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Final Report

HOT BITUMINOUS PAVEMENT GRADATION ACCEPTANCE REVIEW OF QC/QA DATA 2000 THROUGH 2003

Eric Chavez, CDOT Pavement Design Unit



April 2005

COLORADO DEPARTMENT OF TRANSPORTATION
RESEARCH BRANCH

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16. Abstract <p>This report analyzes the Quality Control/Quality Assurance (QC/QA) data for hot bituminous pavements using gradation acceptance awarded in the years 2000 through 2003. Analysis of the overall project performance is accomplished by reviewing the Calculated Pay Factor Composite (CPFC) and Incentive/Disincentive Payments (I/DP) calculations. A detailed analysis of each of the test elements: mat density, percent asphalt, gradation, and joint density is also presented in tables, figures, and sub-reports. Various data groupings are used to evaluate the data including: year, region, & grading.</p> <p>Continued improvements can be measured in the hot bituminous pavement in the years 2000 through 2003. When evaluating the overall results for the projects, by reviewing the Calculated Pay Factor Composite, there is a 0.006 improvement. Improvements in each of the test elements can also be measured. The mat density element has shown an improvement in quality levels of 2.06% over the four-year time period. Percent asphalt has increased by 2.70% and the gradation element has shown the best improvement measured at 4.15%. The mat density element has the best reported quality levels. Next best quality levels are in the percent asphalt element. The gradation element continues to rank last in quality levels but has seen the best improvement since 2000. Improvements can also be measured when evaluating the mixes by grading. Each of the elements has shown improvements in quality levels when evaluated by grading with the exception for grading S in the mat density element which shows a slight decrease in quality levels over the four-year time period. Overall grading SX has shown better test results as compared to grading S in each year when reviewing the Calculated Pay Factor Composite. The results for the joint density element after one year are about neutral. About the same number of projects are receiving incentive payments as are receiving disincentive payments on this element.</p>					
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**Hot Bituminous Pavement Gradation Acceptance
Review of QC/QA Data
2000 Through 2003**

by

Eric Chavez

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Prepared by
Colorado Department of Transportation
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Colorado Department of Transportation
Research Branch
4201 E. Arkansas Ave.
Denver, CO 80222
(303) 757-9266

TABLE OF CONTENTS

1.0 INTRODUCTION AND COMMENTS	1
2.0 SPECIFICATIONS	1
3.0 CALCULATIONS AND DEFINITIONS.....	2
4.0 DESCRIPTION OF REPORTS	6
5.0 DATA FOR THE YEARS 1991 TO 1997	11
6.0 DISCUSSION OF DATA	11
6.1 Projects Evaluated.....	11
6.2 Calculated Pay Factor Composite	12
6.3 Calculated Pay Factor Composite by Grading	18
6.4 Incentive/Disincentive Payments	21
6.5 Recap of Data by Test Element - 1991 to 2003	23
6.6 Review of Element Quality Levels 2000 to 2003.....	28
6.7 Test Element Quality Levels, Gradings S & SX, 2000 to 2003.....	31
6.8 Joint Density Test Information	36
6.9 Effect of Adding Joint Density Testing	37
6.9.1 Effect of Adding Joint Density Testing, Grading S & SX	40
6.10 Recap Reports 2000 to 2003 Data.....	43
6.11 Reports for 2003	43
7.0 SUMMARY	44
8.0 UPDATES AND CONTACT	44
REFERENCES	45
Appendix A Recap Reports for Project Data 2000 to 2003	
Appendix B Reports for 2003 Projects	
Appendix B Joint Density Reports 2002 to 2003	

LIST OF FIGURES

1. Calculated Pay Factor Composite by Year.....	15
2. Calculated Pay Factor Composite by Year with Trendline	16
3. Calculated Pay Factor Composite by Region/Year, Reg. 1-3.....	16
4. Calculated Pay Factor Composite by Region/Year, Reg. 4-6.....	17
5. Calculated Pay Factor Composite by Region 2000 to 2003.....	17
6. Calculated Pay Factor Composite by Year Grading S & SX	20
7. Calculated Pay Factor Composite by Year S & SX with Trend	20
8. Percent Asphalt Quality Levels	25
9. Percent Asphalt Pay Factors.....	25
10. Density Quality Levels.....	26
11. Density Pay Factors	26
12. Gradation Quality Levels	27
13. Gradation Pay Factors	27
14. Quality Levels by Test Element.....	29
15. Element Quality Levels with Trendline	30
16. Percent Asphalt Quality Levels – Gradings S & SX	33
17. Percent Asphalt Quality Levels – Gradings S & SX with Trend.....	33
18. Density Quality Levels – Gradings S & SX.....	34
19. Density Quality Levels – Gradings S & SX with Trendline.....	34
20. Gradation Quality Levels – Gradings S & SX.....	35
21. Gradation Quality Levels – Gradings S & SX with Trendline.....	35
22. Percent Asphalt Quality Levels by Specification	39
23. Mat Density Quality Levels by Specification.....	39
24. Gradation Quality Levels by Specification	40
25. Percent Asphalt Quality Levels by Specification, Grading S & SX.....	42
26. Mat Density Quality Levels by Specification, Grading S & SX.....	42
27. Gradation Quality Levels by Specification, Grading S & SX.....	43

LIST OF TABLES

1. “W” Factors for Various Elements	2
2. Projects Evaluated	12
3. Calculated Pay Factor Composite by Year/Region	14
4. Calculated Pay Factor Composite by Year and Grading.....	19
5. Incentive/Disincentive Payments – Recap by Year.....	22
6. Recap of Yearly Data by Test Element	24
7. Review of Test Elements - Gradings S & SX	32
8. Joint Density Test Information - Grading S & SX	36
9. Comparison of Joint Density and Non Joint Density Projects	38
10. Comparison of Joint Density Projects – Grading S & SX	41

LIST OF REPORTS

1. Asphalt Content – Recap by Grading/Year/Region.....	Appendix A
2. Mat Density – Recap by Grading/Year/Region	Appendix A
3. Gradation – Process Information by Grading/Year/Region	Appendix A
4. Gradation Standard Deviation Info. by Grading/Year/Region	Appendix A
5. Joint Density – Recap by Grading/Year/Region.....	Appendix A

2003 Project Data

6. Project Listing by Region/Subaccount	Appendix B
7. Project Data	Appendix B
8. Calculated Pay Factor Composite and I/DP by Region.....	Appendix B
9. Asphalt Content – Process Information by Grading	Appendix B
10. Asphalt Content – Recap by Region	Appendix B
11. Mat Density – Process Information by Grading.....	Appendix B
12. Mat Density – Recap by Region	Appendix B
13. Gradation – Process Information by Grading	Appendix B
14. Gradation – Process Information – Recap by Region	Appendix B
15. Gradation Standard Deviation Information by Grading	Appendix B
16. Gradation Standard Deviation Info. – Recap by Region	Appendix B
17. Project Listing – Joint Density	Appendix B
18. Joint Density – Process Information by Grading	Appendix B

1.0 INTRODUCTION AND COMMENTS

The Colorado Department of Transportation (CDOT) began Quality Control/Quality Assurance (QC/QA) construction for hot bituminous pavement (HBP) in 1992 with the implementation of a three-year pilot program which was essentially completed in 1994 (several projects were held over and completed in 1995).

In 1994 a revised and updated specification was written, designated as QPM 2. It was used on a few projects completed in 1995 and essentially all HBP projects completed in 1996 and 1997. Reports have been published for 1992 through 1996. These are available from the CDOT Library. The 1995 construction report contains summaries for both QPM 1 & 2.

This report continues the analysis of the QC/QA data for hot bituminous paving projects using gradation acceptance and covers the years 1991 through 2003. Detailed analysis is given for the years 2000 through 2003. Recap reports showing different data groupings are also presented for the years 2000 through 2003. Detailed reports for the projects awarded in 2003 are included in this report. Reports evaluating the percent asphalt, mat density, gradation, & joint density elements are detailed by grading & region are included. Charts comparing the quality level and pay factor information for the years 1991 to 1997 and 2000 to 2003 are displayed for the percent asphalt, mat density, & gradation elements. The previous report in this series titled *Hot Bituminous Pavement Gradation Acceptance Review of QC/QA Data 2000 to 2002* is available from the CDOT Library.

The general format and presentation of data in this report are similar to that used in previous QC&QA reports. Information on the background, development, philosophy and rationale involved can be found in the previous reports and is not repeated here.

2.0 SPECIFICATIONS

Specifications - Revision of Sections 105 and 106, Quality of Hot Bituminous Pavement.

The Revision to Sections 105 & 106 governs the QC/QA calculations. A major change to the specification was made with the release of the specification dated December 20, 2002. Joint density testing was included in the calculation for Incentive/Disincentive Payments (I/DP) in this release. The joint density element now accounts for 15 percent of the total I/DP calculation. The weights associated with the other test elements were adjusted to account for the new testing element. Table 1 shows the old and new weights and test elements. No other changes were made in the specification that affected the calculations for quality level, pay factor, or I/DP at that time.

Table 1. “W” Factors For Various Elements

	W Factor			
Specification	Percent Asphalt	Mat Density	Gradation	Joint Density
10/4/01 & Older	30	50	20	
12/20/02 & Newer	25	45	15	15

Prior to the changes made with the release of the 12/20/02 specification the only other change made in calculations was a change to the calculation for pay factor in February of 1997 with the incorporation of Formula 1 into the calculation. At the same time Table 105-2, Formulas for Calculating PF Based on Pn, was modified to include additional equations for calculating Pn. The revision to sections 105 and 106 was released as a standard specification beginning in 1995. The calculation for quality levels has remained unchanged since the beginning. The specification has been revised numerous times over the years but the changes were in other areas and did not affect the QC/QA calculations. Use of CDOT’s QC/QA computer program is a requirement of the specification. The computer program is based on this specification.

3.0 CALCULATIONS AND DEFINITIONS

Process Quantities – Process quantities of material are used for all calculations in this report except for the calculation of the Calculated Pay Factor Composite. In general,

processes group like material or construction techniques together. As long as the material being evaluated remains unchanged it will be added to the current process. If a change to the material or the construction technique occurs then a new process will be created. Please see the Revision to Sections 105 & 106, Quality of Hot Bituminous Pavement for details on processes.

Calculated Pay Factor Composite – The Calculated Pay Factor Composite (CPFC) is a way to evaluate the overall performance of the project. The CPFC represents the percentage increase or decrease to the unit price for hot bituminous pavement paid on the project. Projects with a CPFC greater than 1.0 will have received an incentive payment. Projects with a CPFC less than 1.0 will have received a disincentive payment. The CPFC is back calculated from the project’s Final Incentive/Disincentive Payment (I/DP). This calculation is used rather than an overall quality level calculation since a project can contain processes in which no quality level is calculated, processes with less than three tests. The calculation used here also addresses the problem which occurred in some of the reported projects in which the final element quantities were not equal. The main reason this calculation is used is to avoid the problems associated with averaging of the data. The calculation is as follows:

$$CPFC = (I/DP / ((UP_p) * (QR_p))) + 1$$

Where: CPFC = Calculated Pay Factor Composite.

I/DP = Incentive/Disincentive Payment for the project.

UP_p = Calculated Unit Price for the project.

QR_p = Quantity Represented Project, average of the tons reported in the percent asphalt and gradation elements.

$$UP_p = (\sum (UP_n * T_n)) / \sum T_n$$

Where: UP_n = Unit Price for the process.

T_n = Tons represented by the process, average of the tons reported in the percent asphalt and gradation elements.

Note: The quantities used in the calculation of average tons and average price are the

quantities reported in the percent asphalt and gradation elements. After a review of the project data it was determined that these quantities most accurately represented the actual produced quantity when the reported quantities were not equal in the test elements.

CTS (Compaction Test Section) – A compaction pavement test section used to establish the number of rollers and rolling pattern needed to achieve specified densities, see Revision of Section 401, Compaction Test Section for details.

CTS Tons (Compaction test section tons) – Tons of material accounted for in the mat density test element by the construction of compaction test sections within the project.

CTS I/DP (Compaction test section Incentive/Disincentive Payment) – The calculated I/DP for compaction test sections.

I/DP (Incentive/Disincentive Payment) - The amount of increase or decrease paid for a quantity of material within a test element, based on the calculated pay factor. The I/DP for a project is the summation of all calculated element I/DPs.

Joint Density – Density measurements taken on the longitudinal joint between paving passes, see Revision of Section 401, Plant Mix Pavements – General for details.

Key Sieve – In the gradation element, a quality level is calculated on each of the specification sieves. The lowest calculated QL is used to determine the PF for the gradation element. The sieve with the lowest QL has been labeled the Key Sieve in this report.

Mean to TV - The absolute value of the difference between the mean for the process and the target value for the test element. The lower the value the closer the mean for the process approaches the target value of the specification. This is one of the two factors that effects the quality level calculation. The other factor is the standard

deviation for the process.

Pay Factor - The amount of increase or decrease, displayed as a percentage, applied to the unit price of the pavement. Multiplied by the W Factor for the element to calculate I/DP for an element.

PF 1.0 Tons (Pay factor 1.0 tons) – Used in the mat density element to account for tons of material in which the pay factor is set to 1.0 by specification. Usually used on a project when the thickness of the mat being placed becomes too thin to be accurately tested.

Quality Level – Quality levels (Percent within limits) are calculated in accordance with Colorado Procedure 71. Quality level analysis is a statistical procedure for estimating the percent compliance to specification limits and is affected by shifts in the arithmetic mean and by the sample standard deviation. Analysis of both factors is essential whenever evaluating quality level results.

Slope of the regression line equation:
$$b = \frac{\sum(x - \bar{x})(y - \bar{y})}{\sum(x - \bar{x})^2}$$

Slope shows both steepness and direction. With positive slope the line moves upward when going from left to right. With negative slope the line moves down when going from left to right. The higher the value the steeper the line.

Std. Dev. (Standard Deviation) equation:
$$s = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

Std. Dev. – V (Standard Deviation minus the V Factor) - A comparison of the standard deviation for the process to the historical standard deviation for the element, the V Factor. Negative values indicate that the process has a smaller standard deviation than historically reported. The lower the number the better. The second factor that effects the quality level calculations.

Trendline equation: $y = mx + b$

Where: m = slope of the line.

b = y-intercept.

TV (Target Value) - The midpoint of the specification range.

V (V Factor) - One standard deviation for the test element based on historical data.

W Factor – The weight given the test element. Used in the calculation of I/DP's, see Table 1.

Weighted Average – The weighted average used in this report is based on tons of material represented.

4.0 DESCRIPTION OF REPORTS

Report Criteria – At the beginning of each report the selection criteria are listed for the data contained in the report. The primary grouping of projects is by their bid date. Quality levels are not calculated on processes that contain less than three test results. Therefore, those processes are excluded from the reports that contain quality level calculations. Other justifications as to why a project or process is excluded from the report are detailed in the report criteria.

Sample Size – Not too many conclusions should be drawn when the number of observations, sample size, is small. Generally speaking, an evaluation of five or less samples is not considered very reliable. Always check the number of samples included in the evaluation when doing comparisons of the data. Most of the reports presented here will indicate the number of samples included in the various data groupings. Figures that appear in this report will have associated tables that give the number of samples included in the data groupings.

Reports 1 to 5 - Recap Reports by Grading/Year/Region 2000 through 2003: Asphalt Content, Mat Density, Gradation – Process Information, Gradation – Standard Deviation, and Joint Density, Appendix A. For each of the test elements a report that recaps the information 2000 through 2003 is presented. The information is grouped first by grading and then by year. Region information is displayed for each year. Information presented includes: processes, tons, and tests along with the weighted averages for price, quality level, pay factor, and standard deviation. These reports are very useful for tracking the performance of a grading of HBP through the years and by each region. The information from these reports is used throughout the body of this report.

2003 REPORTS, Appendix B

Project Listing by Region/Subaccount. This report contains information for the projects included in the evaluation for 2003. The subaccount, project code, location, region, supplier, bid date, total bid, and plan quantity are listed for each project. The report is grouped by region and sorted by project code. A region recap is displayed. A statewide recap is given at the end of the report.

Project Data. The Project Data report displays all of the QC/QA data reported for each project. The projects are sorted by subaccount number. Each project's data is detailed by mix design and process number. The number of tests, quantity in tons, quality levels, pay factors, and Incentive/Disincentive Payment are given for each mix design and process. A summary for each project is also displayed and shows the CPFC. This report contains all of the project's data and is the best report to review when concerned about an individual project. All of a project's data may not be contained in other reports if the data does not meet that report's individual criteria.

Calculated Pay Factor Composite and IIDP by Region. This report evaluates two key calculations for each project, the Calculated Pay Factor Composite (CPFC) and the

project Incentive/Disincentive Payment (I/DP). The CPFC gives an index of the overall quality of the project; see Calculations for details on the calculation of the CPFC. The I/DP is the incentive or disincentive amount the project received for the HBP. The report groups the projects by region and contains a region recap. A statewide recap of the information is given at the end of the report.

Note: There is not a direct correlation between Calculated Pay Factor Composite and Incentive/Disincentive Payment. The calculations for pay factors are dependent on the number of tests and the quantity of material associated with each process. Larger runs of production, processes, have the potential to receive higher pay factors. Therefore, producing uniform material has the benefit of being eligible for more incentive. Differences in the process quantity can result in a different calculation for pay factor even if the quality levels are the same. Please refer to the Revision to Sections 105 and 106 for details on the calculations.

ASPHALT CONTENT REPORTS

Asphalt Content – Process Information. Asphalt content information is detailed in this report. The information is grouped by grading and sorted by quality level. For each process the quality level, pay factor, target value, mean, and standard deviation are given. The mean to target value and standard deviation minus V factor calculations are important whenever evaluating the quality level for the process. A recap for each grading is calculated. A recap that combines the information for all of the gradings is given at the end of the report.

Asphalt Content – Recap by Region. This report contains the same information as in the previous report except that the information is first grouped by grading and then by region. Only a recap of each region's results is presented. An average unit price is calculated for each region and grading. A statewide recap is given at the end of the report.

MAT DENSITY REPORTS

Mat Density – Process Information. Mat density information is detailed in this report. The information is grouped by grading and sorted by quality level. For each process the quality level, pay factor, target value, mean, and standard deviation are given. The mean to target value and standard deviation minus V factor calculations are important whenever evaluating the quality level for the process. A recap for each grading is calculated. A recap that combines the information for all of the gradings is given at the end of the report.

Mat Density – Recap by Region. This report contains the same information as in the previous report except that the information is first grouped by grading and then by region. Only a recap of each region's results is displayed. An average unit price is calculated for each region and grading. A statewide recap is given at the end of the report.

GRADATION REPORTS

The gradation element is covered in two sets of reports: *Gradation Process Information* and *Gradation Standard Deviation* reports. The second set of reports contains information on each of the specification sieves which is not detailed in the first set of reports.

Gradation – Process Information. Project information for the gradation element with the exception of standard deviation information is detailed in this report. The information is grouped by grading and sorted by quality level. The Key Sieve listed for each process is the specification sieve with the lowest calculated quality level. The lowest calculated quality level is the one used for the gradation element as a whole. A recap for each grading is calculated. A recap that combines the information for all of the gradings is given at the end of the report.

Gradation – Recap by Region. This report contains the same information as in the previous report except that the information is first grouped by grading and then by region. Only a recap of each region's results is displayed. An average unit price is calculated for each region and grading. A statewide recap is given at the end of the report.

Gradation – Standard Deviation Information. The standard deviation information for each of the specification sieves is detailed in this report. The information is grouped by grading and sorted by bid date. A recap for each grading is calculated. A recap that combines the information for all of the gradings is given at the end of the report.

Gradation – Standard Deviation - Recap by Region. This report contains the same information as in the previous report except that the information is first grouped by grading and then by region. Only a recap of each region's results is displayed. A statewide recap is given at the end of the report.

JOINT DENSITY REPORTS

Joint density testing became a testing requirement with the release of Revision to Sections 105 & 106 dated December 20, 2002. Only a few projects were released in 2002 which contained the joint density specification. All of the projects which contained the specification in the years 2002 and 2003 will be combined for this initial review of the specification.

Project Listing – Joint Density Projects. This report lists all the projects that contained the joint density specification. The report is grouped by region and sorted by subaccount. The report also indicates on which projects the joint density testing requirement was waived by project personnel.

Joint Density – Process Information by Grading. Joint density information is detailed in this report. The information is grouped by grading and sorted by quality

level. For each process the quality level, pay factor, target value, mean, and standard deviation are given. The mean to target value and standard deviation minus V factor calculations are important whenever evaluating the quality level for the process. A recap for each grading is calculated. A recap that combines the information for all of the gradings is given at the end of the report.

Joint Density – Recap by Region. This report contains the same information as in the previous report except that the information is first grouped by grading and then by region. Only a recap of each region's results is displayed. An average unit price is calculated for each region and grading. A statewide recap is given at the end of the report.

5.0 DATA FOR THE YEARS 1991 TO 1997

Data presented in this report for the years 1991 to 1997 was obtained from Report No. CDOT-DTD-R-98-4, Hot Bituminous Pavement QC&QA Projects Constructed in 1997 Under QPM 2 Specifications, Bud A. Brakey, P. E., May 1998. For information concerning this data please see the referenced report.

6.0 DISCUSSION OF THE DATA

6.1 Projects Evaluated

Table 2 displays the number of projects and tons of material by year included in the evaluations. A relatively small number of projects was evaluated in the years 1992, 1993, & 1997. This may account for the high results reported in these years. The data for the years 1998 & 1999 was not maintained by the Pavement Design Unit and is currently unavailable. For the years 2000 through 2002, twenty-three projects were added to the data base since the publication of the previous report, Report No. CDOT-DTD-R-2004-04, Hot Bituminous Pavement Gradation Acceptance Review of QC/QA Data 2000 to 2002, Eric Chavez, March 2004. The raw data from the newly added projects is not presented in this report. However, all calculations in this report reflect the

data contained in the current data base. The calculated values for the years 2000 through 2002 in this report may not match those in the previous report. None of the current values are significantly different than those in the previous report. Additional project data will be added to the database as the Pavement Design Unit receives it.

Table 2. Projects Evaluated

Year	Awarded		Evaluated		Voids Acceptance	
	Projects	Tons	Projects	Tons	Projects	Tons
1991				2,000,000		
1992			7	282,000		
1993			18	482,000		
1994			58	1,496,000		
1995			40	1,104,000		
1996			--	830,000		
1997			17	378,000		
2000	78	2,258,407	49	1,167,563	10	663,818
2001	54	1,321,609	39	870,442	3	155,270
2002	71	1,974,106	41	868,182	20	811,523
2003	74	2,327,464	28	734,770	15	569,645

6.2 Calculated Pay Factor Composite by Year and Region

The Calculated Pay Factor Composite (CPFC) information for the years 2000 through 2003 is displayed in Table 3. The information is sorted by year and then by region. Calculations covering the four-year time period are given at the end of the report. The weighted average is calculated for each of the data groupings. The maximum and minimum values are also displayed. The CPFC represents the percentage increase or decrease to the unit price for hot bituminous pavement paid on the projects, see the section Calculations and Definitions for details on the calculation of the CPFC. A CPFC above 1.0 indicates that an incentive payment was paid for the HBP. A CPFC below 1.0 indicates that a disincentive was applied to the pavement. Figure 1 displays the overall CPFC, all gradings of HBP included, by year for the years 2000 through 2003. Figure 2 displays the CPFC results and the calculated trendline. Improvements in the

CPFC can be seen over this time period. The rate of improvement is calculated at 0.006 over the four-year time period. The results in all but the first year are above the neutral mark of 1.0 showing that more incentive payments have been made than disincentive payments. Figures 3 and 4 display the CPFC results for each of the regions by year. An upward trend can be seen in most of the region's data. However, many of the data groupings contain three or fewer projects and are not large enough to make decisive conclusions. Each of the region's overall, 2000 through 2003, CPFC is shown in Figure 5. Regions 1, 3, and 4 have an average CPFC greater than 1%. Regions 5 and 6 are between 0 and 1% and Region 2 is slightly greater than 1% disincentive.

Table 3. Calculated Pay Factor Composite by Year/Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/03.

PFC is back calculated from the Project's I/DP

A Calculated Average Unit Price is used in the calculation

				Calculated Pay Factor Composite		
2000	Region	Projects	Tons	Average	Minimum	Maximum
	1	10	172,057	1.00494	0.91509	1.04477
	2	14	307,681	0.97200	0.78941	1.04209
	3	13	404,329	1.01418	0.96192	1.04569
	4	2	29,167	0.99760	0.99692	0.99828
	5	2	50,891	1.01011	1.00459	1.01563
	6	8	108,417	1.00966	0.97634	1.04014
	Totals	49	1,072,542	0.99866	0.78941	1.04569

				Calculated Pay Factor Composite		
2001	Region	Projects	Tons	Average	Minimum	Maximum
	1	5	162,498	1.01408	0.99761	1.03692
	2	13	234,140	0.99270	0.93018	1.03508
	3	12	286,042	1.01088	0.97675	1.04384
	4	1	27,853	1.03670	1.03670	1.03670
	5	3	88,053	1.00831	0.95729	1.04596
	6	5	101,580	1.02784	1.01872	1.03753
	Totals	39	900,166	1.00787	0.93018	1.04596

				Calculated Pay Factor Composite		
2002	Region	Projects	Tons	Average	Minimum	Maximum
	1	7	177,270	1.01805	0.98954	1.04708
	2	7	57,979	1.00779	0.92137	1.03800
	3	7	225,425	1.02298	1.00525	1.04191
	4	4	67,556	1.01589	0.99607	1.03345
	5	6	170,250	1.02447	1.01341	1.03800
	6	10	159,765	0.98008	0.83596	1.03381
	Totals	41	858,245	1.00861	0.83596	1.04708

				Calculated Pay Factor Composite		
2003	Region	Projects	Tons	Average	Minimum	Maximum
	1	6	209,762	1.01329	0.94635	1.04596
	2	9	194,753	0.99591	0.95356	1.03253
	3	5	115,089	1.01424	0.99696	1.02865
	4	3	159,053	1.02871	1.01927	1.04182
	5	4	58,854	0.97445	0.87280	0.01913
	6	1	28,160	1.04234	1.04234	1.04234
	Totals	28	765,671	1.00502	0.87280	1.04596

Table 3. Continued

2000 to 2003	Region	Projects	Tons	Calculated Pay Factor Composite		
				Average	Minimum	Maximum
	1	58	721,587	1.01164	0.91509	1.04708
	2	43	794,553	0.98909	0.78941	1.04209
	3	37	1,030,885	1.01478	0.96192	1.04569
	4	10	283,629	1.01816	0.99607	1.04182
	5	15	368,048	1.00598	0.87280	1.04596
	6	24	397,922	1.00249	0.83596	1.04234
	Totals	157	3,596,624	1.00468	0.78941	1.04708

