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HOT BITUMINOUS PAVEMENT GRADATION ACCEPTANCE REVIEW OF QC/QA DATA 2000 TO 2002

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March 2004

COLORADO DEPARTMENT OF TRANSPORTATION
RESEARCH BRANCH

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16. Abstract

This report analyzes the Quality Control/Quality Assurance (QC/QA) data for hot bituminous pavements using gradation acceptance awarded in the years 2000 to 2002. Analysis of the overall performance of the projects is accomplished by reviewing the Calculated Pay Factor Composite (CPFC) and Incentive/Disincentive Payments (I/DP). Analysis of each of the test elements: mat density, percent asphalt, & gradation, is also presented in tables, figures, and reports. Various data groupings are used to evaluate the data including: year, region, & grading.

Overall the quality of the hot bituminous pavements has shown improvement in the years 2000 to 2002. The density element has shown the best improvement and has the highest Quality Levels of any of the elements. The percent asphalt element showed slight improvements and has the second highest Quality Levels. No measurable improvements in Quality Levels were noted in the gradation element. This element has the lowest Quality Levels of the there elements.

An evaluation of the data was completed to see if project size, plan quantity of HBP, had an effect on the Quality Level results. The larger projects did have higher Quality Level results but the difference was not significantly better than the smaller projects.

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Hot Bituminous Pavement Gradation Acceptance Review of QC/QA Data 2000 To 2002

by

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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 [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 [3-7]. These are available from the CDOT Library. The 1995 construction report [6] contains summaries for both QPM 1 & 2.

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.

This report summarizes the QC/QA data for hot bituminous paving projects using gradation acceptance for the years 2000 to 2002. A series of reports are generated for the data in each of these years. Reports evaluating the Percent Asphalt, Density, & Gradation elements are detailed by grading, region, & supplier. Recap reports for the region and supplier data are also presented. Charts comparing the Quality Level and Pay Factor information for the years 1991 to 1997 and 2000 to 2002 are displayed for the Percent Asphalt, Density, & Gradation elements.

2.0 CALCULATIONS

Specifications - Revision of Sections 105 and 106, Quality of Hot Bituminous Pavement. The revision to sections 105 & 106 governs the QC/QA calculations. A slight change to the calculation for Pay Factor was made 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. No

other changes have been made in any of the calculations since 1997. The calculation for Quality Levels has remained unchanged since the beginning. The specification has been revised numerous times over the years but the changes have not affected 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.

Process Quantities – Process quantities 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. Please see the Revision to Sections 105 & 106, Quality of Hot Bituminous Pavement for details on processes.

Quality Level – Quality Levels 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.

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. This calculation 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. An average unit price is calculated and used in the calculation. 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, summation of % Asphalt process quantities.

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

Where: UP_n = Unit Price for the process.
T_n = Tons represented by the process, Percent Asphalt element.

Note: The quantities used in the above calculations are the quantities represented in the Percent Asphalt test element. By using this quantity only, the calculation avoids having to average the quantities in the three test elements when the final element quantities are not equal. The quantity in the Percent Asphalt element appeared to most accurately represent the project's final quantity in a review of the project data.

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

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.

3.0 DESCRIPTION OF REPORTS

Report Criteria – At the beginning of each report the selection criteria are listed for the data contained in the report. The projects included in each report are first selected according to their Bid Dates. A Bid Date range is used in all of the reports. Quality Levels are not calculated on processes that contain less than three test results. Therefore, these processes are excluded from the reports that contain Quality Level calculations. A series of reports are also generated based on project size, plan quantity of HBP. 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 in this report will have associated tables that will give the number of samples included.

Calculated Pay Factor Composite by Supplier. This report lists project information sorted by supplier and then by Bid Date. The main purpose of this report is to track a supplier's performance through time. Information presented in the report includes: Subaccount, Bid Date, Region, Grading, Total Tons, Average Price, I/DP and Calculated Pay Factor Composite. A recap for each supplier is also presented.

Asphalt Content, Mat Density, Gradation – Process Information, & Gradation – Standard Deviation – Recap by Grading/Year/Region. A great amount of information is displayed in the recap reports. 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.

***Project Listing by Region/Subaccount*.** This report contains information for the projects included in the evaluation. 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 contains a region recap. A statewide recap is given at the end of the report.

Project Data. The Project Data report displays all of the QC/QA data for each project. This report is sorted by subaccount. The 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 project recaps is also presented. This report contains all the project's data. This 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 I/DP 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 Calculated Pay Factor Composite 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 isn't 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. This is a benefit of producing uniform material. 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

Process information for the Asphalt Content element is detailed in two reports. Information contained in the reports includes: Bid Date, Subaccount, Region, Plan Quantity, Grading, Price, Mix Design Number, Process Number, Quantity in Tons, Number of tests, Quality Level, Pay Factor, and Standard Deviation.

Asphalt Content – Process Information. Asphalt Content information is detailed in this report. The information is grouped by grading and sorted by Quality Level. 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

Process information for the Mat Density element is detailed in two reports. Information contained in the reports includes: Bid Date, Subaccount, Region, Plan Quantity, Grading, Price, Mix Design Number, Process Number, Quantity in Tons, Number of tests, Quality Level, Pay Factor, Standard Deviation, and Mean.

Mat Density – Process Information. Mat Density information is detailed in this report. The information is grouped by grading and sorted by Quality Level. 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 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. *Gradation Process Information* reports contain the Bid Date, Subaccount, Region, Plan Quantity, Grading, Price, Mix Design Number, Process Number, Quantity in Tons, Number of tests, Quality Level, Pay Factor, and Key Sieve. The *Gradation - Standard Deviation Information* reports contain the Bid Date, Subaccount, Region, Plan Quantity, Grading, Price, Quantity in Tons, Number of tests, Key Sieve, and the standard deviation for each of the specification sieves.

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. 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 the gradation element 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.

4.0 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.

5.0 DISCUSSION OF THE DATA

5.1 Projects Evaluated

Table 1 displays the number of projects and tons of material by year used in the evaluations. A relatively small number of projects were evaluated in the years 1992, 1993, & 1997. This may account for the high results presented in these years. The data for the years 1998 & 1999 was not maintained by the Pavement Management and Design Unit and is currently unavailable. Additional project data will be added to the database as the Pavement Management and Design Unit receives it.

Table 1. Projects Evaluated

	Projects			Tons		
Year	**Evaluated**	**Total**	**%**	**Evaluated**	**Plan**	**%**
1991				2,000,000	(Historical data)	
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	39	71	55%	946,321	1,593,330	59%
2001	33	53	62%	714,534	1,215,886	59%
2002	34	57	60%	705,392	1,337,877	53%

5.2 Calculated Pay Factor Composite

The Calculated Pay Factor Composite (CPFC) information for the years 2000 to 2002 is displayed in Report 1. The information is sorted by year and then by grading. The CPFC is an index of the overall quality of the pavement based on the test results in the three test elements. A CPFC above 1.0 indicates that an incentive payment was paid for the HBP. A CPFC below 1.0 shows 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 to 2002. The overall quality for the projects has increased in each of these years. The CPFC's for gradings S & SX are graphed in Figure 2. Grading SX has outperformed S each year and shows an increase in quality over the last three years.

The CPFC for grading S in 2002 is the lowest of the three years evaluated. The number of tons of grading S produced has decreased each year since 2000.

Calculated Pay Factor Composite by Year

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/02.
Projects with Plan Quantities 0 to 200000 tons.
Projects that contain more than one grading are EXCLUDED from this Report
PFC is back calculated from the Project's I/DP.

					CPFC	
Year 2000		**Projects**	**Tons**	**Average:**	**Maximum:**	**Minimum:**
	Grading: S	22	424,404	**0.99940**	1.04477	0.81968
	Grading: SX	16	422,396	**1.00516**	1.04569	0.91509
	Totals: 2000	38	846,800	**1.00183**	1.04569	0.81968

					CPFC	
Year 2001		**Projects**	**Tons**	**Average:**	**Maximum:**	**Minimum:**
	Grading: S	18	374,757	**1.00122**	1.03670	0.93018
	Grading: SX	14	347,042	**1.00991**	1.04596	0.95729
	Totals: 2001	32	721,799	**1.00502**	1.04596	0.93018

					CPFC	
Year 2002		**Projects**	**Tons**	**Average:**	**Maximum:**	**Minimum:**
	Grading: S	16	127,932	**0.98955**	1.04300	0.83596
	Grading: SMA	1	19,785	**1.03381**	1.03381	1.03381
	Grading: SX	15	447,049	**1.02582**	1.04708	0.99725
	Totals: 2002	32	594,766	**1.00794**	1.04708	0.83596

Calculated Pay Factor 1/1/00 to 12/31/02.Plan Quantities 0 to 200000 tons.

			CPFC	
Tons	**Average:**	**Maximum:**	**Minimum:**
2,163,365	**1.00475**	1.04708	0.81968

Report 1. Calculated Pay Factor Composite by Year and Grading

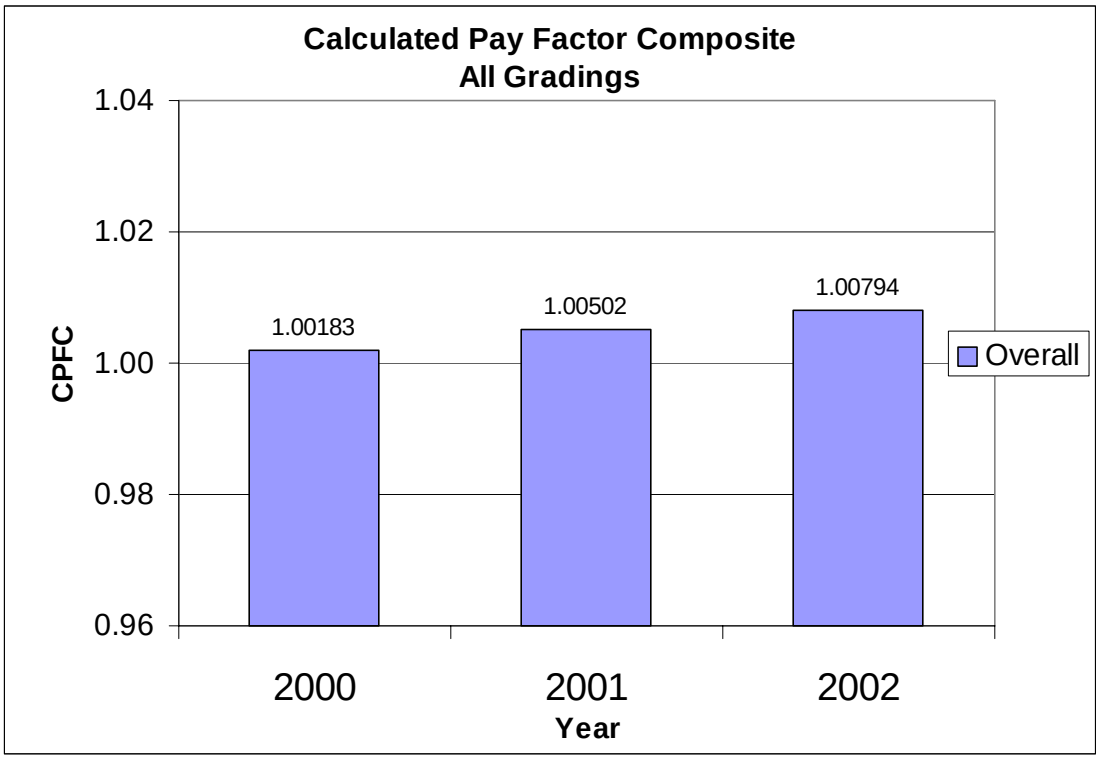


Figure 1. Calculated Pay Factor Composite by Year

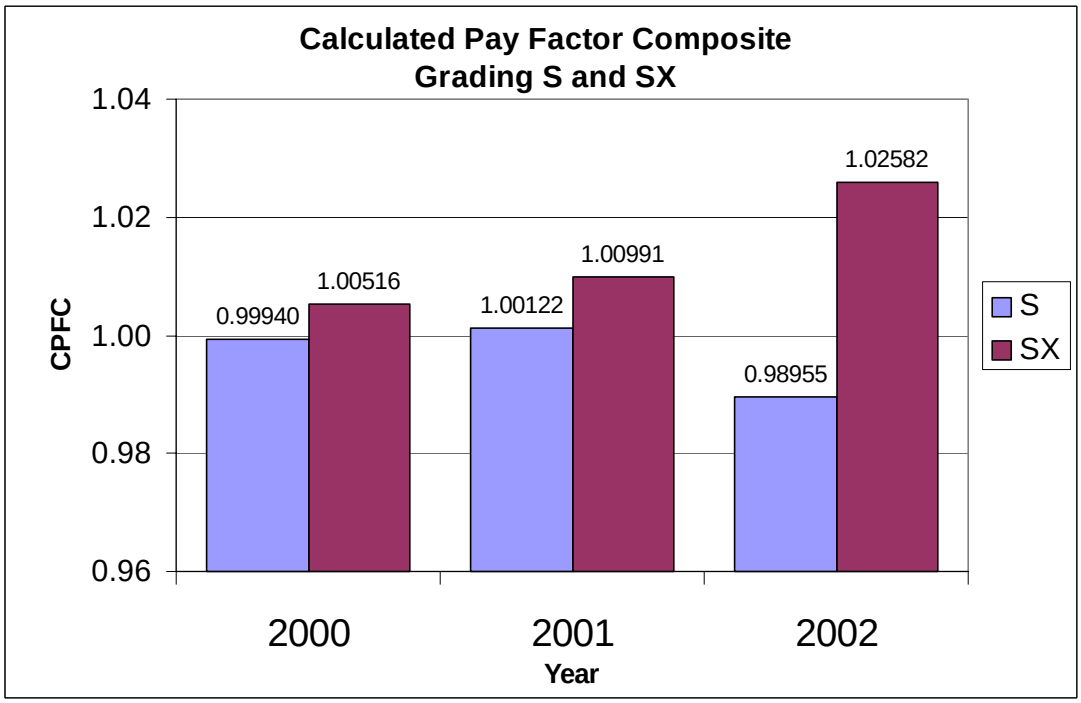


Figure 2. Calculated Pay Factor Composite by Year, Grading S & SX

5.3 Incentive/Disincentive Payments

A recap of the Incentive/Disincentive Payments for the years 2000 to 2002 is presented in Table 2. A summation of the I/DP's is shown for each year. The Maximum and Minimum I/DP's for the year are also displayed. An average I/DP is also calculated. The net amount paid in I/DP's has increased each year. The average I/DP paid has increased over $10,000.00 in 2002 as compared to 2000. Report 10 in Appendices B, C, & D gives a detailed report on the I/DP's for each year.

Table 2. Incentive/Disincentive Payments – Recap by Year

2000		**Incentive/Disincentive Payment**	
Number of Projects	39	Sum I/DP's	$235,928.66
Positive I/DPs	24	Maximum	$77,150.01
Negative I/DPs	15	Minimum	($161,120.55)
Total Tons	905,343	Average I/DP	$6,049.45

2001		**Incentive/Disincentive Payment**	
Number of Projects	33	Sum I/DP's	$473,854.44
Positive I/DPs	22	Maximum	$110,449.67
Negative I/DPs	11	Minimum	($47,508.28)
Total Tons	748,852	Average I/DP	$14,359.23

2002		**Incentive/Disincentive Payment**	
Number of Projects	34	Sum I/DP's	$557,234.58
Positive I/DPs	26	Maximum	$74,852.29
Negative I/DPs	8	Minimum	($30,824.74)
Total Tons	703,293	Average I/DP	$16,389.25

5.4 Calculated Pay Factor Composite by Year and Region

The Calculated Pay Factor Composite information sorted by region for the years 2000 to 2002 is contained in Report 2. The maximum and minimum CPFC are also displayed for each region. Figure 3 displays the results for the years 2000 to 2002. Figures are not displayed for individual years since the number of projects is small in some instances.

Calculated Pay Factor Composite by Year/Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/02.
Projects with Plan Quantities 0 to 200000 tons.
PFC is back calculated from the Project's I/DP
A Calculated Average Unit Price is used in the calculation

2000	Region	Projects	Tons	Average I/DP	Calculated Pay Factor Composite Average	Minimum	Maximum
	1	8	162,469	$13,707.30	1.00547	0.91509	1.04477
	2	10	200,128	$3,785.34	0.98546	0.81968	1.04209
	3	13	404,329	$4,755.89	1.01418	0.96192	1.04569
	4	1	25,499	($3,851.44)	0.99692	0.99692	0.99692
	5	2	50,891	$15,548.60	1.01011	1.00459	1.01563
	6	5	62,027	($131.11)	0.99619	0.97634	1.01977

2001	Region	Projects	Tons	Average I/DP	Calculated Pay Factor Composite Average	Minimum	Maximum
	1	2	40,259	$3,770.15	1.00528	0.99761	1.01295
	2	12	220,326	$3,867.65	0.99097	0.93018	1.03508
	3	12	286,042	$19,501.19	1.01088	0.97675	1.04384
	4	1	27,853	$30,763.32	1.03670	1.03670	1.03670
	5	3	88,053	$18,146.70	1.00831	0.95729	1.04596
	6	3	86,319	$33,561.55	1.02765	1.02250	1.03195

2002	Region	Projects	Tons	Average I/DP	Calculated Pay Factor Composite Average	Minimum	Maximum
	1	7	177,270	$13,566.98	1.01805	0.98954	1.04708
	2	7	57,979	$6,569.96	1.00779	0.92137	1.03800
	3	4	169,704	$50,358.93	1.03161	1.00979	1.04191
	4	3	61,216	$22,991.67	1.02249	1.00926	1.03345
	5	5	105,795	$19,089.59	1.02506	1.01341	1.03800
	6	8	131,329	$6,302.17	0.97114	0.83596	1.03381

2000 to 2002	Region	Projects	Tons	Average I/DP	Calculated Pay Factor Composite Average	Minimum	Maximum
	1	17	379,998	$12,480.44	1.01063	0.91509	1.04708
	2	29	478,433	$4,491.55	0.99313	0.81968	1.04209
	3	29	860,075	$17,147.47	1.01522	0.96192	1.04569
	4	5	114,568	$19,177.38	1.02022	0.99692	1.03670
	5	10	244,739	$18,098.53	1.01705	0.95729	1.04596
	6	16	279,675	$9,402.91	0.98957	0.83596	1.03381

Report 2. Calculated Pay Factor Composite by Year/Region

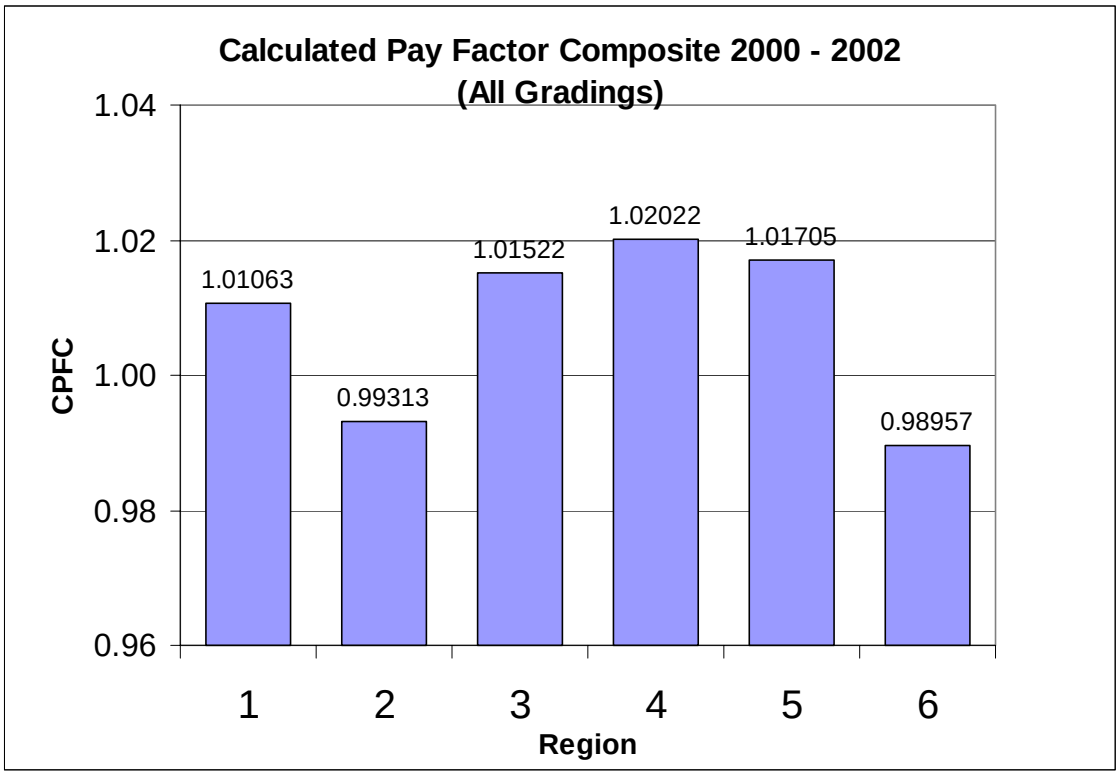


Figure 3. Calculated Pay Factor Composite 2000 to 2002 by Region

5.5 Recap of Data 1991 to 2002 - Percent Asphalt, Density, & Gradation

The overall results, all grading included, for each of the test elements for the years 1991 to 2002 are listed in Table 3. The Quality Level and Pay Factor for each element are calculated. The standard deviation is displayed for the Percent Asphalt and Density elements. To review the standard deviation information for the gradation element please check the *Gradation – Standard Deviation Information by Grading/Year/Region* or *Gradation – Standard Deviation Recap by Region* reports contained in appendices B, C, & D of this report. The Percent Asphalt element has remained fairly constant over the last three years. There has been little change in the Quality Level, Pay Factor or Standard Deviation results for this element. This element continues to have good Quality Levels. The density element has shown improvements over the last three years and good results compared to earlier years. The results for the year 2002 show the best performance of this element in any of the years reported. The mean values

continue to move towards the target value of the specification, 94 percent compaction. The Quality Levels reported in the gradation element continue to be below that of the other elements. The results do show a slight improvement in quality over the last three years. The overall Pay Factor for this element is only slightly above the neutral amount of 1.0. Figures 4 – 9 graphically display the Quality Level and Pay Factor information for each of the elements contained in Table 3.

Table 3. Recap of Yearly Data by Test Element

Percent Asphalt

Year	Tons	Quality Level	Pay Factor	Std Dev
1991	2,000,000	87.000	1.00000	0.180
1992	282,000	96.300	1.04200	0.140
1993	482,000	93.200	1.02800	0.150
1994	1,496,000	90.600	1.02200	0.150
1995	1,104,000	86.872	0.99508	0.173
1996	830,000	89.800	1.00800	0.160
1997	378,000	91.980	1.01900	0.150
2000	885,117	90.223	1.01444	0.154
2001	739,129	91.288	1.01892	0.152
2002	699,462	90.681	1.01524	0.160

Density

Year	Tons	Quality Level	Pay Factor	Std Dev	Mean
1991	900,000	84.000	0.96000	1.050	
1992	282,000	88.900	0.99000	1.000	
1993	482,000	92.400	1.01800	0.960	
1994	1,400,000	90.310	1.00700	0.958	
1995	1,071,000	84.208	0.96964	1.096	
1996	830,000	91.900	1.01500	0.910	
1997	343,000	93.765	1.01900	0.910	
2000	821,123	91.398	1.01462	0.937	93.510
2001	665,400	93.354	1.02836	0.965	93.800
2002	636,446	94.894	1.03643	0.900	93.880

Gradation

Year	Tons	Quality Level	Pay Factor
1991	2,000,000	85.700	0.98900
1992	282,000	90.000	1.01400
1993	482,000	88.800	1.01000
1994	1,496,000	88.300	1.01400
1995	1,104,000	87.771	1.00757
1996	830,000	89.600	1.01200
1997	378,000	82.556	0.98100
2000	847,126	85.088	1.00272
2001	688,677	85.679	1.00468
2002	641,668	88.925	1.01431

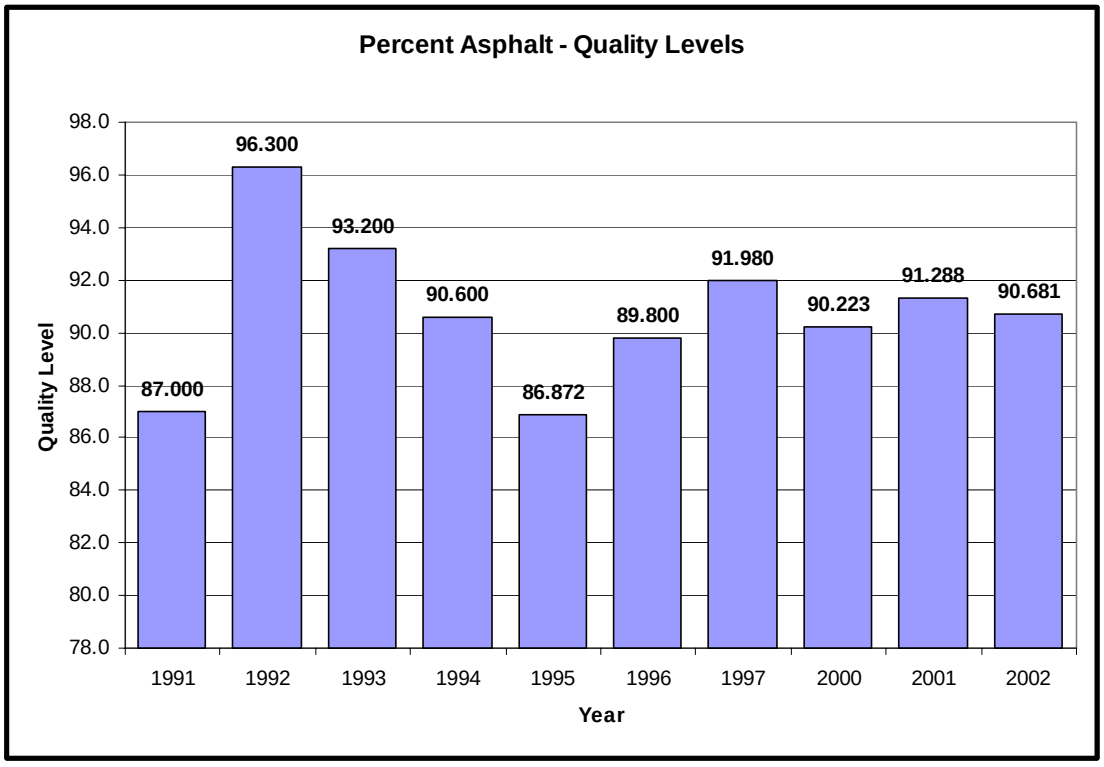


Figure 4. Percent Asphalt Quality Levels

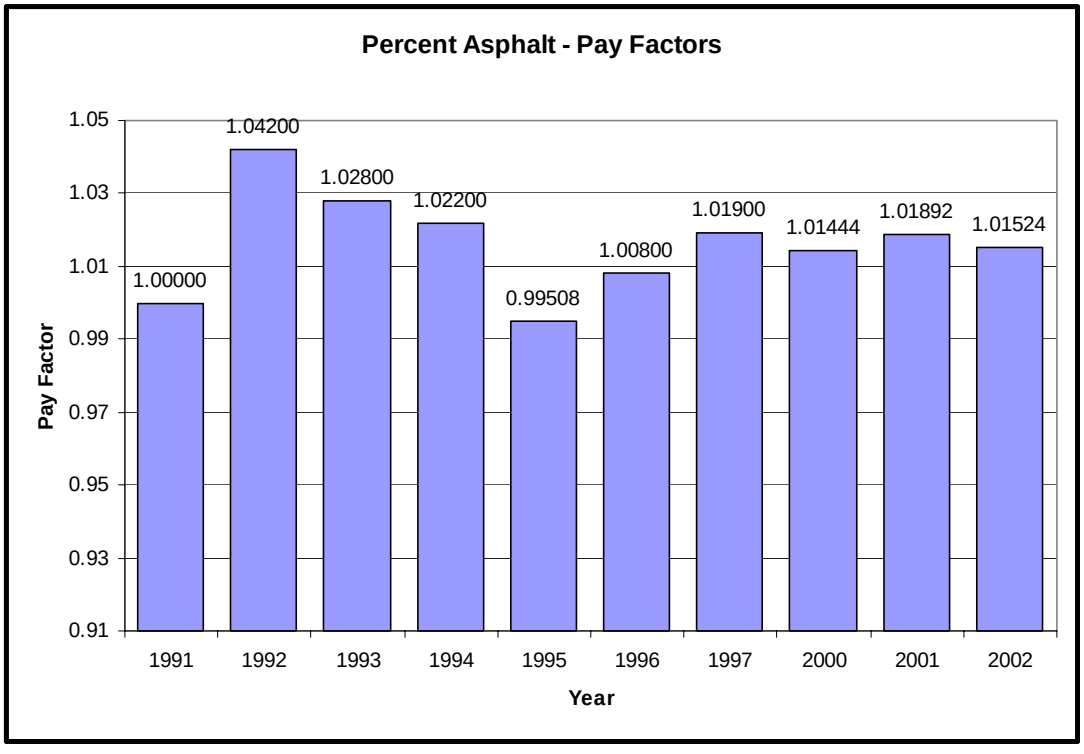


Figure 5. Percent Asphalt Pay Factors

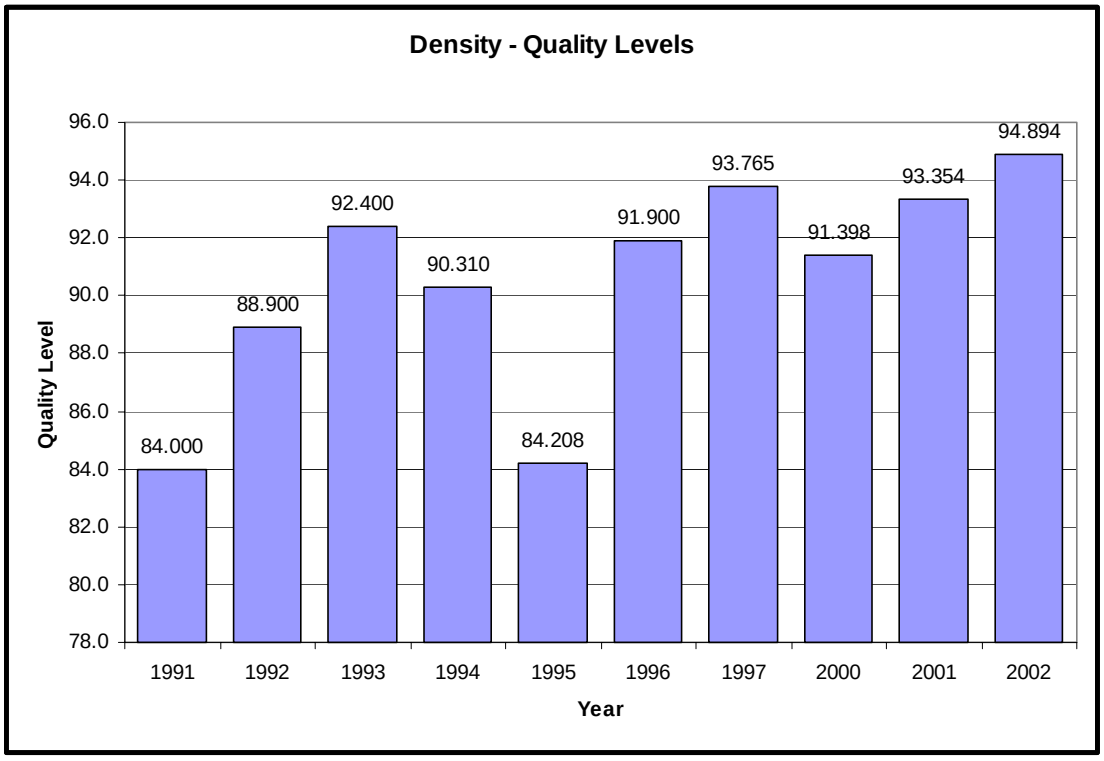


Figure 6. Density Quality Levels

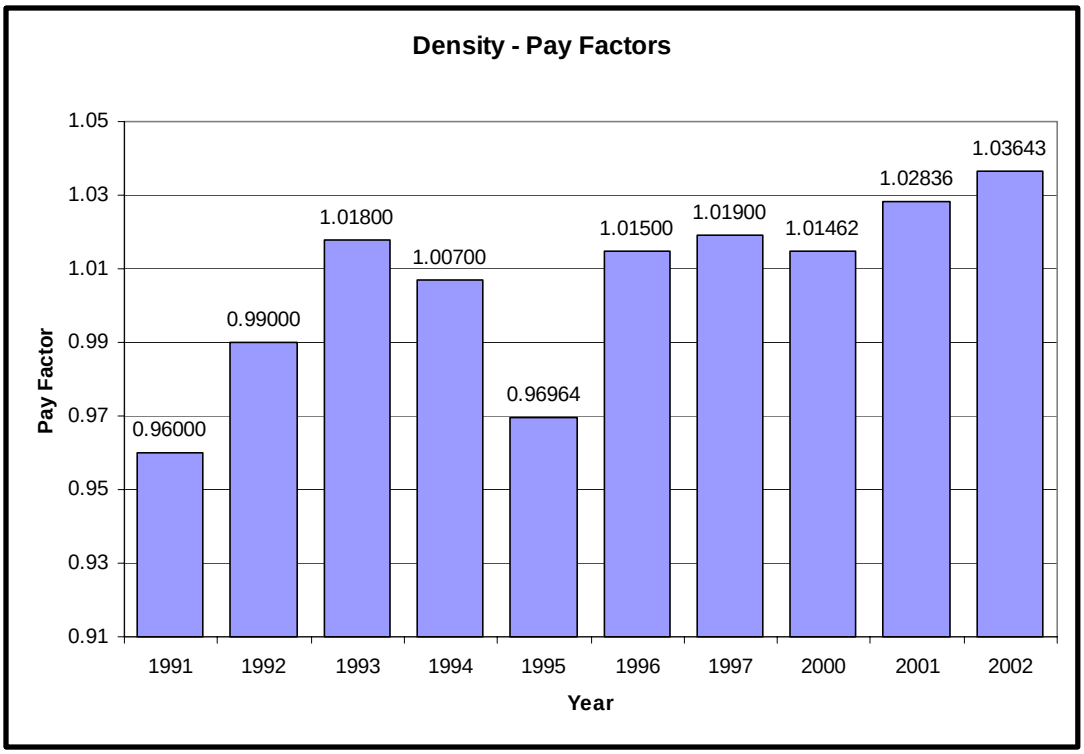


Figure 7. Density Pay Factors

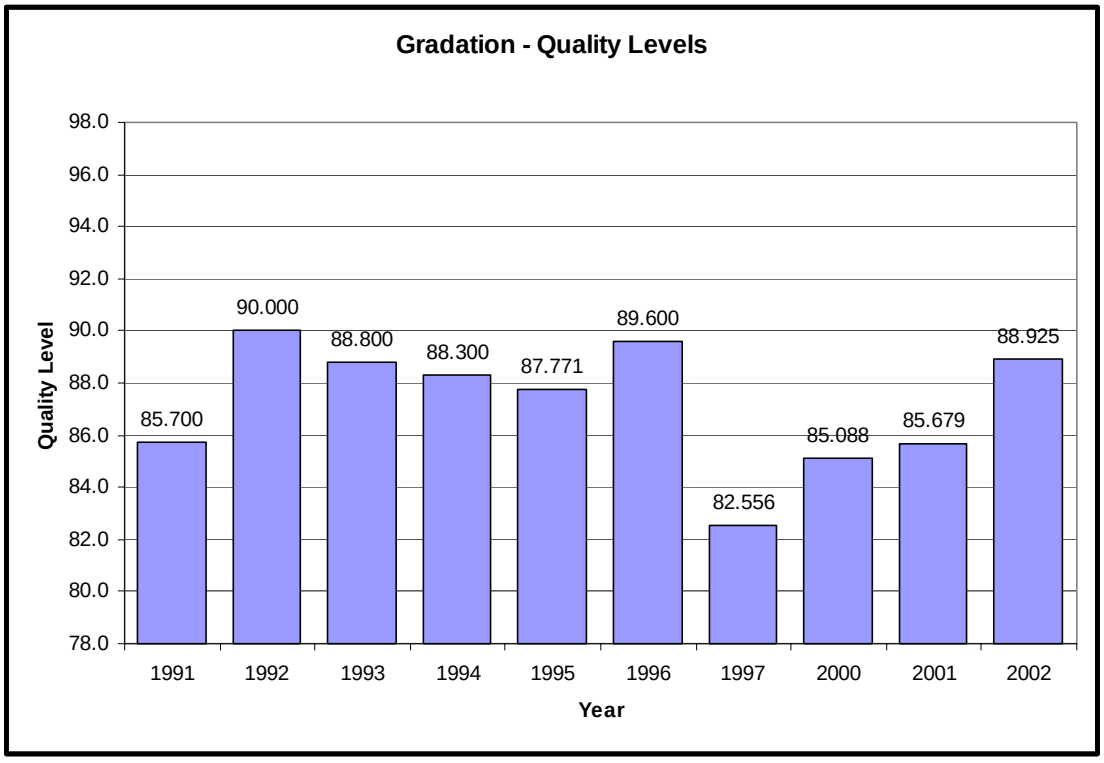


Figure 8. Gradation Quality Levels

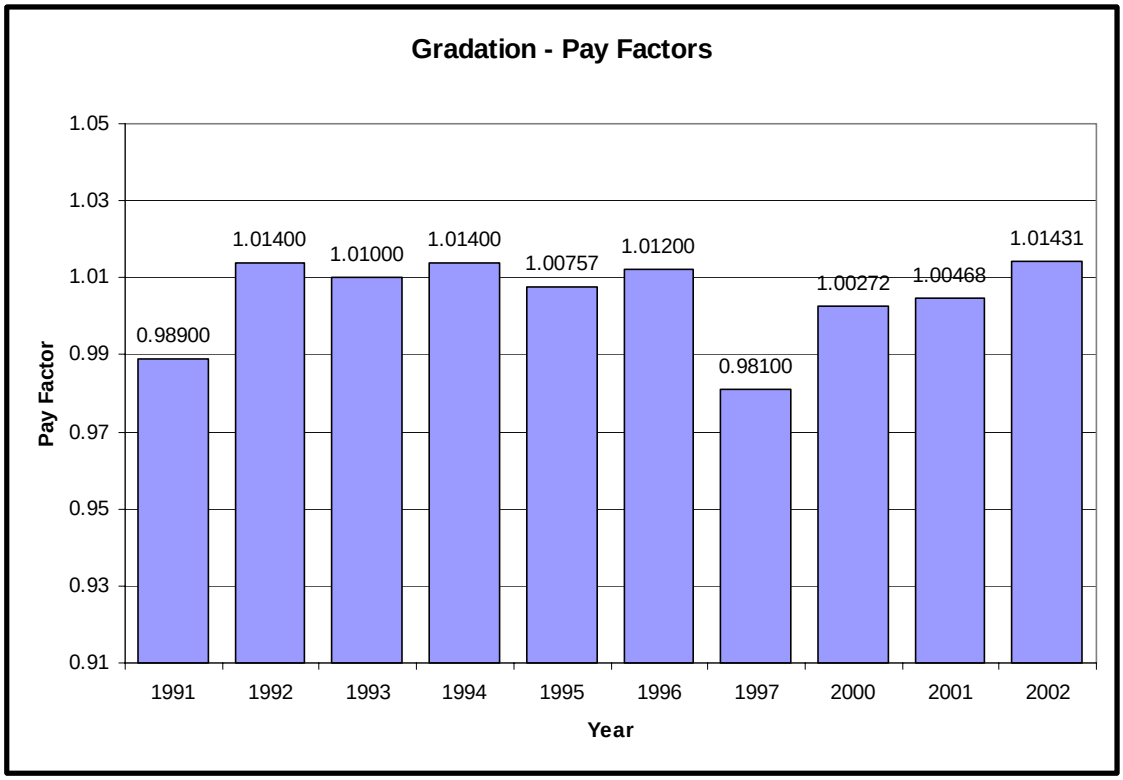


Figure 9. Gradation Pay Factors

5.6 Test Element Quality Levels 2000 to 2002

The Quality Levels for the three test elements for the years 2000 to 2002 are displayed in Figure 10. The Quality Levels for the density element are the highest of any of the elements. The Quality Levels for the Asphalt Content element are the next highest. The gradation element ranks last for each of the years. The ranking of the elements by Quality Level places them in the same order as the weight that is given to the element: 50% Density, 30% Percent Asphalt, & 20% Gradation.

