S	4
48	A410	1	1-Jan-87	S	4
48	C420	1	1-Jan-87	S	4

APPENDIX E. SURVEY AND M&R DATA RECORDED ON WRONG SURFACE

Appendix E lists those test sections for which the survey (table 19) and maintenance (table 20) data have been recorded in the IMS for the wrong type of surface. Table 19 lists surveys that were recorded on the wrong surface and table 20 lists M&R activities that were performed on the wrong surface.

Table 19. HMA survey data recorded on the wrong surface.

State	SHRP ID	CN	GPS/SPS	Experiment Number	Survey Date	Survey Type	Remarks
29	5473	1	G	4	14-May-91	Automated HMA	JCP section
29	5473	1	G	4	16-Apr-96	Automated HMA	JCP section

Table 20. M&R activities performed on the wrong surface.

State	SHRP ID	Survey Date	M&R Code	Treatment Description	Anomaly
9	5001	6-Aug-96	4	Full Depth Transverse Joint Repair Patch	JCP treatment on CRC
17	5151	15-Jun-90	4	Full Depth Transverse Joint Repair Patch	JCP treatment on CRC
18	5518	14-May-92	4	Full Depth Transverse Joint Repair Patch	JCP treatment on CRC
18	5518	14-May-92	50	Joint Load Transfer Restoration in PCC Pavements	JCP treatment on CRC
19	0606	15-Apr-92	5	Full Depth Patching of PCC Pavement Other than at Joint	JCP. CRC treatment on AC
19	0607	15-Apr-92	5	Full Depth Patching of PCC Pavement Other than at Joint	JCP. CRC treatment on AC
19	0608	15-Apr-92	5	Full Depth Patching of PCC Pavement Other than at Joint	JCP. CRC treatment on AC

APPENDIX F. MISSING M&R DATA FOR THE TYPE 1 SECTIONS

Table 21 is a detailed listing of all M&R data that are missing from the IMS. This listing includes the following information:

- M&R table file name
- Number of missing records
- Total records for the M&R table
- Subjective data importance
- Field name
- Type of M&R activity (group)
- Module for the data element

Table 21. Missing M&R data for type 1 sections.