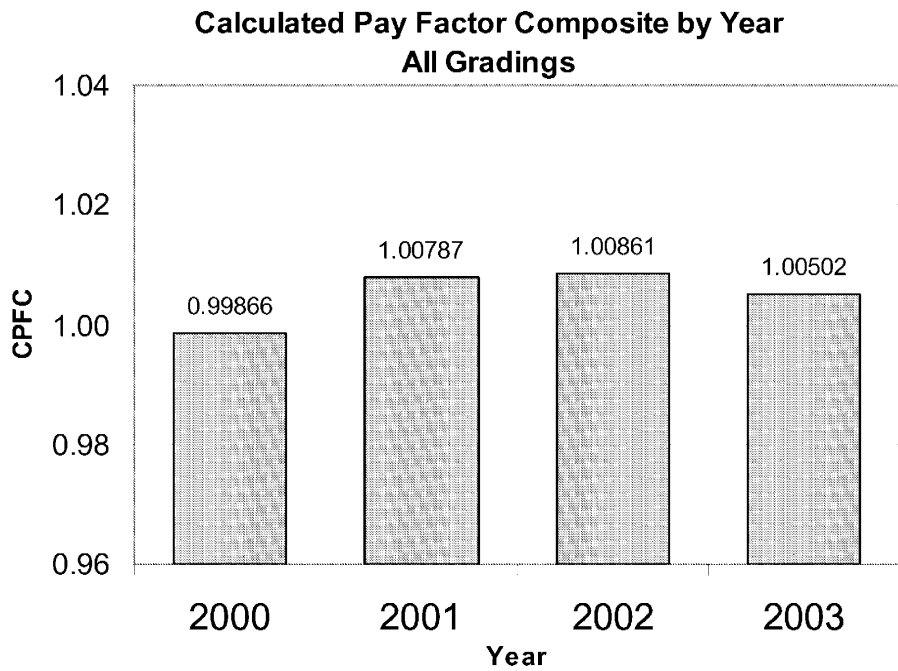


Figure 1. Calculated Pay Factor Composite by Year

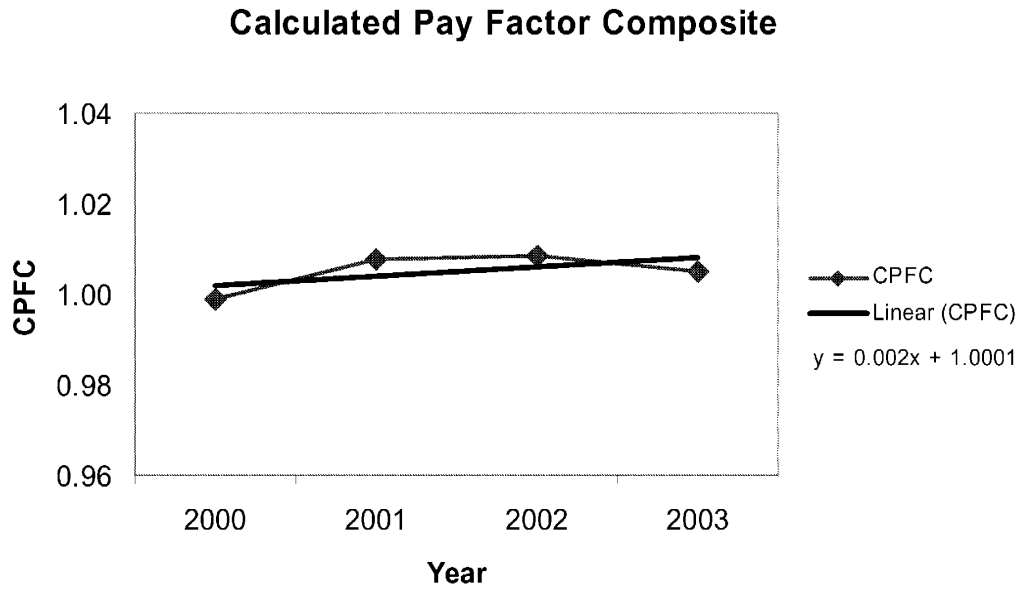


Figure 2. Calculated Pay Factor Composite by Year with Trendline

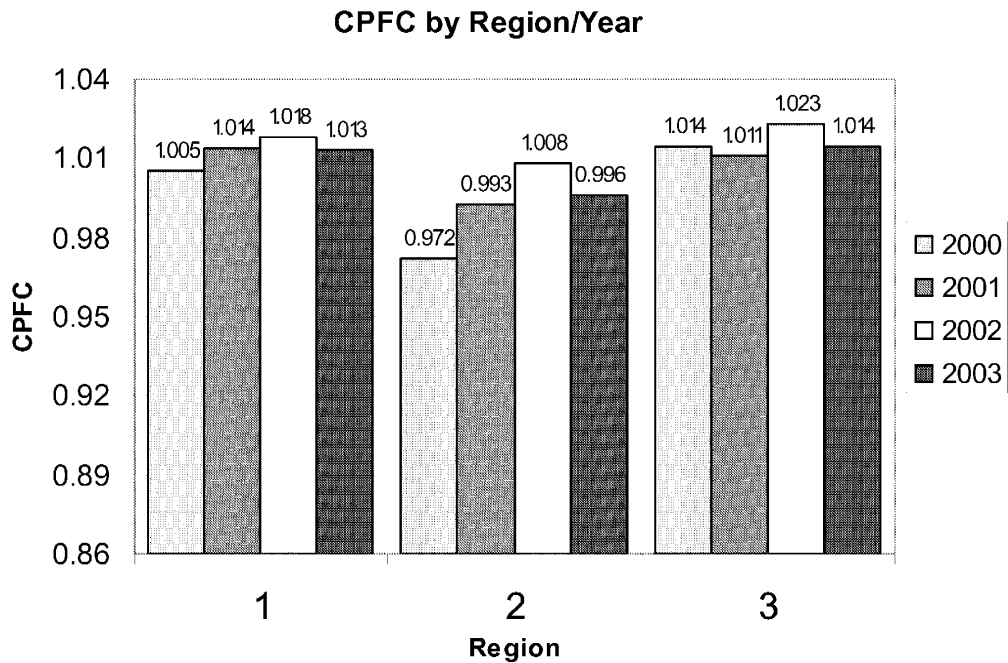


Figure 3. Calculated Pay Factor Composite by Region/Year

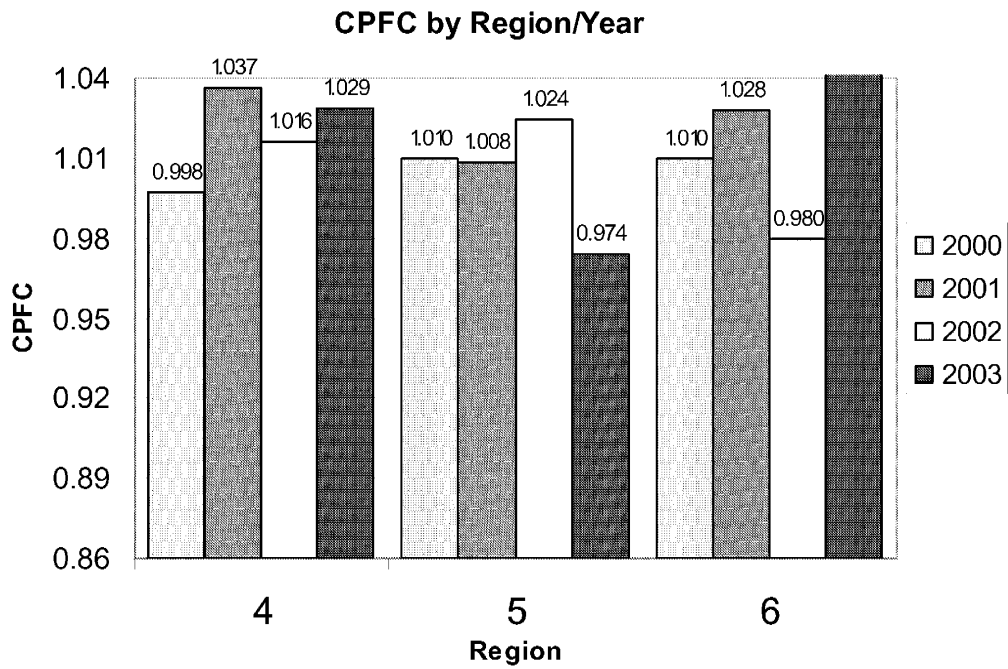


Figure 4. Calculated Pay Factor Composite by Region/Year

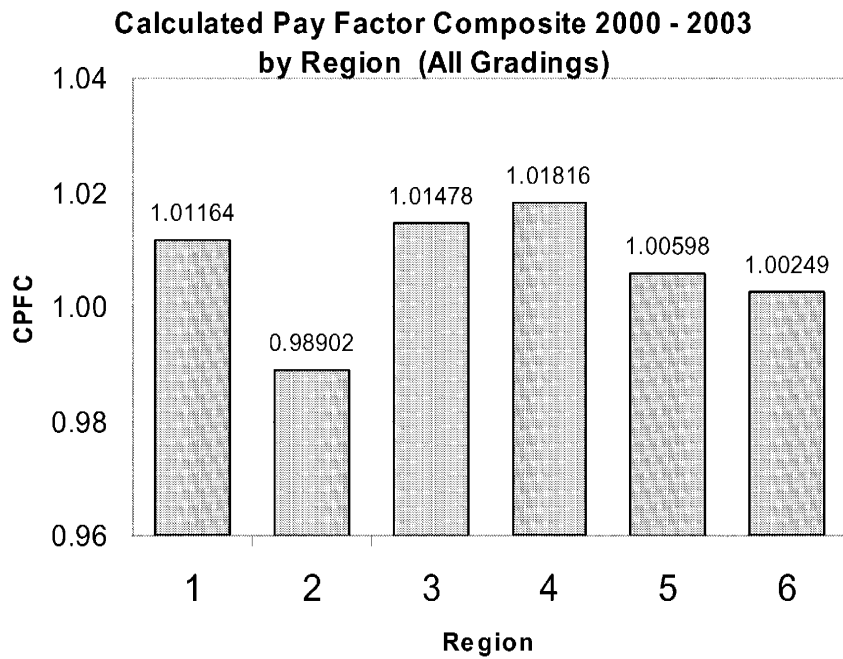


Figure 5. Calculated Pay Factor Composite 2000 to 2003 by Region

6.3 Calculated Pay Factor Composite by Grading

The Calculated Pay Factor Composite (CPFC) information by grading for the years 2000 through 2003 is displayed in Table 4. Projects that contained more than one grading of mix were excluded from this evaluation to make the groupings and calculations less complicated. A CPFC above 1.0 indicates that an incentive payment was paid for the HBP. A CPFC below 1.0 indicates that a disincentive was applied to the pavement. Figure 6 displays the CPFC for each grading by year. Grading SX has outperformed S in each of the years, although the difference between the two is fairly small. The difference is 0.01 or less in three of the years. The difference in the two gradings over the four-year time period is calculated at 0.014. The overall CPFC for grading S is just under the neutral mark of 1.0. Grading SX has a CPFC of 1.012. Figure 7 displays the CPFC results by grading and the calculated trendlines. Improvements can be shown in grading SX calculated as an increase in the CPFC of 0.005 over the four years. Grading S has remained unchanged over the four years. The slope of the trendline is -0.0001 or essentially unchanged. A comparison of the individual test elements by grading is presented in Section 6.7.

Table 4. Calculated Pay Factor Composite by Year and Grading

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/03.

Projects that contain more than one grading are EXCLUDED from this Report

PFC is back calculated from the Project's I/DP.

			Calculated Pay Factor Composite		
	Projects	Tons	Average	Minimum	Maximum
2000					
Grading S	30	582,015	0.99449	0.78941	1.04477
Grading SX	18	431,984	1.00490	0.91509	1.04569
Totals 2000	48	1,013,999	0.99840	0.78941	1.04569
			Calculated Pay Factor Composite		
	Projects	Tons	Average	Minimum	Maximum
2001					
Grading S	23	489,882	1.00657	0.93018	1.03753
Grading SX	14	347,042	1.00991	0.95729	1.04596
Totals 2001	37	836,924	1.00783	0.93018	1.04596
			Calculated Pay Factor Composite		
	Projects	Tons	Average	Minimum	Maximum
2002					
Grading S	17	134,272	0.98993	0.83596	1.04300
Grading SMA	1	19,785	1.03381	1.03381	1.03381
Grading SX	19	567,225	1.02333	0.99725	1.04708
Totals 2002	37	721,282	1.00827	0.83596	1.04708
			Calculated Pay Factor Composite		
	Projects	Tons	Average	Minimum	Maximum
2003					
Grading S	13	401,967	0.99961	0.94635	1.04182
Grading SMA	1	28,160	1.04234	1.04234	1.04234
Grading SX	12	268,375	1.00597	0.87280	1.04596
Totals 2003	26	698,502	1.00419	0.87280	1.04596
			Calculated Pay Factor Composite		
	Projects	Tons	Average	Minimum	Maximum
2000 to 2003					
Grading S	83	1,608,136	0.99771	0.78941	1.04477
Grading SMA	2	47,945	1.03808	1.03381	1.04234
Grading SX	63	1,614,626	1.01178	0.87280	1.04708
Totals	148	3,270,707	1.00424	0.78941	1.04708

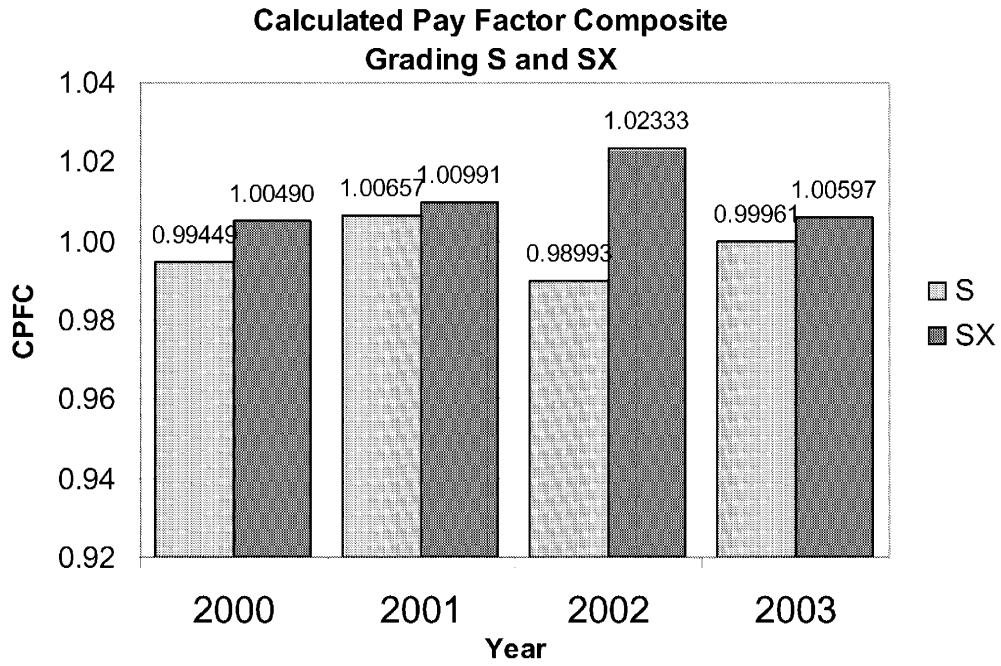


Figure 6. Calculated Pay Factor Composite by Year, Grading S & SX

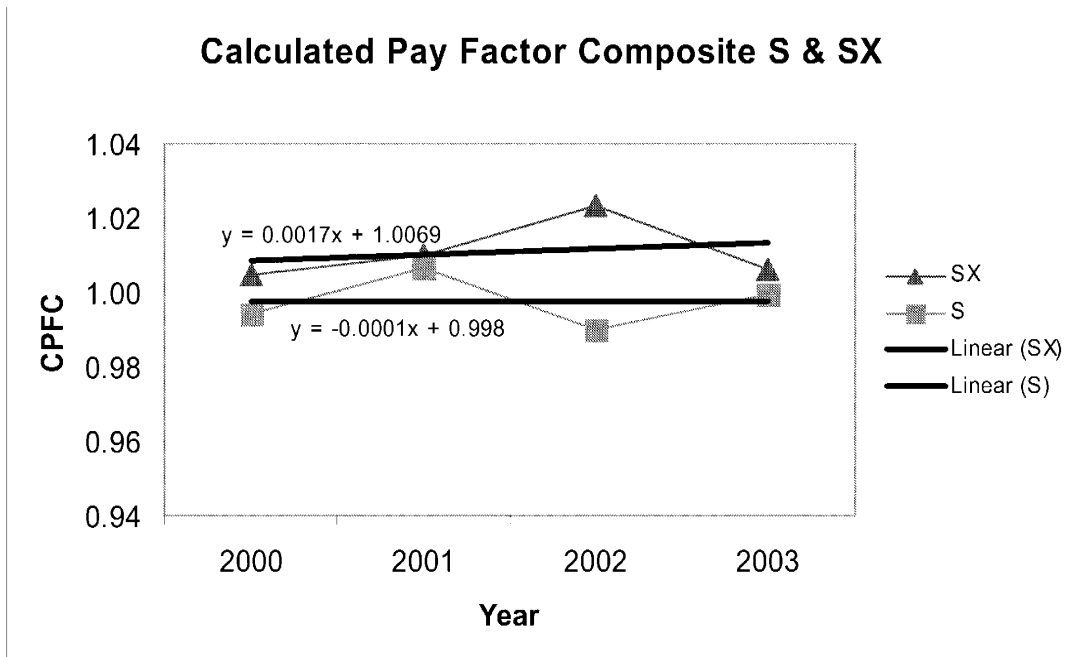


Figure 7. Calculated Pay Factor Composite, Grading S & SX with Trendlines

6.4 Incentive/Disincentive Payments

A recap of the Incentive/Disincentive Payments (I/DP) for the years 2000 through 2003 is presented in Table 5. The total number of projects, the number that received incentives, and the number with disincentives are displayed for each year. The total tons of material evaluated are also displayed. I/DP information presented includes: the summation of all I/DPs, the maximum, minimum and average values are given for each year. The I/DP is the total dollar amount of incentive or disincentive the project received for the hot bituminous pavement and is directly related to the of tons of material. The size of the projects, tons of material, included in the evaluations can skew the results. Large projects have the potential to receive large I/DPs purely based on the tons of material multiplied by the pay factor. The projects with the largest I/DPs do not necessarily equate to the projects with the best quality levels. It is important to consider the dollar amounts being paid but a better way of evaluating the projects is to review the Calculated Pay Factor Composite (CPFC).

Table 5. Incentive/Disincentive Payments – Recap by Year

2000		Incentive/Disincentive Payment	
Number of Projects	49	Sum I/DP's	\$187,269.36
Positive I/DPs	29	Maximum	\$77,150.01
Negative I/DPs	20	Minimum	(\$161,120.55)
Total Tons	1,072,542	Average I/DP	\$3,821.82
2001		Incentive/Disincentive Payment	
Number of Projects	39	Sum I/DP's	\$632,387.82
Positive I/DPs	28	Maximum	\$110,449.67
Negative I/DPs	11	Minimum	(\$47,508.28)
Total Tons	900,166	Average I/DP	\$16,215.07
2002		Incentive/Disincentive Payment	
Number of Projects	41	Sum I/DP's	\$654,232.47
Positive I/DPs	32	Maximum	\$74,852.29
Negative I/DPs	9	Minimum	(\$30,824.74)
Total Tons	858,245	Average I/DP	\$15,956.89
2003		Incentive/Disincentive Payment	
Number of Projects	28	Sum I/DP's	\$594,079.78
Positive I/DPs	19	Maximum	\$110,997.34
Negative I/DPs	9	Minimum	(\$39,746.99)
Total Tons	765,671	Average I/DP	\$21,217.14

6.5 Recap of Data 1991 to 2003 - Percent Asphalt, Mat Density, & Gradation

The overall results, all gradings included, for each of the test elements for the years 1991 to 1997 and 2000 to 2003 are listed in Table 6. The quality level and pay factor for each element are shown. The standard deviation is displayed for the percent asphalt and mat density elements. The standard deviation information for the gradation element is contained in Reports 4 and 15 in Appendices A and B. A relatively small number of projects were evaluated in the years 1991, 1992, & 1996. This may account for some of the high quality levels reported in these years. Also, projects prior to 1995 were constructed under either the pilot specification or a project specification. In 1995 the revision to sections 105 and 106 was released as a standard specification to be used on all projects. A more detailed review of the test elements for the years 2000 through 2003 is presented in Section 6.6.

Table 6. Recap of Yearly Data by Test Element

Criteria: Processes with less than 3 tests are EXCLUDED from this Table.

Percent Asphalt

Year	Projects	Tons	Quality Level	Pay Factor	Std Dev
1991		2,000,000	87.000	1.00000	0.180
1992	7	282,000	96.300	1.04200	0.140
1993	18	482,000	93.200	1.02800	0.150
1994	58	1,496,000	90.600	1.02200	0.150
1995	40	1,104,000	86.872	0.99508	0.173
1996	--	830,000	89.800	1.00800	0.160
1997	17	378,000	91.980	1.01900	0.150
2000	49	1,046,041	89.987	1.01244	0.154
2001	39	878,831	91.494	1.02095	0.150
2002	41	850,686	90.330	1.01385	0.161
2003	28	756,873	93.457	1.03304	0.143

Density

Year	Projects	Tons	Quality Level	Pay Factor	Std Dev	Mean
1991		900,000	84.000	0.96000	1.050	
1992	7	282,000	88.900	0.99000	1.000	
1993	18	482,000	92.400	1.01800	0.960	
1994	58	1,400,000	90.310	1.00700	0.958	
1995	40	1,071,000	84.208	0.96964	1.096	
1996	--	830,000	91.900	1.01500	0.910	
1997	17	343,000	93.765	1.01900	0.910	
2000	49	978,154	91.377	1.01397	0.955	93.520
2001	39	814,765	93.538	1.02988	0.958	93.790
2002	41	787,902	94.450	1.03348	0.893	93.820
2003	28	676,480	93.282	1.02995	0.928	93.810

Gradation

Year	Projects	Tons	Quality Level	Pay Factor
1991		2,000,000	85.700	0.98900
1992	7	282,000	90.000	1.01400
1993	18	482,000	88.800	1.01000
1994	58	1,496,000	88.300	1.01400
1995	40	1,104,000	87.771	1.00757
1996	--	830,000	89.600	1.01200
1997	17	378,000	82.556	0.98100
2000	49	998,015	84.941	0.99959
2001	39	822,245	85.692	1.00274
2002	41	791,892	88.950	1.01484
2003	28	743,939	88.411	1.01577

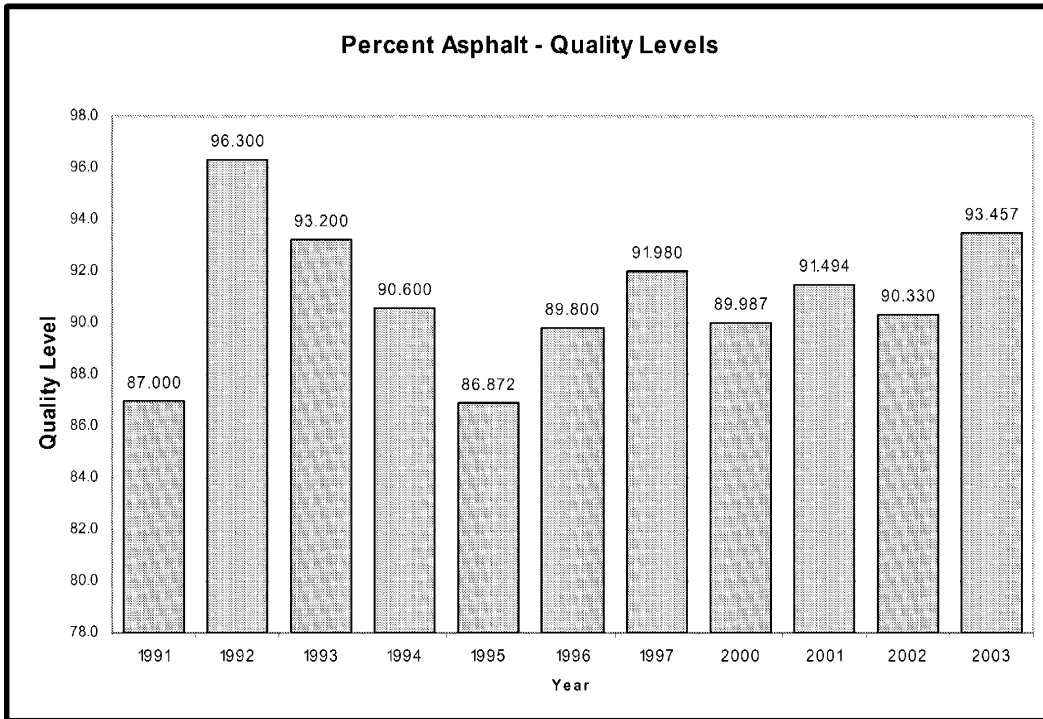


Figure 8. Percent Asphalt Quality Levels

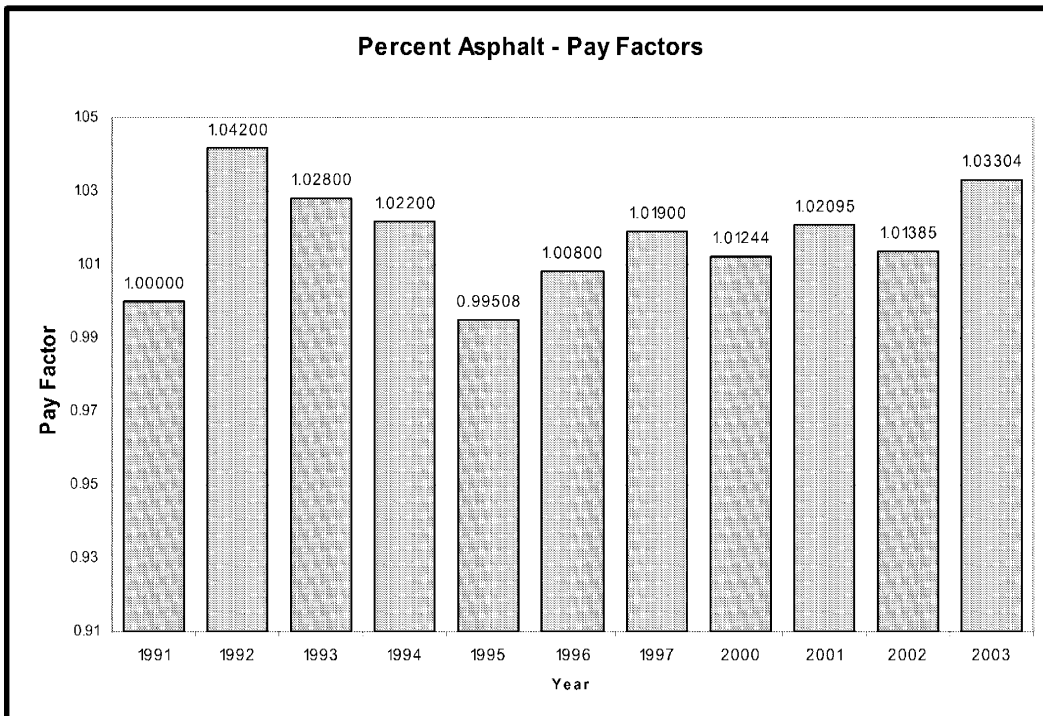


Figure 9. Percent Asphalt Pay Factors

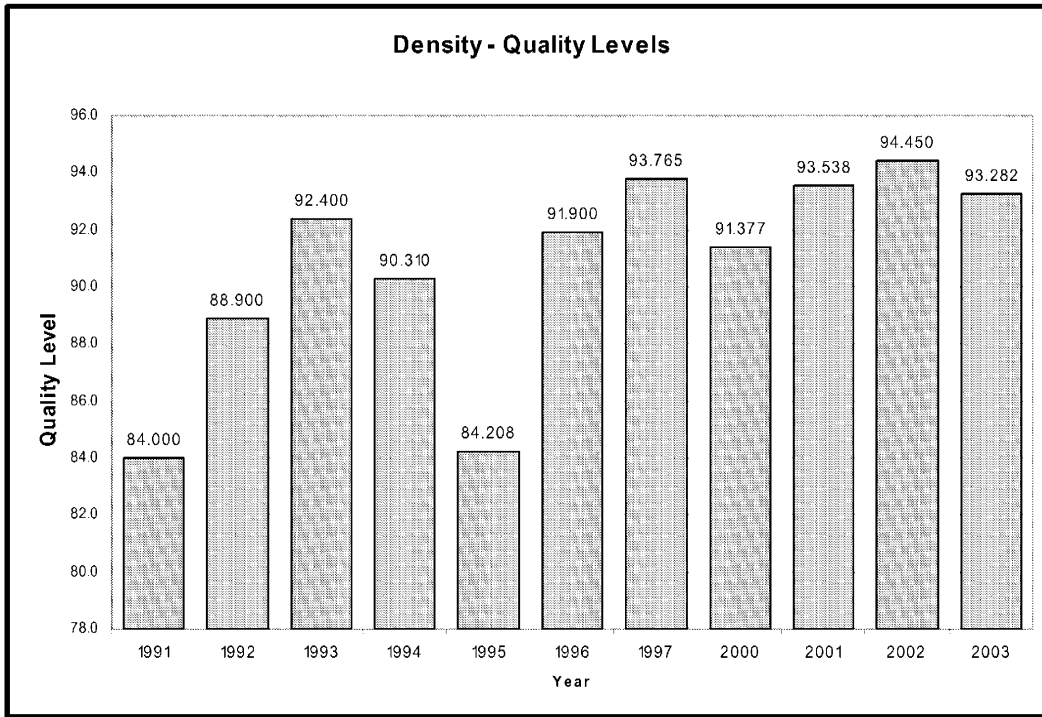


Figure 10. Density Quality Levels

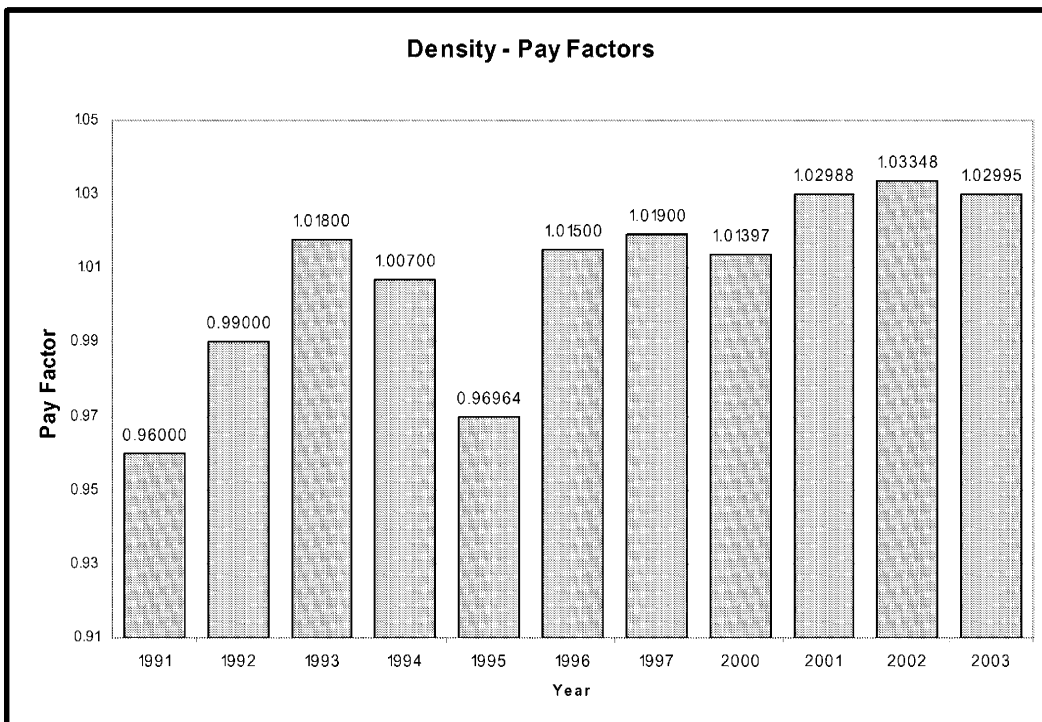


Figure 11. Density Pay Factors

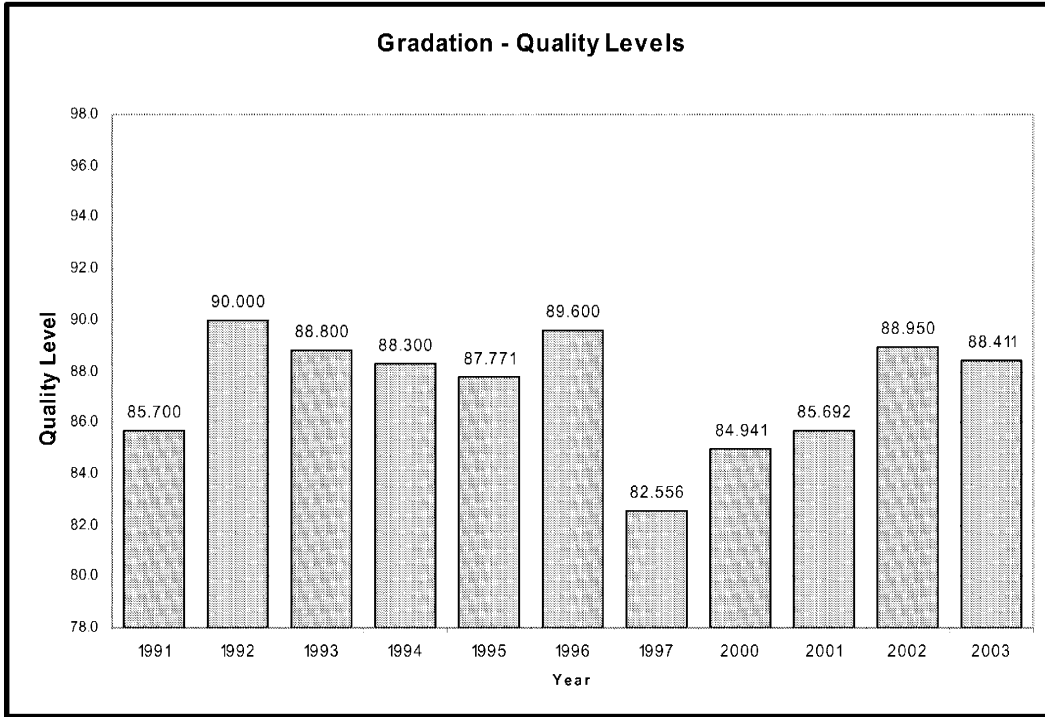


Figure 12. Gradation Quality Levels

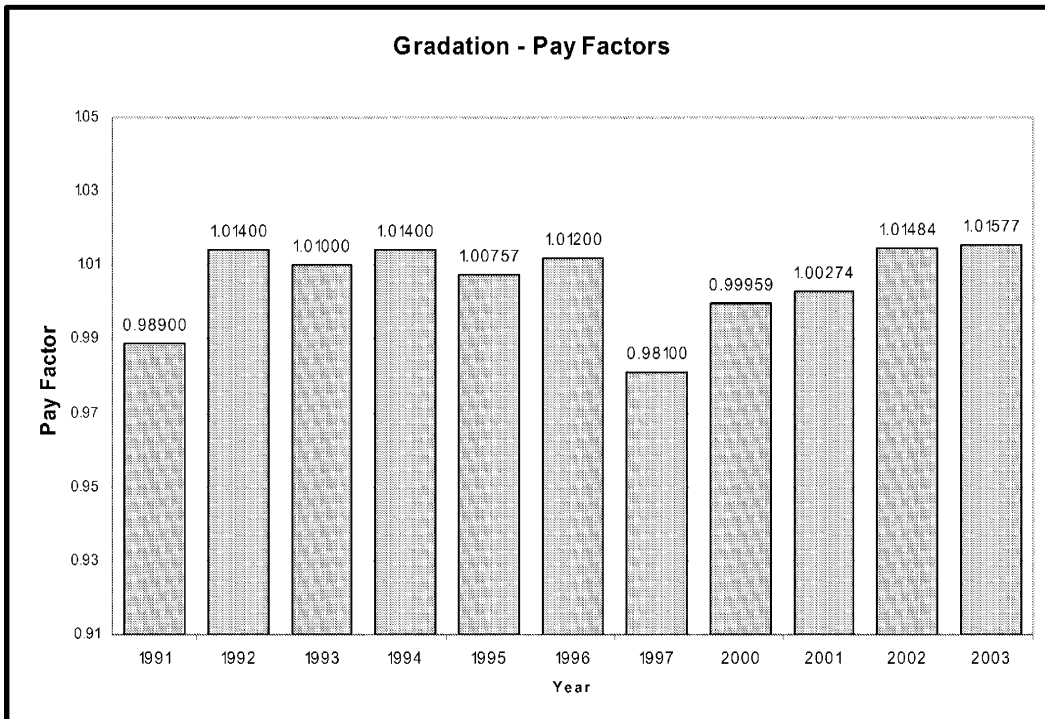


Figure 13. Gradation Pay Factors

6.6 Review of Test Element Quality Levels 2000 through 2003

The test element quality levels for the years 2000 through 2003 are displayed in Figure 14, data from Table 6. The ranking of the test elements, lowest to highest, by quality level is the same in each year except for 2003 in which asphalt content and mat density are reversed. The weighted average quality level for each of the test elements for the years 2000 through 2003 is as follows: mat density 93.056, asphalt content 91.188, and gradation 86.840, data from reports 1, 2, & 3 in Appendix A. Overall the mat density element has the highest quality levels. Asphalt content is second and gradation is ranked third. The ranking of the elements by quality level places them in the same order as the weight, W factor, that is given to the element: 50% mat density, 30% asphalt content, & 20% gradation prior to 10/4/01 and 45% mat density, 25% asphalt content, 15% gradation, & 15% joint density after 12/20/02. There appears to be a direct correlation between the importance given the element, its weight, and the quality level results.