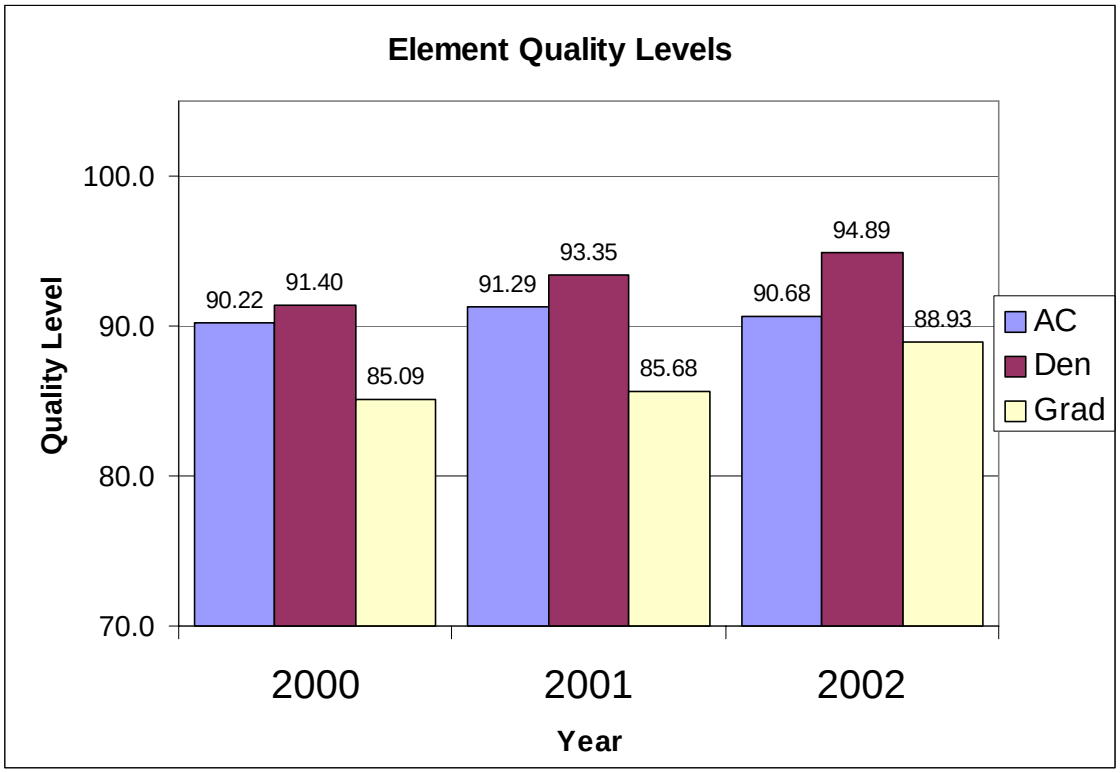


Figure 10. Quality Levels by Test Element

5.7 Test Element Quality Levels For Gradings S & SX 2000 to 2002

Information for the three test elements grouped by year for gradings S and SX is detailed in Table 4. Figures 11 to 13 graphically present the Quality Level information for each element. The results for the Percent Asphalt element show both increases and decreases in the Quality Level in both gradings. A slight improvement in Quality Level is indicated but the amount is not very significant. The density element does show an

improvement in Quality Levels. There is a definite upward trend noticed in grading SX. For grading S there is a slight dip in the results for 2002 as compared to 2001 but the result is still greater than reported in 2000. In the Gradation element there is a definite upward trend shown for grading SX. The results for Grading S held mostly constant with a slight dip in Quality Level seen in 2001.

Table 4. Review of Test Elements – Gradings S & SX

Percent Asphalt

	Grading S				Grading SX			
Year	No. of Proces	Total Tons	QL	PF	No. of Proces	Total Tons	QL	PF
2000	33	416,588	88.866	1.00864	38	451,496	92.107	1.02238
2001	30	369,043	87.541	1.00327	34	366,960	94.981	1.03460
2002	25	149,858	90.838	1.01510	26	462,837	91.333	1.01774
Totals	88	935,489	88.659	1.00756	98	1,281,293	92.651	1.02420

Density

	Grading S				Grading SX			
Year	Proces	Tons	QL	PF	Proces	Tons	QL	PF
2000	34	385,506	92.015	1.02019	36	418,584	90.848	1.00897
2001	32	370,935	94.141	1.03269	26	294,465	92.362	1.02291
2002	27	147,572	92.455	1.02325	23	402,107	96.491	1.04517
Totals	93	904,013	92.959	1.02582	85	1,115,156	93.283	1.02570

Gradation

	Grading S				Grading SX			
Year	Proces	Tons	QL	PF	Proces	Tons	QL	PF
2000	31	407,353	86.711	1.01198	31	428,698	83.782	0.99470
2001	23	347,638	84.007	0.99914	27	341,039	87.383	1.01032
2002	12	111,924	86.355	0.98884	21	442,979	89.680	1.02058
Totals	66	866,915	85.581	1.00384	79	1,212,716	86.949	1.00855

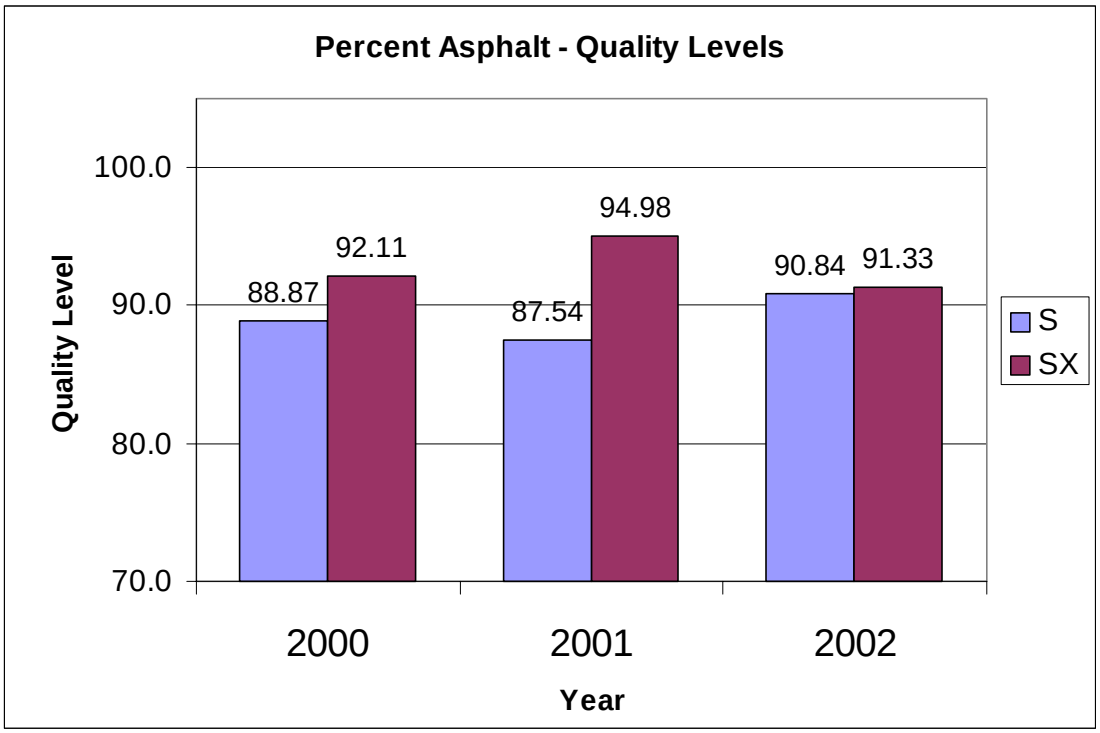


Figure 11. Percent Asphalt Quality Levels – Gradings S & SX

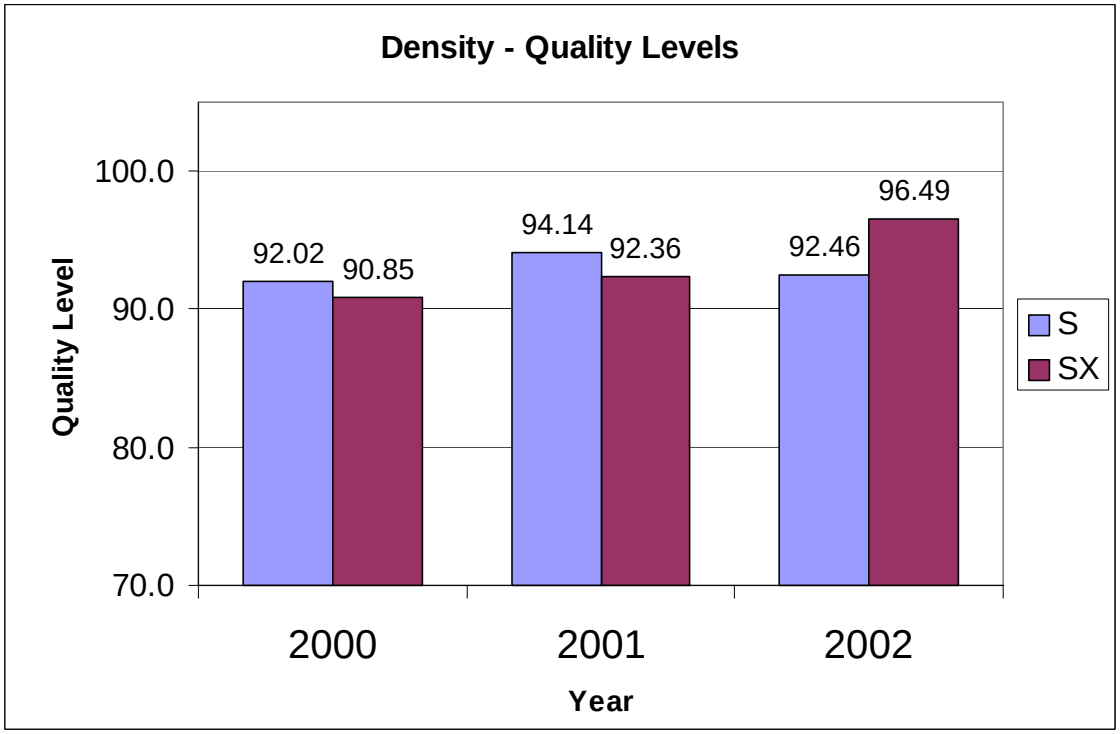


Figure 12. Density Quality Levels – Gradings S & SX

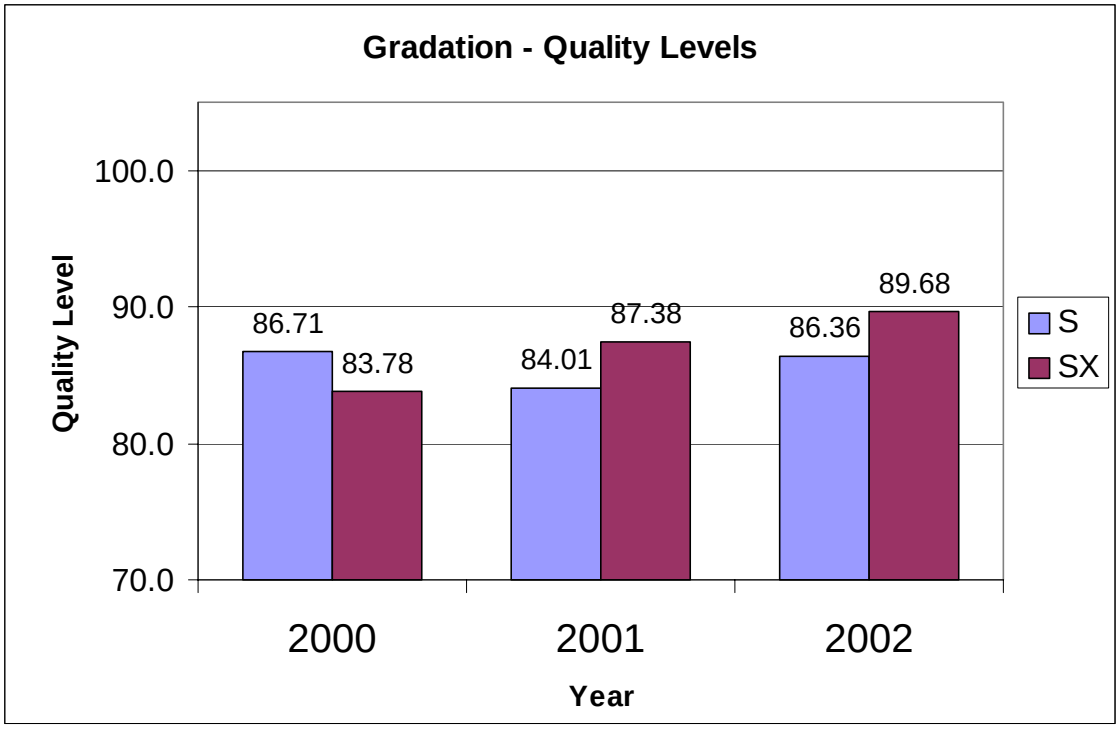


Figure 13. Gradation Quality Levels – Gradings S & SX

5.8 Evaluation of Test Elements by Project Size

An evaluation of the data was completed to see if project size, plan quantity of HBP, had any effect on the Quality Level results. The projects were grouped by size for the years 2000 to 2002. Three groupings were developed: small (less than 10,000 tons), medium (10,000 to 25,000 tons), & large (greater than 25,000 tons). Over the three-year period approximately one third of the total projects fell into each of the groupings. The results for each element are detailed in Tables 5, 6, & 7. There are two figures for each of the elements that show the Quality Levels and Pay Factors for the years 2000 to 2002. There does appear to be a correlation between project size and Quality Level results in each of the elements, larger projects performing better. However, the difference between the small and large projects does not appear to be significantly great.

Table 5. Evaluation of Test Elements by Project Size
Percent Asphalt

		Grading S				Grading SX			
Year	Project Quantity	No. of Proces	Total Tons	QL	PF	No. of Proces	Total Tons	QL	PF
2000	< 10k	6	30,940	75.944	0.95527	4	14,563	92.974	1.01717
	10k - 25k	20	192,104	85.144	0.99219	8	99,165	92.213	1.02305
	> 25k	7	193,544	94.626	1.03350	26	337,768	92.038	1.02241
	Totals 00	33	416,588	88.866	1.00864	38	451,496	92.107	1.02238
2001	< 10k	7	35,634	81.293	0.98740	6	15,837	91.060	1.02469
	10k - 25k	11	109,284	86.880	1.00501	18	124,805	88.672	1.00488
	> 25k	12	224,125	88.857	1.00495	10	226,318	98.735	1.05169
	Totals 01	30	369,043	87.541	1.00327	34	366,960	94.981	1.03460
2002	< 10k	16	55,680	90.431	1.01327	3	11,307	88.403	1.02207
	10k - 25k	8	68,421	89.948	1.00710	8	69,281	83.805	0.98259
	> 25k	1	25,757	94.082	1.04030	15	382,249	92.784	1.02398
	Totals 02	25	149,858	90.838	1.01510	26	462,837	91.333	1.01774
00-02	< 10k	29	122,254	84.101	0.99105	13	41,707	91.008	1.02135
	10k - 25k	39	369,809	86.546	0.99874	34	293,251	88.720	1.00576
	> 25k	20	443,426	91.678	1.01947	51	946,335	93.941	1.03004
	Totals	88	935,489	88.659	1.00756	98	1,281,293	92.651	1.02420

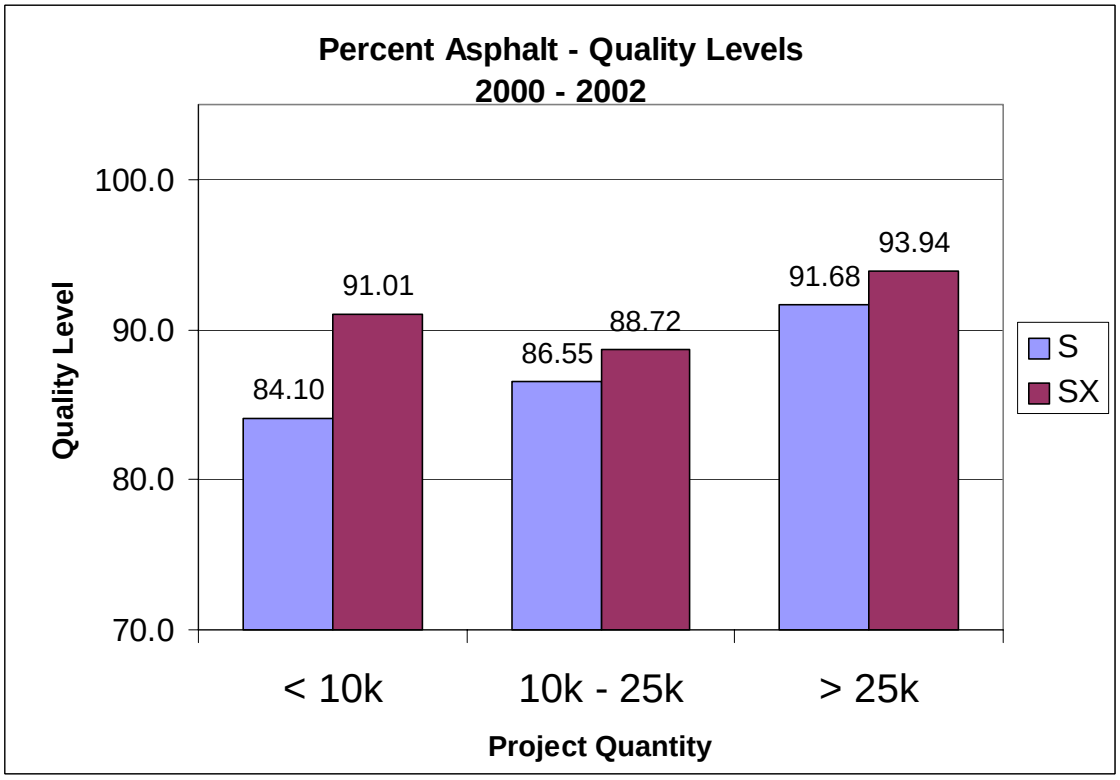


Figure 14. Percent Asphalt Quality Levels by Project Size

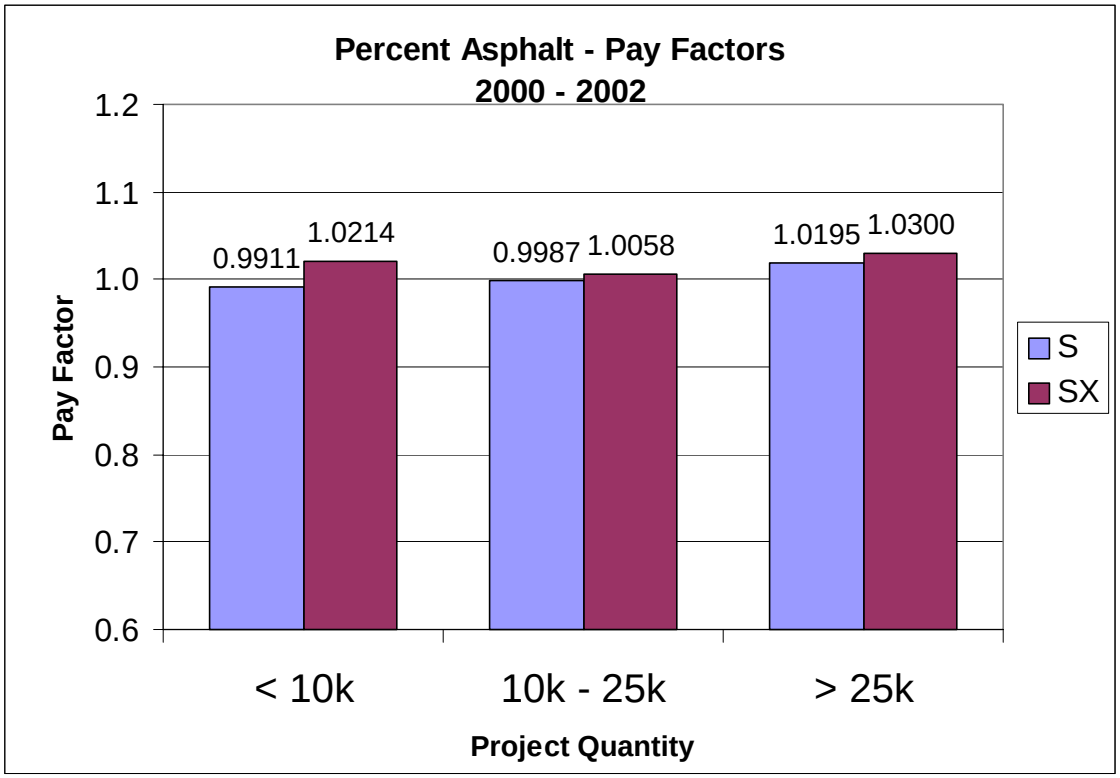


Figure 15. Percent Asphalt Pay Factors by Project Size

Table 6. Evaluation of Test Elements by Project Size
Mat Density

		Grading S				Grading SX			
Year	Project Quantity	No. of Proces	Total Tons	QL	PF	No. of Proces	Total Tons	QL	PF
2000	< 10k	6	32,512	93.911	1.03562	4	13,977	81.763	0.96831
	10k - 25k	21	160,850	91.453	1.02173	7	85,418	95.479	1.03921
	> 25k	7	192,144	92.165	1.01629	25	319,189	90.006	1.00266
	Totals 00	34	385,506	92.015	1.02019	36	418,584	90.848	1.00897
2001	< 10k	8	37,633	90.789	1.01334	4	9,872	86.048	0.98992
	10k - 25k	13	110,677	91.755	1.02099	15	93,959	91.731	1.02054
	> 25k	11	222,625	95.894	1.04178	7	190,634	93.000	1.02579
	Totals 01	32	370,935	94.141	1.03269	26	294,465	92.362	1.02291
2002	< 10k	18	58,395	88.758	1.00705	3	10,807	95.252	1.03993
	10k - 25k	8	63,420	95.795	1.03844	8	68,276	96.152	1.04319
	> 25k	1	25,757	92.614	1.02256	12	323,024	96.605	1.04576
	Totals 02	27	147,572	92.455	1.02325	23	402,107	96.492	1.04517
00-02	< 10k	32	128,540	90.656	1.01612	11	34,656	87.190	0.99680
	10k - 25k	42	334,947	92.375	1.02465	30	247,653	94.243	1.03322
	> 25k	19	440,526	94.075	1.02954	44	832,847	93.251	1.02467
	Totals	93	904,013	92.959	1.02582	85	1,115,156	93.283	1.02570

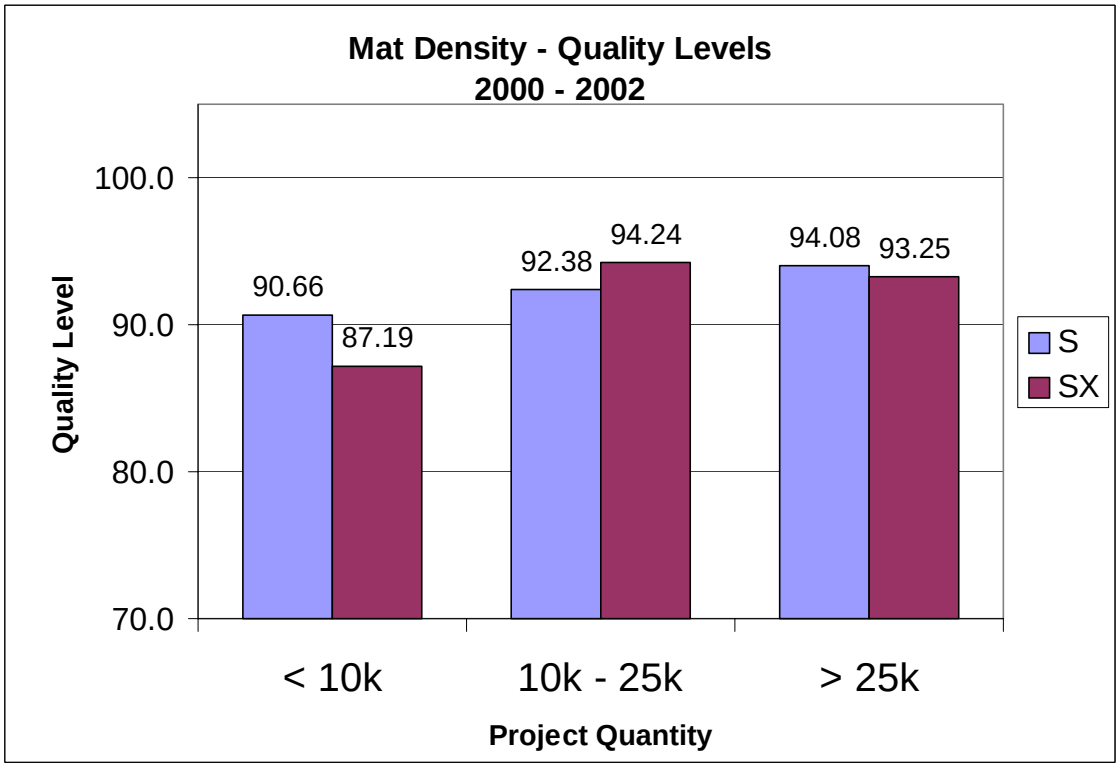


Figure 16. Mat Density Quality Levels by Project Size

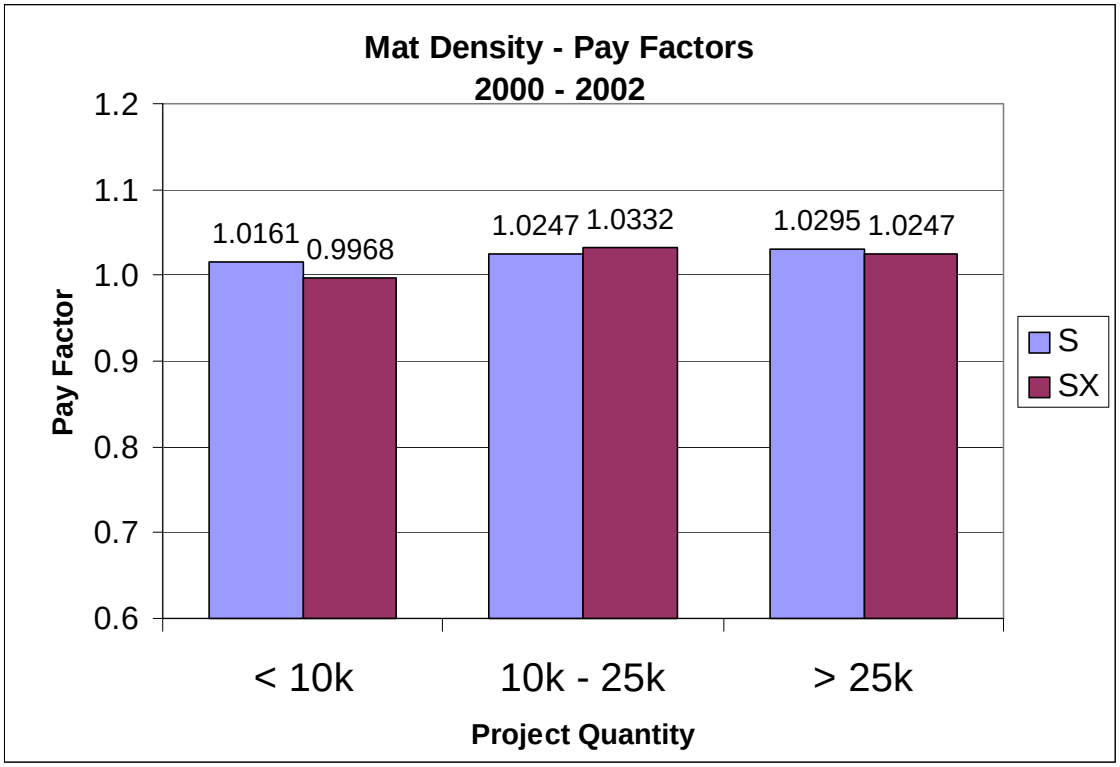


Figure 17. Mat Density Pay Factors by Project Size

Table 7. Evaluation of Test Elements by Project Size Gradation

Year	Project Quantity	Grading S				Grading SX			
		No. of Proces	Total Tons	QL	PF	No. of Proces	Total Tons	QL	PF
2000	< 10k	5	29,781	79.909	0.93631	2	8,208	61.392	0.96027
	10k - 25k	19	185,028	82.970	1.00621	8	101,165	77.589	0.96442
	> 25k	7	192,544	91.357	1.02923	21	319,325	86.320	1.00517
	Totals 00	31	407,353	86.711	1.01198	31	428,698	83.782	0.99469
2001	< 10k	4	26,879	88.119	1.01749	3	6,856	89.942	1.02631
	10k - 25k	9	98,846	77.403	0.98319	14	109,865	81.587	0.99238
	> 25k	10	221,913	86.450	1.00402	10	224,318	90.143	1.01862
	Totals 01	23	347,638	84.007	0.99914	27	341,039	87.383	1.01032
2002	< 10k	4	21,044	88.356	1.02296	1	5,328	100.000	1.02500
	10k - 25k	7	65,123	80.976	0.95560	7	64,527	75.212	0.97596
	> 25k	1	25,757	98.319	1.04500	13	373,124	92.034	1.02823
	Totals 02	12	111,924	86.355	0.98884	21	442,979	89.679	1.02058
00-02	< 10k	13	77,704	85.037	0.98786	6	20,392	81.078	0.99939
	10k - 25k	35	348,997	81.021	0.99024	29	275,557	78.626	0.97827
	> 25k	18	440,214	89.291	1.01745	44	916,767	89.581	1.01785
	Totals	66	866,915	85.580	1.00384	79	1,212,716	86.949	1.00855

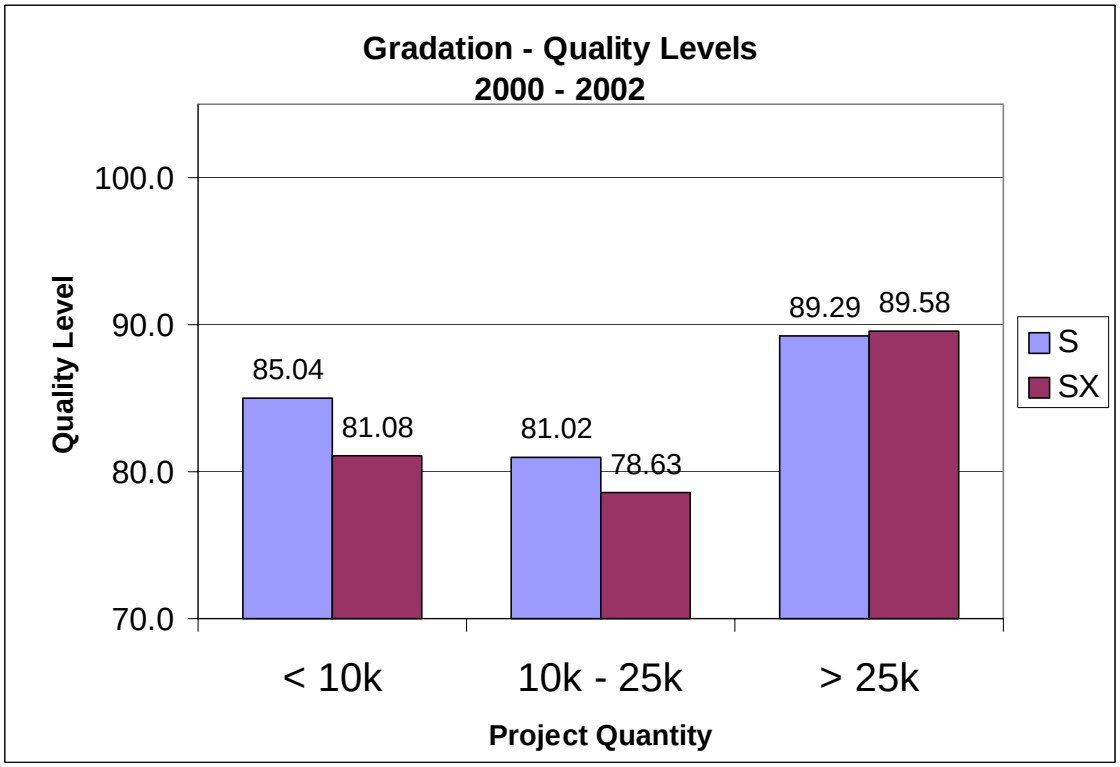


Figure 18. Gradation Quality Levels by Project Size

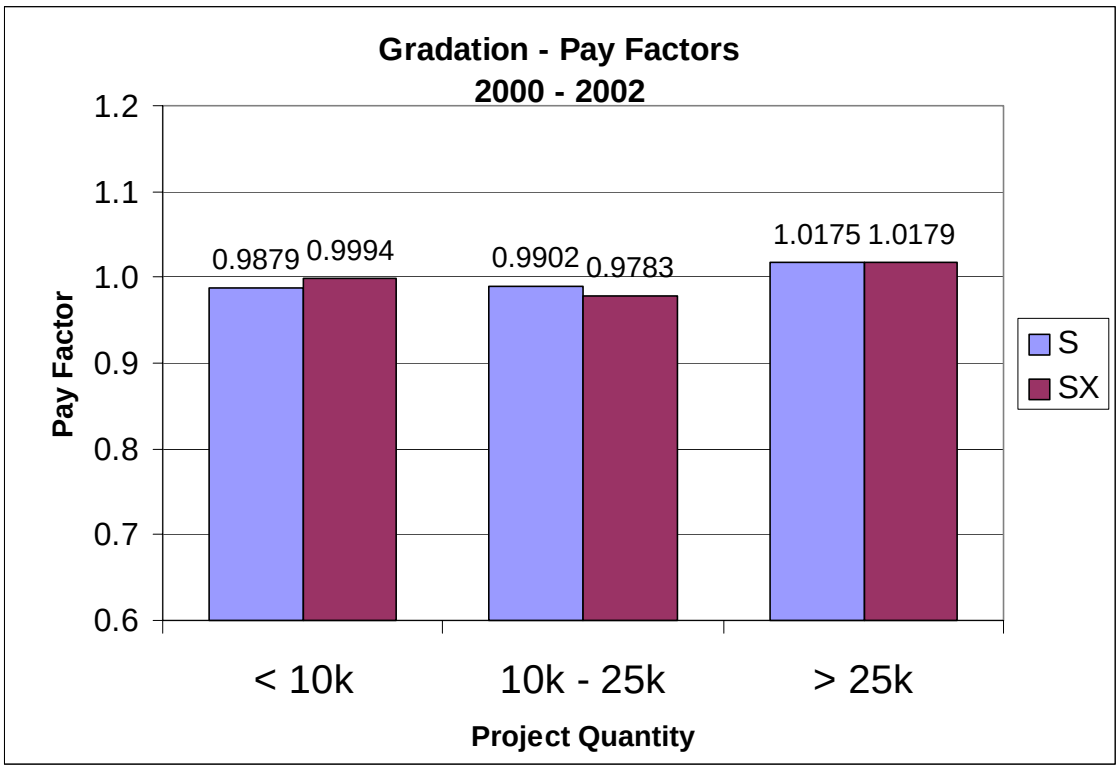


Figure 19. Gradation Pay Factors by Project Size

5.9 Supplier Performance

Report 3 that appears in Appendix A details the supplier's performance for the three-year period 2000 to 2002. It is hoped that through time the supplier's results would increase. The report is sorted by supplier and then by project bid date. The results of this review are mixed at best. No clear trend can be established for any of the suppliers. The report does a better job of giving an overall evaluation of the supplier's performance for the time period.

5.10 Recap Reports, 2000 to 2002 Data

A great amount of information is presented in Reports 4 – 7 in Appendix A. A recap report for each of the test elements for the years 2000 to 2002 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.

5.11 Yearly Reports

Appendices B, C , & D contain a series of detailed reports for each of the years 2000 to 2002. A project listing is generated for each year showing the projects evaluated. The Project Data report contains all of the test data for each project. This is the best report to review when concerned about any single project. 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.

6.0 CONCLUSIONS

Overall the quality of hot bituminous pavement has shown improvement in the years 2000 to 2002. When evaluating the overall results for the projects, by looking at the Calculated Pay Factor Composite, there has been improvement shown in each year since 2000. Measurable improvement has been seen in the density element. The Quality Levels for this element continue to improve. The mean for the test results also continues to move towards the target value for the specification, 94 percent compaction. The results for 2002 are the best of any year evaluated for this element. This element has the best Quality Level results of any of the test elements. The gradation element shows slight improvements since 2000. The results for 2002 are the highest of any year in which a large number of projects were evaluated. However, this element continues to rank last in Quality Level results as compared to the other elements. The Pay Factor for this element continues to be around the neutral amount of 1.0. The results in the percent asphalt element have remained constant. The Quality Levels have moved both up and down for this element and continue to be in the range between 90.2 and 91.3. Of the two major mixes used, grading SX has shown better test results than S in each year when reviewing the Calculated Pay Factor Composite. The same holds true for most of the years when reviewing the element Quality Levels. The projects from 2000 to 2002 were reviewed to see if the size of the project, plan quantity of hot bituminous pavement, made a difference in the Quality Level results. There does seem to be a correlation between project size and Quality Level results, larger projects performing better. However, the smaller projects' performance was only slightly below that of the larger projects.

7.0 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.

Appendix A
Recap Reports for Project Data 2000 to 2002

Calculated Pay Factor Composite by Supplier

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/02.

Projects with Plan Quantities from 0 to 200000 tons.

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

A Calculated Average Unit Price is used in the calculation.