File Name	Missing	Total Records	Impor..	Field	Group	Module
ASPHALT_CRACK_SEAL	10	112	Essen.	CRACK_TYPE	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	3	112	Essen.	TOTAL_LENGTH_SEALED	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	2	112	Import.	CRACK_SEVERITY	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	0	112	Import.	CRACK_SEAL_MATL	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	0	112	Import.	CRACK_SEAL_MATL_OTHER	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	0	112	Inform.	CRACK_SEAL_MATL_SOURCE	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	64	112	Inform.	MANUFACTURER_NAME	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	59	112	Inform.	MANUFACTURER_MATERIAL	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	18	112	Inform.	AIR_TEMP_LOW	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	16	112	Inform.	AIR_TEMP_HIGH	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	12	112	Inform.	SURFACE_MOISTURE	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	15	112	Inform.	CONDITION_SOURCE	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	3	112	Inform.	CLEAN_METHOD	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	3	112	Inform.	CLEAN_METHOD_OTHER	CRACK SEAL	M&R
ASPHALT_CRACK_SEAL	1	112	Inform.	CLEAN_METHOD_SOURCE	CRACK SEAL	M&R
ASPHALT_SEAL	65	66	Essen.	REASON	SEAL COATS	M&R
ASPHALT_SEAL	18	66	Essen.	REASON_OTHER	SEAL COATS	M&R
ASPHALT_SEAL	66	66	Essen.	PERCENT_SEALED	SEAL COATS	M&R
ASPHALT_SEAL	66	66	Essen.	SEAL_TYPE	SEAL COATS	M&R
ASPHALT_SEAL	11	66	Essen.	SEAL_TYPE_OTHER	SEAL COATS	M&R
ASPHALT_SEAL	62	66	Essen.	SEAL_TYPE_SOURCE	SEAL COATS	M&R
ASPHALT_SEAL	57	66	Essen.	ASPHALT_GRADE	SEAL COATS	M&R
ASPHALT_SEAL	34	66	Essen.	ASPHALT_GRADE_OTHER	SEAL COATS	M&R
ASPHALT_SEAL	58	66	Essen.	ASPHALT_GRADE_SOURCE	SEAL COATS	M&R
ASPHALT_SEAL	46	66	Essen.	MANUFACTURER_NAME	SEAL COATS	M&R
ASPHALT_SEAL	29	66	Essen.	MANUFACTUREE_MATERIAL	SEAL COATS	M&R
ASPHALT_SEAL	63	66	Essen.	CEMENT_MATL_RATE	SEAL COATS	M&R
ASPHALT_SEAL	62	66	Essen.	CEMENT_MATL_SOURCE	SEAL COATS	M&R
ASPHALT_SEAL	55	66	Essen.	AGG_RATE	SEAL COATS	M&R
ASPHALT_SEAL	54	66	Essen.	AGG_SOURCE	SEAL COATS	M&R
ASPHALT_SEAL	60	66	Import.	SEAL_THICKNESS	SEAL COATS	M&R
ASPHALT_SEAL	59	66	Import.	SEAL_THICKNESS_SOURCE	SEAL COATS	M&R
ASPHALT_SEAL	55	66	Import.	AIR_TEMP	SEAL COATS	M&R
ASPHALT_SEAL	59	66	Import.	SURFACE_MOISTURE	SEAL COATS	M&R
ASPHALT_SEAL	57	66	Import.	CONDITION_SOURCE	SEAL COATS	M&R
ASPHALT_SEAL	51	66	Import.	CRACK_SEVERITY	SEAL COATS	M&R
ASPHALT_SEAL	43	66	Import.	CRACK_TYPE	SEAL COATS	M&R
ASPHALT_SEAL	16	66	Import.	ONE_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	29	66	Import.	THREE_FOURTHS_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	21	66	Import.	FIVE_EIGHTHS_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	27	66	Import.	ONE_HALF_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	42	66	Inform.	THREE_EIGHTHS_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	37	66	Inform.	NO_4_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	26	66	Inform.	NO_8_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	15	66	Inform.	NO_10_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	19	66	Inform.	NO_16_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	21	66	Inform.	NO_30_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	21	66	Inform.	NO_50_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	14	66	Inform.	NO_100_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	29	66	Inform.	NO_200_PASSING	SEAL COATS	M&R
ASPHALT_SEAL	42	66	Inform.	GRADATION_SOURCE	SEAL COATS	M&R
ASPHALT_SEAL	48	66	Inform.	PRECOATED_AGG	SEAL COATS	M&R
ASPHALT_SEAL	48	66	Inform.	PRECOATED_AGG_SOURCE	SEAL COATS	M&R
ASPHALT_SEAL	47	66	Inform.	SEAL_ROLLER	SEAL COATS	M&R
ASPHALT_SEAL	1	66	Inform.	SEAL_ROLLER_OTHER	SEAL COATS	M&R
ASPHALT_SEAL	45	66	Inform.	SEAL_ROLLER_SOURCE	SEAL COATS	M&R
ASPHALT_SEAL	50	66	Inform.	SEAL_CURE_TIME	SEAL COATS	M&R
ASPHALT_SEAL	51	66	Inform.	SEAL_CURE_TIME_SOURCE	SEAL COATS	M&R
ASPHALT_SEAL	55	66	Inform.	SURFACE_CONDITION	SEAL COATS	M&R
ASPHALT_SEAL	51	66	Inform.	INITIAL_PREP	SEAL COATS	M&R
ASPHALT_SEAL	2	66	Inform.	INITIAL_PREP_OTHER	SEAL COATS	M&R
ASPHALT_SEAL	48	66	Inform.	FINAL_PREP	SEAL COATS	M&R
ASPHALT_SEAL	5	66	Inform.	FINAL_PREP_OTHER	SEAL COATS	M&R
COST	204	248	Essen.	SEAL_COAT_QNTY	COST	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
COST	228	248	Essen.	SEAL_COAT_AVG_COST	COST	M&R
COST	231	248	Essen.	SEAL_COAT_TOT_COST	COST	M&R
COST	165	248	Essen.	CRACK_SEAL_QNTY	COST	M&R
COST	216	248	Essen.	CRACK_SEAL_AVG_COST	COST	M&R
COST	214	248	Essen.	CRACK_SEAL_TOT_COST	COST	M&R
COST	203	248	Essen.	AC_SURFACE_QNTY	COST	M&R
COST	223	248	Essen.	AC_SURFACE_AVG_COST	COST	M&R
COST	227	248	Essen.	AC_SURFACE_TOT_COST	COST	M&R
COST	240	248	Essen.	AC_BASE_QNTY	COST	M&R
COST	240	248	Essen.	AC_BASE_AVG_COST	COST	M&R
COST	241	248	Essen.	AC_BASE_TOT_COST	COST	M&R
COST	228	248	Essen.	AC_FULL_QNTY	COST	M&R
COST	238	248	Essen.	AC_FULL_AVG_COST	COST	M&R
COST	238	248	Essen.	AC_FULL_TOT_COST	COST	M&R
COST	238	248	Essen.	PCC_PARTIAL_QNTY	COST	M&R
COST	243	248	Essen.	PCC_PARTIAL_AVG_COST	COST	M&R
COST	243	248	Essen.	PCC_PARTIAL_TOT_COST	COST	M&R
COST	242	248	Essen.	PCC_SLAB_QNTY	COST	M&R
COST	243	248	Essen.	PCC_SLAB_AVG_COST	COST	M&R
COST	243	248	Essen.	PCC_SLAB_TOT_COST	COST	M&R
COST	246	248	Essen.	PCC_BOTH_QNTY	COST	M&R
COST	246	248	Essen.	PCC_BOTH_AVG_COST	COST	M&R
COST	246	248	Essen.	PCC_BOTH_TOT_COST	COST	M&R
COST	236	248	Essen.	PCC_REPLACE_SLAB_QNTY	COST	M&R
COST	237	248	Essen.	PCC_REPLACE_SLAB_AVG_COST	COST	M&R
COST	237	248	Essen.	PCC_REPLACE_SLAB_TOT_COST	COST	M&R
COST	246	248	Essen.	PCC_REPLACE_BOTH_QNTY	COST	M&R
COST	246	248	Essen.	PCC_REPLACE_BOTH_AVG_COST	COST	M&R
COST	246	248	Essen.	PCC_REPLACE_BOTH_TOT_COST	COST	M&R
COST	221	248	Essen.	JOINT_RESEAL_QNTY	COST	M&R
COST	238	248	Essen.	JOINT_RESEAL_AVG_COST	COST	M&R
COST	238	248	Essen.	JOINT_RESEAL_TOT_COST	COST	M&R
COST	238	248	Essen.	DGM_QNTY	COST	M&R
COST	244	248	Essen.	DGM_AVG_COST	COST	M&R
COST	244	248	Essen.	DGM_TOT_COST	COST	M&R
COST	26	248	Inform.	SECTION_LENGTH_TREATED	COST	M&R
GMG	0	9	Essen.	PAVE_TYPE	GRINDING AND MILLING	M&R
GMG	0	9	Essen.	METHOD	GRINDING AND MILLING	M&R
GMG	0	9	Essen.	AVG_DEPTH	GRINDING AND MILLING	M&R
GMG	0	9	Essen.	AVG_DEPTH_SOURCE	GRINDING AND MILLING	M&R
GMG	1	9	Import.	GMG_REASON	GRINDING AND MILLING	M&R
GMG	1	9	Import.	GMG_REASON_OTHER	GRINDING AND MILLING	M&R
GMG	0	9	Import.	GMG_EXTENT	GRINDING AND MILLING	M&R
GMG	0	9	Import.	GMG_EXTENT_OTHER	GRINDING AND MILLING	M&R
GMG	1	9	Inform.	HEAD_WIDTH	GRINDING AND MILLING	M&R
GMG	1	9	Inform.	HEAD_WIDTH_SOURCE	GRINDING AND MILLING	M&R
GMG	5	9	Inform.	GROOVE_WIDTH	GRINDING AND MILLING	M&R
GMG	5	9	Inform.	GROOVE_WIDTH_SOURCE	GRINDING AND MILLING	M&R
GMG	5	9	Inform.	BLADE_SPACING	GRINDING AND MILLING	M&R
GMG	5	9	Inform.	BLADE_SPACING_SOURCE	GRINDING AND MILLING	M&R
HISTORY	364	366	Essen.	MAJOR_IMP_TYPE	HISTORY	M&R
HISTORY	361	366	Essen.	MAINT_LOC	HISTORY	M&R
HISTORY	246	366	Essen.	MAINT_MATERIAL	HISTORY	M&R
HISTORY	110	366	Essen.	MAJOR_IMP_QUANTITY	HISTORY	M&R
HISTORY	55	366	Import.	MAJOR_IMP_THICKNESS	HISTORY	M&R
HISTORY	169	366	Import.	MAJOR_IMP_COST	HISTORY	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
PCC_FULL_DEPTH	0	23	Import.	REASON	PCC	M&R
PCC_FULL_DEPTH	0	23	Import.	REASON_OTHER	PCC	M&R
PCC_FULL_DEPTH	0	23	Import.	SECONDARY_REASON	PCC	M&R
PCC_FULL_DEPTH	0	23	Import.	SECONDARY_REASON_OTHER	PCC	M&R
PCC_FULL_DEPTH	0	23	Essen.	PATCH_NO_SLAB	PCC	M&R
PCC_FULL_DEPTH	0	23	Essen.	PATCH_SF_SLAB	PCC	M&R
PCC_FULL_DEPTH	13	23	Essen.	PATCH_NO_BASE	PCC	M&R
PCC_FULL_DEPTH	13	23	Essen.	PATCH_SF_BASE	PCC	M&R
PCC_FULL_DEPTH	0	23	Import.	PATCH_MATL	PCC	M&R
PCC_FULL_DEPTH	0	23	Import.	PATCH_MATL_OTHER	PCC	M&R
PCC_FULL_DEPTH	0	23	Inform.	PATCH_MATL_SOURCE	PCC	M&R
PCC_FULL_DEPTH	11	23	Essen.	NO_SLABS_REPLACED	PCC	M&R
PCC_FULL_DEPTH	11	23	Essen.	SF_SLABS_REPLACED	PCC	M&R
PCC_FULL_DEPTH	13	23	Essen.	NO_BASE_REPLACED	PCC	M&R
PCC_FULL_DEPTH	13	23	Essen.	SF_BASE_REPLACED	PCC	M&R
PCC_FULL_DEPTH	22	23	Import.	PATCH_REPLACE_MATL	PCC	M&R
PCC_FULL_DEPTH	23	23	Import.	SLAB_REPLACE_MATL	PCC	M&R
PCC_FULL_DEPTH	23	23	Import.	REPLACE_MATL_OTHER	PCC	M&R
PCC_FULL_DEPTH	19	23	Inform.	REPLACE_MATL_SOURCE	PCC	M&R
PCC_FULL_DEPTH	0	23	Inform.	BOUNDARY_METHOD	PCC	M&R
PCC_FULL_DEPTH	0	23	Inform.	BOUNDARY_METHOD_OTHER	PCC	M&R
PCC_FULL_DEPTH	0	23	Inform.	BOUNDARY_METHOD_SOURCE	PCC	M&R
PCC_FULL_DEPTH	0	23	Inform.	CUT_METHOD	PCC	M&R
PCC_FULL_DEPTH	0	23	Inform.	CUT_METHOD_OTHER	PCC	M&R
PCC_FULL_DEPTH	0	23	Inform.	CUT_METHOD_SOURCE	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	TRANSFER_SYS_TRANS	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	TRANSFER_SYS_LONG	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	TRANSFER_SYS_OTHER	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	TRANS_SYS_SOURCE	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	TRANSFER_DEVICE	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	TRANSFER_DEVICE_OTHER	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	TRANSFER_DEVICE_SOURCE	PCC	M&R
PCC_FULL_DEPTH	4	23	Essen.	STEEL	PCC	M&R
PCC_FULL_DEPTH	16	23	Import.	REBAR_TRANS	PCC	M&R
PCC_FULL_DEPTH	17	23	Import.	REBAR_LONG	PCC	M&R
PCC_FULL_DEPTH	18	23	Import.	REBAR_LENGTH_TRANS	PCC	M&R
PCC_FULL_DEPTH	19	23	Import.	REBAR_LENGTH_LONG	PCC	M&R
PCC_FULL_DEPTH	17	23	Import.	REBAR_SPACE_TRANS	PCC	M&R
PCC_FULL_DEPTH	19	23	Import.	REBAR_SPACE_LONG	PCC	M&R
PCC_FULL_DEPTH	12	23	Inform.	REBAR_SOURCE	PCC	M&R
PCC_FULL_DEPTH	7	23	Inform.	DOWEL_COAT_TRANS	PCC	M&R
PCC_FULL_DEPTH	7	23	Inform.	DOWEL_COAT_LONG	PCC	M&R
PCC_FULL_DEPTH	7	23	Inform.	DOWEL_COAT_OTHER	PCC	M&R
PCC_FULL_DEPTH	8	23	Inform.	DOWEL_COAT_SOURCE	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	SAW_CUTS	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	SAW_CUT_DEPTH	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	SAW_CUT_SOURCE	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	CONC_BREAK_METHOD	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	CONC_BREAK_METHOD_OTHER	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	CONC_BREAK_METHOD_SOURCE	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	CONC_REMOVAL	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	CONC_REMOVAL_OTHER	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	CONC_REMOVAL_SOURCE	PCC	M&R
PCC_FULL_DEPTH	15	23	Inform.	STEEL_PLACE_METHOD	PCC	M&R
PCC_FULL_DEPTH	13	23	Inform.	STEEL_PLACE_SOURCE	PCC	M&R
PCC_FULL_DEPTH	5	23	Essen.	CAGG_MIX	PCC	M&R
PCC_FULL_DEPTH	5	23	Essen.	FAGG_MIX	PCC	M&R
PCC_FULL_DEPTH	5	23	Essen.	CEMENT_MIX	PCC	M&R
PCC_FULL_DEPTH	6	23	Essen.	WATER_MIX	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	MIX_SOURCE	PCC	M&R
PCC_FULL_DEPTH	6	23	Inform.	CEMENT_TYPE	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	CEMENT_TYPE_SOURCE	PCC	M&R
PCC_FULL_DEPTH	7	23	Inform.	AIR_CONTENT_MEAN	PCC	M&R
PCC_FULL_DEPTH	12	23	Inform.	AIR_CONTENT_MIN	PCC	M&R
PCC_FULL_DEPTH	12	23	Inform.	AIR_CONTENT_MAX	PCC	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
PCC_FULL_DEPTH	6	23	Inform.	AIR_CONTENT_SOURCE	PCC	M&R
PCC_FULL_DEPTH	10	23	Inform.	ADMIXTURE_1	PCC	M&R
PCC_FULL_DEPTH	10	23	Inform.	ADMIXTURE_2	PCC	M&R
PCC_FULL_DEPTH	9	23	Inform.	ADMIXTURE_SOURCE	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	SLUMP_MEAN	PCC	M&R
PCC_FULL_DEPTH	11	23	Inform.	SLUMP_MIN	PCC	M&R
PCC_FULL_DEPTH	11	23	Inform.	SLUMP_MAX	PCC	M&R
PCC_FULL_DEPTH	2	23	Inform.	SLUMP_SOURCE	PCC	M&R
PCC_FULL_DEPTH	21	23	Inform.	FLEX_STRENGTH	PCC	M&R
PCC_FULL_DEPTH	21	23	Inform.	FLEX_CURE_TIME	PCC	M&R
PCC_FULL_DEPTH	16	23	Inform.	ALT_TEST	PCC	M&R
PCC_FULL_DEPTH	16	23	Inform.	ALT_TEST_LOAD	PCC	M&R
PCC_FULL_DEPTH	15	23	Inform.	ALT_TEST_AGE	PCC	M&R
PCC_FULL_DEPTH	14	23	Inform.	ALT_TEST_STRENGTH	PCC	M&R
PCC_FULL_DEPTH	14	23	Inform.	TEST_SOURCE	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	AIR_TEMP_LOW	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	AIR_TEMP_HIGH	PCC	M&R
PCC_FULL_DEPTH	3	23	Inform.	SURFACE_MOISTURE	PCC	M&R
PCC_FULL_DEPTH	3	23	Inform.	CONDITION_SOURCE	PCC	M&R
PCC_FULL_DEPTH	1	23	Inform.	MAX_AGG_SIZE	PCC	M&R
PCC_FULL_DEPTH	1	23	Inform.	MAX_AGG_SOURCE	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	JOINT_METHOD_SH	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	JOINT_METHOD_TRANS	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	JOINT_METHOD_LONG	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	JOINT_METHOD_OTHER	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	JOINT_METHOD_SOURCE	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	BOND_BREAKER	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	CURE_METHOD_1	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	CURE_METHOD_2	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	CURE_METHOD_OTHER	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	CURE_METHOD_SOURCE	PCC	M&R
PCC_FULL_DEPTH	5	23	Import.	TRAFFIC_OPEN_TIME	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	TRAFFIC_OPEN_SOURCE	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	CONSOLIDATE_METHOD	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	CONSOLIDATE_METHOD_OTHER	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	FINISH_METHOD	PCC	M&R
PCC_FULL_DEPTH	4	23	Inform.	FINISH_METHOD_OTHER	PCC	M&R
PCC_FULL_DEPTH	6	23	Inform.	FINISH_METHOD_SOURCE	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	TRANS_JOINT_PATCH	PCC	M&R
PCC_FULL_DEPTH	20	23	Inform.	TRANS_JOINT_SLAB	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	TRANS_JOINT_SOURCE	PCC	M&R
PCC_FULL_DEPTH	5	23	Inform.	JOINTS_MATCHED	PCC	M&R
PCC_JOINT_RESEAL	32	33	Import.	REMOVAL_METHOD	PCC	M&R
PCC_JOINT_RESEAL	1	33	Import.	REMOVAL_METHOD_OTHER	PCC	M&R
PCC_JOINT_RESEAL	31	33	Import.	REMOVAL_METHOD_SOURCE	PCC	M&R
PCC_JOINT_RESEAL	30	33	Essen.	SEAL_RES_WIDTH	PCC	M&R
PCC_JOINT_RESEAL	18	33	Essen.	SEAL_RES_DEPTH	PCC	M&R
PCC_JOINT_RESEAL	30	33	Inform.	SEAL_RES_SOURCE	PCC	M&R
PCC_JOINT_RESEAL	32	33	Essen.	BOND_BREAK	PCC	M&R
PCC_JOINT_RESEAL	0	33	Essen.	BOND_BREAK_OTHER	PCC	M&R
PCC_JOINT_RESEAL	32	33	Essen.	REFACED	PCC	M&R
PCC_JOINT_RESEAL	0	33	Essen.	REFACED_OTHER	PCC	M&R
PCC_JOINT_RESEAL	32	33	Inform.	SIDEWALL_CLEAN	PCC	M&R
PCC_JOINT_RESEAL	15	33	Inform.	SIDEWALL_CLEAN_OTHER	PCC	M&R
PCC_JOINT_RESEAL	32	33	Inform.	SIDEWALL_CLEAN_SOURCE	PCC	M&R
PCC_JOINT_RESEAL	33	33	Essen.	JOINT_SEAL_TYPE	PCC	M&R
PCC_JOINT_RESEAL	13	33	Essen.	JOINT_SEAL_TYPE_OTHER	PCC	M&R
PCC_JOINT_RESEAL	31	33	Inform.	MANUFACTURER_NAME	PCC	M&R
PCC_JOINT_RESEAL	31	33	Inform.	MANUFACTURER_SEALANT_NAME	PCC	M&R
PCC_JOINT_RESEAL	30	33	Inform.	JOINT_SEAL_TYPE_SOURCE	PCC	M&R
PCC_JOINT_RESEAL	33	33	Essen.	SEAL_DEPTH	PCC	M&R
PCC_JOINT_RESEAL	33	33	Inform.	SEAL_DEPTH_SOURCE	PCC	M&R
PCC_JOINT_RESEAL	20	33	Inform.	SEALS_DIFFERENT	PCC	M&R
PCC_JOINT_RESEAL	0	33	Inform.	EXPANSION_MATL	PCC	M&R
PCC_JOINT_RESEAL	31	33	Essen.	TRANS_SEAL_LENGTH	PCC	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
PCC_JOINT_RESEAL	30	33	Essen.	LONG_SEAL_LENGTH	PCC	M&R
PCC_PART_DEPTH	1	12	Import.	REASON	PCC	M&R
PCC_PART_DEPTH	1	12	Import.	REASON_OTHER	PCC	M&R
PCC_PART_DEPTH	1	12	Import.	SECONDARY_REASON	PCC	M&R
PCC_PART_DEPTH	1	12	Import.	SECONDARY_REASON_OTHER	PCC	M&R
PCC_PART_DEPTH	1	12	Essen.	PATCH_NO	PCC	M&R
PCC_PART_DEPTH	1	12	Essen.	PATCH_SF	PCC	M&R
PCC_PART_DEPTH	2	12	Essen.	PATCH_AVG_DEPTH	PCC	M&R
PCC_PART_DEPTH	3	12	Inform.	BOUNDARY_METHOD	PCC	M&R
PCC_PART_DEPTH	3	12	Inform.	BOUNDARY_METHOD_OTHER	PCC	M&R
PCC_PART_DEPTH	2	12	Inform.	BOUNDARY_METHOD_SOURCE	PCC	M&R
PCC_PART_DEPTH	2	12	Inform.	CUT_METHOD	PCC	M&R
PCC_PART_DEPTH	2	12	Inform.	CUT_METHOD_OTHER	PCC	M&R
PCC_PART_DEPTH	4	12	Inform.	CUT_METHOD_SOURCE	PCC	M&R
PCC_PART_DEPTH	3	12	Inform.	BREAK_METHOD	PCC	M&R
PCC_PART_DEPTH	3	12	Inform.	BREAK_METHOD_OTHER	PCC	M&R
PCC_PART_DEPTH	4	12	Inform.	BREAK_METHOD_SOURCE	PCC	M&R
PCC_PART_DEPTH	2	12	Inform.	CLEAN_METHOD	PCC	M&R
PCC_PART_DEPTH	2	12	Inform.	CLEAN_METHOD_OTHER	PCC	M&R
PCC_PART_DEPTH	3	12	Inform.	CLEAN_METHOD_SOURCE	PCC	M&R
PCC_PART_DEPTH	2	12	Import.	PATCH_MATL	PCC	M&R
PCC_PART_DEPTH	2	12	Import.	PATCH_MATL_OTHER	PCC	M&R
PCC_PART_DEPTH	3	12	Inform.	PATCH_MATL_SOURCE	PCC	M&R
PCC_PART_DEPTH	2	12	Inform.	BOND_AGENT	PCC	M&R
PCC_PART_DEPTH	2	12	Inform.	BOND_AGENT_OTHER	PCC	M&R
PCC_PART_DEPTH	3	12	Inform.	BOND_AGENT_SOURCE	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	CAGG_MIX	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	FAGG_MIX	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	CEMENT_MIX	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	WATER_MIX	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	MIX_SOURCE	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	CEMENT_TYPE	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	CEMENT_TYPE_SOURCE	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	AIR_CONTENT_MEAN	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	AIR_CONTENT_MIN	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	AIR_CONTENT_MAX	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	AIR_CONTENT_SOURCE	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	ADMIXTURE_1	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	ADMIXTURE_2	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	ADMIXTURE_SOURCE	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	SLUMP_MEAN	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	SLUMP_MIN	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	SLUMP_MAX	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	SLUMP_SOURCE	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	PATCH_COMP_STRENGTH	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	PATCH_CURE_TIME	PCC	M&R
PCC_PART_DEPTH	12	12	Inform.	ALT_TEST	PCC	M&R
PCC_PART_DEPTH	12	12	Inform.	ALT_TEST_LOAD	PCC	M&R
PCC_PART_DEPTH	12	12	Inform.	ALT_TEST_AGE	PCC	M&R
PCC_PART_DEPTH	12	12	Inform.	ALT_TEST_STRENGTH	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	TEST_SOURCE	PCC	M&R
PCC_PART_DEPTH	7	12	Inform.	MAX_AGG_SIZE	PCC	M&R
PCC_PART_DEPTH	7	12	Inform.	MAX_AGG_SOURCE	PCC	M&R
PCC_PART_DEPTH	8	12	Inform.	CURE_METHOD_1	PCC	M&R
PCC_PART_DEPTH	11	12	Inform.	CURE_METHOD_2	PCC	M&R
PCC_PART_DEPTH	12	12	Inform.	CURE_METHOD_OTHER	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	CURE_METHOD_SOURCE	PCC	M&R
PCC_PART_DEPTH	6	12	Import.	TRAFFIC_OPEN_TIME	PCC	M&R
PCC_PART_DEPTH	6	12	Inform.	TRAFFIC_OPEN_SOURCE	PCC	M&R
PCC_PART_DEPTH	4	12	Inform.	AIR_TEMP_LOW	PCC	M&R
PCC_PART_DEPTH	4	12	Inform.	AIR_TEMP_HIGH	PCC	M&R
PCC_PART_DEPTH	4	12	Inform.	SURFACE_MOISTURE	PCC	M&R
PCC_PART_DEPTH	5	12	Inform.	CONDITION_SOURCE	PCC	M&R
PCC_PART_DEPTH	7	12	Inform.	CONSOLIDATE_METHOD	PCC	M&R
PCC_PART_DEPTH	7	12	Inform.	CONSOLIDATE_METHOD_OTHER	PCC	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
PCC_PART_DEPTH	8	12	Inform.	CONSOLIDATE_METHOD_SOURCE	PCC	M&R
PCC_PART_DEPTH	8	12	Inform.	FINISH_METHOD	PCC	M&R
PCC_PART_DEPTH	8	12	Inform.	FINISH_METHOD_OTHER	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	FINISH_METHOD_SOURCE	PCC	M&R
PCC_PART_DEPTH	8	12	Inform.	JOINT_METHOD_SH	PCC	M&R
PCC_PART_DEPTH	8	12	Inform.	JOINT_METHOD_TRANS	PCC	M&R
PCC_PART_DEPTH	8	12	Inform.	JOINT_METHOD_LONG	PCC	M&R
PCC_PART_DEPTH	8	12	Inform.	JOINT_METHOD_OTHER	PCC	M&R
PCC_PART_DEPTH	9	12	Inform.	JOINT_METHOD_SOURCE	PCC	M&R
ACO_AGGR_PROP	28	353	Inform.	AGGR_COMP_TYPE_C1	AC OVERLAYS	M&R
ACO_AGGR_PROP	28	353	Inform.	AGGR_COMP_TYPE_C2	AC OVERLAYS	M&R
ACO_AGGR_PROP	28	353	Inform.	AGGR_COMP_TYPE_C3	AC OVERLAYS	M&R
ACO_AGGR_PROP	28	353	Inform.	AGGR_COMP_TYPE_C1_OTHER	AC OVERLAYS	M&R
ACO_AGGR_PROP	28	353	Inform.	AGGR_COMP_TYPE_C2_OTHER	AC OVERLAYS	M&R
ACO_AGGR_PROP	28	353	Inform.	AGGR_COMP_TYPE_C3_OTHER	AC OVERLAYS	M&R
ACO_AGGR_PROP	28	353	Essen.	AGGR_COMP_PERCENT_C1	AC OVERLAYS	M&R
ACO_AGGR_PROP	28	353	Essen.	AGGR_COMP_PERCENT_C2	AC OVERLAYS	M&R
ACO_AGGR_PROP	28	353	Essen.	AGGR_COMP_PERCENT_C3	AC OVERLAYS	M&R
ACO_AGGR_PROP	37	353	Inform.	AGGR_COMP_TYPE_F1	AC OVERLAYS	M&R
ACO_AGGR_PROP	37	353	Inform.	AGGR_COMP_TYPE_F2	AC OVERLAYS	M&R
ACO_AGGR_PROP	37	353	Inform.	AGGR_COMP_TYPE_F3	AC OVERLAYS	M&R
ACO_AGGR_PROP	37	353	Inform.	AGGR_COMP_TYPE_F1_OTHER	AC OVERLAYS	M&R
ACO_AGGR_PROP	37	353	Inform.	AGGR_COMP_TYPE_F2_OTHER	AC OVERLAYS	M&R
ACO_AGGR_PROP	37	353	Inform.	AGGR_COMP_TYPE_F3_OTHER	AC OVERLAYS	M&R
ACO_AGGR_PROP	38	353	Essen.	AGGR_COMP_PERCENT_F1	AC OVERLAYS	M&R
ACO_AGGR_PROP	38	353	Essen.	AGGR_COMP_PERCENT_F2	AC OVERLAYS	M&R
ACO_AGGR_PROP	38	353	Essen.	AGGR_COMP_PERCENT_F3	AC OVERLAYS	M&R
ACO_AGGR_PROP	157	353	Inform.	GEOL_CLASS_COARSE_AGGR	AC OVERLAYS	M&R
ACO_AGGR_PROP	111	353	Import.	MINERAL_FILLER	AC OVERLAYS	M&R
ACO_AGGR_PROP	111	353	Import.	MINERAL_FILLER_OTHER	AC OVERLAYS	M&R
ACO_AGGR_PROP	239	353	Inform.	AGGR_DUR_TYPE_C1	AC OVERLAYS	M&R
ACO_AGGR_PROP	239	353	Inform.	AGGR_DUR_TYPE_C2	AC OVERLAYS	M&R
ACO_AGGR_PROP	239	353	Inform.	AGGR_DUR_TYPE_C3	AC OVERLAYS	M&R
ACO_AGGR_PROP	344	353	Inform.	AGGR_DUR_TYPE_M1	AC OVERLAYS	M&R
ACO_AGGR_PROP	242	353	Inform.	AGGR_DUR_RESULT_C1	AC OVERLAYS	M&R
ACO_AGGR_PROP	242	353	Inform.	AGGR_DUR_RESULT_C2	AC OVERLAYS	M&R
ACO_AGGR_PROP	242	353	Inform.	AGGR_DUR_RESULT_C3	AC OVERLAYS	M&R
ACO_AGGR_PROP	344	353	Inform.	AGGR_DUR_RESULT_M1	AC OVERLAYS	M&R
ACO_AGGR_PROP	334	353	Inform.	POLISH_VALUE	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	TWO_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	ONE_AND_HALF_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	ONE_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	SEVEN_EIGHTHS_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	THREE_FOURTHS_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	FIVE_EIGHTHS_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	ONE_HALF_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	THREE_EIGHTHS_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	NO_4_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	NO_8_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	NO_10_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	NO_16_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	NO_30_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	NO_40_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	NO_50_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	NO_80_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	NO_100_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	2	353	Essen.	NO_200_PASSING	AC OVERLAYS	M&R
ACO_AGGR_PROP	112	353	Essen.	COARSE_AGGR_BULK_SPEC	AC OVERLAYS	M&R
ACO_AGGR_PROP	130	353	Essen.	FINE_AGGR_BULK_SPEC	AC OVERLAYS	M&R
ACO_AGGR_PROP	281	353	Essen.	MINERAL_FILLER_BULK_SPEC	AC OVERLAYS	M&R
ACO_AGGR_PROP	126	353	Essen.	AGGR_COMB_BULK_SPEC	AC OVERLAYS	M&R
ACO_AGGR_PROP	168	353	Essen.	EFFECTIVE_SPEC_GRAVITY	AC OVERLAYS	M&R
ACO_LAB_AGED_AC	82	201	Essen.	LAB_AGE_TEST_PROC	AC OVERLAYS	M&R
ACO_LAB_AGED_AC	82	201	Essen.	LAB_AGE_TEST_PROC_OTHER	AC OVERLAYS	M&R
ACO_LAB_AGED_AC	97	201	Essen.	LAB_VISCOSITY_140	AC OVERLAYS	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
ACO_LAB_AGED_AC	155	201	Essen.	LAB_VISCOSITY_275	AC OVERLAYS	M&R
ACO_LAB_AGED_AC	120	201	Essen.	LAB_DUCTILITY_77	AC OVERLAYS	M&R
ACO_LAB_AGED_AC	190	201	Essen.	LAB_DUCTILITY_39	AC OVERLAYS	M&R
ACO_LAB_AGED_AC	182	201	Import.	LAB_DUCTILITY_TEST_RATE	AC OVERLAYS	M&R
ACO_LAB_AGED_AC	139	201	Essen.	LAB_PENETRATION_77	AC OVERLAYS	M&R
ACO_LAB_AGED_AC	189	201	Essen.	LAB_PENETRATION_39	AC OVERLAYS	M&R
ACO_LAB_AGED_AC	195	201	Import.	LAB_RING_BALL_SOFTENING_PT	AC OVERLAYS	M&R
ACO_LAB_AGED_AC	147	201	Import.	LAB_WEIGHT_LOSS	AC OVERLAYS	M&R
ACO_LAB_MIX	41	343	Essen.	MAX_SPEC_GRAVITY	AC OVERLAYS	M&R
ACO_LAB_MIX	51	343	Essen.	BULK_SPEC_GRAVITY	AC OVERLAYS	M&R
ACO_LAB_MIX	25	343	Essen.	ASPHALT_CONTENT	AC OVERLAYS	M&R
ACO_LAB_MIX	32	343	Essen.	PERCENT_AIR_VOIDS	AC OVERLAYS	M&R
ACO_LAB_MIX	126	343	Essen.	MARSHALL_STABILITY	AC OVERLAYS	M&R
ACO_LAB_MIX	166	343	Import.	NO_BLOWS	AC OVERLAYS	M&R
ACO_LAB_MIX	178	343	Import.	MARSHALL_FLOW	AC OVERLAYS	M&R
ACO_LAB_MIX	263	343	Essen.	HVEEM_STABILITY	AC OVERLAYS	M&R
ACO_LAB_MIX	332	343	Import.	HVEEM_COHESIOMETER	AC OVERLAYS	M&R
ACO_MIX_PROP	49	247	Essen.	MAX_SPEC_GRAVITY	AC OVERLAYS	M&R
ACO_MIX_PROP	79	247	Essen.	BULK_SPEC_GRAVITY_MEAN	AC OVERLAYS	M&R
ACO_MIX_PROP	124	247	Inform.	BULK_SPEC_GRAVITY_MIN	AC OVERLAYS	M&R
ACO_MIX_PROP	121	247	Inform.	BULK_SPEC_GRAVITY_MAX	AC OVERLAYS	M&R
ACO_MIX_PROP	166	247	Inform.	BULK_SPEC_GRAVITY_STD_DEV	AC OVERLAYS	M&R
ACO_MIX_PROP	93	247	Inform.	NO_BULK_SPEC_GRAVITY	AC OVERLAYS	M&R
ACO_MIX_PROP	23	247	Essen.	ASPHALT_CONTENT_MEAN	AC OVERLAYS	M&R
ACO_MIX_PROP	105	247	Inform.	ASPHALT_CONTENT_MIN	AC OVERLAYS	M&R
ACO_MIX_PROP	102	247	Inform.	ASPHALT_CONTENT_MAX	AC OVERLAYS	M&R
ACO_MIX_PROP	143	247	Inform.	ASPHALT_CONTENT_STD_DEV	AC OVERLAYS	M&R
ACO_MIX_PROP	75	247	Inform.	NO_SAMP_ASPHALT_CONTENT	AC OVERLAYS	M&R
ACO_MIX_PROP	45	247	Essen.	PCT_AIR_VOIDS_MEAN	AC OVERLAYS	M&R
ACO_MIX_PROP	117	247	Inform.	PCT_AIR_VOIDS_MIN	AC OVERLAYS	M&R
ACO_MIX_PROP	113	247	Inform.	PCT_AIR_VOIDS_MAX	AC OVERLAYS	M&R
ACO_MIX_PROP	158	247	Inform.	PCT_AIR_VOIDS_STD_DEV	AC OVERLAYS	M&R
ACO_MIX_PROP	91	247	Inform.	NO_SAMP_PCT_AIR_VOIDS	AC OVERLAYS	M&R
ACO_MIX_PROP	93	247	Essen.	VOIDS_MINERAL_AGGR_MEAN	AC OVERLAYS	M&R
ACO_MIX_PROP	163	247	Inform.	VOIDS_MINERAL_AGGR_MIN	AC OVERLAYS	M&R
ACO_MIX_PROP	162	247	Inform.	VOIDS_MINERAL_AGGR_MAX	AC OVERLAYS	M&R
ACO_MIX_PROP	186	247	Inform.	VOIDS_MINERAL_AGGR_STDEV	AC OVERLAYS	M&R
ACO_MIX_PROP	140	247	Inform.	NO_VOIDS_MINERAL_AGGR	AC OVERLAYS	M&R
ACO_MIX_PROP	148	247	Essen.	EFF_ASPHALT_CONTENT_MEAN	AC OVERLAYS	M&R
ACO_MIX_PROP	196	247	Inform.	EFF_ASPHALT_CONTENT_MIN	AC OVERLAYS	M&R
ACO_MIX_PROP	195	247	Inform.	EFF_ASPHALT_CONTENT_MAX	AC OVERLAYS	M&R
ACO_MIX_PROP	210	247	Inform.	EFF_ASPHALT_CONTENT_STDEV	AC OVERLAYS	M&R
ACO_MIX_PROP	185	247	Inform.	NO_EFF_ASPHALT_CONTENT	AC OVERLAYS	M&R
ACO_MIX_PROP	33	247	Inform.	ASPHALT_PLANT_TYPE	AC OVERLAYS	M&R
ACO_MIX_PROP	33	247	Inform.	ASPHALT_PLANT_TYPE_OTHER	AC OVERLAYS	M&R
ACO_MIX_PROP	141	247	Inform.	ANTISTRIP_AGENT_TYPE	AC OVERLAYS	M&R
ACO_MIX_PROP	141	247	Inform.	ANTISTRIP_AGENT_TYPE_OTHER	AC OVERLAYS	M&R
ACO_MIX_PROP	172	247	Inform.	ANTISTRIP_AGENT_CODE	AC OVERLAYS	M&R
ACO_MIX_PROP	165	247	Inform.	ANTISTRIP_AGENT_AMOUNT	AC OVERLAYS	M&R
ACO_MIX_PROP	197	247	Inform.	MOIST_SUSCEPT_TEST	AC OVERLAYS	M&R
ACO_MIX_PROP	197	247	Inform.	MOIST_SUSCEPT_TEST_OTHER	AC OVERLAYS	M&R
ACO_MIX_PROP	238	247	Essen.	HVEEM_STABILITY_NO	AC OVERLAYS	M&R
ACO_MIX_PROP	217	247	Import.	TENSILE_STRENGTH_RATIO	AC OVERLAYS	M&R
ACO_MIX_PROP	235	247	Import.	PERCENT_STRIPPED	AC OVERLAYS	M&R
ACO_MIX_PROP	238	247	Inform.	RETAINED_STRENGTH_INDEX	AC OVERLAYS	M&R
ACO_PROP	1	350	Essen.	ASPHALT_GRADE	AC OVERLAYS	M&R
ACO_PROP	1	350	Essen.	ASPHALT_GRADE_OTHER	AC OVERLAYS	M&R
ACO_PROP	41	350	Inform.	SOURCE	AC OVERLAYS	M&R
ACO_PROP	41	350	Inform.	SOURCE_OTHER	AC OVERLAYS	M&R
ACO_PROP	47	350	Essen.	ASPHALT_SPECIFIC_GRAVITY	AC OVERLAYS	M&R
ACO_PROP	173	350	Essen.	ASPHALT_VISCOSITY_140	AC OVERLAYS	M&R
ACO_PROP	193	350	Essen.	ASPHALT_VISCOSITY_275	AC OVERLAYS	M&R
ACO_PROP	170	350	Essen.	PENETRATION_77	AC OVERLAYS	M&R
ACO_PROP	307	350	Inform.	MODIFIER_1	AC OVERLAYS	M&R
ACO_PROP	307	350	Inform.	MODIFIER_2	AC OVERLAYS	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
ACO_PROP	307	350	Inform.	MODIFIER_1_OTHER	AC OVERLAYS	M&R
ACO_PROP	307	350	Inform.	MODIFIER_2_OTHER	AC OVERLAYS	M&R
ACO_PROP	309	350	Import.	MODIFIER_QTY_1	AC OVERLAYS	M&R
ACO_PROP	309	350	Import.	MODIFIER_QTY_2	AC OVERLAYS	M&R
ACO_PROP	303	350	Import.	DUCTILITY_77	AC OVERLAYS	M&R
ACO_PROP	335	350	Import.	DUCTILITY_39	AC OVERLAYS	M&R
ACO_PROP	331	350	Inform.	DUCTILITY_TEST_RATE	AC OVERLAYS	M&R
ACO_PROP	334	350	Import.	PENETRATION_39	AC OVERLAYS	M&R
ACO_PROP	334	350	Import.	RING_BALL_SOFT_PT	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Inform.	BREAKUP_METHOD	AC OVERLAYS	M&R
CMRAP_GEN_INFO	1	1	Inform.	BREAKUP_METHOD_OTHER	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Inform.	PAVEMENT_PROCESSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	1	1	Inform.	PAVEMENT_PROC_OTHER	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	TWO_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	ONE_AND_HALF_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	ONE_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	SEVEN_EIGHTHS_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	THREE_FOURTHS_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	FIVE_EIGHTHS_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	ONE_HALF_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	THREE_EIGHTHS_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	NO_4_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	NO_8_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	NO_10_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	NO_16_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	NO_30_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	NO_40_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	NO_50_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	NO_80_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	NO_100_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	0	1	Essen.	NO_200_PASSING	AC OVERLAYS	M&R
CMRAP_GEN_INFO	1	1	Essen.	COARSE_AGGR_BULK_SPEC	AC OVERLAYS	M&R
CMRAP_GEN_INFO	1	1	Essen.	FINE_AGGR_BULK_SPEC	AC OVERLAYS	M&R
CMRAP_GEN_INFO	1	1	Essen.	MINERAL_FILLER_BULK_SPEC	AC OVERLAYS	M&R
CMRAP_GEN_INFO	1	1	Essen.	AGGR_COMB_BULK_SPEC	AC OVERLAYS	M&R
CMRAP_GEN_INFO	1	1	Essen.	EFFECTIVE_SPEC_GRAVITY	AC OVERLAYS	M&R
CMRAP_LAB_MIX	0	1	Essen.	MAX_SPEC_GRAVITY	AC OVERLAYS	M&R
CMRAP_LAB_MIX	0	1	Essen.	BULK_SPEC_GRAVITY	AC OVERLAYS	M&R
CMRAP_LAB_MIX	0	1	Essen.	ASPHALT_CONTENT	AC OVERLAYS	M&R
CMRAP_LAB_MIX	1	1	Essen.	PERCENT_AIR_VOIDS	AC OVERLAYS	M&R
CMRAP_LAB_MIX	1	1	Essen.	MARSHALL_STABILITY	AC OVERLAYS	M&R
CMRAP_LAB_MIX	1	1	Import.	NO_BLOWS	AC OVERLAYS	M&R
CMRAP_LAB_MIX	1	1	Import.	MARSHALL_FLOW	AC OVERLAYS	M&R
CMRAP_LAB_MIX	1	1	Essen.	HVEEM_STABILITY	AC OVERLAYS	M&R
CMRAP_LAB_MIX	1	1	Import.	HVEEM_COHESIOMETER	AC OVERLAYS	M&R
HEATER_SCARIF	0	2	Essen.	HEAT_SCARIF_TYPE	AC OVERLAYS	M&R
HEATER_SCARIF	0	2	Essen.	DEPTH_SCARIFICATION	AC OVERLAYS	M&R
HEATER_SCARIF	0	2	Import.	SURFACE_TREAT_TYPE	AC OVERLAYS	M&R
HEATER_SCARIF	0	2	Import.	SURFACE_TREAT_OTHER	AC OVERLAYS	M&R
HEATER_SCARIF	0	2	Import.	REJUVENATE_AGENT	AC OVERLAYS	M&R
HEATER_SCARIF	1	2	Import.	REJUVENATE_AGENT_AMOUNT	AC OVERLAYS	M&R
HEATER_SCARIF	0	2	Import.	BREAKDOWN_ROLLER_CODE	AC OVERLAYS	M&R
HEATER_SCARIF	2	2	Import.	BREAKDOWN_COVERAGE	AC OVERLAYS	M&R
HEATER_SCARIF	0	2	Inform.	INTERMED_ROLLER_CODE	AC OVERLAYS	M&R
HEATER_SCARIF	2	2	Inform.	INTERMED_COVERAGE	AC OVERLAYS	M&R
HEATER_SCARIF	0	2	Inform.	FINAL_ROLLER_CODE	AC OVERLAYS	M&R
HEATER_SCARIF	2	2	Inform.	FINAL_COVERAGE	AC OVERLAYS	M&R
HEATER_SCARIF	1	2	Import.	DAYS_BETWEEN_SCARIF_TREAT	AC OVERLAYS	M&R
HEATER_SCARIF	1	2	Import.	DAYS_BETWEEN_SURFACE_OPEN	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	79	93	Essen.	RECYCLE_AGENT_TYPE	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	79	93	Essen.	RECYCLE_AGENT_OTHER	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	87	93	Essen.	RECYCLE_AGENT_PERCENT	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	10	93	Essen.	AC_AMOUNT_NEW	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	40	93	Essen.	ASPHALT_SPECIFIC_GRAVITY	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	75	93	Essen.	ASPHALT_VISCOSITY_140	AC OVERLAYS	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
HMRAP_COMBINE_AC	74	93	Essen.	ASPHALT_VISCOSITY_275	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	74	93	Essen.	PENETRATION_77	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	86	93	Import.	MODIFIER_1	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	86	93	Import.	MODIFIER_2	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	86	93	Import.	MODIFIER_1_OTHER	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	86	93	Import.	MODIFIER_2_OTHER	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	87	93	Import.	MODIFIER_QTY_1	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	87	93	Import.	MODIFIER_QTY_2	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	93	93	Import.	DUCTILITY_77	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	93	93	Import.	DUCTILITY_39	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	93	93	Inform.	DUCTILITY_TEST_RATE	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	93	93	Import.	PENETRATION_39	AC OVERLAYS	M&R
HMRAP_COMBINE_AC	93	93	Import.	RING_BALL_SOFT_PT	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	20	107	Essen.	AMOUNT_UNTREAT_AGGR	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	TWO_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	ONE_AND_HALF_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	ONE_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	SEVEN_EIGHTHS_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	THREE_FOURTHS_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	FIVE_EIGHTHS_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	ONE_HALF_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	THREE_EIGHTHS_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	NO_4_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	NO_8_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	NO_10_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	NO_16_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	NO_30_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	NO_40_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	NO_50_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	NO_80_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	NO_100_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	2	107	Essen.	NO_200_PASSING	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	69	107	Essen.	COARSE_AGGR_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	69	107	Essen.	FINE_AGGR_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	100	107	Essen.	MINERAL_FILLER_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	70	107	Essen.	AGGR_COMB_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_COMBINE_AGG	71	107	Essen.	EFFECTIVE_SPEC_GRAVITY	AC OVERLAYS	M&R
HMRAP_GEN_INFO	2	107	Inform.	BREAKUP_METHOD	AC OVERLAYS	M&R
HMRAP_GEN_INFO	102	107	Inform.	BREAKUP_METHOD_OTHER	AC OVERLAYS	M&R
HMRAP_GEN_INFO	28	107	Inform.	PAVEMENT_PROCESSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	91	107	Inform.	PAVEMENT_PROC_OTHER	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	TWO_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	ONE_AND_HALF_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	ONE_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	SEVEN_EIGHTHS_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	THREE_FOURTHS_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	FIVE_EIGHTHS_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	ONE_HALF_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	THREE_EIGHTHS_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	NO_4_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	NO_8_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	NO_10_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	NO_16_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	NO_30_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	NO_40_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	NO_50_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	NO_80_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	NO_100_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	30	107	Essen.	NO_200_PASSING	AC OVERLAYS	M&R
HMRAP_GEN_INFO	104	107	Essen.	COARSE_AGGR_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_GEN_INFO	105	107	Essen.	FINE_AGGR_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_GEN_INFO	107	107	Essen.	MINERAL_FILLER_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_GEN_INFO	82	107	Essen.	AGGR_COMB_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_GEN_INFO	92	107	Essen.	EFFECTIVE_SPEC_GRAVITY	AC OVERLAYS	M&R
HMRAP_LAB_AGED_AC	15	17	Essen.	LAB_AGE_TEST_PROC	AC OVERLAYS	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
HMRAP_LAB_AGED_AC	15	17	Essen.	LAB_AGE_TEST_PROC_OTHER	AC OVERLAYS	M&R
HMRAP_LAB_AGED_AC	15	17	Essen.	LAB_VISCOSITY_140	AC OVERLAYS	M&R
HMRAP_LAB_AGED_AC	16	17	Essen.	LAB_VISCOSITY_275	AC OVERLAYS	M&R
HMRAP_LAB_AGED_AC	15	17	Essen.	LAB_DUCTILITY_77	AC OVERLAYS	M&R
HMRAP_LAB_AGED_AC	16	17	Essen.	LAB_DUCTILITY_39	AC OVERLAYS	M&R
HMRAP_LAB_AGED_AC	17	17	Import.	LAB_DUCTILITY_TEST_RATE	AC OVERLAYS	M&R
HMRAP_LAB_AGED_AC	17	17	Essen.	LAB_PENETRATION_77	AC OVERLAYS	M&R
HMRAP_LAB_AGED_AC	17	17	Essen.	LAB_PENETRATION_39	AC OVERLAYS	M&R
HMRAP_LAB_AGED_AC	17	17	Import.	LAB_RING_BALL_SOFTENING_PT	AC OVERLAYS	M&R
HMRAP_LAB_AGED_AC	16	17	Import.	LAB_WEIGHT_LOSS	AC OVERLAYS	M&R
HMRAP_LAB_MIX	3	100	Essen.	MAX_SPEC_GRAVITY	AC OVERLAYS	M&R
HMRAP_LAB_MIX	1	100	Essen.	BULK_SPEC_GRAVITY	AC OVERLAYS	M&R
HMRAP_LAB_MIX	1	100	Essen.	ASPHALT_CONTENT	AC OVERLAYS	M&R
HMRAP_LAB_MIX	8	100	Essen.	PERCENT_AIR_VOIDS	AC OVERLAYS	M&R
HMRAP_LAB_MIX	42	100	Essen.	MARSHALL_STABILITY	AC OVERLAYS	M&R
HMRAP_LAB_MIX	62	100	Import.	NO_BLOWS	AC OVERLAYS	M&R
HMRAP_LAB_MIX	58	100	Import.	MARSHALL_FLOW	AC OVERLAYS	M&R
HMRAP_LAB_MIX	68	100	Essen.	HVEEM_STABILITY	AC OVERLAYS	M&R
HMRAP_LAB_MIX	93	100	Import.	HVEEM_COHESIOMETER	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	2	105	Essen.	ASPHALT_GRADE	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	2	105	Essen.	ASPHALT_GRADE_OTHER	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	23	105	Inform.	SOURCE	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	23	105	Inform.	SOURCE_OTHER	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	21	105	Essen.	ASPHALT_SPECIFIC_GRAVITY	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	79	105	Essen.	ASPHALT_VISCOSITY_140	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	80	105	Essen.	ASPHALT_VISCOSITY_275	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	79	105	Essen.	PENETRATION_77	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	102	105	Essen.	DUCTILITY_77	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	103	105	Essen.	DUCTILITY_39	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	104	105	Import.	DUCTILITY_TEST_RATE	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	103	105	Essen.	PENETRATION_39	AC OVERLAYS	M&R
HMRAP_NEW_AC_PROP	103	105	Import.	RING_BALL_SOFT_PT	AC OVERLAYS	M&R
HMRAP_RECLAIM_AC	0	25	Essen.	ASPHALT_SPECIFIC_GRAVITY	AC OVERLAYS	M&R
HMRAP_RECLAIM_AC	20	25	Essen.	ASPHALT_VISCOSITY_140	AC OVERLAYS	M&R
HMRAP_RECLAIM_AC	21	25	Essen.	ASPHALT_VISCOSITY_275	AC OVERLAYS	M&R
HMRAP_RECLAIM_AC	21	25	Essen.	PENETRATION_77	AC OVERLAYS	M&R
HMRAP_RECLAIM_AC	25	25	Essen.	DUCTILITY_77	AC OVERLAYS	M&R
HMRAP_RECLAIM_AC	25	25	Essen.	DUCTILITY_39	AC OVERLAYS	M&R
HMRAP_RECLAIM_AC	25	25	Import.	DUCTILITY_TEST_RATE	AC OVERLAYS	M&R
HMRAP_RECLAIM_AC	25	25	Essen.	PENETRATION_39	AC OVERLAYS	M&R
HMRAP_RECLAIM_AC	25	25	Import.	RING_BALL_SOFT_PT	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	6	100	Inform.	AGGR_COMP_TYPE_C1	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	6	100	Inform.	AGGR_COMP_TYPE_C2	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	6	100	Inform.	AGGR_COMP_TYPE_C3	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	6	100	Inform.	AGGR_COMP_TYPE_C1_OTHER	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	6	100	Inform.	AGGR_COMP_TYPE_C2_OTHER	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	6	100	Inform.	AGGR_COMP_TYPE_C3_OTHER	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	6	100	Essen.	AGGR_COMP_PERCENT_C1	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	6	100	Essen.	AGGR_COMP_PERCENT_C2	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	6	100	Essen.	AGGR_COMP_PERCENT_C3	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	8	100	Inform.	AGGR_COMP_TYPE_F1	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	8	100	Inform.	AGGR_COMP_TYPE_F2	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	8	100	Inform.	AGGR_COMP_TYPE_F3	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	8	100	Inform.	AGGR_COMP_TYPE_F1_OTHER	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	8	100	Inform.	AGGR_COMP_TYPE_F2_OTHER	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	8	100	Inform.	AGGR_COMP_TYPE_F3_OTHER	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	8	100	Essen.	AGGR_COMP_PERCENT_F1	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	8	100	Essen.	AGGR_COMP_PERCENT_F2	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	8	100	Essen.	AGGR_COMP_PERCENT_F3	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	51	100	Inform.	GEOL_CLASS_COARSE_AGGR	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	33	100	Inform.	COARSE_SOURCE	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	33	100	Inform.	FINE_SOURCE	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	47	100	Import.	MINERAL_FILLER	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	47	100	Import.	MINERAL_FILLER_OTHER	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	86	100	Inform.	AGGR_DUR_TYPE_C1	AC OVERLAYS	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
HMRAP_UNTREAT_AGGR	86	100	Inform.	AGGR_DUR_TYPE_C2	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	86	100	Inform.	AGGR_DUR_TYPE_C3	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	93	100	Inform.	AGGR_DUR_TYPE_M1	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	87	100	Inform.	AGGR_DUR_RESULT_C1	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	87	100	Inform.	AGGR_DUR_RESULT_C2	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	87	100	Inform.	AGGR_DUR_RESULT_C3	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	93	100	Inform.	AGGR_DUR_RESULT_M1	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	96	100	Inform.	POLISH_VALUE	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	TWO_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	ONE_AND_HALF_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	ONE_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	SEVEN_EIGHTHS_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	THREE_FOURTHS_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	FIVE_EIGHTHS_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	ONE_HALF_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	THREE_EIGHTHS_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	NO_4_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	NO_8_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	NO_10_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	NO_16_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	NO_30_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	NO_40_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	NO_50_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	NO_80_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	NO_100_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	21	100	Essen.	NO_200_PASSING	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	50	100	Essen.	COARSE_AGGR_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	50	100	Essen.	FINE_AGGR_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	84	100	Essen.	MINERAL_FILLER_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	53	100	Essen.	AGGR_COMB_BULK_SPEC	AC OVERLAYS	M&R
HMRAP_UNTREAT_AGGR	79	100	Essen.	EFFECTIVE_SPEC_GRAVITY	AC OVERLAYS	M&R
IMP	100	374	Essen.	IMP_QUANTITY	HISTORY	M&R
IMP	4	374	Essen.	IMP_THICKNESS	HISTORY	M&R
IMP	218	374	Essen.	IMP_COST	HISTORY	M&R
LAYER	3	2361	Essen.	MATERIAL_TYPE	AC OVERLAYS	M&R
LAYER	1252	2361	Essen.	MEAN_THICKNESS	AC OVERLAYS	M&R
LAYER	2066	2361	Inform.	MIN_THICKNESS	AC OVERLAYS	M&R
LAYER	2068	2361	Inform.	MAX_THICKNESS	AC OVERLAYS	M&R
LAYER	2138	2361	Inform.	STD_DEV_THICKNESS	AC OVERLAYS	M&R
MILL_AND_GRIND	0	83	Inform.	METHOD_USED	GRINDING AND MILLING	M&R
MILL_AND_GRIND	0	83	Inform.	METHOD_USED_OTHER	GRINDING AND MILLING	M&R
MILL_AND_GRIND	0	83	Inform.	SURFACE_PREP_EXTENT	GRINDING AND MILLING	M&R
MILL_AND_GRIND	0	83	Inform.	SURFACE_PREP_OTHER	GRINDING AND MILLING	M&R
MILL_AND_GRIND	0	83	Essen.	AVG_CUT_DEPTH	GRINDING AND MILLING	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_C1	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_C2	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_C3	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_C1_OTHER	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_C2_OTHER	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_C3_OTHER	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	AGGR_COMP_PERCENT_C1	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	AGGR_COMP_PERCENT_C2	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	AGGR_COMP_PERCENT_C3	PCC OVERLAYS	M&R
PCCO_AGGR	15	16	Inform.	GEOL_CLASS_COARSE_AGGR	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_TYPE_F1	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_TYPE_F2	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_TYPE_F3	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_TYPE_F1_OTHER	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_TYPE_F2_OTHER	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Inform.	AGGR_COMP_TYPE_F3_OTHER	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	AGGR_COMP_PERCENT_F1	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	AGGR_COMP_PERCENT_F2	PCC OVERLAYS	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
PCCO_AGGR	0	16	Essen.	AGGR_COMP_PERCENT_F3	PCC OVERLAYS	M&R
PCCO_AGGR	16	16	Inform.	INSOLUBLE_RESIDUE	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	TWO_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	ONE_AND_HALF_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	ONE_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	SEVEN_EIGHTHS_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	THREE_FOURTHS_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	FIVE_EIGHTHS_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	ONE_HALF_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	THREE_EIGHTHS_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	NO_4_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	NO_8_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	NO_10_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	NO_16_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	NO_30_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	NO_40_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	NO_50_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	NO_80_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	NO_100_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	NO_200_PASSING	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	COARSE_AGGR_BULK_SPEC	PCC OVERLAYS	M&R
PCCO_AGGR	0	16	Essen.	FINE_AGGR_BULK_SPEC	PCC OVERLAYS	M&R
PCCO_AGGR	16	16	Inform.	AGGR_DUR_TYPE_C1	PCC OVERLAYS	M&R
PCCO_AGGR	16	16	Inform.	AGGR_DUR_TYPE_C2	PCC OVERLAYS	M&R
PCCO_AGGR	16	16	Inform.	AGGR_DUR_TYPE_C3	PCC OVERLAYS	M&R
PCCO_AGGR	16	16	Inform.	AGGR_DUR_TYPE_M1	PCC OVERLAYS	M&R
PCCO_AGGR	10	16	Inform.	AGGR_DUR_RESULT_C1	PCC OVERLAYS	M&R
PCCO_AGGR	10	16	Inform.	AGGR_DUR_RESULT_C2	PCC OVERLAYS	M&R
PCCO_AGGR	10	16	Inform.	AGGR_DUR_RESULT_C3	PCC OVERLAYS	M&R
PCCO_AGGR	16	16	Inform.	AGGR_DUR_RESULT_M1	PCC OVERLAYS	M&R
PCCO_COMPACTION	0	207	Essen.	IMP_TYPE	PCC OVERLAYS	M&R
PCCO_COMPACTION	27	207	Inform.	BREAKDOWN_ROLLER_CODE	PCC OVERLAYS	M&R
PCCO_COMPACTION	73	207	Inform.	BREAKDOWN_COVERAGE	PCC OVERLAYS	M&R
PCCO_COMPACTION	68	207	Inform.	INTERMED_ROLLER_CODE	PCC OVERLAYS	M&R
PCCO_COMPACTION	106	207	Inform.	INTERMED_COVERAGE	PCC OVERLAYS	M&R
PCCO_COMPACTION	35	207	Inform.	FINAL_ROLLER_CODE	PCC OVERLAYS	M&R
PCCO_COMPACTION	81	207	Inform.	FINAL_COVERAGE	PCC OVERLAYS	M&R
PCCO_COMPACTION	57	207	Import.	MEAN_AIR_TEMP	PCC OVERLAYS	M&R
PCCO_COMPACTION	25	207	Essen.	COMPACTED_THICK	PCC OVERLAYS	M&R
PCCO_COMPACTION	114	207	Essen.	CURING_PERIOD	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Inform.	PAVER_TYPE	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Inform.	PAVER_TYPE_OTHER	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	1	9	Import.	AIR_TEMP_MEAN	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	2	9	Inform.	AIR_TEMP_MIN	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	2	9	Inform.	AIR_TEMP_MAX	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Import.	CURING_PERIOD	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Import.	TIME_SAW_JOINTS	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Import.	CONCRETE_CURE_METHOD	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Import.	CONCRETE_CURE_OTHER	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Inform.	CONCRETE_TEXTURE_METHOD	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Inform.	CONCRETE_TEXTURE_OTHER	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Inform.	BOND_CONDITION	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Inform.	SURFACE_PREP	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Inform.	SURFACE_PREP_OTHER	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Inform.	GROUT_TYPE	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	0	9	Inform.	GROUT_TYPE_OTHER	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	8	9	Inform.	BOND_PREVENT	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	8	9	Inform.	BOND_PREVENT_OTHER	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	9	9	Essen.	SHEAR_STRENGTH	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	9	9	Essen.	OVERLAY_AGE	PCC OVERLAYS	M&R
PCCO_CONSTRUCTION	8	9	Inform.	JOINTS_MATCH	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Import.	AVG_CONTRACTION_SPACING	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	1	1	Import.	RANDOM_SPACING	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	1	1	Import.	BUILT_IN_EXPANSION_SPACING	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	1	1	Import.	JOINT_SKEWNESS	PCC OVERLAYS	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
PCCO_JOINT_DATA	0	1	Essen.	TRANS_CONT_JLTS	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Essen.	TRANS_CONT_JLTS_OTHER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Essen.	ROUND_DOWEL_DIAMETER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Essen.	DOWEL_MLTD_SPACING	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	1	1	Import.	AVG_SAWED_SPACING	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	1	1	Inform.	I_BEAM_HEIGHT	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	1	1	Inform.	I_BEAM_WIDTH	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Essen.	DOWEL_DISTANCE	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Essen.	DOWEL_LENGTH	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	DOWEL_COATING	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	DOWEL_COATING_OTHER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	MLTD_METHOD	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	MLTD_METHOD_OTHER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Import.	TRANS_METHOD	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Import.	TRANS_METHOD_OTHER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Import.	LONG_TYPE	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Import.	LONG_TYPE_OTHER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	SH_TRAFFIC_LANE_TYPE	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	SH_TRAFFIC_LANE_TYPE_OTHER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	TRANS_SEAL_TYPE	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	TRANS_SEAL_TYPE_OTHER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Import.	TRANS_SEAL_RESVR_WIDTH	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Import.	TRANS_SEAL_RESVR_DEPTH	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Import.	LONG_SEAL_RESVR_WIDTH	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Import.	LONG_SEAL_RESVR_DEPTH	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Import.	JOINT_SEAL_BACKER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Import.	JOINT_SEAL_BACKER_OTHER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Essen.	JOINT_SEAL_BACKER_DIAM	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Essen.	TIE_BAR_DIAMETER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Essen.	TIE_BAR_LENGTH	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Essen.	TIE_BAR_SPACING	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	SH_TRAFFIC_SEAL_RESVR_WIDTH	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	SH_TRAFFIC_SEAL_RESVR_DEPTH	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	SH_TRAFFIC_TIE_BARS_DIAMETER	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	SH_TRAFFIC_TIE_BARS_LENGTH	PCC OVERLAYS	M&R
PCCO_JOINT_DATA	0	1	Inform.	SH_TRAFFIC_TIE_BARS_SPACING	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Essen.	MIX_DESIGN_COARSE	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Essen.	MIX_DESIGN_FINE	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Essen.	MIX_DESIGN_CEMENT	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Essen.	MIX_DESIGN_WATER	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Import.	CEMENT_TYPE	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Import.	CEMENT_TYPE_OTHER	PCC OVERLAYS	M&R
PCCO_MIXTURE	9	9	Inform.	ALKALI_CONTENT_CEMENT	PCC OVERLAYS	M&R
PCCO_MIXTURE	8	9	Import.	ENTRAINED_AIR_MEAN	PCC OVERLAYS	M&R
PCCO_MIXTURE	9	9	Inform.	ENTRAINED_AIR_MIN	PCC OVERLAYS	M&R
PCCO_MIXTURE	9	9	Inform.	ENTRAINED_AIR_MAX	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Inform.	ADMIXTURE_TYPE_1	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Inform.	ADMIXTURE_TYPE_1_OTHER	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Inform.	ADMIXTURE_TYPE_2	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Inform.	ADMIXTURE_TYPE_2_OTHER	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Inform.	ADMIXTURE_TYPE_3	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Inform.	ADMIXTURE_TYPE_3_OTHER	PCC OVERLAYS	M&R
PCCO_MIXTURE	1	9	Inform.	ADMIXTURE_AMT_1	PCC OVERLAYS	M&R
PCCO_MIXTURE	1	9	Inform.	ADMIXTURE_AMT_2	PCC OVERLAYS	M&R
PCCO_MIXTURE	1	9	Inform.	ADMIXTURE_AMT_3	PCC OVERLAYS	M&R
PCCO_MIXTURE	0	9	Essen.	SLUMP_MEAN	PCC OVERLAYS	M&R
PCCO_MIXTURE	1	9	Inform.	SLUMP_MIN	PCC OVERLAYS	M&R
PCCO_MIXTURE	1	9	Inform.	SLUMP_MAX	PCC OVERLAYS	M&R
PCCO_MIXTURE	1	9	Inform.	SLUMP_STD_DEV	PCC OVERLAYS	M&R
PCCO_MIXTURE	1	9	Inform.	NO_SLUMP_TESTS	PCC OVERLAYS	M&R
PCCO_STRENGTH	0	1	Essen.	FLEXURAL_STRENGTH_TYPE	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Essen.	FLEXURAL_STRENGTH_AGE	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Essen.	FLEXURAL_STRENGTH_MEAN	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	FLEXURAL_STRENGTH_MIN	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	FLEXURAL_STRENGTH_MAX	PCC OVERLAYS	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
PCCO_STRENGTH	1	1	Inform.	FLEXURAL_STRENGTH_STD_DEV	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	NO_FLEXURAL_STRENGTH_TESTS	PCC OVERLAYS	M&R
PCCO_STRENGTH	0	1	Essen.	COMP_STRENGTH_AGE	PCC OVERLAYS	M&R
PCCO_STRENGTH	0	1	Essen.	COMP_STRENGTH_MEAN	PCC OVERLAYS	M&R
PCCO_STRENGTH	0	1	Inform.	COMP_STRENGTH_MAX	PCC OVERLAYS	M&R
PCCO_STRENGTH	0	1	Inform.	COMP_STRENGTH_MIN	PCC OVERLAYS	M&R
PCCO_STRENGTH	0	1	Inform.	COMP_STRENGTH_STD_DEV	PCC OVERLAYS	M&R
PCCO_STRENGTH	0	1	Inform.	NO_COMP_STRENGTH_TESTS	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Essen.	TENSILE_STRENGTH_AGE	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Essen.	TENSILE_STRENGTH_MEAN	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	TENSILE_STRENGTH_MAX	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	TENSILE_STRENGTH_MIN	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	TENSILE_STRENGTH_STD_DEV	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	NO_TENSILE_STRENGTH_TESTS	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Essen.	ELASTIC_MOD_MEAN	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	ELASTIC_MOD_MIN	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	ELASTIC_MOD_MAX	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	ELASTIC_MOD_STD_DEV	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	NO_ELASTIC_MOD_TESTS	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	ELASTIC_MOD_METHOD	PCC OVERLAYS	M&R
PCCO_STRENGTH	1	1	Inform.	ELASTIC_MOD_METHOD_OTHER	PCC OVERLAYS	M&R
PMA_CONSTRUCTION	0	222	Essen.	IMP_TYPE	AC OVERLAYS	M&R
PMA_CONSTRUCTION	222	222	Inform.	RECYCLING_TYPE	AC OVERLAYS	M&R
PMA_CONSTRUCTION	222	222	Import.	MIX_PROCEDURE	AC OVERLAYS	M&R
PMA_CONSTRUCTION	222	222	Import.	MIX_PROCEDURE_OTHER	AC OVERLAYS	M&R
PMA_CONSTRUCTION	222	222	Inform.	ASPHALT_PLANT_TYPE	AC OVERLAYS	M&R
PMA_CONSTRUCTION	222	222	Inform.	ASPHALT_PLANT_OTHER	AC OVERLAYS	M&R
PMA_CONSTRUCTION	222	222	Inform.	AERATED	AC OVERLAYS	M&R
PMA_CONSTRUCTION	222	222	Import.	PERIOD_MIX_SPREAD	AC OVERLAYS	M&R
PMA_CONSTRUCTION	222	222	Import.	SPREAD_MIX_METHOD	AC OVERLAYS	M&R
PMA_CONSTRUCTION	222	222	Import.	SPREAD_MIX_METHOD_OTHER	AC OVERLAYS	M&R
PMA_CONSTRUCTION	42	222	Essen.	MEAN_MIXING_TEMP	AC OVERLAYS	M&R
PMA_CONSTRUCTION	54	222	Essen.	LAYDOWN_TEMP_MEAN	AC OVERLAYS	M&R
PMA_CONSTRUCTION	94	222	Inform.	LAYDOWN_TEMP_MIN	AC OVERLAYS	M&R
PMA_CONSTRUCTION	98	222	Inform.	NO_TESTS_LAYDOWN_TEMP	AC OVERLAYS	M&R
PMA_CONSTRUCTION	97	222	Inform.	LAYDOWN_TEMP_MAX	AC OVERLAYS	M&R
PMA_CONSTRUCTION	148	222	Inform.	LAYDOWN_TEMP_STD_DEV	AC OVERLAYS	M&R
PMA_ROLLER	0	394	Essen.	ROLLER_CODE	AC OVERLAYS	M&R
PMA_ROLLER	0	394	Essen.	IMP_TYPE	AC OVERLAYS	M&R
PMA_ROLLER	3	394	Essen.	ROLLER_CODE_DESC	AC OVERLAYS	M&R
PMA_ROLLER	22	394	Essen.	ROLLER_GROSS_WT	AC OVERLAYS	M&R
PMA_ROLLER	337	394	Essen.	ROLLER_TIRE_PRES	AC OVERLAYS	M&R
PMA_ROLLER	346	394	Essen.	ROLLER_FREQ	AC OVERLAYS	M&R
PMA_ROLLER	373	394	Essen.	ROLLER_AMP	AC OVERLAYS	M&R
PMA_ROLLER	332	394	Essen.	ROLLER_SPEED	AC OVERLAYS	M&R
RESTORE_AC_SHOULDER	0	135	Essen.	SHOULDER_RESTORED	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	7	135	Import.	I_SH_SURFACE_TYPE	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	7	135	Import.	I_SH_WIDTH	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	7	135	Import.	I_SH_PAVED_WIDTH	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	19	135	Import.	I_SH_BASE_TYPE	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	18	135	Import.	I_SH_SURFACE_THICKNESS	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	29	135	Import.	I_SH_BASE_THICKNESS	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	0	135	Import.	O_SH_SURFACE_TYPE	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	0	135	Import.	O_SH_WIDTH	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	0	135	Import.	O_SH_PAVED_WIDTH	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	13	135	Import.	O_SH_BASE_TYPE	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	10	135	Import.	O_SH_SURFACE_THICKNESS	RESTORE AC SHOULDER	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
RESTORE_AC_SHOULDER	22	135	Import.	O_SH_BASE_THICKNESS	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	0	135	Essen.	SHOULDER_RESTORE_TYPE	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	0	135	Essen.	SHOULDER_RESTORE_OTHER	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	1	135	Inform.	AC_MATERIAL_TYPE	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	1	135	Inform.	AC_MATERIAL_OTHER	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	30	135	Import.	AC_REMOVED_THICKNESS	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	6	135	Essen.	ACO_THICKNESS	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	36	135	Inform.	LANE_SH_JOINT_SEALANT	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	36	135	Inform.	LANE_SH_JOINT_OTHER	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	126	135	Essen.	LANE_SH_RES_WIDTH	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	126	135	Essen.	LANE_SH_RES_DEPTH	RESTORE AC SHOULDER	M&R
RESTORE_AC_SHOULDER	132	135	Inform.	JOINT_SEAL_TYPE	RESTORE AC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Essen.	SHOULDER_RESTORED	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	I_SH_SURFACE_TYPE	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	I_SH_WIDTH	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	I_SH_PAVED_WIDTH	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Import.	I_SH_BASE_TYPE	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	I_SH_SURFACE_THICKNESS	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Import.	I_SH_BASE_THICKNESS	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	O_SH_SURFACE_TYPE	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	O_SH_WIDTH	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	O_SH_PAVED_WIDTH	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Import.	O_SH_BASE_TYPE	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	O_SH_SURFACE_THICKNESS	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Import.	O_SH_BASE_THICKNESS	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	SHOULDER_SYSTEM_TYPE	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	SHOULDER_SYSTEM_OTHER	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Essen.	AVG_JOINT_SPACING	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Import.	JOINT_SKEWNESS	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Import.	JOINTS_MATCH	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	JOINT_TYPE	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	JOINT_TYPE_OTHER	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	JOINT_TIE_SYSTEM_TYPE	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	JOINT_TIE_SYSTEM_OTHER	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Essen.	BAR_DIAMETER	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Essen.	BAR_LENGTH	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Essen.	BAR_SPACING	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	JOINT_SEALANT	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	0	8	Import.	JOINT_SEALANT_OTHER	RESTORE PCC SHOULDER	M&R