The quality level information showing the calculated trendlines for each of the elements is presented in Figure 15. Figure 15 shows three key attributes of the test element quality levels. First is to see if the quality levels are improving, upward sloping trendlines left to right and positive values in the slope calculations. Improvements can be measured in each of the elements. Second is to see how the elements rank in terms of quality level. Mat density has the highest quality levels followed by asphalt content and then by gradation. Third is to review the range of quality levels reported for each of the elements. None of the trendlines cross each other and are distinctly gapped. The difference between the mat density and asphalt content elements is at least 1.45 percent. The difference between the asphalt content and gradation elements is at least 3.65 percent.

The mat density element has shown improvements over the four-year time period. The quality levels have increased by a calculated amount of 1.99 over this time period. The mean values for this element continue to move towards the target value of the

specification, 94 percent compaction. Producing material close to the target value of the specification increases the probability that the material will be in specification. This element has always shown good results having a pay factor consistently above the 1.0 mark. The average quality level over the last four years is slightly over 93.06%. The percent asphalt element has also shown improvement with a calculated increase in the quality level of 2.77 over the four years. The average quality level over the four years is 91.19%. The gradation element has shown the most improvement in the four years calculated at an increase of 4.10. However, this element consistently ranks below the others in terms of quality levels. The average quality level over the four-year time period is 86.84%.

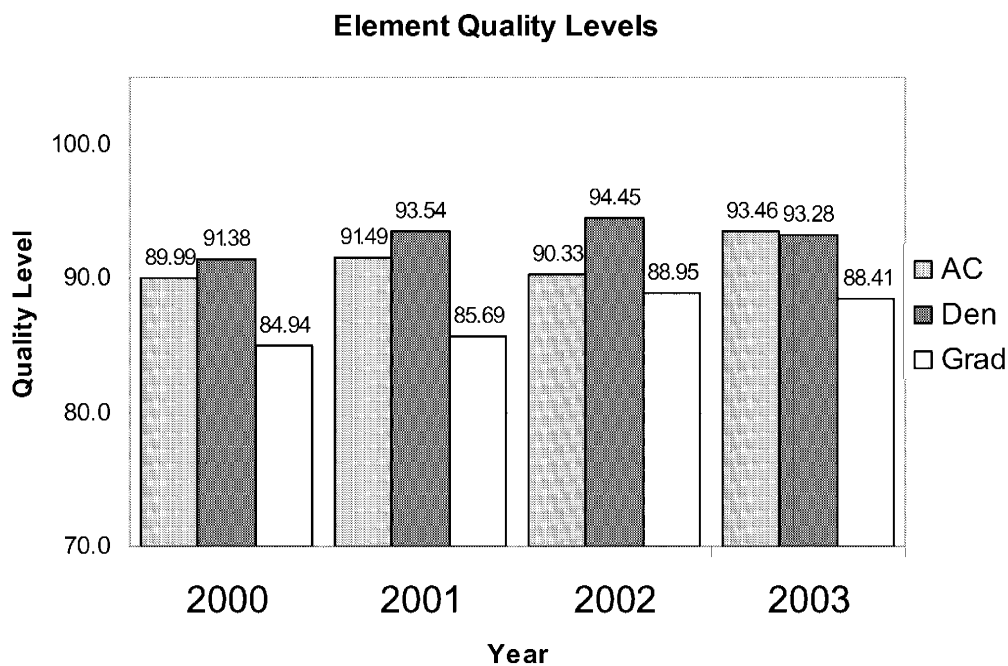


Figure 14. Quality Levels by Test Element

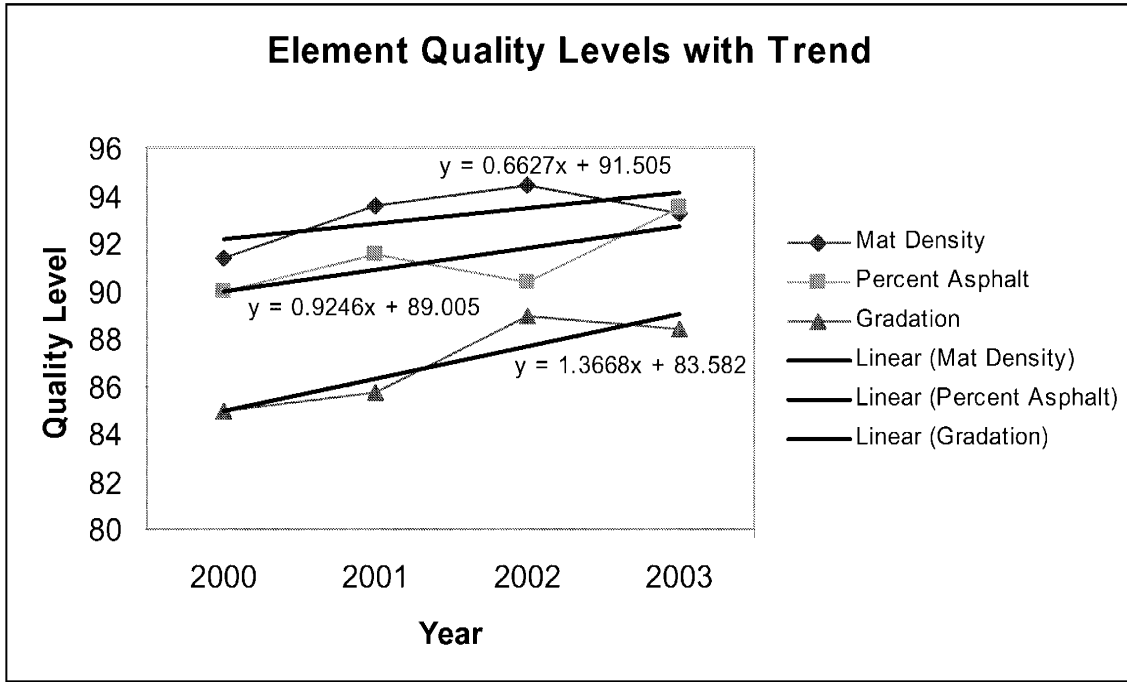


Figure 15. Element Quality Levels with Trendline

6.7 Test Element Quality Levels For Gradings S & SX 2000 through 2003

Information for the percent asphalt, mat density, and gradation test elements for gradings S and SX by year is detailed in Table 7. Figure 16 presents the percent asphalt quality level information by year. Grading SX has higher quality levels in each of the years. Figure 17 shows the quality level information and the calculated trendlines. Improvements can be seen in the results for both gradings, upward sloping lines left to right and positive values in the slope calculations. Grading SX has a calculated improvement of 1.85 in the four years. Grading S shows a better improvement of 3.46 in the four years. The mat density results are presented in Figures 18 & 19. The results for grading S are better than SX in the first two years. The results are reversed in the last two years. Grading SX shows a calculated increase in quality levels of 4.67 over the four-year time period. Grading S shows a slight decline in quality levels of -0.39 over the same time period. The results for the gradation element are presented in Figures 20 & 21. Both gradings have shown improvements in the four-year time period. Grading SX has improved in quality levels by 3.80 and grading S has shown an improvement of 3.28. The results in the gradation element for gradings S & SX are closer than those in the percent asphalt or mat density elements.

Table 7. Review of Test Elements – Gradings S & SX

Criteria: Processes with less than 3 tests are EXCLUDED from this Table.

Percent Asphalt						
Grading	Year	Processes	Tests	Tons	Quality Level	Pay Factor
S	2000	44	589	567,924	88.896	1.00684
	2001	42	526	488,936	89.012	1.01127
	2002	27	171	159,073	89.656	1.01120
	2003	24	452	436,489	92.522	1.03022
SX	2000	40	528	461,084	91.940	1.02182
	2001	34	388	366,960	94.981	1.03460
	2002	34	606	588,134	91.045	1.01588
	2003	21	289	275,659	95.303	1.03804

Mat Density						
Grading	Year	Processes	Tests	Tons	Quality Level	Pay Factor
S	2000	46	1090	532,949	91.980	1.01801
	2001	47	1007	495,515	94.181	1.03370
	2002	29	331	156,787	92.893	1.02434
	2003	28	814	398,639	91.975	1.02289
SX	2000	38	860	428,172	90.643	1.00840
	2001	26	605	294,465	92.362	1.02291
	2002	33	1082	528,636	95.589	1.03966
	2003	21	492	232,898	94.760	1.03914

Gradation						
Grading	Year	Processes	Tests	Tons	Quality Level	Pay Factor
S	2000	39	295	551,210	85.831	1.00355
	2001	33	238	461,397	84.753	0.99775
	2002	14	70	121,139	85.964	0.98983
	2003	22	232	432,222	89.071	1.01751
SX	2000	32	252	435,730	84.044	0.99527
	2001	27	195	341,039	87.383	1.01032
	2002	29	300	568,276	89.810	1.02027
	2003	19	153	266,565	87.453	1.01102

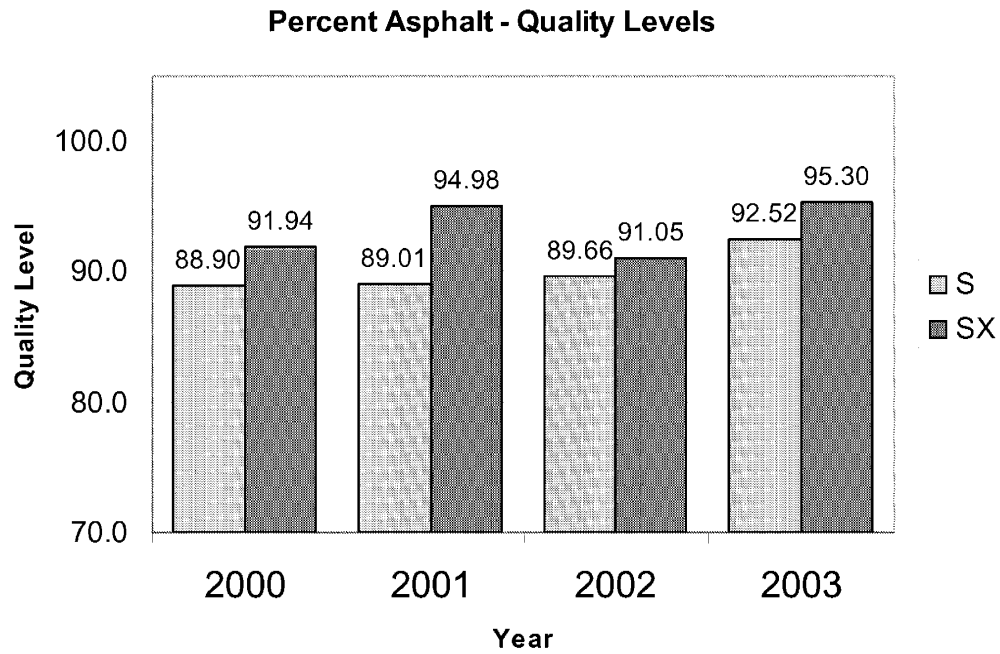


Figure 16. Percent Asphalt Quality Levels – Gradings S & SX

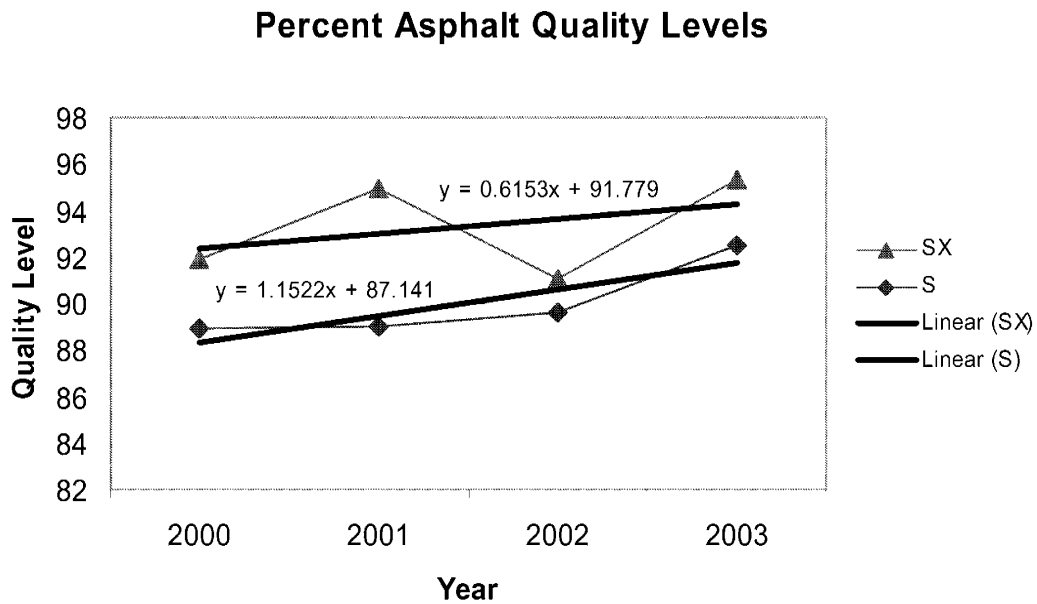


Figure 17. Percent Asphalt Quality Levels – Gradings S & SX with Trendlines

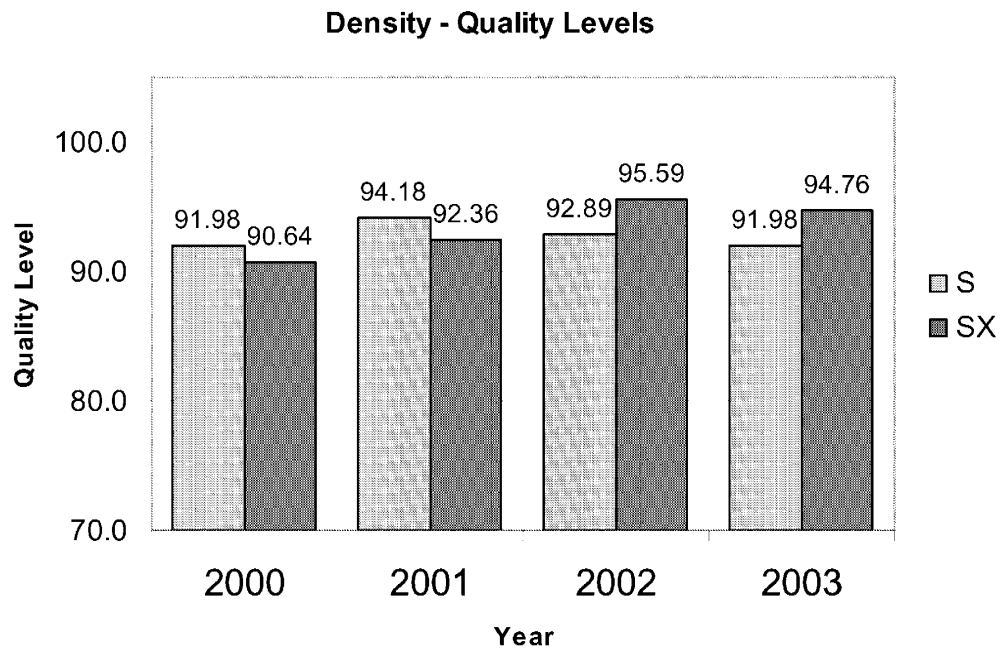


Figure 18. Density Quality Levels – Gradings S & SX

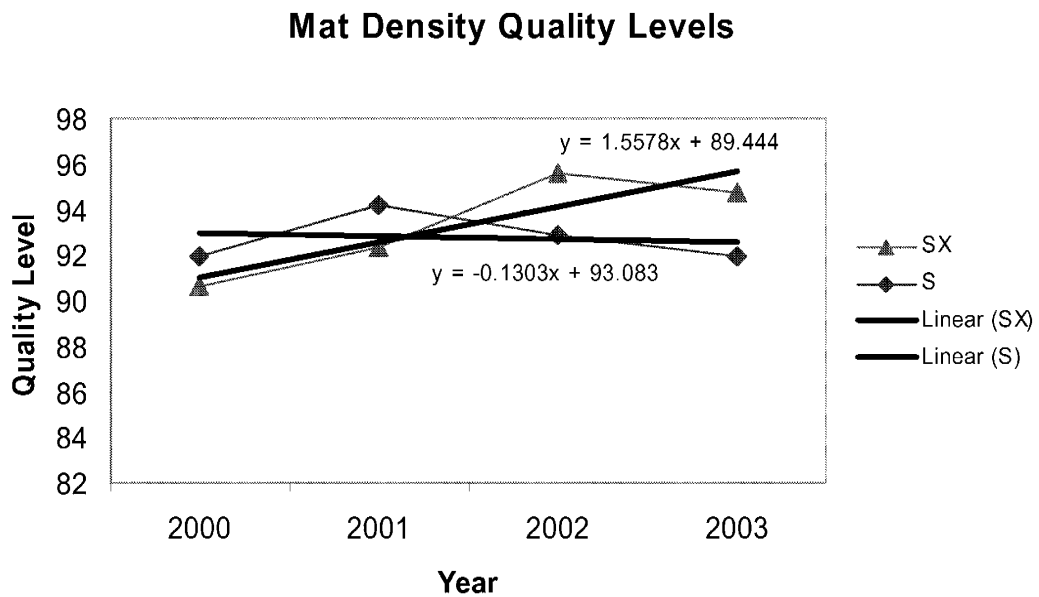


Figure 19. Density Quality Levels – Gradings S & SX with Trendlines

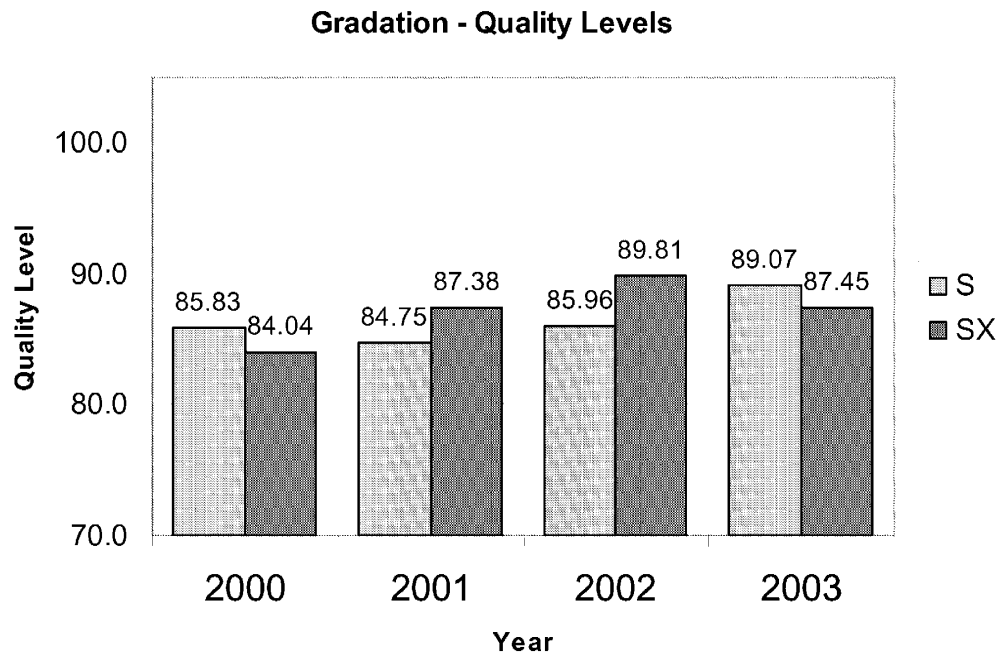


Figure 20. Graduation Quality Levels – Gradings S & SX

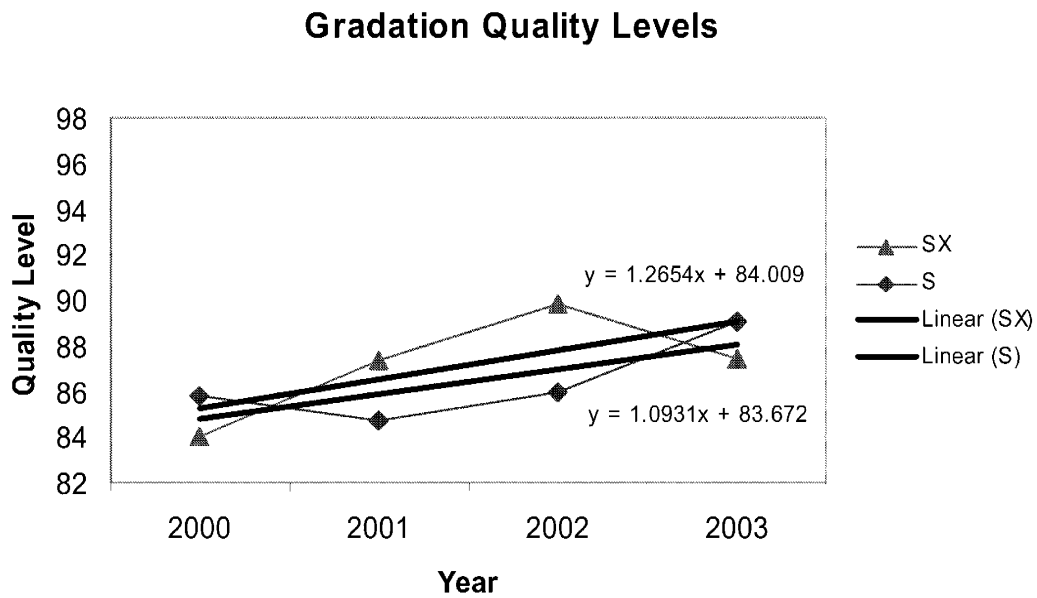


Figure 21. Graduation Quality Levels – Gradings S & SX with Trendlines

6.8 Joint Density Test Information

Joint density testing was incorporated into the calculations for Incentive/Disincentive Payment (I/DP) with the release of the revision to sections 105 and 106 dated December 20, 2002. Twenty-nine projects have been returned which contained the joint density specification. Testing was waived on five of these projects. The results are displayed in Table 8.

Table 8. Joint Density Test Information – Gradings S & SX

Criteria: Processes with less than 3 tests are EXCLUDED from this Table.

Grading	Processes	Tests	Joint Density		Pay Factor	Mean	Std. Dev.
			Tons	Quality Level			
S	17	192	326,915	83.873	0.97655	89.714	1.456
SX	12	205	263,820	88.316	1.00491	90.158	1.653
Totals	29	397	590,735	85.857	0.98921	89.912	1.544

The overall average pay factor for joint density after one year is just slightly under the neutral amount of 1.0. Approximately half of the projects received an incentive payment for joint density element. The quality level results for grading SX are 4.5% higher than those of grading S. Overall grading SX received an incentive amount of less than 0.5%. For grading S the average disincentive amount was 2.3%.

6.9 Effect of Adding Joint Density Testing on the Other Test Elements

Joint Density testing was added to the calculations for Incentive/Disincentive Payment (I/DP) with the release of the revision to sections 105 and 106 dated December 20, 2002. There was a concern that adding a new test element would have an effect on the quality levels of the other test elements. The following analysis was completed. No projects prior to 2002 contained the joint density specification. These projects were grouped by year. Projects which included joint density testing were separated out from the rest of the projects. Only one project from 2002 has been evaluated which included the joint density calculation. For that reason all projects which contained the joint density specification were grouped together. The remaining projects from 2002 through 2003 which did not contain the specification were grouped together. The result was four data groupings: 2000 projects, 2001 projects, 2002 & 2003 projects without the joint density specification, and 2002 & 2003 projects which contained the joint density specification. Most of the projects which contained the joint density specification were constructed in 2003. The quality levels and pay factors for each of the groupings were calculated for the percent asphalt, mat density, and gradation elements. The results are displayed in Table 9. Figures 22 to 24 graphically present the quality level information.

Adding joint density testing did not adversely affected the other test elements when evaluating the results to previous years or to projects constructed during the same time period in which joint density testing was not a requirement. The quality levels for the joint density projects were at least equal to those of the other projects and in quite a few cases exceeded those of the other projects.

Table 9. Comparison of Joint Density and Non Joint Density Projects

Criteria: Processes with less than 3 tests are EXCLUDED from this Table.

Percent Asphalt

Projects	Processes	Tests	Tons	Quality Level	Pay Factor
2000	86	1134	1,046,041	89.987	1.01244
2001	79	936	878,831	91.494	1.02095
02/03 w/o JD	69	823	792,958	90.202	1.01289
02/03 w/ JD	48	845	814,601	93.360	1.03262

Density

Projects	Processes	Tests	Tons	Quality Level	Pay Factor
2000	86	1,984	978,154	91.377	1.01397
2001	77	1,663	814,765	93.538	1.02988
02/03 w/o JD	70	1,506	731,466	94.468	1.03433
02/03 w/ JD	52	1,510	732,916	93.354	1.02937

Gradation

Projects	Processes	Tests	Tons	Quality Level	Pay Factor
2000	72	554	998,015	84.941	0.99959
2001	62	444	822,245	85.692	1.00274
02/03 w/o JD	51	397	734,546	88.456	1.01361
02/03 w/ JD	44	432	801,285	88.902	1.01683

Percent Asphalt - Quality Levels by Specification

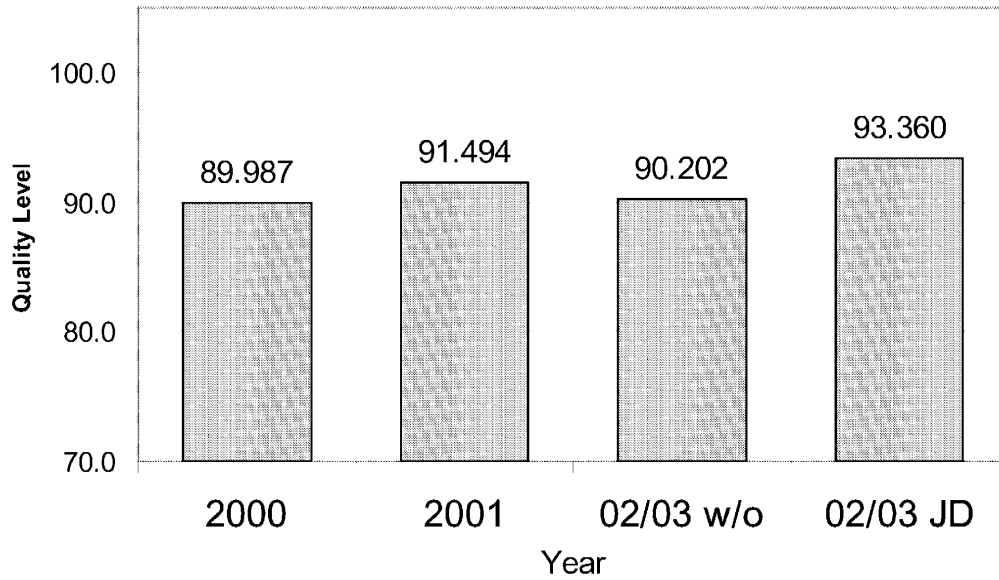


Figure 22. Percent Asphalt Quality Levels by Specification

Mat Density - Quality Levels by Specification

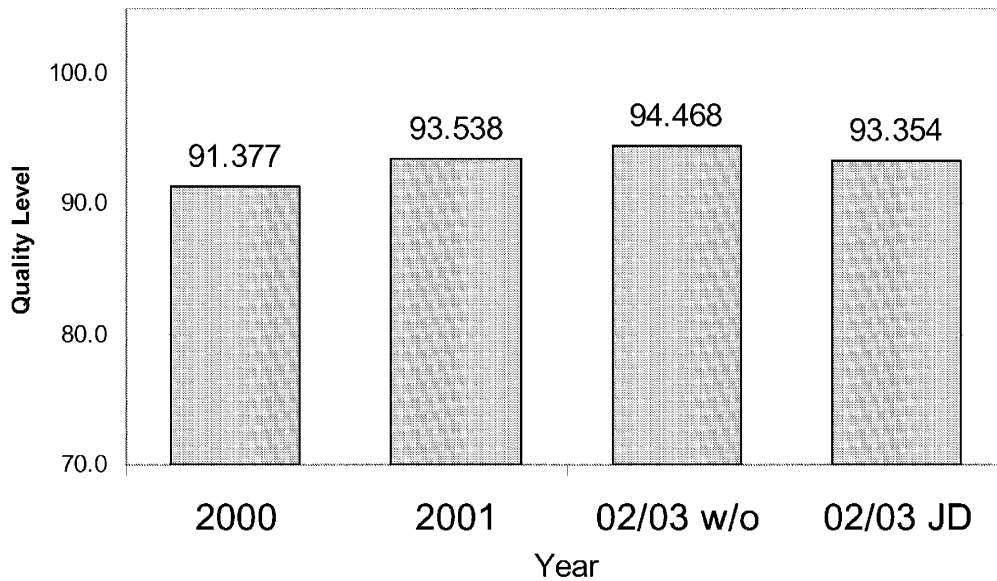


Figure 23. Mat Density Quality Levels by Specification

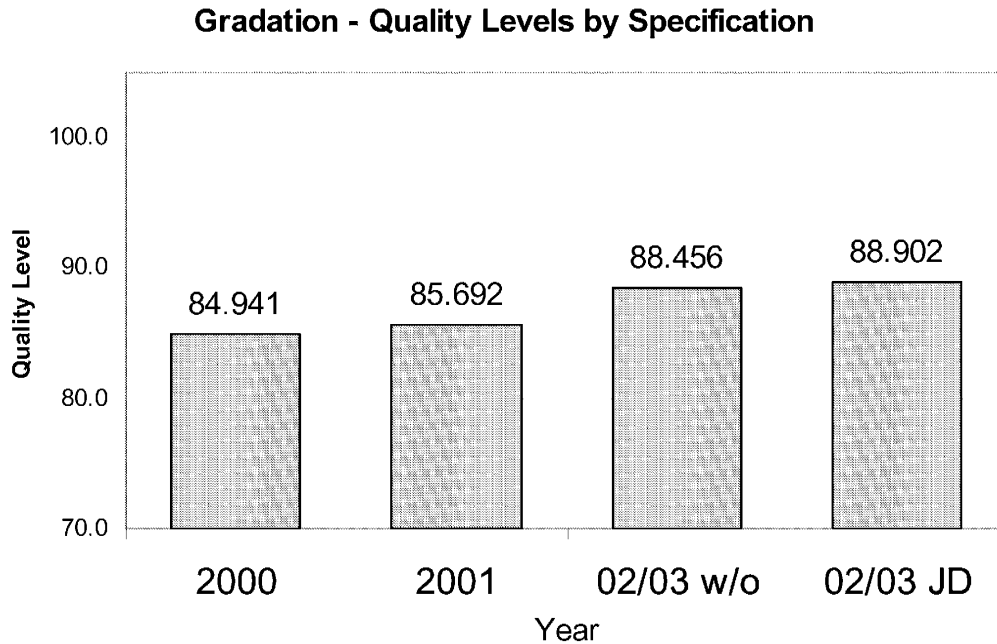


Figure 24. Gradation Quality Levels by Specification

6.9.1 Effect of Adding Joint Density Testing, Gradings S & SX

The previous evaluation was continued, this time grouping the results into gradings S and SX. Calculations for quality level and pay factor were completed for the percent asphalt, mat density, and gradation elements. The results are displayed in Table 10. Figures 25 to 27 graphically present the quality level information. Adding joint density testing did not adversely affected the results of the other test elements when evaluating the information by grading. The quality levels by grading for the joint density projects were at least equal to those of the other projects and in quite a few cases exceeded those of the other projects.

**Table 10. Comparison of Joint Density and Non Joint Density Projects
Gradings S & SX**

Criteria: Processes with less than 3 tests are EXCLUDED from this Table.