Supplier: 8

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13505	02/01/01	5	SX	32,607	$34.12	($47,508.28)	0.95729

Maximum: 0.95729

Number of Projects: 1 Total Tons: 32,607 Minimum: 0.95729

Average: 0.95729

Supplier: 10

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
92054	09/21/00	6	S	14,826	$39.40	($13,823.66)	0.97634

Maximum: 0.97634

Number of Projects: Total Tons: 14,826 Minimum: 0.97634

Average: 0.97634

Supplier: 11

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13325	03/15/01	3	SX	59,794	$34.57	$90,629.19	1.04384
13880	02/28/02	5	SX	58,169	$37.22	$41,488.59	1.01916
13551	03/07/02	3	SX	45,607	$35.69	$68,219.76	1.04191
13017	08/22/02	5	SX	2,667	$53.70	$1,921.18	1.01341

Maximum: 1.04384

Number of Projects: 4 Total Tons: 166,237 Minimum: 1.01341

Average: 1.02958

Supplier: 12

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13106	01/04/01	3	SX	13,023	$41.15	$12,363.11	1.02307
13328	01/18/01	3	SX	2,340	$55.90	$981.04	1.00750
13525	01/18/01	3	SX	3,175	$59.15	$1,690.25	1.00900
13112	02/15/01	3	SX	12,935	$37.64	($11,319.84)	0.97675
12305	05/17/01	3	SX	6,856	$57.73	($597.29)	0.99849
13087	07/19/01	3	SX	19,340	$44.50	($1,619.22)	0.99812
12798	01/31/02	5	SX	3,312	$67.20	$5,310.01	1.02386
14046	07/11/02	5	SX	36,319	$32.46	$36,402.52	1.03088

Maximum: 1.03088
Number of Projects: 8 Total Tons: 97,300 Minimum: 0.97675
Average: 1.00846

Supplier: 13

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13024	01/06/00	1	S	14,820	$40.31	($11,154.57)	0.98133
13435	01/31/02	1	SX	21,671	$44.78	($2,667.00)	0.99725
13854	12/05/02	1	SMA	47,602	$44.62	($22,222.33)	0.98954

Maximum: 0.99725
Number of Projects: 3 Total Tons: 84,093 Minimum: 0.98133
Average: 0.98937

Supplier: 14

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
12598	03/23/00	2	S	40,822	$37.50	$46,225.48	1.03020
12362	07/20/00	1	S	16,000	$41.00	$22,940.43	1.03730
13008	01/25/01	1	S	23,373	$45.00	($2,511.60)	0.99761
13109	03/08/01	3	F	27,053	$36.66	$16,617.00	1.01676
13108	06/14/01	3	SX	81,937	$38.20	$110,449.67	1.03528
13340	01/24/02	6	S	4,000	$38.00	($12,061.20)	0.93652

Maximum: 1.03730
Number of Projects: 6 Total Tons: 193,185 Minimum: 0.93652
Average: 1.00894

Supplier: 16

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
12732	01/27/00	3	SX	28,590	$35.71	$26,460.14	1.02592
12271	04/06/00	3	SX	30,674	$50.68	($11,804.81)	0.99241
13104	05/11/00	3	SX	37,551	$41.98	$56,942.92	1.03612
13092	06/22/00	3	SX	44,794	$35.67	$14,549.86	1.00911
12981	06/29/00	3	SX	3,597	$70.00	$4,296.64	1.01706
11805	07/13/00	3	SX	2,133	$72.14	$4,043.85	1.02628
12153	10/26/00	3	SMA	58,543	$39.65	$26,411.26	1.01138
13485	08/02/01	3	SX	22,209	$30.98	($5,398.44)	0.99215
13864	03/28/02	3	SX	60,240	$33.21	$74,852.29	1.03742
13866	03/28/02	3	SX	45,414	$30.37	$51,466.21	1.03732

Number of Projects: 10 Total Tons: 333,745

Maximum: 1.03742
Minimum: 0.99215
Average: 1.01852

Supplier: 17

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13185	04/06/00	2	S	18,966	$42.75	($6,897.13)	0.99149
11581	04/27/00	2	S	13,290	$40.00	$2,961.28	1.00557
13255	12/07/00	1	SX	21,497	$33.20	($18,298.76)	0.97436
93200	01/18/01	2	S	3,003	$30.00	($6,289.84)	0.93018
13330	01/25/01	3	SX	16,775	$37.64	$8,047.89	1.01274
13578	10/10/02	2	S	3,335	$46.00	($12,062.69)	0.92137
13513	12/05/02	1	SX	52,244	$27.70	$68,129.53	1.04708

Number of Projects: 7 Total Tons: 129,110

Maximum: 1.04708
Minimum: 0.92137
Average: 0.98326

Supplier: 18

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13386	07/27/00	5	SX	4,611	$47.50	$1,004.72	1.00459

Number of Projects: 1 Total Tons: 4,611

Maximum: 1.00459
Minimum: 1.00459
Average: 1.00459

Supplier: 19

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13434	02/07/02	1	SX	23,468	$45.25	$17,635.30	1.01661
13066	06/27/02	6	SMA	19,785	$42.50	$28,431.05	1.03381

Number of Projects: 2 Total Tons: 43,253

Maximum: 1.03381
Minimum: 1.01661
Average: 1.02521

Supplier: 20

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13057	01/27/00	5	SX	46,280	$41.59	$30,092.47	1.01563
12737	05/18/00	3	SX	24,790	$54.64	($8,567.29)	0.99368
13556	12/21/00	3	SX	6,462	$33.98	$4,296.52	1.01957
13734	07/12/01	3	SX	20,605	$34.97	$12,170.94	1.01689

Number of Projects: 4 Total Tons: 98,137

Maximum: 1.01957
Minimum: 0.99368
Average: 1.01144

Supplier: 21

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
12733	01/20/00	3	SX	34,351	$38.40	$51,791.95	1.03926
12018	09/14/00	3	SX	23,204	$45.55	$48,296.09	1.04569

Number of Projects: 2 Total Tons: 57,555

Maximum: 1.04569
Minimum: 1.03926
Average: 1.04247

Supplier: 25

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
12801	03/22/01	5	SX	3,466	$47.00	$3,530.94	1.02168

Number of Projects: Total Tons: 3,466

Maximum: 1.02168
Minimum: 1.02168
Average: 1.02168

Supplier: 29

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
12735	01/20/00	3	SX	34,752	$30.40	$6,230.05	1.00590

Number of Projects: 1 Total Tons: 34,752

Maximum: 1.00590
Minimum: 1.00590
Average: 1.00590

Supplier: 30

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13165	12/21/00		S	61,605	$30.00	$77,150.01	1.04174

Number of Projects: Total Tons: 61,605

Maximum: 1.04174
Minimum: 1.04174
Average: 1.04174

Supplier: 31

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
12238	12/14/00	3	SX	74,888	$56.50	($161,120.55)	0.96192

Number of Projects: Total Tons: 74,888

Maximum: 0.96192
Minimum: 0.96192
Average: 0.96192

Supplier: 32

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
12583	01/27/00	2	S	17,655	$43.05	$7,790.15	1.01025
11955	01/11/01	2	S	63,731	$30.00	$17,728.64	1.00927
13131	05/24/01	2	S	43,155	$34.50	$46,253.77	1.03107
12829	10/04/01	2	S	3,000	$40.00	$1,274.67	1.01062
13446	01/24/02	2	S	12,032	$32.00	$11,793.25	1.03063
12609	03/07/02	3	SX	18,443	$38.21	$6,897.46	1.00979

Number of Projects: 6 Total Tons: 158,016

Maximum: 1.03107
Minimum: 1.00927
Average: 1.01694

Supplier: 33

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
12865	04/20/00	6	S	7,494	$30.00	($4,726.27)	0.97898
11911	11/30/00	6	S	11,986	$38.00	($1,965.20)	0.99569
13178	05/17/01	6	S	52,567	$31.30	$46,903.55	1.02851
13275	09/06/01	6	S	2,752	$42.00	$2,600.64	1.02250
13352	02/07/02	6	S	60,925	$45.20	$70,954.80	1.02577
13982	04/25/02	4	SX	45,000	$39.00	$58,709.69	1.03345
13917	07/11/02	6	S	14,661	$42.11	$2,741.40	1.00444
13357	12/12/02	6	SX	12,322	$34.00	$3,204.53	1.00765
13494	12/12/02	1	SX	16,845	$34.43	$19,458.52	1.03355

Number of Projects: 9 Total Tons: 224,552

Maximum: 1.03355
Minimum: 0.97898
Average: 1.01450

Supplier: 37

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13549	01/24/02	6	S	10,796	$34.50	($30,824.74)	0.91724
13573	04/18/02	6	S	2,220	$38.82	($14,137.12)	0.83596

Number of Projects: 2 Total Tons: 13,016

Maximum: 0.91724
Minimum: 0.83596
Average: 0.87660

Supplier: 38

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
12548	03/14/02	2	S	8,980	$45.00	$14,147.10	1.03501

Number of Projects: 1 Total Tons: 8,980

Maximum: 1.03501
Minimum: 1.03501
Average: 1.03501

Supplier: 40

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13147	04/26/01	4	S	27,853	$30.10	$30,763.32	1.03670
12761	06/20/02	4	S	8,748	$35.14	$7,614.09	1.02477

Number of Projects: 2 Total Tons: 36,601

Maximum: 1.03670
Minimum: 1.02477
Average: 1.03074

Supplier: 41

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
11848	08/10/00	1	S	22,000	$45.79	$20,150.97	1.02000
12056	08/31/00	6	S	16,000	$42.00	$6,845.76	1.01019
13735	02/07/02	6	S	6,620	$41.07	$2,108.64	1.00776
13959	05/30/02	4	S	7,468	$38.36	$2,651.24	1.00926

Number of Projects: 4 Total Tons: 52,088

Maximum: 1.02000
Minimum: 1.00776
Average: 1.01180

Supplier: 44

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
11861	03/09/00	2	S	3,675	$42.00	($27,832.65)	0.81968
12858	08/24/00	2	S	8,040	$47.35	($5,590.82)	0.98531
12495	07/12/01	2	S	11,963	$40.75	($29,290.19)	0.93992
12859	06/27/02	2	S	2,700	$46.69	($4,836.56)	0.96163
14002	06/27/02	2	S	12,940	$36.52	$15,027.89	1.03180

Number of Projects: 5 Total Tons: 39,318

Maximum: 1.03180
Minimum: 0.81968
Average: 0.94767

Supplier: 45

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
11849	05/04/00		SX	4,222	$42.42	($15,206.30)	0.91509
13077	05/11/00	1	S	10,572	$35.00	$16,565.64	1.04477
92911	08/17/00	6	S	11,721	$56.16	$13,013.84	1.01977
13349	01/04/01	6	S	31,000	$50.84	$51,180.47	1.03195
13441	04/05/01	2	S	9,196	$41.09	($25,978.58)	0.93125
12524	05/10/01	1	S	16,886	$45.96	$10,051.89	1.01295
12391	08/02/01	2	S	10,017	$42.02	($3,169.71)	0.99247
13507	05/30/02	1	S	7,600	$45.51	$14,872.67	1.04300

Number of Projects: 8 Total Tons: 101,214

Maximum: 1.04477
Minimum: 0.91509
Average: 0.99891

Supplier: 49

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
11959	01/13/00	2	S	33,353	$39.00	($46,207.36)	0.96448
12632	01/13/00	2	S	2,731	$47.20	($2,302.11)	0.98214
12963	01/20/00	2	S	18,832	$43.78	$34,704.18	1.04209
13240	04/20/00	2	S	42,764	$35.04	$35,002.42	1.02336
13390	01/11/01	2	S	34,500	$41.29	$26,283.17	1.01845
12390	08/16/01	2	S	7,488	$30.00	$7,859.55	1.03499
13362	06/20/02	1	S	7,840	$46.46	($237.86)	0.99935

Number of Projects: 7 Total Tons: 147,508

Maximum: 1.04209
Minimum: 0.96448
Average: 1.00927

Supplier: 53

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13448	06/07/01	2	S	22,900	$39.50	$16,936.30	1.01872

Number of Projects: 1 Total Tons: 22,900

Maximum: 1.01872
Minimum: 1.01872
Average: 1.01872

Supplier: 54

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13538	08/23/01	2	S	6,097	$47.16	$10,087.92	1.03508
13539	09/06/01	2	S	5,276	$48.00	($15,283.93)	0.93965

Number of Projects: 2 Total Tons: 11,373

Maximum: 1.03508
Minimum: 0.93965
Average: 0.98736

Supplier: 55

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13479	01/24/02	2	S	5,970	$32.35	$7,338.92	1.03800
13733	06/20/02	2	S	12,022	$33.64	$14,581.78	1.03606

Number of Projects: 2 Total Tons: 17,992

Maximum: 1.03800
Minimum: 1.03606
Average: 1.03703

Supplier: 56

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
13537	08/02/01	5	SX	51,980	$41.20	$98,417.44	1.04596

Number of Projects: 1 Total Tons: 51,980

Maximum: 1.04596
Minimum: 1.04596
Average: 1.04596

Supplier: 57

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
12800	11/14/02	5	SX	5,328	$51.00	$10,325.66	1.03800

Number of Projects: 1 Total Tons: 5,328

Maximum: 1.03800
Minimum: 1.03800
Average: 1.03800

Supplier: 60

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
12644	10/26/00	4	S	25,499	$48.57	($3,851.44)	0.99692

Number of Projects: 1 Total Tons: 25,499

Maximum: 0.99692
Minimum: 0.99692
Average: 0.99692

Supplier: 61

Subaccount	Bid Date	Region	Grading	Total Tons	Average Price	Project I/DP	Pay Factor Composite
11543	06/15/00	1	S	11,753	$51.00	$17,510.95	1.02921

Number of Projects: 1 Total Tons: 11,753

Maximum: 1.02921
Minimum: 1.02921
Average: 1.02921

Calculated Pay Factor Composite 1/1/00 to 12/31/02. Plan Quantities 0 to 200000 tons.

	Pay Factor Composite
Number of Projects: 106 Total Tons: 2,357,488	
Maximum:	1.04708
Minimum:	0.81968
Average:	1.00498

Asphalt Content - Recap by Grading/Year/Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/02.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

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

Grading: S	Processes	Tons	Tests	Weighted Average: Price	Quality Level	Pay Factor	St. Dev.
2000							
Region: 1	7	136,178	137	$37.14	94.049	1.02860	0.132
Region: 2	17	195,102	208	$39.37	86.072	0.99655	
Region: 4	3	24,281	25	$48.65	89.848	1.02265	
Region: 6	6	61,027	62	$42.03	85.840	0.99719	0.152
Totals 2000	33	416,588	432	$39.57	88.866	1.00864	0.158
2001							
Region: 1	5	40,259	46	$45.40	90.175	1.01563	
Region: 2	17	217,131	220	$36.23	85.062	0.98996	0.189
Region: 4	2	26,162	28	$30.14	91.139	1.02668	
Region: 6	6	85,491	86	$38.73	91.498	1.02412	0.157
Totals 2001	30	369,043	380	$37.38	87.541	1.00327	0.178
2002							
Region: 1	4	15,440	17	$45.99	89.857	1.00805	0.107
Region: 2	9	57,979	60	$36.89	96.264	1.03486	0.149
Region: 4	6	16,216	21	$36.62	89.158	1.00743	0.157
Region: 6	6	60,223	62	$39.39	86.317	0.99994	0.179
Totals 2002	25	149,858	160	$38.80	90.838	1.01510	0.158
Totals - Grading: S	88	935,489	972	$38.58	88.659	1.00756	0.166

Grading: SMA		Processes	Tons	Tests	Weighted Average: Price	Quality Level	Pay Factor	St. Dev.
2000								
Region: 3		2	17,033	17	$48.36	73.488	0.94554	0.191
Totals	*2000*	2	17,033	17	$48.36	73.488	0.94554	0.191
2002								
Region: 1		2	31,814	32	$48.70	90.569	1.02191	0.167
Region: 6		3	54,953	51	$46.66	84.825	0.99076	0.172
Totals	*2002*	5	86,767	83	$47.41	86.931	1.00218	0.170
Totals - Grading: SMA		7	103,800	100	$47.56	84.725	0.99289	0.173

Grading: SX		Processes	Tons	Tests	Weighted Average: Price	Quality Level	Pay Factor	St. Dev.
2000								
Region: 1		3	23,719	27	$34.84	80.637	0.98386	0.227
Region: 3		32	376,886	439	$43.68	92.484	1.02312	0.147
Region: 5		3	50,891	52	$42.13	94.661	1.03486	0.135
Totals	*2000*	38	451,496	518	$43.04	92.107	1.02238	0.150
2001								
Region: 3		29	278,907	297	$37.85	93.822	1.02985	0.136
Region: 5		5	88,053	91	$38.81	98.653	1.04964	0.101
Totals	*2001*	34	366,960	388	$38.08	94.981	1.03460	0.127
2002								
Region: 1		6	130,016	134	$35.64	85.352	0.98556	0.188
Region: 3		10	169,704	173	$33.66	96.159	1.04087	0.129
Region: 4			45,000	45	$39.00	94.111	1.03472	0.159
Region: 5		7	105,795	108	$37.63	90.930	1.01579	0.159
Region: 6		2	12,322	16	$34.00	81.265	0.99342	0.231
Totals	*2002*	26	462,837	476	$35.65	91.333	1.01774	0.158
Totals - Grading: SX		98	1,281,293	1382	$38.95	92.650	1.02420	0.146

Statewide Totals

			Weighted Average:			
Processes	Tons	Tests	Price	Quality Level	Pay Factor	St. Dev.
194	2,323,708	2457	$39.18	90.700	1.01610	0.155

Mat Density - Recap by Grading/Year/Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/02.
Projects with Plan Quantities from **0 to 200000 tons.**
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	19	186,838	387	$39.55	90.892	1.01275	0.925	93.37
Region: 4	2	3,791	10	$56.73	91.843	1.03339	0.848	93.10
Region: 6	6	61,527	124	$41.85	87.918	1.00367	0.938	93.12
Totals: 2000	34	385,506	791	$39.21	92.015	1.02019	0.915	93.43
2001								
Region: 1	6	39,961	86	$45.40	87.577	0.99778	1.039	93.72
Region: 2	17	218,630	440	$36.28	94.018	1.03174	0.933	93.83
Region: 4	3	27,853	58	$30.10	97.883	1.05078	0.854	93.86
Region: 6	6	84,491	169	$38.61	96.330	1.04569	0.855	93.89
Totals: 2001	32	370,935	753	$37.33	94.141	1.03269	0.921	93.84
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	6	16,216	39	$36.62	97.833	1.03474	0.673	93.72
Region: 6	8	62,938	131	$39.39	89.997	1.01443	0.788	93.11
Totals: 2002	27	147,572	312	$39.03	92.455	1.02325	0.871	93.48
Totals Grading S	93	904,013	1,856	$38.41	92.959	1.02582	0.910	93.61

Grading: SMA	Processes	Total Tons	Tests	Weighted Average Price	Quality Level	Pay Factor	St. Dev.	Mean
2000								
Region: 3	2	17,033	34	$48.36	90.952	1.02727	1.020	95.15
Totals: 2000		17,033	34	$48.36	90.952	1.02727	1.020	95.15
2002								
Region: 1	2	31,814	63	$48.70	84.429	0.96768	1.352	94.62
Region: 6	3	54,953	111	$46.66	95.818	1.04774	0.972	94.82
Totals: 2002	5	86,767	174	$47.41	91.642	1.01838	1.111	94.75
Totals Grading SMA	7	103,800	208	$47.56	91.529	1.01984	1.096	94.82

Grading: SX	Processes	Total Tons	Tests	Weighted Average Price	Quality Level	Pay Factor	St. Dev.	Mean
2000								
Region: 1	3	25,633	55	$34.69	87.938	1.00538	1.190	93.56
Region: 3	30	344,463	687	$44.49	91.161	1.01053	0.955	93.57
Region: 5	3	48,488	98	$42.09	90.163	0.99982	0.829	93.11
Totals: 2000	36	418,584	840	$43.61	90.848	1.00897	0.955	93.52
2001								
Region: 3	21	206,912	427	$38.24	93.586	1.03136	1.002	93.85
Region: 5	5	87,553	178	$38.83	89.469	1.00295	1.062	93.56
Totals: 2001	26	294,465	605	$38.42	92.362	1.02291	1.020	93.76
2002								
Region: 1	6	130,016	263	$35.64	97.814	1.05282	0.781	93.81
Region: 3	9	144,419	292	$34.28	96.624	1.04642	0.900	93.96
Region: 4	1	44,000	89	$39.00	95.087	1.03680	0.837	93.38
Region: 5	5	71,350	145	$38.48	96.068	1.03934	0.945	94.00
Region: 6	2	12,322	28	$34.00	88.446	1.01331	0.995	93.31
Totals: 2002	23	402,107	817	$35.97	96.491	1.04517	0.865	93.83
Totals Grading SX	85	1,115,156	2,262	$39.49	93.283	1.02570	0.940	93.70

Statewide Totals

Processes	Total Tons	Tests	Weighted Average Price	Quality Level	Pay Factor	St. Dev.	Mean
185	2,122,969	4,326	$39.42	93.059	1.02547	0.935	93.71

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

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/02.
Projects with Plan Quantities from **0 to 200000 tons.**
Processes with less than 3 tests not included.

Grading: S	Processes	Tons	Tests	Weighted Average Price	Weighted Average Quality Level	Weighted Average Pay Factor
2000						
Region: 1	7	134,750	69	$37.08	87.882	1.01972
Region: 2	15	190,897	106	$39.23	88.000	1.01114
Region: 4	3	19,679	12	$48.99	64.554	0.94015
Region: 6	6	62,027	33	$41.83	87.228	1.02054
Totals: 2000	31	407,353	220	$39.39	86.711	1.01198
2001						
Region: 1	4	38,684	21	$45.42	79.983	0.99997
Region: 2	12	201,053	102	$36.03	83.959	0.99541
Region: 4	2	24,162	13	$30.19	86.361	1.02151
Region: 6	5	83,739	42	$38.78	85.300	1.00126
Totals: 2001	23	347,638	178	$37.33	84.007	0.99914
2002						
Region: 1	2	10,587	7	$48.15	84.009	1.01790
Region: 2	5	46,086	24	$35.06	93.628	1.02391
Region: 4		4,037	3	$40.70	100.000	1.02500
Region: 6	4	51,214	29	$39.45	79.219	0.94841
Totals: 2002	12	111,924	63	$38.51	86.355	0.98884
Totals Grading: S	66	866,915	461	$38.45	85.580	1.00384

Grading: SMA	Processes	Tons	Tests	Weighted Average Price	Weighted Average Quality Level	Weighted Average Pay Factor
2000						
Region: 3		11,075	7	$48.53	75.968	0.97274
Totals: 2000		11,075	7	$48.53	75.968	0.97274
2002						
Region: 1	2	31,812	16	$48.70	86.898	0.99783
Region: 6	3	54,953	26	$46.66	89.247	1.02522
Totals: 2002	5	86,765	42	$47.41	88.386	1.01518
Totals Grading: SM	6	97,840	49	$47.53	86.980	1.01038

Grading: SX	Processes	Tons	Tests	Weighted Average Price	Weighted Average Quality Level	Weighted Average Pay Factor
2000						
Region: 1	2	21,497	11	$33.20	68.445	0.91526
Region: 3	26	356,310	210	$43.83	83.835	0.99569
Region: 5	3	50,891	27	$42.13	89.890	1.02130
Totals: 2000	31	428,698	248	$43.09	83.782	0.99470
2001						
Region: 3	23	258,452	152	$37.84	88.481	1.01409
Region: 5	4	82,587	43	$38.58	83.947	0.99852
Totals: 2001	27	341,039	195	$38.02	87.383	1.01032
2002						
Region: 1	6	130,015	68	$35.64	87.161	1.01207
Region: 3	9	166,501	87	$33.69	89.265	1.01790
Region: 4	1	44,000	22	$39.00	91.415	1.02580
Region: 5	4	94,895	50	$36.42	93.472	1.03423
Region: 6	1	7,568	5	$34.00	84.441	1.02414
Totals: 2002	21	442,979	232	$35.38	89.680	1.02058
Totals Grading: SX	79	,212,716	675	$38.85	86.949	1.00855

Statewide Totals

				Weighted Average		
	Processes	Tons	Tests	Price	Quality Level	Pay Factor
	151	2,177,471	1185	$39.08	86.406	1.00676

Gradation - Standard Deviation Information by Grading/Year/Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/02.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading: S	Number of Processes:	Total Tons:	Weighted Average: 3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
2000									
Region 1	7	134,750	1.133	2.326	2.531	2.567	2.504	1.705	0.644
Region 2	15	190,897	1.421	2.634	2.451	2.338	2.119	1.508	0.706
Region 4	3	19,679	0.000	2.726	3.729	3.034	2.274	0.896	0.314
Region 6	6	62,027	1.286	2.414	2.616	2.348	2.348	1.651	0.550
Totals: 2000	31	407,353	1.236	2.503	2.564	2.449	2.288	1.565	0.643
2001									
Region 1	4	38,684	1.631	1.776	2.118	2.706	2.348	1.185	0.455
Region 2	12	201,053	0.985	2.477	2.652	2.602	2.517	1.664	0.767
Region 4	2	24,162	0.000	1.711	2.367	2.589	2.478	1.245	0.478
Region 6	5	83,739	0.690	2.911	2.853	2.643	2.513	1.459	0.882
Totals: 2001	23	347,638	0.918	2.450	2.621	2.623	2.494	1.532	0.740
2002									
Region 1	2	10,587	2.005	3.605	2.864	2.420	2.292	0.744	0.288
Region 2	5	46,086	0.433	1.876	1.878	1.634	1.456	0.888	0.667
Region 4	1	4,037	0.000	2.100	1.500	1.700	1.500	1.200	0.210
Region 6	4	51,214	0.235	2.671	2.723	2.715	2.199	1.435	0.435
Totals: 2002	12	111,924	0.476	2.411	2.344	2.205	1.877	1.136	0.509
Totals Grading: S	66	866,915	1.010	2.470	2.559	2.487	2.318	1.497	0.664

Grading: SMA	Number of Processes:	Total Tons:	Weighted Average: 3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
2000									
Region 3	1	11,075	0.000	1.100	2.100	1.700	1.000	0.800	
Totals: 2000	1	11,075	0.000	1.100	2.100	1.700	1.000	0.800	
2002									
Region 1	2	31,812	2.865	3.206	2.240	1.693	0.947	0.630	
Region 6	3	54,953	1.773	2.353	2.489	1.680	1.224	0.930	
Totals: 2002	5	86,765	2.174	2.666	2.398	1.685	1.122	0.820	
Totals Grading: SMA	6	97,840	1.928	2.488	2.364	1.687	1.108	0.818	

Grading: SX	Number of Processes:	Total Tons:	Weighted Average: 3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
2000									
Region 1	2	21,497	1.720	2.980	2.640	2.559	1.760	0.918	
Region 3	26	356,310	0.766	1.734	2.361	2.198	1.400	0.594	
Region 5	3	50,891	0.747	.470	2.356	2.043	1.316	0.379	
Totals: 2000	31	428,698	0.812	1.765	2.375	2.198	1.408	0.585	
2001									
Region 3	23	258,452	1.275	2.082	2.364	1.948	1.234	0.536	
Region 5	4	82,587	1.484	2.483	2.095	1.472	0.965	0.581	
Totals: 2001	27	341,039	1.326	2.179	2.299	1.833	1.169	0.547	
2002									
Region 1	6	130,015	1.057	2.009	2.422	2.631	1.593	0.459	
Region 3	9	166,501	0.718	1.839	2.461	2.261	1.326	0.584	
Region 4	1	44,000	0.800	1.700	2.900	2.400	1.400	0.730	
Region 5	4	94,895	1.142	2.614	2.465	2.407	1.454	0.432	
Region 6	1	7,568	1.300	1.800	2.100	3.100	1.600	1.190	
Totals: 2002	21	442,979	0.926	2.041	2.488	2.429	1.444	0.540	
Totals Grading: SX	79	1,212,716	0.998	1.982	2.395	2.180	1.354	0.557	

Gradation Totals 1/1/00 to 12/31/02 Plan Quantities from 0 to 200000 tons.

			3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	151	Max.	3.500	4.500	6.000	8.500	7.000	4.000	1.800
Total Tons:	2,177,471	Min.	0.000	0.000	0.000	0.000	0.500	0.000	0.000
		Weighted Average:	0.402	1.626	2.235	2.430	2.212	1.400	
		Key Sieve Count		14	12	49	26	15	16

Appendix B
Reports for 2000 Projects

Project Listing by Region/Subaccount

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

Region: 1

Subacct.	*Project Code*	*Location*	*Supplier*	*Bid Date*	*Total Bid*	*Plan Quant.*
11543	STA 3851-012	8th Ave in Burlington	61	06/15/00	$2,739,142.00	10,912
11848	NH 2854-068	Foxton Rd to Eagle Cliff	41	08/10/00	$21,100,930.37	19,014
11849	IM 0704-184	I-70, Peoria - East	45	05/04/00	$8,286,657.80	8,161
12362	STA 086A-031	SH 86 E & W of Elizabeth	14	07/20/00	$2,239,198.45	34,474
13024	STA 0091-015	Frisco/Breckenridge	13	01/06/00	$1,345,629.50	16,700
13077	STA 0852-085	SH 85 - C 470 South	45	05/11/00	$549,463.00	9,372
13165	STA 059A-027	Kit Carson I-70 to SH 59	30	12/21/00	$2,586,296.41	62,570
13255	NH 2854-084	Fairplay N/S	17	12/07/00	$1,127,000.00	21,133

Number of Projects 8 ***Total Quantity*** 182,336

Region: 2

Subacct.	*Project Code*	*Location*	*Supplier*	*Bid Date*	*Total Bid*	*Plan Quant.*
11581	BR 067A-008	SH 67 South of Florence	17	04/27/00	$1,872,723.39	12,536
11861	BR 067A-010	SH 67 - Trout Creek	44	03/09/00	$1,663,166.37	3,600
11959	STA 0242-026	Trout Creek Rd E	49	01/13/00	$6,721,598.52	30,699
12583	IM 0251-155	I-25/SH 50/SH47 Interchan	32	01/27/00	$17,416,939.28	17,609
12598	STA 1604-005	SH 160 W	14	03/23/00	$2,221,794.40	42,375
12632	STA 1151-010	SH 115 & Star Ranch	49	01/13/00	$472,765.95	2,234
12858	NH 0851-003	SH 16 to Academy	44	08/24/00	$2,547,157.00	8,042
12963	IM 0252-329	I-25 Bijou to Fillmore (NB)	49	01/20/00	$13,635,156.32	20,518
13185	NH 0505-036	RR Overpass to Arkansas	17	04/06/00	$2,587,000.00	17,237
13240	NH 0243-062	Platte & Powers	49	04/20/00	$10,451,623.57	37,749

Number of Projects 10 ***Total Quantity*** 192,599

Region: 3

Subacct.	Project Code	Location	Supplier	Bid Date	Total Bid	Plan Quant.
11805	BR 006A-028	Eagle River Bridge	16	07/13/00	$1,238,281.57	1,942
12018	STR 131A-024	Haymaker Golf Course	21	09/14/00	$4,186,165.39	19,124
12153	NHS 0501-038	Kannah Creek East	16	10/26/00	$12,585,731.63	58,296
12238	NH 0702-217	Glenwood Canyon Overlay	31	12/14/00	$10,597,597.00	98,733
12271	SP 0821-053	ABC to Buttermilk	16	04/06/00	$11,366,679.65	27,140
12732	NH 0501-042	Unaweep East	16	01/27/00	$1,373,126.70	27,930
12733	NH 0402-057	West Side of Rabbit Ears P	21	01/20/00	$1,987,231.10	36,553
12735	STA 0131-040	Meeker	29	01/20/00	$1,029,865.12	24,686
12737	PLH-FH 065A-0	Grand Mesa	20	05/18/00	$1,842,704.78	24,568
12981	NH 0701-154	I-70 B at 30 Rd	16	06/29/00	$1,527,699.25	3,032
13092	STA 0821-057	Glenwood South	16	06/22/00	$2,271,045.70	40,294
13104	NH R300-070	Grand Jct Various Locs	16	05/11/00	$2,805,934.30	40,657
13556	STA 0402-062	Jct 134 to Tabernash	20	12/21/00	$3,117,314.54	66,756

Number of Projects 13 ***Total Quantity*** 469,711

Region: 4

Subacct.	Project Code	Location	Supplier	Bid Date	Total Bid	Plan Quant.
12644	IM 0762-041	I-76 Sterling to A	60	10/26/00	$21,197,303.87	22,546

Number of Projects 1 ***Total Quantity*** 22,546

Region: 5

Subacct.	Project Code	Location	Supplier	Bid Date	Total Bid	Plan Quant.
13057	STA 149A-018	Creede - North	20	01/27/00	$2,788,822.08	44,390
13386	C 1603-017	US 160 Sierra Grande HS	18	07/27/00	$769,619.05	4,172

Number of Projects 2 ***Total Quantity*** 48,562

Region: 6

Subacct.	Project Code	Location	Supplier	Bid Date	Total Bid	Plan Quant.
11911	STU C100-011	Arapahoe and Parker	33	11/30/00	$2,080,794.90	11,936
12056	IMB 0761-172	I-76 & 120th Ave	41	08/31/00	$19,237,802.68	14,366
12865	NH 0404-036	US 40, Tabor to Kipling	33	04/20/00	$1,423,249.00	7,477
92054	BRF 002-1(018)	SH 2 at UPRR and Smith R	10	09/21/00	$4,271,471.00	13,319
92911	IM 0252-214	I-25 @ Colfax	45	08/17/00	$6,984,230.09	13,782

Number of Projects 5 ***Total Quantity*** 60,880

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

Number of Projects 39 ***Total Quantity*** 976,634

Project Data

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

Subaccount: 11543 ***STA 3851-012*** ***8th Ave in Burlington*** ***Region: 1*** ***Supplier: 61***

Mix Design No: 85810-1 Process No: 1 Grading: S Price Per Ton: $51.00 **Mix Design I/DP: $17,510.95**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	12	11753		93.655	1.04181	$7,517.78	0.147	
Density	24	11753	0	90.696	1.02046	$6,132.04	1.044	Den Mean: 93.392
Gradation	6	11753		88.688	1.03221	$3,861.13	- - - -	Grad Key Sieve: No. 4

Project Totals 11543		Tons:		I/DP:
	Asphalt Content	11,753		$7,517.78
	Mat Density	11,753		$6,132.04
	Gradation	11,753		$3,861.13
	Plan Quantity	10,912	Project I/DP:	$17,510.95

Comments:

Subaccount: 11581 ***BR 067A-008*** ***SH 67 South of Florence*** ***Region: 2*** ***Supplier: 17***

Mix Design No: 93629 Process No: 1 Grading: S Price Per Ton: $40.00 **Mix Design I/DP: $2,961.28**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	13	13290		80.017	0.97149	($4,546.93)	0.198	
Density	26	13290	0	89.890	1.01425	$3,787.01		Den Mean:
Gradation	7	13290		93.781	1.03500	$3,721.20	- - - -	Grad Key Sieve: 1/2

Project Totals 11581		Tons:		I/DP:
	Asphalt Content	13,290		($4,546.93)
	Mat Density	13,290		$3,787.01
	Gradation	13,290		$3,721.20
	Plan Quantity	12,536	Project I/DP:	$2,961.28

Comments: Missing page 2 & 3 of report. Density data excluded.

Subaccount: 11805 ***BR 006A-028*** ***Eagle River Bridge*** ***Region: 3*** ***Supplier: 16***

Mix Design No: WCT 6011 Process No: 1 Grading: SX Price Per Ton: $72.14 **Mix Design I/DP: $4,043.85**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2133		100.000	1.02500	$1,154.00	0.080	
Density	8	2133	0	91.836	1.03756	$2,889.85	1.094	Den Mean: 93.475
Gradation	2	2133			1.00000	$0.00	- - - -	Grad Key Sieve:

Project Totals 11805		Tons:		I/DP:
	Asphalt Content	2,133		$1,154.00
	Mat Density	2,133		$2,889.85
	Gradation	2,133		$0.00
	Plan Quantity	1,942	Project I/DP:	$4,043.85

Comments:

Subaccount: 11848 ***NH 2854-068*** ***Foxton Rd to Eagle Cliff*** ***Region: 1*** ***Supplier: 41***

Mix Design No: 129786 Process No: 1 Grading: S Price Per Ton: $45.79 **Mix Design I/DP: $4,603.85**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	4000		100.000	1.03000	$1,648.31	0.096	
Density	8	4000	0	99.432	1.04000	$3,662.91	0.648	Den Mean: 93.325
Gradation	3	6000		66.667	0.98713	($707.37)	- - - -	Grad Key Sieve: No. 30

Mix Design No: 139783-1 Process No: 1 Grading: S Price Per Ton: $45.79 **Mix Design I/DP: $15,547.12**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	18	18000		90.843	1.02470	$6,107.10	0.179	
Density	34	17000	0	94.018	1.03692	$14,368.97	0.736	Den Mean: 93.132
Gradation	8	16000		76.159	0.96636	($4,928.95)	- - - -	Grad Key Sieve: No. 200

Project Totals 11848		Tons:		I/DP:
	Asphalt Content	22,000		$7,755.41
	Mat Density	21,000		$18,031.88
	Gradation	22,000		($5,636.32)
	Plan Quantity	19,014	Project I/DP:	$20,150.97

Comments: Final Quantities not equal

Subaccount: 11849 ***IM 0704-184*** ***I-70, Peoria - East*** ***Region: 1*** ***Supplier: 45***

Mix Design No: 109758 Process No: 1 Grading: SX Price Per Ton: $42.42 **Mix Design I/DP: ($13,962.62)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	4222		78.967	0.98827	($630.07)	0.240	
Density	12	4136	0	58.793	0.83781	($14,228.04)	1.768	Den Mean: 92.456
Gradation	3	4222		91.100	1.02500	$895.49	- - - -	Grad Key Sieve: 3/8

Mix Design No: 109758 Process No: 2 Grading: SX Price Per Ton: $42.42 **Mix Design I/DP: ($1,243.68)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density	1	86	0		0.31818	($1,243.68)		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

Project Totals 11849		Tons:		I/DP:
	Asphalt Content	4,222		($630.07)
	Mat Density	4,222		($15,471.72)
	Gradation	4,222		$895.49
	Plan Quantity	8,161	Project I/DP:	($15,206.30)

Comments: Reported Quant 4000 less than plan. Gradation info excluded.

Subaccount: 11861 ***BR 067A-010*** ***SH 67 - Trout Creek*** ***Region: 2*** ***Supplier: 44***

Mix Design No: 31318 Process No: 1 Grading: S Price Per Ton: $42.00 **Mix Design I/DP: ($27,832.65)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	3675		44.871	0.78416	($9,994.43)	0.194	
Density	10	3675	0	94.104	1.04415	$3,407.44	0.554	Den Mean: 92.83
Gradation	3	3675		0.000	0.31177	($21,245.66)	- - - -	Grad Key Sieve: No. 4

Project Totals 11861		Tons:		I/DP:
	Asphalt Content	3,675		($9,994.43)
	Mat Density	3,675		$3,407.44
	Gradation	3,675		($21,245.66)
	Plan Quantity	3,600	Project I/DP:	($27,832.65)

Comments: Gradation QL of 0 is correct

Subaccount: 11911 ***STU C100-011*** ***Arapahoe and Parker*** ***Region: 6*** ***Supplier: 33***

Mix Design No: 105881 Process No: 1 Grading: S Price Per Ton: $38.00 Mix Design I/DP: ($1,965.20)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	11	11986		77.609	0.96308	($5,044.75)	0.223	
Density	25	11986	0	87.497	0.99952	($108.73)	0.565	Den Mean: 92.648
Gradation	6	11986		91.713	1.03500	$3,188.28	- - - -	Grad Key Sieve: 1/2

		Tons:		I/DP:
Project Totals 11911	Asphalt Content	11,986		($5,044.75)
	Mat Density	11,986		($108.73)
	Gradation	11,986		$3,188.28
	Plan Quantity	11,936	Project I/DP:	($1,965.20)

Comments:

Subaccount: 11959 ***STA 0242-026*** ***Trout Creek Rd E*** ***Region: 2*** ***Supplier: 49***

Mix Design No: SCH11922 Process No: 1 Grading: S Price Per Ton: $39.00 Mix Design I/DP: ($34,746.72)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	33	32353		83.648	0.96649	($12,684.21)	0.216	
Density	66	32853	0	85.736	0.96505	($22,388.27)	1.055	Den Mean: 93.139
Gradation	17	33353		86.490	1.00125	$325.76	- - - -	Grad Key Sieve: 1/2

Mix Design No: SCH11922 Process No: 2 Grading: S Price Per Ton: $39.00 Mix Design I/DP: ($11,460.64)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	1000			0.47500	($6,142.50)		
Density	1	500	0		0.45455	($5,318.14)		Den Mean:
Gradation					1.00000	$0.00	- - - -	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 11959	Asphalt Content	33,353		($18,826.71)
	Mat Density	33,353		($27,706.41)
	Gradation	33,353		$325.76
	Plan Quantity	30,699	Project I/DP:	($46,207.36)

Comments: Single tests 2 x V out.