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
RESTORE_PCC_SHOULDER	8	8	Import.	RESERVOIR_WIDTH	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Import.	RESERVOIR_DEPTH	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Inform.	JOINT_SEALANT_TYPE	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Inform.	JOINT_SEAL_BACKER_TYPE	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Inform.	JOINT_SEAL_BACKER_OTHER	RESTORE PCC SHOULDER	M&R
RESTORE_PCC_SHOULDER	8	8	Inform.	JOINT_SEALANT_DIMENSION	RESTORE PCC SHOULDER	M&R
SUBDRAINAGE	0	4	Essen.	IMP_TYPE	SUBDRAINAGE	M&R
SUBDRAINAGE	0	4	Essen.	SUBDRAIN_EXTENT	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Essen.	DRAINAGE_PIPE_TYPE	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Essen.	DRAINAGE_PIPE_OTHER	SUBDRAINAGE	M&R
SUBDRAINAGE	0	4	Essen.	PIPE_DIAMETER	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Essen.	PIPE_DEPTH	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Import.	HORIZ_PIPE_PLACEMENT	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Essen.	FILTER_TYPE	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Essen.	FILTER_TYPE_OTHER	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Essen.	MAX_PARTICLE_SIZE	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Essen.	NO_4_PASSING	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Essen.	NO_10_PASSING	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Essen.	NO_40_PASSING	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Essen.	NO_100_PASSING	SUBDRAINAGE	M&R
SUBDRAINAGE	4	4	Essen.	FILTER_PERMEABILITY	SUBDRAINAGE	M&R
SUBDRAINAGE	2	4	Inform.	TYPE_LOC_FILTER	SUBDRAINAGE	M&R
SUBDRAINAGE	2	4	Inform.	TYPE_LOC_FILTER_OTHER	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Essen.	OUTLET_INTERVAL	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Inform.	SUBDRAIN_PURPOSE	SUBDRAINAGE	M&R
SUBDRAINAGE	1	4	Inform.	SUBDRAIN_PURPOSE_OTHER	SUBDRAINAGE	M&R
SPS3_CHIP	0	69	Essen.	LENGTH_SEALED	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Essen.	WIDTH_SEALED	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Essen.	SEAL_TYPE	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Import.	ASPHALT_GRADE	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Import.	ASPHALT_GRADE_OTHER	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	MANUFACTURER_NAME	SPS3 CHIP	SPS 3
SPS3_CHIP	22	69	Inform.	MATERIAL_NAME	SPS3 CHIP	SPS 3
SPS3_CHIP	2	69	Essen.	RATE_ADJUSTED	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Essen.	TARGET_RATE	SPS3 CHIP	SPS 3
SPS3_CHIP	5	69	Import.	DIST_READ_RATE	SPS3 CHIP	SPS 3
SPS3_CHIP	5	69	Import.	DIST_TANK_RATE	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	MIN_TARGET_TEMP	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	MAX_TARGET_TEMP	SPS3 CHIP	SPS 3
SPS3_CHIP	1	69	Import.	ACTUAL_TEMP	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	AGG_TYPE	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	AGG_TYPE_OTHER	SPS3 CHIP	SPS 3
SPS3_CHIP	1	69	Inform.	AGG_SOURCE	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Essen.	AGG_TARGET_RATE	SPS3 CHIP	SPS 3
SPS3_CHIP	2	69	Essen.	AGG_RATE_IN_WHEEL	SPS3 CHIP	SPS 3
SPS3_CHIP	1	69	Essen.	AGG_RATE_BET_WHEEL	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	SURFACE_PREP	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	SURFACE_PREP_OTHER	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	PAVE_TEMP	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	PAVE_COND	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	SURFACE_MOISTURE	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	AIR_TEMP	SPS3 CHIP	SPS 3
SPS3_CHIP	21	69	Inform.	RELATIVE_HUMIDITY	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	SURFACE_COND	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	SURFACE_COND_OTHER	SPS3 CHIP	SPS 3
SPS3_CHIP	4	69	Essen.	CRACK_SEVERITY	SPS3 CHIP	SPS 3
SPS3_CHIP	14	69	Essen.	CRACK_TYPE	SPS3 CHIP	SPS 3
SPS3_CHIP	5	69	Essen.	PERCENT_SEALED	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	AGG_COND	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	AGG_COND_MOIST	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	AGG_MOISTURE	SPS3 CHIP	SPS 3