Percent Asphalt

Grading	Projects	Proc.	Tests	Tons	Quality Level	Pay Factor
S	2000	44	589	567,924	88.896	1.00684
	2001	42	526	488,936	89.012	1.01127
	02/03 w/o JD	28	175	160,472	89.182	1.00868
	02/03 w/ JD	23	448	435,090	92.706	1.03121
SX	2000	40	528	461,084	91.940	1.02182
	2001	34	388	366,960	94.981	1.03460
	02/03 w/o JD	33	547	529,007	91.078	1.01544
	02/03 w/ JD	22	348	334,786	94.499	1.03483

Mat Density

Grading	Projects	Proc.	Tests	Tons	Quality Level	Pay Factor
S	2000	46	1090	532949	91.980	1.01801
	2001	47	1007	495515	94.181	1.03370
	02/03 w/o JD	30	337	158,978	92.991	1.02449
	02/03 w/ JD	27	808	396,448	91.931	1.02282
SX	2000	38	860	428172	90.643	1.00840
	2001	26	605	294465	92.362	1.02291
	02/03 w/o JD	32	963	470,009	95.734	1.04175
	02/03 w/ JD	22	611	291,525	94.694	1.03588

Gradation

Grading	Projects	Proc.	Tests	Tons	Quality Level	Pay Factor
S	2000	39	295	551210	85.831	1.00355
	2001	33	238	461397	84.753	0.99775
	02/03 w/o JD	15	75	122,920	85.785	0.98968
	02/03 w/ JD	21	227	430,441	89.134	1.01767
SX	2000	32	252	435730	84.044	0.99527
	2001	27	195	341039	87.383	1.01032
	02/03 w/o JD	28	270	509,149	89.252	1.01924
	02/03 w/ JD	20	183	325,692	88.754	1.01430

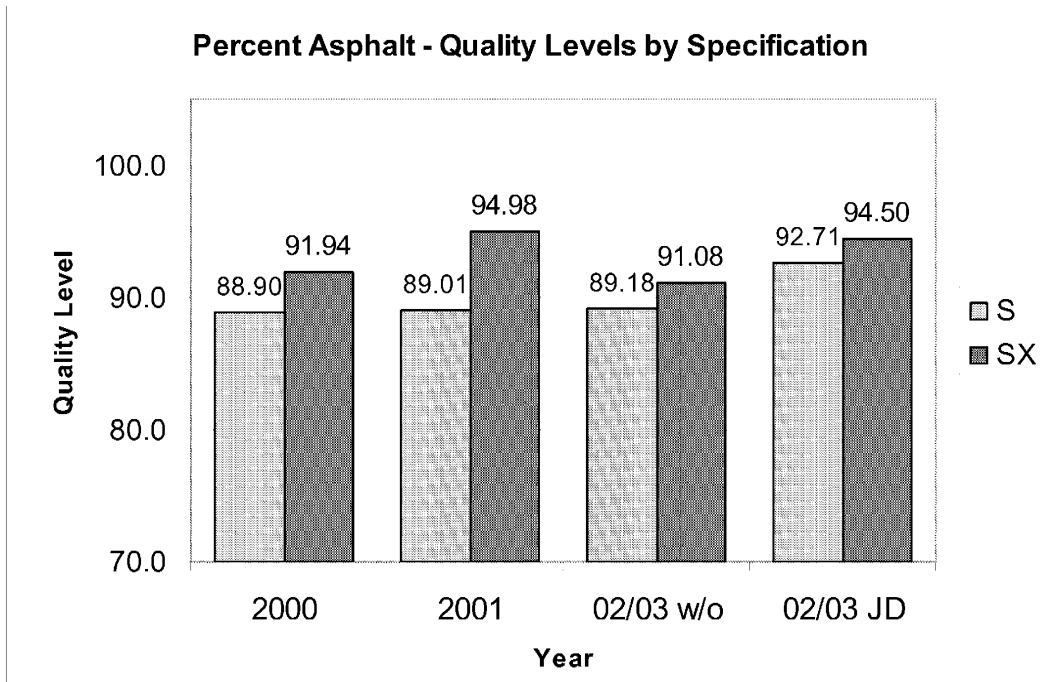


Figure 25. Percent Asphalt Quality Levels by Specification – Gradings S & SX

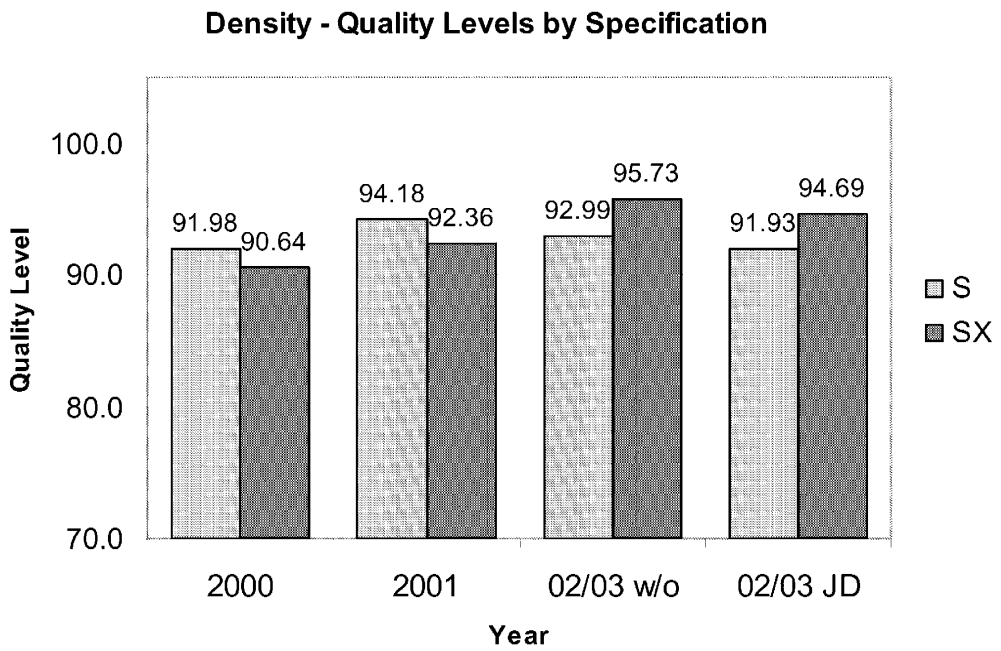


Figure 26. Mat Density Quality Levels by Specification – Gradings S & SX

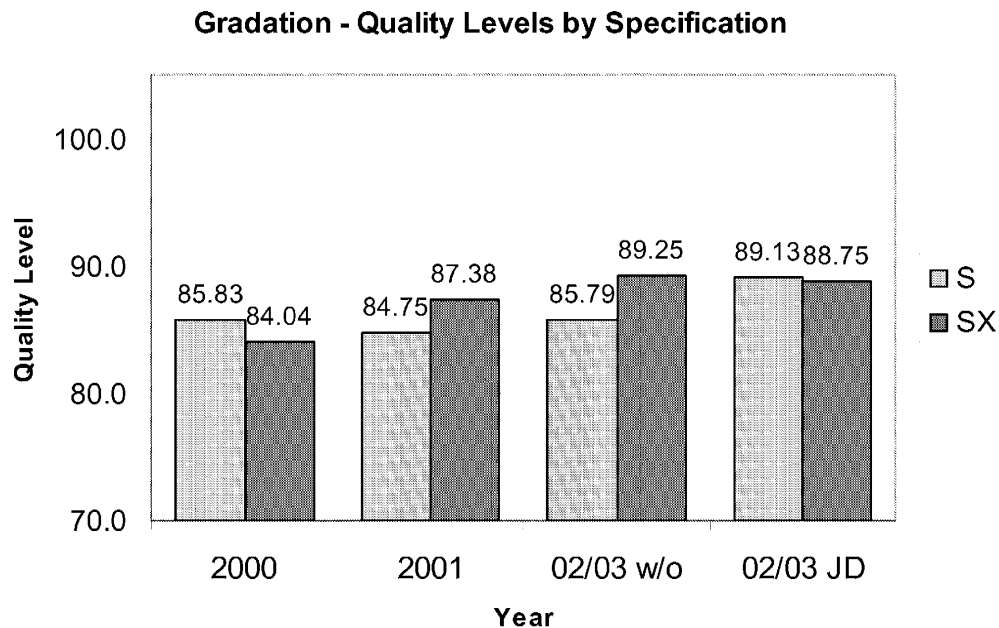


Figure 27. Gradation Quality Levels by Specification – Gradings S & SX

6.10 Recap Reports, 2000 to 2003 Data

Additional reports of the information contained in this report are presented in Appendix A. A recap report for each of the test elements for the years 2000 through 2003 is given in which the data is grouped by grading and then by year. The region's results are also given for each year. The standard deviation information for the gradation element is detailed in a separate report.

6.11 Reports for 2003

Appendix B contains a series of detailed reports for the year 2003. A project listing is generated for the year showing the projects evaluated. The Project Data report contains all of the test data for each project broken out by mix design and process number. This is the best report to review when concerned about any single project. The Calculated Pay Factor Composite and Incentive/Disincentive Payment information by region is contained in one report. There are detailed reports for each of the test elements and recap reports that show different sortings of the same data. These reports detail the calculations that are used throughout this report for the year 2003.

7.0 SUMMARY

Continued improvements can be measured in the hot bituminous pavement in the years 2000 through 2003. When evaluating the overall results for the projects, by reviewing the Calculated Pay Factor Composite, there is a 0.006 improvement. Improvements in each of the test elements can also be measured. The mat density element has shown an improvement in quality levels of 1.99% over the four-year time period. Percent asphalt has increased by 2.77% and the gradation element has shown the best improvements measured at 4.10%. When ranking the elements by quality levels we find that the ranking is the same as the importance given the element, the W factor. The mat density element has the best quality levels. Next best quality levels are in the percent asphalt element. The gradation element continues to rank last in quality levels but has seen the best improvement since 2000. Improvements can also be measured when evaluating the mixes by grading. Each of the elements has shown improvements in quality levels when evaluated by grading with the exception for grading S in the mat density element which shows a slight decrease in quality levels over the four-year time period. Overall grading SX has shown better test results as compared to grading S in each year when reviewing the Calculated Pay Factor Composite. The results for the joint density element after one year are about neutral. About the same number of projects are receiving incentive payments as are receiving disincentive payments on this element. It is expected that the results for this element will increase as more projects are constructed with this specification. The addition of the joint density element had no adverse effect on the other elements. The element quality levels in projects with the joint density specification were at least as good as those without the specification and in many cases exceeded the results.

8.0 UPDATES AND CONTACT

The QC database will be updated as additional project data is received. Project data that was received after the cut-off date was not able to be included in this report. If you have any questions concerning this report please contact Eric Chavez at 303 757-9308, Eric.Chavez@dot.state.co.us. If you find any errors in the project data please report them to Eric Chavez.

REFERENCES

1. Revisions of the Standard Specifications, Sections 105, Control of Work and 106, Control of Material; to be used with the 1992 Pilot Projects, by the Staff Materials Branch, CDOT, March 1992. (QPM 1)
2. Revision of Sections 105 and 106, Quality of Hot Bituminous Pavement, April 25, 1995 (Reissued with minor editorial changes, March 7, 1996). CDOT, 4201 East Arkansas Avenue, Denver, CO 80222. (QPM 2)
3. HBP QA/QC Pilot Projects Construction in 1992, Interim Report. Report No. CDOT-DTD-R-93-14, by Bud A. Brakey, Colorado Department of Transportation, 4201 East Arkansas Avenue, Denver, CO 80222.
4. HBP QA/QC Pilot Projects Construction in 1993, Second Interim Report, by Bud A. Brakey, Colorado Department of Transportation, 4201 East Arkansas Avenue, Denver, CO 80222.
5. Hot Bituminous Pavement QC/QA Projects Constructed in 1994 and Summary of the 1992-1994 QC/QA Pilot Program, Final Report, June 1995, by Bud A. Brakey,
6. HBP QC&QA Projects Constructed in 1995 Under QPM 1 and QPM 2 Specifications, (1996 fourth annual report by Bud A Brakey, Colorado Department of Transportation, 4201 East Arkansas Avenue, Denver, CO 80222.), Report No. CDOT-R-96-9.
7. HBP QC&QA Projects Constructed in 1996 Under QPM 2 Specifications, (May 1997, fifth annual report by Bud A. Brakey, Colorado Department of Transportation, 4201 East Arkansas Avenue, Denver, CO 80222), Report No. CDOT-DTD-R-97-9.
- 8 HBP QC&QA Projects Constructed in 1997 Under QPM 2 Specifications, (sixth annual report, May 1998, Bud A Brakey, Colorado Department of Transportation, 4201 East Arkansas Ave, Denver, CO 80222), Report No. CDOT-DTD-R-98-4.
- 9 Hot Bituminous Pavement Gradation Acceptance Review of QC/QA Data 2000 to 2002, (March 2004, Eric Chavez, Colorado Department of Transportation, 4201 East Arkansas Ave, Denver, CO 80222), Report No. CDOT-DTD-R-2004-04.

Appendix A

Recap Reports for Project Data 2000 through 2003

Report 1	Asphalt Content – Recap by Grading/Year/Region	A - 1
Report 2	Mat Density – Recap by Grading/Year/Region	A - 5
Report 3	Gradation Process Information, Recap by Grading/Year/Region	A - 8
Report 4	Gradation Standard Deviation, Recap by Grading/Year/Region	A - 11
Report 5	Joint Density – Recap by Grading/Year/Region	A - 14

Asphalt Content - Recap by Grading/Year/Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/03.

Processes with less than 3 tests not included.

<i>Grading: F</i>	Processes	Tons	Tests	Price	Weighted Average:		
					Quality Level	Pay Factor	St. Dev.
2001							
<i>Region: 3</i>	1	3,126	3	\$37.26	100.000	1.02500	0.046
<i>Totals 2001</i>	1	3,126	3	\$37.26	100.000	1.02500	0.046
<hr/>							
<i>Grand Totals - Grading: F</i>	1	3,126	3	\$37.26	100.000	1.02500	0.046

Asphalt Content - Recap by Grading/Year/Region

<i>Grading: S</i>	Processes	Tons	Tests	Weighted Average:			
				Price	Quality Level	Pay Factor	St. Dev.
2000							
<i>Region: 1</i>	7	136,178	137	\$37.14	94.049	1.02860	0.132
<i>Region: 2</i>	22	296,380	311	\$38.19	86.480	0.99302	0.170
<i>Region: 4</i>	4	27,949	29	\$52.24	87.685	1.01892	0.168
<i>Region: 6</i>	11	107,417	112	\$44.65	89.344	1.01423	0.146
<i>Totals 2000</i>	44	567,924	589	\$39.85	88.896	1.00684	0.156
2001							
<i>Region: 1</i>	13	134,407	164	\$50.85	93.126	1.03133	0.145
<i>Region: 2</i>	19	227,615	231	\$36.81	85.446	0.99192	0.184
<i>Region: 4</i>	2	26,162	28	\$30.14	91.139	1.02668	0.169
<i>Region: 6</i>	8	100,752	103	\$38.52	91.028	1.02424	0.157
<i>Totals 2001</i>	42	488,936	526	\$40.67	89.012	1.01127	0.167
2002							
<i>Region: 1</i>	4	15,440	17	\$45.99	89.857	1.00805	0.107
<i>Region: 2</i>	9	57,979	60	\$36.89	96.264	1.03486	0.149
<i>Region: 4</i>	7	22,556	28	\$38.11	82.877	0.98221	0.174
<i>Region: 6</i>	7	63,098	66	\$39.75	85.957	1.00059	0.177
<i>Totals 2002</i>	27	159,073	171	\$39.08	89.656	1.01120	0.160
2003							
<i>Region: 1</i>	3	89,496	92	\$36.40	95.975	1.04611	0.136
<i>Region: 2</i>	16	193,753	199	\$37.46	88.622	1.01457	0.166
<i>Region: 4</i>	5	153,240	161	\$36.85	95.437	1.04073	0.142
<i>Totals 2003</i>	24	436,489	452	\$37.03	92.522	1.03022	0.151
Grand Totals - Grading: S	137	1,652,422	1738	\$39.27	89.961	1.01475	0.158

Asphalt Content - Recap by Grading/Year/Region

<i>Grading: SG</i>	Processes	Tons	Tests	Weighted Average:			
				Price	Quality Level	Pay Factor	St. Dev.
2001							
<i>Region: 1</i>	2	19,809	19	\$35.08	86.818	1.00611	0.170
<i>Totals 2001</i>	2	19,809	19	\$35.08	86.818	1.00611	0.170
2003							
<i>Region: 1</i>	1	11,470	15	\$36.50	82.776	0.98518	0.120
<i>Region: 4</i>	1	5,813	7	\$29.35	85.433	1.01756	0.199
<i>Totals 2003</i>	2	17,283	22	\$34.10	83.670	0.99607	0.147
<i>Grand Totals - Grading: SG</i>	4	37,092	41	\$34.62	85.351	1.00143	0.159

<i>Grading: SMA</i>	Processes	Tons	Tests	Weighted Average:			
				Price	Quality Level	Pay Factor	St. Dev.
2000							
<i>Region: 3</i>	2	17,033	17	\$48.36	73.488	0.94554	0.191
<i>Totals 2000</i>	2	17,033	17	\$48.36	73.488	0.94554	0.191
2002							
<i>Region: 1</i>	2	31,814	32	\$48.70	90.569	1.02191	0.167
<i>Region: 6</i>	6	71,665	69	\$47.76	85.856	0.99954	0.161
<i>Totals 2002</i>	8	103,479	101	\$48.05	87.305	1.00642	0.163
2003							
<i>Region: 6</i>	1	27,442	27	\$49.50	95.937	1.05107	0.135
<i>Totals 2003</i>	1	27,442	27	\$49.50	95.937	1.05107	0.135
<i>Grand Totals - Grading: SMA</i>	11	147,954	145	\$48.35	87.315	1.00769	0.161

Asphalt Content - Recap by Grading/Year/Region

<i>Grading: SX</i>	Processes	Tons	Tests	Weighted Average:			
				Price	Quality Level	Pay Factor	St. Dev.
2000							
<i>Region: 1</i>	5	33,307	37	\$37.98	81.630	0.98725	0.217
<i>Region: 3</i>	32	376,886	439	\$43.68	92.484	1.02312	0.147
<i>Region: 5</i>	3	50,891	52	\$42.13	94.661	1.03486	0.135
<i>Totals 2000</i>	40	461,084	528	\$43.09	91.940	1.02182	0.151
2001							
<i>Region: 3</i>	29	278,907	297	\$37.85	93.822	1.02985	0.136
<i>Region: 5</i>	5	88,053	91	\$38.81	98.653	1.04964	0.101
<i>Totals 2001</i>	34	366,960	388	\$38.08	94.981	1.03460	0.127
2002							
<i>Region: 1</i>	6	130,016	134	\$35.64	85.352	0.98556	0.188
<i>Region: 3</i>	15	221,697	229	\$35.96	93.865	1.02865	0.140
<i>Region: 4</i>	1	45,000	45	\$39.00	94.111	1.03472	0.159
<i>Region: 5</i>	9	170,250	173	\$36.87	91.151	1.01780	0.164
<i>Region: 6</i>	3	21,171	25	\$41.52	89.093	1.01289	0.180
<i>Totals 2002</i>	34	588,134	606	\$36.59	91.045	1.01588	0.161
2003							
<i>Region: 1</i>	5	106,767	113	\$42.44	96.696	1.04709	0.137
<i>Region: 3</i>	11	115,089	115	\$39.10	96.126	1.03994	0.114
<i>Region: 5</i>	5	53,803	61	\$57.52	90.779	1.01600	0.151
<i>Totals 2003</i>	21	275,659	289	\$43.99	95.303	1.03804	0.130
<i>Grand Totals - Grading: SX</i>	129	1,691,837	1811	\$39.89	92.836	1.02517	0.146

Statewide Totals All Gradings

	Processes	Tons	Tests	Weighted Average:			
				Price	Quality Level	Pay Factor	St. Dev.
	282	3,532,431	3738	\$39.90	91.188	1.01931	0.152

Mat Density - Recap by Grading/Year/Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/03.

Processes with less than 3 tests not included.

Grading: S	Processes	Total Tons	Tests	Weighted Average				
				Price	Quality Level	Pay Factor	St. Dev.	Mean
2000								
Region: 1	7	133,350	270	\$37.03	95.483	1.03787	0.893	93.67
Region: 2	26	287,891	591	\$38.47	90.740	1.00788	0.983	93.44
Region: 4	2	3,791	10	\$56.73	91.843	1.03339	0.848	93.10
Region: 6	11	107,917	219	\$44.54	90.967	1.01998	0.918	93.34
Totals: 2000	46	532,949	1,090	\$39.47	91.980	1.01801	0.946	93.47
2001								
Region: 1	15	135,130	278	\$50.72	92.996	1.02639	0.982	93.79
Region: 2	21	232,780	469	\$37.03	93.646	1.03091	0.927	93.79
Region: 4	3	27,853	58	\$30.10	97.883	1.05078	0.854	93.86
Region: 6	8	99,752	202	\$38.42	96.001	1.04534	0.871	93.83
Totals: 2001	47	495,515	1,007	\$40.66	94.181	1.03370	0.927	93.80
2002								
Region: 1	4	15,440	33	\$45.99	93.709	1.03178	1.007	93.99
Region: 2	9	52,978	109	\$37.31	93.365	1.02772	0.991	93.71
Region: 4	7	22,556	52	\$38.11	98.405	1.03762	0.691	93.84
Region: 6	9	65,813	137	\$39.73	90.434	1.01533	0.768	93.11
Totals: 2002	29	156,787	331	\$39.30	92.893	1.02434	0.856	93.50
2003								
Region: 1	3	72,610	152	\$36.68	92.200	1.01429	1.042	93.57
Region: 2	20	185,753	377	\$37.41	90.145	1.01625	0.982	93.53
Region: 4	5	140,276	285	\$37.17	94.283	1.03614	0.920	93.60
Totals: 2003	28	398,639	814	\$37.19	91.975	1.02289	0.971	93.56
Grand Totals Grad S	150	1,583,890	3,242	\$39.25	92.758	1.02477	0.937	93.60

<i>Grading: SG</i>	Processes	Total Tons	Tests	Weighted Average				
				Price	Quality Level	Pay Factor	St. Dev.	Mean
2001								
<i>Region: 1</i>	4	24,785	51	\$35.08	94.640	1.03646	0.836	93.94
<i>Totals: 2001</i>	4	24,785	51	\$35.08	94.640	1.03646	0.836	93.94
2003								
<i>Region: 1</i>	1	10,970	24	\$36.50	90.491	1.01920	0.785	93.02
<i>Region: 4</i>	1	5,813	12	\$29.35	99.553	1.04500	0.705	93.60
<i>Totals: 2003</i>	2	16,783	36	\$34.02	93.630	1.02814	0.757	93.22
Grand Totals Grad SG	6	41,568	87	\$34.65	94.232	1.03310	0.804	93.65

<i>Grading: SMA</i>	Processes	Total Tons	Tests	Weighted Average				
				Price	Quality Level	Pay Factor	St. Dev.	Mean
2000								
<i>Region: 3</i>	2	17,033	34	\$48.36	90.952	1.02727	1.020	95.15
<i>Totals: 2000</i>	2	17,033	34	\$48.36	90.952	1.02727	1.020	95.15
2002								
<i>Region: 1</i>	2	31,814	63	\$48.70	84.429	0.96768	1.352	94.62
<i>Region: 6</i>	6	70,665	143	\$47.73	93.896	1.03715	1.000	94.87
<i>Totals: 2002</i>	8	102,479	206	\$48.03	90.957	1.01558	1.109	94.80
2003								
<i>Region: 6</i>	1	28,160	55	\$49.50	99.342	1.05500	0.646	95.43
<i>Totals: 2003</i>	1	28,160	55	\$49.50	99.342	1.05500	0.646	95.43
Grand Totals Grad SMA	11	147,672	295	\$48.35	92.555	1.02444	1.011	94.96

<i>Grading: SX</i>	Processes	Total Tons	Tests	Weighted Average				
				Price	Quality Level	Pay Factor	St. Dev.	Mean
2000								
<i>Region: 1</i>	5	35,221	75	\$37.70	86.242	0.99943	1.227	93.55
<i>Region: 3</i>	30	344,463	687	\$44.49	91.161	1.01053	0.955	93.57
<i>Region: 5</i>	3	48,488	98	\$42.09	90.163	0.99982	0.829	93.11
<i>Totals: 2000</i>	38	428,172	860	\$43.66	90.643	1.00840	0.963	93.52
2001								
<i>Region: 3</i>	21	206,912	427	\$38.24	93.586	1.03136	1.002	93.85
<i>Region: 5</i>	5	87,553	178	\$38.83	89.469	1.00295	1.062	93.56
<i>Totals: 2001</i>	26	294,465	605	\$38.42	92.362	1.02291	1.020	93.76
2002								
<i>Region: 1</i>	6	130,016	263	\$35.64	97.814	1.05282	0.781	93.81
<i>Region: 3</i>	16	198,144	409	\$37.19	95.607	1.04151	0.871	93.81
<i>Region: 4</i>	1	44,000	89	\$39.00	95.087	1.03680	0.837	93.38
<i>Region: 5</i>	7	135,305	275	\$37.12	94.948	1.03093	0.939	93.76
<i>Region: 6</i>	3	21,171	46	\$41.52	86.894	1.00324	0.828	93.02
<i>Totals: 2002</i>	33	528,636	1,082	\$37.12	95.589	1.03966	0.862	93.73
2003								
<i>Region: 1</i>	7	107,296	230	\$42.34	96.301	1.04793	0.813	93.89
<i>Region: 3</i>	8	85,842	180	\$39.55	93.264	1.03122	0.999	94.33
<i>Region: 5</i>	6	39,760	82	\$63.09	93.832	1.03254	0.922	94.03
<i>Totals: 2003</i>	21	232,898	492	\$44.86	94.760	1.03914	0.900	94.08
Grand Totals Grad SX	118	1,484,171	3,039	\$40.48	93.392	1.02724	0.928	93.73

Statewide Totals All Gradings

Processes	Total Tons	Tests	Weighted Average				
			Price	Quality Level	Pay Factor	St. Dev.	Mean
285	3,257,301	6,663	\$40.16	93.056	1.02599	0.935	93.72

Gradation - Process Information - Recap by Grading/Year/Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/03.

Processes with less than 3 tests not included.

Grading: S	Processes	Tons	Tests	Price	Pay Factor	Quality Level		
						Avg.	High	Low
2000								
<i>Region 1</i>	7	134,750	69	\$37.08	1.01972	87.882	96.476	66.667
<i>Region 2</i>	18	288,364	155	\$38.24	0.99336	85.545	100.000	0.000
<i>Region 4</i>	3	19,679	12	\$48.99	0.94015	64.554	70.061	50.000
<i>Region 6</i>	11	108,417	59	\$44.51	1.02203	87.903	100.000	67.817
Totals: 2000	39	551,210	295	\$39.57	1.00355	85.831	100.000	0.000
2001								
<i>Region 1</i>	11	130,406	68	\$51.38	0.99110	85.240	100.000	0.000
<i>Region 2</i>	13	207,829	105	\$36.45	0.99536	83.447	100.000	54.873
<i>Region 4</i>	2	24,162	13	\$30.19	1.02151	86.361	90.404	81.305
<i>Region 6</i>	7	99,000	52	\$38.56	1.00571	86.461	100.000	68.717
Totals: 2001	33	461,397	238	\$40.80	0.99775	84.753	100.000	0.000
2002								
<i>Region 1</i>	2	10,587	7	\$48.15	1.01790	84.009	90.825	66.667
<i>Region 2</i>	5	46,086	24	\$35.06	1.02391	93.628	100.000	83.042
<i>Region 4</i>	2	10,377	7	\$41.43	1.00443	83.320	100.000	72.699
<i>Region 6</i>	5	54,089	32	\$39.86	0.95249	80.323	100.000	35.200
Totals: 2002	14	121,139	70	\$38.89	0.98983	85.964	100.000	35.200
2003								
<i>Region 1</i>	3	89,878	49	\$36.42	1.00345	87.445	90.695	73.663
<i>Region 2</i>	14	189,104	99	\$37.44	1.00707	85.273	100.000	54.428
<i>Region 4</i>	5	153,240	84	\$36.85	1.03865	94.711	98.651	89.233
Totals: 2003	22	432,222	232	\$37.02	1.01751	89.071	100.000	54.428
Grand Totals: S	108	1,565,968	835	\$39.18	1.00463	86.418	100.000	0.000

Grading: SG

	Processes	Tons	Tests	Price	Pay Factor	Quality Level		
						Avg.	High	Low
2001								
<i>Region 1</i>	2	19,809	11	\$35.08	0.98848	78.450	86.107	50.000
Totals: 2001	2	19,809	11	\$35.08	0.98848	78.450	86.107	50.000
2003								
<i>Region 1</i>	1	11,470	6	\$36.50	1.02977	87.942	87.942	87.942
<i>Region 4</i>	1	5,813	3	\$29.35	0.98531	66.265	66.265	66.265
Totals: 2003	2	17,283	9	\$34.10	1.01482	80.651	87.942	66.265
Grand Totals: SG	4	37,092	20	\$34.62	1.00075	79.475	87.942	50.000

Grading: SMA

	Processes	Tons	Tests	Price	Pay Factor	Quality Level		
						Avg.	High	Low
2000								
<i>Region 3</i>	1	11,075	7	\$48.53	0.97274	75.968	75.968	75.968
Totals: 2000	1	11,075	7	\$48.53	0.97274	75.968	75.968	75.968
2002								
<i>Region 1</i>	2	31,812	16	\$48.70	0.99783	86.898	100.000	82.115
<i>Region 6</i>	6	70,665	36	\$47.73	1.02177	88.071	100.000	59.866
Totals: 2002	8	102,477	52	\$48.03	1.01434	87.707	100.000	59.866
2003								
<i>Region 6</i>	1	27,869	13	\$49.50	1.03471	92.154	92.154	92.154
Totals: 2003	1	27,869	13	\$49.50	1.03471	92.154	92.154	92.154
Grand Totals: SM	10	141,421	72	\$48.36	1.01510	87.664	100.000	59.866

Grading: SX

	Processes	Tons	Tests	Price	Pay Factor	Quality Level		
						Avg.	High	Low
2000								
<i>Region 1</i>	3	28,529	15	\$35.62	0.94354	76.223	100.000	37.090
<i>Region 3</i>	26	356,310	210	\$43.83	0.99569	83.835	100.000	36.518
<i>Region 5</i>	3	50,891	27	\$42.13	1.02130	89.890	98.457	41.559
Totals: 2000	32	435,730	252	\$43.09	0.99527	84.044	100.000	36.518
2001								
<i>Region 3</i>	23	258,452	152	\$37.84	1.01409	88.481	100.000	34.490
<i>Region 5</i>	4	82,587	43	\$38.58	0.99852	83.947	90.832	56.623
Totals: 2001	27	341,039	195	\$38.02	1.01032	87.383	100.000	34.490
2002								
<i>Region 1</i>	6	130,015	68	\$35.64	1.01207	87.161	91.574	81.324
<i>Region 3</i>	14	218,494	118	\$36.02	1.01494	88.251	100.000	47.478
<i>Region 4</i>	1	44,000	22	\$39.00	1.02580	91.415	91.415	91.415
<i>Region 5</i>	6	159,350	83	\$36.09	1.03201	93.356	100.000	58.043
<i>Region 6</i>	2	16,417	9	\$43.70	1.02730	92.828	100.000	84.441
Totals: 2002	29	568,276	300	\$36.41	1.02027	89.810	100.000	47.478
2003								
<i>Region 1</i>	5	106,767	55	\$42.44	1.02053	90.943	100.000	77.281
<i>Region 3</i>	9	105,995	69	\$38.86	1.00402	85.619	100.000	69.868
<i>Region 5</i>	5	53,803	29	\$57.52	1.00592	84.142	92.970	65.983
Totals: 2003	19	266,565	153	\$44.06	1.01102	87.453	100.000	65.983
Grand Totals: SX	107	1,611,610	900	\$39.82	1.00987	87.348	100.000	34.490

Statewide Totals All Gradings

Processes	Tons	Tests	Price	Pay Factor	Quality Level		
					Avg.	High	Low
229	3,356,091	1827	\$39.82	1.00755	86.840	100.000	0.000

Gradation - Standard Deviation - Recap by Grading/Year/Region

Criteria: Projects with Bid Dates from 1/1/2000 to 12/31/2003.