Subaccount: 12018 ***STR 131A-024*** ***Haymaker Golf Course*** ***Region: 3*** ***Supplier: 21***

Mix Design No: 244 Process No: 1 Grading: SX Price Per Ton: $45.55 Mix Design I/DP: $48,296.09

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	24	23204		99.758	1.05000	$15,854.21	0.104	
Density	47	23204	0	97.812	1.05500	$29,066.04	0.734	Den Mean: 93.457
Gradation	12	23204		87.876	1.01597	$3,375.84	- - - -	Grad Key Sieve: No. 4

		Tons:		I/DP:
Project Totals 12018	Asphalt Content	23,204		$15,854.21
	Mat Density	23,204		$29,066.04
	Gradation	23,204		$3,375.84
	Plan Quantity	19,124	Project I/DP:	$48,296.09

Comments: Metric Project

Subaccount: 12056	*IMB 0761-172*	*I-76 & 120th Ave*	*Region: 6*	*Supplier: 41*

Mix Design No: 105863 Process No: 1 Grading: S Price Per Ton: $42.00 **Mix Design I/DP: $6,845.76**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	16	16000		98.663	1.05000	$10,080.00	0.129	
Density	32	16000	0	84.628	0.97437	($8,610.24)	1.138	Den Mean: 93.184
Gradation	8	16000		93.214	1.04000	$5,376.00	- - - -	Grad Key Sieve: No. 4

Project Totals 12056		Tons:		I/DP:
	Asphalt Content	16,000		$10,080.00
	Mat Density	16,000		($8,610.24)
	Gradation	16,000		$5,376.00
	Plan Quantity	14,366	Project I/DP:	$6,845.76

Comments:

Mix Design No: 259 Process No: 1 Grading: SX Price Per Ton: $35.26 **Mix Design I/DP: $3,486.83**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	8315		77.249	0.97235	($2,431.81)	0.210	
Density	17	8315	0	99.948	1.05000	$7,329.08	0.597	Den Mean: 94.344
Gradation	4	8315		69.419	0.97594	($1,410.44)	- - - -	Grad Key Sieve: No. 8

Mix Design No: 291 Process No: 1 Grading: SMA Price Per Ton: $47.27 **Mix Design I/DP: $0.00**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	398			1.00000	$0.00		
Density	1	398	0		1.00000	$0.00		Den Mean:
Gradation	1	398			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 291A Process No: 1 Grading: SMA Price Per Ton: $48.53 **Mix Design I/DP: ($5,399.57)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	10	11075		70.682	0.92325	($12,374.22)	0.163	
Density	22	11075	0	93.324	1.03686	$9,905.09	0.939	Den Mean: 95.605
Gradation	7	11075		75.968	0.97274	($2,930.44)	- - - -	Grad Key Sieve: No. 4

Mix Design No: 293A Process No: 1 Grading: SX Price Per Ton: $36.52 **Mix Design I/DP: ($2,477.62)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC		524			0.68750	($1,794.14)		
Density		524	0		1.00000	$0.00		Den Mean:
Gradation		524			0.82143	($683.48)	- - - -	Grad Key Sieve:

Mix Design No: 293B Process No: 1 Grading: SX Price Per Ton: $35.42 **Mix Design I/DP: ($5,204.30)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	3095		51.883	0.90246	($3,207.72)	0.358	
Density	6	3095	0	99.456	1.03500	$1,918.29	0.652	Den Mean: 93.217
Gradation	1	3095			0.82143	($3,914.87)	- - - -	Grad Key Sieve:

Mix Design No: 295 Process No: 1 Grading: SX Price Per Ton: $36.53 **Mix Design I/DP: $5,977.20**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	5195		98.246	1.03000	$1,707.77	0.093	
Density	10	5195	0	99.962	1.04500	$4,269.43	0.630	Den Mean: 93.58
Gradation	2	5195			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 298 Process No: 1 Grading: SX Price Per Ton: $36.15 **Mix Design I/DP: $29,798.78**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	24	23983		89.254	1.01152	$2,994.81	0.188	
Density	48	23983	0	97.346	1.05500	$23,839.17	0.829	Den Mean: 93.596
Gradation	12	23983		88.111	1.01710	$2,964.80	- - - -	Grad Key Sieve: No. 4

Mix Design No: 306 Process No: 1 Grading: SMA Price Per Ton: $48.03 **Mix Design I/DP: $229.95**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	5958		78.705	0.98697	($1,118.97)	0.242	
Density	12	5958	0	86.544	1.00943	$1,348.92	1.170	Den Mean: 94.308
Gradation	2	5958			1.00000	$0.00	- - - -	Grad Key Sieve:

Project Totals 12153		Tons:		I/DP:
	Asphalt Content	58,543		($16,224.28)
	Mat Density	58,543		$48,609.98
	Gradation	58,543		($5,974.43)
	Plan Quantity	58,296	Project I/DP:	$26,411.27

Comments:

Mix Design No: 270 Process No: 1 Grading: SX Price Per Ton: $44.00 Mix Design I/DP: ($46,172.70)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	30	22885		86.570	0.98954	($3,160.75)	0.187	
Density	38	22885	0	78.281	0.92115	($39,699.23)	1.473	Den Mean: 93.324
Gradation	15	22885		82.886	0.98355	($3,312.72)	- - - -	Grad Key Sieve: No. 4

Mix Design No: 99994 Process No: 1 Grading: SX Price Per Ton: $62.00 Mix Design I/DP: ($4,080.00)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	23	11311		95.297	1.04783	$10,062.60	0.155	
Density	21	11311	0	80.252	0.95557	($15,578.56)	1.062	Den Mean: 94.99
Gradation	11	11311		86.364	1.01024	$1,435.96	- - - -	Grad Key Sieve: No. 8

Mix Design No: 99995 Process No: 1 Grading: SX Price Per Ton: $62.00 Mix Design I/DP: ($35,527.19)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	50	25183		84.225	0.96063	($18,441.85)	0.183	
Density	49	25183	0	88.584	0.99392	($4,747.91)	1.220	Den Mean: 93.629
Gradation	23	25183		81.361	0.96049	($12,337.43)	- - - -	Grad Key Sieve: No. 8

Mix Design No: 99995A Process No: 1 Grading: SX Price Per Ton: $62.00 Mix Design I/DP: ($58,420.43)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	10	10638		88.040	1.01957	$3,872.74	0.190	
Density	18	10078	0	57.865	0.78583	($66,910.06)	1.270	Den Mean: 93.294
Gradation	6	10638		91.110	1.03500	$4,616.89	- - - -	Grad Key Sieve: No. 8

Mix Design No: 99995A Process No: 2 Grading: SX Price Per Ton: $62.00 Mix Design I/DP: ($10,652.79)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density	1	560	0		0.38636	($10,652.79)		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

Mix Design No: 99996 Process No: 1 Grading: SX Price Per Ton: $62.00 Mix Design I/DP: ($339.43)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	10	4871		88.884	1.02327	$2,108.72	0.190	
Density	6	4566	0	77.957	0.98963	($1,468.10)	1.118	Den Mean: 93.917
Gradation	5	4871		74.493	0.98377	($980.05)	- - - -	Grad Key Sieve: No. 8

Mix Design No: 99996 Process No: 2 Grading: SX Price Per Ton: $62.00 Mix Design I/DP: ($1,154.05)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density	1	63	0		0.40909	($1,154.05)		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

Mix Design No: 99996 Process No: 3 Grading: SX Price Per Ton: $62.00 Mix Design I/DP: ($4,773.97)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density	1	242	0		0.36364	($4,773.97)		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

Project Totals 12238		Tons:	I/DP:	
	Asphalt Content	74,888	($5,558.54)	
	Mat Density	74,888	($144,984.67)	
	Gradation	74,888	($10,577.35)	
	Plan Quantity	98,733	Project I/DP:	($161,120.56)

Comments:

Subaccount: 12271 ***SP 0821-053*** ***ABC to Buttermilk*** ***Region: 3*** ***Supplier: 16***

Mix Design No: 211 Process No: 1 Grading: SX Price Per Ton: $53.51 **Mix Design I/DP: ($6,662.62)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	2455			1.00000	$0.00		
Density	5	2455	0	71.694	0.97000	($1,970.70)	1.125	Den Mean: 92.7
Gradation	2	2455			0.82143	($4,691.92)	- - - -	Grad Key Sieve:

Mix Design No: 211A Process No: 1 Grading: SX Price Per Ton: $53.74 **Mix Design I/DP: $16,476.10**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	12	12203		99.004	1.04500	$8,853.75	0.132	
Density	24	12203	0	98.472	1.05000	$16,395.83	0.520	Den Mean: 93.079
Gradation	6	12203		67.587	0.93311	($8,773.48)	- - - -	Grad Key Sieve: No. 4

Mix Design No: 220 Process No: 1 Grading: SX Price Per Ton: $47.91 **Mix Design I/DP: ($21,618.29)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	18	16016		88.521	1.01169	$2,691.49	0.194	
Density	33	16016	0	83.168	0.96301	($14,194.56)	1.033	Den Mean: 92.997
Gradation	9	16016		71.865	0.93409	($10,115.22)	- - - -	Grad Key Sieve: No. 4

Project Totals 12271		Tons:		I/DP:
	Asphalt Content	30,674		$11,545.24
	Mat Density	30,674		$230.57
	Gradation	30,674		($23,580.62)
	Plan Quantity	27,140	Project I/DP:	($11,804.81)

Comments:

Subaccount: 12362 ***STA 086A-031*** ***SH 86 E & W of Elizabet*** ***Region: 1*** ***Supplier: 14***

Mix Design No: 121095 Process No: 1 Grading: S Price Per Ton: $41.00 **Mix Design I/DP: $22,940.43**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	16	16000		98.961	1.05000	$9,840.00	0.081	
Density	28	14000	0	99.933	1.05500	$15,785.00	0.633	Den Mean: 93.875
Gradation	7	14000		76.694	0.97662	($2,684.57)	- - - -	Grad Key Sieve: No. 200

Project Totals 12362		Tons:		I/DP:
	Asphalt Content	16,000		$9,840.00
	Mat Density	14,000		$15,785.00
	Gradation	14,000		($2,684.57)
	Plan Quantity	34,474	Project I/DP:	$22,940.43

Comments: Final quantities not equal. Reported 20,000 less than Plan.

Mix Design No: 107229E Process No: 1 Grading: S Price Per Ton: $41.00 **Mix Design I/DP: ($1,258.71)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2474		100.000	1.02500	$760.75	0.025	
Density	5	2474	0	73.301	0.97804	($1,113.80)	0.894	**Den Mean:** 92.6
Gradation	2	2474			0.95536	($905.66)	- - - -	**Grad Key Sieve:**

Mix Design No: 107230C Process No: 1 Grading: S Price Per Ton: $50.00 **Mix Design I/DP: $788.75**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	1262			1.00000	$0.00		
Density	3	1262	0	100.000	1.02500	$788.75	0.577	**Den Mean:** 92.667
Gradation	1	1262			1.00000	$0.00	- - - -	**Grad Key Sieve:**

Mix Design No: 184 Process No: 1 Grading: S Price Per Ton: $41.00 **Mix Design I/DP: $10,127.15**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	6781		89.718	1.03380	$2,819.44	0.104	
Density	14	6781	0	94.921	1.04500	$6,255.47	1.076	**Den Mean:** 94.121
Gradation	4	6781		79.704	1.01892	$1,052.24	- - - -	**Grad Key Sieve:** No. 4

Mix Design No: 195 Process No: 1 Grading: S Price Per Ton: $50.00 **Mix Design I/DP: $939.42**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	1661			1.00000	$0.00		
Density	4	1661	0	80.812	1.02262	$939.42	1.623	**Den Mean:** 93.5
Gradation	1	1661			1.00000	$0.00	- - - -	**Grad Key Sieve:**

Mix Design No: WCT1065 Process No: 1 Grading: S Price Per Ton: $41.00 **Mix Design I/DP: ($3,495.83)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	4374		56.533	0.87694	($6,620.74)	0.315	
Density	9	4374	0	94.260	1.04000	$3,586.68	1.124	**Den Mean:** 93.778
Gradation	3	4374		66.667	0.98713	($461.77)	- - - -	**Grad Key Sieve:** No. 30

Mix Design No: WCT1065 Process No: 1 Grading: S Price Per Ton: $50.00 **Mix Design I/DP: $689.37**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	1103			1.00000	$0.00		
Density	3	1103	0	100.000	1.02500	$689.37	1.012	**Den Mean:** 94.533
Gradation	1	1103			1.00000	$0.00	- - - -	**Grad Key Sieve:**

Project Totals 12583		Tons:		I/DP:
	Asphalt Content	17,655		($3,040.55)
	Mat Density	17,655		$11,145.89
	Gradation	17,655		($315.19)
	Plan Quantity	17,609	**Project I/DP:**	$7,790.15

Comments:

Subaccount: 12598 ***STA 1604-005*** ***SH 160 W*** ***Region: 2*** ***Supplier: 14***

Mix Design No: 124 Process No: 1 Grading: S Price Per Ton: $37.50 **Mix Design I/DP: $752.18**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	15	15000		99.869	1.05000	$8,437.50	0.111	
Density	31	15500	0	82.629	0.96091	($11,360.32)	0.641	Den Mean: 92.603
Gradation	7	14000		95.217	1.03500	$3,675.00	- - - -	Grad Key Sieve: No. 4

Mix Design No: 124-B Process No: 1 Grading: S Price Per Ton: $37.50 **Mix Design I/DP: $45,473.30**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	26	25822		95.152	1.04670	$13,567.26	0.155	
Density	51	25822	0	96.028	1.04720	$22,853.62	0.795	Den Mean: 93.382
Gradation	14	26822		95.101	1.04500	$9,052.42	- - - -	Grad Key Sieve: 1/2

Project Totals 12598		Tons:		I/DP:
	Asphalt Content	40,822		$22,004.76
	Mat Density	41,322		$11,493.30
	Gradation	40,822		$12,727.42
	Plan Quantity	42,375	Project I/DP:	$46,225.48

Comments: Final quantities not equal.

Subaccount: 12632 ***STA 1151-010*** ***SH 115 & Star Ranch*** ***Region: 2*** ***Supplier: 49***

Mix Design No: 100527 Process No: 1 Grading: S Price Per Ton: $47.20 **Mix Design I/DP: ($2,302.11)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2731		49.069	0.88214	($4,557.92)	0.396	
Density	6	2731	0	93.759	1.03500	$2,255.81	1.181	Den Mean: 93.683
Gradation	2	2731			1.00000	$0.00	- - - -	Grad Key Sieve:

Project Totals 12632		Tons:		I/DP:
	Asphalt Content	2,731		($4,557.92)
	Mat Density	2,731		$2,255.81
	Gradation	2,731		$0.00
	Plan Quantity	2,234	Project I/DP:	($2,302.11)

Comments:

Mix Design No: 26301A Process No: 1 Grading: S Price Per Ton: $47.15 Mix Design I/DP: ($1,534.36)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	3142		100.000	1.02500	$1,111.09	0.046	
Density		0	3142			$0.00		Den Mean:
Gradation	1	3142			0.91071	($2,645.45)	----	Grad Key Sieve:

Mix Design No: 26301B Process No: 1 Grading: S Price Per Ton: $47.15 Mix Design I/DP: $6,443.58

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	19	18566		92.666	1.03416	$8,969.92	0.160	
Density		0	18566			$0.00		Den Mean:
Gradation	3	5106		58.946	0.94753	($2,526.34)	----	Grad Key Sieve: No. 8

Mix Design No: 26301B Process No: 2 Grading: S Price Per Ton: $47.15 Mix Design I/DP: ($5,887.74)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density		0	0			$0.00		Den Mean:
Gradation	6	12000		70.061	0.94797	($5,887.74)	----	Grad Key Sieve: 3/8

Mix Design No: 26301B Process No: 3 Grading: S Price Per Ton: $47.15 Mix Design I/DP: $0.00

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density		0	0			$0.00		Den Mean:
Gradation	1	1460			1.00000	$0.00	----	Grad Key Sieve:

Mix Design No: 55702A Process No: 1 Grading: S Price Per Ton: $61.26 Mix Design I/DP: ($3,734.35)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2573		57.120	0.93669	($2,993.68)	0.333	
Density	6	2573	0	90.642	1.03500	$2,758.38	0.787	Den Mean: 93
Gradation	3	2573		50.000	0.88900	($3,499.05)	----	Grad Key Sieve: 1/2

Mix Design No: 56702 Process No: 1 Grading: S Price Per Ton: $47.15 Mix Design I/DP: $861.43

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	1218			1.00000	$0.00		
Density	4	1218	0	94.381	1.03000	$861.43	0.976	Den Mean: 93.3
Gradation	1	1218			1.00000	$0.00	----	Grad Key Sieve:

Project Totals 12644		Tons:		I/DP:
	Asphalt Content	25,499		$7,087.33
	Mat Density	25,499		$3,619.81
	Gradation	25,499		($14,558.58)
	Plan Quantity	22,546	Project I/DP:	($3,851.44)

Comments:

Subaccount: 12732 ***NH 0501-042*** ***Unaweep East*** ***Region: 3*** ***Supplier: 16***

Mix Design No: 172 Process No: 1 Grading: SX Price Per Ton: $31.99 Mix Design I/DP: $1,118.96

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3886		100.000	1.03000	$1,118.96	0.111	
Density		0	3886		1.00000	$0.00		Den Mean:
Gradation	2	3886			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 178 Process No: 1 Grading: SX Price Per Ton: $36.13 Mix Design I/DP: $7,506.51

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	13	12663		81.290	0.97897	($2,886.01)	0.139	
Density	26	12663	0	99.195	1.05500	$12,581.81	0.801	Den Mean: 93.946
Gradation	7	12663		76.592	0.97607	($2,189.29)	- - - -	Grad Key Sieve: No. 30

Mix Design No: 184 Process No: 1 Grading: SX Price Per Ton: $36.46 Mix Design I/DP: $17,834.67

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	13	12041		100.000	1.04500	$5,927.33	0.050	
Density	25	12041	0	98.879	1.05000	$10,976.55	0.779	Den Mean: 93.712
Gradation	7	12041		83.775	1.01060	$930.79	- - - -	Grad Key Sieve: No. 8

Project Totals 12732		Tons:		I/DP:
	Asphalt Content	28,590		$4,160.28
	Mat Density	28,590		$23,558.36
	Gradation	28,590		($1,258.50)
	Plan Quantity	27,930	Project I/DP:	$26,460.14

Comments:

Subaccount: 12733 ***NH 0402-057*** ***West Side of Rabbit Ears*** ***Region: 3*** ***Supplier: 21***

Mix Design No: WCT 103 Process No: 1 Grading: SX Price Per Ton: $33.92 Mix Design I/DP: $6,812.73

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	12	9796		99.838	1.04500	$4,486.43	0.088	
Density		0	9796			$0.00		Den Mean:
Gradation	6	9796		100.000	1.03500	$2,326.30	- - - -	Grad Key Sieve: All QLs100

Mix Design No: WCT 103A Process No: 1 Grading: SX Price Per Ton: $39.80 Mix Design I/DP: $1,275.10

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	2563			1.00000	$0.00		
Density	3	2563	0	100.000	1.02500	$1,275.10	0.300	Den Mean: 92.5
Gradation	1	2563			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: WCT103B Process No: 1 Grading: SX Price Per Ton: $40.24 Mix Design I/DP: $43,704.12

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	23	21992		99.518	1.05000	$13,274.19	0.082	
Density	49	21992	0	96.507	1.05077	$22,465.41	0.776	Den Mean: 93.392
Gradation	12	21992		97.744	1.04500	$7,964.52	- - - -	Grad Key Sieve: No. 4

Project Totals 12733		Tons:		I/DP:
	Asphalt Content	34,351		$17,760.62
	Mat Density	34,351		$23,740.51
	Gradation	34,351		$10,290.82
	Plan Quantity	36,553	Project I/DP:	$51,791.95

Comments:

Subaccount: 12735 ***STA 0131-040*** ***Meeker*** ***Region: 3*** ***Supplier: 29***

Mix Design No: 193A Process No: 1 Grading: SX Price Per Ton: $28.70 Mix Design I/DP: $3,200.22

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	7194		95.039	1.03500	$2,167.89	0.174	
Density		0	0			$0.00		Den Mean:
Gradation	3	7194		100.000	1.02500	$1,032.33	- - - -	Grad Key Sieve: All QLs100

Mix Design No: 194A Process No: 1 Grading: SX Price Per Ton: $28.36 Mix Design I/DP: $2,390.62

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	5438		100.000	1.03500	$1,619.45	0.051	
Density		0	0			$0.00		Den Mean:
Gradation	3	5438		77.281	1.02500	$771.17	- - - -	Grad Key Sieve: No. 4

Mix Design No: 198A Process No: 1 Grading: SX Price Per Ton: $35.59 Mix Design I/DP: $639.21

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	1437			1.00000	$0.00		
Density	3	1437	0	100.000	1.02500	$639.21	0.600	Den Mean: 93.8
Gradation						$0.00	- - - -	Grad Key Sieve:

Mix Design No: 199-A Process No: 1 Grading: SX Price Per Ton: $34.60 Mix Design I/DP: $993.57

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	1641			1.00000	$0.00		
Density	6	1641	0	100.000	1.03500	$993.57	0.729	Den Mean: 93.75
Gradation	1	1641			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 203-A Process No: 1 Grading: SX Price Per Ton: $30.87 Mix Design I/DP: $17,114.46

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	19	19042		86.876	1.00077	$135.81	0.104	
Density	35	19042	0	99.620	1.05500	$16,164.61	0.680	Den Mean: 93.74
Gradation	10	19042		85.300	1.00692	$814.04	- - - -	Grad Key Sieve: No. 4

Project Totals 12735		Tons:		I/DP:
	Asphalt Content	34,752		$3,923.15
	Mat Density	22,120		$17,797.39
	Gradation	33,315		$2,617.54
	Plan Quantity	24,686	Project I/DP:	$24,338.08

Comments:

Subaccount: 12737 ***PLH-FH 065A- Grand Mesa*** ***Region: 3*** ***Supplier: 20***

Mix Design No: 219 Process No: 1 Grading: SX Price Per Ton: $54.64 Mix Design I/DP: ($14,036.01)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	6193		82.998	1.01165	$1,182.30	0.229	
Density		0	6193			$0.00		Den Mean:
Gradation	3	6193		36.518	0.77514	($15,218.31)	- - - -	Grad Key Sieve: No. 200

Mix Design No: 227 Process No: 1 Grading: SX Price Per Ton: $54.64 Mix Design I/DP: $5,468.72

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	19	18597		99.719	1.05000	$15,241.73	0.112	
Density	38	18597	0	89.815	1.00664	$3,374.52	1.220	Den Mean: 93.803
Gradation	10	18597		72.525	0.93530	($13,147.53)	- - - -	Grad Key Sieve: No. 200

Project Totals 12737		Tons:		I/DP:
	Asphalt Content	24,790		$16,424.03
	Mat Density	24,790		$3,374.52
	Gradation	24,790		($28,365.84)
	Plan Quantity	24,568	Project I/DP:	($8,567.29)

Comments:

Subaccount: 12858 ***NH 0851-003*** ***SH 16 to Academy*** ***Region: 2*** ***Supplier: 44***

Mix Design No: 151 Process No: 1 Grading: S Price Per Ton: $45.00 **Mix Design I/DP:** ($4,366.97)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	5943		61.689	0.89423	($8,486.25)	0.114	
Density	12	5943	0	88.890	1.02081	$2,782.11	0.965	**Den Mean:** 93.167
Gradation	3	5943		100.000	1.02500	$1,337.17	- - - -	**Grad Key Sieve:** All QLs100

Mix Design No: 152 Process No: 1 Grading: S Price Per Ton: $54.00 **Mix Design I/DP:** ($1,223.85)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	2097		100.000	1.03000	$1,019.14	0.101	
Density	10	2097	0	79.215	0.97541	($1,392.36)	1.219	**Den Mean:** 93.01
Gradation	3	2097		61.629	0.96244	($850.63)	- - - -	**Grad Key Sieve:** No. 200

Project Totals 12858		**Tons:**		**I/DP:**
	Asphalt Content	8,040		($7,467.11)
	Mat Density	8,040		$1,389.75
	Gradation	8,040		$486.54
	Plan Quantity	8,042	**Project I/DP:**	($5,590.82)

Comments:

Subaccount: 12865 ***NH 0404-036*** ***US 40, Tabor to Kipling*** ***Region: 6*** ***Supplier: 33***

Mix Design No: 105847-1 Process No: 1 Grading: S Price Per Ton: $30.00 **Mix Design I/DP:** $4,273.73

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	6494		76.659	0.97643	($1,377.66)	0.203	
Density	15	7494	0	93.614	1.03999	$4,495.80	0.632	**Den Mean:** 92.94
Gradation	5	7494		84.907	1.02570	$1,155.59	- - - -	**Grad Key Sieve:** No. 8

Mix Design No: 105847-1 Process No: 2 Grading: S Price Per Ton: $30.00 **Mix Design I/DP:** ($9,000.00)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	1000			0.00000	($9,000.00)		
Density		0	0			$0.00		**Den Mean:**
Gradation						$0.00	- - - -	**Grad Key Sieve:**

Project Totals 12865		**Tons:**		**I/DP:**
	Asphalt Content	7,494		($10,377.66)
	Mat Density	7,494		$4,495.80
	Gradation	7,494		$1,155.59
	Plan Quantity	7,477	**Project I/DP:**	($4,726.27)

Comments: Single test 2 x V out.

Subaccount: 12963 ***IM 0252-329*** ***I-25 Bijou to Fillmore (N*** ***Region: 2*** ***Supplier: 49***

Mix Design No: 12963 Process No: 1 Grading: S Price Per Ton: $44.97 Mix Design I/DP: $23,039.63

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	12	11442		94.136	1.04377	$6,757.07	0.168	
Density	23	11442	0	99.389	1.05000	$12,863.67	0.644	Den Mean: 93.517
Gradation	6	11442		89.000	1.03322	$3,418.89	- - - -	Grad Key Sieve: 3/8

Mix Design No: 12963A5 Process No: 1 Grading: S Price Per Ton: $41.95 Mix Design I/DP: $11,664.55

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	7390		87.748	1.02209	$2,054.23	0.139	
Density	15	7390	0	98.188	1.05000	$7,750.26	0.696	Den Mean: 93.367
Gradation	4	7390		88.900	1.03000	$1,860.06	- - - -	Grad Key Sieve: 1/2

Project Totals 12963		Tons:		I/DP:
	Asphalt Content	18,832		$8,811.30
	Mat Density	18,832		$20,613.93
	Gradation	18,832		$5,278.95
	Plan Quantity	20,518	Project I/DP:	$34,704.18

Comments:

Subaccount: 12981 ***NH 0701-154*** ***I-70 B at 30 Rd*** ***Region: 3*** ***Supplier: 16***

Mix Design No: 217 Process No: 1 Grading: SX Price Per Ton: $70.00 Mix Design I/DP: $4,296.64

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	3597		100.000	1.03000	$2,266.11	0.118	
Density	8	3597	0	100.000	1.04000	$5,035.80	0.689	Den Mean: 94.237
Gradation	3	3597		57.721	0.94032	($3,005.27)	- - - -	Grad Key Sieve: No. 4

Project Totals 12981		Tons:		I/DP:
	Asphalt Content	3,597		$2,266.11
	Mat Density	3,597		$5,035.80
	Gradation	3,597		($3,005.27)
	Plan Quantity	3,032	Project I/DP:	$4,296.64

Comments:

Subaccount: 13024 ***STA 0091-015*** ***Frisco/Breckenridge*** ***Region: 1*** ***Supplier: 13***

Mix Design No: 112654 Process No: 1 Grading: S Price Per Ton: $40.31 Mix Design I/DP: ($11,154.57)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	15	14820		67.554	0.87859	($21,756.83)	0.284	
Density	30	14820	0	94.781	1.04317	$12,893.82	1.054	Den Mean: 94.057
Gradation	8	14820		78.842	0.98082	($2,291.56)	- - - -	Grad Key Sieve: No. 4

Project Totals 13024		Tons:		I/DP:
	Asphalt Content	14,820		($21,756.83)
	Mat Density	14,820		$12,893.82
	Gradation	14,820		($2,291.56)
	Plan Quantity	16,700	Project I/DP:	($11,154.57)

Comments:

Subaccount: 13057 ***STA 149A-018*** ***Creede - North*** ***Region: 5*** ***Supplier: 20***

Mix Design No: 125 Process No: 1 Grading: SX Price Per Ton: $41.59 **Mix Design I/DP: ($3,263.42)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	4891		96.199	1.03000	$1,830.75	0.129	
Density	6	2988	1903	100.000	1.03500	$2,174.74	0.778	Den Mean: 94.217
Gradation	3	4891		41.559	0.82133	($7,268.91)	----	Grad Key Sieve: No. 200

Mix Design No: 126 Process No: 1 Grading: SX Price Per Ton: $41.59 **Mix Design I/DP: $33,355.89**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	42	41389		94.211	1.03598	$18,578.67	0.138	
Density	83	41389	0	90.096	0.99717	($2,436.47)	0.785	Den Mean: 93.008
Gradation	21	41389		98.457	1.05000	$17,213.69	----	Grad Key Sieve: No. 4

Project Totals 13057		Tons:		I/DP:
	Asphalt Content	46,280		$20,409.42
	Mat Density	46,280		($261.73)
	Gradation	46,280		$9,944.78
	Plan Quantity	44,390	Project I/DP:	$30,092.47

Comments:

Subaccount: 13077 ***STA 0852-085*** ***SH 85 - C 470 South*** ***Region: 1*** ***Supplier: 45***

Mix Design No: 97313A Process No: 1 Grading: S Price Per Ton: $35.00 **Mix Design I/DP: $16,565.64**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	10	10000		97.666	1.04500	$4,725.00	0.026	
Density	21	10572	0	99.831	1.05000	$9,250.50	0.698	Den Mean: 94.124
Gradation	6	10572		96.476	1.03500	$2,590.14	----	Grad Key Sieve: 1/2

Mix Design No: 97313A Process No: 2 Grading: S Price Per Ton: $35.00 **Mix Design I/DP: $0.00**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	572			1.00000	$0.00		
Density		0	0			$0.00		Den Mean:
Gradation						$0.00	----	Grad Key Sieve:

Project Totals 13077		Tons:		I/DP:
	Asphalt Content	10,572		$4,725.00
	Mat Density	10,572		$9,250.50
	Gradation	10,572		$2,590.14
	Plan Quantity	9,372	Project I/DP:	$16,565.64

Comments:

Subaccount: 13092	*STA 0821-057*	*Glenwood South*	*Region: 3*	*Supplier: 16*

Mix Design No: 196 Process No: 1 Grading: SX Price Per Ton: $34.62 Mix Design I/DP: ($1,363.01)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	875			0.85000	($1,363.01)		
Density	2	875	0		1.00000	$0.00		Den Mean: 94.95
Gradation	1	875			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 200 Process No: 1 Grading: SX Price Per Ton: $36.36 Mix Design I/DP: ($979.81)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	20	19976		96.603	1.05000	$10,895.90	0.148	
Density	41	19976	0	82.088	0.94884	($18,582.45)	1.372	Den Mean: 93.412
Gradation	10	20493		96.032	1.04500	$6,706.74	- - - -	Grad Key Sieve: No. 4

Mix Design No: 200A Process No: 1 Grading: SX Price Per Ton: $38.47 Mix Design I/DP: ($3,281.85)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	517			0.45000	($3,281.85)		
Density	1	517	0		1.00000	$0.00		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

Mix Design No: 200B Process No: 1 Grading: SX Price Per Ton: $36.19 Mix Design I/DP: $12,676.54

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	9	8145		98.876	1.04000	$3,537.64	0.129	
Density	17	8145	0	99.997	1.05000	$7,370.08	0.603	Den Mean: 93.912
Gradation	5	8145		100.000	1.03000	$1,768.82	- - - -	Grad Key Sieve: All QLs100

Mix Design No: 224 Process No: 1 Grading: SX Price Per Ton: $32.95 Mix Design I/DP: $480.12

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	6697		95.732	1.03500	$2,317.09	0.172	
Density	14	6697	0	93.453	1.03983	$4,394.42	1.132	Den Mean: 93.871
Gradation	4	6697		50.833	0.85881	($6,231.39)	- - - -	Grad Key Sieve: No. 8

Mix Design No: 225 Process No: 1 Grading: SX Price Per Ton: $35.64 Mix Design I/DP: $7,017.88

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	9	8584		97.197	1.04000	$3,670.92	0.151	
Density	18	8584	0	90.043	1.02028	$3,102.17	0.980	Den Mean: 93.25
Gradation	5	8584		79.067	1.00400	$244.79	- - - -	Grad Key Sieve: No. 4

Project Totals 13092		Tons:		I/DP:
	Asphalt Content	44,794		$15,776.69
	Mat Density	44,794		($3,715.78)
	Gradation	44,794		$2,488.96
	Plan Quantity	40,294	Project I/DP:	$14,549.87

Comments:

Subaccount: 13104 NH R300-070 Grand Jct Various Locs Region: 3 Supplier: 16

Mix Design No: 202 Process No: 1 Grading: SX Price Per Ton: $41.95 Mix Design I/DP: $51,456.26

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	32	30767		95.310	1.04583	$17,747.66	0.153	
Density	62	30767	0	94.210	1.03223	$20,801.51	0.876	Den Mean: 93.376
Gradation	16	30767		96.454	1.05000	$12,907.09	- - - -	Grad Key Sieve: No. 8

Mix Design No: 202L Process No: 1 Grading: SX Price Per Ton: $42.21 Mix Design I/DP: $1,146.78

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3019		85.378	1.03000	$1,146.78	0.226	
Density		0	0			$0.00		Den Mean:
Gradation	2	3019			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: WCT 6043 Process No: 1 Grading: SX Price Per Ton: $42.07 Mix Design I/DP: $4,339.88

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3765		82.980	1.02934	$1,394.33	0.241	
Density	8	3765	0	91.731	1.03719	$2,945.55	1.240	Den Mean: 94.138
Gradation	2	3765				$0.00	- - - -	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 13104	Asphalt Content	37,551		$20,288.77
	Mat Density	34,532		$23,747.06
	Gradation	37,551		$12,907.09
	Plan Quantity	40,657	Project I/DP:	$56,942.92

Comments: No Density tests MD 202L

Subaccount: 13165 STA 059A-027 Kit Carson I-70 to SH 59 Region: 1 Supplier: 30

Mix Design No: 122676 Process No: 1 Grading: S Price Per Ton: $30.00 Mix Design I/DP: $80,559.08

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	62	61605		99.185	1.05500	$30,494.47	0.111	
Density	125	61205	0	94.952	1.03404	$31,250.89	0.978	Den Mean: 93.682
Gradation	31	61605		96.081	1.05090	$18,813.72	- - - -	Grad Key Sieve: No. 4

Mix Design No: 122676 Process No: 2 Grading: S Price Per Ton: $30.00 Mix Design I/DP: ($3,409.08)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density		400	0		0.43182	($3,409.08)		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 13165	Asphalt Content	61,605		$30,494.47
	Mat Density	61,605		$27,841.81
	Gradation	61,605		$18,813.72
	Plan Quantity	62,570	Project I/DP:	$77,150.00

Comments: 1 test 2xV out.

Subaccount: 13185 ***NH 0505-036*** ***RR Overpass to Arkansa*** ***Region: 2*** ***Supplier: 17***

Mix Design No: 125 Process No: 1 Grading: S Price Per Ton: $38.64 **Mix Design I/DP: $9,183.24**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	9	7353		84.413	1.00441	$375.52	0.208	
Density	15	7353	0	96.553	1.05000	$7,103.00	0.992	Den Mean: 93.827
Gradation	5	7353		87.987	1.03000	$1,704.72	- - - -	Grad Key Sieve: No. 8

Mix Design No: 141 Process No: 1 Grading: S Price Per Ton: $45.36 **Mix Design I/DP: ($16,080.37)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	14	11613		67.540	0.88303	($18,484.83)	0.247	
Density	24	11613	0	86.689	0.99513	($1,282.90)	1.256	Den Mean: 94.487
Gradation	7	11613		92.756	1.03500	$3,687.36	- - - -	Grad Key Sieve: No. 4

Project Totals 13185		Tons:		I/DP:
	Asphalt Content	18,966		($18,109.31)
	Mat Density	18,966		$5,820.10
	Gradation	18,966		$5,392.08
	Plan Quantity	17,237	Project I/DP:	($6,897.13)

Comments:

Subaccount: 13240 ***NH 0243-062*** ***Platte & Powers*** ***Region: 2*** ***Supplier: 49***

Mix Design No: SCH 1192 Process No: 1 Grading: S Price Per Ton: $39.10 **Mix Design I/DP: ($1,542.09)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	12	11445		87.608	1.01467	$1,969.66	0.188	
Density	23	11445	0	85.283	0.98691	($2,929.80)	1.075	Den Mean: 93.135
Gradation	7	11445		80.033	0.99350	($581.95)	- - - -	Grad Key Sieve: No. 8

Mix Design No: SCH11922 Process No: 1 Grading: S Price Per Ton: $33.55 **Mix Design I/DP: $36,544.51**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	32	31319		94.402	1.04011	$12,643.03	0.155	
Density	63	31319	0	94.037	1.03073	$16,147.29	0.907	Den Mean: 93.417
Gradation	16	31319		93.010	1.03690	$7,754.19	- - - -	Grad Key Sieve: No. 200

Project Totals 13240		Tons:		I/DP:
	Asphalt Content	42,764		$14,612.69
	Mat Density	42,764		$13,217.49
	Gradation	42,764		$7,172.24
	Plan Quantity	37,749	Project I/DP:	$35,002.42

Comments:

Subaccount: 13255 NH 2854-084 Fairplay N/S Region: 1 Supplier: 17

Mix Design No: 103597 Process No: 1 Grading: SX Price Per Ton: $33.20 Mix Design I/DP: ($13,963.72)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	7609		70.276	0.93136	($5,201.95)	0.279	
Density	17	8609	0	94.267	1.04288	$6,128.13	1.097	Den Mean: 93.959
Gradation	4	8609		37.090	0.73952	($14,889.90)	----	Grad Key Sieve: 1/2

Mix Design No: 103597 Process No: 2 Grading: SX Price Per Ton: $33.20 Mix Design I/DP: ($9,960.00)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	1000			0.00000	($9,960.00)		
Density		0	0			$0.00		Den Mean:
Gradation						$0.00	----	Grad Key Sieve:

Mix Design No: 103597A Process No: 1 Grading: SX Price Per Ton: $33.20 Mix Design I/DP: $11,974.46

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	12	11888		87.862	1.01590	$1,882.95	0.189	
Density	26	12888	0	93.064	1.03411	$7,297.63	1.067	Den Mean: 93.646
Gradation	7	12888		89.389	1.03265	$2,793.88	----	Grad Key Sieve: 1/2

Mix Design No: 103597A Process No: 2 Grading: SX Price Per Ton: $33.20 Mix Design I/DP: ($6,349.50)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	1000			0.36250	($6,349.50)		
Density		0	0			$0.00		Den Mean:
Gradation						$0.00	----	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 13255	Asphalt Content	21,497		($19,628.50)
	Mat Density	21,497		$13,425.76
	Gradation	21,497		($12,096.02)
	Plan Quantity	21,133	Project I/DP:	($18,298.76)

Comments: 2 tests 2 x V out

Subaccount: 13386 C 1603-017 US 160 Sierra Grande H Region: 5 Supplier: 18

Mix Design No: 138 Process No: 1 Grading: SX Price Per Ton: $47.50 Mix Design I/DP: $1,004.71

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	4611		97.068	1.03000	$1,971.20	0.111	
Density	9	4111	500	83.689	1.00094	$91.62	1.308	Den Mean: 93.333
Gradation	3	4611		64.255	0.97584	($1,058.11)	----	Grad Key Sieve: No. 30

		Tons:		I/DP:
Project Totals 13386	Asphalt Content	4,611		$1,971.20
	Mat Density	4,611		$91.62
	Gradation	4,611		($1,058.11)
	Plan Quantity	4,172	Project I/DP:	$1,004.71

Comments:

Subaccount: 13556 STA 0402-062 Jct 134 to Tabernash Region: 3 Supplier: 20

Mix Design No: 265 Process No: 1 Grading: SX Price Per Ton: $33.98 Mix Design I/DP: $4,296.52

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	6462		90.785	1.03379	$2,226.10	0.148	
Density	4	2334	0	88.776	1.03000	$1,189.68	0.838	Den Mean: 92.975
Gradation	3	6462		75.513	1.02005	$880.74	- - - -	Grad Key Sieve: No. 4

		Tons:		I/DP:
Project Totals 13556	Asphalt Content	6,462		$2,226.10
	Mat Density	2,334		$1,189.68
	Gradation	6,462		$880.74
	Plan Quantity	66,756	Project I/DP:	$4,296.52

Comments: Missing density tests. Final quant. 60,000 tons less than Plan.

Subaccount: 92054 BRF 002-1(018) SH 2 at UPRR and Smit Region: 6 Supplier: 10

Mix Design No: 105862-1 Process No: 1 Grading: S Price Per Ton: $39.40 Mix Design I/DP: $3,713.82

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	7539		99.914	1.04000	$3,564.44	0.123	
Density	14	7039	0	83.307	0.98822	($1,632.84)	1.173	Den Mean: 93.15
Gradation	4	7539		98.425	1.03000	$1,782.22	- - - -	Grad Key Sieve: No. 4

Mix Design No: 105862-1 Process No: 2 Grading: S Price Per Ton: $39.40 Mix Design I/DP: ($7,163.61)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density	1	500	0		0.27273	($7,163.61)		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

Mix Design No: 105894 Process No: 1 Grading: S Price Per Ton: $39.40 Mix Design I/DP: ($10,373.87)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	7287		62.785	0.88980	($9,491.63)	0.145	
Density	15	7287	0	86.974	1.00671	$963.74	1.317	Den Mean: 93.693
Gradation	4	7287		67.817	0.96785	($1,845.98)	- - - -	Grad Key Sieve: No. 4

		Tons:		I/DP:
Project Totals 92054	Asphalt Content	14,826		($5,927.19)
	Mat Density	14,826		($7,832.71)
	Gradation	14,826		($63.76)
	Plan Quantity	13,319	Project I/DP:	($13,823.66)

Comments: Single test 2 x V out.

Subaccount: 92911 IM 0252-214 I-25 @ Colfax Region: 6 Supplier: 45

Mix Design No: 105869 Process No: 1 Grading: S Price Per Ton: $56.16 Mix Design I/DP: $13,013.84

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	13	11721		87.123	1.01070	$2,113.65	0.107	
Density	23	11721	0	92.556	1.03209	$10,562.05	0.863	Den Mean: 93.23
Gradation	6	11721		80.819	1.00257	$338.14	- - - -	Grad Key Sieve: No. 8

		Tons:		I/DP:
Project Totals 92911	Asphalt Content	11,721		$2,113.65
	Mat Density	11,721		$10,562.05
	Gradation	11,721		$338.14
	Plan Quantity	13,782	Project I/DP:	$13,013.84

Comments:

Totals for all Projects Projects with Bid Dates from 1/1/00 to 12/31/00.

Number of Processes: 98

	Tons:	I/DP:
Asphalt Content	905,343	$107,111.43
Mat Density	883,064	$165,808.58
Gradation	901,906	($18,883.33)
	Total I/DP:	$254,036.68

Calculated Pay Factor Composite and I/DP by Region

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

Projects with Plan Quantities from 0 to 200000 tons.