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS3_CHIP	2	69	Inform.	TIME_BEFORE_SPREAD	SPS3 CHIP	SPS 3
SPS3_CHIP	2	69	Inform.	TIME_BEFORE_ROLL	SPS3 CHIP	SPS 3
SPS3_CHIP	1	69	Inform.	COVERAGES	SPS3 CHIP	SPS 3
SPS3_CHIP	6	69	Inform.	TIME_BEFORE_BROOM	SPS3 CHIP	SPS 3
SPS3_CHIP	19	69	Inform.	TIME_BEFORE_OPEN	SPS3 CHIP	SPS 3
SPS3_CHIP	20	69	Inform.	MAX_SPEED_ALLOWED	SPS3 CHIP	SPS 3
SPS3_CHIP	0	69	Inform.	TIME_BEFORE_FULL_SPEED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	1	79	Inform.	EXCEEDS_5	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	1	79	Inform.	FINAL_COVERAGES	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	DIST_BRAND	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	22	79	Inform.	DIST_MODEL	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	DIST_YEAR	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	NOZZLE_ANGLE	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	BAR_HEIGHT	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	1	79	Inform.	NOZZLE_SPACING	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	1	79	Inform.	NOZZLE_BRAND	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	7	79	Inform.	NOZZLE_MODEL	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	CLEANED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	BITUMETER_EQUIPPED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	BITUMETER_VISIBLE	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	BITUMETER_USED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	TACHOMETER_EQUIPPED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	TACHOMETER_VISIBLE	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	TACHOMETER_USED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	HEATERS_EQUIPPED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	THERMOMETER_VISIBLE	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	THERMOMETER_CONTACT_FREE	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	CIRCULATORY_EQUIPPED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	LAP	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	2	79	Inform.	UNIFORM_SPRAY	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	ATOMIZATION	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	LOC_MISSED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	HANDSPRAYER_USED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	PAPER_USED_BEGIN	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	PAPER_USED_END	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	STREAKING	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	END_NOZZLES_USED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	SPREADER_BRAND	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	SPREADER_MODEL	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	SELF_PROPELLED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	2	79	Inform.	UNIFORM_AGG_SPREAD	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	2	79	Inform.	AGG_STREAK	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	0	79	Inform.	POWER_BROOM	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	4	79	Inform.	BROOM_PASSES	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	5	79	Inform.	MATL_REMOVED	SPS3 CHIP	SPS 3
SPS3_CHIP_EQUIP	5	79	Inform.	MATL_REMAIN	SPS3 CHIP	SPS 3
SPS3_CRACK	1	45	Inform.	SECTION_LENGTH	SPS3 CRACK	SPS 3
SPS3_CRACK	1	45	Inform.	SECTION_WIDTH	SPS3 CRACK	SPS 3
SPS3_CRACK	1	45	Inform.	SURFACE_PREP	SPS3 CRACK	SPS 3
SPS3_CRACK	1	45	Inform.	SURFACE_PREP_OTHER	SPS3 CRACK	SPS 3
SPS3_CRACK	3	45	Inform.	AIR_TEMP	SPS3 CRACK	SPS 3
SPS3_CRACK	22	45	Inform.	RELATIVE_HUMIDITY	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Inform.	PAVE_TEMP	SPS3 CRACK	SPS 3
SPS3_CRACK	2	45	Inform.	PAVE_COND	SPS3 CRACK	SPS 3
SPS3_CRACK	2	45	Inform.	SURFACE_MOISTURE	SPS3 CRACK	SPS 3
SPS3_CRACK	3	45	Inform.	SURFACE_COND	SPS3 CRACK	SPS 3
SPS3_CRACK	3	45	Inform.	SURFACE_COND_OTHER	SPS3 CRACK	SPS 3
SPS3_CRACK	4	45	Essen.	CRACK_SEVERITY	SPS3 CRACK	SPS 3
SPS3_CRACK	3	45	Essen.	CRACK_TYPE	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Essen.	PERCENT_SEALED	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Essen.	LENGTH_SEALED	SPS3 CRACK	SPS 3
SPS3_CRACK	1	45	Inform.	MANUFACTURER_NAME	SPS3 CRACK	SPS 3
SPS3_CRACK	1	45	Inform.	MATERIAL_NAME	SPS3 CRACK	SPS 3
SPS3_CRACK	4	45	Inform.	TRANS_CRACKS_ROUTED	SPS3 CRACK	SPS 3
SPS3_CRACK	4	45	Inform.	DIAG_CRACKS_ROUTED	SPS3 CRACK	SPS 3

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS3_CRACK	4	45	Inform.	LONG_CRACKS_ROUTED	SPS3 CRACK	SPS 3
SPS3_CRACK	4	45	Inform.	ONE_PASS_ROUTING	SPS3 CRACK	SPS 3
SPS3_CRACK	6	45	Inform.	WIDTH_MIN	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Import.	WIDTH_MEAN	SPS3 CRACK	SPS 3
SPS3_CRACK	6	45	Inform.	WIDTH_MAX	SPS3 CRACK	SPS 3
SPS3_CRACK	6	45	Inform.	DEPTH_MIN	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Import.	DEPTH_MEAN	SPS3 CRACK	SPS 3
SPS3_CRACK	6	45	Inform.	DEPTH_MAX	SPS3 CRACK	SPS 3
SPS3_CRACK	6	45	Inform.	LENGTH_PREPARED	SPS3 CRACK	SPS 3
SPS3_CRACK	3	45	Inform.	CRACK_CLEAN	SPS3 CRACK	SPS 3
SPS3_CRACK	3	45	Inform.	CRACK_DRY	SPS3 CRACK	SPS 3
SPS3_CRACK	3	45	Inform.	LANCE_USED	SPS3 CRACK	SPS 3
SPS3_CRACK	4	45	Inform.	CHARRED	SPS3 CRACK	SPS 3
SPS3_CRACK	4	45	Inform.	HOT_PLACED	SPS3 CRACK	SPS 3
SPS3_CRACK	1	45	Inform.	KETTLE_NAME	SPS3 CRACK	SPS 3
SPS3_CRACK	1	45	Inform.	KETTLE_MODEL	SPS3 CRACK	SPS 3
SPS3_CRACK	2	45	Inform.	MAX_SEAL_TEMP	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Inform.	SEAL_TEMP_BEGIN	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Inform.	SEAL_TEMP_END	SPS3 CRACK	SPS 3
SPS3_CRACK	4	45	Inform.	REHEATED	SPS3 CRACK	SPS 3
SPS3_CRACK	10	45	Inform.	TIMES_REHEATED	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Inform.	FLUSH_HOSE	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Inform.	FLUSH_FILLER	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Inform.	CHAMBER_HEATED	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Inform.	HOSE_HEATED	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Inform.	MATL_AGITATION	SPS3 CRACK	SPS 3
SPS3_CRACK	4	45	Inform.	THERMOMETER_VISIBLE	SPS3 CRACK	SPS 3
SPS3_CRACK	5	45	Inform.	BLOT_MATL_USED	SPS3 CRACK	SPS 3
SPS3_CRACK	27	45	Inform.	WAND_SQUEEGEE_DIST	SPS3 CRACK	SPS 3
SPS3_CRACK	8	45	Inform.	AVG_WIDTH_CRACK	SPS3 CRACK	SPS 3
SPS3_CRACK	4	45	Inform.	FINISH_SEAL	SPS3 CRACK	SPS 3
SPS3_CRACK	10	45	Essen.	SEAL_THICKNESS	SPS3 CRACK	SPS 3
SPS3_CRACK	9	45	Inform.	TIME_BEFORE_PLACE	SPS3 CRACK	SPS 3
SPS3_CRACK	8	45	Inform.	TIME_SEAL_BEGAN	SPS3 CRACK	SPS 3
SPS3_CRACK	8	45	Inform.	TIME_SEAL_END	SPS3 CRACK	SPS 3
SPS3_INTERSECTIONS	15	15	Inform.	RAMP_EXITS	SPS 3 GENERAL	SPS 3
SPS3_INTERSECTIONS	15	15	Inform.	RAMP_ENTRANCES	SPS 3 GENERAL	SPS 3
SPS3_INTERSECTIONS	15	15	Inform.	STOP_SIGNS	SPS 3 GENERAL	SPS 3
SPS3_INTERSECTIONS	15	15	Inform.	SIGNALS	SPS 3 GENERAL	SPS 3
SPS3_INTERSECTIONS	1	15	Inform.	UNSIGNALED	SPS 3 GENERAL	SPS 3
SPS3_PROJECT_STATIONS	274	523	Inform.	CUT_FILL_TYPE	SPS 3 GENERAL	SPS 3
SPS3_PROJECT_STATIONS	522	523	Inform.	CUT_FILL_STATION	SPS 3 GENERAL	SPS 3
SPS3_ROLLER	0	246	Import.	ROLLER	SPS 3 GENERAL	SPS 3
SPS3_ROLLER	112	246	Import.	GROSS_WT	SPS 3 GENERAL	SPS 3
SPS3_ROLLER	112	246	Import.	TIRE_PRES	SPS 3 GENERAL	SPS 3
SPS3_ROLLER	9	246	Import.	WIDTH	SPS 3 GENERAL	SPS 3
SPS3_ROLLER	80	246	Import.	SPEED	SPS 3 GENERAL	SPS 3
SPS3_SLURRY	0	78	Essen.	LENGTH_SEALED	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	WIDTH_SEALED	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	SEAL_TYPE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Import.	ASPHALT_GRADE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Import.	ASPHALT_GRADE_OTHER	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Inform.	MANUFACTURER_NAME	SPS3 SLURRY	SPS 3
SPS3_SLURRY	17	78	Inform.	MATERIAL_NAME	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Inform.	AGG_TYPE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Inform.	AGG_TYPE_OTHER	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Inform.	AGG_SOURCE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Inform.	MINERAL_FILL_TYPE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Inform.	MINERAL_FILL_TYPE_OTHER	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Inform.	MINERAL_FILL_SOURCE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	6	78	Inform.	REV_BEFORE_APP	SPS3 SLURRY	SPS 3
SPS3_SLURRY	3	78	Inform.	REV_AFTER_APP	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	BIT_TARGET_RATE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	BIT_ACTUAL_RATE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	RATE_ADJUSTED	SPS3 SLURRY	SPS 3

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS3_SLURRY	1	78	Essen.	AGG_TARGET_RATE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	1	78	Essen.	AGG_ACTUAL_RATE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Inform.	GATE_OPENING	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	MINERAL_TARGET_RATE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	1	78	Essen.	MINERAL_ACTUAL_RATE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	23	78	Inform.	MINERAL_SETTING	SPS3 SLURRY	SPS 3
SPS3_SLURRY	9	78	Essen.	SLURRY_TARGET_RATE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	8	78	Essen.	SLURRY_ACTUAL_RATE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	30	78	Essen.	WATER_ADDED	SPS3 SLURRY	SPS 3
SPS3_SLURRY	22	78	Essen.	TEMP_PRIOR	SPS3 SLURRY	SPS 3
SPS3_SLURRY	38	78	Essen.	SLURRY_TEMP	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	SURFACE_PREP	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	SURFACE_PREP_OTHER	SPS3 SLURRY	SPS 3
SPS3_SLURRY	2	78	Essen.	PAVE_TEMP	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	PAVE_COND	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Inform.	SURFACE_MOISTURE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	2	78	Essen.	AIR_TEMP	SPS3 SLURRY	SPS 3
SPS3_SLURRY	28	78	Inform.	RELATIVE_HUMIDITY	SPS3 SLURRY	SPS 3
SPS3_SLURRY	1	78	Inform.	SURFACE_COND	SPS3 SLURRY	SPS 3
SPS3_SLURRY	1	78	Inform.	SURFACE_COND_OTHER	SPS3 SLURRY	SPS 3
SPS3_SLURRY	4	78	Essen.	CRACK_SEVERITY	SPS3 SLURRY	SPS 3
SPS3_SLURRY	12	78	Essen.	CRACK_TYPE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	9	78	Essen.	PERCENT_SEALED	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	AGG_COND	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	AGG_COND_MOIST	SPS3 SLURRY	SPS 3
SPS3_SLURRY	0	78	Essen.	AGG_MOISTURE	SPS3 SLURRY	SPS 3
SPS3_SLURRY	26	78	Inform.	TIME_BEFORE_OPEN	SPS3 SLURRY	SPS 3
SPS3_SLURRY	25	78	Inform.	MAX_SPEED_ALLOWED	SPS3 SLURRY	SPS 3
SPS3_SLURRY	2	78	Inform.	TIME_BEFORE_FULL_SPEED	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	SLURRY_BRAND	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	SLURRY_MODEL	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	SLURRY_YEAR	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	CONT_MIX	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	APPORTION_MIX	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	CONT_DISCHARGE	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	PREWET_AGG	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	BLENDED	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	METER_DEVICE	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	MINERAL_AGG_FED	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	FINES_FEEDER	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	FOG_SPRAY	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	SQUEEGEE	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	REAR_STRIKEOFF	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	STRIKEOFF_CONTACT	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	STEERING	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	CLEAN_BOX	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	1	79	Inform.	BOX_OVERLOAD	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	1	79	Inform.	BOX_EVEN_FILL	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	UNMIX_AGG	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	SEGREGATION	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	SLURRY_REMAIN_MIXED	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	EMULSION_BREAK	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	MATL_BUILDUP	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	BOX_WIDTH	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	DRAG	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	0	79	Inform.	DRAG_OTHER	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	6	79	Inform.	SURFACE_TEXTURE	SPS3 SLURRY	SPS 3
SPS3_SLURRY_EQUIP	6	79	Inform.	SURFACE_TEXTURE_OTHER	SPS3 SLURRY	SPS 3
SPS4_BENKELMAN_GENERAL	0	7	Inform.	BEGIN_TEMPERATURE	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_GENERAL	0	7	Inform.	END_TEMPERATURE	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_GENERAL	0	7	Inform.	BEGIN_HUMIDITY	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_GENERAL	0	7	Inform.	END_HUMIDITY	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_GENERAL	0	7	Inform.	SURFACE_MOISTURE	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_GENERAL	0	7	Inform.	PURPOSE_OF_TESTING	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_GENERAL	0	7	Inform.	TESTING_DEVICE_SOURCE	SPS4 BENKELMAN	SPS 4

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS4_BENKELMAN_MEASURE	0	437	Essen.	BEFORE_AFTER_REGROUT	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_MEASURE	0	437	Essen.	STATION	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_MEASURE	0	437	Essen.	LOCATION_OF_AXLE	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_MEASURE	0	437	Inform.	JOINT_NO	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_MEASURE	0	437	Inform.	TESTING_AT	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_MEASURE	0	437	Inform.	DEFLECTION_APPROACH	SPS4 BENKELMAN	SPS 4
SPS4_BENKELMAN_MEASURE	0	437	Inform.	DEFLECTION_LEAVE	SPS4 BENKELMAN	SPS 4
SPS4_CONTROL_GENERAL	4	22	Inform.	SECTION_LENGTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	4	22	Inform.	LANE_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	7	22	Inform.	AIR_TEMPERATURE	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	8	22	Inform.	HUMIDITY	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	7	22	Inform.	SHOULDER_JOINT	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	7	22	Inform.	TRANS_JOINT	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	7	22	Inform.	LONG_JOINT	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	8	22	Inform.	TRANS_CRACK	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	7	22	Inform.	LONG_CRACK	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	7	22	Inform.	DIAGONAL_CRACK	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	6	22	Inform.	JOINT_OPEN_PROCESS	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	19	22	Inform.	OTHER_PROCESS	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_GENERAL	6	22	Inform.	PATCHING	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	WIDTH1	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	WIDTH2	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	WIDTH3	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	WIDTH4	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	WIDTH5	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	WIDTH6	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	WIDTH7	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	WIDTH8	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	WIDTH9	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	WIDTH10	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	MIN_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	MAX_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_LONG	0	19	Inform.	AVG_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	1	6	Inform.	WIDTH1	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	1	6	Inform.	WIDTH2	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	1	6	Inform.	WIDTH3	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	1	6	Inform.	WIDTH4	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	1	6	Inform.	WIDTH5	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	0	6	Inform.	WIDTH6	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	0	6	Inform.	WIDTH7	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	1	6	Inform.	WIDTH8	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	0	6	Inform.	WIDTH9	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	1	6	Inform.	WIDTH10	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	1	6	Inform.	MIN_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	1	6	Inform.	MAX_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_RANDOM	1	6	Inform.	AVG_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	WIDTH1	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	WIDTH2	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	WIDTH3	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	WIDTH4	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	WIDTH5	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	WIDTH6	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	WIDTH7	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	WIDTH8	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	WIDTH9	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	WIDTH10	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	MIN_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	MAX_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_SHOULDER	0	19	Inform.	AVG_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	WIDTH1	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	WIDTH2	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	WIDTH3	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	WIDTH4	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	WIDTH5	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	WIDTH6	SPS 4 GENERAL	SPS 4

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS4_CONTROL_TRANS	0	21	Inform.	WIDTH7	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	WIDTH8	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	WIDTH9	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	WIDTH10	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	MIN_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	MAX_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CONTROL_TRANS	0	21	Inform.	AVG_WIDTH	SPS 4 GENERAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	3	40	Inform.	DAY1_TIME_WORK_BEGAN	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	4	40	Inform.	DAY1_TIME_WORK_ENDED	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	28	40	Inform.	DAY2_TIME_WORK_BEGAN	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	28	40	Inform.	DAY2_TIME_WORK_ENDED	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	35	40	Inform.	DAY3_TIME_WORK_BEGAN	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	37	40	Inform.	DAY3_TIME_WORK_ENDED	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY4_TIME_WORK_BEGAN	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY4_TIME_WORK_ENDED	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY5_TIME_WORK_BEGAN	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY5_TIME_WORK_ENDED	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	3	40	Inform.	TEST_SECTION_LENGTH	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	3	40	Inform.	LANE_WIDTH	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	9	40	Inform.	DAY1_BEGIN_SEAL_TEMP	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	10	40	Inform.	DAY1_END_SEAL_TEMP	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	30	40	Inform.	DAY2_BEGIN_SEAL_TEMP	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	30	40	Inform.	DAY2_END_SEAL_TEMP	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	35	40	Inform.	DAY3_BEGIN_SEAL_TEMP	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	35	40	Inform.	DAY3_END_SEAL_TEMP	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY4_BEGIN_SEAL_TEMP	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY4_END_SEAL_TEMP	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY5_BEGIN_SEAL_TEMP	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY5_END_SEAL_TEMP	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	14	40	Inform.	DAY1_BEGIN_SEAL_HUMIDITY	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	15	40	Inform.	DAY1_END_SEAL_HUMIDITY	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	31	40	Inform.	DAY2_BEGIN_SEAL_HUMIDITY	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	32	40	Inform.	DAY2_END_SEAL_HUMIDITY	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	36	40	Inform.	DAY3_BEGIN_SEAL_HUMIDITY	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	36	40	Inform.	DAY3_END_SEAL_HUMIDITY	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY4_BEGIN_SEAL_HUMIDITY	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY4_END_SEAL_HUMIDITY	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY5_BEGIN_SEAL_HUMIDITY	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	40	40	Inform.	DAY5_END_SEAL_HUMIDITY	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	6	40	Essen.	CONCRETE_SHOULDER_JOINT	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	5	40	Essen.	TRANSVERSE_JOINT	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	5	40	Essen.	LONGITUDINAL_JOINT	SPS4 CRACK SEAL	SPS 4

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS4_CRACK_SEAL_GENERAL	6	40	Essen.	DIAGONAL_CRACK	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	6	40	Essen.	TRANSVERSE_CRACK	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	6	40	Essen.	LONGITUDINAL_CRACK	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	23	40	Inform.	SHOULDER_PATCHING_COMPLETED	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	23	40	Inform.	CONCRETE_PATCHING_COMPLETED	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	28	40	Inform.	MATL_BURNED_BY_AIR_LANCE	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	21	40	Inform.	FIELD_NOTES_AVAILABLE	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_GENERAL	25	40	Inform.	FIELD_NOTE_LOCATION	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	RESERVOIR_WIDTH1	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	RESERVOIR_WIDTH2	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	RESERVOIR_WIDTH3	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	RESERVOIR_WIDTH4	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	RESERVOIR_WIDTH5	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	RESERVOIR_WIDTH6	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	RESERVOIR_WIDTH7	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	RESERVOIR_WIDTH8	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	RESERVOIR_WIDTH9	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	RESERVOIR_WIDTH10	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	MIN_RESERVOIR_WIDTH	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	MAX_RESERVOIR_WIDTH	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	5	37	Inform.	AVG_RESERVOIR_WIDTH	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	RESERVOIR_DEPTH1	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	RESERVOIR_DEPTH2	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	RESERVOIR_DEPTH3	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	RESERVOIR_DEPTH4	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	RESERVOIR_DEPTH5	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	RESERVOIR_DEPTH6	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	RESERVOIR_DEPTH7	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	RESERVOIR_DEPTH8	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	RESERVOIR_DEPTH9	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	RESERVOIR_DEPTH10	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	MIN_RESERVOIR_DEPTH	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	14	37	Inform.	MAX_RESERVOIR_DEPTH	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	13	37	Inform.	AVG_RESERVOIR_DEPTH	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	13	37	Inform.	TOT_LENGTH_PREP	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	BACKER_DEPTH1	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	BACKER_DEPTH2	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	BACKER_DEPTH3	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	BACKER_DEPTH4	SPS4 CRACK SEAL	SPS 4

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	BACKER_DEPTH5	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	BACKER_DEPTH6	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	BACKER_DEPTH7	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	BACKER_DEPTH8	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	BACKER_DEPTH9	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	BACKER_DEPTH10	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	MIN_BACKER_DEPTH	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	MAX_BACKER_DEPTH	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	17	37	Inform.	AVG_BACKER_DEPTH	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	DEPTH_TOP_SEAL1	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	DEPTH_TOP_SEAL2	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	DEPTH_TOP_SEAL3	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	DEPTH_TOP_SEAL4	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	DEPTH_TOP_SEAL5	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	DEPTH_TOP_SEAL6	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	DEPTH_TOP_SEAL7	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	DEPTH_TOP_SEAL8	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	DEPTH_TOP_SEAL9	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	DEPTH_TOP_SEAL10	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	MIN_DEPTH_TOP_SEAL	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	9	37	Inform.	MAX_DEPTH_TOP_SEAL	SPS4 CRACK SEAL	SPS 4
SPS4_CRACK_SEAL_SH_MEAS	8	37	Inform.	AVG_DEPTH_TOP_SEAL	SPS4 CRACK SEAL	SPS 4
SPS4_DYNAFLECT_GENERAL	0	5	Essen.	BEGIN_AIR_TEMP	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_GENERAL	0	5	Essen.	END_AIR_TEMP	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_GENERAL	4	5	Inform.	BEGIN_HUMIDITY	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_GENERAL	4	5	Inform.	END_HUMIDITY	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_GENERAL	0	5	Inform.	SURFACE_MOISTURE	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_GENERAL	4	5	Inform.	TEST_PURPOSE	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_GENERAL	5	5	Inform.	DEVICE_SOURCE	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_MEASURE	0	415	Essen.	SIDE_OF_JOINT_CRACK	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_MEASURE	0	415	Essen.	LOCATION_AT	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_MEASURE	0	415	Essen.	JOINT_NO	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_MEASURE	0	415	Essen.	DEFLECT1	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_MEASURE	0	415	Essen.	DEFLECT2	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_MEASURE	0	415	Essen.	DEFLECT3	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_MEASURE	0	415	Essen.	DEFLECT4	SPS4 DYNAFLECT	SPS 4
SPS4_DYNAFLECT_MEASURE	0	415	Essen.	DEFLECT5	SPS4 DYNAFLECT	SPS 4
SPS4_FWD_MEASUREMENTS	0	2	Essen.	BEGIN_AIR_TEMP	SPS4 FWD	SPS 4
SPS4_FWD_MEASUREMENTS	0	2	Essen.	END_AIR_TEMP	SPS4 FWD	SPS 4
SPS4_FWD_MEASUREMENTS	2	2	Inform.	BEGIN_HUMIDITY	SPS4 FWD	SPS 4
SPS4_FWD_MEASUREMENTS	2	2	Inform.	END_HUMIDITY	SPS4 FWD	SPS 4
SPS4_FWD_MEASUREMENTS	0	2	Inform.	SURFACE_MOISTURE	SPS4 FWD	SPS 4
SPS4_FWD_MEASUREMENTS	2	2	Inform.	TEST_PURPOSE	SPS4 FWD	SPS 4
SPS4_FWD_MEASUREMENTS	2	2	Inform.	FILE_ID	SPS4 FWD	SPS 4
SPS4_FWD_MEASUREMENTS	2	2	Inform.	TESTING_DEVICE_SOURCE	SPS4 FWD	SPS 4
SPS4_INTERSECTIONS	2	3	Inform.	RAMP_EXITS	SPS 4 GENERAL	SPS 4
SPS4_INTERSECTIONS	3	3	Inform.	RAMP_ENTRANCES	SPS 4 GENERAL	SPS 4
SPS4_INTERSECTIONS	2	3	Inform.	STOP_SIGNS	SPS 4 GENERAL	SPS 4
SPS4_INTERSECTIONS	3	3	Inform.	SIGNALS	SPS 4 GENERAL	SPS 4
SPS4_INTERSECTIONS	2	3	Inform.	UNSIGNALED	SPS 4 GENERAL	SPS 4
SPS4_PROJECT_STATIONS	88	233	Inform.	CUT_FILL_TYPE	SPS 4 GENERAL	SPS 4

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS4_PROJECT_STATIONS	233	233	Inform.	CUT_FILL_STATION	SPS 4 GENERAL	SPS 4
SPS4_UNDERSEAL_GENERAL	0	6	Inform.	LANE_WIDTH	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	4	6	Essen.	CEMENT_TYPE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	5	6	Inform.	CEMENT_SOURCE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	5	6	Inform.	CEMENT_SOURCE_ADDRESS	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	4	6	Essen.	FLY_ASH_TYPE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	5	6	Inform.	FLY_ASH_SOURCE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	5	6	Inform.	FLY_ASH_SOURCE_ADDRESS	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	4	6	Inform.	WATER_SOURCE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	4	6	Inform.	WATER_SOURCE_ADDRESS	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	1	6	Import.	METHOD_SLAB_PANEL	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	1	6	Import.	OTHER_SLAB_PANEL_METHOD	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	4	6	Import.	HOLE_INSTALL_METHOD	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	3	6	Inform.	HOLE_VOLUME_DETERMINED	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	4	6	Essen.	TOT_VOL_GROUT_DETERMINED	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	4	6	Essen.	HOLES_PLUGGED	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	4	6	Inform.	EST_EXCESS_GROUT	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	3	6	Inform.	UPLIFT_MONITORED	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	4	6	Inform.	TRAFFIC_RESTRICTED	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	4	6	Inform.	METHOD_TRAFFIC_RESTRICTION	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	4	6	Inform.	OTHER_TRAFFIC_RESTRICTION	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	5	6	Inform.	SAME_CONTROLS_USED	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	5	6	Inform.	FIELD_NOTES_AVAILABLE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_GENERAL	5	6	Inform.	FIELD_NOTES_LOCATION	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	3	6	Inform.	TIME_BEGAN_UNDERSEAL	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	3	6	Inform.	TIME_END_UNDERSEAL	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	3	6	Inform.	SURFACE_MOISTURE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	BEGIN_TEMPERATURE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	END_TEMPERATURE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	BEGIN_HUMIDITY	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	END_HUMIDITY	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	TIME_BEGAN_HOLE_DRILL	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	TIME_END_HOLE_DRILL	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	WATER_FLUSH_HOLES	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	HOLES_RETAIN_DRILL_FLUSH	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	CHAMBER_CLEANLINESS	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	CEMENT_BAGS_PER_BATCH	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	FLY_ASH_BAGS_PER_BATCH	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	GALLONS_WATER_PER_BATCH	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	GROUT_MIX_SPEED	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	GROUT_MIX_TIME	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	GROUT_WELL_BLENDED	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	MAX_PUMP_PRESSURE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	3	6	Inform.	MAX_SURGE_PRESSURE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	STABILITY_CHECKED_AFTER	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_INIT_GROUT	4	6	Inform.	UNSTABLE_SLABS_REGROUTED	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_PRES_GROUT	116	120	Inform.	HOLE_DEPTH	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_PRES_GROUT	1	120	Inform.	GROUT_PUMPED_PER_HOLE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_PRES_GROUT	1	120	Inform.	CUTOFF_CRITERIA	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_PRES_GROUT	0	120	Inform.	INITIAL_OR_REGROUT	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	2	3	Inform.	TIME_BEGAN_UNDERSEAL	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	2	3	Inform.	TIME_END_UNDERSEAL	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	SURFACE_MOISTURE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Essen.	BEGIN_TEMPERATURE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Essen.	END_TEMPERATURE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	BEGIN_HUMIDITY	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	END_HUMIDITY	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	TIME_BEGAN_HOLE_DRILL	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	TIME_END_HOLE_DRILL	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	WATER_FLUSH_HOLES	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	HOLES_RETAIN_DRILL_FLUSH	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	CHAMBER_CLEANLINESS	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	CEMENT_BAGS_PER_BATCH	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	FLY_ASH_BAGS_PER_BATCH	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	GALLONS_WATER_PER_BATCH	SPS4 UNDERSEAL	SPS 4