Processes with less than 3 tests not included.

Grading: S	Weighted Average										
	Processes	Tons	Tests	Price	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
2000											
Region 1	7	134,750	69	\$37.08	1.133	2.326	2.531	2.567	2.504	1.705	0.644
Region 2	18	288,364	155	\$38.24	1.025	2.494	2.624	2.553	2.217	1.486	0.625
Region 4	3	19,679	12	\$48.99	0.000	2.726	3.729	3.034	2.274	0.896	0.314
Region 6	11	108,417	59	\$44.51	1.222	2.380	2.610	2.386	2.339	1.435	0.452
Totals: 2000	39	551,210	295	\$39.57	1.054	2.439	2.638	2.541	2.313	1.508	0.585
2001											
Region 1	11	130,406	68	\$51.38	1.132	2.014	2.391	2.340	2.082	1.278	0.473
Region 2	13	207,829	105	\$36.45	1.002	2.589	2.709	2.622	2.519	1.642	0.751
Region 4	2	24,162	13	\$30.19	0.000	1.711	2.367	2.589	2.478	1.245	0.478
Region 6	7	99,000	52	\$38.56	0.711	2.705	2.637	2.563	2.453	1.465	0.818
Totals: 2001	33	461,397	238	\$40.80	0.924	2.405	2.586	2.528	2.379	1.480	0.673
2002											
Region 1	2	10,587	7	\$48.15	2.005	3.605	2.864	2.420	2.292	0.744	0.288
Region 2	5	46,086	24	\$35.06	0.433	1.876	1.878	1.634	1.456	0.888	0.667
Region 4	2	10,377	7	\$41.43	0.367	2.650	2.478	2.678	1.622	1.078	0.375
Region 6	5	54,089	32	\$39.86	0.275	2.619	2.610	2.683	2.162	1.412	0.446
Totals: 2002	14	121,139	70	\$38.89	0.494	2.425	2.342	2.260	1.859	1.126	0.510
2003											
Region 1	3	89,878	49	\$36.42	1.031	2.171	2.440	2.559	2.204	1.343	0.626
Region 2	14	189,104	99	\$37.44	0.210	1.771	2.406	2.666	2.467	1.693	0.656
Region 4	5	153,240	84	\$36.85	0.209	1.930	2.452	2.092	1.703	1.147	0.548
Totals: 2003	22	432,222	232	\$37.02	0.396	1.910	2.430	2.440	2.142	1.427	0.612
Grand Totals S	108	1,565,968	835	\$39.18	0.800	2.282	2.542	2.488	2.250	1.448	0.612

Grading: SG**Weighted Average**

	Processes	Tons	Tests	Price	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
2001											
<i>Region 1</i>	2	19,809	11	\$35.08		4.233	3.497	2.506	2.600	1.627	0.933
Totals: 2001	2	19,809	11	\$35.08		4.233	3.497	2.506	2.600	1.627	0.933
2003											
<i>Region 1</i>	1	11,470	6	\$36.50		2.100	2.900	3.000	1.400	1.000	1.170
<i>Region 4</i>	1	5,813	3	\$29.35		4.200	3.800	4.000	4.000	1.700	1.360
Totals: 2003	2	17,283	9	\$34.10		2.806	3.203	3.336	2.274	1.235	1.234
Grand Totals SG	4	37,092	20	\$34.62		3.568	3.360	2.893	2.448	1.445	1.073

Grading: SMA**Weighted Average**

	Processes	Tons	Tests	Price	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
2000											
<i>Region 3</i>	1	11,075	7	\$48.53		0.000	1.100	2.100	1.700	1.000	0.800
Totals: 2000	1	11,075	7	\$48.53		0.000	1.100	2.100	1.700	1.000	0.800
2002											
<i>Region 1</i>	2	31,812	16	\$48.70		2.865	3.206	2.240	1.693	0.947	0.630
<i>Region 6</i>	6	70,665	36	\$47.73		1.793	2.304	2.460	1.713	1.145	0.792
Totals: 2002	8	102,477	52	\$48.03		2.126	2.584	2.391	1.707	1.083	0.742
2003											
<i>Region 6</i>	1	27,869	13	\$49.50		3.100	3.600	2.000	1.700	1.000	0.470
Totals: 2003	1	27,869	13	\$49.50		3.100	3.600	2.000	1.700	1.000	0.470
Grand Totals SMA	10	141,421	72	\$48.36		2.151	2.668	2.292	1.705	1.060	0.693

Grading: SX

	Processes	Tons	Tests	Price	Weighted Average						
					3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
2000											
<i>Region 1</i>	3	28,529	15	\$35.62		1.666	2.368	2.334	2.348	1.573	0.837
<i>Region 3</i>	26	356,310	210	\$43.83		0.766	1.734	2.361	2.198	1.400	0.594
<i>Region 5</i>	3	50,891	27	\$42.13		0.747	1.470	2.356	2.043	1.316	0.379
Totals: 2000	32	435,730	252	\$43.09		0.823	1.745	2.359	2.190	1.402	0.585
2001											
<i>Region 3</i>	23	258,452	152	\$37.84		1.275	2.082	2.364	1.948	1.234	0.536
<i>Region 5</i>	4	82,587	43	\$38.58		1.484	2.483	2.095	1.472	0.965	0.581
Totals: 2001	27	341,039	195	\$38.02		1.326	2.179	2.299	1.833	1.169	0.547
2002											
<i>Region 1</i>	6	130,015	68	\$35.64		1.057	2.009	2.422	2.631	1.593	0.459
<i>Region 3</i>	14	218,494	118	\$36.02		0.754	1.789	2.251	2.210	1.306	0.580
<i>Region 4</i>	1	44,000	22	\$39.00		0.800	1.700	2.900	2.400	1.400	0.730
<i>Region 5</i>	6	159,350	83	\$36.09		1.269	2.385	2.407	2.299	1.368	0.438
<i>Region 6</i>	2	16,417	9	\$43.70		0.599	1.369	1.291	2.345	1.277	0.678
Totals: 2002	29	568,276	300	\$36.41		0.967	1.988	2.356	2.350	1.396	0.527
2003											
<i>Region 1</i>	5	106,767	55	\$42.44		1.209	2.153	2.629	2.401	1.728	0.601
<i>Region 3</i>	9	105,995	69	\$38.86		1.702	2.604	2.695	2.108	1.307	0.668
<i>Region 5</i>	5	53,803	29	\$57.52		0.296	0.978	2.287	2.649	1.788	1.127
Totals: 2003	19	266,565	153	\$44.06		1.331	2.095	2.587	2.335	1.573	0.733
Grand Totals SX	107	1,611,610	900	\$39.82		1.059	1.980	2.383	2.195	1.379	0.581

Statewide Totals All Gradings

Processes	Tons	Tests	Price	Weighted Average						
				3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
229	3,356,091	1827	\$39.82		1.709	2.287	2.434	2.203	1.398	0.606

Joint Density - Recap by Grading/Year/Region

Criteria: Projects with Bid Dates from 1/1/2000 to 12/31/2003.

Processes with less than 3 tests not included.

Weighted average used for: Price, Pay Factor, St. Dev., Mean, and Quality Level

<i>Grading: S</i>	Processes	Tons	Tests	Price	Pay Factor	Std Dev	Mean	Quality Level		
								Avg.	High	Low
2003										
<i>Region 2</i>	12	185,639	123	\$37.38	0.95992	1.521	89.709	81.322	100.000	25.665
<i>Region 4</i>	5	141,276	69	\$37.14	0.99840	1.369	89.721	87.224	100.000	80.089
Totals: 2003	17	326,915	192	\$37.28	0.97655	1.456	89.714	83.873	100.000	25.665
Totals Grading: S	17	326,915	192	\$37.28	0.97655	1.456	89.714	83.873	100.000	25.665

<i>Grading: SX</i>	Processes	Tons	Tests	Price	Pay Factor	Std Dev	Mean	Quality Level		
								Avg.	High	Low
2002										
<i>Region 5</i>	2	64,455	75	\$35.59	1.02468	1.547	90.561	93.951	100.000	93.382
Totals: 2002	2	64,455	75	\$35.59	1.02468	1.547	90.561	93.951	100.000	93.382
2003										
<i>Region 1</i>	5	98,915	56	\$41.28	1.02318	1.630	90.230	89.999	93.520	61.448
<i>Region 3</i>	3	60,498	47	\$38.95	0.97520	1.885	90.130	84.505	95.100	71.417
<i>Region 5</i>	2	39,952	27	\$63.47	0.97279	1.528	89.372	80.830	85.653	72.877
Totals: 2003	10	199,365	130	\$45.02	0.99852	1.687	90.028	86.494	95.100	61.448
Totals Grading: SX	12	263,820	205	\$42.72	1.00491	1.653	90.158	88.316	100.000	61.448

Joint Density Totals, All Gradings 1/1/2000 to 12/31/20

Processes	Tons	Tests	Price	Pay Factor	Std Dev	Mean	Quality Level		
							Avg.	High	Low
29	590,735	397	\$39.71	0.98921	1.544	89.912	85.857	100.000	25.665

Appendix B

Reports for 2003 Projects

Report 6	Project Listing by Region/Subaccount	B - 1
Report 7	Project Data	B - 3
Report 7	Calculated Pay Factor Composite and I/DP by Region	B - 33
Report 8	Asphalt Content – Process Information	B - 36
Report 9	Asphalt Content – Recap by Grading/Region	B - 39
Report 11	Mat Density - Process Information	B - 40
Report 12	Mat Density - Recap by Grading/Region	B - 43
Report 13	Gradation - Process Information	B - 44
Report 14	Gradation – Recap by Grading/Region	B - 47
Report 15	Gradation – Standard Deviation Information	B - 48
Report 16	Gradation – Std. Dev. Recap by Grading/Region	B - 51

Joint Density Reports 2000 to 2003

Report 17	Joint Density Project Listing	B - 52
Report 18	Joint Density Process Information	B - 54
Report 19	Joint Density Recap by Grading/Region	B - 56

Project Listing by Region/Subaccount - Gradation Acceptance

Projects with Bid Dates from 1/1/2003 to 12/31/2003.

Region: 1

<i>Subacct.</i>	<i>Project Code</i>	<i>Location</i>	<i>Supplier</i>	<i>Bid Date</i>	<i>Total Bid</i>	<i>Plan Quant.</i>
13897	NH 0852-088	SH 85 - Sedalia	37	02/27/03	\$4,573,000.00	18,192
13972	STA 0061-074	Keystone/Loveland	13	02/20/03	\$2,253,896.04	31,908
14227	SHE 0061-076	Cleer Creek Canyon	19	01/30/03	\$189,281.47	3,028
14275	STA 0362-026	SH 36 Byers to Ara	19	03/13/03	\$3,264,288.25	53,313
14305	IM 0702-241	West Vail Pass Res	11	01/09/03	\$4,530,047.77	59,309
14353	NH 2854-099	US 285 Parkview-Ke	41	05/01/03	\$737,038.13	5,388

Number of Projects 6

Total Plan Quantity 171,138

Region: 2

<i>Subacct.</i>	<i>Project Code</i>	<i>Location</i>	<i>Supplier</i>	<i>Bid Date</i>	<i>Total Bid</i>	<i>Plan Quant.</i>
12833	NH 1603-016	West of Walsenburg	53	07/24/03	\$1,834,141.75	19,652
13094	BR 1151-012	Little Fountain Creek	45	03/27/03	\$3,113,158.74	18,785
13547	NH 0505-037	US 50 Bridges	32	03/06/03	\$3,829,474.01	21,910
14199	STA 012A-038	SH 12 e/o Segundo	53	01/30/03	\$953,785.40	18,000
14204	STA 078A-004	SH 78 Midway to Beulah	19	02/20/03	\$232,313.45	3,381
14206	NH 1603-019	Lathrop to Walsenburg	53	02/13/03	\$537,084.53	10,060
14208	NH 0242-039	Manitou & Lake George	49	12/18/03	\$4,015,672.69	62,414
14304	STA 083A-031	SH 83 North PPCC	45	06/19/03	\$1,765,662.60	22,591
14397	NH 0851-006	SH 85 Phase III	45	05/22/03	\$4,083,941.20	21,663

Number of Projects 9

Total Plan Quantity 198,456

Region: 3

<i>Subacct.</i>	<i>Project Code</i>	<i>Location</i>	<i>Supplier</i>	<i>Bid Date</i>	<i>Total Bid</i>	<i>Plan Quant.</i>
13333	STA 340A-007	Redlands Parkway	12	08/07/03	\$874,474.10	3,853
13868	STA 114A-007	Cochetopa Hwy 114	12	01/16/03	\$1,641,143.20	37,071
14216	STA R300-108	Meeker and Rangely	12	03/27/03	\$1,641,848.97	28,494
14217	STA 092A-016	Delta East hwy 92	16	02/06/03	\$1,924,272.62	25,522
14439	STA 131A-030	Wolcott North	11	05/08/03	\$1,960,680.57	36,296

Number of Projects 5

Total Plan Quantity 131,236

Project Listing

Region: 4

<i>Subacct.</i>	<i>Project Code</i>	<i>Location</i>	<i>Supplier</i>	<i>Bid Date</i>	<i>Total Bid</i>	<i>Plan Quant.</i>
13987	STA 1381-005	Proctor East and West	19	02/20/03	\$3,910,262.52	64,236
14301	NH 2873-126	US 287 Ted's Place North	40	02/27/03	\$1,950,044.40	34,448
14461	STA 059A-028	SH 59 N of Haxtun	60	06/19/03	\$2,549,141.55	52,159

Number of Projects 3

Total Plan Quantity 150,843

Region: 5

<i>Subacct.</i>	<i>Project Code</i>	<i>Location</i>	<i>Supplier</i>	<i>Bid Date</i>	<i>Total Bid</i>	<i>Plan Quant.</i>
13922	BR 114A-008	Saguache Creek	18	05/29/03	\$902,579.53	2,129
13969	NH 1602-090	Lonesome Dove	45	12/04/03	\$14,496,678.07	15,116
13998	NH 2852-014	Ponch Pass to Pon	11	03/06/03	\$2,333,589.64	38,175
14320	NH 1603-020	US 160 & SH 17	18	04/03/03	\$233,474.50	1,273

Number of Projects 4

Total Plan Quantity 56,693

Region: 6

<i>Subacct.</i>	<i>Project Code</i>	<i>Location</i>	<i>Supplier</i>	<i>Bid Date</i>	<i>Total Bid</i>	<i>Plan Quant.</i>
14236	STA 0881-014	SH 88 I-25 to SH 8	10	06/05/03	\$2,932,605.22	26,404

Number of Projects 1

Total Plan Quantity 26,404

Totals: Projects with Bid Dates from 1/1/2003 to 12/31/2003.

Number of Projects 28

Total Plan Quantity 734,770

Project Data

Projects with Bid Dates from 1/1/03 to 12/31/03.

Subaccount: 12833		NH 1603-016		West of Walsenburg		Region: 2		Supplier: 53				
Mix Design No:	12833	Process No:	1	Grading:	S (100) PG 64-28	Price Per Ton: \$46.00						
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	Std. Dev. V - V	Other		
AC	19	18,997	96.716	1.05000	\$10,923.28	5.600	5.694	0.094	0.116	0.200	-0.084	CTS Tons 500
Density	1	500		1.00000	\$0.00	94.000				1.100		I/DP \$362.25
Gradation	10	18,997	77.777	0.96727	(\$4,290.22)	Key Sieve: 3/8						PF 1.0 Tons 0
				I/DP:	\$6,995.31							

Mix Design No:	12833	Process No:	2	Grading:	S (100) PG 64-28	Price Per Ton: \$46.00						
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	Std. Dev. V - V	Other		
AC				\$0.00					0.200	CTS Tons 500		
Density	15	7,500	93.032	1.03729	\$5,789.29	94.000	93.173	0.827	0.811	1.100	-0.289	I/DP \$294.61
Gradation				\$0.00		Key Sieve:						PF 1.0 Tons 0
				I/DP:	\$6,083.90							

Mix Design No:	12833	Process No:	3	Grading:	S (100) PG 64-28	Price Per Ton: \$46.00						
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	Std. Dev. V - V	Other		
AC				\$0.00					0.200	CTS Tons 500		
Density	19	9,497	94.287	1.04289	\$8,431.17	94.000	93.132	0.868	0.732	1.100	-0.368	I/DP \$362.25
Gradation				\$0.00		Key Sieve:						PF 1.0 Tons 0
				I/DP:	\$8,793.42							

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
S	\$46.00	1	16	18,997	96.944	1.05000	\$6,553.97	92.000	90.530	1.470	1.412	1.600	-0.188
							\$6,553.97						

Project Totals: 12833		Tons	I/DP
Asphalt Content	18,997	\$10,923.28	
Mat Density	18,997	\$15,239.57	
Gradation	18,997	(\$4,290.22)	
Joint Density	18,997	\$6,553.97	
Total I/DP:		\$27,407.49	CPFC: 1.03253

Comments:

Project Data

Subaccount: 13094		BR 1151-012		Little Fountain Creek		Region: 2		Supplier: 45						
Mix Design No: 13094B1		Process No: 1		Grading: S () PG		Price Per Ton: \$35.88								
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
	AC	14	13,846	76.007	0.94330		5.300	5.218	0.082	0.244	0.200	0.044	CTS	0
	Density	28	13,846	86.972	0.99375		94.000	93.982	0.018	1.338	1.100	0.238	I/DP	\$0.00
	Gradation	7	13,846	82.477	1.00488		Key Sieve: No. 8					PF 1.0	0	
					I/DP:								Tons	0
Mix Design No: 13094T		Process No: 1		Grading: S () PG		Price Per Ton: \$39.69								
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
	AC	7	7,019	99.227	1.03500		5.300	5.340	0.040	0.135	0.200	-0.065	CTS	500
	Density	4	2,000	100.000	1.03000		94.000	93.375	0.625	0.386	1.100	-0.714	I/DP	(\$552.69)
	Gradation	4	7,019	78.050	1.01306		Key Sieve: No. 4					PF 1.0	0	
					I/DP:								Tons	0
Mix Design No: 13094T		Process No: 2		Grading: S () PG		Price Per Ton: \$39.69								
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
	AC				\$0.00					0.200			CTS	500
	Density	9	4,019	99.796	1.04000		94.000	93.578	0.422	0.700	1.100	-0.400	I/DP	\$312.56
	Gradation				\$0.00		Key Sieve:					PF 1.0	0	
					I/DP:								Tons	0
Joint Density														
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V	
S	\$35.88	1	11	15,709	77.627	0.96319	(\$3,112.47)	92.000	89.960	2.040	2.525	1.600	0.925	
S	\$35.88	2	1	1,875		0.40625	(\$5,991.68)	92.000					1.600	
S	\$35.88	3	4	3,281	100.000	1.03000	\$529.75	92.000	91.900	0.100	1.180	1.600	-0.420	
							(\$8,574.40)							
Project Totals: 13094														
				Tons			I/DP							
				Asphalt Content	20,865		(\$4,604.22)							
				Mat Density	20,865		\$2,304.76							
				Gradation	20,865		\$909.67							
				Joint Density	20,865		(\$8,574.40)							
				Total I/DP:			(\$9,724.06)						CPFC: 0.98715	

Comments: JD, 1 test 2 x V out.

Project Data

Subaccount: 13333 STA 340A-007 Redlands Parkway Region: 3 Supplier: 12

Mix Design No: 6422A2		Process No: 1		Grading: SX ()		PG		Price Per Ton: \$45.38					
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
											CTS		
AC	4	3,390	93.764	1.03000	\$1,153.89	5.600	5.725	0.125	0.133	0.200	-0.067	Tons	500
Density	6	2,890	88.972	1.03312	\$1,954.65	94.000	93.983	0.017	1.370	1.100	0.270	I/DP	\$357.40
Gradation	2	3,390			\$0.00							PF 1.0	
												Tons	0
				I/DP:	\$3,465.94								

Joint Density

Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
SX	\$45.80	1	1	585		0.62500	(\$1,507.11)	92.000					1.600
SX	\$45.80	2	1	921			\$0.00	92.000					1.600
SX	\$45.80	3	1	1,884		0.81250	(\$2,426.83)	92.000					1.600
							(\$3,933.94)						

Project Totals: 13333

	Tons	I/DP	
Asphalt Content	3,390	\$1,153.89	
Mat Density	3,390	\$2,312.05	
Gradation	3,390	\$0.00	
Joint Density	3,390	(\$3,933.94)	
Total I/DP:		(\$825.40)	CPFC: 0.99696

Comments:

Project Data

Subaccount: 13547		NH 0505-037		US 50 Bridges		Region: 2		Supplier: 32				
Mix Design No:	13547	Process No:	1	Grading:	S () PG	Price Per Ton: \$40.00						
		Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
Tests	Tons										CTS	
AC	3	2,500	49.640	0.88637	(\$2,840.82)	5.000	5.303	0.303	0.255	0.200	0.055	Tons 0
Density	5	2,500	71.309	0.96802	(\$1,439.14)	94.000	92.760	1.240	1.244	1.100	0.144	I/DP \$0.00
Gradation	2	2,500			\$0.00	Key Sieve:					PF 1.0	
				I/DP:	(\$4,279.96)							Tons 0

Mix Design No:	13547A	Process No:	1	Grading:	S () PG	Price Per Ton: \$40.00						
		Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
Tests	Tons										CTS	
AC	15	14,414	94.188	1.04262	\$6,143.08	5.300	5.251	0.049	0.158	0.200	-0.042	Tons 0
Density	29	14,414	87.386	0.99582	(\$1,083.56)	94.000	93.617	0.383	1.265	1.100	0.165	I/DP \$0.00
Gradation	8	14,414	79.540	0.98443	(\$1,346.87)	Key Sieve: No. 4					PF 1.0	
				I/DP:	\$3,712.65							Tons 0

Mix Design No:	13547DET	Process No:	1	Grading:	S () PG	Price Per Ton: \$40.00						
		Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
Tests	Tons										CTS	
AC	5	4,699	73.104	0.97707	(\$1,077.48)	5.600	5.708	0.108	0.259	0.200	0.059	Tons 0
Density	10	4,699	74.336	0.94672	(\$4,506.17)	94.000	93.650	0.350	1.741	1.100	0.641	I/DP \$0.00
Gradation	3	4,699	68.717	0.99594	(\$114.51)	Key Sieve: No. 8					PF 1.0	
				I/DP:	(\$5,698.16)							Tons 0

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
S	\$40.00	1	14	21,613	83.363	0.98854	(\$1,485.52)	92.000	89.900	2.100	1.955	1.600	0.355
							(\$1,485.52)						

Project Totals: 13547				Tons	I/DP
	Asphalt Content			21,613	\$2,224.78
	Mat Density			21,613	(\$7,028.87)
	Gradation			21,613	(\$1,461.38)
	Joint Density			21,613	(\$1,485.52)
	Total I/DP:				(\$7,750.99)
					CPFC: 0.99103

Comments:

Project Data

Subaccount: 13868

STA 114A-007

Cochetopa Hwy 114

Region: 3

Supplier: 12

Project Data

Mix Design No: 2-58-28		Process No: 1		Grading: SX () PG		Price Per Ton: \$36.15						Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons	
AC	7	5,854	100.000	1.03500	\$1,851.94	6.700	6.654	0.046	0.108	0.200	-0.092	0	
Density		0			\$0.00	94.000				1.100		I/DP \$0.00	
Gradation	7	5,854	98.107	1.03500	\$1,111.17	Key Sieve: No. 8					PF 1.0	Tons 5,854	
				I/DP:	\$2,963.11								

Mix Design No: 2-58-34		Process No: 1		Grading: SX () PG		Price Per Ton: \$39.95						Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons	
AC	7	7,241	87.940	1.02737	\$1,979.19	6.700	6.843	0.143	0.136	0.200	-0.064	500	
Density	14	6,741	98.570	1.04500	\$5,453.04	94.000	93.707	0.293	0.839	1.100	-0.261	I/DP \$314.59	
Gradation	6	6,000	100.000	1.03500	\$1,258.34	Key Sieve: All QLS100					PF 1.0	Tons 0	
				I/DP:	\$9,005.16								

Mix Design No: 2-58-34		Process No: 2		Grading: SX () PG		Price Per Ton: \$39.95						Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons	
AC		0			\$0.00				0.200			0	
Density		0			\$0.00	94.000				1.100		I/DP \$0.00	
Gradation	1	1,241		0.46429	(\$3,983.66)	Key Sieve:					PF 1.0	Tons 0	
				I/DP:	(\$3,983.66)								

Mix Design No: 3-58-34		Process No: 1		Grading: SX () PG		Price Per Ton: \$39.37						Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons	
AC	6	5,476	100.000	1.03500	\$1,886.52	6.600	6.628	0.028	0.059	0.200	-0.141	0	
Density	11	5,476	98.984	1.04500	\$4,365.95	94.000	94.327	0.327	0.811	1.100	-0.289	I/DP \$0.00	
Gradation	6	5,475	82.768	1.01072	\$346.62	Key Sieve: No. 8					PF 1.0	Tons 0	
				I/DP:	\$6,599.09								

Mix Design No: 4-58-34		Process No: 1		Grading: SX () PG		Price Per Ton: \$39.75						Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons	
AC	4	4,462	94.973	1.03000	\$1,330.17	6.700	6.743	0.043	0.191	0.200	-0.009	500	
Density	8	3,962	76.305	0.96717	(\$2,326.50)	94.000	95.325	1.325	0.916	1.100	-0.184	I/DP \$313.02	
Gradation	2	4,462			(\$1,187.65)	Key Sieve:					PF 1.0	Tons 0	
				I/DP:	(\$1,870.96)								

Mix Design No: 5-58-34		Process No: 1		Grading: SX () PG		Price Per Ton: \$39.29						Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons	
AC	8	7,775	99.068	1.04000	\$3,055.09	6.500	6.598	0.098	0.103	0.200	-0.097	0	
Density	16	7,775	91.133	1.02755	\$3,787.56	94.000	94.006	0.006	1.214	1.100	0.114	I/DP \$0.00	
Gradation	4	7,775	69.868	0.97815	(\$1,001.50)	Key Sieve: No. 4					PF 1.0	Tons 0	
				I/DP:	\$5,841.15								

Project Data

Mix Design No: 58-28		Process No: 1		Grading: SX ()		PG		Price Per Ton: \$36.01					
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
												CTS	
AC	7	7,320	79.442	0.99062	(\$618.12)	6.800	6.599	0.201	0.117	0.200	-0.083	Tons	0
Density		0			\$0.00	94.000				1.100		I/DP	\$0.00
Gradation	6	7,320	80.870	1.00279	\$110.29	Key Sieve: No. 4						PF 1.0	
				I/DP:	(\$507.83)							Tons	7,320

Project Totals: 13868

	Tons	I/DP	
Asphalt Content	38,128	\$9,484.79	
Mat Density	38,128	\$11,907.66	
Gradation	38,127	(\$3,346.39)	
Joint Density			
Total I/DP:		\$17,418.45	CPFC: 1.01234

Comments: Joint density testing waived per project.

Project Data

Subaccount: 13897 NH 0852-088 SH 85 - Sedalia Region: 1 Supplier: 37

Mix Design No:	153327-1	Process No:	1	Grading:	SG ()	PG	Price Per Ton: \$36.50						
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
AC	15	11,470	82.776	0.98518	(\$1,551.21)	4.500	4.686	0.186	0.120	0.200	-0.080	CTS Tons	500
Density	24	10,970	90.491	1.01920	\$3,459.53	94.000	93.021	0.979	0.785	1.100	-0.315	I/DP	\$20.01
Gradation	6	11,470	87.942	1.02977	\$1,869.61	Key Sieve: No. 200						PF 1.0 Tons	0
				I/DP:	\$3,797.94								

Mix Design No:	153327-3	Process No:	1	Grading:	SX ()	PG	Price Per Ton: \$38.00						
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
AC	1	2,029			\$0.00					0.200		CTS Tons	0
Density	3	2,029	100.000	1.02500	\$867.40	94.000	94.000	0.000	0.346	1.100	-0.754	I/DP	\$0.00
Gradation	1	2,029			\$0.00	Key Sieve:						PF 1.0 Tons	0
				I/DP:	\$867.40								

Mix Design No:	153327-4	Process No:	1	Grading:	SX ()	PG	Price Per Ton: \$44.00						
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
AC	16	12,335	97.104	1.04500	\$6,105.82	5.600	5.611	0.011	0.149	0.200	-0.051	CTS Tons	500
Density	23	9,815	97.211	1.05000	\$9,716.85	94.000	94.187	0.187	0.930	1.100	-0.170	I/DP	\$346.50
Gradation	6	12,335	78.159	0.99058	(\$766.93)	Key Sieve: No. 4						PF 1.0 Tons	0
				I/DP:	\$15,402.24								

Mix Design No:	153327-4	Process No:	2	Grading:	SX ()	PG	Price Per Ton: \$44.00						
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
AC					\$0.00					0.200		CTS Tons	500
Density	14	1,520	95.936	1.04500	\$1,354.32	94.000	94.729	0.729	0.760	1.100	-0.340	I/DP	\$322.42
Gradation					\$0.00	Key Sieve:						PF 1.0 Tons	0
				I/DP:	\$1,676.74								

Joint Density

Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
SX	\$36.50	1	6	5,940	82.617	1.01011	\$328.64	92.000	90.700	1.300	2.784	1.600	1.184
SX	\$44.00	2	6	5,887	61.448	0.89254	(\$4,175.32)	92.000	90.230	1.770	4.245	1.600	2.645
SX	\$44.00	3	1	981		0.46875	(\$3,439.63)	92.000				1.600	
SX	\$36.50	4	1	350		0.10937	(\$1,706.67)	92.000				1.600	
													(\$8,992.98)

Project Totals: 13897

	Tons	I/DP
Asphalt Content	25,834	\$4,554.61
Mat Density	25,834	\$16,087.03
Gradation	25,834	\$1,102.68
Joint Density	13,158	(\$8,992.98)
Total I/DP:		\$12,062.41
		CPFC: 1.01228

Comments: JD two tests 2 x V out. JD final quantity.