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
13077	05/11/00	STA 0852-085		S	10,572	$35.00	1.04477	$16,565.64	45
13165	12/21/00	STA 059A-02		S	61,605	$30.00	1.04174	$77,150.01	30
12362	07/20/00	STA 086A-03	1	S	16,000	$41.00	1.03730	$22,940.43	14
11543	06/15/00	STA 3851-012	1	S	11,753	$51.00	1.02921	$17,510.95	61
11848	08/10/00	NH 2854-068	1	S	22,000	$45.79	1.02000	$20,150.97	41
13024	01/06/00	STA 0091-015	1	S	14,820	$40.31	0.98133	($11,154.57)	13
13255	12/07/00	NH 2854-084	1	SX	21,497	$33.20	0.97436	($18,298.76)	17
11849	05/04/00	IM 0704-184	1	SX	4,222	$42.42	0.91509	($15,206.30)	45

Region 1

Number of Projects: 8 — CPFC: Maximum: 1.04477

Total Tons: 162,469 — Minimum: 0.91509

Average: 1.00547

Incentive/Disincentive Payments

Positive ID/Ps: 5 — *Sum I/DPs:* $109,658.37

Negative ID/Ps: 3 — *Maximum:* $77,150.01

Minimum: ($18,298.76)

Average IDP: $13,707.30

Region 2

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
12963	01/20/00	IM 0252-329	2	S	18,832	$43.78	1.04209	$34,704.18	49
12598	03/23/00	STA 1604-005	2	S	40,822	$37.50	1.03020	$46,225.48	14
13240	04/20/00	NH 0243-062	2	S	42,764	$35.04	1.02336	$35,002.42	49
12583	01/27/00	IM 0251-155	2	S	17,655	$43.05	1.01025	$7,790.15	32
11581	04/27/00	BR 067A-008	2	S	13,290	$40.00	1.00557	$2,961.28	17
13185	04/06/00	NH 0505-036	2	S	18,966	$42.75	0.99149	($6,897.13)	17
12858	08/24/00	NH 0851-003	2	S	8,040	$47.35	0.98531	($5,590.82)	44
12632	01/13/00	STA 1151-010	2	S	2,731	$47.20	0.98214	($2,302.11)	49
11959	01/13/00	STA 0242-026	2	S	33,353	$39.00	0.96448	($46,207.36)	49
11861	03/09/00	BR 067A-010	2	S	3,675	$42.00	0.81968	($27,832.65)	44

Region 2

Number of Projects: 10
Total Tons: 200,128

CPFC: Maximum: 1.04209
Minimum: 0.81968
Average: 0.98546

Incentive/Disincentive Payments

Positive ID/Ps: 5
Negative ID/Ps: 5

Sum I/DPs: $37,853.44
Maximum: $46,225.48
Minimum: ($46,207.36)
Average IDP: $3,785.34

Region 3

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
12018	09/14/00	STR 131A-02	3	SX	23,204	$45.55	1.04569	$48,296.09	21
12733	01/20/00	NH 0402-057	3	SX	34,351	$38.40	1.03926	$51,791.95	21
13104	05/11/00	NH R300-070	3	SX	37,551	$41.98	1.03612	$56,942.92	16
11805	07/13/00	BR 006A-028	3	SX	2,133	$72.14	1.02628	$4,043.85	16
12732	01/27/00	NH 0501-042	3	SX	28,590	$35.71	1.02592	$26,460.14	16
13556	12/21/00	STA 0402-062	3	SX	6,462	$33.98	1.01957	$4,296.52	20
12981	06/29/00	NH 0701-154	3	SX	3,597	$70.00	1.01706	$4,296.64	16
12153	10/26/00	NHS 0501-03	3	SMA	58,543	$39.65	1.01138	$26,411.26	16
13092	06/22/00	STA 0821-057	3	SX	44,794	$35.67	1.00911	$14,549.86	16
12735	01/20/00	STA 0131-040	3	SX	34,752	$30.40	1.00590	$6,230.05	29
12737	05/18/00	PLH-FH 065A	3	SX	24,790	$54.64	0.99368	($8,567.29)	20
12271	04/06/00	SP 0821-053	3	SX	30,674	$50.68	0.99241	($11,804.81)	16
12238	12/14/00	NH 0702-217	3	SX	74,888	$56.50	0.96192	($161,120.55)	31

Region 3

Number of Projects: 13 CPFC: Maximum: 1.04569
Total Tons: 404,329 Minimum: 0.96192
Average: 1.01418

Incentive/Disincentive Payments

Positive ID/Ps: 10 *Sum I/DPs:* $61,826.63
Negative ID/Ps: 3 *Maximum:* $56,942.92
Minimum: ($161,120.55)
Average IDP: $4,755.89

Region 4

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
12644	10/26/00	IM 0762-041	4	S	25,499	$48.57	0.99692	($3,851.44)	60

Region 4

Number of Projects: 1 CPFC: Maximum: 0.99692
Total Tons: 25,499 Minimum: 0.99692
Average: 0.99692

Incentive/Disincentive Payments

Positive ID/Ps: 0 *Sum I/DPs:* ($3,851.44)
Negative ID/Ps: 1 *Maximum:* ($3,851.44)
Minimum: ($3,851.44)
Average IDP: ($3,851.44)

Region 5

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13057	01/27/00	STA 149A-01	5	SX	46,280	$41.59	1.01563	$30,092.47	20
13386	07/27/00	C 1603-017	5	SX	4,611	$47.50	1.00459	$1,004.72	18

Region 5

Number of Projects: 2 CPFC: Maximum: 1.01563
Total Tons: 50,891 Minimum: 1.00459
Average: 1.01011

Incentive/Disincentive Payments

Positive ID/Ps: 2
Negative ID/Ps: 0

Sum I/DPs: $31,097.19
Maximum: $30,092.47
Minimum: $1,004.72
Average IDP: $15,548.60

Region 6

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
92911	08/17/00	IM 0252-214	6	S	11,721	$56.16	1.01977	$13,013.84	45
12056	08/31/00	IMB 0761-172	6	S	16,000	$42.00	1.01019	$6,845.76	41
11911	11/30/00	STU C100-01	6	S	11,986	$38.00	0.99569	($1,965.20)	33
12865	04/20/00	NH 0404-036	6	S	7,494	$30.00	0.97898	($4,726.27)	33
92054	09/21/00	BRF 002-1(01	6	S	14,826	$39.40	0.97634	($13,823.66)	10

Region 6

Number of Projects: 5 CPFC: Maximum: 1.01977
Total Tons: 62,027 Minimum: 0.97634
Average: 0.99619

Incentive/Disincentive Payments

Positive ID/Ps: 2
Negative ID/Ps: 3

Sum I/DPs: ($655.53)
Maximum: $13,013.84
Minimum: ($13,823.66)
Average IDP: ($131.11)

Statewide Totals:

1/1/00 to 12/31/00. Plan Quantities 0 to 200000 tons.

Number of Projects: 39 CPFC Maximum: 1.04569
Total Tons: 905,343 Minimum: 0.81968
Average: 1.00207

Incentive/Disincentive Payments

Positive ID/Ps: 24
Negative ID/Ps: 15

Sum I/DPs: $235,928.66
Maximum: $77,150.01
Minimum: ($161,120.55)
Average IDP: $6,049.45

Asphalt Content - Process Information

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/00.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading: S

Bid Date	Subacct.	Region	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.
08/10/00	11848	1	19014	S	$45.79	129786	1	4000	4	100.000	1.03000	0.096
01/27/00	12583	2	17609	S	$41.00	107229E	1	2474	3	100.000	1.02500	0.025
10/26/00	12644	4	22546	S	$47.15	26301A	1	3142	3	100.000	1.02500	0.046
08/24/00	12858	2	8042	S	$54.00	152		2097	5	100.000	1.03000	0.101
09/21/00	92054	6	13319	S	$39.40	105862-1		7539	8	99.914	1.04000	0.123
03/23/00	12598	2	42375	S	$37.50	124	1	15000	15	99.869	1.05000	0.111
12/21/00	13165	1	62570	S	$30.00	122676	1	61605	62	99.185	1.05500	0.111
07/20/00	12362	1	34474	S	$41.00	121095	1	16000	16	98.961	1.05000	0.081
08/31/00	12056	6	14366	S	$42.00	105863	1	16000	16	98.663	1.05000	0.129
05/11/00	13077	1	9372	S	$35.00	97313A	1	10000	10	97.666	1.04500	0.026
03/23/00	12598	2	42375	S	$37.50	124-B	1	25822	26	95.152	1.04670	0.155
04/20/00	13240	2	37749	S	$33.55	H119228	1	31319	32	94.402	1.04011	0.155
01/20/00	12963	2	20518	S	$44.97	12963	1	11442	12	94.136	1.04377	0.168
06/15/00	11543	1	10912	S	$51.00	85810-1	1	11753	12	93.655	1.04181	0.147
10/26/00	12644	4	22546	S	$47.15	26301B	1	18566	19	92.666	1.03416	0.160
08/10/00	11848	1	19014	S	$45.79	139783-1	1	18000	18	90.843	1.02470	0.179
01/27/00	12583	2	17609	S	$41.00	184	1	6781	7	89.718	1.03380	0.104
01/20/00	12963	2	20518	S	$41.95	12963A5	1	7390	8	87.748	1.02209	0.139
04/20/00	13240	2	37749	S	$39.10	119228A	1	11445	12	87.608	1.01467	0.188
08/17/00	92911	6	13782	S	$56.16	105869	1	11721	13	87.123	1.01070	0.107
04/06/00	13185	2	17237	S	$38.64	125	1	7353	9	84.413	1.00441	0.208
01/13/00	11959	2	30699	S	$39.00	119228A	1	32353	33	83.648	0.96649	0.216
04/27/00	11581	2	12536	S	$40.00	93629	1	13290	13	80.017	0.97149	0.198
11/30/00	11911	6	11936	S	$38.00	105881	1	11986	11	77.609	0.96308	0.223
04/20/00	12865	6	7477	S	$30.00	105847-1	1	6494	7	76.659	0.97643	0.203
01/06/00	13024		16700	S	$40.31	112654	1	14820	15	67.554	0.87859	0.284
04/06/00	13185	2	17237	S	$45.36	141	1	11613	14	67.540	0.88303	0.247
09/21/00	92054	6	13319	S	$39.40	105894	1	7287	7	62.785	0.88980	0.145
08/24/00	12858	2	8042	S	$45.00	151	1	5943	6	61.689	0.89423	0.114
10/26/00	12644	4	22546	S	$61.26	55702A	1	2573	3	57.120	0.93669	0.333
01/27/00	12583	2	17609	S	$41.00	T106500	1	4374	5	56.533	0.87694	0.315
01/13/00	12632	2	2234	S	$47.20	100527	1	2731	3	49.069	0.88214	0.396
03/09/00	11861	2	3600	S	$42.00	31318	1	3675	5	44.871	0.78416	0.194

Totals Grading: S

Number of Processes: 33 Total Tons: 416,588

	Quality Level	Pay Factor	St. Dev.
Maximum:	100.000	1.05500	0.396
Minimum:	44.871	0.78416	0.025
Weighted Average:	88.866	1.00864	0.158

Grading: SMA

Bid Date	Subacct.	Region	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.
10/26/00	12153	3	58296	SM	$48.03	306	1	5958	7	78.705	0.98697	0.242
10/26/00	12153	3	58296	SM	$48.53	291A	1	11075	10	70.682	0.92325	0.163

Totals Grading: SMA

Number of Processes: 2 Total Tons: 17,033

	Quality Level	Pay Factor	St. Dev.
Maximum:	78.705	0.98697	0.242
Minimum:	70.682	0.92325	0.163
Weighted Average:	73.488	0.94554	0.191

Grading: SX

Bid Date	Subacct.	Region	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.
07/13/00	11805	3	1942	SX	$72.14	Γ 601101	1	2133	3	100.000	1.02500	0.080
01/27/00	12732	3	27930	SX	$36.46	184	1	12041	13	100.000	1.04500	0.050
01/27/00	12732	3	27930	SX	$31.99	172	1	3886	4	100.000	1.03000	0.111
01/20/00	12735	3	24686	SX	$28.36	194A	1	5438	6	100.000	1.03500	0.051
06/29/00	12981	3	3032	SX	$70.00	217	1	3597	5	100.000	1.03000	0.118
01/20/00	12733	3	36553	SX	$33.92	/CT 103	1	9796	12	99.838	1.04500	0.088
09/14/00	12018	3	19124	SX	$45.55	244	1	23204	24	99.758	1.05000	0.104
05/18/00	12737	3	24568	SX	$54.64	227	1	18597	19	99.719	1.05000	0.112
01/20/00	12733	3	36553	SX	$40.24	/CT103B	1	21992	23	99.518	1.05000	0.082
04/06/00	12271	3	27140	SX	$53.74	211A	1	12203	12	99.004	1.04500	0.132
06/22/00	13092	3	40294	SX	$36.19	200B	1	8145	9	98.876	1.04000	0.129
10/26/00	12153	3	58296	SX	$36.53	295	1	5195	5	98.246	1.03000	0.093
06/22/00	13092	3	40294	SX	$35.64	225	1	8584	9	97.197	1.04000	0.151
07/27/00	13386	5	4172	SX	$47.50	138	1	4611	5	97.068	1.03000	0.111
06/22/00	13092	3	40294	SX	$36.36	200	1	19976	20	96.603	1.05000	0.148
01/27/00	13057	5	44390	SX	$41.59	125	1	4891	5	96.199	1.03000	0.129
06/22/00	13092	3	40294	SX	$32.95	224	1	6697	7	95.732	1.03500	0.172
05/11/00	13104	3	40657	SX	$41.95	202	1	30767	32	95.310	1.04583	0.153
12/14/00	12238	3	98733	SX	$62.00	99994	1	11311	23	95.297	1.04783	0.155
01/20/00	12735	3	24686	SX	$28.70	193A	1	7194	6	95.039	1.03500	0.174
01/27/00	13057	5	44390	SX	$41.59	126	1	41389	42	94.211	1.03598	0.138
12/21/00	13556	3	66756	SX	$33.98	265	1	6462	8	90.785	1.03379	0.148
10/26/00	12153	3	58296	SX	$36.15	298	1	23983	24	89.254	1.01152	0.188
12/14/00	12238	3	98733	SX	$62.00	99996	1	4871	10	88.884	1.02327	0.190
04/06/00	12271	3	27140	SX	$47.91	220	1	16016	18	88.521	1.01169	0.194
12/14/00	12238	3	98733	SX	$62.00	99995A	1	10638	10	88.040	1.01957	0.190
12/07/00	13255		21133	SX	$33.20	103597A		11888	12	87.862	1.01590	0.189
01/20/00	12735	3	24686	SX	$30.87	203-A	1	19042	19	86.876	1.00077	0.104
12/14/00	12238	3	98733	SX	$44.00	270	1	22885	30	86.570	0.98954	0.187
05/11/00	13104	3	40657	SX	$42.21	202L	1	3019	4	85.378	1.03000	0.226
12/14/00	12238	3	98733	SX	$62.00	99995	1	25183	50	84.225	0.96063	0.183
05/18/00	12737	3	24568	SX	$54.64	219	1	6193	6	82.998	1.01165	0.229
05/11/00	13104	3	40657	SX	$42.07	Γ 604300	1	3765	4	82.980	1.02934	0.241
01/27/00	12732	3	27930	SX	$36.13	178	1	12663	13	81.290	0.97897	0.139
05/04/00	11849	1	8161	SX	$42.42	109758	1	4222	7	78.967	0.98827	0.240
10/26/00	12153	3	58296	SX	$35.26	259	1	8315	8	77.249	0.97235	0.210
12/07/00	13255	1	21133	SX	$33.20	103597	1	7609	8	70.276	0.93136	0.279
10/26/00	12153	3	58296	SX	$35.42	293B	1	3095	3	51.883	0.90246	0.358

Totals Grading: SX

Number of Processes: 38 Total Tons: 451,496

	Quality Level	Pay Factor	St. Dev.
Maximum:	100.000	1.05000	0.358
Minimum:	51.883	0.90246	
Weighted Average:	92.107	1.02238	

Asphalt Content - Totals 1/1/00 to 12/31/00. Plan Quantities from 0 to 200000 tons.

			Quality Level	Pay Factor	St. Dev.
Number of Processes: 73	Total Tons: 885,117	Maximum:	100.000	1.05500	0.396
		Minimum:	44.871	0.78416	0.025
		Weighted Average:	90.223	1.01444	0.154

Asphalt Content - Recap by Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/00.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.
Weighted average used for: Price, Pay Factor, St. Dev., and Quality Level

Grading: S

	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
Region: 1	7	136,178	137	$37.14	1.02860	0.132	94.049	100.000	67.554
Region: 2	17	195,102	208	$39.37	0.99655	0.177	86.072	100.000	44.871
Region: 4	3	24,281	25	$48.65	1.02265	0.164	89.848	100.000	57.120
Region: 6	6	61,027	62	$42.03	0.99719	0.152	85.840	99.914	62.785
Totals: S	33	416,588	432	$39.57	1.00864	0.158	88.866	100.000	44.871

Grading: SMA

	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
Region: 3	2	17,033	17	$48.36	0.94554	0.191	73.488	78.705	70.682
Totals: SMA	2	17,033	17	$48.36	0.94554	0.191	73.488	78.705	70.682

Grading: SX

	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
Region: 1	3	23,719	27	$34.84	0.98386	0.227	80.637	87.862	70.276
Region: 3	32	376,886	439	$43.68	1.02312	0.147	92.484	100.000	51.883
Region: 5	3	50,891	52	$42.13	1.03486	0.135	94.661	97.068	94.211
Totals: SX	38	451,496	518	$43.04	1.02238	0.150	92.107	100.000	51.883

Statewide Totals

Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
73	885,117	967	$41.51	1.01444	0.154	90.223	100.000	44.871

Mat Density - Process Information

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/00.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading: S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.	Mean
01/27/00	12583	2	17609	S	$50.00	07230C	1	1262	3	100.000	1.02500	0.577	92.67
01/27/00	12583	2	17609	S	$50.00	06500A	1	1103	3	100.000	1.02500	1.012	94.53
07/20/00	12362	1	34474	S	$41.00	121095	1	14000	28	99.933	1.05500	0.633	93.88
05/11/00	13077	1	9372	S	$35.00	97313A		10572	21	99.831	1.05000	0.698	94.12
08/10/00	11848	1	19014	S	$45.79	129786	1	4000	8	99.432	1.04000	0.648	93.33
01/20/00	12963	2	20518	S	$44.97	12963	1	11442	23	99.389	1.05000	0.644	93.52
01/20/00	12963	2	20518	S	$41.95	12963A5	1	7390	15	98.188	1.05000	0.696	93.37
04/06/00	13185	2	17237	S	$38.64	125	1	7353	15	96.553	1.05000	0.992	93.83
03/23/00	12598	2	42375	S	$37.50	124-B	1	25822	51	96.028	1.04720	0.795	93.38
12/21/00	13165	1	62570	S	$30.00	122676	1	61205	125	94.952	1.03404	0.978	93.68
01/27/00	12583	2	17609	S	$41.00	184	1	6781	14	94.921	1.04500	1.076	94.12
01/06/00	13024		16700	S	$40.31	112654	1	14820	30	94.781	1.04317	1.054	94.06
10/26/00	12644	4	22546	S	$47.15	56702	1	1218	4	94.381	1.03000	0.976	93.3
01/27/00	12583	2	17609	S	$41.00	106500	1	4374	9	94.260	1.04000	1.124	93.78
03/09/00	11861	2	3600	S	$42.00	31318	1	3675	10	94.104	1.04415	0.554	92.83
04/20/00	13240	2	37749	S	$33.55	119228	1	31319	63	94.037	1.03073	0.907	93.42
08/10/00	11848	1	19014	S	$45.79	39783-1	1	17000	34	94.018	1.03692	0.736	93.13
01/13/00	12632	2	2234	S	$47.20	100527	1	2731	6	93.759	1.03500	1.181	93.68
04/20/00	12865	6	7477	S	$30.00	05847-1	1	7494	15	93.614	1.03999	0.632	92.94
08/17/00	92911	6	13782	S	$56.16	105869	1	11721	23	92.556	1.03209	0.863	93.23
06/15/00	11543	1	10912	S	$51.00	85810-1	1	11753	24	90.696	1.02046	1.044	93.39
10/26/00	12644	4	22546	S	$61.26	55702A	1	2573	6	90.642	1.03500	0.787	93
08/24/00	12858	2	8042	S	$45.00	151		5943	12	88.890	1.02081	0.965	93.17
11/30/00	11911	6	11936	S	$38.00	105881	1	11986	25	87.497	0.99952	0.565	92.65
09/21/00	92054	6	13319	S	$39.40	105894	1	7287	15	86.974	1.00671	1.317	93.69
04/06/00	13185	2	17237	S	$45.36	141	1	11613	24	86.689	0.99513	1.256	94.49
01/13/00	11959	2	30699	S	$39.00	119228A	1	32853	66	85.736	0.96505	1.055	93.14
04/20/00	13240	2	37749	S	$39.10	119228A	1	11445	23	85.283	0.98691	1.075	93.14
08/31/00	12056	6	14366	S	$42.00	105863	1	16000	32	84.628	0.97437	1.138	93.18
09/21/00	92054	6	13319	S	$39.40	05862-1	1	7039	14	83.307	0.98822	1.173	93.15
03/23/00	12598	2	42375	S	$37.50	124	1	15500	31	82.629	0.96091	0.641	92.60
01/27/00	12583	2	17609	S	$50.00	195	1	1661	4	80.812	1.02262	1.623	93.5
08/24/00	12858	2	8042	S	$54.00	152	1	2097	10	79.215	0.97541	1.219	93.01
01/27/00	12583	2	17609	S	$41.00	107229E	1	2474	5	73.301	0.97804	0.894	92.6

Grading: S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.	Mean

Totals - Grading: S

				Quality Level	Pay Factor	St. Dev.	Mean
Number of Processes: 34	Total Tons: 385,506	Maximum:		100.000	1.05500	1.623	94.533
		Minimum:		73.301	0.96091	0.554	92.600
		Weighted Average:		92.015	1.02019	0.915	93.432

Grading: SMA

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.	Mean
10/26/00	12153	3	58296	SMA	$48.53	291A	1	11075	22	93.324	1.03686	0.939	95.61
10/26/00	12153	3	58296	SMA	$48.03	306	1	5958	12	86.544	1.00943	1.170	94.31

Totals - Grading: SMA

			Quality Level	Pay Factor	St. Dev.	Mean
Number of Processes: 2	Total Tons: 17,033	Maximum:	93.324	1.03686	1.170	95.605
		Minimum:	86.544	1.00943	0.939	94.308
		Weighted Average:	90.952	1.02727	1.020	95.151

Grading: SX

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.	Mean
01/20/00	12733	3	36553	SX	$39.80	CT 103A	1	2563	3	100.000	1.02500	0.300	92.5
01/20/00	12735	3	24686	SX	$35.59	198A	1	1437	3	100.000	1.02500	0.600	93.8
01/20/00	12735	3	24686	SX	$34.60	199-A	1	1641	6	100.000	1.03500	0.729	93.75
06/29/00	12981	3	3032	SX	$70.00	217	1	3597	8	100.000	1.04000	0.689	94.24
01/27/00	13057	5	44390	SX	$41.59	125	1	2988	6	100.000	1.03500	0.778	94.22
06/22/00	13092	3	40294	SX	$36.19	200B		8145	17	99.997	1.05000	0.603	93.91
10/26/00	12153	3	58296	SX	$36.53	295	1	5195	10	99.962	1.04500	0.630	93.58
10/26/00	12153	3	58296	SX	$35.26	259	1	8315	17	99.948	1.05000	0.597	94.34
01/20/00	12735	3	24686	SX	$30.87	203-A		19042	35	99.620	1.05500	0.680	93.74
10/26/00	12153	3	58296	SX	$35.42	293B	1	3095	6	99.456	1.03500	0.652	93.22
01/27/00	12732	3	27930	SX	$36.13	178	1	12663	26	99.195	1.05500	0.801	93.95
01/27/00	12732	3	27930	SX	$36.46	184	1	12041	25	98.879	1.05000	0.779	93.71
04/06/00	12271	3	27140	SX	$53.74	211A	1	12203	24	98.472	1.05000	0.520	93.08
09/14/00	12018	3	19124	SX	$45.55	244	1	23204	47	97.812	1.05500	0.734	93.46
10/26/00	12153	3	58296	SX	$36.15	298	1	23983	48	97.346	1.05500	0.829	93.6
01/20/00	12733	3	36553	SX	$40.24	CT103B	1	21992	49	96.507	1.05077	0.776	93.39
12/07/00	13255	1	21133	SX	$33.20	103597	1	8609	17	94.267	1.04288	1.097	93.96
05/11/00	13104	3	40657	SX	$41.95	202	1	30767	62	94.210	1.03223	0.876	93.38
06/22/00	13092	3	40294	SX	$32.95	224	1	6697	14	93.453	1.03983	1.132	93.87
12/07/00	13255	1	21133	SX	$33.20	103597A	1	12888	26	93.064	1.03411	1.067	93.65
07/13/00	11805	3	1942	SX	$72.14	601101	1	2133	8	91.836	1.03756	1.094	93.48
05/11/00	13104	3	40657	SX	$42.07	604300	1	3765	8	91.731	1.03719	1.240	94.14
01/27/00	13057	5	44390	SX	$41.59	126	1	41389	83	90.096	0.99717	0.785	93.01
06/22/00	13092	3	40294	SX	$35.64	225	1	8584	18	90.043	1.02028	0.980	93.25
05/18/00	12737	3	24568	SX	$54.64	227		18597	38	89.815	1.00664	1.220	93.80
12/21/00	13556	3	66756	SX	$33.98	265	1	2334	4	88.776	1.03000	0.838	92.98
12/14/00	12238	3	98733	SX	$62.00	99995	1	25183	49	88.584	0.99392	1.220	93.63
07/27/00	13386	5	4172	SX	$47.50	138	1	4111	9	83.689	1.00094	1.308	93.33
04/06/00	12271	3	27140	SX	$47.91	220	1	16016	33	83.168	0.96301	1.033	93
06/22/00	13092	3	40294	SX	$36.36	200	1	19976	41	82.088	0.94884	1.372	93.41
12/14/00	12238	3	98733	SX	$62.00	99994	1	11311	21	80.252	0.95557	1.062	94.99
12/14/00	12238	3	98733	SX	$44.00	270	1	22885	38	78.281	0.92115	1.473	93.32
12/14/00	12238	3	98733	SX	$62.00	99996		4566	6	77.957	0.98963	1.118	93.92
04/06/00	12271	3	27140	SX	$53.51	211	1	2455	5	71.694	0.97000	1.125	92.7
05/04/00	11849	1	8161	SX	$42.42	109758	1	4136	12	58.793	0.83781	1.768	92.46
12/14/00	12238	3	98733	SX	$62.00	99995A	1	10078	18	57.865	0.78583	1.270	93.29

Grading: SX

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.	Mean

Totals - Grading: SX

					Quality Level	Pay Factor	St. Dev.	
Number of Processes: 36	Total Tons: 418,584	Maximum:	100.000	1.05500	1.768	94.990
		Minimum:	57.865	0.78583	0.300	92.456
		Weighted Average:	90.848	1.00897	0.955	93.518

Mat Density - Totals 1/1/00 to 12/31/0 Plan Quantities from 0 to 200000 tons.

			Quality Level	Pay Factor	St. Dev.	
Number of Processes: 72	Total Tons: 821,123	Maximum:	100.000	1.05500	1.768	95.605
		Minimum:	57.865	0.78583	0.300	92.456
		Weighted Average:	91.398	1.01462	0.937	

Mat Density - Recap by Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/00.
Projects with Plan Quantities from 0 to 200000 tons.
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.	Quality Level High	Quality Level Low
Region 1	7	133,350	270	$37.03	1.03787	0.893	93.67	95.483	99.933	90.696
Region 2	19	186,838	387	$39.55	1.01275	0.925	93.37	90.892	100.000	73.301
Region 4	2	3,791	10	$56.73	1.03339	0.848	93.10	91.843	94.381	90.642
Region 6	6	61,527	124	$41.85	1.00367	0.938	93.12	87.918	93.614	83.307
Totals: S	34	385,506	791	$39.21	1.02019	0.915	93.43	92.015	100.000	73.301

Grading: SMA

	Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Quality Level Avg.	Quality Level High	Quality Level Low
Region 3	2	17,033	34	$48.36	1.02727	1.020	95.15	90.952	93.324	86.544
Totals: SMA	2	17,033	34	$48.36	1.02727	1.020	95.15	90.952	93.324	86.544

Grading: SX

	Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Quality Level Avg.	Quality Level High	Quality Level Low
Region 1	3	25,633	55	$34.69	1.00538	1.190	93.56	87.938	94.267	58.793
Region 3	30	344,463	687	$44.49	1.01053	0.955	93.57	91.161	100.000	57.865
Region 5	3	48,488	98	$42.09	0.99982	0.829	93.11	90.163	100.000	83.689
Totals: SX	36	418,584	840	$43.61	1.00897	0.955	93.52	90.848	100.000	57.865

Statewide Totals

Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Avg.	High	Low
72	821,123	1,665	$41.65	1.01462	0.937	93.51	91.398	100.000	57.865

Gradation - Process Information

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/00.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading: S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
08/24/00	12858	2	8042	S	$45.00	151	1	5943	3	100.000	1.02500	All QLs100
09/21/00	92054	6	13319	S	$39.40	05862-1	1	7539	4	98.425	1.03000	No. 4
05/11/00	13077	1	9372	S	$35.00	97313A	1	10572	6	96.476	1.03500	1/2
12/21/00	13165	1	62570	S	$30.00	122676	1	61605	31	96.081	1.05090	No. 4
03/23/00	12598	2	42375	S	$37.50	124	1	14000	7	95.217	1.03500	No. 4
03/23/00	12598	2	42375	S	$37.50	124-B	1	26822	14	95.101	1.04500	1/2
04/27/00	11581	2	12536	S	$40.00	93629		13290	7	93.781	1.03500	1/2
08/31/00	12056	6	14366	S	$42.00	105863	1	16000	8	93.214	1.04000	No. 4
04/20/00	13240	2	37749	S	$33.55	119228	1	31319	16	93.010	1.03690	No. 200
04/06/00	13185	2	17237	S	$45.36	141	1	11613	7	92.756	1.03500	No. 4
11/30/00	11911	6	11936	S	$38.00	105881	1	11986	6	91.713	1.03500	1/2
01/20/00	12963	2	20518	S	$44.97	12963	1	11442	6	89.000	1.03322	3/8
01/20/00	12963	2	20518	S	$41.95	12963A5	1	7390	4	88.900	1.03000	1/2
06/15/00	11543	1	10912	S	$51.00	85810-1	1	11753	6	88.688	1.03221	No. 4
04/06/00	13185	2	17237	S	$38.64	125	1	7353	5	87.987	1.03000	No. 8
01/13/00	11959	2	30699	S	$39.00	119228A		33353	17	86.490	1.00125	1/2
04/20/00	12865	6	7477	S	$30.00	05847-1	1	7494	5	84.907	1.02570	No. 8
08/17/00	92911	6	13782	S	$56.16	105869	1	11721	6	80.819	1.00257	No. 8
04/20/00	13240	2	37749	S	$39.10	119228A	1	11445	7	80.033	0.99350	No. 8
01/27/00	12583	2	17609	S	$41.00	184	1	6781	4	79.704	1.01892	No. 4
01/06/00	13024	1	16700	S	$40.31	112654	1	14820	8	78.842	0.98082	No. 4
07/20/00	12362	1	34474	S	$41.00	121095	1	14000	7	76.694	0.97662	No. 200
08/10/00	11848	1	19014	S	$45.79	39783-1	1	16000	8	76.159	0.96636	No. 200
10/26/00	12644	4	22546	S	$47.15	26301B	2	12000	6	70.061	0.94797	3/8
09/21/00	92054	6	13319	S	$39.40	105894	1	7287	4	67.817	0.96785	No. 4
08/10/00	11848	1	19014	S	$45.79	129786	1	6000	3	66.667	0.98713	No. 30
01/27/00	12583	2	17609	S	$41.00	106500	1	4374	3	66.667	0.98713	No. 30
08/24/00	12858	2	8042	S	$54.00	152	1	2097	3	61.629	0.96244	No. 200
10/26/00	12644	4	22546	S	$47.15	26301B	1	5106	3	58.946	0.94753	No. 8
10/26/00	12644	4	22546	S	$61.26	55702A	1	2573	3	50.000	0.88900	1/2
03/09/00	11861	2	3600	S	$42.00	31318	1	3675	3	0.000	0.31177	No. 4

Grading: S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve

Totals Grading: S

Processes	Total Tons		Quality Level	Pay Factor	Key Sieve Count	
					1/2"	7
					3/8"	2
31	407,353	Maximum:	100.000	1.05090	No. 4	10
		Minimum:	0.000	0.31177	No. 8	5
					No. 30	2
		Weighted Average:	86.711	1.01198	No. 200	4

Grading: SMA

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
10/26/00	12153	3	58296	SM	$48.53	291A	1	11075	7	75.968	0.97274	No. 4

Totals Grading: SMA

Processes	Total Tons		Quality Level	Pay Factor	Key Sieve Count	
					1/2"	0
					3/8"	0
	11,075	Maximum:	75.968	0.97274	No. 4	1
		Minimum:	75.968	0.97274	No. 8	0
					No. 30	0
		Weighted Average:	75.968	0.97274	No. 200	0

Grading: SX

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
01/20/00	12733	3	36553	SX	$33.92	/CT 103	1	9796	6	100.000	1.03500	All QLs100
01/20/00	12735	3	24686	SX	$28.70	193A	1	7194	3	100.000	1.02500	All QLs100
06/22/00	13092	3	40294	SX	$36.19	200B	1	8145	5	100.000	1.03000	All QLs100
01/27/00	13057	5	44390	SX	$41.59	126	1	41389	21	98.457	1.05000	No. 4
01/20/00	12733	3	36553	SX	$40.24	CT103B	1	21992	12	97.744	1.04500	No. 4
05/11/00	13104	3	40657	SX	$41.95	202	1	30767	16	96.454	1.05000	No. 8
06/22/00	13092	3	40294	SX	$36.36	200	1	20493	10	96.032	1.04500	No. 4
12/14/00	12238	3	98733	SX	$62.00	99995A	1	10638	6	91.110	1.03500	No. 8
12/07/00	13255	1	21133	SX	$33.20	03597A	1	12888	7	89.389	1.03265	1/2
10/26/00	12153	3	58296	SX	$36.15	298	1	23983	12	88.111	1.01710	No. 4
09/14/00	12018	3	19124	SX	$45.55	244	1	23204	12	87.876	1.01597	No. 4
12/14/00	12238	3	98733	SX	$62.00	99994	1	11311	11	86.364	1.01024	No. 8
01/20/00	12735	3	24686	SX	$30.87	203-A	1	19042	10	85.300	1.00692	No. 4
01/27/00	12732	3	27930	SX	$36.46	184	1	12041	7	83.775	1.01060	No. 8

Grading: SX

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
12/14/00	12238	3	98733	SX	$44.00	270	1	22885	15	82.886	0.98355	No. 4
12/14/00	12238	3	98733	SX	$62.00	99995	1	25183	23	81.361	0.96049	No. 8
06/22/00	13092	3	40294	SX	$35.64	225	1	8584	5	79.067	1.00400	No. 4
01/20/00	12735	3	24686	SX	$28.36	194A	1	5438	3	77.281	1.02500	No. 4
01/27/00	12732	3	27930	SX	$36.13	178	1	12663	7	76.592	0.97607	No. 30
12/21/00	13556	3	66756	SX	$33.98	265	1	6462	3	75.513	1.02005	No. 4
12/14/00	12238	3	98733	SX	$62.00	99996	1	4871	5	74.493	0.98377	No. 8
05/18/00	12737	3	24568	SX	$54.64	227	1	18597	10	72.525	0.93530	No. 200
04/06/00	12271	3	27140	SX	$47.91	220	1	16016	9	71.865	0.93409	No. 4
10/26/00	12153	3	58296	SX	$35.26	259	1	8315	4	69.419	0.97594	No. 8
04/06/00	12271	3	27140	SX	$53.74	211A	1	12203	6	67.587	0.93311	No. 4
07/27/00	13386	5	4172	SX	$47.50	138	1	4611	3	64.255	0.97584	No. 30
06/29/00	12981	3	3032	SX	$70.00	217	1	3597	3	57.721	0.94032	No. 4
06/22/00	13092	3	40294	SX	$32.95	224	1	6697	4	50.833	0.85881	No. 8
01/27/00	13057	5	44390	SX	$41.59	125	1	4891	3	41.559	0.82133	No. 200
12/07/00	13255	1	21133	SX	$33.20	103597	1	8609	4	37.090	0.73952	1/2
05/18/00	12737	3	24568	SX	$54.64	219	1	6193	3	36.518	0.77514	No. 200

Totals Grading: SX

Processes	Total Tons		Quality Level	Pay Factor
31	428,698	Maximum:	100.000	1.05000
		Minimum:	36.518	0.73952
		Weighted Average:	83.782	0.99470

Key Sieve Count	
1/2"	2
3/8"	0
No. 4	13
No. 8	8
No. 30	2
No. 200	3

Gradation Totals 1/1/00 to 12/31/00 Plan Quantities from 0 to 200000 tons.