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	GROUT_MIX_SPEED	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	GROUT_MIX_TIME	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	GROUT_WELL_BLENDED	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	MAX_PUMP_PRESSURE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	MAX_SURGE_PRESSURE	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	STABILITY_CHECKED_AFTER	SPS4 UNDERSEAL	SPS 4
SPS4_UNDERSEAL_REGROUT	3	3	Inform.	UNSTABLE_SLABS_REGROUTED	SPS4 UNDERSEAL	SPS 4
SPS5_AC_PATCHES	0	12	Essen.	PRIMARY_DISTRESS	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	0	12	Essen.	PRIMARY_DISTRESS_OTHER	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	10	12	Import.	SECONDARY_DISTRESS	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	10	12	Import.	SECONDARY_DISTRESS_OTHER	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	0	12	Essen.	SURFACE_PATCHES_NO	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	0	12	Essen.	SURFACE_PATCHES_SF	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	2	12	Inform.	PARTIAL_BASE_NO	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	2	12	Inform.	PARTIAL_BASE_SF	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	2	12	Inform.	FULL_DEPTH_NO	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	2	12	Inform.	FULL_DEPTH_SF	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	0	12	Inform.	LOC_SIZE_METHOD	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	0	12	Inform.	LOC_SIZE_METHOD_OTHER	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	1	12	Inform.	PATCH_BOUNDARY_METHOD	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	1	12	Inform.	PATCH_BOUNDARY_METHOD_OTHER	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	2	12	Inform.	COMPACTION	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	2	12	Inform.	COMPACTION_OTHER	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	2	12	Inform.	PATCH_MATERIAL	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	2	12	Inform.	PATCH_MATERIAL_OTHER	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	2	12	Inform.	MIN_TIME_TO_OPEN	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	12	12	Inform.	MAX_MATL_TEMP	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	2	12	Inform.	AIR_TEMP_HIGH	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	4	12	Inform.	AIR_TEMP_LOW	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	2	12	Inform.	ROAD_MOISTURE	SPS5 AC PATCHES	SPS 5
SPS5_AC_PATCHES	0	12	Inform.	RECORD_STATUS	SPS5 AC PATCHES	SPS 5
SPS5_INTERSECTIONS	1	3	Inform.	RAMP_EXITS	SPS 5 GENERAL	SPS 5
SPS5_INTERSECTIONS	1	3	Inform.	RAMP_ENTRANCES	SPS 5 GENERAL	SPS 5
SPS5_INTERSECTIONS	2	3	Inform.	STOP_SIGNS	SPS 5 GENERAL	SPS 5
SPS5_INTERSECTIONS	3	3	Inform.	SIGNALS	SPS 5 GENERAL	SPS 5
SPS5_INTERSECTIONS	3	3	Inform.	UNSIGNALED	SPS 5 GENERAL	SPS 5
SPS5_LAYER	153	998	Essen.	MEAN_THICKNESS	SPS 5 GENERAL	SPS 5
SPS5_LAYER	655	998	Inform.	MIN_THICKNESS	SPS 5 GENERAL	SPS 5
SPS5_LAYER	655	998	Inform.	MAX_THICKNESS	SPS 5 GENERAL	SPS 5
SPS5_LAYER	660	998	Inform.	STD_DEV_THICKNESS	SPS 5 GENERAL	SPS 5
SPS5_LAYER_THICKNESS	201	4837	Essen.	SURFACE_COURSE	SPS 5 GENERAL	SPS 5
SPS5_MILLED_SECTIONS	6	89	Inform.	MILL_MANUFACTURER	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	6	89	Inform.	MILL_MODEL	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	6	89	Inform.	CUT_HEAD_WIDTH	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	32	89	Inform.	INSIDE_NO_MEASUREMENTS	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	31	89	Inform.	MIN_INSIDE	SPS5 MILLED SECTIONS	SPS 5

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS5_MILLED_SECTIONS	36	89	Inform.	STD_INSIDE	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	9	89	Inform.	AVG_INSIDE	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	31	89	Inform.	OUTSIDE_NO_MEASUREMENTS	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	30	89	Inform.	MAX_OUTSIDE	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	30	89	Inform.	MIN_OUTSIDE	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	37	89	Inform.	STD_OUTSIDE	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	7	89	Inform.	AVG_OUTSIDE	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	4	89	Inform.	MACRO_TEXTURE	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	21	89	Inform.	SECTION_AREA_DELAMINATED	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	28	89	Inform.	RIDGE_HEIGHT	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	8	89	Inform.	PATCH_AFTER_MILLING	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	6	89	Inform.	TIME_MILL_SURFACE_OPEN	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	11	89	Inform.	LAYER_THICKER_MILL_DEPTH	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	6	89	Inform.	LAYER_NO_OF_REPLACEMENT	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	6	89	Inform.	NOMINAL_THICKNESS	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	5	89	Inform.	MILL_LAYER_MATL	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	5	89	Inform.	OTHER_MILL_LAYER_MATL	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	2	89	Inform.	MILLED_THE_SAME	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	88	89	Inform.	WIDTH_MILL_SAME_TEST	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	29	89	Inform.	COMMENTS	SPS5 MILLED SECTIONS	SPS 5
SPS5_MILLED_SECTIONS	29	89	Inform.	OTHER_COMMENTS	SPS5 MILLED SECTIONS	SPS 5
SPS5_NOTES_AND_COMMENTS	0	62	Inform.	COMMENT_1	SPS 5 GENERAL	SPS 5
SPS5_NOTES_AND_COMMENTS	0	62	Inform.	COMMENT_2	SPS 5 GENERAL	SPS 5
SPS5_NOTES_AND_COMMENTS	0	62	Inform.	COMMENT_3	SPS 5 GENERAL	SPS 5
SPS5_NOTES_AND_COMMENTS	0	62	Inform.	COMMENT_4	SPS 5 GENERAL	SPS 5
SPS5_NOTES_AND_COMMENTS	0	62	Inform.	COMMENT_5	SPS 5 GENERAL	SPS 5
SPS5_NOTES_AND_COMMENTS	0	62	Inform.	COMMENT_6	SPS 5 GENERAL	SPS 5
SPS5_NOTES_AND_COMMENTS	0	62	Inform.	COMMENT_7	SPS 5 GENERAL	SPS 5
SPS5_NOTES_AND_COMMENTS	0	62	Inform.	COMMENT_8	SPS 5 GENERAL	SPS 5
SPS5_NOTES_AND_COMMENTS	0	62	Inform.	COMMENT_9	SPS 5 GENERAL	SPS 5
SPS5_NOTES_AND_COMMENTS	0	62	Inform.	COMMENT_10	SPS 5 GENERAL	SPS 5
SPS5_NOTES_AND_COMMENTS	0	62	Inform.	COMMENT_11	SPS 5 GENERAL	SPS 5
SPS5_OVERLAY	1	122	Inform.	SURFACE_PREP	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	4	122	Inform.	TACK_COAT_MATL	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	4	122	Inform.	MATL_TYPE_OTHER	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	72	122	Inform.	TACK_COAT_PERCENT	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	60	122	Inform.	PARTS_DILUENT	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	60	122	Inform.	PARTS_ASPHALT	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	17	122	Inform.	APPL_RATE	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	0	122	Inform.	PLANT_TYPE1	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	0	122	Inform.	PLANT_TYPE2	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	0	122	Inform.	PLANT_TYPE3	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	122	122	Inform.	PLANT_TYPE_OTHER1	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	122	122	Inform.	PLANT_TYPE_OTHER2	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	122	122	Inform.	PLANT_TYPE_OTHER3	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	0	122	Inform.	PLANT_NAME1	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	0	122	Inform.	PLANT_NAME2	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	0	122	Inform.	PLANT_NAME3	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	1	122	Inform.	HAUL_DISTANCE1	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	1	122	Inform.	HAUL_DISTANCE2	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	1	122	Inform.	HAUL_DISTANCE3	SPS5 OVERLAY	SPS 5

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS5_OVERLAY	8	122	Inform.	HAUL_TIME1	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	8	122	Inform.	HAUL_TIME2	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	8	122	Inform.	HAUL_TIME3	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	0	122	Inform.	LAYER_NO1_1	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	0	122	Inform.	LAYER_NO2_1	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	0	122	Inform.	LAYER_NO3_1	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	38	122	Inform.	LAYER_NO1_2	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	38	122	Inform.	LAYER_NO2_2	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	38	122	Inform.	LAYER_NO3_2	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	108	122	Inform.	LAYER_NO1_3	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	108	122	Inform.	LAYER_NO2_3	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	108	122	Inform.	LAYER_NO3_3	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	0	122	Inform.	AC_PAVER_MANUFACTURER	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	0	122	Inform.	AC_PAVER_MODEL	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	1	122	Inform.	LAYDOWN_WIDTH	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	5	122	Inform.	LONG_SURFACE_JOINT_LOC	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	59	122	Inform.	OFFSET	SPS5 OVERLAY	SPS 5
SPS5_OVERLAY	99	122	Inform.	SIGNIFICANT_EVENTS	SPS5 OVERLAY	SPS 5
SPS5_PMA_COMPACTION	17	276	Inform.	BREAKDOWN_ROLLER_CODE	SPS5 OVERLAY	SPS 5
SPS5_PMA_COMPACTION	26	276	Inform.	BREAKDOWN_COVERAGE	SPS5 OVERLAY	SPS 5
SPS5_PMA_COMPACTION	77	276	Inform.	INTERMED_ROLLER_CODE	SPS5 OVERLAY	SPS 5
SPS5_PMA_COMPACTION	79	276	Inform.	INTERMED_COVERAGE	SPS5 OVERLAY	SPS 5
SPS5_PMA_COMPACTION	17	276	Inform.	FINAL_ROLLER_CODE	SPS5 OVERLAY	SPS 5
SPS5_PMA_COMPACTION	26	276	Inform.	FINAL_COVERAGE	SPS5 OVERLAY	SPS 5
SPS5_PMA_COMPACTION	55	276	Inform.	MEAN_AIR_TEMP	SPS5 OVERLAY	SPS 5
SPS5_PMA_COMPACTION	17	276	Essen.	COMPACTED_THICK	SPS5 OVERLAY	SPS 5
SPS5_PMA_COMPACTION	120	276	Essen.	CURING_PERIOD	SPS5 OVERLAY	SPS 5
SPS5_PMA_CONSTRUCTION	49	212	Essen.	MEAN_MIXING_TEMP	SPS5 OVERLAY	SPS 5
SPS5_PMA_CONSTRUCTION	39	212	Essen.	LAYDOWN_TEMP_MEAN	SPS5 OVERLAY	SPS 5
SPS5_PMA_CONSTRUCTION	64	212	Inform.	LAYDOWN_TEMP_MIN	SPS5 OVERLAY	SPS 5
SPS5_PMA_CONSTRUCTION	83	212	Inform.	NO_TESTS_LAYDOWN_TEMP	SPS5 OVERLAY	SPS 5
SPS5_PMA_CONSTRUCTION	63	212	Inform.	LAYDOWN_TEMP_MAX	SPS5 OVERLAY	SPS 5
SPS5_PMA_CONSTRUCTION	119	212	Inform.	LAYDOWN_TEMP_STD_DEV	SPS5 OVERLAY	SPS 5
SPS5_PMA_ROLLER	0	589	Essen.	ROLLER_CODE	SPS5 OVERLAY	SPS 5
SPS5_PMA_ROLLER	0	589	Inform.	ROLLER_CODE_DESC	SPS5 OVERLAY	SPS 5
SPS5_PMA_ROLLER	0	589	Essen.	ROLLER_GROSS_WT	SPS5 OVERLAY	SPS 5
SPS5_PMA_ROLLER	500	589	Essen.	ROLLER_TIRE_PRES	SPS5 OVERLAY	SPS 5
SPS5_PMA_ROLLER	501	589	Essen.	ROLLER_FREQ	SPS5 OVERLAY	SPS 5
SPS5_PMA_ROLLER	501	589	Inform.	ROLLER_AMP	SPS5 OVERLAY	SPS 5
SPS5_PMA_ROLLER	475	589	Essen.	ROLLER_SPEED	SPS5 OVERLAY	SPS 5
SPS5_PROJECT_STATIONS	23	197	Import.	CUT_FILL_TYPE	SPS 5 GENERAL	SPS 5
SPS5_PROJECT_STATIONS	195	197	Import.	CUT_FILL_STATION	SPS 5 GENERAL	SPS 5
SPS5_QC_MEASUREMENTS	97	97	Inform.	RUT_MEASURE	SPS 5 GENERAL	SPS 5
SPS5_QC_MEASUREMENTS	97	97	Inform.	RUT_NO_MEASUREMENTS	SPS 5 GENERAL	SPS 5
SPS5_QC_MEASUREMENTS	97	97	Essen.	AVERAGE_RUT	SPS 5 GENERAL	SPS 5
SPS5_QC_MEASUREMENTS	71	97	Essen.	AVERAGE_MILL	SPS 5 GENERAL	SPS 5
SPS5_QC_MEASUREMENTS	76	97	Essen.	AVERAGE_BINDER	SPS 5 GENERAL	SPS 5
SPS5_QC_MEASUREMENTS	4	97	Essen.	AVERAGE_SURFACE	SPS 5 GENERAL	SPS 5
SPS5_QC_MEASUREMENTS	97	97	Essen.	AVERAGE_FRICTION	SPS 5 GENERAL	SPS 5
SPS5_RUT_LEVEL_UP	0	11	Inform.	LEVEL_UP_LAYER_LOC	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	0	11	Inform.	LENGTH_SECTION_COVERED	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	11	11	Inform.	OW_START_STA	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	11	11	Inform.	OW_END_STA	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	11	11	Inform.	IW_START_STA	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	11	11	Inform.	IW_END_STA	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	4	11	Inform.	OW_RUT_DEPTH	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	4	11	Inform.	OW_RUT_WIDTH	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	4	11	Inform.	IW_RUT_DEPTH	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	4	11	Inform.	IW_RUT_WIDTH	SPS5 RUT LEVEL UP	SPS 5

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS5_RUT_LEVEL_UP	2	11	Inform.	RUT_PREP	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	11	11	Inform.	RUT_PREP_DEPTH	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	11	11	Inform.	RUT_PREP_WIDTH	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	11	11	Inform.	RUT_PREP_OTHER	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	6	11	Inform.	COMPACTION_EQUIP	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	9	11	Inform.	COMPACTION_EQUIP_OTHER	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	0	11	Inform.	LEVEL_UP_MATL	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	11	11	Inform.	LEVEL_UP_MATL_OTHER	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	0	11	Inform.	MAX_TOP_SIZE_AGGR	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	5	11	Inform.	MIN_TIME_TO_OPEN	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	11	11	Inform.	MAX_MATL_TEMP	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	5	11	Inform.	AIR_TEMP_HIGH	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	5	11	Inform.	AIR_TEMP_LOW	SPS5 RUT LEVEL UP	SPS 5
SPS5_RUT_LEVEL_UP	0	11	Inform.	ROAD_MOISTURE	SPS5 RUT LEVEL UP	SPS 5
SPS6_CRACK_SEAT_PCC	4	19	Essen.	PCC_BREAKAGE_WIDTH	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	4	19	Essen.	PCC_BREAKAGE_LENGTH	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	0	19	Import.	BREAKER_PASSES	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	0	19	Inform.	BREAKER_TYPE	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	0	19	Inform.	BREAKER_OTHER	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	2	19	Inform.	ROLLER_WEIGHT	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	3	19	Inform.	ROLLER_PASSES_LANE	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	3	19	Inform.	BEFORE_BREAKING	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	5	19	Inform.	AFTER_BREAKING	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	5	19	Inform.	AFTER_SEATING	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	5	19	Inform.	AFTER_OVERLAY	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	2	19	Inform.	SURFACE_PREP	SPS6 CRACK SEAT PCC	SPS 6
SPS6_CRACK_SEAT_PCC	2	19	Inform.	SURFACE_PREP_OTHER	SPS6 CRACK SEAT PCC	SPS 6
SPS6_DIAMOND_GRIND	0	16	Inform.	GRINDING_REASON	SPS6 DIAMOND GRIND	SPS 6
SPS6_DIAMOND_GRIND	0	16	Inform.	GRINDING_REASON_OTHER	SPS6 DIAMOND GRIND	SPS 6
SPS6_DIAMOND_GRIND	2	16	Essen.	AVG_DEPTH	SPS6 DIAMOND GRIND	SPS 6
SPS6_DIAMOND_GRIND	3	16	Inform.	HEAD_WIDTH	SPS6 DIAMOND GRIND	SPS 6
SPS6_DIAMOND_GRIND	3	16	Inform.	GROOVE_WIDTH	SPS6 DIAMOND GRIND	SPS 6
SPS6_DIAMOND_GRIND	3	16	Inform.	BLADE_SPACING	SPS6 DIAMOND GRIND	SPS 6
SPS6_INTERSECTIONS	2	5	Inform.	RAMP_EXITS	SPS 6 GENERAL	SPS 6
SPS6_INTERSECTIONS	3	5	Inform.	RAMP_ENTRANCES	SPS 6 GENERAL	SPS 6
SPS6_INTERSECTIONS	5	5	Inform.	STOP_SIGNS	SPS 6 GENERAL	SPS 6
SPS6_INTERSECTIONS	5	5	Inform.	SIGNALS	SPS 6 GENERAL	SPS 6
SPS6_INTERSECTIONS	5	5	Inform.	UNSIGNALED	SPS 6 GENERAL	SPS 6
SPS6_LAYER	68	317	Essen.	MEAN_THICKNESS	SPS 6 GENERAL	SPS 6
SPS6_LAYER	224	317	Inform.	MIN_THICKNESS	SPS 6 GENERAL	SPS 6
SPS6_LAYER	224	317	Inform.	MAX_THICKNESS	SPS 6 GENERAL	SPS 6
SPS6_LAYER	231	317	Inform.	STD_DEV_THICKNESS	SPS 6 GENERAL	SPS 6
SPS6_LAYER_THICKNESS	6	1383	Essen.	SURFACE_COURSE	SPS 6 GENERAL	SPS 6
SPS6_LAYER_THICKNESS	819	1383	Essen.	LAYER_NO_SURFACE	SPS 6 GENERAL	SPS 6

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS6_LOAD_TRANSFER	0	11	Essen.	NO_JOINTS_IN_SECTION	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	NO_JOINT_RESTORE_LOCATIONS	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DEVICES_PER_JOINT	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_1	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_2	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_3	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_4	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_5	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_6	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_7	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_8	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_9	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_10	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_11	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	DOWEL_12	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Essen.	DOWEL_DIAMETER	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	BACKFILL_MATERIAL	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	BACKFILL_OTHER	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	BOND_AGENT	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	0	11	Inform.	BOND_AGENT_OTHER	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	11	11	Inform.	DATE_BEFORE_RESTORE	SPS6 LOAD TRANSFER	SPS 6
SPS6_LOAD_TRANSFER	11	11	Inform.	DATE_AFTER_RESTORE	SPS6 LOAD TRANSFER	SPS 6
SPS6_NOTES_AND_COMMENTS	0	42	Inform.	COMMENT_1	SPS 6 GENERAL	SPS 6
SPS6_NOTES_AND_COMMENTS	0	42	Inform.	COMMENT_2	SPS 6 GENERAL	SPS 6
SPS6_NOTES_AND_COMMENTS	0	42	Inform.	COMMENT_3	SPS 6 GENERAL	SPS 6
SPS6_NOTES_AND_COMMENTS	0	42	Inform.	COMMENT_4	SPS 6 GENERAL	SPS 6
SPS6_NOTES_AND_COMMENTS	0	42	Inform.	COMMENT_5	SPS 6 GENERAL	SPS 6
SPS6_NOTES_AND_COMMENTS	0	42	Inform.	COMMENT_6	SPS 6 GENERAL	SPS 6
SPS6_NOTES_AND_COMMENTS	0	42	Inform.	COMMENT_7	SPS 6 GENERAL	SPS 6
SPS6_NOTES_AND_COMMENTS	0	42	Inform.	COMMENT_8	SPS 6 GENERAL	SPS 6
SPS6_NOTES_AND_COMMENTS	0	42	Inform.	COMMENT_9	SPS 6 GENERAL	SPS 6
SPS6_NOTES_AND_COMMENTS	0	42	Inform.	COMMENT_10	SPS 6 GENERAL	SPS 6
SPS6_NOTES_AND_COMMENTS	0	42	Inform.	COMMENT_11	SPS 6 GENERAL	SPS 6
SPS6_OVERLAY	5	28	Inform.	SURFACE_PREP	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	0	28	Inform.	TACK_COAT_MATL	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	0	28	Inform.	MATL_TYPE_OTHER	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	8	28	Inform.	TACK_COAT_PERCENT	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	13	28	Inform.	PARTS_DILUENT	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	13	28	Inform.	PARTS_ASPHALT	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	9	28	Inform.	APPL_RATE	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	0	28	Inform.	PLANT_TYPE1	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	0	28	Inform.	PLANT_TYPE2	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	0	28	Inform.	PLANT_TYPE3	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	28	28	Inform.	PLANT_TYPE_OTHER1	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	28	28	Inform.	PLANT_TYPE_OTHER2	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	28	28	Inform.	PLANT_TYPE_OTHER3	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	4	28	Inform.	PLANT_NAME1	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	4	28	Inform.	PLANT_NAME2	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	4	28	Inform.	PLANT_NAME3	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	4	28	Inform.	HAUL_DISTANCE1	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	4	28	Inform.	HAUL_DISTANCE2	SPS6 OVERLAY	SPS 6

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS6_OVERLAY	4	28	Inform.	HAUL_DISTANCE3	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	4	28	Inform.	HAUL_TIME1	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	4	28	Inform.	HAUL_TIME2	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	4	28	Inform.	HAUL_TIME3	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	0	28	Inform.	LAYER_NO1_1	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	0	28	Inform.	LAYER_NO2_1	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	0	28	Inform.	LAYER_NO3_1	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	15	28	Inform.	LAYER_NO1_2	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	15	28	Inform.	LAYER_NO2_2	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	15	28	Inform.	LAYER_NO3_2	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	27	28	Inform.	LAYER_NO1_3	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	27	28	Inform.	LAYER_NO2_3	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	27	28	Inform.	LAYER_NO3_3	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	4	28	Inform.	AC_PAVER_MANUFACTURER	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	4	28	Inform.	AC_PAVER_MODEL	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	0	28	Inform.	LAYDOWN_WIDTH	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	5	28	Inform.	LONG_SURFACE_JOINT_LOC	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	14	28	Inform.	OFFSET	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY	27	28	Inform.	SIGNIFICANT_EVENTS	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY_LAYERS	16	92	Essen.	LIFT_PLACEMENT1	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY_LAYERS	16	92	Essen.	LIFT_PLACEMENT2	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY_LAYERS	16	92	Essen.	LIFT_PLACEMENT3	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY_LAYERS	16	92	Essen.	LIFT_PLACEMENT4	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY_LAYERS	18	92	Inform.	TACK_COAT_BETWEEN_LIFTS	SPS6 OVERLAY	SPS 6
SPS6_OVERLAY_LAYERS	90	92	Inform.	TRANS_JOINT_STATION	SPS6 OVERLAY	SPS 6
SPS6_PCC_CRACK_SEAL	9	14	Inform.	SEAL_RES_WIDTH	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_CRACK_SEAL	8	14	Inform.	SEAL_RES_DEPTH	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_CRACK_SEAL	1	14	Inform.	BOND_BREAK	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_CRACK_SEAL	1	14	Inform.	BOND_BREAK_OTHER	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_CRACK_SEAL	0	14	Inform.	CRACK_CLEAN	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_CRACK_SEAL	0	14	Inform.	CRACK_CLEAN_OTHER	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_CRACK_SEAL	0	14	Inform.	CRACK_SEAL_TYPE	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_CRACK_SEAL	0	14	Inform.	CRACK_SEAL_TYPE_OTHER	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_CRACK_SEAL	4	14	Inform.	MANUFACTURER_NAME	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_CRACK_SEAL	4	14	Inform.	MANUFACTURER_SEALANT_NAME	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_CRACK_SEAL	3	14	Inform.	SEAL_DEPTH	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_CRACK_SEAL	4	14	Essen.	TOTAL_FEET_CRACKS_SEALED	SPS6 PCC CRACK SEAL	SPS 6
SPS6_PCC_FULL_DEPTH	0	34	Inform.	REASON	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	0	34	Inform.	REASON_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	0	34	Inform.	SECONDARY_REASON	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	0	34	Inform.	SECONDARY_REASON_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	4	34	Essen.	PATCH_NO_SLAB	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	9	34	Essen.	PATCH_SF_SLAB	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	9	34	Essen.	PATCH_NO_BASE	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	16	34	Essen.	PATCH_SF_BASE	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	2	34	Inform.	PATCH_MATL	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	2	34	Inform.	PATCH_MATL_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	6	34	Essen.	NO_SLABS_REPLACED	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	10	34	Essen.	SF_SLABS_REPLACED	SPS6 PCC FULL DEPTH	SPS 6

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS6_PCC_FULL_DEPTH	22	34	Essen.	NO_BASE_REPLACED	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	23	34	Essen.	SF_BASE_REPLACED	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	BOUNDARY_METHOD	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	BOUNDARY_METHOD_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	2	34	Inform.	CUT_METHOD	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	2	34	Inform.	CUT_METHOD_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	TRANSFER_DEVICE	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	TRANSFER_DEVICE_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Essen.	STEEL	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	28	34	Inform.	REBAR_TRANS	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	31	34	Inform.	REBAR_LONG	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	16	34	Inform.	REBAR_DOWEL	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	31	34	Inform.	REBAR_TIE	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	28	34	Inform.	REBAR_LENGTH_TRANS	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	34	34	Inform.	REBAR_LENGTH_LONG	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	8	34	Inform.	REBAR_LENGTH_DOWEL	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	34	34	Inform.	REBAR_LENGTH_TIE	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	28	34	Inform.	REBAR_SPACE_TRANS	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	34	34	Inform.	REBAR_SPACE_LONG	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	8	34	Inform.	REBAR_SPACE_DOWEL	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	34	34	Inform.	REBAR_SPACE_TIE	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	2	34	Inform.	DOWEL_COAT_TRANS	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	2	34	Inform.	DOWEL_COAT_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Inform.	SAW_CUTS	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	SAW_CUT_DEPTH	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	CONC_BREAK_METHOD	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	CONC_BREAK_METHOD_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	CONC_REMOVAL	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	CONC_REMOVAL_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	19	34	Inform.	STEEL_PLACE_METHOD	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Essen.	CAGG_MIX	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Essen.	FAGG_MIX	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Essen.	CEMENT_MIX	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Essen.	WATER_MIX	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Inform.	CEMENT_TYPE	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Essen.	AIR_CONTENT_MEAN	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	16	34	Inform.	AIR_CONTENT_MIN	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	16	34	Inform.	AIR_CONTENT_MAX	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Inform.	ADMIXTURE_1	SPS6 PCC FULL DEPTH	SPS 6

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS6_PCC_FULL_DEPTH	7	34	Inform.	ADMIXTURE_2	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Essen.	SLUMP_MEAN	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	22	34	Inform.	SLUMP_MIN	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	22	34	Inform.	SLUMP_MAX	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	23	34	Essen.	FLEX_STRENGTH	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	23	34	Essen.	FLEX_CURE_TIME	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	10	34	Inform.	ALT_TEST	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	16	34	Inform.	ALT_TEST_LOAD	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	10	34	Inform.	ALT_TEST_AGE	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	10	34	Inform.	ALT_TEST_STRENGTH	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	17	34	Inform.	AIR_TEMP_LOW	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	11	34	Inform.	AIR_TEMP_HIGH	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	15	34	Inform.	SURFACE_MOISTURE	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	2	34	Import.	MAX_AGG_SIZE	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Inform.	JOINT_METHOD_SH	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Inform.	JOINT_METHOD_SH_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	12	34	Inform.	JOINT_METHOD_TRANS	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	12	34	Inform.	JOINT_METHOD_TRANS_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Inform.	JOINT_METHOD_LONG	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Inform.	JOINT_METHOD_LONG_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	BOND_BREAKER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Inform.	CURE_METHOD_1	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Inform.	CURE_METHOD_1_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Inform.	CURE_METHOD_2	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	7	34	Inform.	CURE_METHOD_2_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	5	34	Inform.	TRAFFIC_OPEN_TIME	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	CONSOLIDATE_METHOD	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	CONSOLIDATE_METHOD_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	FINISH_METHOD	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	FINISH_METHOD_OTHER	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	9	34	Inform.	TRANS_JOINT_PATCH	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	20	34	Inform.	TRANS_JOINT_SLAB	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_FULL_DEPTH	1	34	Inform.	JOINTS_MATCHED	SPS6 PCC FULL DEPTH	SPS 6
SPS6_PCC_JOINT_RESEAL	0	16	Inform.	REMOVAL_METHOD	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	0	16	Inform.	REMOVAL_METHOD_OTHER	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	1	16	Essen.	SEAL_RES_WIDTH	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	1	16	Essen.	SEAL_RES_DEPTH	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	0	16	Inform.	BOND_BREAK	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	0	16	Inform.	BOND_BREAK_OTHER	SPS6 PCC JOINT RESEAL	SPS 6