Project Data

Subaccount: 13922		BR 114A-008		Saguache Creek		Region: 5		Supplier: 18				
Mix Design No:	13922SX1	Process No:	1	Grading:	SX ()	PG	Price Per Ton: \$72.00					
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other
	AC	1	743		\$0.00	7.700				0.200		CTS Tons 0
	Density	2	743		\$0.00	94.000				1.100		I/DP \$0.00
	Gradation	1	743		\$0.00	Key Sieve:						PF 1.0 Tons 0
				I/DP:	\$0.00							

Mix Design No: AC11-08		Process No: 1		Grading: SX ()		PG		Price Per Ton: \$72.00					
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	2	1,468	0.86250	(\$3,633.30)	7.200				0.200		CTS Tons 0	
	Density	3	1,468	33.803	0.74847	(\$11,963.35)	94.000	91.500	2.500	0.889	1.100	-0.211	I/DP \$0.00
	Gradation	1	1,468		\$0.00	Key Sieve:						PF 1.0 Tons 0	
				I/DP:	(\$15,596.65)								

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
SX	\$72.00	1	1	743			\$0.00	92.000					1.600
SX	\$72.00	2	1	615			(\$622.69)	92.000					1.600
SX	\$72.00	3	1	853			(\$4,030.42)	92.000					1.600
							(\$4,653.11)						

Project Totals: 13922		Tons	I/DP	CPFC: 0.8728
Asphalt Content		2,211	(\$3,633.30)	
Mat Density		2,211	(\$11,963.35)	
Gradation		2,211	\$0.00	
Joint Density		2,211	(\$4,653.11)	
Total I/DP:			(\$20,249.76)	

Comments:

Project Data

Subaccount: 13969 NH 1602-090 Lonesome Dove Region: 5 Supplier: 45

Mix Design No:	13969SX2	Process No:	1	Grading:	SX (75)	PG	58-34	Price Per Ton: \$94.00				Other		
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons	
AC	21	15,082	84.719	0.98533	(\$5,198.71)	6.900	6.832	0.068	0.201	0.200	0.001	500		
Density	16	8,000	90.869	1.02621	\$8,868.38	94.000	93.862	0.138	1.215	1.100	0.115	I/DP	(\$3,164.28)	
Gradation	8	15,082	92.970	1.04000	\$8,506.25	Key Sieve: No. 8						PF 1.0	Tons	0
					I/DP:	\$9,011.64								

Mix Design No:	13969SX2	Process No:	2	Grading:	SX (75)	PG	58-34	Price Per Ton: \$94.00				Other		
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons	
AC					\$0.00					0.200		500		
Density	12	5,582	94.880	1.04500	\$10,625.34	94.000	93.933	0.067	1.096	1.100	-0.004	I/DP	\$15.49	
Gradation					\$0.00	Key Sieve:						PF 1.0	Tons	0
					I/DP:	\$10,640.83								

Mix Design No:	13969SX2	Process No:	3	Grading:	SX (75)	PG	58-34	Price Per Ton: \$94.00				Other		
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons	
AC					\$0.00					0.200		0		
Density	1	500		0.45455	(\$11,536.27)	94.000				1.100		I/DP	\$0.00	
Gradation					\$0.00	Key Sieve:						PF 1.0	Tons	0
					I/DP:	(\$11,536.27)								

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
SX	\$94.00	1	13	15,082	72.877	0.92582	(\$15,774.23)	92.000	88.930	3.070	1.502	1.600	-0.098
							(\$15,774.23)						

Project Totals: 13969			Tons	I/DP
Asphalt Content			15,082	(\$5,198.71)
Mat Density			15,082	\$4,808.66
Gradation			15,082	\$8,506.25
Joint Density			15,082	(\$15,774.23)
Total I/DP:			(\$4,509.24)	CPFC: 0.9946

Comments:

Project Data

Subaccount: 13972		STA 0061-074		Keystone/Loveland		Region: 1		Supplier: 13					
Mix Design No:	145985-1	Process No:	1	Grading:	SX () PG	Price Per Ton: \$42.00							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	26	25,918	96.417	1.05414	\$14,732.62	6.400	6.363	0.037	0.143	0.200	-0.057	CTS Tons 0
	Density	52	25,918	94.816	1.03844	\$18,830.39	94.000	94.410	0.410	0.958	1.100	-0.142	I/DP \$0.00
	Gradation	13	25,918	99.378	1.04500	\$7,347.26	Key Sieve: No. 8					PF 1.0 Tons 0	
					I/DP:	\$40,910.27							

Mix Design No:	145985-2	Process No:	1	Grading:	SX () PG	Price Per Ton: \$37.14							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	7	6,025	100.000	1.03500	\$1,958.13	6.200	5.944	0.256	0.019	0.200	-0.181	CTS Tons 0
	Density	13	6,025	88.323	1.01671	\$1,683.14	94.000	94.977	0.977	0.865	1.100	-0.235	I/DP \$0.00
	Gradation	4	6,025	100.000	1.03000	\$1,007.04	Key Sieve: All QLS100					PF 1.0 Tons 0	
					I/DP:	\$4,648.31							

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
SX	\$37.27	1	5	5,915	91.169	1.03000	\$992.03	92.000	94.040	2.040	1.537	1.600	-0.063
SX	\$41.04	2	18	24,012	90.154	1.02090	\$3,089.33	92.000	90.960	1.040	2.241	1.600	0.641
							\$4,081.36						

Project Totals: 13972			Tons	I/DP
Asphalt Content			31,943	\$16,690.75
Mat Density			31,943	\$20,513.53
Gradation			31,943	\$8,354.30
Joint Density			29,927	\$4,081.36
Total I/DP:			\$49,639.94	CPFC: 1.03783

Comments:

Project Data

Subaccount: 13987 STA 1381-005 Proctor East and West Region: 4 Supplier: 19

Mix Design No: 69803		Process No: 1		Grading: S () PG			Price Per Ton: \$39.72						
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
AC	65	64,073	97.680	1.05500	\$34,993.47	5.300	5.273	0.027	0.132	0.200	-0.068	CTS Tons	0
Density	128	64,073	98.025	1.05933	\$67,944.95	94.000	93.835	0.165	0.850	1.100	-0.250	I/DP	\$0.00
Gradation	33	64,073	93.440	1.03357	\$12,816.76	Key Sieve: No. 8					PF 1.0 Tons	0	
												I/DP:	\$115,755.18

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
S	\$39.72	1	27	64,073	84.196	0.97555	(\$9,333.23)	92.000	89.740	2.260	1.735	1.600	0.135
							(\$9,333.23)						

Project Totals: 13987

	Tons	I/DP
Asphalt Content	64,073	\$34,993.47
Mat Density	64,073	\$67,944.95
Gradation	64,073	\$12,816.76
Joint Density	64,073	(\$9,333.23)
Total I/DP:		\$106,421.95

CPFC: 1.04182

Comments:

Project Data

Subaccount: 13998

NH 2852-014

Ponch Pass to Pon

Region: 5

Supplier: 11

Project Data

Mix Design No: 13998SF4		Process No: 1		Grading: SX ()		PG		Price Per Ton: \$43.86					Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons		
AC	11	10,359	88.860	1.02192	\$2,489.80	8.300	8.279	0.021	0.195	0.200	-0.005	0		
Density		0			\$0.00	94.000				1.100		I/DP \$0.00		
Gradation	6	10,359	65.983	0.92302	(\$5,246.54)	Key Sieve: No. 200					PF 1.0	Tons 10,359		
				I/DP:	(\$2,756.74)									

Mix Design No: 13998SF4		Process No: 1		Grading: SX ()		PG		Price Per Ton: \$34.84					Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons		
AC	5	4,992	69.905	0.96064	(\$1,711.26)	8.300	8.180	0.120	0.273	0.200	0.073	0		
Density		0			\$0.00	94.000				1.100		I/DP \$0.00		
Gradation	3	4,992	85.472	1.02500	\$652.18	Key Sieve: No. 200					PF 1.0	Tons 4,992		
				I/DP:	(\$1,059.08)									

Mix Design No: 13998SX1		Process No: 1		Grading: SX ()		PG		Price Per Ton: \$44.27					Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons		
AC	1	500			\$0.00	8.300				0.200		500		
Density		0			\$0.00	94.000				1.100		I/DP \$8.47		
Gradation	1	500			\$0.00	Key Sieve:					PF 1.0	Tons 0		
				I/DP:	\$8.47									

Mix Design No: 13998SX3		Process No: 1		Grading: SX ()		PG		Price Per Ton: \$44.72					Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons		
AC	1	500			\$0.00	8.700				0.200		500		
Density		0			\$0.00	94.000				1.100		I/DP (\$1,126.02)		
Gradation	1	500			\$0.00	Key Sieve:					PF 1.0	Tons 0		
				I/DP:	(\$1,126.02)									

Mix Design No: 13998SX3		Process No: 1		Grading: SX ()		PG		Price Per Ton: \$45.05					Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons		
AC	1	500			\$0.00	8.700				0.200		500		
Density		0			\$0.00	94.000				1.100		I/DP \$83.91		
Gradation	1	500			\$0.00	Key Sieve:					PF 1.0	Tons 0		
				I/DP:	\$83.91									

Mix Design No: 13998SX3		Process No: 1		Grading: SX ()		PG		Price Per Ton: \$44.98					Other	
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	CTS	Tons		
AC	12	12,126	100.000	1.04500	\$6,135.77	8.700	8.711	0.011	0.093	0.200	-0.107	0		
Density	25	12,126	96.695	1.05000	\$12,271.54	94.000	94.616	0.616	0.772	1.100	-0.328	I/DP \$0.00		
Gradation	6	12,126	80.122	0.99952	(\$39.25)	Key Sieve: No. 200					PF 1.0	Tons 0		
				I/DP:	\$18,368.06									

Project Data

Mix Design No: 13998SX4		Process No: 1		Grading: SX ()		PG		Price Per Ton: \$44.77					
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
AC	12	11,244	100.000	1.04500	\$5,663.35	8.700	8.624	0.076	0.054	0.200	-0.146	CTS Tons	0
Density	23	11,244	99.433	1.05000	\$11,326.71	94.000	93.891	0.109	0.772	1.100	-0.328	I/DP	\$0.00
Gradation	6	11,244	92.777	1.03500	\$2,642.90	Key Sieve: No. 200					PF 1.0 Tons	0	
				I/DP:	\$19,632.96								

Joint Density

Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
SX	\$44.95	1	14	24,870	85.653	1.00127	\$213.75	92.000	89.640	2.360	1.544	1.600	-0.056
SX	\$43.95	2	1	10,359			\$0.00	92.000				1.600	
SX	\$43.95	3	1	4,992			\$0.00	92.000				1.600	
							\$213.75						

Project Totals: 13998

	Tons	I/DP
Asphalt Content	40,221	\$12,577.66
Mat Density	40,221	\$22,564.61
Gradation	40,221	(\$1,990.71)
Joint Density	40,221	\$213.75
Total I/DP:		\$34,398.95

CPFC: 1.01913

Comments:

Project Data

Subaccount: 14199		STA 012A-038		SH 12 e/o Segundo		Region: 2		Supplier: 53				
Mix Design No: 246A	Process No: 1	Grading: S	()	PG	Price Per Ton: \$36.00							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other
AC	6	6,000	83.473	1.01354	\$730.89	6.300	6.150	0.150	0.152	0.200	-0.048	CTS Tons 0
Density	12	6,000	85.195	1.00258	\$250.49	94.000	93.092	0.908	1.044	1.100	-0.056	I/DP \$0.00
Gradation	3	6,000	54.428	0.91968	(\$2,602.52)	Key Sieve: 1/2						PF 1.0 Tons 0
				I/DP:	(\$1,621.14)							

Mix Design No: 252	Process No: 1	Grading: S	()	PG	Price Per Ton: \$36.00							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other
AC	11	10,090	75.492	0.95023	(\$4,519.55)	6.150	5.946	0.204	0.137	0.200	-0.063	CTS Tons 0
Density	21	10,090	90.632	1.02172	\$3,550.09	94.000	92.967	1.033	0.740	1.100	-0.360	I/DP \$0.00
Gradation	6	10,090	80.775	1.00238	\$129.56	Key Sieve: No. 30						PF 1.0 Tons 0
				I/DP:	(\$839.90)							

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
S	\$36.00	1	8	12,000	100.000	1.04000	\$2,592.00	92.000	90.460	1.540	0.961	1.600	-0.639
							\$2,592.00						

Project Totals: 14199			Tons	I/DP
Asphalt Content			16,090	(\$3,788.66)
Mat Density			16,090	\$3,800.58
Gradation			16,090	(\$2,472.96)
Joint Density			12,000	\$2,592.00
Total I/DP:			\$130.96	CPFC: 1.00023

Comments: Joint density final quantity.

Project Data

Subaccount: 14204		STA 078A-004		SH 78 Midway to Beulah		Region: 2		Supplier: 19					
Mix Design No:	250	Process No:	1	Grading:	S () PG	Price Per Ton: \$36.55							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	4	3,149	86.904	1.03000	\$863.22	5.500	5.338	0.162	0.124	0.200	-0.076	CTS Tons 0
	Density	7	3,149	70.479	0.94110	(\$3,050.36)	94.000	92.829	1.171	1.465	1.100	0.365	I/DP \$0.00
	Gradation	2	3,149			\$0.00	Key Sieve:						PF 1.0 Tons 0
						I/DP: (\$2,187.14)							

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
S	\$36.55	1	2	3,149			\$0.00	92.000					1.600
							\$0.00						

Project Totals: 14204		Tons	I/DP
Asphalt Content		3,149	\$863.22
Mat Density		3,149	(\$3,050.36)
Gradation		3,149	\$0.00
Joint Density		3,149	\$0.00
Total I/DP:			(\$2,187.14)
			CPFC: 0.981

Comments:

Project Data

Subaccount: 14206		NH 1603-019		Lathrop to Walsenburg		Region: 2		Supplier: 53					
Mix Design No: 14206		Process No: 1		Grading: S () PG		Price Per Ton: \$36.59							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	9	86.004	1.01177	\$880.52	5.600	5.557	0.043	0.207	0.200	0.007	CTS Tons 500	
	Density	8	92.673	1.03500	\$2,017.02	94.000	94.100	0.100	1.236	1.100	0.136	I/DP (\$250.35)	
	Gradation	5	71.400	0.96849	(\$1,414.33)	Key Sieve: No. 200						PF 1.0 Tons 0	
				I/DP:	\$1,232.86								
Mix Design No: 14206		Process No: 2		Grading: S () PG		Price Per Ton: \$36.59							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC				\$0.00					0.200		CTS Tons 500	
	Density	2	1,000		\$0.00	94.000				1.100		I/DP (\$6,512.94)	
	Gradation				\$0.00	Key Sieve:						PF 1.0 Tons 0	
				I/DP:	(\$6,512.94)								
Mix Design No: 14206		Process No: 3		Grading: S () PG		Price Per Ton: \$36.59							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC				\$0.00					0.200		CTS Tons 500	
	Density	5	2,178	100.000	\$1,075.86	94.000	94.200	0.200	0.663	1.100	-0.437	I/DP \$288.15	
	Gradation				\$0.00	Key Sieve:						PF 1.0 Tons 0	
				I/DP:	\$1,364.01								
Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
S	\$36.59	1	5	8,178	67.639	0.94816	(\$2,326.88)	92.000	89.060	2.940	2.110	1.600	0.510
							(\$2,326.88)						
Project Totals: 14206				Tons	I/DP								
				Asphalt Content	8,178	\$880.52							
				Mat Density	8,178	(\$3,382.26)							
				Gradation	8,178	(\$1,414.33)							
				Joint Density	8,178	(\$2,326.88)							
				Total I/DP:		\$232.19	CPFC:	0.97914					

Comments: Calculations for CTS #2 are correct.

Project Data

Subaccount: 14208		NH 0242-039		Manitou & Lake George			Region: 2		Supplier: 49					
Mix Design No: 14208A		Process No: 1		Grading: S (100) PG 76-28			Price Per Ton: \$34.82							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
	AC	31	31,109	86.915	0.99117	(\$2,392.06)	5.500	5.384	0.116	0.162	0.200	-0.038	CTS Tons	0
	Density	62	31,109	94.273	1.03271	\$15,944.34	94.000	94.526	0.526	0.927	1.100	-0.173	I/DP	\$0.00
	Gradation	16	31,109	90.647	1.02507	\$4,072.87	Key Sieve: No. 4					PF 1.0 Tons	0	
												I/DP:	\$17,625.15	

Mix Design No: 14208B		Process No: 1		Grading: S (75) PG 58-28			Price Per Ton: \$36.87							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
	AC	30	30,091	95.596	1.04819	\$13,365.49	5.800	5.777	0.023	0.151	0.200	-0.049	CTS Tons	500
	Density	59	29,591	95.095	1.03936	\$19,324.50	94.000	93.192	0.808	0.726	1.100	-0.374	I/DP	\$240.24
	Gradation	15	30,091	99.521	1.05000	\$8,320.91	Key Sieve: No. 4					PF 1.0 Tons	0	
												I/DP:	\$41,251.14	

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
S	\$34.82	1	26	31,109	82.113	0.96186	(\$6,197.09)	92.000	89.380	2.620	1.502	1.600	-0.098
S	\$36.87	2	14	30,091	99.039	1.04500	\$7,488.82	92.000	90.610	1.390	1.220	1.600	-0.380
							I/DP:	\$1,291.73					

Project Totals: 14208			Tons	I/DP
Asphalt Content	61,200	\$10,973.43		
Mat Density	61,200	\$35,509.08		
Gradation	61,200	\$12,393.78		
Joint Density	61,200	\$1,291.73		
Total I/DP:	\$59,927.78	CPFC: 1.02744		

Comments:

Project Data

Subaccount: 14216		STA R300-108		Meeker and Rangely		Region: 3		Supplier: 12					
Mix Design No:	102403B	Process No:	1	Grading:	SX () PG	Price Per Ton: \$38.82							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	11	13,073	96.267	1.04500	\$5,708.63	6.200	6.185	0.015	0.157	0.200	-0.043	CTS Tons 0
	Density		0			\$0.00	94.000				1.100		I/DP \$0.00
	Gradation	7	13,073	97.340	1.03500	\$2,664.03	Key Sieve: No. 200					PF 1.0 Tons 13,073	
						I/DP:	\$8,372.66						

Mix Design No: 102403LW		Process No: 1		Grading: SX () PG		Price Per Ton: \$41.41							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	22	21,873	98.871	1.05000	\$11,321.20	6.200	6.121	0.079	0.102	0.200	-0.098	CTS Tons 500
	Density	48	21,373	94.015	1.03347	\$13,328.78	94.000	94.631	0.631	0.882	1.100	-0.218	I/DP \$326.08
	Gradation	13	21,873	89.217	1.02108	\$2,863.28	Key Sieve: No. 200					PF 1.0 Tons 0	
						I/DP:	\$27,839.34						

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
SX	\$37.72	1	1	13,073			\$0.00	92.000					1.600
SX	\$41.39	2	11	21,873	91.055	1.03154	\$4,282.60	92.000	90.580	1.420	1.959	1.600	0.359
							\$4,282.60						

Project Totals: 14216		Tons	I/DP
Asphalt Content		34,946	\$17,029.83
Mat Density		34,946	\$13,654.86
Gradation		34,946	\$5,527.31
Joint Density		34,946	\$4,282.60
Total I/DP:			\$40,168.52
			CPFC: 1.02865

Comments: Two locations.

Project Data

Subaccount: 14217		STA 092A-016		Delta East hwy 92		Region: 3		Supplier: 16				
Mix Design No:	102703B	Process No:	1	Grading:	SX () PG	Price Per Ton: \$36.28						
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other
AC	23	23,330	99.996	1.05000	\$10,581.34	6.000	6.056	0.056	0.073	0.200	-0.127	CTS Tons 500
Density	46	22,830	93.764	1.03210	\$11,966.20	94.000	94.354	0.354	1.027	1.100	-0.073	I/DP \$285.74
Gradation	12	23,330	84.656	0.99978	(\$27.98)	Key Sieve: 1/2					PF 1.0 Tons 0	
					I/DP:	\$22,805.30						

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
SX	\$35.44	1	27	23,330	71.417	0.87989	(\$14,895.96)	92.000	88.960	3.040	1.690	1.600	0.090
							(\$14,895.96)						

Project Totals: 14217				Tons	I/DP
Asphalt Content				23,330	\$10,581.34
Mat Density				23,330	\$12,251.94
Gradation				23,330	(\$27.98)
Joint Density				23,330	(\$14,895.96)
Total I/DP:					\$7,623.60
					CPFC: 1.00934

Comments:

Subaccount: 14227		SHE 0061-076		Cleer Creek Canyon		Region: 1		Supplier: 19				
Mix Design No:	153546	Process No:	1	Grading:	S (75) PG 58-28	Price Per Ton: \$40.54						
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other
AC	4	1,399	35.361	0.72255	(\$4,720.70)	5.600	5.225	0.375	0.171	0.200	-0.029	CTS Tons 0
Density	6	2,191	100.000	1.03500	\$1,554.40	94.000	92.933	1.067	0.216	1.100	-0.884	I/DP \$0.00
Gradation	5	1,781	73.663	0.97980	(\$291.69)	Key Sieve: No. 4					PF 1.0 Tons 0	
					I/DP:	(\$3,457.99)						

Project Totals: 14227				Tons	I/DP
Asphalt Content				1,399	(\$4,720.70)
Mat Density				2,191	\$1,554.40
Gradation				1,781	(\$291.69)
Joint Density					
Total I/DP:					(\$3,457.99)
					CPFC: 0.94635

Comments: Final quantities not equal.

Project Data

Subaccount: 14236		STA 0881-014		SH 88 I-25 to SH 8		Region: 6		Supplier: 10						
Mix Design No:	147033	Process No:	1	Grading:	SM () PG	Price Per Ton: \$49.50								
		Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	Std. Dev. V	Other				
Tests	Tons									CTS				
AC	27	27,442	95.937	1.05107	\$17,343.38	6.200	6.133	0.067	0.135	0.200	-0.065	Tons	0	
Density	55	28,160	99.342	1.05500	\$34,499.52	95.000	95.435	0.435	0.646	1.100	-0.454	I/DP	\$0.00	
Gradation	13	27,869	92.154	1.03471	\$7,182.50	Key Sieve: 3/8						PF 1.0	Tons	0
				I/DP:	\$59,025.40									

Mix Design No: 147033		Process No: 2		Grading: SM () PG		Price Per Ton: \$49.50							
		Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	Std. Dev. V	Other			
Tests	Tons									CTS			
AC	1	718		\$0.00	6.200				0.200	Tons	0		
Density		0		\$0.00	94.000				1.100	I/DP	\$0.00		
Gradation	1	291		\$0.00	Key Sieve:					PF 1.0	Tons	0	
				I/DP:	\$0.00								

Project Totals: 14236

	Tons	I/DP
Asphalt Content	28,160	\$17,343.38
Mat Density	28,160	\$34,499.52
Gradation	28,160	\$7,182.50
Joint Density		
Total I/DP:		\$59,025.40
		CPFC: 1.04234

Comments: No joint density tests reported.

Project Data

Subaccount: 14275		STA 0362-026		SH 36 Byers to Ara		Region: 1		Supplier: 19			
Mix Design No:	151027	Process No:	1	Grading:	S () PG	Price Per Ton: \$35.25					
		Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other
Tests	Tons										CTS
AC	34 33,516	97.939	1.05500	\$16,244.79	5.400	5.459	0.059	0.120	0.200	-0.080	Tons 500
Density	34 17,821	92.280	1.02555	\$7,222.65	94.000	93.838	0.162	1.139	1.100	0.039	I/DP \$216.18
Gradation	17 33,516	82.886	0.97967	(\$3,603.64)	Key Sieve: No. 30					PF 1.0	
				I/DP:	\$20,079.98					Tons 15,195	
Mix Design No:	151029	Process No:	1	Grading:	S () PG	Price Per Ton: \$37.00					
		Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other
Tests	Tons										CTS
AC	54 54,581	96.322	1.04895	\$24,713.29	5.200	5.185	0.015	0.145	0.200	-0.055	Tons 500
Density	112 52,598	91.848	1.00961	\$8,415.44	94.000	93.507	0.493	1.043	1.100	-0.057	I/DP \$153.99
Gradation	27 54,581	90.695	1.01882	\$5,700.73	Key Sieve: No. 8					PF 1.0	
				I/DP:	\$38,983.45					Tons 1,483	

Project Totals: 14275

	Tons	I/DP
Asphalt Content	88,097	\$40,958.08
Mat Density	88,097	\$16,008.26
Gradation	88,097	\$2,097.09
Joint Density		
Total I/DP:	\$58,693.26	CPFC: 1.01845

Comments: No joint density tests reported.

Project Data

Subaccount: 14301		NH 2873-126		US 287 Ted's Place North			Region: 4		Supplier: 40					
Mix Design No: 138008		Process No: 1		Grading: S () PG			Price Per Ton: \$33.35							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
	AC	36	35,522	99.627	1.05500	\$16,289.06	4.900	4.861	0.039	0.102	0.200	-0.098	CTS	1000
	Density	45	22,558	89.918	1.00473	\$1,601.81	94.000	93.030	0.970	0.810	1.100	-0.290	I/DP	1,496.48
	Gradation	18	35,522	98.550	1.05000	\$8,884.94	Key Sieve: No. 4						PF 1.0	11,964
					I/DP:	\$25,279.33								

Mix Design No: 138007		Process No: 1		Grading: SG () PG			Price Per Ton: \$29.35							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
	AC	7	5,813	85.433	1.01756	\$748.95	4.100	4.184	0.084	0.199	0.200	-0.001	CTS	0
	Density	12	5,813	99.553	1.04500	\$3,454.88	94.000	93.600	0.400	0.705	1.100	-0.395	I/DP	\$0.00
	Gradation	3	5,813	66.265	0.98531	(\$375.82)	Key Sieve: No. 200						PF 1.0	0
					I/DP:	\$3,828.01								

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
S	\$33.35	1	12	23,558	80.089	0.97461	(\$2,992.53)	92.000	89.230	2.770	1.445	1.600	-0.155
							(\$2,992.53)						

Project Totals: 14301		Tons	I/DP
	Asphalt Content	41,335	\$17,038.01
	Mat Density	41,335	\$3,560.21
	Gradation	41,335	\$8,509.12
	Joint Density	23,558	(\$2,992.53)
	Total I/DP:	\$27,611.29	CPFC: 1.01927

Comments: Joint density final quantity.

Project Data

Subaccount: 14304		STA 083A-031		SH 83 North PPCC		Region: 2		Supplier: 45				
Mix Design No: 140304		Process No: 1		Grading: S () PG		Price Per Ton: \$38.00						
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other
AC	20	19,397	95.448	1.04890	\$9,010.57	5.500	5.460	0.040	0.151	0.200	-0.049	CTS Tons 500
Density	38	18,897	92.591	1.02580	\$8,336.57	94.000	93.221	0.779	0.850	1.100	-0.250	I/DP \$299.25
Gradation	10	19,397	82.042	0.99064	(\$1,034.74)	Key Sieve: No. 8						PF 1.0 Tons 0
					I/DP:	\$16,611.65						

Joint Density

Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
S	\$38.00	1	7	19,397	67.779	0.92403	(\$8,399.55)	92.000	88.760	3.240	1.558	1.600	-0.042
							(\$8,399.55)						

Project Totals: 14304

	Tons	I/DP
Asphalt Content	19,397	\$9,010.57
Mat Density	19,397	\$8,635.82
Gradation	19,397	(\$1,034.74)
Joint Density	19,397	(\$8,399.55)
Total I/DP:		\$7,912.85

CPFC: 1.01114

Comments:

Subaccount: 14305		IM 0702-241		West Vail Pass Res		Region: 1		Supplier: 11				
Mix Design No: 138747Top		Process No: 1		Grading: SX () PG		Price Per Ton: \$42.25						
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other
AC	58	57,161	96.079	1.04674	\$28,219.15	5.900	5.888	0.012	0.147	0.200	-0.053	CTS Tons 500
Density	114	56,661	98.549	1.06000	\$64,634.40	94.000	93.517	0.483	0.699	1.100	-0.401	I/DP (\$879.53)
Gradation	29	57,161	90.196	1.01448	\$5,243.73	Key Sieve: No. 4						PF 1.0 Tons 0
					I/DP:	\$97,217.75						

Joint Density

Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
SX	\$42.02	1	21	57,161	93.520	1.03825	\$13,779.59	92.000	89.480	2.520	0.993	1.600	-0.607
							\$13,779.59						

Project Totals: 14305

	Tons	I/DP
Asphalt Content	57,161	\$28,219.15
Mat Density	57,161	\$63,754.87
Gradation	57,161	\$5,243.73
Joint Density	57,161	\$13,779.59
Total I/DP:		\$111,876.87

CPFC: 1.04596

Comments:

Project Data

Subaccount: 14320		NH 1603-020		US 160 & SH 17		Region: 5		Supplier: 18		
Mix Design No:	14320SX1	Process No:	1	Grading:	SX () PG	Price Per Ton: \$57.50				
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	Std. Dev. V	Other
AC	2	1,340		\$0.00	5.600				0.200	CTS Tons 0
Density	3	1,340	100.000	1.02500	\$866.81	94.000	94.067	0.067	1.097	1.100 -0.003 I/DP \$0.00
Gradation	1	1,340			\$0.00	Key Sieve:				PF 1.0 Tons 0
				I/DP:	\$866.81					

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
SX	\$57.50	1	2	1,340			\$0.00	92.000					1.600
							\$0.00						

Project Totals: 14320		Tons	I/DP
Asphalt Content		1,340	\$0.00
Mat Density		1,340	\$866.81
Gradation		1,340	\$0.00
Joint Density		1,340	\$0.00
Total I/DP:		\$866.81	CPFC: 1.01125

Comments:

Subaccount: 14353		NH 2854-099		US 285 Parkview-Ke		Region: 1		Supplier: 41		
Mix Design No:	14353619	Process No:	1	Grading:	SX () PG	Price Per Ton: \$49.00				
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	Std. Dev. V	Other
AC	6	5,328	100.000	1.03500	\$2,741.26	5.800	5.780	0.020	0.105	0.200 -0.095 CTS Tons 0
Density	11	5,328	85.654	1.00677	\$884.26	94.000	93.355	0.645	1.237	1.100 0.137 I/DP \$0.00
Gradation	3	5,328	77.281	1.02500	\$1,305.36	Key Sieve: 3/8				PF 1.0 Tons 0
				I/DP:	\$4,930.88					

Project Totals: 14353		Tons	I/DP
Asphalt Content		5,328	\$2,741.26
Mat Density		5,328	\$884.26
Gradation		5,328	\$1,305.36
Joint Density			
Total I/DP:		\$4,930.88	CPFC: 1.01889

Comments:

Project Data

Subaccount: 14397		NH 0851-006		SH 85 Phase III		Region: 2		Supplier: 45					
Mix Design No: 14397B		Process No: 1		Grading: S (100) PG 64-22		Price Per Ton: \$32.03							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	9	8,867	93.197	1.04000	\$2,839.78	5.300	5.288	0.012	0.178	0.200	-0.022	CTS Tons 500
	Density	16	8,367	79.681	0.96161	(\$4,629.11)	94.000	93.300	0.700	1.418	1.100	0.318	I/DP (\$971.66)
	Gradation	4	8,867	100.000	1.03000	\$1,277.90	Key Sieve: All QLS100				PF 1.0 Tons 0		
					I/DP:	(\$1,483.09)							
Mix Design No: 14397B2		Process No: 1		Grading: S (100) PG 64-22		Price Per Ton: \$32.00							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	8	8,178	83.253	1.00255	\$166.96	5.300	5.431	0.131	0.173	0.200	-0.027	CTS Tons 500
	Density	5	2,500	77.520	0.99747	(\$90.91)	94.000	92.860	1.140	1.074	1.100	-0.026	I/DP \$252.00
	Gradation	4	8,178	79.305	1.01755	\$688.75	Key Sieve: No. 4				PF 1.0 Tons 0		
					I/DP:	\$1,016.80							
Mix Design No: 14397B2		Process No: 2		Grading: S (100) PG 64-22		Price Per Ton: \$32.00							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC				\$0.00					0.200			CTS Tons 500
	Density	10	4,678	82.641	0.99373	(\$422.10)	94.000	92.720	1.280	0.760	1.100	-0.340	I/DP \$101.06
	Gradation				\$0.00	Key Sieve:				PF 1.0 Tons 0			
					I/DP:	(\$321.04)							
Mix Design No: 14397T1		Process No: 1		Grading: S (100) PG 64-28		Price Per Ton: \$38.00							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	8	7,219	80.445	0.98901	(\$753.47)	5.300	5.239	0.061	0.230	0.200	0.030	CTS Tons 1000
	Density	15	7,219	86.688	1.00516	\$636.53	94.000	93.500	0.500	1.263	1.100	0.163	I/DP (\$391.71)
	Gradation	4	8,219	100.000	1.03000	\$1,405.45	Key Sieve: All QLS100				PF 1.0 Tons 0		
					I/DP:	\$896.80							
Mix Design No: 14397T1		Process No: 2		Grading: S (100) PG 64-28		Price Per Ton: \$38.00							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	1	1,000		0.41250	(\$5,581.25)	5.300			0.200			CTS Tons 0
	Density		0			\$0.00	94.000			1.100			I/DP \$0.00
	Gradation					\$0.00	Key Sieve:				PF 1.0 Tons 0		
					I/DP:	(\$5,581.25)							
Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
S	\$32.00	1	5	8,867	34.082	0.68191	(\$13,538.46)	92.000	87.520	4.480	1.062	1.600	-0.538
S	\$32.00	2	6	8,179	96.591	1.03500	\$1,374.07	92.000	90.270	1.730	1.426	1.600	-0.174
S	\$38.00	3	7	8,218	25.665	0.52798	(\$22,110.82)	92.000	87.490	4.510	0.756	1.600	-0.844
							(\$34,275.21)						

Project Data

Project Totals: 14397		Tons	I/DP	
	Asphalt Content	25,264	(\$3,327.98)	
	Mat Density	25,264	(\$5,515.90)	
	Gradation	25,264	\$3,372.10	
	Joint Density	25,264	(\$34,275.21)	
	Total I/DP:		(\$38,736.68)	CPFC: 0.95356

Comments:

Subaccount: 14439 STA 131A-030 Wolcott North Region: 3 Supplier: 11

Mix Design No: WCT6035		Process No: 1		Grading: SX (75) PG 64-28		Price Per Ton: \$40.76							
	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other	
	AC	16	15,295	94.533	1.04418	\$6,886.95	6.300	6.233	0.067	0.148	0.200	-0.052	CTS
	Density	31	14,795	93.375	1.03397	\$9,218.61	94.000	94.139	0.139	1.102	1.100	0.002	Tons 500
	Gradation	8	15,295	72.803	0.94695	(\$4,961.50)	Key Sieve: 3/8					I/DP \$29.01	
					I/DP:	\$11,173.07							PF 1.0
													Tons 0

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
SX	\$40.81	1	9	15,295	95.100	1.04000	\$3,745.13	92.000	91.270	0.730	2.077	1.600	0.477
							\$3,745.13						

Project Totals: 14439		Tons	I/DP	
	Asphalt Content	15,295	\$6,886.95	
	Mat Density	15,295	\$9,247.62	
	Gradation	15,295	(\$4,961.50)	
	Joint Density	15,295	\$3,745.13	
	Total I/DP:		\$14,889.19	CPFC: 1.02393

Comments: Final Quantities

Project Data

Subaccount: 14461 STA 059A-028 SH 59 N of Haxtun Region: 4 Supplier: 60

Mix Design No: 149855		Process No: 1		Grading: S (75) PG 58-28			Price Per Ton: \$33.50						
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
AC	11	9,000	96.592	1.04500	\$3,391.87	5.300	5.204	0.096	0.119	0.200	-0.081	CTS Tons	0
Density	18	9,000	81.988	0.97199	(\$3,799.83)	94.000	93.317	0.683	1.338	1.100	0.238	I/DP	\$0.00
Gradation	6	9,000	98.651	1.03500	\$1,582.87	Key Sieve: No. 200					PF 1.0 Tons	0	
				I/DP:	\$1,174.91								

Mix Design No: 149855A		Process No: 1		Grading: S (75) PG 58-28			Price Per Ton: \$33.50						
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
AC	18	18,013	87.291	1.00456	\$688.31	5.200	5.202	0.002	0.201	0.200	0.001	CTS Tons	0
Density	36	18,013	89.818	1.00785	\$2,131.11	94.000	93.367	0.633	1.058	1.100	-0.042	I/DP	\$0.00
Gradation	10	18,013	89.233	1.02478	\$2,242.74	Key Sieve: No. 4					PF 1.0 Tons	0	
				I/DP:	\$5,062.16								

Mix Design No: 149856		Process No: 1		Grading: S (75) PG 64-28			Price Per Ton: \$38.00						
Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std. Dev.	V	Std. Dev. - V	Other		
AC	31	26,632	89.572	1.01039	\$2,629.49	5.100	5.128	0.028	0.185	0.200	-0.015	CTS Tons	0
Density	58	26,632	96.154	1.04775	\$21,743.64	94.000	93.752	0.248	0.949	1.100	-0.151	I/DP	\$0.00
Gradation	17	26,632	95.022	1.04636	\$7,037.69	Key Sieve: No. 4					PF 1.0 Tons	0	
				I/DP:	\$31,410.82								

Joint Density													
Grad.	Price	Proc. No	Tests	Tons	Quality Level	Pay Factor	I/DP	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
S	\$33.50	1	4	9,000	100.000	1.03000	\$1,356.75	92.000	92.330	0.330	0.350	1.600	-1.250
S	\$38.00	2	16	26,632	92.135	1.03383	\$5,136.16	92.000	89.560	2.440	1.128	1.600	-0.472
S	\$33.50	3	10	18,013	93.681	1.04259	\$3,855.07	92.000	89.230	2.770	0.837	1.600	-0.763
							\$10,347.98						

Project Totals: 14461

	Tons	I/DP
Asphalt Content	53,645	\$6,709.67
Mat Density	53,645	\$20,074.92
Gradation	53,645	\$10,863.30
Joint Density	53,645	\$10,347.98
Total I/DP:		\$47,995.87
		CPFC: 1.02504

Comments:

Project Data

Totals for all Projects Projects with Bid Dates from 1/1/03 to 12/31/03.