Processes	Total Tons		Quality Level	Pay Factor
63	847,126	Maximum:	100.000	1.05090
		Minimum:	0.000	0.31177
		Weighted Average:	85.088	.00272

Key Sieve Count	
1/2"	9
3/8"	2
No. 4	24
No. 8	13
No. 30	4
No. 200	7

Gradation - Process Information - Recap by Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/00.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.
Weighted average used for: Price, Pay Factor, and Quality Level

Grading: S

	Processes	Tons	Tests	Price	Pay Factor	Quality Level Avg.	Quality Level High	Quality Level Low
Region 1	7	134,750	69	$37.08	1.01972	87.882	96.476	66.667
Region 2	15	190,897	106	$39.23	1.01114	88.000	100.000	0.000
Region 4	3	19,679	12	$48.99	0.94015	64.554	70.061	50.000
Region 6	6	62,027	33	$41.83	1.02054	87.228	98.425	67.817
Totals: S	31	407,353	220	$39.39	1.01198	86.711	100.000	0.000

Grading: SMA

	Processes	Tons	Tests	Price	Pay Factor	Quality Level Avg.	Quality Level High	Quality Level Low
Region 3		11,075	7	$48.53	0.97274	75.968	75.968	75.968
Totals: SMA		11,075	7	$48.53	0.97274	75.968	75.968	75.968

Grading: SX

	Processes	Tons	Tests	Price	Pay Factor	Quality Level Avg.	Quality Level High	Quality Level Low
Region 1	2	21,497	11	$33.20	0.91526	68.445	89.389	37.090
Region 3	26	356,310	210	$43.83	0.99569	83.835	100.000	36.518
Region 5	3	50,891	27	$42.13	.02130	89.890	98.457	41.559
Totals: SX	31	428,698	248	$43.09	0.99470	83.782	100.000	36.518

Statewide Totals

Processes	Tons	Tests	Price	Pay Factor	Quality Level Avg.	Quality Level High	Quality Level Low
63	847,126	475	$41.38	1.00272	85.088	100.000	0.000

Gradation - Standard Deviation Information

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/00.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Tons	Tests	Key Sieve	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
01/06/00	13024	1	16700	S	$40.31	14820	8	No. 4	0.500	2.200	3.100	4.000	3.300	2.200	0.600
01/13/00	11959	2	30699	S	$39.00	33353	17	1/2	2.300	2.500	2.100	2.300	2.100	1.800	0.870
01/20/00	12963	2	20518	S	$44.97	11442	6	3/8	1.800	2.900	2.600	1.500	1.500	1.200	0.940
01/20/00	12963	2	20518	S	$41.95	7390	4	1/2	0.600	4.500	2.400	2.800	1.700	1.300	1.020
01/27/00	12583	2	17609	S	$41.00	6781	4	No. 4	0.800	3.100	3.100	3.400	2.700	1.700	0.820
01/27/00	12583	2	17609	S	$41.00	4374	3	No. 30	0.000	2.000	2.100	4.500	4.600	4.000	0.850
03/09/00	11861	2	3600	S	$42.00	3675	3	No. 4	0.000	1.000	0.600	0.600	0.600	0.600	0.360
03/23/00	12598	2	42375	S	$37.50	14000	7	No. 4	1.100	1.500	1.500	1.900	1.600	1.400	0.500
03/23/00	12598	2	42375	S	$37.50	26822	14	1/2	1.700	2.600	2.500	2.000	2.100	1.300	0.780
04/06/00	13185	2	17237	S	$38.64	7353	5	No. 8	2.400	3.300	2.900	2.200	2.800	1.300	0.540
04/06/00	13185	2	17237	S	$45.36	11613	7	No. 4	0.500	2.500	2.200	2.300	1.600	0.500	0.240
04/20/00	12865	6	7477	S	$30.00	7494	5	No. 8	0.400	1.900	1.100	1.100	1.300	1.300	0.580
04/20/00	13240	2	37749	S	$39.10	11445	7	No. 8	2.300	4.400	3.900	3.700	4.000	1.900	0.380
04/20/00	13240	2	37749	S	$33.55	31319	16	No. 200	1.700	2.400	2.500	2.500	2.200	1.800	0.820
04/27/00	11581	2	12536	S	$40.00	13290	7	1/2	0.000	2.700	2.600	2.100	1.500	1.000	0.420
05/11/00	13077	1	9372	S	$35.00	10572	6	1/2	1.000	1.300	1.500	1.800	2.000	1.200	0.290
06/15/00	11543	1	10912	S	$51.00	11753	6	No. 4	1.200	1.500	1.200	1.000	1.400	0.800	0.450
07/20/00	12362	1	34474	S	$41.00	14000	7	No. 200	1.500	2.700	2.500	3.300	3.400	1.800	0.640
08/10/00	11848	1	19014	S	$45.79	6000	3	No. 30	2.100	2.100	2.600	1.500	1.500	2.900	0.870
08/10/00	11848	1	19014	S	$45.79	16000	8	No. 200	1.200	3.200	3.400	3.300	2.900	2.500	1.340
08/17/00	92911	6	13782	S	$56.16	11721	6	No. 8	3.500	1.500	2.300	2.300	3.300	2.600	0.580
08/24/00	12858	2	8042	S	$45.00	5943	3	QLs100	0.000	1.500	2.500	2.000	1.200	1.500	0.720
08/24/00	12858	2	8042	S	$54.00	2097	3	No. 200	0.000	2.500	5.100	1.500	2.100	1.500	1.050
08/31/00	12056	6	14366	S	$42.00	16000	8	No. 4	1.400	2.900	2.300	2.900	2.900	1.500	0.530
09/21/00	92054	6	13319	S	$39.40	7539	4	No. 4	1.000	2.200	1.800	1.900	1.300	1.000	0.250
09/21/00	92054	6	13319	S	$39.40	7287	4	No. 4	0.800	2.600	4.600	3.700	2.500	1.900	0.580
10/26/00	12644	4	22546	S	$47.15	5106	3	No. 8	0.000	2.600	4.600	3.200	2.100	0.600	0.320
10/26/00	12644	4	22546	S	$47.15	12000	6	3/8	0.000	3.000	3.900	3.400	2.300	1.000	0.270
10/26/00	12644	4	22546	S	$61.26	2573	3	1/2	0.000	1.700	1.200	1.000	2.500	1.000	0.510
11/30/00	11911	6	11936	S	$38.00	11986	6	1/2	0.000	3.000	3.600	1.900	1.900	1.400	0.700
12/21/00	13165	1	62570	S	$30.00	61605	31	No. 4	1.100	2.400	2.600	2.400	2.400	1.500	0.550

Totals Grading: S

Number of Processes: 31
Total Tons: 407,353

	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Max.	3.500	4.500	5.100	4.500	4.600	4.000	1.340
Min.	0.000	1.000	0.600	0.600	0.600	0.500	0.240
Weighted Average:	1.236	2.503	2.564	2.449	2.288	1.565	0.643
Key Sieve Count		7	2	10	5	2	4

Grading SMA

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Tons	Tests	Key Sieve	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
10/26/00	12153	3	58296	SM	$48.53	11075	7	No. 4		0.000	1.100	2.100	1.700	1.000	0.800

Totals Grading: SMA

Number of Processes: 1

Total Tons: 11,075

	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Max.		0.000	1.100	2.100	1.700	1.000	0.800
Min.		0.000	1.100	2.100	1.700	1.000	0.800
Weighted Average:		0.000	1.100	2.100	1.700	1.000	0.800
Key Sieve Count		0	0	1	0	0	0

Grading SX

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Tons	Tests	Key Sieve	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
01/20/00	12733	3	36553	SX	$33.92	9796	6	QLs100		0.500	0.800	0.500	0.500	0.000	0.470
01/20/00	12733	3	36553	SX	$40.24	21992	12	No. 4		1.300	2.100	2.000	1.400	1.000	0.200
01/20/00	12735	3	24686	SX	$28.70	7194	3	QLs100		0.600	1.200	1.700	0.600	0.000	0.060
01/20/00	12735	3	24686	SX	$28.36	5438	3	No. 4		0.000	1.000	1.500	2.100	1.200	0.720
01/20/00	12735	3	24686	SX	$30.87	19042	10	No. 4		0.400	2.300	3.000	2.600	1.600	0.770
01/27/00	12732	3	27930	SX	$36.13	12663	7	No. 30		0.500	2.100	3.000	2.300	1.000	0.440
01/27/00	12732	3	27930	SX	$36.46	12041	7	No. 8		0.900	1.900	2.800	2.400	1.700	0.600
01/27/00	13057	5	44390	SX	$41.59	4891	3	No. 200		1.000	1.000	2.500	3.100	2.500	0.550
01/27/00	13057	5	44390	SX	$41.59	41389	21	No. 4		0.800	1.500	2.100	1.700	1.100	0.330
04/06/00	12271	3	27140	SX	$53.74	12203	6	No. 4		1.000	2.900	2.700	2.200	0.800	0.120
04/06/00	12271	3	27140	SX	$47.91	16016	9	No. 4		0.900	2.400	2.000	2.600	1.800	0.750
05/11/00	13104	3	40657	SX	$41.95	30767	16	No. 8		1.300	1.500	1.800	1.700	1.300	0.500
05/18/00	12737	3	24568	SX	$54.64	6193	3	No. 200		0.600	1.200	2.000	1.500	0.600	0.350
05/18/00	12737	3	24568	SX	$54.64	18597	10	No. 200		1.100	1.600	2.100	2.300	1.700	1.800
06/22/00	13092	3	40294	SX	$36.36	20493	10	No. 4		1.000	1.900	2.600	1.400	0.900	0.430
06/22/00	13092	3	40294	SX	$36.19	8145	5	QLs100		1.100	0.700	1.100	1.300	0.700	0.200
06/22/00	13092	3	40294	SX	$32.95	6697	4	No. 8		0.500	2.100	5.300	6.600	3.900	0.840
06/22/00	13092	3	40294	SX	$35.64	8584	5	No. 4		1.100	1.100	2.600	2.000	0.800	0.310
06/29/00	12981	3	3032	SX	$70.00	3597	3	No. 4		2.300	3.200	3.600	3.100	2.600	0.810
07/27/00	13386	5	4172	SX	$47.50	4611	3	No. 30		0.000	1.700	4.500	4.000	2.000	0.640
09/14/00	12018	3	19124	SX	$45.55	23204	12	No. 4		0.500	1.100	1.400	1.100	1.000	0.390
10/26/00	12153	3	58296	SX	$35.26	8315	4	No. 8		0.600	1.200	3.100	3.900	1.900	0.530
10/26/00	12153	3	58296	SX	$36.15	23983	12	No. 4		0.900	1.900	2.600	2.200	1.600	1.060
12/07/00	13255	1	21133	SX	$33.20	8609	4	1/2		1.300	2.500	2.400	1.900	1.700	1.260
12/07/00	13255	1	21133	SX	$33.20	12888	7	1/2		2.000	3.300	2.800	3.000	1.800	0.690
12/14/00	12238	3	98733	SX	$44.00	22885	15	No. 4		0.500	1.400	3.700	3.200	2.000	0.620
12/14/00	12238	3	98733	SX	$62.00	11311	11	No. 8		0.500	1.600	2.100	2.700	1.600	0.410
12/14/00	12238	3	98733	SX	$62.00	25183	23	No. 8		0.300	2.200	2.700	3.000	2.100	0.640
12/14/00	12238	3	98733	SX	$62.00	10638	6	No. 8		0.000	1.200	0.800	2.100	1.700	0.340
12/14/00	12238	3	98733	SX	$62.00	4871	5	No. 8		0.500	2.600	2.500	2.800	1.600	0.720
12/21/00	13556	3	66756	SX	$33.98	6462	3	No. 4		0.600	1.200	3.200	2.100	1.000	0.570

Totals Grading: SX

			3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	31	Max.		2.300	3.300	5.300	6.600	3.900	1.800
Total Tons:	428,698	Min.		0.000	0.700	0.500	0.500	0.000	0.060
		Weighted Average:		0.812	1.765	2.375	2.198	1.408	0.585
		Key Sieve Count		2	0	13	8	2	3

Gradation Totals

1/1/00 to 12/31/00 Plan Quantities from 0 to 200000 tons.

			3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	63	Max.	3.500	4.500	5.100	5.300	6.600	4.000	1.800
Total Tons:	847,126	Min.	0.000	0.000	0.600	0.500	0.500	0.000	0.060
		Weighted Average:		1.614	2.141	2.407	2.235	1.479	0.615
		Key Sieve Count		9	2	24	13	4	7

Gradation - Standard Deviation - Recap by Region

Criteria: Projects with Bid Dates from 1/1/00 to 12/31/00.
Projects with Plan Quantities from 0 to 200000 tons.
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
Region 1	7	134,750	69	$37.08	1.133	2.326	2.531	2.567	2.504	1.705	0.644
Region 2	15	190,897	106	$39.23	1.421	2.634	2.451	2.338	2.119	1.508	0.706
Region 4	3	19,679	12	$48.99	0.000	2.726	3.729	3.034	2.274	0.896	0.314
Region 6	6	62,027	33	$41.83	1.286	2.414	2.616	2.348	2.348	1.651	0.550
Totals S	31	407,353	220	$39.39	1.236	2.503	2.564	2.449	2.288	1.565	0.643

Grading: SMA

				Weighted Average							
	Processes	Tons	Tests	Price	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Region 3	1	11,075	7	$48.53		0.000	1.100	2.100	1.700	1.000	0.800
Totals SMA	1	11,075	7	$48.53		0.000	1.100	2.100	1.700	1.000	0.800

Grading: SX

				Weighted Average							
	Processes	Tons	Tests	Price	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Region 1	2	21,497	11	$33.20		1.720	2.980	2.640	2.559	1.760	0.918
Region 3	26	356,310	210	$43.83		0.766	1.734	2.361	2.198	1.400	0.594
Region 5	3	50,891	27	$42.13		0.747	1.470	2.356	2.043	1.316	0.379
Totals SX	31	428,698	248	$43.09		0.812	1.765	2.375	2.198	1.408	0.585

Statewide Totals

				Weighted Average							
	Processes	Tons	Tests	Price	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
	63	847,126	475	$41.38		1.614	2.141	2.407	2.235	1.479	0.615

Appendix C
Reports for 2001 Projects

Project Listing by Region/Subaccount

Projects with Bid Dates from 1/1/01 to 12/31/01

Region: 1

Subacct.	*Project Code*	*Location*	*Supplier*	*Bid Date*	*Total Bid*	*Plan Quant.*
12524	IM 0252-323	I-25, US 85 Intersection	45	05/10/01	$6,778,000.00	20,994
13008	IM 0703-226	I-70, Floyd Hill - Idaho Spgs	14	01/25/01	$2,961,365.80	22,198

Number of Projects 2 ***Total Quantity*** 43,192

Region: 2

Subacct.	*Project Code*	*Location*	*Supplier*	*Bid Date*	*Total Bid*	*Plan Quant.*
11955	STA 1151-009	Big Turkey Creek	32	01/11/01	$5,990,060.22	59,978
12390	IM 0851-002	I-25 & SH 85	49	08/16/01	$9,391,326.82	7,812
12391	NH 0242-028	Cascade/Pikes Peak Hwy	45	08/02/01	$1,844,533.53	9,357
12495	STU 0831-078	Hwy 83 at Hodgen Rd	44	07/12/01	$1,297,177.33	11,021
12829	BR 096A-033	Kramer Creek	32	10/04/01	$1,924,231.57	2,968
13131	NH 0242-031	US 24 - Divide East	32	05/24/01	$5,315,495.53	40,927
13390	IM 0252-342	I-25 Mevada/Tejon	49	01/11/01	$26,646,684.30	30,149
13441	IM 0252-344	I-25 & Academy Blvd	45	04/05/01	$1,865,867.20	17,597
13448	STA 012A-035	Trinidad State Park	53	06/07/01	$1,329,116.20	21,278
13538	BR 0504-041	Otero Canal in La Junta	54	08/23/01	$955,498.43	5,695
13539	BR 3501-009	SH 350 Bridge Replacemen	54	09/06/01	$1,410,185.06	4,949
93200	BR 050-4(020)	W of Jct 71	17	01/18/01	$737,391.06	3,452

Number of Projects 12 ***Total Quantity*** 215,183

Region: 3

Subacct.	Project Code	Location	Supplier	Bid Date	Total Bid	Plan Quant.
12305	BR 5502-031	Uncompahgre River	12	05/17/01	$1,757,494.40	6,308
13087	STR 135A-019	Y-Bar North & South	12	07/19/01	$2,986,789.70	19,548
13106	STA 0641-011	East of Rangely	12	01/04/01	$781,177.65	13,879
13108	STA 092A-015	Black Canyon	14	06/14/01	$3,379,100.00	68,223
13109	STA 0141-013	East of Walden	14	03/08/01	$1,100,201.59	24,044
13112	STA 0502-052	Cimarron	12	02/15/01	$853,400.38	13,254
13325	NH 0501-045	Delta - South	11	03/15/01	$3,772,520.01	59,068
13328	STA R300-072	Mach Pach Var Locations	12	01/18/01	$325,267.35	2,636
13330	MC 330A-007	Mesa to Collbran	17	01/25/01	$783,301.89	16,683
13485	STA 006A-034	Old P.O.E. West	16	08/02/01	$2,218,924.56	19,908
13525	CC R300-084	Crawford State Park	12	01/18/01	$273,964.00	3,274
13734	STA 0131-045	Rifle North	20	07/12/01	$698,299.47	15,011

Number of Projects 12 ***Total Quantity*** 261,836

Region: 4

Subacct.	Project Code	Location	Supplier	Bid Date	Total Bid	Plan Quant.
13147	NH 0342-035	US 34 - 71St to 47th Ave	40	04/26/01	$3,003,177.75	20,504

Number of Projects 1 ***Total Quantity*** 20,504

Region: 5

Subacct.	Project Code	Location	Supplier	Bid Date	Total Bid	Plan Quant.
12801	NH 1602-076	US 160 & Piedra Rd Interse	25	03/22/01	$518,091.20	3,318
13505	STA 1602-084	US 160 W. of Bayfield	8	02/01/01	$2,799,421.82	30,021
13537	NH 1602-085	US 160 Treasure Falls	56	08/02/01	$7,110,672.80	47,807

Number of Projects 3 ***Total Quantity*** 81,146

Region: 6

Subacct.	Project Code	Location	Supplier	Bid Date	Total Bid	Plan Quant.
13178	BR 0073-005	Hwy 7 @ Dry Creek	33	05/17/01	$4,979,966.00	54,094
13275	IM 0761-182	I-76 @ 96th Ave	33	09/06/01	$4,343,434.34	3,332
13349	STA 0062-014	US 6/Vasquez, I-70 to I-76	45	01/04/01	$3,309,871.75	35,247

Number of Projects 3 ***Total Quantity*** 92,673

Totals: Projects with Bid Dates from 1/1/01 to 12/31/01

Number of Projects 33 ***Total Quantity*** 714,534

Project Data

Projects with Bid Dates from 1/1/01 to 12/31/01

Subaccount: 11955 ***STA 1151-009*** ***Big Turkey Creek*** ***Region: 2*** ***Supplier: 32***

Mix Design No: 178 Process No: 1 Grading: S Price Per Ton: $30.00 **Mix Design I/DP: $17,728.64**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	64	63731		87.705	0.98150	($10,609.99)	0.195	
Density	128	63731	0	93.688	1.02339	$22,364.73	1.078	**Den Mean:** 93.91
Gradation	32	63731		90.627	1.01562	$5,973.90	- - - -	**Grad Key Sieve:** No. 30

Project Totals 11955		**Tons:**		**I/DP:**
	Asphalt Content	63,731		($10,609.99)
	Mat Density	63,731		$22,364.73
	Gradation	63,731		$5,973.90
	Plan Quantity	59,978	**Project I/DP:**	$17,728.64

Comments:

Subaccount: 12305 ***BR 5502-031*** ***Uncompahgre River*** ***Region: 3*** ***Supplier: 12***

Mix Design No: 282 Process No: 1 Grading: SX Price Per Ton: $54.90 **Mix Design I/DP: ($5,848.80)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	2083		100.000	1.03500	$1,200.85	0.122	
Density	10	2083	0	62.787	0.86672	($7,621.49)	1.097	**Den Mean:** 92.37
Gradation	3	2083		80.471	1.02500	$571.84	- - - -	**Grad Key Sieve:** No. 200

Mix Design No: 296 Process No: 1 Grading: SX Price Per Ton: $54.01 **Mix Design I/DP: $1,040.32**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	1103		71.163	1.00552	$98.71	0.182	
Density	3	1103	0	100.000	1.02500	$744.72	1.114	**Den Mean:** 93.7
Gradation	3	1103		74.363	1.01652	$196.89	- - - -	**Grad Key Sieve:** 3/8

Mix Design No: 301 Process No: 1 Grading: SX Price Per Ton: $60.46 **Mix Design I/DP: $4,211.19**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3670		90.598	1.03000	$1,997.01	0.221	
Density	7	3220	0	83.422	1.00907	$882.84	1.486	**Den Mean:** 93.771
Gradation	5	3670		100.000	1.03000	$1,331.34	- - - -	**Grad Key Sieve:** All QLs100

Project Totals 12305		**Tons:**		**I/DP:**
	Asphalt Content	6,856		$3,296.57
	Mat Density	6,406		($5,993.93)
	Gradation	6,856		$2,100.07
	Plan Quantity	6,308	**Project I/DP:**	($597.29)

Comments: Final quantities don't match

Subaccount: 12390 ***IM 0851-002*** ***I-25 & SH 85*** ***Region: 2*** ***Supplier: 49***

Mix Design No: 186 Process No: 1 Grading: S Price Per Ton: $30.00 Mix Design I/DP: $7,859.55

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	7488		86.445	1.02162	$1,457.31	0.178	
Density	14	7488	0	99.278	1.04500	$5,054.40	0.646	Den Mean: 93.429
Gradation	4	7488		89.087	1.03000	$1,347.84	----	Grad Key Sieve: No. 8

		Tons:		I/DP:
Project Totals 12390	Asphalt Content	7,488		$1,457.31
	Mat Density	7,488		$5,054.40
	Gradation	7,488		$1,347.84
	Plan Quantity	7,812	Project I/DP:	$7,859.55

Comments:

Subaccount: 12391 ***NH 0242-028*** ***Cascade/Pikes Peak Hwy*** ***Region: 2*** ***Supplier: 45***

Mix Design No: 185 Process No: 1 Grading: S Price Per Ton: $42.02 Mix Design I/DP: ($239.99)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	1999			1.00000	$0.00		
Density	4	1999	0	100.000	1.03000	$1,259.97	0.727	Den Mean: 94.825
Gradation	1	1999			0.91071	($1,499.96)	----	Grad Key Sieve:

Mix Design No: 185 Process No: 2 Grading: S Price Per Ton: $42.02 Mix Design I/DP: ($2,929.72)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	8018		88.896	1.02665	$2,694.08	0.169	
Density	16	8018	0	80.772	0.96855	($5,297.95)	1.394	Den Mean: 93.331
Gradation	4	8018		73.570	0.99516	($325.85)	----	Grad Key Sieve: No. 4

		Tons:		I/DP:
Project Totals 12391	Asphalt Content	10,017		$2,694.08
	Mat Density	10,017		($4,037.98)
	Gradation	10,017		($1,825.81)
	Plan Quantity	9,357	Project I/DP:	($3,169.71)

Comments:

Subaccount: 12495 ***STU 0831-078*** ***Hwy 83 at Hodgen Rd*** ***Region: 2*** ***Supplier: 44***

Mix Design No: 182 Process No: 1 Grading: S Price Per Ton: $40.75 Mix Design I/DP: ($19,291.16)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	12	11963		74.751	0.94192	($8,494.50)	0.255	
Density	24	11963	0	85.021	0.98415	($3,863.38)	1.018	Den Mean: 94.942
Gradation	5	10000		62.131	0.91493	($6,933.28)	----	Grad Key Sieve: No. 30

Mix Design No: 182 Process No: 2 Grading: S Price Per Ton: $40.75 Mix Design I/DP: ($9,999.03)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density		0	0			$0.00		Den Mean:
Gradation	1	1963			0.37500	($9,999.03)	----	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 12495	Asphalt Content	11,963		($8,494.50)
	Mat Density	11,963		($3,863.38)
	Gradation	11,963		($16,932.31)
	Plan Quantity	11,021	Project I/DP:	($29,290.19)

Comments: 1 Test 2xV out - Gradation

Subaccount: 12524 ***IM 0252-323*** ***I-25, US 85 Intersection*** ***Region: 1*** ***Supplier: 45***

Mix Design No: 120618 Process No: 1 Grading: S Price Per Ton: $44.72 Mix Design I/DP: ($10,883.81)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	5206		70.313	0.94943	($3,531.72)	0.229	
Density	11	5206	0	80.773	0.98124	($2,183.89)	0.610	Den Mean: 92.536
Gradation	3	5206		50.000	0.88900	($5,168.20)	----	Grad Key Sieve: No. 8

Mix Design No: 5172002 Process No: 1 Grading: S Price Per Ton: $49.24 Mix Design I/DP: $8,241.30

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	4619		100.000	1.03000	$2,046.96	0.147	
Density	11	4619	0	94.253	1.04447	$5,057.14	0.570	Den Mean: 92.864
Gradation	3	4619		79.674	1.02500	$1,137.20	----	Grad Key Sieve: No. 200

Mix Design No: PK1903SH Process No: 1 Grading: S Price Per Ton: $44.72 Mix Design I/DP: $12,694.40

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	9	7061		99.860	1.04000	$3,789.22	0.109	
Density	17	7061	0	96.489	1.05000	$7,894.20	0.634	Den Mean: 93.106
Gradation	4	7061		78.868	1.01601	$1,010.98	----	Grad Key Sieve: No. 8

Project Totals 12524		Tons:		I/DP:
	Asphalt Content	16,886		$2,304.46
	Mat Density	16,886		$10,767.45
	Gradation	16,886		($3,020.02)
	Plan Quantity	20,994	Project I/DP:	$10,051.89

Comments:

Subaccount: 12801 ***NH 1602-076*** ***US 160 & Piedra Rd Inte*** ***Region: 5*** ***Supplier: 25***

Mix Design No: 146 Process No: 1 Grading: SX Price Per Ton: $47.00 Mix Design I/DP: $3,530.94

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3466		78.285	1.01392	$680.16	0.183	
Density	7	3466	0	98.026	1.03500	$2,850.78	0.923	Den Mean: 94.371
Gradation	2	3466			1.00000	$0.00	----	Grad Key Sieve:

Project Totals 12801		Tons:		I/DP:
	Asphalt Content	3,466		$680.16
	Mat Density	3,466		$2,850.78
	Gradation	3,466		$0.00
	Plan Quantity	3,318	Project I/DP:	$3,530.94

Comments:

Subaccount: 12829 ***BR 096A-033*** ***Kramer Creek*** ***Region: 2*** ***Supplier: 32***

Mix Design No: 210 Process No: 1 Grading: S Price Per Ton: $40.00 Mix Design I/DP: $1,274.67

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	3000		64.508	0.97707	($825.33)	0.295	
Density	6	3000	0	97.866	1.03500	$2,100.00	1.109	Den Mean: 94.083
Gradation	2	4000			1.00000	$0.00	----	Grad Key Sieve:

Project Totals 12829		Tons:		I/DP:
	Asphalt Content	3,000		($825.33)
	Mat Density	3,000		$2,100.00
	Gradation	4,000		$0.00
	Plan Quantity	2,968	Project I/DP:	$1,274.67

Comments:

Subaccount: 13008 ***IM 0703-226*** ***I-70, Floyd Hill - Idaho*** ***Region: 1*** ***Supplier: 14***

Mix Design No: 112638-2 Process No: 1 Grading: S Price Per Ton: $45.00 Mix Design I/DP: $1,757.87

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	1575		78.868	1.01601	$340.37	0.225	
Density	4	1575	0	100.000	1.03000	$1,063.13	0.763	Den Mean: 94.325
Gradation	1	1575			1.02500	$354.37	- - - -	Grad Key Sieve:

Mix Design No: 131511 Process No: 1 Grading: S Price Per Ton: $45.00 Mix Design I/DP: $12,325.51

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	22	21798		90.516	1.02048	$6,025.64	0.174	
Density	10	5000	0	90.023	1.02813	$3,164.35	1.152	Den Mean: 94.52
Gradation	11	21798		87.571	1.01598	$3,135.52	- - - -	Grad Key Sieve: No. 200

Mix Design No: 131511 Process No: 2 Grading: S Price Per Ton: $45.00 Mix Design I/DP: ($16,594.98)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density	33	16500	0	82.114	0.95530	($16,594.98)	1.470	Den Mean: 94.285
Gradation						$0.00	- - - -	Grad Key Sieve:

Mix Design No: 131511 Process No: 3 Grading: S Price Per Ton: $45.00 Mix Design I/DP: $0.00

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density	1	298	0		1.00000	$0.00		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 13008	Asphalt Content	23,373		$6,366.01
	Mat Density	23,373		($12,367.50)
	Gradation	23,373		$3,489.89
	Plan Quantity	22,198	Project I/DP:	($2,511.60)

Comments: Gradation tests all the same. Density processes don't follow.

Subaccount: 13087 ***STR 135A-019*** ***Y-Bar North & South*** ***Region: 3*** ***Supplier: 12***

Mix Design No: 310 Process No: 1 Grading: SX Price Per Ton: $42.59 Mix Design I/DP: ($11,925.19)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	6284		99.556	1.03500	$2,809.95	0.146	
Density	12	6284	0	75.296	0.94542	($7,303.48)	1.321	Den Mean: 95.067
Gradation	3	6284		46.341	0.86115	($7,431.66)	- - - -	Grad Key Sieve: No. 30

Mix Design No: 601302A-1 Process No: 1 Grading: SX Price Per Ton: $47.00 Mix Design I/DP: $6,700.18

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	9	8347		79.455	0.97921	($2,446.79)	0.142	
Density	17	8347	0	92.621	1.03463	$6,793.07	1.026	Den Mean: 93.482
Gradation	5	8347		88.101	1.03000	$2,353.90	- - - -	Grad Key Sieve: No. 4

Mix Design No: 601302A-1 Process No: 1 Grading: SX Price Per Ton: $42.63 Mix Design I/DP: $3,605.79

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	4709		93.738	1.03000	$1,806.55	0.176	
Density	10	4709	0	96.526	1.04500	$4,516.38	1.000	Den Mean: 94.28
Gradation	3	4709		56.409	0.93232	($2,717.14)	- - - -	Grad Key Sieve: No. 30

		Tons:		I/DP:
Project Totals 13087	Asphalt Content	19,340		$2,169.71
	Mat Density	19,340		$4,005.97
	Gradation	19,340		($7,794.90)
	Plan Quantity	19,548	Project I/DP:	($1,619.22)

Comments:

Subaccount: 13106 ***STA 0641-011*** ***East of Rangely*** ***Region: 3*** ***Supplier:***

Mix Design No: 256 Process No: 1 Grading: SX Price Per Ton: $37.25 Mix Design I/DP: ($563.84)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	1211				$0.00		
Density		0	1211			$0.00		Den Mean:
Gradation		1211			0.93750	($563.84)	- - - -	Grad Key Sieve:

Mix Design No: 257 Process No: 1 Grading: SX Price Per Ton: $41.44 Mix Design I/DP: $3,680.69

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	6121		98.907	1.03500	$2,663.53	0.133	
Density	12	6121	0	99.174	1.04500	$5,707.56	0.840	Den Mean: 94.192
Gradation	3	6121		52.619	0.90755	($4,690.40)	- - - -	Grad Key Sieve: No. 200

Mix Design No: 260 Process No: 1 Grading: SX Price Per Ton: $41.66 Mix Design I/DP: $9,246.27

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	5691		99.923	1.03500	$2,489.38	0.138	
Density	12	5691	0	99.392	1.04500	$5,334.39	0.574	Den Mean: 93.267
Gradation	4	5691		97.529	1.03000	$1,422.50	- - - -	Grad Key Sieve: No. 4

Project Totals 13106		Tons:		I/DP:
	Asphalt Content	13,023		$5,152.91
	Mat Density	13,023		$11,041.95
	Gradation	13,023		($3,831.74)
	Plan Quantity	13,879	Project I/DP:	$12,363.12

Comments:

Subaccount: 13108 ***STA 092A-015*** ***Black Canyon*** ***Region: 3*** ***Supplier: 14***

Mix Design No: 276 Process No: 1 Grading: SX Price Per Ton: $40.18 Mix Design I/DP: $83,538.00

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	49	48089		98.309	1.05500	$31,883.84	0.128	
Density	97	48089	0	94.722	1.03346	$32,330.62	1.025	Den Mean: 93.822
Gradation	25	48089		97.198	1.05000	$19,323.54	- - - -	Grad Key Sieve: No. 4

Mix Design No: 277 Process No: 1 Grading: SX Price Per Ton: $35.68 Mix Design I/DP: $4,121.15

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	7000		96.855	1.03500	$2,622.55	0.105	
Density		0	7000			$0.00		Den Mean:
Gradation	4	7000		100.000	1.03000	$1,498.60	- - - -	Grad Key Sieve: All QLs100

Mix Design No: 281 Process No: 1 Grading: SX Price Per Ton: $35.32 Mix Design I/DP: $22,790.53

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	27	26848		95.777	1.05012	$14,256.82	0.120	
Density		0	26848			$0.00		Den Mean:
Gradation	14	26848		100.000	1.04500	$8,533.71	- - - -	Grad Key Sieve: All QLs100

Project Totals 13108		Tons:		I/DP:
	Asphalt Content	81,937		$48,763.21
	Mat Density	81,937		$32,330.62
	Gradation	81,937		$29,355.85
	Plan Quantity	68,223	Project I/DP:	$110,449.68

Comments:

Subaccount: 13109 ***STA 0141-013*** ***East of Walden*** ***Region: 3*** ***Supplier: 14***

Mix Design No: 269 Process No: 1 Grading: SX Price Per Ton: $34.33 **Mix Design I/DP: $4,281.24**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	7558		90.953	1.03500	$2,724.43	0.144	
Density		0	0			$0.00		Den Mean:
Gradation	4	7558		100.000	1.03000	$1,556.81	- - - -	Grad Key Sieve: All QLs100

Mix Design No: 273 Process No: 1 Grading: SX Price Per Ton: $37.62 **Mix Design I/DP: $11,462.17**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	17	16369		96.426	1.05000	$9,237.53	0.089	
Density	35	16369	0	87.433	0.99189	($2,498.67)	1.319	Den Mean: 94.011
Gradation	8	16369		92.060	1.03835	$4,723.31	- - - -	Grad Key Sieve: No. 200

Mix Design No: 278 Process No: 1 Grading: F Price Per Ton: $37.26 **Mix Design I/DP: $873.65**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	3126		100.000	1.02500	$873.65	0.046	
Density		0	0			$0.00		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

Project Totals 13109		Tons:		I/DP:
	Asphalt Content	27,053		$12,835.61
	Mat Density	16,369		($2,498.67)
	Gradation	23,927		$6,280.12
	Plan Quantity	24,044	Project I/DP:	$16,617.06

Comments: No Density Tests MD269. Tests with 0 quantity. AC tests only MD 278. F Quant. don't match.

Subaccount: 13112 ***STA 0502-052*** ***Cimarron*** ***Region: 3*** ***Supplier: 12***

Mix Design No: 248 Process No: 1 Grading: SX Price Per Ton: $34.56 **Mix Design I/DP: $3,103.12**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	4648		100.000	1.03000	$1,445.67	0.093	
Density	4	1648	3000	100.000	1.03000	$854.30	0.676	Den Mean: 94.35
Gradation	3	4648		100.000	1.02500	$803.15	- - - -	Grad Key Sieve: All QLs100

Mix Design No: 250 Process No: 1 Grading: SX Price Per Ton: $39.49 **Mix Design I/DP: ($1,895.34)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	2317			1.00000	$0.00		
Density	5	2317	0	92.133	1.03000	$1,372.49	1.172	Den Mean: 94.46
Gradation	1	2317			0.82143	($3,267.83)	- - - -	Grad Key Sieve:

Mix Design No: 252 Process No: 1 Grading: SX Price Per Ton: $39.17 **Mix Design I/DP: $0.00**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	481				$0.00		
Density			0			$0.00		Den Mean:
Gradation	1	481				$0.00	- - - -	Grad Key Sieve:

Mix Design No: 254 Process No: 1 Grading: SX Price Per Ton: $39.34 **Mix Design I/DP: ($12,527.60)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	5489		85.152	1.01997	$1,293.34	0.210	
Density	11	5489	0	78.762	0.96985	($3,255.51)	1.577	Den Mean: 94.4
Gradation	3	5489		34.490	0.75534	($10,565.43)	- - - -	Grad Key Sieve: No. 4

Project Totals 13112		Tons:		I/DP:
	Asphalt Content	12,935		$2,739.01
	Mat Density	12,454		($1,028.72)
	Gradation	12,935		($13,030.11)
	Plan Quantity	13,254	Project I/DP:	($11,319.82)

Comments: Final Quantities Don't Match. Roller Pass Study?

Subaccount: 13131 ***NH 0242-031*** ***US 24 - Divide East*** ***Region: 2*** ***Supplier: 32***

Mix Design No: 194 Process No: 1 Grading: S Price Per Ton: $34.50 Mix Design I/DP: $4,414.35

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	10	10000		73.153	0.93932	($6,280.65)	0.144	
Density	20	10000	500	98.277	1.05000	$8,625.00	0.871	Den Mean: 93.81
Gradation	5	10000		93.430	1.03000	$2,070.00	----	Grad Key Sieve: No. 4

Mix Design No: 205 Process No: 1 Grading: S Price Per Ton: $34.50 Mix Design I/DP: $41,839.42

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	34	33155		93.709	1.03492	$11,981.40	0.147	
Density	66	32655	0	97.807	1.05500	$30,981.43	0.884	Den Mean: 93.921
Gradation	17	33155		85.436	0.99509	($1,123.41)	----	Grad Key Sieve: No. 4

		Tons:		I/DP:
Project Totals 13131	Asphalt Content	43,155		$5,700.75
	Mat Density	43,155		$39,606.43
	Gradation	43,155		$946.59
	Plan Quantity	40,927	Project I/DP:	$46,253.77

Comments:

Subaccount: 13147 ***NH 0342-035*** ***US 34 - 71St to 47th Ave*** ***Region: 4*** ***Supplier: 40***

Mix Design No: 28001 Process No: 1 Grading: S Price Per Ton: $31.05 Mix Design I/DP: $13,144.09

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	11	10736		94.601	1.04500	$4,500.26	0.152	
Density	22	10736	0	98.709	1.05000	$8,333.82	0.810	Den Mean: 93.741
Gradation	6	10736		81.305	1.00465	$310.01	----	Grad Key Sieve: 1/2

Mix Design No: 36501 Process No: 1 Grading: S Price Per Ton: $29.50 Mix Design I/DP: $1,647.35

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	1691			1.00000	$0.00		
Density	7	3191	0	93.657	1.03500	$1,647.35	1.005	Den Mean: 94.557
Gradation	2	3691			1.00000	$0.00	----	Grad Key Sieve:

Mix Design No: 36501 Process No: 2 Grading: S Price Per Ton: $29.50 Mix Design I/DP: $15,971.88

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	17	15426		88.729	1.01393	$1,901.94	0.181	
Density	29	13926	0	98.214	1.05500	$11,297.47	0.854	Den Mean: 93.797
Gradation	7	13426		90.404	1.03500	$2,772.47	----	Grad Key Sieve: No. 4

		Tons:		I/DP:
Project Totals 13147	Asphalt Content	27,853		$6,402.20
	Mat Density	27,853		$21,278.64
	Gradation	27,853		$3,082.48
	Plan Quantity	20,504	Project I/DP:	$30,763.32

Comments:

Subaccount: 13178 ***BR 0073-005*** ***Hwy 7 @ Dry Creek*** ***Region: 6*** ***Supplier: 33***

Mix Design No: 105881-2 Process No: 1 Grading: S Price Per Ton: $31.30 Mix Design I/DP: $0.00

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	828			1.00000	$0.00		
Density	2	828	0		1.00000	$0.00		Den Mean:
Gradation	1	828			1.00000	$0.00	----	Grad Key Sieve:

Mix Design No: 105881-2 Process No: 2 Grading: S Price Per Ton: $31.30 Mix Design I/DP: $3,345.20

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3608		78.698	1.01541	$521.94	0.189	
Density	8	3608	0	97.634	1.04000	$2,258.61	0.773	Den Mean: 93.363
Gradation	3	3608		77.281	1.02500	$564.65	----	Grad Key Sieve: No. 30

Mix Design No: 105889 Process No: 1 Grading: S Price Per Ton: $31.30 Mix Design I/DP: ($2,677.79)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	14	14716		84.313	0.99390	($842.40)	0.182	
Density	30	14716	0	90.188	1.01385	$3,189.07	1.122	Den Mean: 93.51
Gradation	7	14716		71.193	0.94546	($5,024.46)	----	Grad Key Sieve: No. 30

Mix Design No: 105889 Process No: 2 Grading: S Price Per Ton: $31.30 Mix Design I/DP: $46,236.14

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	34	33415		96.725	1.05418	$16,999.66	0.136	
Density	66	33415	0	97.561	1.05500	$28,761.96	0.742	Den Mean: 93.447
Gradation	16	33415		86.420	1.00227	$474.52	----	Grad Key Sieve: 3/8

Project Totals 13178		Tons:		I/DP:
	Asphalt Content	52,567		$16,679.20
	Mat Density	52,567		$34,209.64
	Gradation	52,567		($3,985.29)
	Plan Quantity	54,094	Project I/DP:	$46,903.55

Comments:

Subaccount: 13275 ***IM 0761-182*** ***I-76 @ 96th Ave*** ***Region: 6*** ***Supplier: 33***

Mix Design No: 105886 Process No: 1 Grading: S Price Per Ton: $42.00 Mix Design I/DP: $2,600.64

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2752		100.000	1.02500	$866.88	0.119	
Density	5	2752	0	98.420	1.03000	$1,733.76	0.626	Den Mean: 93.02
Gradation	1	2752			1.00000	$0.00	----	Grad Key Sieve:

Project Totals 13275		Tons:		I/DP:
	Asphalt Content	2,752		$866.88
	Mat Density	2,752		$1,733.76
	Gradation	2,752		$0.00
	Plan Quantity	3,332	Project I/DP:	$2,600.64

Comments:

Subaccount: 13325 ***NH 0501-045*** ***Delta - South*** ***Region: 3*** ***Supplier: 11***

Mix Design No: 239 Process No: 1 Grading: SX Price Per Ton: $35.25 Mix Design I/DP: $706.50

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	1336		100.000	1.03000	$423.90	0.122	
Density		0	1336			$0.00		Den Mean:
Gradation	5	1336		99.368	1.03000	$282.60	----	Grad Key Sieve: No. 4

Mix Design No: 240 Process No: 1 Grading: SX Price Per Ton: $34.53 Mix Design I/DP: $9,441.09

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	7746		97.328	1.04000	$3,209.85	0.134	
Density	15	7746	0	95.308	1.04763	$6,369.97	1.046	Den Mean: 93.82
Gradation	4	7746		74.093	0.99741	($138.73)	----	Grad Key Sieve: 3/8

Mix Design No: 241 Process No: 1 Grading: SX Price Per Ton: $34.56 Mix Design I/DP: $80,481.60

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	51	50712		99.892	1.05500	$28,918.26	0.087	
Density	102	50712	0	97.454	1.05523	$48,401.61	0.894	Den Mean: 93.864
Gradation	27	50712		89.174	1.00902	$3,161.73	----	Grad Key Sieve: No. 4

Project Totals 13325		Tons:		I/DP:
	Asphalt Content	59,794		$32,552.01
	Mat Density	59,794		$54,771.58
	Gradation	59,794		$3,305.60
	Plan Quantity	59,068	Project I/DP:	$90,629.19

Comments:

Subaccount: 13328 ***STA R300-072*** ***Mach Pach Var Location*** ***Region: 3*** ***Supplier: 12***

Mix Design No: 102601 Process No: 1 Grading: SX Price Per Ton: $55.90 Mix Design I/DP: $981.04

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2340		100.000	1.02500	$981.04	0.205	
Density		0	2340			$0.00		Den Mean:
Gradation	2	2340				$0.00	----	Grad Key Sieve:

Project Totals 13328		Tons:		I/DP:
	Asphalt Content	2,340		$981.04
	Mat Density	2,340		$0.00
	Gradation	2,340		$0.00
	Plan Quantity	2,636	Project I/DP:	$981.04

Comments:

Subaccount: 13330 ***MC 330A-007*** ***Mesa to Collbran*** ***Region: 3*** ***Supplier: 17***

Mix Design No: 231 Process No: 1 Grading: SX Price Per Ton: $37.56 Mix Design I/DP: $7,775.96

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	6608		84.284	1.01278	$951.28	0.222	
Density	14	6608	0	98.022	1.04500	$5,583.83	0.887	Den Mean: 93.729
Gradation	3	6608		77.281	1.02500	$1,240.85	- - - -	Grad Key Sieve: No. 4

Mix Design No: 237 Process No: 1 Grading: SX Price Per Ton: $37.70 Mix Design I/DP: $271.92

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	11	10167		73.984	0.94073	($6,816.00)	0.261	
Density	21	10167	0	92.474	1.03235	$6,200.92	1.132	Den Mean: 94.229
Gradation	6	10167		82.979	1.01157	$887.00	- - - -	Grad Key Sieve: 3/8

Project Totals 13330		Tons:		I/DP:
	Asphalt Content	16,775		($5,864.72)
	Mat Density	16,775		$11,784.75
	Gradation	16,775		$2,127.85
	Plan Quantity	16,683	Project I/DP:	$8,047.88

Comments:

Subaccount: 13349 ***STA 0062-014*** ***US 6/Vasquez, I-70 to I-7*** ***Region: 6*** ***Supplier: 45***

Mix Design No: 105876 Process No: 1 Grading: S Price Per Ton: $46.00 Mix Design I/DP: $9,970.50

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	6000		100.000	1.03500	$2,898.00	0.106	
Density	11	5500	0	99.966	1.04500	$5,692.50	0.645	Den Mean: 93.673
Gradation	3	6000		100.000	1.02500	$1,380.00	- - - -	Grad Key Sieve: All QLs100

Mix Design No: 105878 Process No: 1 Grading: S Price Per Ton: $52.00 Mix Design I/DP: $41,209.97

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	25	25000		87.612	1.00027	$106.63	0.182	
Density	49	24500	0	97.097	1.05487	$34,949.94	0.934	Den Mean: 94.963
Gradation	13	26000		89.567	1.02276	$6,153.40	- - - -	Grad Key Sieve: 1/2

Project Totals 13349		Tons:		I/DP:
	Asphalt Content	31,000		$3,004.63
	Mat Density	30,000		$40,642.44
	Gradation	32,000		$7,533.40
	Plan Quantity	35,247	Project I/DP:	$51,180.47

Comments: Final quantities not equal

Mix Design No: 199 Process No: 1 Grading: S Price Per Ton: $41.29 Mix Design I/DP: $12,969.56

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	11	11224		98.635	1.04500	$6,256.43	0.139	
Density	21	11224	0	98.338	1.05000	$11,585.97	0.482	Den Mean: 92.981
Gradation	5	11224		67.510	0.94743	($4,872.84)	- - - -	Grad Key Sieve: 1/2

Mix Design No: 231 Process No: 1 Grading: S Price Per Ton: $41.29 Mix Design I/DP: $8,678.72

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	8000		58.092	0.84450	($15,408.99)	0.242	
Density	41	20064	0	96.761	1.05326	$22,063.46	0.700	Den Mean: 93.273
Gradation	11	20064		86.775	1.01222	$2,024.25	- - - -	Grad Key Sieve: 3/8

Mix Design No: 231 Process No: 2 Grading: S Price Per Ton: $41.29 Mix Design I/DP: $6,724.65

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	12	12064		94.624	1.04500	$6,724.65	0.164	
Density		0	0			$0.00		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

Mix Design No: SCH03220 Process No: 1 Grading: S Price Per Ton: $41.29 Mix Design I/DP: ($2,089.76)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3212		70.578	0.98157	($733.35)	0.283	
Density	7	3212	0	89.522	1.03312	$2,196.00	0.745	Den Mean: 92.914
Gradation	2	3212			0.86607	($3,552.41)	- - - -	Grad Key Sieve:

Project Totals 13390		Tons:		I/DP:
	Asphalt Content	34,500		($3,161.26)
	Mat Density	34,500		$35,845.43
	Gradation	34,500		($6,401.00)
	Plan Quantity	30,149	Project I/DP:	$26,283.17

Comments:

Subaccount: 13441	*IM 0252-344*	*I-25 & Academy Blvd*	*Region: 2*	*Supplier: 45*

Mix Design No: 174 Process No: 1 Grading: S Price Per Ton: $35.00 Mix Design I/DP: ($2,347.52)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	455			0.80625	($925.64)		
Density		0	455			$0.00		Den Mean:
Gradation		455			0.55357	($1,421.88)	----	Grad Key Sieve:

Mix Design No: 175 Process No: 1 Grading: S Price Per Ton: $35.00 Mix Design I/DP: ($243.14)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	677			1.00000	$0.00		
Density		0	741			$0.00		Den Mean:
Gradation	2	741			0.95313	($243.14)	----	Grad Key Sieve:

Mix Design No: 175 Process No: 2 Grading: S Price Per Ton: $35.00 Mix Design I/DP: ($672.00)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	64				($672.00)		
Density		0	0			$0.00		Den Mean:
Gradation						$0.00	----	Grad Key Sieve:

Mix Design No: 176 Process No: 1 Grading: S Price Per Ton: $42.00 Mix Design I/DP: ($13,715.99)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	8000		66.183	0.90435	($9,641.74)	0.285	
Density	16	8000	0	85.840	0.99898	($171.87)	1.356	Den Mean: 93.706
Gradation	3	6000		54.873	0.92257	($3,902.38)	----	Grad Key Sieve: No. 4

Mix Design No: 176 Process No: 2 Grading: S Price Per Ton: $42.00 Mix Design I/DP: ($8,999.93)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density		0	0			$0.00		Den Mean:
Gradation		2000			0.46429	($8,999.93)	----	Grad Key Sieve:

Project Totals 13441		Tons:		I/DP:
	Asphalt Content	9,196		($11,239.38)
	Mat Density	9,196		($171.87)
	Gradation	9,196		($14,567.33)
	Plan Quantity	17,597	Project I/DP:	($25,978.58)

Comments: Various tests 2xV out

Subaccount: 13448 ***STA 012A-035*** ***Trinidad State Park*** ***Region: 2*** ***Supplier: 53***

Mix Design No: 177 Process No: 1 Grading: S Price Per Ton: $39.50 Mix Design I/DP: ($4,167.71)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2900		52.399	0.90603	($3,229.27)	0.345	
Density	6	2900	0	88.897	1.03288	$1,882.99	0.335	Den Mean: 92.4
Gradation	1	2000			0.82143	($2,821.43)	- - - -	Grad Key Sieve:

Mix Design No: 177 Process No: 2 Grading: S Price Per Ton: $39.50 Mix Design I/DP: ($5,078.60)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density		0	0			$0.00		Den Mean:
Gradation	1	900			0.28571	($5,078.60)	- - - -	Grad Key Sieve:

Mix Design No: 177B Process No: 1 Grading: S Price Per Ton: $39.50 Mix Design I/DP: $26,182.61

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	20	20000		95.211	1.04764	$11,291.49	0.158	
Density	40	20000	0	98.375	1.05500	$21,725.00	0.859	Den Mean: 93.993
Gradation	10	20000		75.983	0.95675	($6,833.88)	- - - -	Grad Key Sieve: 1/2

Project Totals 13448		Tons:		I/DP:
	Asphalt Content	22,900		$8,062.22
	Mat Density	22,900		$23,607.99
	Gradation	22,900		($14,733.91)
	Plan Quantity	21,278	Project I/DP:	$16,936.30

Comments: Single tests out.