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS6_PCC_JOINT_RESEAL	0	16	Inform.	REFACED	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	0	16	Inform.	REFACED_OTHER	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	0	16	Inform.	SIDEWALL_CLEAN	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	0	16	Inform.	SIDEWALL_CLEAN_OTHER	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	3	16	Inform.	MANUFACTURER_NAME	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	3	16	Inform.	MANUFACTURER_SEALANT_NAME	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	4	16	Import.	SEAL_DEPTH	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	2	16	Inform.	SEALS_DIFFERENT	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	0	16	Inform.	CONTRACTION_SEAL_TYPE	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	0	16	Inform.	CONTRACTION_SEAL_TYPE_OTHER	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	14	16	Inform.	EXPANSION_SEAL_TYPE	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	14	16	Inform.	EXPANSION_SEAL_TYPE_OTHER	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	4	16	Essen.	TRANS_SEAL_LENGTH	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_JOINT_RESEAL	4	16	Essen.	LONG_SEAL_LENGTH	SPS6 PCC JOINT RESEAL	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	REASON	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	REASON_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	SECONDARY_REASON	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	SECONDARY_REASON_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	5	20	Essen.	PATCH_NO	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Essen.	PATCH_SF	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	5	20	Essen.	PATCH_AVG_DEPTH	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	BOUNDARY_METHOD	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	BOUNDARY_METHOD_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	CUT_METHOD	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	CUT_METHOD_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	BREAK_METHOD	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	BREAK_METHOD_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	CLEAN_METHOD	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	CLEAN_METHOD_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	PATCH_MATL	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	0	20	Inform.	PATCH_MATL_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	1	20	Inform.	BOND_AGENT	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	1	20	Inform.	BOND_AGENT_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	6	20	Essen.	CAGG_MIX	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	13	20	Essen.	FAGG_MIX	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	6	20	Essen.	CEMENT_MIX	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	6	20	Essen.	WATER_MIX	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	6	20	Import.	MAX_AGG_SIZE	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	6	20	Inform.	CEMENT_TYPE	SPS6 PCC PART DEPTH	SPS 6

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS6_PCC_PART_DEPTH	13	20	Inform.	AIR_CONTENT_MEAN	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	13	20	Inform.	AIR_CONTENT_MIN	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	13	20	Inform.	AIR_CONTENT_MAX	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	19	20	Inform.	ADMIXTURE_1	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	19	20	Inform.	ADMIXTURE_2	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	14	20	Essen.	SLUMP_MEAN	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	13	20	Inform.	SLUMP_MIN	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	13	20	Inform.	SLUMP_MAX	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	14	20	Essen.	PATCH_COMP_STRENGTH	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	13	20	Essen.	PATCH_CURE_TIME	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	20	20	Inform.	ALT_TEST	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	20	20	Inform.	ALT_TEST_LOAD	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	20	20	Inform.	ALT_TEST_AGE	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	20	20	Inform.	ALT_TEST_STRENGTH	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	CURE_METHOD_1	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	CURE_METHOD_1_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	CURE_METHOD_2	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	CURE_METHOD_2_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	TRAFFIC_OPEN_TIME	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	AIR_TEMP_LOW	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	AIR_TEMP_HIGH	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	SURFACE_MOISTURE	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	CONSOLIDATE_METHOD	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	CONSOLIDATE_METHOD_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	FINISH_METHOD	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	FINISH_METHOD_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	JOINT_METHOD_SH	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	JOINT_METHOD_SH_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	JOINT_METHOD_TRANS	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	JOINT_METHOD_TRANS_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	JOINT_METHOD_LONG	SPS6 PCC PART DEPTH	SPS 6
SPS6_PCC_PART_DEPTH	4	20	Inform.	JOINT_METHOD_LONG_OTHER	SPS6 PCC PART DEPTH	SPS 6
SPS6_PMA_COMPACTION	7	114	Inform.	BREAKDOWN_ROLLER_CODE	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_COMPACTION	9	114	Inform.	BREAKDOWN_COVERAGE	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_COMPACTION	30	114	Inform.	INTERMED_ROLLER_CODE	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_COMPACTION	33	114	Inform.	INTERMED_COVERAGE	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_COMPACTION	17	114	Inform.	FINAL_ROLLER_CODE	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_COMPACTION	25	114	Inform.	FINAL_COVERAGE	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_COMPACTION	11	114	Inform.	MEAN_AIR_TEMP	SPS 6 AC OVERLAYS	SPS 6

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS6_PMA_COMPACTION	11	114	Essen.	COMPACTED_THICK	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_COMPACTION	35	114	Essen.	CURING_PERIOD	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_CONSTRUCTION	34	110	Essen.	MEAN_MIXING_TEMP	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_CONSTRUCTION	23	110	Essen.	LAYDOWN_TEMP_MEAN	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_CONSTRUCTION	28	110	Inform.	LAYDOWN_TEMP_MIN	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_CONSTRUCTION	27	110	Inform.	NO_TESTS_LAYDOWN_TEMP	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_CONSTRUCTION	28	110	Inform.	LAYDOWN_TEMP_MAX	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_CONSTRUCTION	70	110	Inform.	LAYDOWN_TEMP_STD_DEV	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_ROLLER	0	260	Inform.	ROLLER_CODE_DESC	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_ROLLER	16	260	Essen.	ROLLER_GROSS_WT	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_ROLLER	227	260	Essen.	ROLLER_TIRE_PRES	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_ROLLER	186	260	Essen.	ROLLER_FREQ	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_ROLLER	228	260	Inform.	ROLLER_AMP	SPS 6 AC OVERLAYS	SPS 6
SPS6_PMA_ROLLER	180	260	Essen.	ROLLER_SPEED	SPS 6 AC OVERLAYS	SPS 6
SPS6_PROJECT_STATIONS	26	142	Import.	CUT_FILL_TYPE	SPS 6 GENERAL	SPS 6
SPS6_PROJECT_STATIONS	135	142	Import.	CUT_FILL_STATION	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	RUT_MEASURE	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	RUT_NO_MEASUREMENTS	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Essen.	AVERAGE_RUT	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	MAXIMUM_RUT	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	MINIMUM_RUT	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	STD_DEV_RUT	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	LAYER_NO_RUT	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	MILL_MEASURE	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	MILL_NO_MEASUREMENTS	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Essen.	AVERAGE_MILL	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	MAXIMUM_MILL	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	MINIMUM_MILL	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	STD_DEV_MILL	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	LAYER_NO_MILL	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	25	44	Inform.	BINDER_MEASURE	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	25	44	Inform.	BINDER_NO_MEASUREMENTS	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	25	44	Essen.	AVERAGE_BINDER	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	26	44	Inform.	MAXIMUM_BINDER	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	26	44	Inform.	MINIMUM_BINDER	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	26	44	Inform.	STD_DEV_BINDER	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	25	44	Inform.	LAYER_NO_BINDER	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	18	44	Inform.	SURFACE_MEASURE	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	18	44	Inform.	SURFACE_NO_MEASUREMENTS	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	18	44	Essen.	AVERAGE_SURFACE	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	23	44	Inform.	MAXIMUM_SURFACE	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	23	44	Inform.	MINIMUM_SURFACE	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	23	44	Inform.	STD_DEV_SURFACE	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	6	44	Inform.	LAYER_NO_SURFACE	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	FRICTION_MEASURE	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	FRICTION_NO_MEASUREMENTS	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Essen.	AVERAGE_FRICTION	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	MAXIMUM_FRICTION	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	MINIMUM_FRICTION	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	44	44	Inform.	STD_DEV_FRICTION	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	39	44	Inform.	LAYER_NO_FRICTION	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	23	44	Inform.	NUCLEAR_GAUGE_MAKER	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	29	44	Inform.	GAUGE_MODEL_NUMBER	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	23	44	Inform.	GAUGE_ID_NUMBER	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	30	44	Inform.	GAUGE_COUNT_RATE	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	27	44	Inform.	PROFILOGRAPH_TYPE	SPS 6 GENERAL	SPS 6

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS6_QC_MEASUREMENTS	30	44	Inform.	PROFILE_INDEX	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	27	44	Inform.	INTERP_METHOD	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	27	44	Inform.	BLANK_BAND_HEIGHT	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	27	44	Inform.	CUTOFF_HEIGHT	SPS 6 GENERAL	SPS 6
SPS6_QC_MEASUREMENTS	2	44	Inform.	INCENTIVE_PAYMENT	SPS 6 GENERAL	SPS 6
SPS6_SAW_AND_SEAL	1	8	Essen.	JOINTS_SAWED	SPS6 SAW AND SEAL	SPS 6
SPS6_SAW_AND_SEAL	0	8	Inform.	DAYS_BEFORE_SAW_AND_SEAL	SPS6 SAW AND SEAL	SPS 6
SPS6_SAW_AND_SEAL	1	8	Essen.	EXTENT_OF_SAW_CUT	SPS6 SAW AND SEAL	SPS 6
SPS6_SAW_AND_SEAL	0	8	Essen.	DEPTH_OF_SAW_CUT	SPS6 SAW AND SEAL	SPS 6
SPS6_SAW_AND_SEAL	1	8	Essen.	WIDTH_OF_SAW_CUT	SPS6 SAW AND SEAL	SPS 6
SPS6_SAW_AND_SEAL	3	8	Essen.	SHAPE_FACTOR	SPS6 SAW AND SEAL	SPS 6
SPS6_SUBDRAINAGE	0	36	Essen.	DRAINAGE_PIPE_TYPE	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	0	36	Essen.	DRAINAGE_PIPE_OTHER	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	11	36	Essen.	PIPE_DIAMETER	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	0	36	Essen.	PIPE_DEPTH	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	4	36	Essen.	HORIZ_PIPE_PLACEMENT	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	0	36	Essen.	FILTER_TYPE	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	0	36	Essen.	FILTER_TYPE_OTHER	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	11	36	Essen.	MAX_PARTICLE_SIZE	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	16	36	Essen.	NO_4_PASSING	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	16	36	Essen.	NO_10_PASSING	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	16	36	Essen.	NO_40_PASSING	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	16	36	Essen.	NO_100_PASSING	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	35	36	Essen.	FILTER_PERMEABILITY	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	13	36	Inform.	TYPE_LOC_FILTER	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	13	36	Inform.	TYPE_LOC_FILTER_OTHER	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	13	36	Essen.	OUTLET_INTERVAL	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	0	36	Inform.	SUBDRAIN_PURPOSE	SPS6 SUBDRAINAGE	SPS 6
SPS6_SUBDRAINAGE	0	36	Inform.	SUBDRAIN_PURPOSE_OTHER	SPS6 SUBDRAINAGE	SPS 6
SPS6_UNDERSEALING	1	8	Essen.	SUBSEAL_MIX_TYPE	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	1	8	Essen.	SUBSEAL_MIX_TYPE_OTHER	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	0	8	Essen.	CEMENT_TYPE	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	6	8	Essen.	CEMENT_SAND_RATIO	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	6	8	Essen.	WATER_CEMENT_RATIO	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	4	8	Import.	ADDITIVE_TYPE	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	6	8	Import.	ADDITIVE_AMOUNT	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	0	8	Import.	FLUIDITY_PC_GROUT	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	0	8	Essen.	CUBE_STRENGTH_PC_GROUT	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	1	8	Essen.	PC_GROUT_CURING_PERIOD	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	2	8	Essen.	DETERMINE_UNDERSEAL_AREA	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	2	8	Essen.	DETERMINE_UNDERSEAL_AREA_OTHER	SPS6 UNDERSEALING	SPS 6

Table 21. Missing M&R data for type 1 sections, continued.

File Name	Missing	Total Records	Impor.	Field	Group	Module
SPS6_UNDERSEALING	0	8	Essen.	UNDERSEAL_HOLE_DEPTH	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	0	8	Essen.	MAX_PUMP_PRESSURE	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	0	8	Essen.	MAX_SURGE_PRESSURE	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	2	8	Essen.	TOTAL_SLABS	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	2	8	Essen.	SLABS_UNDERSEALED	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	2	8	Essen.	HOLES_PER_SLAB	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	2	8	Inform.	HOLES_NEAR_JOINT_OR_CRACK	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	4	8	Inform.	MATL_PUMPED_PER_HOLE	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	2	8	Import.	MONITORING_OF_LIFT	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	2	8	Import.	OTHER_MONITORING_OF_LIFT	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	2	8	Import.	TIME_UNDERSEAL_TO_REOPEN	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	2	8	Import.	MEASURE_BEFORE_UNDERSEAL	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	2	8	Import.	MEASURE_AFTER_UNDERSEAL	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	4	8	Import.	START_TIME_BEFORE	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	4	8	Import.	END_TIME_BEFORE	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	4	8	Import.	START_TIME_AFTER	SPS6 UNDERSEALING	SPS 6
SPS6_UNDERSEALING	4	8	Import.	END_TIME_AFTER	SPS6 UNDERSEALING	SPS 6

APPENDIX G. DIFFERENCES BETWEEN MANUAL AND AUTOMATED DISTRESS SURVEYS

Appendix G lists all the sections that were found to have discrepancies in the distress data. These discrepancies were a result of differences between the manual and the automated distress surveys, and misinterpretation of the distress type between different surveyors or over time. Table 22 contains HMA sections, table 23 contains JCP sections, and table 24 contains CRCP sections.

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces.

State	SHRP ID	CN	Survey Date
1	0103	1	04/19/1996
1	0108	1	04/18/1996
1	0108	1	08/25/1994
1	0110	1	04/18/1996
1	0502	2	01/30/1998
1	0502	2	07/20/1995
1	0503	2	01/30/1998
1	0505	2	01/30/1998
1	0509	2	01/28/1998
1	1019	1	03/31/1992
1	4125	1	04/02/1992
1	4127	2	06/30/1990
1	4127	2	12/04/1997
1	4155	1	06/20/1991
1	C330	1	04/01/1993
4	0113	1	08/17/1995
4	0114	1	08/17/1995
4	0115	1	01/07/1998
4	0117	1	01/07/1998
4	0119	1	02/12/1999
4	0119	1	01/07/1998
4	0121	1	01/08/1998
4	0122	1	01/08/1998
4	0124	1	01/07/1998
4	0503	2	09/11/1996
4	0504	2	09/11/1996
4	0506	2	09/12/1996
4	0507	2	09/11/1996
4	0508	2	09/12/1996
4	0603	2	09/21/1994
4	0606	2	03/27/1996
4	0902	1	02/10/1999
4	0903	1	01/12/1998
4	1001	1	03/22/1995
4	1001	1	02/02/1993
4	1001	1	03/22/1995
4	1002	1	10/29/1992
4	1002	1	10/29/1992
4	1002	1	05/13/1996
4	1003	1	01/15/1991
4	1003	2	02/26/1998
4	1006	1	02/02/1993
4	1006	1	05/22/1993
4	1006	1	02/02/1993
4	1007	1	09/20/1991
4	1015	1	11/09/1992
4	1015	1	12/07/1994
4	1015	1	03/21/1995
4	1016	1	09/25/1991
4	1016	1	11/09/1992
4	1016	1	09/18/1996
4	1017	1	01/17/1991
4	1017	1	01/25/1994
4	1017	1	11/18/1994
4	1017	1	03/21/1995
4	1017	1	09/26/1996
4	1017	1	01/28/1993
4	1018	1	01/28/1993

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
4	1018	1	03/21/1995
4	1018	1	09/27/1996
4	1021	1	02/04/1992
4	1021	1	02/10/1994
4	1021	1	03/28/1995
4	1021	1	03/28/1995
4	1022	1	10/03/1996
4	1024	1	08/22/1995
4	1024	1	02/08/1996
4	1024	1	06/13/1996
4	1024	1	01/15/1998
4	1024	1	04/22/1998
4	1024	1	03/28/1995
4	1025	1	05/07/1996
4	1025	1	12/02/1998
4	1034	1	04/05/1996
4	1034	1	07/15/1996
4	1034	1	12/04/1998
4	1034	1	03/29/1995
4	1036	1	08/23/1990
4	1036	1	09/03/1991
4	1036	1	07/18/1995
4	1037	1	08/26/1990
4	1037	1	11/18/1998
4	1062	2	05/07/1996
4	1065	2	01/16/1998
4	6053	1	12/13/1994
4	6054	1	11/30/1990
4	6054	1	12/08/1994
4	6054	1	03/21/1995
4	6054	1	01/21/1998
4	6055	1	11/17/1997
4	6055	1	01/19/1999
4	6060	1	03/21/1995
4	A310	2	07/18/1995
4	A310	2	01/14/1998
4	A320	2	01/13/1998
4	A330	1	01/09/1991
4	A330	1	07/18/1995
4	A330	1	01/14/1998
4	A350	2	09/03/1991
4	A350	2	01/14/1998
4	A902	1	01/06/1998
4	A903	1	01/12/1998
4	A903	1	02/18/1999
4	B320	2	02/11/1994
4	B330	1	09/04/1991
4	B330	1	02/11/1994
4	B350	2	02/11/1994
4	C310	2	11/18/1994
4	C330	1	01/25/1994
4	C330	1	11/17/1994
4	C330	1	09/25/1991
4	C340	1	09/25/1991
4	C340	1	11/18/1994
4	C340	1	09/26/1996
4	C350	2	01/25/1994
4	D310	2	09/19/1996
4	D320	2	09/17/1992

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
4	D330	1	09/25/1991
4	D330	1	01/24/1994
4	D330	1	09/19/1996
4	D350	2	09/17/1992
5	3048	1	03/13/1991
5	A330	1	11/01/1991
6	0501	2	10/15/1996
6	0501	2	02/22/1999
6	0501	2	11/02/1992
6	0502	2	10/15/1996
6	0502	2	03/02/1998
6	0502	2	02/22/1999
6	0502	2	11/02/1992
6	0503	2	04/07/1995
6	0503	2	10/15/1996
6	0503	2	03/02/1998
6	0503	2	02/22/1999
6	0503	2	11/02/1992
6	0503	2	02/22/1999
6	0504	2	10/15/1996
6	0504	2	03/02/1998
6	0504	2	02/22/1999
6	0504	2	11/02/1992
6	0505	2	10/16/1996
6	0505	2	03/02/1998
6	0505	2	02/22/1999
6	0506	2	10/16/1996
6	0506	2	03/02/1998
6	0506	2	02/22/1999
6	0507	2	04/07/1995
6	0507	2	10/17/1996
6	0507	2	03/02/1998
6	0507	2	02/23/1999
6	0508	2	10/17/1996
6	0508	2	03/03/1998
6	0508	2	02/23/1999
6	0509	2	04/07/1995
6	0509	2	10/18/1996
6	0509	2	02/23/1999
6	0604	2	04/22/1998
6	0604	2	05/27/1996
6	0604	2	04/22/1998
6	0606	2	08/16/1995
6	0606	2	04/17/1998
6	0607	2	06/19/1996
6	1253	1	07/14/1993
6	1253	1	10/24/1995
6	1253	1	02/28/1997
6	1253	1	04/07/1998
6	2002	1	04/24/1998
6	2002	1	06/30/1994
6	2004	1	11/04/1992
6	2004	1	04/11/1995
6	2004	1	07/18/1996
6	2038	1	05/03/1995
6	2038	1	03/20/1997
6	2038	1	05/03/1995
6	2040	1	05/03/1995
6	2040	1	03/21/1996

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
6	2040	1	05/07/1998
6	2040	1	03/21/1996
6	2041	1	08/08/1995
6	2041	1	07/13/1993
6	2041	1	08/08/1995
6	2051	1	07/31/1996
6	2051	1	04/22/1995
6	2053	1	07/27/1998
6	2647	1	04/20/1995
6	2647	1	07/15/1993
6	2647	1	04/20/1995
6	6044	1	04/24/1995
6	7452	1	04/22/1995
6	7452	1	03/22/1996
6	7452	1	05/06/1998
6	7454	1	11/08/1994
6	7454	1	04/20/1995
6	7454	1	04/15/1998
6	7491	1	02/20/1997
6	7491	1	07/28/1997
6	7491	1	11/12/1989
6	8149	1	11/12/1989
6	8150	1	02/09/1999
6	8150	1	04/12/1995
6	8153	1	11/03/1992
6	8153	1	07/27/1994
6	8153	1	04/18/1995
6	8153	1	07/27/1995
6	8153	1	04/18/1995
6	8156	1	02/25/1997
6	8201	1	10/31/1994
6	8202	1	11/02/1994
6	8202	1	04/18/1995
6	8202	1	02/24/1998
6	A320	2	03/03/1997
6	A320	2	04/07/1998
6	A330	1	03/04/1997
6	A340	1	07/18/1991
6	A340	1	03/05/1997
6	A340	1	04/08/1998
6	A350	2	03/04/1997
6	A350	2	04/07/1998
8	0502	2	07/29/1998
8	0503	2	04/25/1996
8	0504	2	07/30/1998
8	0506	2	04/25/1996
8	0507	2	04/25/1996
8	0508	2	07/30/1998
8	0509	2	07/29/1998
8	1029	1	10/21/1991
8	1029	1	07/15/1994
8	1029	1	09/08/1995
8	1047	1	10/22/1991
8	1053	1	11/04/1993
8	1053	1	12/06/1993
8	1053	1	03/14/1994
8	1053	1	05/10/1996
8	1053	1	10/21/1996
8	1053	1	11/14/1996

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
8	1053	1	03/07/1997
8	1053	1	03/20/1997
8	1053	1	08/05/1997
8	1053	1	09/26/1997
8	2008	1	12/11/1990
8	2008	1	05/06/1991
8	2008	1	06/16/1994
8	6002	1	12/11/1990
8	6002	1	06/16/1994
8	6002	1	06/30/1994
8	6002	1	05/11/1995
8	6002	1	04/10/1996
8	6002	1	04/25/1996
8	6002	1	04/25/1996
8	6013	1	07/14/1994
8	6013	1	08/18/1998
8	7036	1	07/25/1994
8	7036	1	12/11/1990
8	7781	1	07/12/1990
8	7781	2	10/19/1998
8	7783	1	05/10/1996
8	7783	1	08/26/1998
8	A310	2	10/14/1998
8	A320	2	09/19/1995
8	A320	2	10/14/1998
8	A330	1	08/23/1991
8	A340	1	08/25/1998
8	A350	2	10/14/1998
8	B320	2	05/06/1991
8	B320	2	10/25/1991
8	B330	1	05/06/1991
8	B350	2	05/06/1991
9	4020	2	04/10/1997
10	1450	1	07/02/1997
10	1450	1	10/21/1998
11	1400	2	10/07/1992
12	1030	1	02/05/1991
12	4097	1	08/30/1994
12	4103	1	03/10/1994
12	4103	1	01/20/1996
12	4105	1	10/04/1991
12	4106	1	07/18/1991
12	4107	1	07/18/1991
12	4154	1	04/14/1992
12	B310	1	08/15/1990
12	B310	1	02/09/1991
12	B320	1	08/15/1990
12	C310	1	08/17/1990
13	0505	2	05/19/1997
13	1031	1	04/12/1991
13	4092	2	10/27/1994
13	4092	2	01/17/1996
13	4092	2	02/27/1997
13	4111	1	02/24/1992
13	4112	1	02/26/1997
13	4113	1	02/26/1997
13	7028	1	03/04/1991
13	7028	1	10/25/1994
13	7028	1	05/15/1997

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
16	1001	1	08/25/1994
16	1001	1	05/17/1995
16	1001	1	07/09/1997
16	1001	1	09/23/1998
16	1007	1	08/12/1993
16	1007	1	06/04/1996
16	1007	1	05/01/1997
16	1009	1	07/08/1992
16	1009	1	07/25/1997
16	1010	1	12/16/1993
16	1010	1	03/21/1994
16	1010	1	08/25/1994
16	1010	1	11/02/1994
16	1010	1	05/22/1995
16	1010	1	09/11/1995
16	1010	1	06/06/1996
16	1010	1	10/31/1996
16	1010	1	03/14/1997
16	1010	1	04/16/1997
16	1010	1	06/26/1997
16	1020	1	07/24/1997
16	1021	1	07/25/1997
16	9034	1	08/24/1994
16	B310	2	07/29/1997
16	C320	2	09/11/1995
16	C320	2	06/26/1997
16	C330	1	06/26/1997
17	0603	2	07/29/1994
17	0603	2	09/16/1998
17	0606	2	08/04/1993
17	0606	2	07/29/1994
17	0606	2	06/22/1995
17	0606	2	09/15/1998
17	0607	2	07/29/1994
17	0607	2	09/16/1998
17	5151	2	11/17/1998
17	5423	1	03/26/1996
17	7937	1	04/22/1993
17	9327	2	03/26/1996
18	0603	2	07/04/1996
18	0606	2	07/04/1996
18	0606	2	07/09/1998
18	0607	2	07/04/1996
18	1028	1	05/27/1994
18	1037	1	03/23/1993
18	5518	2	03/16/1996
19	0603	2	04/02/1996
19	0603	2	05/06/1997
19	0603	2	04/21/1993
19	0603	2	05/06/1997
19	0604	2	05/06/1997
19	0604	2	04/02/1996
19	0606	2	04/21/1993
19	0606	2	04/02/1996
19	0606	2	05/07/1997
19	0607	2	08/31/1993
19	0607	2	04/02/1996
19	0607	2	05/06/1997
19	0607	2	05/06/1997

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
19	0608	2	05/06/1997
19	0608	2	05/06/1997
19	1044	1	09/01/1994
19	9116	2	04/03/1996
20	0101	1	03/25/1997
20	0102	1	03/25/1997
20	0106	1	03/26/1997
20	0107	1	03/26/1997
20	1005	1	03/10/1989
20	1006	1	02/05/1999
20	1009	1	04/23/1996
20	1010	1	04/24/1996
20	6026	2	02/02/1999
20	7073	1	12/05/1990
20	7073	2	06/14/1994
20	A330	1	04/23/1993
20	B330	1	10/26/1991
21	1010	1	06/28/1990
21	1014	1	05/02/1991
21	1014	1	11/30/1995
21	1034	1	10/06/1992
21	1034	2	02/03/1998
21	6043	1	05/08/1991
21	A330	1	10/19/1990
23	0509	2	09/11/1997
23	1001	1	04/28/1993
23	1001	1	04/21/1995
23	1028	1	08/30/1990
23	1028	1	04/27/1993
23	1028	1	05/03/1994
23	1028	1	04/27/1993
23	7023	1	10/26/1995
24	0501	1	02/19/1992
24	0504	2	05/08/1997
24	0505	1	02/20/1992
24	0506	1	02/21/1992
24	0509	2	05/13/1997
24	1634	1	03/21/1991
24	2805	2	05/06/1997
26	0117	1	10/08/1996
26	0123	1	10/07/1996
26	0604	2	08/26/1995
26	0606	2	06/16/1995
26	1010	1	06/16/1995
26	1012	1	06/09/1993
26	C320	2	06/07/1993
27	0502	2	11/09/1994
27	0503	2	11/09/1994
27	1019	1	06/13/1991
27	1019	1	06/20/1996
27	1019	1	09/07/1989
27	1028	1	05/14/1990
27	1029	1	06/24/1996
27	1085	1	11/15/1990
27	1087	1	06/25/1996
27	7090	1	05/11/1993
27	7090	1	06/21/1996
27	7090	1	06/15/1989
28	0501	1	07/13/1993