Number of Projects	28	Tons:	I/DP:
Asphalt Content		765,671	\$236,565.07
Mat Density		766,463	\$357,045.23
Gradation		766,052	\$66,892.05
Joint Density		568,000	(\$68,749.43)
		Total I/DP:	\$670,542.83

Calculated Pay Factor Composite and I/DP by Region

Criteria: Projects with Bid Dates from 1/1/03 to 12/31/03.

PFC is back calculated from the Project's I/DP.

A Calculated Average Unit Price is used in the calculation.

Region 1

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
14305	01/09/03	IM 0702-241	1	SX	57,161	\$42.25	1.04596	\$110,997.34	11
13972	02/20/03	STA 0061-074	1	SX	31,943	\$41.08	1.03783	\$49,639.94	13
14353	05/01/03	NH 2854-099	1	SX	5,328	\$49.00	1.01889	\$4,930.88	41
14275	03/13/03	STA 0362-026	1	S	88,097	\$36.33	1.01845	\$59,063.43	19
13897	02/27/03	NH 0852-088	1	SG	25,834	\$40.20	1.01228	\$12,751.34	37
14227	01/30/03	SHE 0061-07	1	S	1,399	\$40.54	0.94635	(\$3,457.99)	19

Region 1

Number of Projects:	6	CPFC: Maximum:	1.04596
Total Tons:	209,762	Minimum:	0.94635
		Average:	1.01329

Incentive/Disincentive Payments	Sum I/DPs:	\$233,924.94
Positive ID/Ps: 5	Maximum:	\$110,997.34
Negative ID/Ps: 1	Minimum:	(\$3,457.99)
	Average IDP:	\$38,987.49

Region 2

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
12833	07/24/03	NH 1603-016	2	S	18,997	\$46.00	1.03253	\$28,426.60	53
14208	12/18/03	NH 0242-039	2	S	61,200	\$35.83	1.02744	\$60,168.02	49
14304	06/19/03	STA 083A-03	2	S	19,397	\$38.00	1.01114	\$8,212.10	45
14199	01/30/03	STA 012A-03	2	S	16,090	\$36.00	1.00023	\$130.96	53
13547	03/06/03	NH 0505-037	2	S	21,613	\$40.00	0.99103	(\$7,750.99)	32
13094	03/27/03	BR 1151-012	2	S	20,865	\$37.16	0.98715	(\$9,964.19)	45
14204	02/20/03	STA 078A-00	2	S	3,149	\$36.55	0.98100	(\$2,187.14)	19
14206	02/13/03	NH 1603-019	2	S	8,178	\$36.59	0.97914	(\$3,916.07)	53
14397	05/22/03	NH 0851-006	2	S	25,264	\$33.96	0.95356	(\$39,746.99)	45

Region 2

Number of Projects:	9	CPFC: Maximum:	1.03253
Total Tons:	194,753	Minimum:	0.95356
		Average:	0.99591

Incentive/Disincentive Payments	Sum I/DPs:	\$33,372.30
Positive ID/Ps: 4	Maximum:	\$60,168.02
Negative ID/Ps: 5	Minimum:	(\$39,746.99)
	Average IDP:	\$3,708.03

Region 3

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
14216	03/27/03	STA R300-10	3	SX	34,946	\$40.44	1.02865	\$40,494.60	12
14439	05/08/03	STA 131A-03	3	SX	15,295	\$40.76	1.02393	\$14,918.20	11
13868	01/16/03	STA 114A-00	3	SX	38,128	\$38.37	1.01234	\$18,046.05	12
14217	02/06/03	STA 092A-01	3	SX	23,330	\$36.28	1.00934	\$7,909.34	16
13333	08/07/03	STA 340A-00	3	SX	3,390	\$45.38	0.99696	(\$468.00)	12

Region 3

Number of Projects: 5 CPFC: Maximum: 1.02865
Total Tons: 115,089 Minimum: 0.99696
Average: 1.01424

Incentive/Disincentive Payments Sum I/DPs: \$80,900.19
Positive ID/Ps: 4 Maximum: \$40,494.60
Negative ID/Ps: 1 Minimum: (\$468.00)
Average IDP: \$16,180.04

Region 4

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13987	02/20/03	STA 1381-005	4	S	64,073	\$39.72	1.04182	\$106,421.95	19
14461	06/19/03	STA 059A-02	4	S	53,645	\$35.73	1.02504	\$47,995.87	60
14301	02/27/03	NH 2873-126	4	S	41,335	\$32.79	1.01927	\$26,114.81	40

Region 4

Number of Projects: 3 CPFC: Maximum: 1.04182
Total Tons: 159,053 Minimum: 1.01927
Average: 1.02871

Incentive/Disincentive Payments Sum I/DPs: \$180,532.63
Positive ID/Ps: 3 Maximum: \$106,421.95
Negative ID/Ps: 0 Minimum: \$26,114.81
Average IDP: \$60,177.54

Region 5

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13998	03/06/03	NH 2852-014	5	SX	40,221	\$43.36	1.01913	\$33,365.31	11
14320	04/03/03	NH 1603-020	5	SX	1,340	\$57.50	1.01125	\$866.81	18
13969	12/04/03	NH 1602-090	5	SX	15,082	\$94.00	0.99460	(\$7,658.03)	45
13922	05/29/03	BR 114A-008	5	SX	2,211	\$72.00	0.87280	(\$20,249.76)	18

Region 5

Number of Projects: 4 CPFC: Maximum: 1.01913
 Total Tons: 58,854 Minimum: 0.87280
 Average: 0.97445

Incentive/Disincentive Payments Sum I/DPs: \$6,324.33
 Positive ID/Ps: 2 Maximum: \$33,365.31
 Negative ID/Ps: 2 Minimum: (\$20,249.76)
 Average IDP: \$1,581.08

Region 6

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
14236	06/05/03	STA 0881-014	6	SMA	28,160	\$49.50	1.04234	\$59,025.39	10

Region 6

Number of Projects: 1 CPFC: Maximum: 1.04234
 Total Tons: 28,160 Minimum: 1.04234
 Average: 1.04234

Incentive/Disincentive Payments Sum I/DPs: \$59,025.39
 Positive ID/Ps: 1 Maximum: \$59,025.39
 Negative ID/Ps: 0 Minimum: \$59,025.39
 Average IDP: \$59,025.39

Statewide Totals: 1/1/03 to 12/31/03.

Number of Projects: 28 CPFC Maximum: 1.04596
 Total Tons: 765,671 Minimum: 0.87280
 Average: 1.00502

Incentive/Disincentive Payments Sum I/DPs: \$594,079.78
 Positive ID/Ps: 19 Maximum: \$110,997.34
 Negative ID/Ps: 9 Minimum: (\$39,746.99)
 Average IDP: \$21,217.14

Asphalt Content - Process Information, Gradation Acceptance

Criteria: Projects with Bid Dates from 1/1/03 to 12/31/03.

Processes with less than 3 tests not included.

Grading: S

Subacct	Reg.	Plan Quant.	Mix Design	Price	Process No.	Tons	Tests	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
14301	4	34448	138008	\$33.35	1	35,522	36	99.627	1.05500	4.900	4.861	0.039	0.102	0.200	-0.098
13094	2	18785	13094T	\$39.69	1	7,019	7	99.227	1.03500	5.300	5.340	0.040	0.135	0.200	-0.065
14275	1	53313	151027	\$35.25	1	33,516	34	97.939	1.05500	5.400	5.459	0.059	0.120	0.200	-0.080
13987	4	64236	69803	\$39.72	1	64,073	65	97.680	1.05500	5.300	5.273	0.027	0.132	0.200	-0.068
12833	2	19652	12833	\$46.00	1	18,997	19	96.716	1.05000	5.600	5.694	0.094	0.116	0.200	-0.084
14461	4	52159	149855	\$33.50	1	9,000	11	96.592	1.04500	5.300	5.204	0.096	0.119	0.200	-0.081
14275	1	53313	151029	\$37.00	1	54,581	54	96.322	1.04895	5.200	5.185	0.015	0.145	0.200	-0.055
14208	2	62414	14208B	\$36.87	1	30,091	30	95.596	1.04819	5.800	5.777	0.023	0.151	0.200	-0.049
14304	2	22591	140304	\$38.00	1	19,397	20	95.448	1.04890	5.500	5.460	0.040	0.151	0.200	-0.049
13547	2	21910	13547A	\$40.00	1	14,414	15	94.188	1.04262	5.300	5.251	0.049	0.158	0.200	-0.042
14397	2	21663	14397B	\$32.03	1	8,867	9	93.197	1.04000	5.300	5.288	0.012	0.178	0.200	-0.022
14461	4	52159	149856	\$38.00	1	26,632	31	89.572	1.01039	5.100	5.128	0.028	0.185	0.200	-0.015
14461	4	52159	149855A	\$33.50	1	18,013	18	87.291	1.00456	5.200	5.202	0.002	0.201	0.200	0.001
14208	2	62414	14208A	\$34.82	1	31,109	31	86.915	0.99117	5.500	5.384	0.116	0.162	0.200	-0.038
14204	2	3381	250	\$36.55	1	3,149	4	86.904	1.03000	5.500	5.338	0.162	0.124	0.200	-0.076
14206	2	10060	14206	\$36.59	1	8,178	9	86.004	1.01177	5.600	5.557	0.043	0.207	0.200	0.007
14199	2	18000	246A	\$36.00	1	6,000	6	83.473	1.01354	6.300	6.150	0.150	0.152	0.200	-0.048
14397	2	21663	14397B2	\$32.00	1	8,178	8	83.253	1.00255	5.300	5.431	0.131	0.173	0.200	-0.027
14397	2	21663	14397T1	\$38.00	1	7,219	8	80.445	0.98901	5.300	5.239	0.061	0.230	0.200	0.030
13094	2	18785	13094B1	\$35.88	1	13,846	14	76.007	0.94330	5.300	5.218	0.082	0.244	0.200	0.044
14199	2	18000	252	\$36.00	1	10,090	11	75.492	0.95023	6.150	5.946	0.204	0.137	0.200	-0.063
13547	2	21910	3547DET	\$40.00	1	4,699	5	73.104	0.97707	5.600	5.708	0.108	0.259	0.200	0.059
13547	2	21910	13547	\$40.00	1	2,500	3	49.640	0.88637	5.000	5.303	0.303	0.255	0.200	0.055
14227	1	3028	153546	\$40.54	1	1,399	4	35.361	0.72255	5.600	5.225	0.375	0.171	0.200	-0.029

Totals Grading: S

	Quality Level	Pay Factor	Mean to TV	St. Dev.	V	StDev - V
Processes: 24	Best: 99.627	1.05500	0.002	0.102	0.200	-0.098
Tests: 452	Worst: 35.361	0.72255	0.375	0.259	0.200	0.059
Total Tons: 436,489	Weighted Average: 92.522	1.03022	0.054	0.151	0.200	-0.049

AC Process Information

Grading: SG

Subacct	Reg.	Plan Quant.	Mix Design	Price	Process No.	Tons	Tests	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
14301	4	34448	138007	\$29.35	1	5,813	7	85.433	1.01756	4.100	4.184	0.084	0.199	0.200	-0.001
13897	1	18192	153327-1	\$36.50	1	11,470	15	82.776	0.98518	4.500	4.686	0.186	0.120	0.200	-0.080

Totals Grading: SG

Processes:	Tests:	Total Tons:	Best:	Worst:	Weighted Average:	Quality Level	Pay Factor	Mean to TV	St. Dev.	V	StDev - V
2	22	17,283	85.433	82.776	83.670	1.01756	0.98518	0.084	0.120	0.200	-0.080
								0.186	0.199	0.200	-0.001
								0.152	0.147	0.200	-0.053

Grading: SMA

Subacct	Reg.	Plan Quant.	Mix Design	Price	Process No.	Tons	Tests	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
14236	6	26404	147033	\$49.50	1	27,442	27	95.937	1.05107	6.200	6.133	0.067	0.135	0.200	-0.065

Totals Grading: SMA

Processes:	Tests:	Total Tons:	Best:	Worst:	Weighted Average:	Quality Level	Pay Factor	Mean to TV	St. Dev.	V	StDev - V
1	27	27,442	95.937	95.937	95.937	1.05107	1.05107	0.067	0.135	0.200	-0.065
								0.067	0.135	0.200	-0.065
								0.067	0.135	0.200	-0.065

AC Process Information

Grading: SX

Subacct	Reg.	Plan Quant.	Mix Design	Price	Process No.	Tons	Tests	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
13868	3	37071	2-58-28	\$36.15	1	5,854	7	100.000	1.03500	6.700	6.654	0.046	0.108	0.200	-0.092
13868	3	37071	3-58-34	\$39.37	1	5,476	6	100.000	1.03500	6.600	6.628	0.028	0.059	0.200	-0.141
13972	1	31908	145985-2	\$37.14	1	6,025	7	100.000	1.03500	6.200	5.944	0.256	0.019	0.200	-0.181
13998	5	38175	398SX3B	\$44.98	1	12,126	12	100.000	1.04500	8.700	8.711	0.011	0.093	0.200	-0.107
13998	5	38175	3998SX4	\$44.77	1	11,244	12	100.000	1.04500	8.700	8.624	0.076	0.054	0.200	-0.146
14353	1	5388	4353619	\$49.00	1	5,328	6	100.000	1.03500	5.800	5.780	0.020	0.105	0.200	-0.095
14217	3	25522	102703B	\$36.28	1	23,330	23	99.996	1.05000	6.000	6.056	0.056	0.073	0.200	-0.127
13868	3	37071	5-58-34	\$39.29	1	7,775	8	99.068	1.04000	6.500	6.598	0.098	0.103	0.200	-0.097
14216	3	28494	12403LW	\$41.41	1	21,873	22	98.871	1.05000	6.200	6.121	0.079	0.102	0.200	-0.098
13897	1	18192	153327-4	\$44.00	1	12,335	16	97.104	1.04500	5.600	5.611	0.011	0.149	0.200	-0.051
13972	1	31908	145985-1	\$42.00	1	25,918	26	96.417	1.05414	6.400	6.363	0.037	0.143	0.200	-0.057
14216	3	28494	102403B	\$38.82	1	13,073	11	96.267	1.04500	6.200	6.185	0.015	0.157	0.200	-0.043
14305	1	59309	18747Top	\$42.25	1	57,161	58	96.079	1.04674	5.900	5.888	0.012	0.147	0.200	-0.053
13868	3	37071	4-58-34	\$39.75	1	4,462	4	94.973	1.03000	6.700	6.743	0.043	0.191	0.200	-0.009
14439	3	36296	13503C-3	\$40.76	1	15,295	16	94.533	1.04418	6.300	6.233	0.067	0.148	0.200	-0.052
13333	3	3853	6422A2	\$45.38	1	3,390	4	93.764	1.03000	5.600	5.725	0.125	0.133	0.200	-0.067
13998	5	38175	3998SF4	\$43.86	1	10,359	11	88.860	1.02192	8.300	8.279	0.021	0.195	0.200	-0.005
13868	3	37071	2-58-34	\$39.95	1	7,241	7	87.940	1.02737	6.700	6.843	0.143	0.136	0.200	-0.064
13969	5	15116	3969SX2	\$94.00	1	15,082	21	84.719	0.98533	6.900	6.832	0.068	0.201	0.200	0.001
13868	3	37071	58-28	\$36.01	1	7,320	7	79.442	0.99062	6.800	6.599	0.201	0.117	0.200	-0.083
13998	5	38175	398SF4A	\$34.84	1	4,992	5	69.905	0.96064	8.300	8.180	0.120	0.273	0.200	0.073

Totals Grading: SX

Processes:	Tests:	Total Tons:	Best:	Worst:	Weighted Average:	Quality Level	Pay Factor	Mean to TV	St. Dev.	V	StDev - V
21	289	275,659	100.000	69.905	95.303	1.05414	0.96064	0.011	0.019	0.200	-0.181
								0.256	0.273	0.200	0.073
								0.054	0.130	0.200	-0.070

Asphalt Content - Totals 1/1/03 to 12/31/03.

Processes:	Tests:	Total Tons:	Best:	Worst:	Weighted Average:	Quality Level	Pay Factor	Mean to TV	St. Dev.	V	StDev - V
48	790	756,873	100.000	35.361	93.457	1.05500	0.72255	0.002	0.019	0.200	-0.181
								0.375	0.273	0.200	0.073
								0.057	0.143	0.200	-0.057

Asphalt Content - Recap by Grading/Region

Criteria: Projects with Bid Dates from 1/1/03 to 12/31/03.

Processes with less than 3 tests not included.

Weighted average used for: Price, Pay Factor, St. Dev., and Quality Level

<i>Grading: S</i>	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level		
							Avg.	High	Low
<i>Region: 1</i>	3	89,496	92	\$36.40	1.04611	0.136	95.975	97.939	35.361
<i>Region: 2</i>	16	193,753	199	\$37.46	1.01457	0.166	88.622	99.227	49.640
<i>Region: 4</i>	5	153,240	161	\$36.85	1.04073	0.142	95.437	99.627	87.291
<i>Totals: S</i>	24	436,489	452	\$37.03	1.03022	0.151	92.522	99.627	35.361

<i>Grading: SG</i>	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level		
							Avg.	High	Low
<i>Region: 1</i>	1	11,470	15	\$36.50	0.98518	0.120	82.776	82.776	82.776
<i>Region: 4</i>	1	5,813	7	\$29.35	1.01756	0.199	85.433	85.433	85.433
<i>Totals: SG</i>	2	17,283	22	\$34.10	0.99607	0.147	83.670	85.433	82.776

<i>Grading: SMA</i>	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level		
							Avg.	High	Low
<i>Region: 6</i>	1	27,442	27	\$49.50	1.05107	0.135	95.937	95.937	95.937
<i>Totals: SMA</i>	1	27,442	27	\$49.50	1.05107	0.135	95.937	95.937	95.937

<i>Grading: SX</i>	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level		
							Avg.	High	Low
<i>Region: 1</i>	5	106,767	113	\$42.44	1.04709	0.137	96.696	100.000	96.079
<i>Region: 3</i>	11	115,089	115	\$39.10	1.03994	0.114	96.126	100.000	79.442
<i>Region: 5</i>	5	53,803	61	\$57.52	1.01600	0.151	90.779	100.000	69.905
<i>Totals: SX</i>	21	275,659	289	\$43.99	1.03804	0.130	95.303	100.000	69.905

<i>Statewide Totals</i>	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level		
							Avg.	High	Low
	48	756,873	790	\$39.95	1.03304	0.143	93.457	100.000	35.361

Mat Density - Process Information, Gradation Acceptance

Criteria: Projects with Bid Dates from 1/1/03 to 12/31/03.

Processes with less than 3 tests not included.

Grading: S

Subacct.	Reg.	Plan Quant.	Mix Design	Process Price	No.	Tons	Tests	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
14227	1	3,028	153546	\$40.54	1	2,191	6	100.000	1.03500	94.000	92.933	1.067	0.216	1.100	-0.884
13094	2	18,785	13094T	\$39.69	1	2,000	4	100.000	1.03000	94.000	93.375	0.625	0.386	1.100	-0.714
14206	2	10,060	14206	\$36.59	3	2,178	5	100.000	1.03000	94.000	94.200	0.200	0.663	1.100	-0.437
13094	2	18,785	13094T	\$39.69	2	4,019	9	99.796	1.04000	94.000	93.578	0.422	0.700	1.100	-0.400
13987	4	64,236	69803	\$39.72	1	64,073	128	98.025	1.05933	94.000	93.835	0.165	0.850	1.100	-0.250
14461	4	52,159	149856	\$38.00	1	26,632	58	96.154	1.04775	94.000	93.752	0.248	0.949	1.100	-0.151
14208	2	62,414	14208B	\$36.87	1	29,591	59	95.095	1.03936	94.000	93.192	0.808	0.726	1.100	-0.374
12833	2	19,652	12833	\$46.00	3	9,497	19	94.287	1.04289	94.000	93.132	0.868	0.732	1.100	-0.368
14208	2	62,414	14208A	\$34.82	1	31,109	62	94.273	1.03271	94.000	94.526	0.526	0.927	1.100	-0.173
12833	2	19,652	12833	\$46.00	2	7,500	15	93.032	1.03729	94.000	93.173	0.827	0.811	1.100	-0.289
14206	2	10,060	14206	\$36.59	1	3,500	8	92.673	1.03500	94.000	94.100	0.100	1.236	1.100	0.136
14304	2	22,591	140304	\$38.00	1	18,897	38	92.591	1.02580	94.000	93.221	0.779	0.850	1.100	-0.250
14275	1	53,313	151027	\$35.25	1	17,821	34	92.280	1.02555	94.000	93.838	0.162	1.139	1.100	0.039
14275	1	53,313	151029	\$37.00	1	52,598	112	91.848	1.00961	94.000	93.507	0.493	1.043	1.100	-0.057
14199	2	18,000	252	\$36.00	1	10,090	21	90.632	1.02172	94.000	92.967	1.033	0.740	1.100	-0.360
14301	4	34,448	138008	\$33.35	1	22,558	45	89.918	1.00473	94.000	93.030	0.970	0.810	1.100	-0.290
14461	4	52,159	149855A	\$33.50	1	18,013	36	89.818	1.00785	94.000	93.367	0.633	1.058	1.100	-0.042
13547	2	21,910	13547A	\$40.00	1	14,414	29	87.386	0.99582	94.000	93.617	0.383	1.265	1.100	0.165
13094	2	18,785	13094B1	\$35.88	1	13,846	28	86.972	0.99375	94.000	93.982	0.018	1.338	1.100	0.238
14397	2	21,663	14397T1	\$38.00	1	7,219	15	86.688	1.00516	94.000	93.500	0.500	1.263	1.100	0.163
14199	2	18,000	246A	\$36.00	1	6,000	12	85.195	1.00258	94.000	93.092	0.908	1.044	1.100	-0.056
14397	2	21,663	14397B2	\$32.00	2	4,678	10	82.641	0.99373	94.000	92.720	1.280	0.760	1.100	-0.340
14461	4	52,159	149855	\$33.50	1	9,000	18	81.988	0.97199	94.000	93.317	0.683	1.338	1.100	0.238
14397	2	21,663	14397B	\$32.03	1	8,367	16	79.681	0.96161	94.000	93.300	0.700	1.418	1.100	0.318
14397	2	21,663	14397B2	\$32.00	1	2,500	5	77.520	0.99747	94.000	92.860	1.140	1.074	1.100	-0.026
13547	2	21,910	547DET	\$40.00	1	4,699	10	74.336	0.94672	94.000	93.650	0.350	1.741	1.100	0.641
13547	2	21,910	13547	\$40.00	1	2,500	5	71.309	0.96802	94.000	92.760	1.240	1.244	1.100	0.144
14204	2	3,381	250	\$36.55	1	3,149	7	70.479	0.94110	94.000	92.829	1.171	1.465	1.100	0.365

Totals - Grading: S

	Processes:	28	Best:	Quality Level	100.000	Pay Factor	1.05933	TV	Mean	Mean to TV	0.018	St. Dev.	0.216	V	1.100	StDev - V	-0.884
	Tests:	814	Worst:	70.479	0.94110					1.280	1.741	1.100	0.641				
	Total Tons:	398,639	Weighted Average:	91.975	1.02289	94.000	93.561	0.439	0.971	1.100	-0.129						

Mat Density Process Information

Grading: SG

Subacct.	Reg.	Plan Quant.	Mix Design	Price	Process No.	Tons	Tests	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
14301	4	34,448	138007	\$29.35	1	5,813	12	99.553	1.04500	94.000	93.600	0.400	0.705	1.100	-0.395
13897	1	18,192	53327-1	\$36.50	1	10,970	24	90.491	1.01920	94.000	93.021	0.979	0.785	1.100	-0.315

Totals - Grading: SG

	Processes:	Tests:	Total Tons:	Weighted Average:	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
	2	36	16,783		Best: 99.553	1.04500	94.000	93.222	0.400	0.705	1.100	-0.395
					Worst: 90.491	1.01920			0.979	0.785	1.100	-0.315
							94.000	93.222	0.778	0.757	1.100	-0.343

Grading: SMA

Subacct.	Reg.	Plan Quant.	Mix Design	Price	Process No.	Tons	Tests	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
14236	6	26,404	147033	\$49.50	1	28,160	55	99.342	1.05500	95.000	95.435	0.435	0.646	1.100	-0.454

Totals - Grading: SMA

	Processes:	Tests:	Total Tons:	Weighted Average:	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
	1	55	28,160		Best: 99.342	1.05500	95.000	95.435	0.435	0.646	1.100	-0.454
					Worst: 99.342	1.05500			0.435	0.646	1.100	-0.454
							95.000	95.435	-0.435	0.646	1.100	-0.454

Mat Density Process Information

Grading: SX

Subacct.	Reg.	Plan Quant.	Mix Design	Price	Process No.	Tons	Tests	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
13897	1	18,192	53327-3	\$38.00	1	2,029	3	100.000	1.02500	94.000	94.000	0.000	0.346	1.100	-0.754
14320	5	1,273	320SX1	\$57.50	1	1,340	3	100.000	1.02500	94.000	94.067	0.067	1.097	1.100	-0.003
13998	5	38,175	998SX4	\$44.77	1	11,244	23	99.433	1.05000	94.000	93.891	0.109	0.772	1.100	-0.328
13868	3	37,071	3-58-34	\$39.37	1	5,476	11	98.984	1.04500	94.000	94.327	0.327	0.811	1.100	-0.289
13868	3	37,071	2-58-34	\$39.95	1	6,741	14	98.570	1.04500	94.000	93.707	0.293	0.839	1.100	-0.261
14305	1	59,309	3747Top	\$42.25	1	56,661	114	98.549	1.06000	94.000	93.517	0.483	0.699	1.100	-0.401
13897	1	18,192	53327-4	\$44.00	1	9,815	23	97.211	1.05000	94.000	94.187	0.187	0.930	1.100	-0.170
13998	5	38,175	98SX3B	\$44.98	1	12,126	25	96.695	1.05000	94.000	94.616	0.616	0.772	1.100	-0.328
13897	1	18,192	53327-4	\$44.00	2	1,520	14	95.936	1.04500	94.000	94.729	0.729	0.760	1.100	-0.340
13969	5	15,116	969SX2	\$94.00	2	5,582	12	94.880	1.04500	94.000	93.933	0.067	1.096	1.100	-0.004
13972	1	31,908	45985-1	\$42.00	1	25,918	52	94.816	1.03844	94.000	94.410	0.410	0.958	1.100	-0.142
14216	3	28,494	2403LW	\$41.41	1	21,373	48	94.015	1.03347	94.000	94.631	0.631	0.882	1.100	-0.218
14217	3	25,522	102703B	\$36.28	1	22,830	46	93.764	1.03210	94.000	94.354	0.354	1.027	1.100	-0.073
14439	3	36,296	3503C-3	\$40.76	1	14,795	31	93.375	1.03397	94.000	94.139	0.139	1.102	1.100	0.002
13868	3	37,071	5-58-34	\$39.29	1	7,775	16	91.133	1.02755	94.000	94.006	0.006	1.214	1.100	0.114
13969	5	15,116	969SX2	\$94.00	1	8,000	16	90.869	1.02621	94.000	93.862	0.138	1.215	1.100	0.115
13333	3	3,853	6422A2	\$45.38	1	2,890	6	88.972	1.03312	94.000	93.983	0.017	1.370	1.100	0.270
13972	1	31,908	45985-2	\$37.14	1	6,025	13	88.323	1.01671	94.000	94.977	0.977	0.865	1.100	-0.235
14353	1	5,388	4353619	\$49.00	1	5,328	11	85.654	1.00677	94.000	93.355	0.645	1.237	1.100	0.137
13868	3	37,071	4-58-34	\$39.75	1	3,962	8	76.305	0.96717	94.000	95.325	1.325	0.916	1.100	-0.184
13922	5	2,129	AC11-08	\$72.00	1	1,468	3	33.803	0.74847	94.000	91.500	2.500	0.889	1.100	-0.211

Totals - Grading: SX

Processes:	21	Best:	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
Tests:	492	Worst:	100.000	1.06000			0.000	0.346	1.100	-0.754
Total Tons:	232,898	Weighted Average:	33.803	0.74847			2.500	1.370	1.100	0.270
			94.760	1.03914	94.000	94.080	-0.080	0.900	1.100	-0.200

Mat Density - Totals 1/1/03 to 12/31/0

Processes:	52	Best:	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
Tests:	1397	Worst:	100.000	1.06000			0.000	0.216	1.100	-0.884
Total Tons:	676,480	Weighted Average:	33.803	0.74847			2.500	1.741	1.100	0.641
			93.282	1.02995	94.042	93.809	0.233	0.928	1.100	-0.172

Mat Density - Recap by Grading/Region

Criteria: Projects with Bid Dates from 1/1/03 to 12/31/03.