Subaccount: 13485 ***STA 006A-034*** ***Old P.O.E. West*** ***Region: 3*** ***Supplier: 16***

Mix Design No: 292 Process No: 1 Grading: SX Price Per Ton: $28.80 Mix Design I/DP: $1,844.82

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2847		100.000	1.02500	$614.94	0.118	
Density	5	2847	0	100.000	1.03000	$1,229.88	0.555	Den Mean: 93.76
Gradation	2	2847			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 300 Process No: 1 Grading: SX Price Per Ton: $29.40 Mix Design I/DP: ($12,688.81)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	4000		36.562	0.73439	($9,370.81)	0.248	
Density	4	2000	2000	91.111	1.03000	$882.00	0.750	Den Mean: 92.925
Gradation	2	4000			0.82143	($4,200.00)	- - - -	Grad Key Sieve:

Mix Design No: 302 Process No: 1 Grading: SX Price Per Ton: $32.97 Mix Design I/DP: $9,376.91

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	11	10809		84.805	1.00254	$272.07	0.188	
Density	22	10809	0	96.659	1.05000	$8,909.50	0.725	Den Mean: 93.291
Gradation	7	10809		82.003	1.00274	$195.34	- - - -	Grad Key Sieve: No. 30

Mix Design No: 303 Process No: 1 Grading: SX Price Per Ton: $29.00 Mix Design I/DP: ($3,931.36)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	4553		54.402	0.86136	($5,491.93)	0.364	
Density	9	4553	0	88.742	1.02364	$1,560.57	0.872	Den Mean: 93.044
Gradation	2	4553			1.00000	$0.00	- - - -	Grad Key Sieve:

Project Totals 13485		Tons:		I/DP:
	Asphalt Content	22,209		($13,975.73)
	Mat Density	22,209		$12,581.95
	Gradation	22,209		($4,004.66)
	Plan Quantity	19,908	Project I/DP:	($5,398.44)

Comments:

Subaccount: 13505 ***STA 1602-084*** ***US 160 W. of Bayfield*** ***Region: 5*** ***Supplier:***

Mix Design No: 147 Process No: 1 Grading: SX Price Per Ton: $34.12 **Mix Design I/DP: ($10,128.31)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	7558		100.000	1.04000	$3,094.31	0.102	
Density	16	7558	0	73.509	0.91972	($10,350.18)	1.166	Den Mean: 92.744
Gradation	4	7558		63.525	0.94430	($2,872.44)	- - - -	Grad Key Sieve: No. 4

Mix Design No: 152 Process No: 1 Grading: SX Price Per Ton: $34.05 **Mix Design I/DP: ($21,240.24)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	20	19008		98.748	1.05000	$9,708.57	0.121	
Density	39	19008	0	76.641	0.90760	($29,901.31)	1.477	Den Mean: 93.213
Gradation	9	17008		81.684	0.99096	($1,047.50)	- - - -	Grad Key Sieve: No. 4

Mix Design No: 152 Process No: 2 Grading: SX Price Per Ton: $34.05 **Mix Design I/DP: ($7,296.55)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density			0			$0.00		Den Mean:
Gradation	1	2000			0.46429	($7,296.55)	- - - -	Grad Key Sieve:

Mix Design No: 154 Process No: 1 Grading: SX Price Per Ton: $34.32 **Mix Design I/DP: ($4,357.83)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	6041		96.827	1.03500	$2,177.09	0.165	
Density	12	5541	0	80.080	0.97456	($2,419.13)	0.928	Den Mean: 92.792
Gradation	4	6041		56.623	0.90075	($4,115.79)	- - - -	Grad Key Sieve: No. 4

Mix Design No: 154 Process No: 2 Grading: SX Price Per Ton: $34.32 **Mix Design I/DP: ($4,485.35)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density		500	0		0.47727	($4,485.35)		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 13505	Asphalt Content	32,607		$14,979.97
	Mat Density	32,607		($47,155.97)
	Gradation	32,607		($15,332.28)
	Plan Quantity	30,021	Project I/DP:	($47,508.28)

Comments: Various single tests 2 x V out.

Subaccount: 13525 ***CC R300-084*** ***Crawford State Park*** ***Region: 3*** ***Supplier: 12***

Mix Design No: 102701 Process No: 1 Grading: SX Price Per Ton: $59.15 **Mix Design I/DP: $1,690.25**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3175		100.000	1.03000	$1,690.25	0.103	
Density		0	3175			$0.00		Den Mean:
Gradation	2	3175			1.00000	$0.00	- - - -	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 13525	Asphalt Content	3,175		$1,690.25
	Mat Density	3,175		$0.00
	Gradation	3,175		$0.00
	Plan Quantity	3,274	Project I/DP:	$1,690.25

Comments:

Subaccount: 13537 NH 1602-085 US 160 Treasure Falls Region: 5 Supplier: 56

Mix Design No: 13537B Process No: 1 Grading: SX Price Per Ton: $41.20 Mix Design I/DP: $98,417.44

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	52	51980		99.992	1.05500	$35,337.55	0.081	
Density	104	51980	0	96.910	1.05081	$54,411.21	0.919	Den Mean: 93.832
Gradation	26	51980		90.832	1.02024	$8,668.68	----	Grad Key Sieve: 1/2

		Tons:		I/DP:
Project Totals 13537	Asphalt Content	51,980		$35,337.55
	Mat Density	51,980		$54,411.21
	Gradation	51,980		$8,668.68
	Plan Quantity	47,807	Project I/DP:	$98,417.44

Comments:

Subaccount: 13538 BR 0504-041 Otero Canal in La Junta Region: 2 Supplier: 54

Mix Design No: 196 Process No: 1 Grading: S Price Per Ton: $47.16 Mix Design I/DP: $10,087.92

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	6097		97.378	1.03500	$3,019.21	0.137	
Density	13	6097	0	93.167	1.03917	$5,630.99	0.880	Den Mean: 94.723
Gradation	3	6097		95.784	1.02500	$1,437.72	----	Grad Key Sieve: 3/8

		Tons:		I/DP:
Project Totals 13538	Asphalt Content	6,097		$3,019.21
	Mat Density	6,097		$5,630.99
	Gradation	6,097		$1,437.72
	Plan Quantity	5,695	Project I/DP:	$10,087.92

Comments:

Subaccount: 13539 BR 3501-009 SH 350 Bridge Replacem Region: 2 Supplier: 54

Mix Design No: 189 Process No: 1 Grading: S Price Per Ton: $48.00 Mix Design I/DP: ($15,283.93)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	5276		54.117	0.83715	($12,372.54)	0.208	
Density	11	5276	0	78.275	0.96701	($4,177.63)	1.222	Den Mean: 95.027
Gradation	3	5276		100.000	1.02500	$1,266.24	----	Grad Key Sieve: All QLs100

		Tons:		I/DP:
Project Totals 13539	Asphalt Content	5,276		($12,372.54)
	Mat Density	5,276		($4,177.63)
	Gradation	5,276		$1,266.24
	Plan Quantity	4,949	Project I/DP:	($15,283.93)

Comments:

Subaccount: 13734 ***STA 0131-045*** ***Rifle North*** ***Region: 3*** ***Supplier: 20***

Mix Design No: 283 Process No: 1 Grading: SX Price Per Ton: $35.26 Mix Design I/DP: $1,123.49

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	3540		100.000	1.03000	$1,123.49	0.113	
Density		0	3540			$0.00		Den Mean:
Gradation	1	3540				$0.00	----	Grad Key Sieve:

Mix Design No: 287 Process No: 1 Grading: SX Price Per Ton: $34.92 Mix Design I/DP: $4,915.42

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	7821		100.000	1.04000	$3,276.95	0.093	
Density		0	7821			$0.00		Den Mean:
Gradation	4	7821		97.140	1.03000	$1,638.47	----	Grad Key Sieve: 3/8

Mix Design No: 288 Process No: 1 Grading: SX Price Per Ton: $34.91 Mix Design I/DP: $6,132.03

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	9	9244		99.939	1.04000	$3,872.86	0.118	
Density		0	9244			$0.00		Den Mean:
Gradation	6	9244		94.865	1.03500	$2,259.17	----	Grad Key Sieve: No. 8

Project Totals 13734		Tons:		I/DP:
	Asphalt Content	20,605		$8,273.30
	Mat Density	20,605		$0.00
	Gradation	20,605		$3,897.64
	Plan Quantity	15,011	Project I/DP:	$12,170.94

Comments:

Subaccount: 93200 ***BR 050-4(020)*** ***W of Jct 71*** ***Region: 2*** ***Supplier: 17***

Mix Design No: 160 Process No: 1 Grading: S Price Per Ton: $30.00 Mix Design I/DP: ($6,289.84)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3003		62.862	0.94042	($1,610.16)	0.285	
Density	7	3003	0	93.325	1.03500	$1,576.57	0.675	Den Mean: 92.957
Gradation	2	3003			0.65278	($6,256.25)	----	Grad Key Sieve:

Project Totals 93200		Tons:		I/DP:
	Asphalt Content	3,003		($1,610.16)
	Mat Density	3,003		$1,576.57
	Gradation	3,003		($6,256.25)
	Plan Quantity	3,452	Project I/DP:	($6,289.84)

Comments:

Totals for all Projects Projects with Bid Dates from 1/1/01 to 12/31/01

Number of Processes: 81

	Tons:	I/DP:
Asphalt Content	748,852	$157,854.64
Mat Density	736,237	$346,901.63
Gradation	747,726	($30,901.74)
Total I/DP:		$473,854.53

Calculated Pay Factor Composite and I/DP by Region

Criteria: Projects with Bid Dates from 1/1/01 to 12/31/01.
Projects with Plan Quantities from 0 to 200000 tons.
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
12524	05/10/01	IM 0252-323	1	S	16,886	$45.96	1.01295	$10,051.89	45
13008	01/25/01	IM 0703-226	1	S	23,373	$45.00	0.99761	($2,511.60)	14

Region 1

Number of Projects: 2 — CPFC: Maximum: 1.01295
Total Tons: 40,259 — Minimum: 0.99761
Average: 1.00528

Incentive/Disincentive Payments

Positive ID/Ps:	1	*Sum I/DPs:*	$7,540.29
Negative ID/Ps:	1	*Maximum:*	$10,051.89
		Minimum:	($2,511.60)
		Average IDP:	$3,770.15

Region 2

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13538	08/23/01	BR 0504-041	2	S	6,097	$47.16	1.03508	$10,087.92	54
12390	08/16/01	IM 0851-002	2	S	7,488	$30.00	1.03499	$7,859.55	49
13131	05/24/01	NH 0242-031	2	S	43,155	$34.50	1.03107	$46,253.77	32
13448	06/07/01	STA 012A-03	2	S	22,900	$39.50	1.01872	$16,936.30	53
13390	01/11/01	IM 0252-342	2	S	34,500	$41.29	1.01845	$26,283.17	49
12829	10/04/01	BR 096A-033	2	S	3,000	$40.00	1.01062	$1,274.67	32
11955	01/11/01	STA 1151-009	2	S	63,731	$30.00	1.00927	$17,728.64	32
12391	08/02/01	NH 0242-028	2	S	10,017	$42.02	0.99247	($3,169.71)	45
12495	07/12/01	STU 0831-07	2	S	11,963	$40.75	0.93992	($29,290.19)	44
13539	09/06/01	BR 3501-009	2	S	5,276	$48.00	0.93965	($15,283.93)	54
13441	04/05/01	IM 0252-344	2	S	9,196	$41.09	0.93125	($25,978.58)	45
93200	01/18/01	BR 050-4(020	2	S	3,003	$30.00	0.93018	($6,289.84)	17

Region 2

Number of Projects: 12 — CPFC: Maximum: 1.03508
Total Tons: 220,326 — Minimum: 0.93018
Average: 0.99097

Incentive/Disincentive Payments

Positive ID/Ps:	7	*Sum I/DPs:*	$46,411.77
Negative ID/Ps:	5	*Maximum:*	$46,253.77
		Minimum:	($29,290.19)
		Average IDP:	$3,867.65

Region 3

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13325	03/15/01	NH 0501-045	3	SX	59,794	$34.57	1.04384	$90,629.19	
13108	06/14/01	STA 092A-01	3	SX	81,937	$38.20	1.03528	$110,449.67	14
13106	01/04/01	STA 0641-011	3	SX	13,023	$41.15	1.02307	$12,363.11	12
13734	07/12/01	STA 0131-045	3	SX	20,605	$34.97	1.01689	$12,170.94	20
13109	03/08/01	STA 0141-013	3	F	27,053	$36.66	1.01676	$16,617.00	14
13330	01/25/01	MC 330A-007	3	SX	16,775	$37.64	1.01274	$8,047.89	17
13525	01/18/01	CC R300-084	3	SX	3,175	$59.15	1.00900	$1,690.25	12
13328	01/18/01	STA R300-07	3	SX	2,340	$55.90	1.00750	$981.04	12
12305	05/17/01	BR 5502-031	3	SX	6,856	$57.73	0.99849	($597.29)	12
13087	07/19/01	STR 135A-01	3	SX	19,340	$44.50	0.99812	($1,619.22)	12
13485	08/02/01	STA 006A-03	3	SX	22,209	$30.98	0.99215	($5,398.44)	16
13112	02/15/01	STA 0502-052	3	SX	12,935	$37.64	0.97675	($11,319.84)	12

Region 3

Number of Projects: 12
Total Tons: 286,042

CPFC: Maximum: 1.04384
Minimum: 0.97675
Average: 1.01088

Incentive/Disincentive Payments

Positive ID/Ps: 8
Negative ID/Ps: 4

Sum I/DPs: $234,014.30
Maximum: $110,449.67
Minimum: ($11,319.84)
Average IDP: $19,501.19

Region 4

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13147	04/26/01	NH 0342-035	4	S	27,853	$30.10	1.03670	$30,763.32	40

Region 4

Number of Projects: 1
Total Tons: 27,853

CPFC: Maximum: 1.03670
Minimum: 1.03670
Average: 1.03670

Incentive/Disincentive Payments

Positive ID/Ps: 1
Negative ID/Ps: 0

Sum I/DPs: $30,763.32
Maximum: $30,763.32
Minimum: $30,763.32
Average IDP: $30,763.32

Region 5

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13537	08/02/01	NH 1602-085	5	SX	51,980	$41.20	1.04596	$98,417.44	56
12801	03/22/01	NH 1602-076	5	SX	3,466	$47.00	1.02168	$3,530.94	25
13505	02/01/01	STA 1602-084	5	SX	32,607	$34.12	0.95729	($47,508.28)	8

Region 5

Number of Projects: 3 CPFC: Maximum: 1.04596
Total Tons: 88,053 Minimum: 0.95729
Average: 1.00831

Incentive/Disincentive Payments

Positive ID/Ps: 2 *Sum I/DPs:* $54,440.10
Negative ID/Ps: 1 *Maximum:* $98,417.44
Minimum: ($47,508.28)
Average IDP: $18,146.70

Region 6

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13349	01/04/01	STA 0062-014	6	S	31,000	$50.84	1.03195	$51,180.47	45
13178	05/17/01	BR 0073-005	6	S	52,567	$31.30	1.02851	$46,903.55	33
13275	09/06/01	IM 0761-182	6	S	2,752	$42.00	1.02250	$2,600.64	33

Region 6

Number of Projects: 3 CPFC: Maximum: 1.03195
Total Tons: 86,319 Minimum: 1.02250
Average: 1.02765

Incentive/Disincentive Payments

Positive ID/Ps: 3 *Sum I/DPs:* $100,684.66
Negative ID/Ps: 0 *Maximum:* $51,180.47
Minimum: $2,600.64
Average IDP: $33,561.55

Statewide Totals: 1/1/01 to 12/31/01. Plan Quantities 0 to 200000 tons.

Number of Projects: 33 CPFC Maximum: 1.04596
Total Tons: 748,852 Minimum: 0.93018
Average: 1.00538

Incentive/Disincentive Payments

Positive ID/Ps: 22 *Sum I/DPs:* $473,854.44
Negative ID/Ps: 11 *Maximum:* $110,449.67
Minimum: ($47,508.28)
Average IDP: $14,359.23

Asphalt Content - Process Information

Criteria: Projects with Bid Dates from 1/1/01 to 12/31/01.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading: F

Bid Date	Subacct.	Region	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.
03/08/01	13109	3	24044	F	$37.26	278		3126	3	100.000	1.02500	0.046

Totals Grading: F

Number of Processes: 1 Total Tons: 3,126

	Quality Level	Pay Factor	St. Dev.
Maximum:	100.000	1.02500	0.046
Minimum:	100.000	1.02500	0.046
Weighted Average:	100.000	1.02500	0.046

Grading: S

Bid Date	Subacct.	Region	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.
05/10/01	12524	1	20994	S	$49.24	5172002	1	4619	5	100.000	1.03000	0.147
09/06/01	13275	6	3332	S	$42.00	105886	1	2752	3	100.000	1.02500	0.119
01/04/01	13349	6	35247	S	$46.00	105876	1	6000	6	100.000	1.03500	0.106
05/10/01	12524	1	20994	S	$44.72	<1903SH		7061	9	99.860	1.04000	0.109
01/11/01	13390	2	30149	S	$41.29	199		11224	11	98.635	1.04500	0.139
08/23/01	13538	2	5695	S	$47.16	196	1	6097	6	97.378	1.03500	0.137
05/17/01	13178	6	54094	S	$31.30	105889	2	33415	34	96.725	1.05418	0.136
06/07/01	13448	2	21278	S	$39.50	177B	1	20000	20	95.211	1.04764	0.158
01/11/01	13390	2	30149	S	$41.29	231	2	12064	12	94.624	1.04500	0.164
04/26/01	13147	4	20504	S	$31.05	28001	1	10736	11	94.601	1.04500	0.152
05/24/01	13131	2	40927	S	$34.50	205	1	33155	34	93.709	1.03492	0.147
01/25/01	13008	1	22198	S	$45.00	131511	1	21798	22	90.516	1.02048	0.174
08/02/01	12391	2	9357	S	$42.02	185	2	8018	8	88.896	1.02665	0.169
04/26/01	13147	4	20504	S	$29.50	36501	2	15426	17	88.729	1.01393	0.181
01/11/01	11955	2	59978	S	$30.00	178	1	63731	64	87.705	0.98150	0.195
01/04/01	13349	6	35247	S	$52.00	105878		25000	25	87.612	1.00027	0.182
08/16/01	12390	2	7812	S	$30.00	186	1	7488	7	86.445	1.02162	0.178
05/17/01	13178	6	54094	S	$31.30	105889	1	14716	14	84.313	0.99390	0.182
01/25/01	13008	1	22198	S	$45.00	112638-2	1	1575	4	78.868	1.01601	0.225
05/17/01	13178	6	54094	S	$31.30	105881-2	2	3608	4	78.698	1.01541	0.189
07/12/01	12495	2	11021	S	$40.75	182	1	11963	12	74.751	0.94192	0.255
05/24/01	13131	2	40927	S	$34.50	194	1	10000	10	73.153	0.93932	0.144
01/11/01	13390	2	30149	S	$41.29	H032201	1	3212	4	70.578	0.98157	0.283
05/10/01	12524	1	20994	S	$44.72	120618	1	5206	6	70.313	0.94943	0.229
04/05/01	13441	2	17597	S	$42.00	176		8000	8	66.183	0.90435	0.285
10/04/01	12829	2	2968	S	$40.00	210	1	3000	3	64.508	0.97707	0.295
01/18/01	93200	2	3452	S	$30.00	160	1	3003	4	62.862	0.94042	0.285
01/11/01	13390	2	30149	S	$41.29	231	1	8000	8	58.092	0.84450	0.242
09/06/01	13539	2	4949	S	$48.00	189	1	5276	6	54.117	0.83715	0.208
06/07/01	13448	2	21278	S	$39.50	177	1	2900	3	52.399	0.90603	0.345

Totals Grading: S

Number of Processes: 30 Total Tons: 369,043

	Quality Level	Pay Factor	St. Dev.
Maximum:	100.000	1.05418	0.345
Minimum:	52.399	0.83715	0.106
Weighted Average:	87.541	1.00327	0.178

Grading: SX

Bid Date	Subacct.	Region	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.
05/17/01	12305	3	6308	SX	$54.90	282	1	2083	6	100.000	1.03500	0.122
02/15/01	13112	3	13254	SX	$34.56	248	1	4648	5	100.000	1.03000	0.093
03/15/01	13325	3	59068	SX	$35.25	239	1	1336	5	100.000	1.03000	0.122
01/18/01	13328	3	2636	SX	$55.90	102601	1	2340	3	100.000	1.02500	0.205
08/02/01	13485	3	19908	SX	$28.80	292	1	2847	3	100.000	1.02500	0.118
02/01/01	13505	5	30021	SX	$34.12	147	1	7558	8	100.000	1.04000	0.102
01/18/01	13525	3	3274	SX	$59.15	102701	1	3175	4	100.000	1.03000	0.103
07/12/01	13734	3	15011	SX	$34.92	287	1	7821	8	100.000	1.04000	0.093
07/12/01	13734	3	15011	SX	$35.26	283	1	3540	5	100.000	1.03000	0.113
08/02/01	13537	5	47807	SX	$41.20	13537B	1	51980	52	99.992	1.05500	0.081
07/12/01	13734	3	15011	SX	$34.91	288	1	9244	9	99.939	1.04000	0.118
01/04/01	13106	3	13879	SX	$41.66	260	1	5691	6	99.923	1.03500	0.138
03/15/01	13325	3	59068	SX	$34.56	241	1	50712	51	99.892	1.05500	0.087
07/19/01	13087	3	19548	SX	$42.59	310	1	6284	6	99.556	1.03500	0.146
01/04/01	13106	3	13879	SX	$41.44	257	1	6121	6	98.907	1.03500	0.133
02/01/01	13505	5	30021	SX	$34.05	152	1	19008	20	98.748	1.05000	0.121
06/14/01	13108	3	68223	SX	$40.18	276	1	48089	49	98.309	1.05500	0.128
03/15/01	13325	3	59068	SX	$34.53	240	1	7746	8	97.328	1.04000	0.134
06/14/01	13108	3	68223	SX	$35.68	277	1	7000	7	96.855	1.03500	0.105
02/01/01	13505	5	30021	SX	$34.32	154	1	6041	7	96.827	1.03500	0.165
03/08/01	13109	3	24044	SX	$37.62	273	1	16369	17	96.426	1.05000	0.089
06/14/01	13108	3	68223	SX	$35.32	281	1	26848	27	95.777	1.05012	0.120
07/19/01	13087	3	19548	SX	$42.63	302A-1.1	1	4709	5	93.738	1.03000	0.176
03/08/01	13109	3	24044	SX	$34.33	269	1	7558	7	90.953	1.03500	0.144
05/17/01	12305	3	6308	SX	$60.46	301	1	3670	4	90.598	1.03000	0.221
02/15/01	13112	3	13254	SX	$39.34	254	1	5489	6	85.152	1.01997	0.210
08/02/01	13485	3	19908	SX	$32.97	302	1	10809	11	84.805	1.00254	0.188
01/25/01	13330	3	16683	SX	$37.56	231	1	6608	7	84.284	1.01278	0.222
07/19/01	13087	3	19548	SX	$47.00	)1302A-1	1	8347	9	79.455	0.97921	0.142
03/22/01	12801	5	3318	SX	$47.00	146	1	3466	4	78.285	1.01392	0.183
01/25/01	13330	3	16683	SX	$37.70	237	1	10167	11	73.984	0.94073	0.261
05/17/01	12305	3	6308	SX	$54.01	296	1	1103	3	71.163	1.00552	0.182
08/02/01	13485	3	19908	SX	$29.00	303	1	4553	5	54.402	0.86136	0.364
08/02/01	13485	3	19908	SX	$29.40	300	1	4000	4	36.562	0.73439	0.248

Totals Grading: SX

Number of Processes: 34 Total Tons: 366,960

	Quality Level	Pay Factor	St. Dev.
Maximum:	100.000	1.05500	0.364
Minimum:	36.562	0.73439	0.081
Weighted Average:	94.981	1.03460	0.127

Asphalt Content - Totals 1/1/01 to 12/31/01 Plan Quantities from 0 to 200000 tons.

			Quality Level	Pay Factor	St. Dev.
Number of Processes: 65	Total Tons: 739,129	Maximum:	100.000	1.05500	0.364
		Minimum:	36.562	0.73439	0.046
		Weighted Average:	91.288	1.01892	0.152

Asphalt Content - Recap by Region

Criteria: Projects with Bid Dates from 1/1/01 to 12/31/01.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.
Weighted average used for: Price, Pay Factor, St. Dev., and Quality Level

Grading: F

	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
Region: 3	1	3,126	3	$37.26	1.02500	0.046	100.000	100.000	100.000
Totals: F	1	3,126	3	$37.26	1.02500	0.046	100.000	100.000	100.000

Grading: S

	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
Region: 1	5	40,259	46	$45.40	1.01563	0.169	90.175	100.000	
Region: 2	17	217,131	220	$36.23	0.98996	0.189	85.062	98.635	52.399
Region: 4	2	26,162	28	$30.14	1.02668	0.169	91.139	94.601	
Region: 6	6	85,491	86	$38.73	1.02412	0.157	91.498	100.000	
Totals: S	30	369,043	380	$37.38	1.00327	0.178	87.541	100.000	52.399

Grading: SX

	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
Region: 3	29	278,907	297	$37.85	1.02985	0.136	93.822	100.000	36.562
Region: 5	5	88,053	91	$38.81	1.04964	0.101	98.653	100.000	
Totals: SX	34	366,960	388	$38.08	1.03460	0.127	94.981	100.000	36.562

Statewide Totals

Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
65	739,129	771	$37.72	1.01892	0.152	91.288	100.000	36.562

Mat Density - Process Information

Criteria: Projects with Bid Dates from 1/1/01 to 12/31/01.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading: S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.	Mean
08/02/01	12391	2	9357	S	$42.02	185		1999	4	100.000	1.03000	0.727	94.83
01/25/01	13008	1	22198	S	$45.00	12638-2	1	1575	4	100.000	1.03000	0.763	94.33
01/04/01	13349	6	35247	S	$46.00	105876		5500	11	99.966	1.04500	0.645	93.67
08/16/01	12390	2	7812	S	$30.00	186	1	7488	14	99.278	1.04500	0.646	93.43
04/26/01	13147	4	20504	S	$31.05	28001	1	10736	22	98.709	1.05000	0.810	93.74
09/06/01	13275	6	3332	S	$42.00	105886	1	2752	5	98.420	1.03000	0.626	93.02
06/07/01	13448	2	21278	S	$39.50	177B	1	20000	40	98.375	1.05500	0.859	93.99
01/11/01	13390	2	30149	S	$41.29	199	1	11224	21	98.338	1.05000	0.482	92.98
05/24/01	13131	2	40927	S	$34.50	194	1	10000	20	98.277	1.05000	0.871	93.81
04/26/01	13147	4	20504	S	$29.50	36501	2	13926	29	98.214	1.05500	0.854	93.8
10/04/01	12829	2	2968	S	$40.00	210	1	3000	6	97.866	1.03500	1.109	94.08
05/24/01	13131	2	40927	S	$34.50	205	1	32655	66	97.807	1.05500	0.884	93.92
05/17/01	13178	6	54094	S	$31.30	05881-2	2	3608	8	97.634	1.04000	0.773	93.36
05/17/01	13178	6	54094	S	$31.30	105889	2	33415	66	97.561	1.05500	0.742	93.45
01/04/01	13349	6	35247	S	$52.00	105878	1	24500	49	97.097	1.05487	0.934	94.96
01/11/01	13390	2	30149	S	$41.29	231	1	20064	41	96.761	1.05326	0.700	93.27
05/10/01	12524	1	20994	S	$44.72	1903SH	1	7061	17	96.489	1.05000	0.634	93.11
05/10/01	12524	1	20994	S	$49.24	5172002	1	4619	11	94.253	1.04447	0.570	92.86
01/11/01	11955	2	59978	S	$30.00	178	1	63731	128	93.688	1.02339	1.078	93.91
04/26/01	13147	4	20504	S	$29.50	36501	1	3191	7	93.657	1.03500	1.005	94.56
01/18/01	93200	2	3452	S	$30.00	160	1	3003	7	93.325	1.03500	0.675	92.96
08/23/01	13538	2	5695	S	$47.16	196	1	6097	13	93.167	1.03917	0.880	94.72
05/17/01	13178	6	54094	S	$31.30	105889	1	14716	30	90.188	1.01385	1.122	93.51
01/25/01	13008	1	22198	S	$45.00	131511	1	5000	10	90.023	1.02813	1.152	94.52
01/11/01	13390	2	30149	S	$41.29	1032201	1	3212	7	89.522	1.03312	0.745	92.91
06/07/01	13448	2	21278	S	$39.50	177	1	2900	6	88.897	1.03288	0.335	92.4
04/05/01	13441	2	17597	S	$42.00	176	1	8000	16	85.840	0.99898	1.356	93.71
07/12/01	12495	2	11021	S	$40.75	182	1	11963	24	85.021	0.98415	1.018	94.94
01/25/01	13008	1	22198	S	$45.00	131511	2	16500	33	82.114	0.95530	1.470	94.29
05/10/01	12524	1	20994	S	$44.72	120618	1	5206	11	80.773	0.98124	0.610	92.54
08/02/01	12391	2	9357	S	$42.02	185	2	8018	16	80.772	0.96855	1.394	93.33
09/06/01	13539	2	4949	S	$48.00	189	1	5276	11	78.275	0.96701	1.222	95.03

Grading: S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.	Mean

Totals - Grading: S

						Quality Level	Pay Factor	St. Dev.	
Number of Processes:	32	Total Tons:	370,935		Maximum:	100.000	1.05500	1.470	95.027
					Minimum:	78.275	0.95530	0.335	92.400
					Weighted Average:	94.141	1.03269	0.921	

Grading: SX

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.	Mean
05/17/01	12305	3	6308	SX	$54.01	296	1	1103	3	100.000	1.02500	1.114	93.7
02/15/01	13112	3	13254	SX	$34.56	248	1	1648	4	100.000	1.03000	0.676	94.35
08/02/01	13485	3	19908	SX	$28.80	292	1	2847	5	100.000	1.03000	0.555	93.76
01/04/01	13106	3	13879	SX	$41.66	260	1	5691	12	99.392	1.04500	0.574	93.27
01/04/01	13106	3	13879	SX	$41.44	257	1	6121	12	99.174	1.04500	0.840	94.19
03/22/01	12801	5	3318	SX	$47.00	146	1	3466	7	98.026	1.03500	0.923	94.37
01/25/01	13330	3	16683	SX	$37.56	231	1	6608	14	98.022	1.04500	0.887	93.73
03/15/01	13325	3	59068	SX	$34.56	241	1	50712	102	97.454	1.05523	0.894	93.86
08/02/01	13537	5	47807	SX	$41.20	13537B	1	51980	104	96.910	1.05081	0.919	93.83
08/02/01	13485	3	19908	SX	$32.97	302	1	10809	22	96.659	1.05000	0.725	93.29
07/19/01	13087	3	19548	SX	$42.63	302A-1.1	1	4709	10	96.526	1.04500	1.000	94.28
03/15/01	13325	3	59068	SX	$34.53	240	1	7746	15	95.308	1.04763	1.046	93.82
06/14/01	13108	3	68223	SX	$40.18	276	1	48089	97	94.722	1.03346	1.025	93.82
07/19/01	13087	3	19548	SX	$47.00	1302A-1		8347	17	92.621	1.03463	1.026	93.48
01/25/01	13330	3	16683	SX	$37.70	237	1	10167	21	92.474	1.03235	1.132	94.23
02/15/01	13112	3	13254	SX	$39.49	250	1	2317	5	92.133	1.03000	1.172	94.46
08/02/01	13485	3	19908	SX	$29.40	300	1	2000	4	91.111	1.03000	0.750	92.93
08/02/01	13485	3	19908	SX	$29.00	303	1	4553	9	88.742	1.02364	0.872	93.04
03/08/01	13109	3	24044	SX	$37.62	273	1	16369	35	87.433	0.99189	1.319	94.01
05/17/01	12305	3	6308	SX	$60.46	301	1	3220	7	83.422	1.00907	1.486	93.77
02/01/01	13505	5	30021	SX	$34.32	154	1	5541	12	80.080	0.97456	0.928	92.79
02/15/01	13112	3	13254	SX	$39.34	254	1	5489	11	78.762	0.96985	1.577	94.4
02/01/01	13505	5	30021	SX	$34.05	152	1	19008	39	76.641	0.90760	1.477	93.21
07/19/01	13087	3	19548	SX	$42.59	310	1	6284	12	75.296	0.94542	1.321	95.07
02/01/01	13505	5	30021	SX	$34.12	147	1	7558	16	73.509	0.91972	1.166	92.74
05/17/01	12305	3	6308	SX	$54.90	282	1	2083	10	62.787	0.86672	1.097	92.37

Totals - Grading: SX

			Quality Level	Pay Factor	St. Dev.	
Number of Processes: 26	Total Tons: 294,465	Maximum:	100.000	1.05523	1.577	95.067
		Minimum:	62.787	0.86672	0.555	92.370
		Weighted Average:	92.362	.02291	1.020	93.764

Mat Density - Totals 1/1/01 to 12/31/0 Plan Quantities from 0 to 200000 tons.