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
28	0502	2	07/13/1993
28	0502	2	01/04/1996
28	0502	2	02/27/1997
28	0505	2	02/26/1997
28	0508	2	07/13/1993
28	2807	1	02/28/1991
28	3083	1	02/28/1991
28	3083	1	03/05/1991
28	3085	1	03/05/1991
28	3089	1	12/09/1995
28	3091	1	02/14/1991
28	3091	1	07/12/1993
28	3093	2	08/08/1997
28	3099	1	07/12/1993
28	7012	1	03/06/1991
29	0603	2	09/10/1998
29	0604	2	04/11/1996
29	0607	2	09/09/1998
29	0608	2	04/15/1996
29	0608	2	09/09/1998
29	1002	1	11/08/1990
29	1008	1	03/26/1993
29	7054	1	10/30/1990
29	B330	1	12/10/1991
30	0502	2	08/02/1996
30	0502	2	05/22/1998
30	0502	2	08/02/1996
30	0503	2	08/01/1996
30	0504	2	08/01/1996
30	0505	2	05/19/1998
30	0506	2	07/31/1996
30	0507	2	07/31/1996
30	0508	2	08/01/1996
30	0509	2	08/01/1996
30	0509	2	05/22/1998
30	1001	1	07/17/1997
30	6004	1	06/07/1994
30	6004	1	06/14/1996
30	6004	1	07/14/1997
30	7066	1	07/29/1991
30	7075	1	07/15/1997
30	7076	2	05/15/1998
30	7088	2	06/06/1996
30	A320	2	07/18/1997
31	0114	1	08/08/1996
31	6702	2	05/06/1996
31	7005	1	04/16/1993
31	7040	1	05/15/1989
31	7040	2	04/04/1996
32	0105	1	12/17/1998
32	1020	1	09/14/1994
32	1020	1	04/25/1995
32	1020	1	06/05/1997
32	1021	1	07/01/1991
32	1021	1	07/23/1991
32	1021	1	08/04/1993
32	1021	1	07/24/1995
32	1021	1	08/04/1993
32	2027	1	07/25/1991

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
32	2027	1	09/12/1991
32	7000	1	09/28/1995
32	7000	1	06/04/1996
32	7000	1	08/10/1993
32	A310	2	05/25/1994
32	A310	2	07/24/1995
32	A310	2	04/28/1997
32	A320	2	07/23/1991
32	A320	2	07/24/1995
32	A320	2	04/28/1997
32	A330	1	07/01/1991
32	A330	1	07/23/1991
32	A330	1	07/24/1995
32	A330	1	04/28/1997
32	A350	2	04/28/1997
32	B310	2	05/02/1997
32	B320	2	09/27/1995
32	B320	2	05/02/1997
32	B330	1	09/27/1995
32	B330	1	05/02/1997
32	B340	1	05/02/1997
32	B350	2	09/27/1995
32	B350	2	05/02/1997
34	0501	1	12/04/1996
34	0502	2	10/28/1998
34	0503	2	10/27/1998
34	0505	2	10/29/1998
34	0509	2	10/27/1998
34	1011	1	07/29/1997
34	1030	1	07/22/1997
35	1002	1	02/17/1994
35	1003	1	03/17/1995
35	1112	1	04/25/1995
35	2006	1	03/26/1991
35	6035	1	10/26/1992
37	1024	1	10/14/1992
37	1645	1	10/12/1992
37	1802	1	04/15/1994
37	1817	1	03/18/1991
37	1992	1	04/20/1994
37	2824	2	08/14/1997
39	0105	1	06/18/1998
39	0803	1	08/21/1996
39	0804	1	08/21/1996
39	5010	2	06/19/1995
39	7021	1	11/05/1992
39	7021	1	06/18/1995
40	0603	2	05/22/1997
40	4088	1	12/07/1990
40	4088	1	10/11/1991
40	4088	1	10/28/1991
40	4088	1	03/10/1993
40	4088	1	11/02/1994
40	4088	1	06/21/1995
40	4088	1	10/28/1991
40	4088	1	03/10/1993
40	4163	1	08/20/1997
40	4163	1	01/11/1999
40	4163	1	11/02/1994

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
40	4165	1	11/08/1996
40	A340	1	06/18/1997
41	2002	1	05/05/1993
41	2002	2	10/06/1998
41	6011	1	07/10/1993
41	6011	2	03/20/1998
41	7019	1	05/04/1995
41	7025	1	07/10/1993
41	7025	1	07/10/1993
41	7025	1	06/28/1994
41	7025	1	05/06/1995
42	0603	2	08/26/1997
42	1599	1	03/26/1998
42	1614	2	07/20/1996
42	1691	2	11/09/1992
42	1691	2	06/19/1995
45	1011	1	10/24/1992
45	1011	1	01/27/1996
45	1024	1	03/05/1991
46	7049	2	04/17/1993
46	7049	2	04/04/1996
47	2001	2	12/04/1995
47	2008	2	02/28/1991
47	2008	2	08/15/1991
47	2008	2	08/02/1993
47	2008	2	07/23/1997
47	3075	1	03/24/1997
47	3104	1	05/06/1991
47	3110	2	08/12/1991
47	3110	2	08/03/1993
47	9024	1	08/05/1993
47	9025	1	08/14/1991
47	A330	1	11/16/1990
47	C330	1	11/14/1990
48	0001	1	04/06/1993
48	0001	1	03/24/1995
48	1039	2	07/15/1991
48	1039	2	02/11/1993
48	1039	2	02/16/1995
48	1060	1	03/15/1995
48	1069	1	03/04/1993
48	1070	1	03/03/1993
48	1076	1	10/14/1992
48	1092	1	04/02/1993
48	1094	1	09/19/1995
48	1119	2	08/11/1993
48	1119	2	07/19/1995
48	1122	1	04/02/1993
48	1122	1	03/24/1995
48	1169	1	03/04/1990
48	1169	1	03/07/1991
48	1169	1	08/11/1993
48	1169	1	07/19/1995
48	1181	1	10/17/1990
48	1181	1	03/20/1995
48	1183	1	01/23/1991
48	1183	1	10/02/1991
48	2172	1	09/15/1990
48	2172	1	07/08/1993

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
48	2172	1	03/15/1995
48	3559	1	05/12/1995
48	3579	1	03/03/1995
48	3629	1	06/07/1990
48	3629	1	05/15/1991
48	3679	1	02/26/1993
48	3679	1	03/01/1995
48	3689	1	02/26/1993
48	3689	1	03/01/1995
48	3739	1	03/17/1992
48	3739	3	03/16/1995
48	3769	1	09/26/1991
48	3865	1	07/26/1995
48	6079	1	01/26/1993
48	6079	1	08/08/1995
48	6086	1	03/31/1993
48	7165	2	06/06/1995
48	A503	2	08/10/1993
48	A504	2	08/10/1993
48	A505	2	08/10/1993
48	A507	2	08/10/1993
48	A507	2	06/29/1995
48	A509	2	08/10/1993
48	E330	1	09/25/1990
48	H330	1	11/15/1990
48	H330	1	05/28/1991
48	I330	1	11/15/1990
48	I330	1	05/29/1991
48	J330	1	10/16/1990
48	K330	1	12/11/1990
48	K330	1	03/27/1991
48	M330	1	04/09/1991
48	N310	2	03/30/1993
48	N330	1	02/14/1991
48	Q310	2	03/23/1998
49	1001	1	11/04/1993
49	1001	1	12/02/1993
49	1004	1	08/29/1991
49	1004	1	11/03/1993
49	1004	1	09/21/1995
49	1004	1	05/15/1996
49	1004	1	07/09/1998
49	1008	2	10/07/1997
49	1017	1	09/22/1995
49	1017	1	05/15/1996
49	1017	1	09/30/1997
49	1017	1	08/29/1991
49	A310	2	10/03/1997
49	A310	2	07/07/1998
49	A320	2	09/21/1995
49	A320	2	10/02/1997
49	A320	2	07/07/1998
49	A330	1	08/29/1991
49	A330	1	09/21/1995
49	A330	1	10/02/1997
49	A330	1	07/07/1998
49	A350	2	10/02/1997
49	A350	2	07/07/1998
49	B310	2	10/01/1997

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
49	B330	1	09/22/1995
49	B330	1	09/30/1997
49	B330	1	08/29/1991
49	B350	2	09/22/1995
49	B350	2	10/01/1997
49	C310	2	09/25/1997
49	C320	2	09/25/1995
49	C320	2	09/24/1997
49	C330	1	09/25/1995
49	C330	1	09/25/1997
49	C350	2	09/25/1995
49	C350	2	09/25/1997
50	1683	1	04/30/1991
51	0113	1	07/15/1998
51	1002	2	04/30/1998
51	1423	2	08/13/1998
51	A330	1	03/20/1991
53	1002	1	04/22/1997
53	1005	2	05/17/1995
53	1005	2	10/08/1998
53	1006	1	06/27/1993
53	1006	1	05/06/1997
53	1008	1	07/04/1991
53	1008	1	06/16/1994
53	1008	1	06/28/1993
53	1501	1	08/21/1995
53	1501	1	04/29/1997
53	1801	1	03/27/1997
53	1801	1	07/08/1993
53	6056	1	05/16/1995
53	6056	1	04/24/1997
53	7322	1	04/24/1997
53	7322	1	05/16/1995
53	A350	2	06/16/1994
54	7008	1	09/29/1992
56	1007	1	12/09/1993
56	1007	1	04/19/1994
56	1007	1	08/19/1994
56	1007	1	02/16/1995
56	1007	1	10/24/1996
56	2015	1	07/29/1997
56	2015	1	08/19/1998
56	2017	1	09/19/1994
56	2017	1	06/13/1996
56	2019	1	09/20/1994
56	2020	1	06/10/1996
56	2020	1	07/16/1997
56	2037	1	07/28/1997
56	2037	1	06/25/1998
56	6029	1	08/27/1996
56	6029	1	07/17/1997
56	6031	1	08/17/1994
56	6031	1	06/11/1996
56	6031	1	05/31/1997
56	7772	1	07/21/1994
56	A320	2	05/12/1998
56	A330	1	05/12/1998
56	A350	2	05/13/1998
56	B330	1	08/04/1991

Table 22. Discrepancies between automated and manual distress surveys on HMA surfaces, continued.

State	SHRP ID	CN	Survey Date
72	1003	1	06/02/1997
81	0501	1	05/07/1991
81	0501	1	06/02/1995
81	0501	1	08/30/1995
81	0505	2	08/30/1995
81	0506	2	08/30/1995
81	0507	2	08/30/1995
81	0509	2	08/31/1995
81	0509	2	06/26/1997
81	0509	2	06/05/1998
81	1803	1	06/15/1993
81	1804	1	06/29/1992
81	1804	1	06/29/1992
81	1804	2	07/09/1997
81	8529	1	07/14/1997
81	8529	1	08/23/1993
81	8529	1	06/27/1996
82	1005	2	06/21/1993
82	6006	1	06/18/1997
82	6007	1	06/03/1991
82	6007	1	08/25/1992
82	6007	3	06/19/1997
82	9017	1	08/26/1992
82	9017	1	06/21/1993
83	0501	1	06/20/1991
83	0501	1	06/11/1993
83	0506	2	09/14/1993
83	0506	2	09/19/1995
83	0507	1	08/22/1989
83	0507	2	09/14/1993
83	0507	2	08/11/1998
83	0508	1	08/22/1989
83	6452	2	06/08/1995
83	6454	1	06/10/1993
83	A330	1	06/21/1991
86	6802	1	05/04/1993
86	6802	1	06/09/1997
87	2812	1	07/12/1996
87	2812	1	05/28/1997
89	1021	1	05/17/1993
89	2011	1	08/11/1990
90	6405	1	09/05/1989
90	6410	2	06/11/1993

Table 23. Discrepancies between automated and manual distress surveys on JCP surfaces.

State	SHRP ID	CN	Survey Date
1	3028	1	01/03/1996
4	0601	1	09/26/1991
4	0602	1	09/25/1991
4	0605	1	04/12/1991
5	3059	1	03/19/1991
5	3073	1	03/16/1993
5	4021	1	04/07/1998
5	4023	1	08/06/1997
6	0602	1	05/27/1996
6	3005	1	07/24/1993
6	3005	1	05/04/1995
6	3030	1	12/06/1991
6	9107	1	09/04/1997
8	0213	1	08/06/1998
8	0217	1	04/24/1996
8	0219	1	08/10/1998
8	0811	1	04/30/1996
8	0812	1	09/30/1996
10	1201	1	11/16/1995
10	4002	1	03/12/1993
12	4059	1	04/18/1997
12	4138	1	08/01/1991
12	4138	1	03/08/1994
13	3019	1	04/24/1996
17	0601	1	07/29/1994
17	0601	1	03/26/1996
17	0602	1	05/06/1990
17	0602	1	07/29/1994
17	0602	1	03/26/1996
17	0604	1	05/06/1990
17	0605	1	05/06/1990
17	0605	1	03/26/1996
17	0606	1	05/06/1990
17	5217	1	09/24/1989
18	0602	1	09/26/1991
18	0602	1	06/10/1993
18	0602	1	07/04/1996
18	0605	1	09/10/1992
18	0605	1	06/10/1993
18	0605	1	07/04/1996
18	3003	1	06/28/1989
18	3003	1	04/28/1992
18	4021	1	11/03/1992
19	0219	1	06/17/1997
19	0601	1	05/09/1990
19	0602	1	05/09/1990
20	0204	1	04/09/1996
20	4016	1	04/09/1996
20	4067	1	05/02/1989
21	4025	1	10/26/1989
21	4025	1	05/08/1991
23	3013	1	08/17/1995
26	0605	1	08/27/1992
26	0605	1	06/09/1993
26	3068	1	09/07/1989
26	3069	1	07/05/1996
26	9030	1	08/31/1989
27	3012	1	06/24/1996

Table 23. Discrepancies between automated and manual distress surveys on JCP surfaces, continued.

State	SHRP ID	CN	Survey Date
27	4034	1	06/25/1996
27	4040	1	10/09/1996
27	4050	1	06/13/1995
27	4054	1	09/14/1989
27	4054	1	05/07/1993
27	4055	1	06/20/1989
27	4055	1	06/02/1993
27	4055	1	06/20/1996
27	4082	1	06/15/1989
27	6300	1	11/14/1990
27	6300	1	04/03/1996
28	3019	1	03/03/1991
28	3019	1	03/27/1993
28	3019	1	12/09/1995
29	0601	1	04/04/1993
29	0601	1	04/15/1996
29	0602	1	04/04/1993
29	0602	1	04/10/1996
29	0605	1	04/04/1993
29	0703	2	09/25/1995
29	0704	2	03/25/1996
29	0705	2	03/28/1993
29	0705	2	03/25/1996
29	0708	2	03/28/1993
29	0708	2	03/25/1996
29	4036	1	04/15/1996
29	5000	1	04/15/1996
29	5058	1	04/15/1996
29	5081	1	04/15/1997
29	5091	1	04/15/1996
31	3023	1	07/26/1994
31	3023	1	04/06/1996
31	4019	1	08/18/1989
31	4019	1	09/20/1993
32	0204	1	05/30/1996
32	0208	1	05/30/1996
32	3013	1	02/04/1992
36	4017	1	07/17/1996
36	4018	1	09/10/1990
37	3044	1	07/17/1995
37	3816	1	12/12/1996
37	3816	1	12/20/1995
37	3816	1	02/08/1996
39	3013	1	09/27/1989
39	3801	1	03/14/1996
39	4031	1	04/30/1991
39	4031	1	03/15/1996
39	5569	1	07/20/1994
40	0601	1	03/30/1994
40	4160	1	03/12/1993
40	4160	1	10/31/1994
40	4160	1	03/10/1995
42	0601	1	07/19/1996
42	0601	1	08/27/1997
42	0602	1	08/27/1997
42	1627	1	08/31/1995
42	1690	1	08/29/1995
42	1690	1	09/09/1998
46	0602	1	08/10/1995

Table 23. Discrepancies between automated and manual distress surveys on JCP surfaces, continued.

State	SHRP ID	CN	Survey Date
46	0602	1	06/18/1996
46	0602	1	08/06/1998
46	0605	1	09/13/1993
46	0605	1	08/06/1998
46	6600	1	04/17/1993
48	3010	1	04/28/1993
48	3010	1	06/07/1995
48	3589	1	10/12/1992
48	4146	1	02/26/1993
48	4146	1	02/25/1995
50	1682	1	05/02/1991
53	3019	1	05/15/1995
54	4003	1	03/17/1998
54	4004	1	10/26/1995
55	3019	1	06/19/1989
55	6351	1	09/11/1989
83	6452	1	06/27/1989
83	6452	1	06/27/1989
84	3803	1	08/03/1995
89	3001	1	08/14/1990
89	3001	1	10/17/1995
89	3002	1	08/08/1990

Table 24. Discrepancies between automated and manual distress surveys on CRCP surfaces.

State	SHRP ID	CN	Survey Date
16	5025	1	08/01/1995
17	5849	1	07/29/1994
17	5854	1	03/27/1996
18	5518	1	05/15/1993
19	5046	1	04/20/1993
19	5046	1	04/02/1996
22	0706	2	01/08/1996
22	0709	2	01/08/1996
26	5363	1	06/02/1993
26	5363	1	06/16/1995
27	0701	1	06/01/1993
27	0701	1	06/19/1996
27	0701	1	10/30/1998
27	0702	2	10/28/1998
27	0703	2	06/01/1993
27	0703	2	08/17/1993
27	0703	2	06/16/1996
27	0703	2	10/28/1998
27	0704	2	06/16/1996
27	0707	2	08/18/1993
28	5803	1	03/23/1993
28	5803	1	12/09/1995
31	5052	1	04/06/1996
39	5010	1	08/30/1989
42	1598	1	07/27/1995
48	3719	1	02/25/1995
48	3779	1	10/21/1992
48	3779	1	03/20/1995
48	5035	1	03/04/1993
48	5035	1	03/07/1995
48	5287	1	02/11/1993
48	5301	1	02/11/1993
48	5301	1	02/15/1995
48	5317	1	02/11/1993
51	5009	1	12/18/1996
54	5007	1	05/01/1991

APPENDIX H. SUMMARY OF M&R NON-LEVEL E DATA

Table 25 lists all M&R data that are not at level E. The table includes the file name, state code, SHRP identification code, construction event number, the date of the M&R activity, and the record status of that activity.

Table 25. Summary of M&R non-level E data.

File Name	State	SHRP ID	CN	Date Completed	Record Status
MNT_ASPHALT_CRACK_SEAL	4	0659	2	3/7/95	A
MNT_ASPHALT_CRACK_SEAL	4	0660	2	3/7/95	A
MNT_ASPHALT_CRACK_SEAL	4	0661	2	3/8/95	A
MNT_ASPHALT_CRACK_SEAL	4	0662	2	3/8/95	A
MNT_ASPHALT_CRACK_SEAL	8	0559	2	1/31/97	A
MNT_ASPHALT_CRACK_SEAL	8	0560	2	1/31/97	A
MNT_ASPHALT_CRACK_SEAL	19	0605	1	10/18/90	D
MNT_ASPHALT_CRACK_SEAL	19	0659	2	10/19/90	A
MNT_ASPHALT_CRACK_SEAL	31	A351	2	4/8/96	A
MNT_ASPHALT_CRACK_SEAL	31	A352	2	4/8/96	A
MNT_ASPHALT_CRACK_SEAL	31	A353	2	4/8/96	A
MNT_ASPHALT_CRACK_SEAL	46	0859	1	6/27/95	A
MNT_ASPHALT_CRACK_SEAL	48	E352	1	8/2/90	A
MNT_ASPHALT_CRACK_SEAL	48	K351	1	6/22/90	A
MNT_ASPHALT_CRACK_SEAL	83	6452	2	9/10/93	D
MNT_ASPHALT_CRACK_SEAL	83	A331	1	6/14/90	A
MNT_ASPHALT_CRACK_SEAL	90	B331	1	10/25/90	A
MNT_ASPHALT_PATCH	29	0659	2	6/28/93	A
MNT_ASPHALT_PATCH	29	0659	2	10/4/93	A
MNT_ASPHALT_PATCH	29	0659	2	10/29/93	A
MNT_ASPHALT_PATCH	31	A310	2	7/25/96	B
MNT_ASPHALT_PATCH	34	0860	1	8/5/93	A
MNT_ASPHALT_PATCH	40	0160	1	2/5/99	A
MNT_ASPHALT_PATCH	40	0560	2	2/5/99	A
MNT_ASPHALT_PATCH	90	B331	1	7/27/95	A
MNT_ASPHALT_PATCH	90	B331	1	7/27/95	A
MNT_ASPHALT_PATCH	90	B351	2	7/27/95	A
MNT_ASPHALT_SEAL	12	A351	2	4/13/91	A
MNT_ASPHALT_SEAL	12	B351	2	4/13/91	A
MNT_ASPHALT_SEAL	20	0162	1	1/12/96	A
MNT_ASPHALT_SEAL	20	0163	1	1/12/96	A
MNT_ASPHALT_SEAL	31	1030	2	8/7/96	B
MNT_ASPHALT_SEAL	31	6700	2	7/11/97	B
MNT_ASPHALT_SEAL	40	B360	1	10/3/90	A
MNT_ASPHALT_SEAL	46	0606	2	6/27/95	B
MNT_ASPHALT_SEAL	46	0607	2	6/27/95	B
MNT_ASPHALT_SEAL	46	0608	2	6/27/95	B
MNT_ASPHALT_SEAL	46	0660	2	6/27/95	A
MNT_ASPHALT_SEAL	46	0661	2	6/27/95	A
MNT_ASPHALT_SEAL	46	0662	2	6/27/95	A
MNT_ASPHALT_SEAL	48	E352	2	9/19/90	A
MNT_ASPHALT_SEAL	48	E352	1	9/18/90	A
MNT_ASPHALT_SEAL	48	H351	1	8/1/90	A
MNT_ASPHALT_SEAL	48	J351	2	7/12/90	A
MNT_ASPHALT_SEAL	48	K351	2	7/13/90	A
MNT_ASPHALT_SEAL	48	Q353	2	6/25/91	A
MNT_ASPHALT_SEAL	49	A351	1	6/14/90	A
MNT_ASPHALT_SEAL	49	A352	1	6/14/90	A
MNT_ASPHALT_SEAL	49	B351	1	6/14/90	A
MNT_ASPHALT_SEAL	49	B352	1	6/14/90	A
MNT_ASPHALT_SEAL	49	C351	1	6/13/90	A
MNT_ASPHALT_SEAL	49	C352	2	6/13/90	A
MNT_ASPHALT_SEAL	83	A351	1	7/5/90	A

Table 25. Summary of M&R non-level E data, continued.

File Name	State	SHRP ID	CN	Date Completed	Record Status
MNT_ASPHALT_SEAL	90	B351	2	8/9/90	A
MNT_HIST	9	0960	NA	NA	A
MNT_HIST	9	0961	NA	NA	A
MNT_HIST	9	0962	NA	NA	A
MNT_HIST	12	A351	NA	NA	A
MNT_HIST	12	B351	NA	NA	A
MNT_HIST	20	0162	NA	NA	A
MNT_HIST	20	0163	NA	NA	A
MNT_HIST	24	0559	NA	NA	A
MNT_HIST	26	0659	NA	NA	A
MNT_HIST	29	0901	NA	NA	B
MNT_HIST	29	0901	NA	NA	B
MNT_HIST	29	0901	NA	NA	B
MNT_HIST	29	0902	NA	NA	B
MNT_HIST	29	0902	NA	NA	B
MNT_HIST	29	0902	NA	NA	B
MNT_HIST	29	0903	NA	NA	B
MNT_HIST	29	0903	NA	NA	B
MNT_HIST	29	0903	NA	NA	B
MNT_HIST	29	0959	NA	NA	A
MNT_HIST	29	0959	NA	NA	A
MNT_HIST	29	0959	NA	NA	A
MNT_HIST	29	0960	NA	NA	A
MNT_HIST	29	0960	NA	NA	A
MNT_HIST	29	0960	NA	NA	A
MNT_HIST	29	0961	NA	NA	A
MNT_HIST	29	0961	NA	NA	A
MNT_HIST	29	0961	NA	NA	A
MNT_HIST	29	0962	NA	NA	A
MNT_HIST	29	0962	NA	NA	A
MNT_HIST	29	0962	NA	NA	A
MNT_HIST	29	0963	NA	NA	A
MNT_HIST	29	0963	NA	NA	A
MNT_HIST	29	0963	NA	NA	A
MNT_HIST	29	0964	NA	NA	A
MNT_HIST	29	0964	NA	NA	A
MNT_HIST	29	0964	NA	NA	A
MNT_HIST	34	0860	NA	NA	A
MNT_HIST	40	0160	NA	NA	A
MNT_HIST	40	0560	NA	NA	A
MNT_HIST	40	B360	NA	NA	A
MNT_HIST	42	0659	NA	NA	A
MNT_HIST	48	E351	NA	NA	A
MNT_HIST	48	E352	NA	NA	A
MNT_HIST	48	K351	NA	NA	A
MNT_HIST	48	Q353	NA	NA	A
MNT_PCC_FULL_DEPTH	19	0601	1	5/5/97	B
MNT_PCC_FULL_DEPTH	19	0602	1	5/5/97	B
MNT_PCC_FULL_DEPTH	19	0605	1	5/5/97	B
MNT_PCC_FULL_DEPTH	19	0659	2	4/15/92	A
MNT_PCC_FULL_DEPTH	29	0601	1	7/11/97	B
MNT_PCC_FULL_DEPTH	29	0602	1	7/11/97	B
MNT_PCC_FULL_DEPTH	29	0605	1	7/11/97	B
MNT_PCC_FULL_DEPTH	29	0666	1	7/11/97	A

Table 25. Summary of M&R non-level E data, continued.

File Name	State	SHRP ID	CN	Date Completed	Record Status
MNT_PCC_JOINT_RESEAL	29	A411	1	11/4/94	A
MNT_PCC_PART_DEPTH	6	B443	1	8/3/92	A
MNT_PCC_PART_DEPTH	19	0601	1	9/27/90	B
MNT_PCC_PART_DEPTH	19	0601	1	3/22/90	B
MNT_PCC_PART_DEPTH	19	0601	1	5/5/97	B
MNT_PCC_PART_DEPTH	19	0602	1	9/27/90	B
MNT_PCC_PART_DEPTH	19	0602	1	3/22/90	B
MNT_PCC_PART_DEPTH	19	0602	1	5/10/90	B
MNT_PCC_PART_DEPTH	19	0602	1	5/5/97	B
MNT_PCC_PART_DEPTH	19	0605	1	9/27/90	B
MNT_PCC_PART_DEPTH	19	0605	1	3/22/90	B
MNT_PCC_PART_DEPTH	19	0605	1	5/5/97	B
MNT_PCC_PART_DEPTH	42	0659	1	12/27/91	A
RHB_IMP	10	1450	2	10/27/98	D
RHB_IMP	10	4002	2	10/29/93	D
RHB_IMP	10	5005	2	6/8/95	D
RHB_IMP	17	5151	2	10/2/90	D
RHB_IMP	18	5528	2	10/15/90	D
RHB_IMP	18	5538	1	10/15/90	D
RHB_IMP	19	9116	2	9/15/89	D
RHB_IMP	19	9126	2	6/16/89	D
RHB_IMP	20	B310	2	11/5/90	D
RHB_IMP	23	0503	2	6/27/95	D
RHB_IMP	23	0506	2	6/27/95	D
RHB_IMP	23	0507	2	6/27/95	D
RHB_IMP	23	0508	2	6/27/95	D
RHB_IMP	23	0509	2	6/27/95	D
RHB_IMP	23	0559	2	6/27/95	A
RHB_IMP	23	0559	2	6/27/95	A
RHB_IMP	24	0502	2	6/1/92	D
RHB_IMP	24	1634	2	5/6/98	D
RHB_IMP	24	A311	2	11/5/90	A
RHB_IMP	26	A310	2	10/2/90	D
RHB_IMP	26	B310	2	10/2/90	D
RHB_IMP	26	C310	2	10/3/90	D
RHB_IMP	27	A310	2	9/13/90	D
RHB_IMP	29	5403	2	9/16/89	D
RHB_IMP	29	5413	2	9/16/89	D
RHB_IMP	29	A310	2	10/5/90	D
RHB_IMP	29	B310	2	10/5/90	D
RHB_IMP	31	6700	2	10/22/88	D
RHB_IMP	31	6702	2	9/1/89	D
RHB_IMP	31	7040	2	6/5/91	D
RHB_IMP	31	7040	2	6/27/91	D
RHB_IMP	31	A310	2	10/16/90	D
RHB_IMP	34	0559	2	8/21/92	A
RHB_IMP	34	0560	2	8/19/92	A
RHB_IMP	34	1031	2	5/14/96	D
RHB_IMP	36	1008	2	8/26/89	D
RHB_IMP	37	2819	2	9/18/92	D
RHB_IMP	39	5010	2	6/1/90	D
RHB_IMP	42	0660	2	9/29/92	A
RHB_IMP	42	0661	2	9/29/92	A
RHB_IMP	42	0662	2	9/29/92	A

Table 25. Summary of M&R non-level E data, continued.