Processes with less than 3 tests not included.

Weighted average used for: Price, Pay Factor, St. Dev., Mean, and Quality Level

Grading: S	Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Quality Level		
								Avg.	High	Low
Region 1	3	72,610	152	\$36.68	1.01429	1.042	93.571	92.200	100.000	91.848
Region 2	20	185,753	377	\$37.41	1.01625	0.982	93.530	90.145	100.000	70.479
Region 4	5	140,276	285	\$37.17	1.03614	0.920	93.596	94.283	98.025	81.988
Totals: S	28	398,639	814	\$37.19	1.02289	0.971	93.561	91.975	100.000	70.479

Grading: SG	Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Quality Level		
								Avg.	High	Low
Region 1	1	10,970	24	\$36.50	1.01920	0.785	93.021	90.491	90.491	90.491
Region 4	1	5,813	12	\$29.35	1.04500	0.705	93.600	99.553	99.553	99.553
Totals: SG	2	16,783	36	\$34.02	1.02814	0.757	93.222	93.630	99.553	90.491

Grading: SMA	Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Quality Level		
								Avg.	High	Low
Region 6	1	28,160	55	\$49.50	1.05500	0.646	95.435	99.342	99.342	99.342
Totals: SMA	1	28,160	55	\$49.50	1.05500	0.646	95.435	99.342	99.342	99.342

Grading: SX	Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Quality Level		
								Avg.	High	Low
Region 1	7	107,296	230	\$42.34	1.04793	0.813	93.894	96.301	100.000	85.654
Region 3	8	85,842	180	\$39.55	1.03122	0.999	94.334	93.264	98.984	76.305
Region 5	6	39,760	82	\$63.09	1.03254	0.922	94.030	93.832	100.000	33.803
Totals: SX	21	232,898	492	\$44.86	1.03914	0.900	94.080	94.760	100.000	33.803

Statewide Totals	Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Avg.	High	Low

Gradation - Process Information

Criteria: Projects with Bid Dates from 1/1/03 to 12/31/03.

Processes with less than 3 tests not included.

Grading: S

Subacct.	Reg.	Plan Quant.	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
14397	2	21663	\$38.00	14397T1	1	8,219	4	100.000	1.03000	All QLs100
14397	2	21663	\$32.03	14397B	1	8,867	4	100.000	1.03000	All QLs100
14208	2	62414	\$36.87	14208B	1	30,091	15	99.521	1.05000	No. 4
14461	4	52159	\$33.50	149855	1	9,000	6	98.651	1.03500	No. 200
14301	4	34448	\$33.35	138008	1	35,522	18	98.550	1.05000	No. 4
14461	4	52159	\$38.00	149856	1	26,632	17	95.022	1.04636	No. 4
13987	4	64236	\$39.72	69803	1	64,073	33	93.440	1.03357	No. 8
14275	1	53313	\$37.00	151029	1	54,581	27	90.695	1.01882	No. 8
14208	2	62414	\$34.82	14208A	1	31,109	16	90.647	1.02507	No. 4
14461	4	52159	\$33.50	149855A	1	18,013	10	89.233	1.02478	No. 4
14275	1	53313	\$35.25	151027	1	33,516	17	82.886	0.97967	No. 30
13094	2	18785	\$35.88	13094B1	1	13,846	7	82.477	1.00488	No. 8
14304	2	22591	\$38.00	140304	1	19,397	10	82.042	0.99064	No. 8
14199	2	18000	\$36.00	252	1	10,090	6	80.775	1.00238	No. 30
13547	2	21910	\$40.00	13547A	1	14,414	8	79.540	0.98443	No. 4
14397	2	21663	\$32.00	14397B2	1	8,178	4	79.305	1.01755	No. 4
13094	2	18785	\$39.69	13094T	1	7,019	4	78.050	1.01306	No. 4
12833	2	19652	\$46.00	12833	1	18,997	10	77.777	0.96727	3/8
14227	1	3028	\$40.54	153546	1	1,781	5	73.663	0.97980	No. 4
14206	2	10060	\$36.59	14206	1	8,178	5	71.400	0.96849	No. 200
13547	2	21910	\$40.00	3547DET	1	4,699	3	68.717	0.99594	No. 8
14199	2	18000	\$36.00	246A	1	6,000	3	54.428	0.91968	1/2

Totals Grading: S

			Quality Level	Pay Factor	Key Sieve Count		
					1/2"	1	
					3/8"	1	
Processes	22		Best:	100.000	1.05000	No. 4	9
Tests	232		Worst:	54.428	0.91968	No. 8	5
						No. 30	2
Total Tons	432,222		Weighted Average:	89.071	1.01751	No. 200	2

Gradation Process Information

Grading: SG

Subacct.	Reg.	Plan Quant.	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
13897	1	18192	\$36.50	153327-1	1	11,470	6	87.942	1.02977	No. 200
14301	4	34448	\$29.35	138007	1	5,813	3	66.265	0.98531	No. 200

Totals Grading: SG

		Processes	Tests	Total Tons	Weighted Average:	Quality Level	Pay Factor	Key Sieve Count	
		2	9	17,283		Best: 87.942	1.02977	1/2"	0
						Worst: 66.265	0.98531	3/8"	0
								No. 4	0
								No. 8	0
								No. 30	0
								No. 200	2

Grading: SMA

Subacct.	Reg.	Plan Quant.	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
14236	6	26404	\$49.50	147033	1	27,869	13	92.154	1.03471	3/8

Totals Grading: SMA

		Processes	Tests	Total Tons	Weighted Average:	Quality Level	Pay Factor	Key Sieve Count	
		1	13	27,869		Best: 92.154	1.03471	1/2"	0
						Worst: 92.154	1.03471	3/8"	1
								No. 4	0
								No. 8	0
								No. 30	0
								No. 200	0

Gradation Process Information

Grading: SX

Subacct.	Reg.	Plan Quant.	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
13868	3	37071	\$39.95	2-58-34	1	6,000	6	100.000	1.03500	All QLS100
13972	1	31908	\$37.14	145985-2	1	6,025	4	100.000	1.03000	All QLS100
13972	1	31908	\$42.00	145985-1	1	25,918	13	99.378	1.04500	No. 8
13868	3	37071	\$36.15	2-58-28	1	5,854	7	98.107	1.03500	No. 8
14216	3	28494	\$38.82	102403B	1	13,073	7	97.340	1.03500	No. 200
13969	5	15116	\$94.00	3969SX2	1	15,082	8	92.970	1.04000	No. 8
13998	5	38175	\$44.77	3998SX4	1	11,244	6	92.777	1.03500	No. 200
14305	1	59309	\$42.25	18747Top	1	57,161	29	90.196	1.01448	No. 4
14216	3	28494	\$41.41	12403LW	1	21,873	13	89.217	1.02108	No. 200
13998	5	38175	\$34.84	998SF4A	1	4,992	3	85.472	1.02500	No. 200
14217	3	25522	\$36.28	102703B	1	23,330	12	84.656	0.99978	1/2
13868	3	37071	\$39.37	3-58-34	1	5,475	6	82.768	1.01072	No. 8
13868	3	37071	\$36.01	58-28	1	7,320	6	80.870	1.00279	No. 4
13998	5	38175	\$44.98	998SX3B	1	12,126	6	80.122	0.99952	No. 200
13897	1	18192	\$44.00	153327-4	1	12,335	6	78.159	0.99058	No. 4
14353	1	5388	\$49.00	14353619	1	5,328	3	77.281	1.02500	3/8
14439	3	36296	\$40.76	13503C-3	1	15,295	8	72.803	0.94695	3/8
13868	3	37071	\$39.29	5-58-34	1	7,775	4	69.868	0.97815	No. 4
13998	5	38175	\$43.86	3998SF4	1	10,359	6	65.983	0.92302	No. 200

Totals Grading: SX

			Quality Level	Pay Factor	Key Sieve Count	
Processes	19	Best:	100.000	1.04500	1/2"	1
Tests	153	Worst:	65.983	0.92302	3/8"	2
Total Tons	266,565	Weighted Average:	87.453	1.01102	No. 4	4
					No. 8	4
					No. 30	0
					No. 200	6

Gradation Totals 1/1/03 to 12/31/03

			Quality Level	Pay Factor	Key Sieve Count	
Processes	44	Best:	100.000	1.05000	1/2"	2
Tests	407	Worst:	54.428	0.91968	3/8"	4
Total Tons	743,939	Weighted Average:	88.411	1.01577	No. 4	13
					No. 8	9
					No. 30	2
					No. 200	10

Gradation - Process Information - Recap by Grading/Region

Criteria: Projects with Bid Dates from 1/1/03 to 12/31/03.

Processes with less than 3 tests not included.

<i>Grading: S</i>	Processes	Tons	Tests	Price	Pay Factor	Quality Level		
						Avg.	High	Low
<i>Region 4</i>	5	153,240	84	\$36.85	1.03865	94.711	98.651	89.233
<i>Region 2</i>	14	189,104	99	\$37.44	1.00707	85.273	100.000	54.428
<i>Region 1</i>	3	89,878	49	\$36.42	1.00345	87.445	90.695	73.663
<i>Totals: S</i>	22	432,222	232	\$37.02	1.01751	89.071	100.000	54.428

<i>Grading: SG</i>	Processes	Tons	Tests	Price	Pay Factor	Quality Level		
						Avg.	High	Low
<i>Region 4</i>	1	5,813	3	\$29.35	0.98531	66.265	66.265	66.265
<i>Region 1</i>	1	11,470	6	\$36.50	1.02977	87.942	87.942	87.942
<i>Totals: SG</i>	2	17,283	9	\$34.10	1.01482	80.651	87.942	66.265

<i>Grading: SMA</i>	Processes	Tons	Tests	Price	Pay Factor	Quality Level		
						Avg.	High	Low
<i>Region 6</i>	1	27,869	13	\$49.50	1.03471	92.154	92.154	92.154
<i>Totals: SMA</i>	1	27,869	13	\$49.50	1.03471	92.154	92.154	92.154

<i>Grading: SX</i>	Processes	Tons	Tests	Price	Pay Factor	Quality Level		
						Avg.	High	Low
<i>Region 5</i>	5	53,803	29	\$57.52	1.00592	84.142	92.970	65.983
<i>Region 3</i>	9	105,995	69	\$38.86	1.00402	85.619	100.000	69.868
<i>Region 1</i>	5	106,767	55	\$42.44	1.02053	90.943	100.000	77.281
<i>Totals: SX</i>	19	266,565	153	\$44.06	1.01102	87.453	100.000	65.983

<i>Statewide Totals</i>	Processes	Tons	Tests	Price	Pay Factor	Quality Level		
						Avg.	High	Low
	44	743,939	407	\$39.94	1.01577	88.411	100.000	54.428

Gradation - Standard Deviation Information

Criteria: Projects with Bid Dates from 1/1/2003 to 12/31/2003.

Processes with less than 3 tests not included.

Grading S

Subacct.	Reg.	Plan Quant.	Price	Tons	Tests	Key Sieve	Standard Deviation						
							3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
14199	2	18,000	\$36.00	6,000	3	1/2	0.000	2.100	2.100	3.100	2.100	1.200	0.360
14199	2	18,000	\$36.00	10,090	6	No. 30	0.000	1.200	1.000	2.100	1.900	3.100	1.200
14227	1	3,028	\$40.54	1,781	5	No. 4	0.700	1.900	3.700	4.100	2.900	1.600	1.220
14206	2	10,060	\$36.59	8,178	5	No. 200	0.000	0.500	0.700	1.100	1.500	1.300	0.390
13987	4	64,236	\$39.72	64,073	33	No. 8	0.300	1.900	2.400	1.900	1.500	1.200	0.490
14301	4	34,448	\$33.35	35,522	18	No. 4		1.700	2.600	1.900	1.500	1.000	0.460
13547	2	21,910	\$40.00	14,414	8	No. 4	0.700	1.700	1.900	3.100	1.600	2.100	1.070
13547	2	21,910	\$40.00	4,699	3	No. 8	0.000	2.300	2.000	1.700	2.100	0.600	0.210
14275	1	53,313	\$35.25	33,516	17	No. 30	1.100	2.300	2.600	2.900	2.500	1.400	0.620
14275	1	53,313	\$37.00	54,581	27	No. 8	1.000	2.100	2.300	2.300	2.000	1.300	0.610
13094	2	18,785	\$35.88	13,846	7	No. 8	0.400	1.400	2.600	3.500	3.200	1.500	1.020
13094	2	18,785	\$39.69	7,019	4	No. 4	0.000	2.600	3.900	3.900	3.200	1.300	0.720
14397	2	21,663	\$32.03	8,867	4	QLs100	0.600	1.900	1.000	1.500	1.300	0.600	0.350
14397	2	21,663	\$32.00	8,178	4	No. 4	0.000	2.100	4.100	4.200	4.000	2.600	0.490
14397	2	21,663	\$38.00	8,219	4	QLs100	0.000	1.500	2.200	1.300	2.600	1.700	0.410
14304	2	22,591	\$38.00	19,397	10	No. 8	0.500	2.000	2.900	2.700	3.000	2.100	0.390
14461	4	52,159	\$33.50	9,000	6	No. 200	0.000	1.200	1.500	1.700	2.000	1.300	0.790
14461	4	52,159	\$33.50	18,013	10	No. 4	0.300	2.600	2.900	2.600	1.500	0.800	0.630
14461	4	52,159	\$38.00	26,632	17	No. 4	0.000	2.100	2.400	2.600	2.500	1.400	0.670
12833	2	19,652	\$46.00	18,997	10	3/8	0.000	1.800	3.300	3.300	3.200	2.300	0.790
14208	2	62,414	\$34.82	31,109	16	No. 4	0.000	2.400	2.600	3.000	2.800	1.800	0.920
14208	2	62,414	\$36.87	30,091	15	No. 4	0.300	1.300	2.200	2.000	1.700	0.900	0.310

Totals Grading: S

		3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200	
Number of Processes:	22	Best:	0.000	0.500	0.700	1.100	1.300	0.600	0.210
Total Tons:	432,222	Worst:	1.100	2.600	4.100	4.200	4.000	3.100	1.220
		Weighted Average:	0.396	1.910	2.430	2.440	2.142	1.427	0.612
		Key Sieve Count		1	1	9	5	2	2

Grading SG

Subacct.	Reg.	Plan Quant.	Price	Tons	Tests	Key Sieve	Standard Deviation						
							3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
13897	1	18,192	\$36.50	11,470	6	No. 200		2.100	2.900	3.000	1.400	1.000	1.170
14301	4	34,448	\$29.35	5,813	3	No. 200		4.200	3.800	4.000	4.000	1.700	1.360

Totals Grading: SG

		3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	2	Best:	2.100	2.900	3.000	1.400	1.000	1.170
Total Tons:	17,283	Worst:	4.200	3.800	4.000	4.000	1.700	1.360
Weighted Average:			2.806	3.203	3.336	2.274	1.235	1.234
Key Sieve Count			0	0	0	0	0	2

Grading SMA

Subacct.	Reg.	Plan Quant.	Price	Tons	Tests	Key Sieve	Standard Deviation						
							3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
14236	6	26,404	\$49.50	27,869	13	3/8		3.100	3.600	2.000	1.700	1.000	0.470

Totals Grading: SMA

		3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	1	Best:	3.100	3.600	2.000	1.700	1.000	0.470
Total Tons:	27,869	Worst:	3.100	3.600	2.000	1.700	1.000	0.470
Weighted Average:			3.100	3.600	2.000	1.700	1.000	0.470
Key Sieve Count			0	1	0	0	0	0

Grading SX

Subacct.	Reg.	Plan Quant.	Price	Tons	Tests	Key Sieve	Standard Deviation					
							3/4"	1/2"	3/8"	No. 4	No. 8	No. 30
14305	1	59,309	\$42.25	57,161	29	No. 4	1.800	2.800	3.000	2.600	1.900	0.630
13868	3	37,071	\$36.15	5,854	7	No. 8	0.500	2.000	1.800	1.800	1.000	0.540
13868	3	37,071	\$39.95	6,000	6	QLs100	1.000	1.600	1.500	1.200	0.800	0.410
13868	3	37,071	\$39.37	5,475	6	No. 8	0.800	2.100	3.000	2.400	1.300	0.350
13868	3	37,071	\$39.29	7,775	4	No. 4	0.600	2.400	3.800	2.900	1.500	0.550
13868	3	37,071	\$36.01	7,320	6	No. 4	0.500	1.300	2.000	2.000	1.000	0.350
14217	3	25,522	\$36.28	23,330	12	1/2	2.600	2.700	3.200	2.100	1.300	0.440
13972	1	31,908	\$42.00	25,918	13	No. 8	0.600	1.300	1.900	2.000	1.100	0.450
13972	1	31,908	\$37.14	6,025	4	QLs100	0.000	1.400	1.400	1.300	0.600	0.320
13897	1	18,192	\$44.00	12,335	6	No. 4	0.600	1.600	3.100	2.600	2.900	1.070
13998	5	38,175	\$43.86	10,359	6	No. 200	0.000	1.800	4.300	3.400	2.400	2.050
13998	5	38,175	\$34.84	4,992	3	No. 200		1.000	2.600	3.200	1.500	1.800
13998	5	38,175	\$44.98	12,126	6	No. 200		0.400	1.900	3.100	1.700	0.570
13998	5	38,175	\$44.77	11,244	6	No. 200		0.000	1.500	2.500	2.100	1.270
14216	3	28,494	\$38.82	13,073	7	No. 200	1.800	2.100	1.700	1.300	1.100	1.010
14216	3	28,494	\$41.41	21,873	13	No. 200	1.800	2.200	2.800	2.200	1.700	1.190
14353	1	5,388	\$49.00	5,328	3	3/8	0.600	1.500	2.500	3.000	1.500	0.250
14439	3	36,296	\$40.76	15,295	8	3/8	2.300	5.000	3.100	2.700	1.300	0.450
13969	5	15,116	\$94.00	15,082	8	No. 8	0.500	1.600	1.700	1.700	1.300	0.610

Totals Grading: SX

		3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	19	Best:	0.000	0.000	1.400	1.200	0.600	0.250
Total Tons:	266,565	Worst:	2.600	5.000	4.300	3.400	2.900	2.050
		Weighted Average:	1.331	2.095	2.587	2.335	1.573	0.733
		Key Sieve Count	1	2	4	4	0	6

Gradation Totals 1/1/2003 to 12/31/2003.

		Standard Deviation							
		3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200	
Number of Processes:	44	Best:	0.000	0.000	0.000	1.100	1.200	0.600	0.210
Total Tons:	743,939	Worst:	1.100	4.200	5.000	4.300	4.000	3.100	2.050
		Weighted Average:	0.396	1.785	2.372	2.497	2.197	1.459	0.664
		Key Sieve Count		2	4	13	9	2	10

Gradation - Standard Deviation - Recap by Grading/Region

Criteria: Projects with Bid Dates from 1/1/2003 to 12/31/2003.

Processes with less than 3 tests not included.

Grading: S

	Processes	Tons	Tests	Price	Weighted Average						
					3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
<i>Region 1</i>	3	89,878	49	\$36.42	1.031	2.171	2.440	2.559	2.204	1.343	0.626
<i>Region 2</i>	14	189,104	99	\$37.44	0.210	1.771	2.406	2.666	2.467	1.693	0.656
<i>Region 4</i>	5	153,240	84	\$36.85	0.209	1.930	2.452	2.092	1.703	1.147	0.548
<i>Totals S</i>	22	432,222	232	\$37.02	0.396	1.910	2.430	2.440	2.142	1.427	0.612

Grading: SG

	Processes	Tons	Tests	Price	Weighted Average						
					3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
<i>Region 1</i>	1	11,470	6	\$36.50		2.100	2.900	3.000	1.400	1.000	1.170
<i>Region 4</i>	1	5,813	3	\$29.35		4.200	3.800	4.000	4.000	1.700	1.360
<i>Totals SG</i>	2	17,283	9	\$34.10		2.806	3.203	3.336	2.274	1.235	1.234

Grading: SMA

	Processes	Tons	Tests	Price	Weighted Average						
					3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
<i>Region 6</i>	1	27,869	13	\$49.50		3.100	3.600	2.000	1.700	1.000	0.470
<i>Totals SMA</i>	1	27,869	13	\$49.50		3.100	3.600	2.000	1.700	1.000	0.470

Grading: SX

	Processes	Tons	Tests	Price	Weighted Average						
					3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
<i>Region 1</i>	5	106,767	55	\$42.44		1.209	2.153	2.629	2.401	1.728	0.601
<i>Region 3</i>	9	105,995	69	\$38.86		1.702	2.604	2.695	2.108	1.307	0.668
<i>Region 5</i>	5	53,803	29	\$57.52		0.296	0.978	2.287	2.649	1.788	1.127
<i>Totals SX</i>	19	266,565	153	\$44.06		1.331	2.095	2.587	2.335	1.573	0.733

Statewide Totals

Processes	Tons	Tests	Price	Weighted Average							
				3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200	
44	743,939	407	\$39.94	0.396	1.785	2.372	2.497	2.197	1.459	0.664	

Project Listing - Joint Density Projects, Gradation Acceptance

Projects with Bid Dates from 1/1/2002 to 12/31/2003.

Region: 1

Bid Date:	Subacct.	Project Code:	Location:	Plan Quant:	JD Testing:
02/27/03	13897	NH 0852-088	SH 85 - Sedalia	18,192	
02/20/03	13972	STA 0061-074	Keystone/Loveland	31,908	
01/30/03	14227	SHE 0061-076	Cleer Creek Canyon	3,028	No
03/13/03	14275	STA 0362-026	SH 36 Byers to Ara	53,313	No
01/09/03	14305	IM 0702-241	West Vail Pass Res	59,309	
05/01/03	14353	NH 2854-099	US 285 Parkview-Ke	5,388	No

Region: 1	Projects 6	Tested 3	Tested Quant. Plan	109,409
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Region: 2

Bid Date:	Subacct.	Project Code:	Location:	Plan Quant:	JD Testing:
07/24/03	12833	NH 1603-016	West of Walsenburg	19,652	
03/27/03	13094	BR 1151-012	Little Fountain Creek	18,785	
03/06/03	13547	NH 0505-037	US 50 Bridges	21,910	
01/30/03	14199	STA 012A-038	SH 12 e/o Segundo	18,000	
02/20/03	14204	STA 078A-004	SH 78 Midway to Beulah	3,381	
02/13/03	14206	NH 1603-019	Lathrop to Walsenburg	10,060	
12/18/03	14208	NH 0242-039	Manitou & Lake George	62,414	
06/19/03	14304	STA 083A-031	SH 83 North PPCC	22,591	
05/22/03	14397	NH 0851-006	SH 85 Phase III	21,663	

Region: 2	Projects 9	Tested 9	Tested Quant. Plan	198,456
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Region: 3

Bid Date:	Subacct.	Project Code:	Location:	Plan Quant:	JD Testing:
08/07/03	13333	STA 340A-007	Redlands Parkway	3,853	
01/16/03	13868	STA 114A-007	Cochetopa Hwy 114	37,071	No
03/27/03	14216	STA R300-108	Meeker and Rangely	28,494	
02/06/03	14217	STA 092A-016	Delta East hwy 92	25,522	
05/08/03	14439	STA 131A-030	Wolcott North	36,296	

Region: 3	Projects 5	Tested 4	Tested Quant. Plan	94,165
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Region: 4

Bid Date:	Subacct.	Project Code:	Location:	Plan Quant:	JD Testing:
02/20/03	13987	STA 1381-005	Proctor East and West	64,236	
02/27/03	14301	NH 2873-126	US 287 Ted's Place North	34,448	
06/19/03	14461	STA 059A-028	SH 59 N of Haxtun	52,159	

Region:	4	Projects	3	Tested	3	Tested Quant. Plan	150,843
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Region: 5

Bid Date:	Subacct.	Project Code:	Location:	Plan Quant:	JD Testing:
05/29/03	13922	BR 114A-008	Saguache Creek	2,129	
12/04/03	13969	NH 1602-090	Lonesome Dove	15,116	
03/06/03	13998	NH 2852-014	Ponch Pass to Pon	38,175	
08/01/02	14134	STA 0841-006	Jct US 160/SH84	73,205	
04/03/03	14320	NH 1603-020	US 160 & SH 17	1,273	

Region:	5	Projects	5	Tested	5	Tested Quant. Plan	129,898
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Region: 6

Bid Date:	Subacct.	Project Code:	Location:	Plan Quant:	JD Testing:
06/05/03	14236	STA 0881-014	SH 88 I-25 to SH 8	26,404	No

Region:	6	Projects	1	Tested	0	Tested Quant. Plan	0
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Totals

Projects	29	Tested	24	Plan Quant.	807,975
				Tested Quant.	682,771

Joint Density - Process Information, Gradation Acceptance

Criteria: Projects with Bid Dates from 1/1/2002 to 12/31/2003.

Processes with less than 3 tests not included.

Grading S

Sub.	Reg.	Price	Proc. No	Tons	Tests	Quality Level	Pay Factor	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
14199	2	\$36.00	1	12,000	8	100.000	1.04000	92.00	90.460	1.540	0.961	1.60	-0.639
14461	4	\$33.50	1	9,000	4	100.000	1.03000	92.00	92.330	0.330	0.350	1.60	-1.250
13094	2	\$35.88	3	3,281	4	100.000	1.03000	92.00	91.900	0.100	1.180	1.60	-0.420
14208	2	\$36.87	2	30,091	14	99.039	1.04500	92.00	90.610	1.390	1.220	1.60	-0.380
12833	2	\$46.00	1	18,997	16	96.944	1.05000	92.00	90.530	1.470	1.412	1.60	-0.188
14397	2	\$32.00	2	8,179	6	96.591	1.03500	92.00	90.270	1.730	1.426	1.60	-0.174
14461	4	\$33.50	3	18,013	10	93.681	1.04259	92.00	89.230	2.770	0.837	1.60	-0.763
14461	4	\$38.00	2	26,632	16	92.135	1.03383	92.00	89.560	2.440	1.128	1.60	-0.472
13987	4	\$39.72	1	64,073	27	84.196	0.97555	92.00	89.740	2.260	1.735	1.60	0.135
13547	2	\$40.00	1	21,613	14	83.363	0.98854	92.00	89.900	2.100	1.955	1.60	0.355
14208	2	\$34.82	1	31,109	26	82.113	0.96186	92.00	89.380	2.620	1.502	1.60	-0.098
14301	4	\$33.35	1	23,558	12	80.089	0.97461	92.00	89.230	2.770	1.445	1.60	-0.155
13094	2	\$35.88	1	15,709	11	77.627	0.96319	92.00	89.960	2.040	2.525	1.60	0.925
14304	2	\$38.00	1	19,397	7	67.779	0.92403	92.00	88.760	3.240	1.558	1.60	-0.042
14206	2	\$36.59	1	8,178	5	67.639	0.94816	92.00	89.060	2.940	2.110	1.60	0.510
14397	2	\$32.00	1	8,867	5	34.082	0.68191	92.00	87.520	4.480	1.062	1.60	-0.538
14397	2	\$38.00	3	8,218	7	25.665	0.52798	92.00	87.490	4.510	0.756	1.60	-0.844

Totals Grading: S

			Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
Processes:	17		Best: 100.000	1.05000	92.00	92.330	0.100	0.350	1.60	-1.250
Tests:	192		Worst: 25.665	0.52798	92.00	87.490	4.510	2.525	1.60	0.925
Total Tons:	326,915	Weighted Average:	83.873	0.97655	92.00	89.714	2.304	1.456	1.60	-0.144

Grading SX

Sub.	Reg.	Price	Proc. No	Tons	Tests	Quality Level	Pay Factor	TV	Mean	Mean to TV	Std Dev	V	St Dev. - V
14134	5	\$36.77	1	5,541	4	100.000	1.03000	92.00	92.700	0.700	1.249	1.60	-0.351
14439	3	\$40.81	1	15,295	9	95.100	1.04000	92.00	91.270	0.730	2.077	1.60	0.477
14305	1	\$42.02	1	57,161	21	93.520	1.03825	92.00	89.480	2.520	0.993	1.60	-0.607
14134	5	\$35.48	2	58,914	71	93.382	1.02418	92.00	90.360	1.640	1.575	1.60	-0.025
13972	1	\$37.27	1	5,915	5	91.169	1.03000	92.00	94.040	2.040	1.537	1.60	-0.063
14216	3	\$41.39	2	21,873	11	91.055	1.03154	92.00	90.580	1.420	1.959	1.60	0.359
13972	1	\$41.04	2	24,012	18	90.154	1.02090	92.00	90.960	1.040	2.241	1.60	0.641
13998	5	\$44.95	1	24,870	14	85.653	1.00127	92.00	89.640	2.360	1.544	1.60	-0.056
13897	1	\$36.50	1	5,940	6	82.617	1.01011	92.00	90.700	1.300	2.784	1.60	1.184
13969	5	\$94.00	1	15,082	13	72.877	0.92582	92.00	88.930	3.070	1.502	1.60	-0.098
14217	3	\$35.44	1	23,330	27	71.417	0.87989	92.00	88.960	3.040	1.690	1.60	0.090
13897	1	\$44.00	2	5,887	6	61.448	0.89254	92.00	90.230	1.770	4.245	1.60	2.645

Totals Grading: SX

Processes:	Tests:	Total Tons:	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
12	205	263,820	Best: 100.000	1.04000	92.00	94.040	0.700	0.993	1.60	-0.607
			Worst: 61.448	0.87989	92.00	88.930	3.070	4.245	1.60	2.645
			Weighted Average: 88.316	1.00491	92.00	90.158	1.963	1.653	1.60	0.053

Joint Density Totals

1/1/2002 to 12/31/20

Processes:	Tests:	Total Tons:	Quality Level	Pay Factor	TV	Mean	Mean to TV	St. Dev.	V	StDev - V
29	397	590,735	Best: 100.000	1.05000	92.00	94.040	0.100	0.350	1.60	-1.250
			Worst: 25.665	0.52798	92.00	87.490	4.510	4.245	1.60	2.645
			Weighted Average: 85.857	0.98921	92.00	89.912	2.152	1.544	1.60	-0.056

Joint Density - Recap by Grading/Region

Criteria: Projects with Bid Dates from 1/1/2002 to 12/31/2003.

Processes with less than 3 tests not included.

Weighted average used for: Price, Pay Factor, St. Dev., Mean, and Quality Level

<i>Grading S</i>		Processes	Tons	Tests	Price	Pay Factor	Std Dev	Mean	Quality Level		
									Avg.	High	Low
<i>Region 2</i>		12	185,639	123	\$37.38	0.95992	1.521	89.709	81.322	100.000	25.665
<i>Region 4</i>		5	141,276	69	\$37.14	0.99840	1.369	89.721	87.224	100.000	80.089
<i>Totals Grading: S</i>		17	326,915	192	\$37.28	0.97655	1.456	89.714	83.873	100.000	25.665

<i>Grading SX</i>		Processes	Tons	Tests	Price	Pay Factor	Std Dev	Mean	Quality Level		
									Avg.	High	Low
<i>Region 1</i>		5	98,915	56	\$41.28	1.02318	1.630	90.230	89.999	93.520	61.448
<i>Region 3</i>		3	60,498	47	\$38.95	0.97520	1.885	90.130	84.505	95.100	71.417
<i>Region 5</i>		4	104,407	102	\$46.26	1.00482	1.540	90.106	88.930	100.000	72.877
<i>Totals Grading: SX</i>		12	263,820	205	\$42.72	1.00491	1.653	90.158	88.316	100.000	61.448

<i>Joint Density Totals</i>		1/1/2002 to 12/31/2003									
		Processes	Tons	Tests	Price	Pay Factor	Std Dev	Mean	Quality Level		
									Avg.	High	Low
		29	590,735	397	\$39.71	0.98921	1.544	89.912	85.857	100.000	25.665