File Name	State	SHRP ID	CN	Date Completed	Record Status
RHB_IMP	42	1613	2	6/18/90	D
RHB_IMP	42	1617	2	8/15/90	D
RHB_IMP	42	1618	2	8/28/89	D
RHB_IMP	42	1691	2	9/15/90	D
RHB_IMP	46	0601	1	9/24/92	C
RHB_IMP	46	5020	1	7/22/91	C
RHB_IMP	46	9106	2	9/19/89	D
RHB_IMP	46	9197	2	9/13/89	D
RHB_IMP	51	1002	2	5/15/90	D
RHB_IMP	51	1417	3	5/20/98	D
RHB_IMP	51	1419	3	8/30/97	D
RHB_IMP	51	2004	2	6/8/98	D
RHB_IMP	54	1640	2	11/15/91	D
RHB_IMP	54	5007	2	6/30/92	D
RHB_IMP	87	1620	2	8/6/92	D
RHB_IMP	87	1620	3	9/2/98	D
RHB_IMP	87	1622	2	7/16/98	D
RHB_IMP	87	1622	2	7/16/98	D
RHB_IMP	87	A311	2	8/28/90	A
RHB_IMP	87	B311	2	9/13/90	A
RHB_IMP	89	1021	2	8/21/95	D
RHB_IMP	89	1125	2	6/28/96	D
RHB_IMP	89	1127	2	8/3/94	D
RHB_IMP	89	A310	2	8/1/90	D
RHB_IMP	90	6410	2	5/28/90	D
RHB_IMP	90	6412	2	5/28/90	D
RHB_IMP	90	A310	2	10/22/90	D
SPS3_CHIP	1	A350	NA	8/7/90	C
SPS3_CHIP	1	C350	NA	8/9/90	C
SPS3_CHIP	4	A390	NA	8/24/90	A
SPS3_CHIP	8	B350	NA	7/24/90	C
SPS3_CHIP	29	B350	NA	8/18/90	C
SPS3_CHIP	32	B350	NA	7/29/90	C
SPS3_CHIP	32	C350	NA	7/28/90	C
SPS3_CHIP	36	B351	NA	8/23/90	A
SPS3_CHIP	36	B352	NA	8/23/90	A
SPS3_CHIP	36	B353	NA	8/23/90	A
SPS3_CHIP	36	B354	NA	8/23/90	A
SPS3_CHIP	49	A390	NA	7/2/90	A
SPS3_CHIP	49	B390	NA	7/5/90	A
SPS3_CHIP	56	A350	NA	8/6/90	C
SPS3_CHIP	56	A363	NA	9/11/90	A
SPS3_CHIP	56	B350	NA	7/26/90	C
SPS3_CHIP	56	B360	NA	8/9/90	A
SPS3_CRACK	17	A330	NA	8/17/90	C
SPS3_CRACK	17	B330	NA	8/2/90	C
SPS3_CRACK	18	A330	NA	8/16/90	C
SPS3_CRACK	19	A330	NA	7/10/90	C
SPS3_CRACK	20	A330	NA	7/13/90	C
SPS3_CRACK	20	B330	NA	7/14/90	C
SPS3_CRACK	21	A330	NA	8/14/90	C
SPS3_CRACK	21	B330	NA	8/15/90	C
SPS3_CRACK	24	A331	NA	12/5/90	A
SPS3_CRACK	26	A330	NA	8/5/90	C

Table 25. Summary of M&R non-level E data, continued.

File Name	State	SHRP ID	CN	Date Completed	Record Status
SPS3_CRACK	26	B330	NA	8/7/90	C
SPS3_CRACK	26	C330	NA	8/9/90	C
SPS3_CRACK	26	D330	NA	8/10/90	C
SPS3_CRACK	27	A330	NA	7/28/90	C
SPS3_CRACK	27	B330	NA	7/28/90	C
SPS3_CRACK	27	C330	NA	7/30/90	C
SPS3_CRACK	27	D330	NA	7/31/90	C
SPS3_CRACK	29	A330	NA	8/19/90	C
SPS3_CRACK	29	B330	NA	8/18/90	C
SPS3_CRACK	31	A330	NA	7/17/90	C
SPS3_CRACK	36	A331	NA	6/1/90	A
SPS3_CRACK	36	B331	NA	5/9/90	A
SPS3_CRACK	83	A330	NA	7/25/90	C
SPS3_CRACK	87	A311	NA	7/9/90	A
SPS3_CRACK	87	B311	NA	7/27/90	A
SPS3_CRACK	90	A330	NA	7/23/90	C
SPS3_CRACK	90	B330	NA	7/21/90	C
SPS3_SLURRY	36	A321	NA	8/30/90	A
SPS4_CRACK_SEAL_GENERAL	4	A441	1	3/31/91	A
SPS4_CRACK_SEAL_GENERAL	4	A442	1	3/25/91	A
SPS4_CRACK_SEAL_GENERAL	4	A443	1	3/31/91	A
SPS4_CRACK_SEAL_GENERAL	4	A444	1	3/29/91	A
SPS4_CRACK_SEAL_GENERAL	4	A445	1	3/31/91	A
SPS4_CRACK_SEAL_GENERAL	4	A446	1	3/18/91	A
SPS4_CRACK_SEAL_GENERAL	4	A447	1	3/25/91	A
SPS4_CRACK_SEAL_GENERAL	4	A448	1	3/27/91	A
SPS4_CRACK_SEAL_GENERAL	4	A449	1	3/30/91	A
SPS4_CRACK_SEAL_GENERAL	4	A450	1	3/25/91	A
SPS4_CRACK_SEAL_GENERAL	4	A451	1	3/25/91	A
SPS4_CRACK_SEAL_GENERAL	4	A452	1	3/31/91	A
SPS4_CRACK_SEAL_GENERAL	4	A453	1	3/30/91	A
SPS4_CRACK_SEAL_GENERAL	4	A454	1	3/27/91	A
SPS4_CRACK_SEAL_GENERAL	4	A455	1	3/30/91	A
SPS4_CRACK_SEAL_GENERAL	4	A456	1	3/25/91	A
SPS4_CRACK_SEAL_GENERAL	4	A457	1	3/29/91	A
SPS4_CRACK_SEAL_GENERAL	4	A458	1	3/30/91	A
SPS4_CRACK_SEAL_GENERAL	4	A459	1	3/30/91	A
SPS4_CRACK_SEAL_GENERAL	4	A460	1	3/31/91	A
SPS4_CRACK_SEAL_GENERAL	4	A461	1	3/31/91	A
SPS4_CRACK_SEAL_GENERAL	4	A462	1	3/25/91	A
SPS4_CRACK_SEAL_GENERAL	8	A411	1	11/16/95	A
SPS4_CRACK_SEAL_GENERAL	8	A412	1	11/17/95	A
SPS4_CRACK_SEAL_GENERAL	8	A413	1	11/16/95	A
SPS4_CRACK_SEAL_GENERAL	8	A414	1	11/16/95	A
SPS4_CRACK_SEAL_GENERAL	8	A415	1	11/17/95	A
SPS4_CRACK_SEAL_GENERAL	8	A431	1	11/17/95	A
SPS4_CRACK_SEAL_GENERAL	8	A441	1	11/19/95	A
SPS4_CRACK_SEAL_GENERAL	8	A442	1	11/19/95	A
SPS4_CRACK_SEAL_GENERAL	8	A443	1	11/19/95	A
SPS4_CRACK_SEAL_GENERAL	8	A444	1	11/17/95	A
SPS4_CRACK_SEAL_GENERAL	8	A445	1	11/17/95	A
SPS4_CRACK_SEAL_GENERAL	8	A446	1	11/17/95	A
SPS4_CRACK_SEAL_GENERAL	8	A451	1	11/17/95	A
SPS4_CRACK_SEAL_GENERAL	8	A452	1	11/19/95	A

Table 25. Summary of M&R non-level E data, continued.

File Name	State	SHRP ID	CN	Date Completed	Record Status
SPS4_CRACK_SEAL_GENERAL	8	A453	1	11/16/95	A
SPS4_CRACK_SEAL_GENERAL	18	A430	1	10/8/91	C
SPS4_CRACK_SEAL_GENERAL	29	A411	1	8/12/91	A
SPS4_CRACK_SEAL_GENERAL	29	B411	1	8/16/91	A
SPS4_CRACK_SEAL_GENERAL	32	A451	1	8/21/91	A
SPS4_CRACK_SEAL_GENERAL	32	A452	1	8/21/91	A
SPS4_CRACK_SEAL_GENERAL	32	A453	1	8/21/91	A
SPS4_CRACK_SEAL_GENERAL	32	A454	1	8/23/91	A
SPS4_CRACK_SEAL_GENERAL	32	A455	1	8/22/91	A
SPS4_CRACK_SEAL_GENERAL	32	A456	1	8/22/91	A
SPS4_CRACK_SEAL_GENERAL	32	A457	1	8/23/91	A
SPS4_CRACK_SEAL_GENERAL	32	A458	1	8/21/91	A
SPS4_CRACK_SEAL_GENERAL	32	A459	1	8/21/91	A
SPS4_CRACK_SEAL_GENERAL	32	A460	1	8/21/91	A
SPS4_CRACK_SEAL_GENERAL	32	A461	1	8/23/91	A
SPS4_CRACK_SEAL_GENERAL	32	A462	1	8/22/91	A
SPS4_CRACK_SEAL_GENERAL	32	A463	1	8/22/91	A
SPS4_CRACK_SEAL_GENERAL	32	A464	1	8/23/91	A
SPS4_CRACK_SEAL_GENERAL	39	A411	1	8/28/93	A
SPS4_CRACK_SEAL_GENERAL	39	A412	1	9/17/93	A
SPS4_CRACK_SEAL_GENERAL	39	B411	1	6/30/93	A
SPS4_CRACK_SEAL_GENERAL	39	B411	1	7/8/93	A
SPS4_CRACK_SEAL_GENERAL	39	B412	1	6/30/93	A
SPS4_CRACK_SEAL_GENERAL	49	C431	1	10/23/90	A
SPS4_CRACK_SEAL_GENERAL	49	C440	1	10/26/90	A
SPS4_CRACK_SEAL_GENERAL	49	C441	1	10/25/90	A
SPS4_CRACK_SEAL_GENERAL	49	C444	1	10/25/90	A
SPS4_CRACK_SEAL_GENERAL	49	C445	1	10/26/90	A
SPS4_CRACK_SEAL_GENERAL	49	C446	1	10/24/90	A
SPS4_CRACK_SEAL_GENERAL	49	C447	1	10/25/90	A
SPS4_CRACK_SEAL_GENERAL	49	C448	1	10/25/90	A
SPS4_CRACK_SEAL_GENERAL	49	C449	1	10/24/90	A
SPS4_CRACK_SEAL_GENERAL	49	C450	1	10/26/90	A
SPS4_CRACK_SEAL_GENERAL	49	C451	1	10/25/90	A
SPS4_CRACK_SEAL_GENERAL	49	C452	1	10/26/90	A
SPS4_CRACK_SEAL_GENERAL	49	C454	1	10/24/90	A
SPS4_CRACK_SEAL_GENERAL	49	C455	1	10/24/90	A
SPS4_CRACK_SEAL_GENERAL	49	C456	1	10/24/90	A
SPS4_CRACK_SEAL_GENERAL	49	D440	1	5/19/92	A
SPS4_CRACK_SEAL_GENERAL	49	D441	1	5/19/92	A
SPS4_CRACK_SEAL_GENERAL	49	D443	1	5/19/92	A
SPS4_CRACK_SEAL_GENERAL	49	D444	1	5/27/92	A
SPS4_CRACK_SEAL_GENERAL	49	D445	1	5/22/92	A
SPS4_CRACK_SEAL_GENERAL	49	D446	1	5/22/92	A
SPS4_CRACK_SEAL_GENERAL	49	D448	1	7/2/92	A
SPS4_CRACK_SEAL_GENERAL	49	D449	1	5/27/92	A
SPS4_CRACK_SEAL_GENERAL	49	D450	1	5/27/92	A
SPS4_CRACK_SEAL_GENERAL	49	D451	1	6/29/92	A
SPS4_CRACK_SEAL_GENERAL	49	D452	1	8/14/92	A
SPS4_CRACK_SEAL_GENERAL	49	D452	1	7/2/92	A
SPS4_CRACK_SEAL_GENERAL	49	D454	1	7/3/92	A
SPS4_CRACK_SEAL_GENERAL	49	D455	1	7/3/92	A
SPS4_CRACK_SEAL_GENERAL	49	D459	1	7/3/92	A
SPS4_CRACK_SEAL_GENERAL	49	D460	1	6/29/92	A

Table 25. Summary of M&R non-level E data, continued.

File Name	State	SHRP ID	CN	Date Completed	Record Status
SPS4_CRACK_SEAL_GENERAL	49	D461	1	5/20/92	A
SPS4_CRACK_SEAL_GENERAL	49	D462	1	6/29/92	A
SPS4_CRACK_SEAL_GENERAL	49	E440	1	7/11/91	A
SPS4_CRACK_SEAL_GENERAL	49	E441	1	7/11/91	A
SPS4_CRACK_SEAL_GENERAL	49	E443	1	7/10/91	A
SPS4_CRACK_SEAL_GENERAL	49	E444	1	7/11/91	A
SPS4_CRACK_SEAL_GENERAL	49	E445	1	7/10/91	A
SPS4_CRACK_SEAL_GENERAL	49	E446	1	7/11/91	A
SPS4_CRACK_SEAL_GENERAL	49	E448	1	9/30/91	A
SPS4_CRACK_SEAL_GENERAL	49	E449	1	10/1/91	A
SPS4_CRACK_SEAL_GENERAL	49	E450	1	10/1/91	A
SPS4_CRACK_SEAL_GENERAL	49	E451	1	9/25/91	A
SPS4_CRACK_SEAL_GENERAL	49	E452	1	9/30/91	A
SPS4_CRACK_SEAL_GENERAL	49	E454	1	9/26/91	A
SPS4_CRACK_SEAL_GENERAL	49	E455	1	9/25/91	A
SPS4_CRACK_SEAL_GENERAL	49	E456	1	7/11/91	A
SPS4_CRACK_SEAL_GENERAL	49	E459	1	9/25/91	A
SPS4_CRACK_SEAL_GENERAL	49	E461	1	7/11/91	A
SPS4_CRACK_SEAL_GENERAL	49	E462	1	9/30/91	A
SPS4_UNDERSEAL_GENERAL	49	C456	1	10/24/90	A
SPS5_OVERLAY	501	0006	2	4/20/92	D
SPS5_OVERLAY	502	0006	2	4/20/92	D
SPS5_OVERLAY	503	0006	2	4/20/92	D
SPS5_OVERLAY	504	0006	2	4/20/92	D
SPS5_OVERLAY	505	0006	2	4/20/92	D
SPS5_OVERLAY	506	0006	2	4/20/92	D
SPS5_OVERLAY	507	0006	2	4/20/92	D
SPS5_OVERLAY	508	0006	2	4/20/92	D
SPS5_OVERLAY	509	0006	2	4/20/92	D
SPS5_OVERLAY	559	0004	1	5/31/90	A
SPS5_OVERLAY	559	0006	2	4/24/92	A
SPS5_OVERLAY	559	0008	1	10/3/91	A
SPS5_OVERLAY	559	0023	1	6/27/95	A
SPS5_OVERLAY	559	0024	1	5/12/92	A
SPS5_OVERLAY	559	0034	1	8/21/92	A
SPS5_OVERLAY	560	0004	1	5/18/90	A
SPS5_OVERLAY	560	0008	1	9/30/91	A
SPS5_OVERLAY	560	0013	1	6/16/93	A
SPS5_OVERLAY	560	0024	1	6/10/92	A
SPS5_OVERLAY	560	0028	1	9/25/93	A
SPS5_OVERLAY	560	0028	1	9/25/90	A
SPS5_OVERLAY	560	0030	1	9/12/91	A
SPS5_OVERLAY	560	0034	1	8/19/92	A
SPS5_OVERLAY	560	0040	1	7/7/97	A
SPS5_OVERLAY	561	0006	2	4/20/92	A
SPS5_OVERLAY	561	0012	1	4/6/95	A
SPS5_OVERLAY	561	0013	1	6/9/93	A
SPS5_OVERLAY	561	0024	2	6/9/92	A
SPS5_OVERLAY	561	0030	1	9/12/91	A
SPS5_OVERLAY	562	0006	2	4/20/92	A
SPS5_OVERLAY	562	0012	1	4/18/95	A
SPS5_OVERLAY	562	0013	1	6/8/93	A
SPS5_OVERLAY	562	0024	1	6/9/92	A
SPS5_OVERLAY	563	0001	1	12/20/91	A

Table 25. Summary of M&R non-level E data, continued.

File Name	State	SHRP ID	CN	Date Completed	Record Status
SPS5_OVERLAY	563	0006	2	4/20/92	A
SPS5_OVERLAY	563	0012	1	4/18/95	A
SPS5_OVERLAY	563	0013	1	6/17/93	A
SPS5_OVERLAY	563	0024	2	6/10/92	A
SPS5_OVERLAY	564	0001	1	12/10/91	A
SPS5_OVERLAY	564	0006	2	4/22/92	A
SPS5_OVERLAY	564	0012	1	4/19/95	A
SPS5_OVERLAY	564	0013	1	6/16/93	A
SPS5_OVERLAY	565	0006	2	4/22/92	A
SPS5_OVERLAY	565	0012	1	4/17/95	A
SPS5_OVERLAY	565	0013	1	6/16/93	A
SPS5_OVERLAY	566	0006	2	4/22/92	A
SPS5_OVERLAY	566	0012	1	4/18/95	A
SPS5_OVERLAY	566	0013	1	6/17/93	A
SPS5_OVERLAY	567	0006	2	4/22/92	A
SPS5_OVERLAY	568	0006	2	4/24/92	A
SPS5_OVERLAY	569	0006	2	4/23/92	A
SPS5_OVERLAY	570	0006	2	4/23/92	A
SPS5_OVERLAY	571	0006	2	4/23/92	A
SPS6_OVERLAY	1	0661	2	6/26/98	A
SPS6_OVERLAY	1	0662	2	6/26/98	A
SPS6_OVERLAY	1	0663	2	6/26/98	A
SPS6_OVERLAY	4	0659	1	10/6/90	A
SPS6_OVERLAY	4	0660	1	8/6/90	A
SPS6_OVERLAY	4	0661	1	10/6/90	A
SPS6_OVERLAY	4	0662	1	10/6/90	A
SPS6_OVERLAY	4	0663	1	8/5/90	A
SPS6_OVERLAY	4	0664	1	9/11/90	A
SPS6_OVERLAY	4	0665	1	9/11/90	A
SPS6_OVERLAY	4	0666	1	9/11/90	A
SPS6_OVERLAY	4	0667	1	9/11/90	A
SPS6_OVERLAY	4	0668	1	9/11/90	A
SPS6_OVERLAY	4	0669	1	9/11/90	A
SPS6_OVERLAY	6	0659	2	8/31/92	A
SPS6_OVERLAY	6	0660	2	8/30/92	A
SPS6_OVERLAY	6	0661	2	8/30/92	A
SPS6_OVERLAY	6	0662	1	5/26/92	A
SPS6_OVERLAY	6	0664	2	9/1/92	A
SPS6_OVERLAY	17	0604	1	6/11/90	D
SPS6_OVERLAY	17	0659	1	6/18/91	A
SPS6_OVERLAY	17	0662	1	6/11/91	A
SPS6_OVERLAY	17	0662	1	6/18/90	A
SPS6_OVERLAY	17	0663	1	6/7/90	A
SPS6_OVERLAY	17	0663	1	6/18/90	A
SPS6_OVERLAY	17	0664	1	6/7/90	A
SPS6_OVERLAY	17	0664	1	6/18/90	A
SPS6_OVERLAY	18	0603	1	8/30/90	C
SPS6_OVERLAY	18	0604	1	8/30/90	C
SPS6_OVERLAY	18	0606	1	8/30/90	C
SPS6_OVERLAY	18	0607	2	8/30/90	C
SPS6_OVERLAY	18	0608	1	8/30/90	C
SPS6_OVERLAY	18	0659	1	8/30/90	A
SPS6_OVERLAY	18	0660	1	8/30/90	A
SPS6_OVERLAY	18	0661	1	8/30/90	A

Table 25. Summary of M&R non-level E data, continued.

File Name	State	SHRP ID	CN	Date Completed	Record Status
SPS6_OVERLAY	18	0662	1	8/30/90	A
SPS6_OVERLAY	18	0663	1	8/30/90	A
SPS6_OVERLAY	18	0664	1	8/30/90	A
SPS6_OVERLAY	18	0665	1	8/30/90	A
SPS6_OVERLAY	18	0666	1	8/30/90	A
SPS6_OVERLAY	18	0668	1	8/30/90	A
SPS6_OVERLAY	18	0669	1	8/30/90	A
SPS6_OVERLAY	18	0670	1	8/30/90	A
SPS6_OVERLAY	18	0671	1	8/30/90	A
SPS6_OVERLAY	18	0672	1	8/30/90	A
SPS6_OVERLAY	18	A667	1	8/30/90	A
SPS6_OVERLAY	19	0603	1	8/16/89	C
SPS6_OVERLAY	19	0604	1	8/10/89	C
SPS6_OVERLAY	19	0606	1	8/16/89	C
SPS6_OVERLAY	19	0607	1	8/30/89	C
SPS6_OVERLAY	19	0608	1	8/22/89	C
SPS6_OVERLAY	26	0603	1	5/30/90	C
SPS6_OVERLAY	29	0603	1	8/10/92	C
SPS6_OVERLAY	29	0604	1	8/10/92	C
SPS6_OVERLAY	29	0606	1	8/10/92	C
SPS6_OVERLAY	29	0607	1	8/8/92	C
SPS6_OVERLAY	29	0608	1	8/8/92	C
SPS6_OVERLAY	29	0659	1	8/8/92	A
SPS6_OVERLAY	29	0660	1	8/8/92	A
SPS6_OVERLAY	29	0661	1	8/10/92	A
SPS6_OVERLAY	29	0663	1	8/8/92	A
SPS6_OVERLAY	29	0664	1	7/9/92	A
SPS6_OVERLAY	29	0665	1	8/10/92	A
SPS6_OVERLAY	42	0660	1	9/23/92	A
SPS6_OVERLAY	42	0661	1	9/23/92	A
SPS6_OVERLAY	42	0662	1	9/23/92	A
SPS6_OVERLAY	46	0601	1	9/27/92	C
SPS6_OVERLAY	46	0603	1	9/25/92	C
SPS6_OVERLAY	46	0604	1	9/25/92	C
SPS6_OVERLAY	46	0606	1	9/25/92	C
SPS6_OVERLAY	46	0607	1	9/24/92	C
SPS6_OVERLAY	46	0608	1	9/24/92	C
SPS6_OVERLAY	46	0660	1	9/24/92	A
SPS6_OVERLAY	46	0661	1	9/25/92	A
SPS6_OVERLAY	46	0662	1	9/25/92	A
SPS6_OVERLAY	47	0661	1	5/13/96	A
SPS6_OVERLAY	47	0662	1	5/13/96	A

APPENDIX I. SECTIONS OF REHABILITATION EXPERIMENTS WITH NO M&R RECORDS

Table 26 contains rehabilitation experiments sections that do not have recorded rehabilitation data in the IMS.

Table 26. Sections of rehabilitation experiments with no M&R records.

State	SHRP ID	CN	CN Assign Date	GPS/SPS	Exper. No	Region
1	4129	2	6/1/89	G	6B	S
2	1002	2	8/1/98	G	6B	W
4	1003	2	10/1/93	G	6S	W
4	1006	2	10/1/93	G	6S	W
4	1007	2	1/1/95	G	6S	W
4	1062	2	10/1/92	G	6S	W
4	1065	2	10/1/92	G	6S	W
6	2041	2	3/1/96	G	6B	W
6	2051	2	1/1/97	G	6B	W
6	7491	2	4/15/98	G	6S	W
6	8149	2	3/1/93	G	6S	W
8	1047	2	10/1/92	G	6B	W
8	7780	2	11/1/90	G	6B	W
8	7781	2	9/1/91	G	6B	W
16	1007	2	8/15/97	G	6B	W
18	5538	2	10/17/90	G	7B	NC
19	0702	2	8/12/92	S	7	NC
19	0703	2	8/13/92	S	7	NC
19	0704	2	8/5/92	S	7	NC
19	0705	2	8/5/92	S	7	NC
19	0706	2	8/5/92	S	7	NC
19	0707	2	8/5/92	S	7	NC
19	0708	2	8/8/92	S	7	NC
19	0709	2	8/8/92	S	7	NC
20	4067	2	11/18/91	G	7B	NC
20	4067	3	4/22/92	G	7D	NC
20	7073	2	8/10/92	G	7S	NC
24	0503	2	6/6/92	S	5	NA
24	0504	2	4/1/92	S	5	NA
24	0505	2	4/1/92	S	5	NA
24	0506	2	4/1/92	S	5	NA
24	0507	2	4/1/92	S	5	NA
24	0508	2	4/1/92	S	5	NA
24	0509	2	4/2/92	S	5	NA
26	0603	2	5/15/90	S	6	NC
26	0604	2	5/15/90	S	6	NC
26	0606	2	5/15/90	S	6	NC
26	0607	2	5/15/90	S	6	NC
26	0608	2	5/30/90	S	6	NC
27	0502	2	9/15/90	S	5	NC
27	0503	2	9/15/90	S	5	NC
27	0504	2	9/15/90	S	5	NC
27	0505	2	9/15/90	S	5	NC
27	0506	2	9/15/90	S	5	NC
27	0507	2	9/15/90	S	5	NC
27	0508	2	9/15/90	S	5	NC
27	0509	2	9/15/90	S	5	NC
27	0702	2	9/14/90	S	7	NC
29	0603	2	8/10/92	S	6	NC
29	0604	2	8/10/92	S	6	NC
29	0606	2	8/10/92	S	6	NC
29	0608	2	8/8/92	S	6	NC
34	1011	2	4/28/98	G	6S	NA

Table 26. Sections of rehabilitation experiments with no M&R records, continued.

State	SHRP ID	CN	CN Assign Date	GPS/SPS	Exper. No	Region
34	1033	2	9/11/97	G	6C	NA
42	1605	2	6/14/95	G	6B	NA
48	1094	2	9/14/98	G	6B	S
48	1116	2	10/17/90	G	6B	S
48	1116	3	2/2/92	G	6S	S

REFERENCES

1. "Distress Data Consolidation," Work Order 11 – Long Term Pavement Performance Data Analysis Project, Draft Final Report, Submitted for review to FHWA, September 1999.

2. *Data Collection Guide for Long Term Pavement Performance Studies,* Federal Highway Administration, LTPP Division-HNR-40, McLean, Virginia, October 1993.