			Quality Level	Pay Factor	St. Dev.	
Number of Processes: 58	Total Tons: 665,400	Maximum:	100.000	1.05523	1.577	95.067
		Minimum:	62.787	0.86672	0.335	92.370
		Weighted Average:	93.354	1.02836	0.965	

Mat Density - Recap by Region

Criteria: Projects with Bid Dates from 1/1/01 to 12/31/01.
Projects with Plan Quantities from 0 to 200000 tons.
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.	Quality Level High	Quality Level Low
Region 1	6	39,961	86	$45.40	0.99778	1.039	93.72	87.577	100.000	80.773
Region 2	17	218,630	440	$36.28	1.03174	0.933	93.83	94.018	100.000	78.275
Region 4	3	27,853	58	$30.10	1.05078	0.854	93.86	97.883	98.709	93.657
Region 6	6	84,491	169	$38.61	1.04569	0.855	93.89	96.330	99.966	90.188
Totals: S	32	370,935	753	$37.33	1.03269	0.921	93.84	94.141	100.000	78.275

Grading: SX

	Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Quality Level Avg.	Quality Level High	Quality Level Low
Region 3	21	206,912	427	$38.24	1.03136	1.002	93.85	93.586	100.000	62.787
Region 5	5	87,553	178	$38.83	1.00295	1.062	93.56	89.469	98.026	73.509
Totals: SX	26	294,465	605	$38.42	1.02291	1.020	93.76	92.362	100.000	62.787

Statewide Totals

Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Avg.	High	Low
58	665,400	1,358	$37.81	1.02836	0.965	93.80	93.354	100.000	62.787

Gradation - Process Information

Criteria: Projects with Bid Dates from 1/1/01 to 12/31/01.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading: S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
01/04/01	13349	6	35247	S	$46.00	105876	1	6000	3	100.000	1.02500	All QLs100
09/06/01	13539	2	4949	S	$48.00	189	1	5276	3	100.000	1.02500	All QLs100
08/23/01	13538	2	5695	S	$47.16	196	1	6097	3	95.784	1.02500	3/8
05/24/01	13131	2	40927	S	$34.50	194	1	10000	5	93.430	1.03000	No. 4
01/11/01	11955	2	59978	S	$30.00	178	1	63731	32	90.627	1.01562	No. 30
04/26/01	13147	4	20504	S	$29.50	36501	2	13426	7	90.404	1.03500	No. 4
01/04/01	13349	6	35247	S	$52.00	105878	1	26000	13	89.567	1.02276	1/2
08/16/01	12390	2	7812	S	$30.00	186	1	7488	4	89.087	1.03000	No. 8
01/25/01	13008	1	22198	S	$45.00	131511	1	21798	11	87.571	1.01598	No. 200
01/11/01	13390	2	30149	S	$41.29	231	1	20064	11	86.775	1.01222	3/8
05/17/01	13178	6	54094	S	$31.30	105889	2	33415	16	86.420	1.00227	3/8
05/24/01	13131	2	40927	S	$34.50	205	1	33155	17	85.436	0.99509	No. 4
04/26/01	13147	4	20504	S	$31.05	28001	1	10736	6	81.305	1.00465	1/2
05/10/01	12524	1	20994	S	$49.24	5172002	1	4619	3	79.674	1.02500	No. 200
05/10/01	12524		20994	S	$44.72	1903SH	1	7061	4	78.868	1.01601	No. 8
05/17/01	13178	6	54094	S	$31.30	05881-2	2	3608	3	77.281	1.02500	No. 30
06/07/01	13448	2	21278	S	$39.50	177B	1	20000	10	75.983	0.95675	1/2
08/02/01	12391	2	9357	S	$42.02	185	2	8018	4	73.570	0.99516	No. 4
05/17/01	13178	6	54094	S	$31.30	105889	1	14716	7	71.193	0.94546	No. 30
01/11/01	13390	2	30149	S	$41.29	199	1	11224	5	67.510	0.94743	1/2
07/12/01	12495	2	11021	S	$40.75	182	1	10000	5	62.131	0.91493	No. 30
04/05/01	13441	2	17597	S	$42.00	176	1	6000	3	54.873	0.92257	No. 4
05/10/01	12524	1	20994	S	$44.72	120618	1	5206	3	50.000	0.88900	No. 8

Totals Grading: S

Processes	Total Tons		Quality Level	Pay Factor
23	347,638	Maximum:	100.000	1.03500
		Minimum:	50.000	0.88900
		Weighted Average:	84.007	0.99914

Key Sieve Count	
1/2"	4
3/8"	3
No. 4	5
No. 8	3
No. 30	4
No. 200	2

Grading: SX

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
05/17/01	12305	3	6308	SX	$60.46	301		3670	5	100.000	1.03000	All QLs100
06/14/01	13108	3	68223	SX	$35.68	277		7000	4	100.000	1.03000	All QLs100
06/14/01	13108	3	68223	SX	$35.32	281	1	26848	14	100.000	1.04500	All QLs100
03/08/01	13109	3	24044	SX	$34.33	269	1	7558	4	100.000	1.03000	All QLs100
02/15/01	13112	3	13254	SX	$34.56	248	1	4648	3	100.000	1.02500	All QLs100
03/15/01	13325	3	59068	SX	$35.25	239	1	1336	5	99.368	1.03000	No. 4
01/04/01	13106	3	13879	SX	$41.66	260	1	5691	4	97.529	1.03000	No. 4
06/14/01	13108	3	68223	SX	$40.18	276	1	48089	25	97.198	1.05000	No. 4
07/12/01	13734	3	15011	SX	$34.92	287	1	7821	4	97.140	1.03000	3/8
07/12/01	13734	3	15011	SX	$34.91	288	1	9244	6	94.865	1.03500	No. 8
03/08/01	13109	3	24044	SX	$37.62	273	1	16369	8	92.060	1.03835	No. 200
08/02/01	13537	5	47807	SX	$41.20	13537B	1	51980	26	90.832	1.02024	1/2
03/15/01	13325	3	59068	SX	$34.56	241	1	50712	27	89.174	1.00902	No. 4
07/19/01	13087	3	19548	SX	$47.00	1302A-1	1	8347	5	88.101	1.03000	No. 4
01/25/01	13330	3	16683	SX	$37.70	237	1	10167	6	82.979	1.01157	3/8
08/02/01	13485	3	19908	SX	$32.97	302	1	10809	7	82.003	1.00274	No. 30
02/01/01	13505	5	30021	SX	$34.05	152	1	17008	9	81.684	0.99096	No. 4
05/17/01	12305	3	6308	SX	$54.90	282	1	2083	3	80.471	1.02500	No. 200
01/25/01	13330	3	16683	SX	$37.56	231	1	6608	3	77.281	1.02500	No. 4
05/17/01	12305	3	6308	SX	$54.01	296	1	1103	3	74.363	1.01652	3/8
03/15/01	13325	3	59068	SX	$34.53	240	1	7746	4	74.093	0.99741	3/8
02/01/01	13505	5	30021	SX	$34.12	147	1	7558	4	63.525	0.94430	No. 4
02/01/01	13505	5	30021	SX	$34.32	154	1	6041	4	56.623	0.90075	No. 4
07/19/01	13087	3	19548	SX	$42.63	02A-1.1	1	4709	3	56.409	0.93232	No. 30
01/04/01	13106	3	13879	SX	$41.44	257	1	6121	3	52.619	0.90755	No. 200
07/19/01	13087	3	19548	SX	$42.59	310	1	6284	3	46.341	0.86115	No. 30
02/15/01	13112	3	13254	SX	$39.34	254	1	5489	3	34.490	0.75534	No. 4

Totals Grading: SX

Processes	Total Tons		Quality Level	Pay Factor
27	341,039	Maximum:	100.000	1.05000
		Minimum:	34.490	0.75534
		Weighted Average:	87.383	1.01032

Key Sieve Count	
1/2"	1
3/8"	4
No. 4	10
No. 8	1
No. 30	3
No. 200	3

Gradation Totals 1/1/01 to 12/31/01 Plan Quantities from 0 to 200000 tons.

Processes	Total Tons		Quality Level	Pay Factor	Key Sieve Count	
					1/2"	5
					3/8"	7
50	688,677	Maximum:	100.000	1.05000	No. 4	15
		Minimum:	34.490	0.75534	No. 8	4
					No. 30	
		Weighted Average:	85.679	1.00468	No. 200	5

Gradation - Process Information - Recap by Region

Criteria: Projects with Bid Dates from 1/1/01 to 12/31/01.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.
Weighted average used for: Price, Pay Factor, and Quality Level

Grading: S

	Processes	Tons	Tests	Price	Pay Factor	Quality Level		
						Avg.	High	Low
Region 1	4	38,684	21	$45.42	0.99997	79.983	87.571	50.000
Region 2	12	201,053	102	$36.03	0.99541	83.959	100.000	54.873
Region 4	2	24,162	13	$30.19	.02151	86.361	90.404	
Region 6	5	83,739	42	$38.78	1.00126	85.300	100.000	71.193
Totals: S	23	347,638	178	$37.33	0.99914	84.007	100.000	50.000

Grading: SX

	Processes	Tons	Tests	Price	Pay Factor	Quality Level		
						Avg.	High	Low
Region 3	23	258,452	152	$37.84	1.01409	88.481	100.000	34.490
Region 5	4	82,587	43	$38.58	0.99852	83.947	90.832	
Totals: SX	27	341,039	195	$38.02	1.01032	87.383	100.000	34.490

Statewide Totals

Processes	Tons	Tests	Price	Pay Factor	Quality Level		
					Avg.	High	Low
50	688,677	373	$37.67	1.00468	85.679	100.000	34.490

Gradation - Standard Deviation Information

Criteria: Projects with Bid Dates from 1/1/01 to 12/31/01.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Tons	Tests	Key Sieve	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
01/04/01	13349	6	35247	S	$46.00	6000	3	QLs100	0.000	0.000	0.000	0.000	0.600	0.600	0.680
01/04/01	13349	6	35247	S	$52.00	26000	13	1/2	0.300	3.600	3.000	2.200	2.000	1.600	0.870
01/11/01	11955	2	59978	S	$30.00	63731	32	No. 30	1.500	2.000	2.100	2.200	2.400	1.800	0.890
01/11/01	13390	2	30149	S	$41.29	11224	5	1/2	1.900	3.200	2.400	2.600	2.300	1.500	0.740
01/11/01	13390	2	30149	S	$41.29	20064	11	3/8	0.500	2.200	2.500	2.100	2.000	1.200	0.430
01/25/01	13008	1	22198	S	$45.00	21798	11	No. 200	2.300	2.200	2.500	3.100	2.200	1.400	0.590
04/05/01	13441	2	17597	S	$42.00	6000	3	No. 4	0.600	4.400	4.400	3.800	2.300	1.200	0.310
04/26/01	13147	4	20504	S	$31.05	10736	6	1/2	0.000	1.600	2.200	1.700	1.700	0.800	0.200
04/26/01	13147	4	20504	S	$29.50	13426	7	No. 4	0.000	1.800	2.500	3.300	3.100	1.600	0.700
05/10/01	12524	1	20994	S	$44.72	5206	3	No. 8	0.600	2.100	2.000	3.500	4.600	1.200	0.460
05/10/01	12524	1	20994	S	$49.24	4619	3	No. 200	0.600	0.600	1.700	2.100	1.500	1.200	0.250
05/10/01	12524	1	20994	S	$44.72	7061	4	No. 8	1.000	1.000	1.300	1.300	1.700	0.500	0.170
05/17/01	13178	6	54094	S	$31.30	3608	3	No. 30	0.000	2.300	2.100	3.200	2.000	1.500	0.440
05/17/01	13178	6	54094	S	$31.30	14716	7	No. 30	0.900	2.600	2.700	3.100	3.900	1.000	1.190
05/17/01	13178	6	54094	S	$31.30	33415	16	3/8	1.100	3.100	3.400	3.200	2.700	1.700	0.840
05/24/01	13131	2	40927	S	$34.50	10000	5	No. 4	0.500	0.900	1.900	2.800	2.500	1.300	0.670
05/24/01	13131	2	40927	S	$34.50	33155	17	No. 4	1.100	3.600	3.800	3.400	3.100	1.700	0.940
06/07/01	13448	2	21278	S	$39.50	20000	10	1/2	0.000	2.400	3.000	3.200	2.700	1.800	0.830
07/12/01	12495	2	11021	S	$40.75	10000	5	No. 30	0.000	1.100	1.100	1.900	2.800	2.900	1.380
08/02/01	12391	2	9357	S	$42.02	8018	4	No. 4	0.800	3.500	3.900	1.400	1.500	1.500	0.660
08/16/01	12390	2	7812	S	$30.00	7488	4	No. 8	2.200	2.500	3.400	3.600	3.700	1.700	0.220
08/23/01	13538	2	5695	S	$47.16	6097	3	3/8	0.000	4.400	3.800	2.600	2.600	1.200	0.260
09/06/01	13539	2	4949	S	$48.00	5276	3	QLs100	0.600	0.600	0.000	2.100	1.500	1.000	0.350

Totals Grading: S

Number of Processes: 23
Total Tons: 347,638

	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Max.	2.300	4.400	4.400	3.800	4.600	2.900	1.380
Min.	0.000	0.000	0.000	0.000	0.600	0.500	0.170
Weighted Average:	0.918	2.450	2.621	2.623	2.494	1.532	0.740
Key Sieve Count		4	3	5	3	4	2

Grading SX

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Tons	Tests	Key Sieve	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
01/04/01	13106	3	13879	SX	$41.44	6121	3	No. 200		1.000	0.600	2.500	1.500	1.000	0.350
01/04/01	13106	3	13879	SX	$41.66	5691	4	No. 4		0.500	1.700	2.600	1.600	1.000	0.170
01/25/01	13330	3	16683	SX	$37.56	6608	3	No. 4		1.500	3.500	3.100	3.100	1.500	1.110
01/25/01	13330	3	16683	SX	$37.70	10167	6	3/8		1.500	3.800	2.300	2.000	1.400	0.770
02/01/01	13505	5	30021	SX	$34.12	7558	4	No. 4		2.600	4.800	3.700	2.200	1.300	0.650
02/01/01	13505	5	30021	SX	$34.05	17008	9	No. 4		0.700	2.100	2.900	1.900	1.000	1.120
02/01/01	13505	5	30021	SX	$34.32	6041	4	No. 4		1.300	3.100	3.800	1.700	1.000	0.530
02/15/01	13112	3	13254	SX	$34.56	4648	3	QLs100		1.200	0.600	1.500	1.000	0.600	0.350
02/15/01	13112	3	13254	SX	$39.34	5489	3	No. 4		2.300	6.000	8.500	7.000	3.500	1.000
03/08/01	13109	3	24044	SX	$34.33	7558	4	QLs100		1.700	1.000	1.700	1.500	1.200	0.440
03/08/01	13109	3	24044	SX	$37.62	16369	8	No. 200		2.000	2.100	1.700	1.600	0.900	0.630
03/15/01	13325	3	59068	SX	$35.25	1336	5	No. 4		1.400	1.100	2.700	2.300	1.300	0.670
03/15/01	13325	3	59068	SX	$34.53	7746	4	3/8		2.400	5.200	3.300	2.400	2.100	0.960
03/15/01	13325	3	59068	SX	$34.56	50712	27	No. 4		1.400	2.100	3.000	2.600	1.400	0.740
05/17/01	12305	3	6308	SX	$54.90	2083	3	No. 200		0.600	0.000	0.600	0.600	0.600	0.780
05/17/01	12305	3	6308	SX	$54.01	1103	3	3/8		1.500	5.000	4.500	3.500	1.500	0.720
05/17/01	12305	3	6308	SX	$60.46	3670	5	QLs100		1.700	2.500	1.900	1.500	0.800	0.400
06/14/01	13108	3	68223	SX	$40.18	48089	25	No. 4		1.000	1.400	1.600	1.200	1.000	0.280
06/14/01	13108	3	68223	SX	$35.68	7000	4	QLs100		1.700	1.700	1.600	1.000	1.000	0.470
06/14/01	13108	3	68223	SX	$35.32	26848	14	QLs100		1.100	1.400	1.200	0.900	0.800	0.330
07/12/01	13734	3	15011	SX	$34.92	7821	4	3/8		0.600	1.400	2.100	1.700	0.800	0.310
07/12/01	13734	3	15011	SX	$34.91	9244	6	No. 8		0.800	1.200	1.800	2.300	1.000	0.550
07/19/01	13087	3	19548	SX	$42.59	6284	3	No. 30		1.500	1.500	3.200	3.100	2.500	0.610
07/19/01	13087	3	19548	SX	$47.00	8347	5	No. 4		0.800	3.000	2.100	1.100	0.700	0.510
07/19/01	13087	3	19548	SX	$42.63	4709	3	No. 30		1.000	4.700	5.500	4.600	2.900	0.560
08/02/01	13485	3	19908	SX	$32.97	10809	7	No. 30		0.800	2.500	2.900	2.400	1.400	0.540
08/02/01	13537	5	47807	SX	$41.20	51980	26	1/2		1.600	2.200	1.400	1.200	0.900	0.400

Totals Grading: SX

			3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	27	Max.		2.600	6.000	8.500	7.000	3.500	1.120
Total Tons:	341,039	Min.		0.500	0.000	0.600	0.600	0.600	0.170
		Weighted Average:		1.326	2.179	2.299	1.833	1.169	
		Key Sieve Count			4	10	1	3	3

Gradation Totals

1/1/01 to 12/31/01 Plan Quantities from 0 to 200000 tons.

			3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	50	Max.	2.300	4.400	6.000	8.500	7.000	3.500	1.380
Total Tons:	688,677	Min.	0.000	0.000	0.000	0.000	0.600	0.500	0.170
		Weighted Average:		1.894	2.402	2.462	2.167	1.352	0.644
		Key Sieve Count		5	7	15	4	7	5

Gradation - Standard Deviation - Recap by Region

Criteria: Projects with Bid Dates from 1/1/01 to 12/31/01.
Projects with Plan Quantities from 0 to 200000 tons.
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
Region 1	4	38,684	21	$45.42	1.631	1.776	2.118	2.706	2.348	1.185	0.455
Region 2	12	201,053	102	$36.03	0.985	2.477	2.652	2.602	2.517	1.664	0.767
Region 4	2	24,162	13	$30.19	0.000	1.711	2.367	2.589	2.478	1.245	0.478
Region 6	5	83,739	42	$38.78	0.690	2.911	2.853	2.643	2.513	1.459	0.882
Totals S	23	347,638	178	$37.33	0.918	2.450	2.621	2.623	2.494	1.532	0.740

Grading: SX

				Weighted Average							
	Processes	Tons	Tests	Price	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Region 3	23	258,452	152	$37.84		1.275	2.082	2.364	1.948	1.234	0.536
Region 5	4	82,587	43	$38.58		1.484	2.483	2.095	1.472	0.965	0.581
Totals SX	27	341,039	195	$38.02		1.326	2.179	2.299	1.833	1.169	0.547

Statewide Totals

				Weighted Average							
	Processes	Tons	Tests	Price	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
	50	688,677	373	$37.67		1.894	2.402	2.462	2.167	1.352	0.644

Appendix D
Reports for 2002 Projects

Project Listing by Region/Subaccount

Projects with Bid Dates from 1/1/02 to 12/31/02.

Region: 1

Subacct.	*Project Code*	*Location*	*Supplier*	*Bid Date*	*Total Bid*	*Plan Quant.*
13362	STA 086A-036	SH 86 Elbert/Douglas CL E	49	06/20/02	$761,760.43	8,340
13434	NH 0403-454	SH 40 Berthoud Falls Empir	19	02/07/02	$1,999,951.60	26,077
13435	STA 0061-069	Silverthorne/Dillon	13	01/31/02	$2,324,395.00	22,813
13494	STA 0741-013	SH 74 E of Evergreen	33	12/12/02	$1,348,660.45	17,173
13507	STA 119A-046	SH 119 @ Black Hawk	45	05/30/02	$6,837,444.05	5,634
13513	NH 0242-034	SH 24 SH 285 to Wilkerson	17	12/05/02	$2,567,807.80	51,734
13854	IM 0703-280	I-70 Chief Hosa West	13	12/05/02	$2,957,436.80	49,493

Number of Projects 7 ***Total Quantity*** 181,264

Region: 2

Subacct.	*Project Code*	*Location*	*Supplier*	*Bid Date*	*Total Bid*	*Plan Quant.*
12548	NH 0503-057	Canon Drainage Improvem	38	03/14/02	$1,961,601.86	8,404
12859	STA 1151-011	SH 115 Corridor	44	06/27/02	$789,707.35	2,750
13446	STA 069A-018	Westcliff - South	32	01/24/02	$953,560.40	12,504
13479	STA 1151-013	SH 115 Roca Joja & Calle	55	01/24/02	$1,856,026.01	17,036
13578	BR 385A-013	Bridge Over Wolf Creek	17	10/10/02	$1,981,378.60	3,335
13733	NH 0851-005	SH 16 to Academy Blvd	55	06/20/02	$2,250,209.34	11,507
14002	IM 0251-161	I-25 Overlay	44	06/27/02	$1,010,988.86	13,794

Number of Projects 7 ***Total Quantity*** 69,330

Region: 3

Subacct.	*Project Code*	*Location*	*Supplier*	*Bid Date*	*Total Bid*	*Plan Quant.*
12609	NH 0502-048	East of Cimarron	32	03/07/02	$3,392,247.85	18,472
13551	STA 0241-038	Battle Mtn to Tennessee Pa	11	03/07/02	$2,316,067.47	44,617
13864	STA 0821-063	South of Glenwood	16	03/28/02	$2,649,385.64	47,039
13866	STA 131A-028	Oak Creek South	16	03/28/02	$1,790,510.00	44,476

Number of Projects 4 ***Total Quantity*** 154,604

Region: 4

Subacct.	Project Code	Location	Supplier	Bid Date	Total Bid	Plan Quant.
12761	STA 066A-003	SH 66, Hover Road to US 2	40	06/20/02	$2,565,755.39	7,263
13959	STA 1191-017	SH 119 Boulder Canyon	41	05/30/02	$1,067,806.65	7,952
13982	IM 0253-176	I-25, SH 52 to SH 66	33	04/25/02	$2,333,333.33	50,546

Number of Projects 3 ***Total Quantity*** 65,761

Region: 5

Subacct.	Project Code	Location	Supplier	Bid Date	Total Bid	Plan Quant.
12798	BR 0502-049	Dawson Creek	12	01/31/02	$1,033,467.47	3,307
12800	NH 1602-075	US 160 & CR 501	57	11/14/02	$3,429,025.30	5,149
13017	BR 0502-050	Weldon Creek	11	08/22/02	$1,730,183.68	2,826
13880	PLH 149A-020	South Fork - Creede	11	02/28/02	$3,361,735.03	39,765
14046	NH 5502-041	US 550 Near Ridgeway Sta	12	07/11/02	$1,788,023.90	32,814

Number of Projects 5 ***Total Quantity*** 83,861

Region: 6

Subacct.	Project Code	Location	Supplier	Bid Date	Total Bid	Plan Quant.
13066	IM 0703-268	I-70 Wads to Pecos	19	06/27/02	$3,796,020.05	52,799
13340	STA C110-012	SH 6, 19th to Clea	14	01/24/02	$1,235,157.85	7,441
13352	STA 0853-044	US 85, I-76 to CR	33	02/07/02	$5,555,555.55	54,344
13357	STA 1281-007	SH 128	33	12/12/02	$987,535.90	13,793
13549	STA 0853-045	SH 85 (Main Street	37	01/24/02	$1,143,488.15	11,306
13573	NH 2254-064	Iliff and I-225	37	04/18/02	$8,094,501.13	9,966
13735	STA 4701-100	County Line Rd: Lucent to	41	02/07/02	$806,402.22	6,935
13917	STA 095A-005	SH 95: 68th Ave to Over U	33	07/11/02	$2,016,977.31	16,381

Number of Projects 8 ***Total Quantity*** 172,965

Totals: Projects with Bid Dates from 1/1/02 to 12/31/02.

Number of Projects 34 ***Total Quantity*** 727,785

Project Data

Projects with Bid Dates from 1/1/02 to 12/31/02.

Subaccount: 12548 ***NH 0503-057*** ***Canon Drainage Improv*** ***Region: 2*** ***Supplier: 38***

Mix Design No: 211 Process No: 1 Grading: S Price Per Ton: $45.00 Mix Design I/DP: $2,880.00

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2560		100.000	1.02500	$864.00	0.160	
Density	6	2560	0	92.670	1.03500	$2,016.00	0.977	Den Mean: 93.333
Gradation	2	2560			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 224 Process No: 1 Grading: S Price Per Ton: $45.00 Mix Design I/DP: $11,267.10

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	6420		97.942	1.03500	$3,033.45	0.135	
Density	13	6420	0	99.995	1.04500	$6,500.25	0.658	Den Mean: 94.085
Gradation	4	6420		88.202	1.03000	$1,733.40	- - - -	Grad Key Sieve: No. 200

Project Totals 12548		Tons:		I/DP:
	Asphalt Content	8,980		$3,897.45
	Mat Density	8,980		$8,516.25
	Gradation	8,980		$1,733.40
	Plan Quantity	8,404	Project I/DP:	$14,147.10

Comments:

Subaccount: 12609 ***NH 0502-048*** ***East of Cimarron*** ***Region: 3*** ***Supplier: 32***

Mix Design No: 55002-1 Process No: 1 Grading: SX Price Per Ton: $37.05 Mix Design I/DP: $2,532.41

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	5164		88.459	1.03000	$1,722.11	0.178	
Density	10	4659	0	97.490	1.04500	$3,884.25	0.640	Den Mean: 94.85
Gradation	3	5164		54.428	0.91968	($3,073.95)	- - - -	Grad Key Sieve: No. 4

Mix Design No: 55002-2 Process No: 1 Grading: SX Price Per Ton: $36.64 Mix Design I/DP: $4,978.95

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	6063		99.356	1.03500	$2,332.57	0.135	
Density	11	6063	0	99.789	1.04500	$4,998.37	0.630	Den Mean: 94.509
Gradation	3	6063		58.865	0.94706	($2,351.99)	- - - -	Grad Key Sieve: No. 4

Mix Design No: 56902-T1 Process No: 1 Grading: SX Price Per Ton: $40.35 Mix Design I/DP: ($613.89)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	7216		95.049	1.03500	$3,057.00	0.083	
Density	14	6716	0	98.178	1.04500	$6,096.80	0.721	Den Mean: 93.407
Gradation	4	7216		47.478	0.83225	($9,767.69)	- - - -	Grad Key Sieve: No. 4

Project Totals 12609		Tons:		I/DP:
	Asphalt Content	18,443		$7,111.68
	Mat Density	17,438		$14,979.42
	Gradation	18,443		($15,193.63)
	Plan Quantity	18,472	Project I/DP:	$6,897.47

Comments: Final quantities don't match.

Subaccount: 12761 ***STA 066A-003*** ***SH 66, Hover Road to U*** ***Region: 4*** ***Supplier: 40***

Mix Design No: 143252 Process No: 1 Grading: S Price Per Ton: $34.00 Mix Design I/DP: $2,550.00

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	3000		83.614	1.02500	$765.00	0.245	
Density	6	3000	0	100.000	1.03500	$1,785.00	0.459	Den Mean: 94.15
Gradation	2	3000			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 143252A Process No: 1 Grading: S Price Per Ton: $34.00 Mix Design I/DP: $2,929.15

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3251		100.000	1.03000	$994.81	0.115	
Density	7	3251	0	100.000	1.03500	$1,934.34	0.503	Den Mean: 93.3
Gradation	2	3251			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 143254 Process No: 1 Grading: S Price Per Ton: $38.00 Mix Design I/DP: $2,134.93

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2497		100.000	1.02500	$711.64	0.159	
Density	5	2497	0	100.000	1.03000	$1,423.29	0.808	Den Mean: 93.56
Gradation	2	2497			1.00000	$0.00	- - - -	Grad Key Sieve:

Project Totals 12761		Tons:		I/DP:
	Asphalt Content	8,748		$2,471.45
	Mat Density	8,748		$5,142.63
	Gradation	8,748		$0.00
	Plan Quantity	7,263	Project I/DP:	$7,614.08

Comments:

Subaccount: 12798 ***BR 0502-049*** ***Dawson Creek*** ***Region: 5*** ***Supplier: 12***

Mix Design No: 601302A Process No: 1 Grading: SX Price Per Ton: $67.20 Mix Design I/DP: $5,310.01

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3312		100.000	1.03000	$2,003.10	0.118	
Density	6	2812	0	94.265	1.03500	$3,306.91	0.956	Den Mean: 94.617
Gradation	2	3312			1.00000	$0.00	- - - -	Grad Key Sieve:

Project Totals 12798		Tons:		I/DP:
	Asphalt Content	3,312		$2,003.10
	Mat Density	2,812		$3,306.91
	Gradation	3,312		$0.00
	Plan Quantity	3,307	Project I/DP:	$5,310.01

Comments: Final quantities don't match

Subaccount: 12800 ***NH 1602-075*** ***US 160 & CR 501*** ***Region: 5*** ***Supplier: 57***

Mix Design No: 12800RAP Process No: 1 Grading: SX Price Per Ton: $51.00 Mix Design I/DP: $10,325.66

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	5328		92.158	1.03500	$2,853.14	0.147	
Density	11	5328	0	97.706	1.04500	$6,113.88	0.962	Den Mean: 93.827
Gradation	3	5328		100.000	1.02500	$1,358.64	- - - -	Grad Key Sieve: All QLs100

Project Totals 12800		Tons:		I/DP:
	Asphalt Content	5,328		$2,853.14
	Mat Density	5,328		$6,113.88
	Gradation	5,328		$1,358.64
	Plan Quantity	5,149	Project I/DP:	$10,325.66

Comments:

Subaccount: 12859 ***STA 1151-011*** ***SH 115 Corridor*** ***Region: 2*** ***Supplier: 44***

Mix Design No: 233 Process No: 1 Grading: S Price Per Ton: $46.69 Mix Design I/DP: ($4,836.56)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2700		100.000	1.02500	$945.47	0.114	
Density	6	2700	0	63.735	0.90827	($5,782.03)	2.054	Den Mean: 93.233
Gradation	2	2700			1.00000	$0.00	- - - -	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 12859	Asphalt Content	2,700		$945.47
	Mat Density	2,700		($5,782.03)
	Gradation	2,700		$0.00
	Plan Quantity	2,750	Project I/DP:	($4,836.56)

Comments:

Subaccount: 13017 ***BR 0502-050*** ***Weldon Creek*** ***Region: 5*** ***Supplier: 11***

Mix Design No: 13017SX3 Process No: 1 Grading: SX Price Per Ton: $53.70 Mix Design I/DP: $1,921.18

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2667		66.501	0.98638	($585.13)	0.331	
Density	6	2667	0	91.391	1.03500	$2,506.31	1.292	Den Mean: 93.817
Gradation	2	2667			1.00000	$0.00	- - - -	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 13017	Asphalt Content	2,667		($585.13)
	Mat Density	2,667		$2,506.31
	Gradation	2,667		$0.00
	Plan Quantity	2,826	Project I/DP:	$1,921.18

Comments:

Subaccount: 13066 ***IM 0703-268*** ***I-70 Wads to Pecos*** ***Region: 6*** ***Supplier: 19***

Mix Design No: 147029 Process No: 1 Grading: SMA Price Per Ton: $42.50 Mix Design I/DP: $28,431.05

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	16	19785		87.983	1.01094	$2,760.28	0.197	
Density	40	19785	0	95.508	1.04506	$18,943.87	0.979	Den Mean: 94.73
Gradation	9	19785		93.841	1.04000	$6,726.90	- - - -	Grad Key Sieve: No. 200

		Tons:		I/DP:
Project Totals 13066	Asphalt Content	19,785		$2,760.28
	Mat Density	19,785		$18,943.87
	Gradation	19,785		$6,726.90
	Plan Quantity	52,799	Project I/DP:	$28,431.05

Comments: Gr. S Voids acceptance

Subaccount: 13340 ***STA C110-012*** ***SH 6, 19th to Clea*** ***Region: 6*** ***Supplier: 14***

Mix Design No: 105887 Process No: 1 Grading: S Price Per Ton: $38.00 Mix Design I/DP: ($2,561.20)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	4000		100.000	1.03000	$1,368.00	0.122	
Density	7	3500	0	81.871	1.00214	$142.23	1.546	Den Mean: 93.986
Gradation	2	4000			0.86607	($4,071.43)	- - - -	Grad Key Sieve:

Mix Design No: 105887 Process No: 2 Grading: S Price Per Ton: $38.00 Mix Design I/DP: ($9,500.00)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density		0	0			$0.00		Den Mean:
Gradation	1	2000			0.37500	($9,500.00)	- - - -	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 13340	Asphalt Content	4,000		$1,368.00
	Mat Density	3,500		$142.23
	Gradation	6,000		($13,571.43)
	Plan Quantity	7,441	Project I/DP:	($12,061.20)

Comments: Final quantities not equal. 1 test 2 x V out.

Subaccount: 13352 ***STA 0853-044*** ***US 85, I-76 to CR*** ***Region: 6*** ***Supplier: 33***

Mix Design No: 146980 Process No: 1 Grading: S Price Per Ton: $40.00 Mix Design I/DP: $33,349.58

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	26	25757		94.082	1.04030	$12,455.59	0.143	
Density	52	25757	0	92.614	1.02256	$11,621.47	0.684	Den Mean: 92.985
Gradation	13	25757		98.319	1.04500	$9,272.52	- - - -	Grad Key Sieve: No. 8

Mix Design No: 146988-1 Process No: 1 Grading: SMA Price Per Ton: $49.00 Mix Design I/DP: $9,628.26

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	15	15000		76.531	0.94351	($12,455.11)	0.159	
Density	30	15000	0	95.832	1.04963	$18,239.71	1.003	Den Mean: 95.11
Gradation	7	15000		87.615	1.02615	$3,843.66	- - - -	Grad Key Sieve: No. 4

Mix Design No: 146988-2 Process No: 1 Grading: SMA Price Per Ton: $49.00 Mix Design I/DP: $27,976.96

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	20	20168		87.896	1.00611	$1,810.33	0.156	
Density	41	20168	0	96.111	1.04895	$24,185.15	0.942	Den Mean: 94.705
Gradation	10	20168		85.953	1.01003	$1,981.48	- - - -	Grad Key Sieve: No. 200

		Tons:		I/DP:
Project Totals 13352	Asphalt Content	60,925		$1,810.81
	Mat Density	60,925		$54,046.33
	Gradation	60,925		$15,097.66
	Plan Quantity	54,344	Project I/DP:	$70,954.80

Comments:

Subaccount: 13357 STA 1281-007 SH 128 Region: 6 Supplier: 33

Mix Design No: 147007 Process No: 1 Grading: SX Price Per Ton: $34.00 Mix Design I/DP: $3,191.34

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	4754		81.384	1.00499	$241.82	0.230	
Density	11	4754	0	92.244	1.03650	$2,949.52	1.195	Den Mean: 93.909
Gradation	2	4754			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 147008-1 Process No: 1 Grading: SX Price Per Ton: $34.00 Mix Design I/DP: $13.19

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	10	7568		81.190	0.98615	($1,068.75)	0.232	
Density	17	7568	0	86.060	0.99875	($160.36)	0.870	Den Mean: 92.941
Gradation	5	7568		84.441	1.02414	$1,242.30	- - - -	Grad Key Sieve: No. 8

		Tons:		I/DP:
Project Totals 13357	Asphalt Content	12,322		($826.93)
	Mat Density	12,322		$2,789.16
	Gradation	12,322		$1,242.30
	Plan Quantity	13,793	Project I/DP:	$3,204.53

Comments:

Subaccount: 13362 STA 086A-036 SH 86 Elbert/Douglas C Region: 1 Supplier: 49

Mix Design No: 138927-2 Process No: 1 Grading: S Price Per Ton: $41.29 Mix Design I/DP: $2,269.61

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2443		100.000	1.02500	$756.54	0.085	
Density	5	2443	0	90.358	1.03000	$1,513.07	1.379	Den Mean: 94.04
Gradation	1	2443			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 138931 Process No: 1 Grading: S Price Per Ton: $54.86 Mix Design I/DP: $3,674.73

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2987		100.000	1.02500	$1,229.00	0.026	
Density	6	2987	0	99.352	1.03500	$2,867.67	0.739	Den Mean: 94.633
Gradation	3	2987		66.667	0.98713	($421.94)	- - - -	Grad Key Sieve: No. 30

Mix Design No: 144626 Process No: 1 Grading: S Price Per Ton: $41.29 Mix Design I/DP: ($6,182.20)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2410		47.357	0.86911	($3,907.39)	0.104	
Density	5	2410	0	72.114	0.97214	($1,386.34)	1.575	Den Mean: 93
Gradation	2	2410			0.95536	($888.47)	- - - -	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 13362	Asphalt Content	7,840		($1,921.85)
	Mat Density	7,840		$2,994.40
	Gradation	7,840		($1,310.41)
	Plan Quantity	8,340	Project I/DP:	($237.86)

Comments:

Subaccount: 13434 ***NH 0403-454*** ***SH 40 Berthoud Falls E*** ***Region: 1*** ***Supplier: 19***

Mix Design No: 132090 Process No: 1 Grading: SX Price Per Ton: $45.25 Mix Design I/DP: $17,635.30

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	24	23468		82.392	0.96632	($10,728.71)	0.159	
Density	47	23468	0	99.633	1.05500	$29,202.99	0.710	Den Mean: 93.906
Gradation	12	23468		83.949	0.99605	($838.98)	----	Grad Key Sieve: No. 8

		Tons:		I/DP:
Project Totals 13434	Asphalt Content	23,468		($10,728.71)
	Mat Density	23,468		$29,202.99
	Gradation	23,468		($838.98)
	Plan Quantity	26,077	Project I/DP:	$17,635.30

Comments:

Subaccount: 13435 ***STA 0061-069*** ***Silverthorne/Dillon*** ***Region: 1*** ***Supplier: 13***

Mix Design No: 139201 Process No: 1 Grading: SX Price Per Ton: $44.78 Mix Design I/DP: ($2,667.00)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	22	21671		74.111	0.90966	($26,299.56)	0.257	
Density	44	21671	0	97.771	1.05500	$26,685.54	0.778	Den Mean: 93.541
Gradation	11	21671		81.324	0.98427	($3,052.98)	----	Grad Key Sieve: No. 8

		Tons:		I/DP:
Project Totals 13435	Asphalt Content	21,671		($26,299.56)
	Mat Density	21,671		$26,685.54
	Gradation	21,671		($3,052.98)
	Plan Quantity	22,813	Project I/DP:	($2,667.00)

Comments:

Subaccount: 13446 ***STA 069A-018*** ***Westcliff - South*** ***Region: 2*** ***Supplier: 32***

Mix Design No: 242 Process No: 1 Grading: S Price Per Ton: $32.00 Mix Design I/DP: $11,793.25

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	13	12032		99.148	1.04500	$5,197.82	0.130	
Density	16	7532	0	99.228	1.05000	$6,025.60	0.776	Den Mean: 94.269
Gradation	7	12032		83.042	1.00740	$569.83	----	Grad Key Sieve: No. 4

		Tons:		I/DP:
Project Totals 13446	Asphalt Content	12,032		$5,197.82
	Mat Density	7,532		$6,025.60
	Gradation	12,032		$569.83
	Plan Quantity	12,504	Project I/DP:	$11,793.25

Comments:

Subaccount: 13479 ***STA 1151-013*** ***SH 115 Roca Joja & Call*** ***Region: 2*** ***Supplier: 55***

Mix Design No: 191 Process No: 1 Grading: S Price Per Ton: $32.35 Mix Design I/DP: $7,338.92

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	5970		95.268	1.03500	$2,027.86	0.135	
Density	12	5970	0	97.469	1.04500	$4,345.41	0.817	Den Mean: 93.492
Gradation	3	5970		100.000	1.02500	$965.65	- - - -	Grad Key Sieve: All QLs100

Project Totals 13479		Tons:		I/DP:
	Asphalt Content	5,970		$2,027.86
	Mat Density	5,970		$4,345.41
	Gradation	5,970		$965.65
	Plan Quantity	17,036	Project I/DP:	$7,338.92

Comments: 11,000 less than plan?

Subaccount: 13494 ***STA 0741-013*** ***SH 74 E of Evergreen*** ***Region: 1*** ***Supplier: 33***

Mix Design No: 136164 Process No: 1 Grading: SX Price Per Ton: $41.00 Mix Design I/DP: $7,813.21

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	6787		82.409	0.99859	($117.40)	0.127	
Density	14	6787	0	95.389	1.04500	$6,261.01	0.717	Den Mean: 94.836
Gradation	4	6787		84.157	1.03000	$1,669.60	- - - -	Grad Key Sieve: No. 4

Mix Design No: 136164-1 Process No: 1 Grading: SX Price Per Ton: $30.00 Mix Design I/DP: $11,645.31

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	11	10058		88.914	1.02216	$2,006.12	0.195	
Density	21	10058	0	98.454	1.05000	$7,543.50	0.878	Den Mean: 93.957
Gradation	6	10058		89.485	1.03473	$2,095.69	- - - -	Grad Key Sieve: No. 8

Project Totals 13494		Tons:		I/DP:
	Asphalt Content	16,845		$1,888.72
	Mat Density	16,845		$13,804.51
	Gradation	16,845		$3,765.29
	Plan Quantity	17,173	Project I/DP:	$19,458.52

Comments:

Subaccount: 13507 ***STA 119A-046*** ***SH 119 @ Black Hawk*** ***Region: 1*** ***Supplier: 45***

Mix Design No: 146128-1 Process No: 1 Grading: S Price Per Ton: $45.51 Mix Design I/DP: $14,872.67

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	7600		96.087	1.04000	$4,150.51	0.147	
Density	17	7600	0	99.416	1.05000	$8,646.90	0.812	Den Mean: 94.038
Gradation	4	7600		90.825	1.03000	$2,075.26	- - - -	Grad Key Sieve: No. 30

Project Totals 13507		Tons:		I/DP:
	Asphalt Content	7,600		$4,150.51
	Mat Density	7,600		$8,646.90
	Gradation	7,600		$2,075.26
	Plan Quantity	5,634	Project I/DP:	$14,872.67

Comments:

Subaccount: 13513 ***NH 0242-034*** ***SH 24 SH 285 to Wilkers*** ***Region: 1*** ***Supplier: 17***

Mix Design No: 146464 Process No: 1 Grading: SX Price Per Ton: $27.70 Mix Design I/DP: $68,129.53

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	53	52244		95.148	1.04067	$17,655.24	0.152	
Density	105	52244	0	98.810	1.06000	$43,414.76	0.802	Den Mean: 93.931
Gradation	27	52244		91.574	1.02439	$7,059.53	- - - -	Grad Key Sieve: No. 4

		Tons:		I/DP:
Project Totals 13513	Asphalt Content	52,244		$17,655.24
	Mat Density	52,244		$43,414.76
	Gradation	52,244		$7,059.53
	Plan Quantity	51,734	Project I/DP:	$68,129.53

Comments:

Subaccount: 13549 ***STA 0853-045*** ***SH 85 (Main Street*** ***Region: 6*** ***Supplier: 37***

Mix Design No: 146977 Process No: 1 Grading: S Price Per Ton: $34.50 Mix Design I/DP: ($30,824.74)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	11	10796		63.645	0.86791	($14,759.50)	0.327	
Density	21	10796	0	98.422	1.05000	$9,311.55	0.692	Den Mean: 93.419
Gradation	6	10796		35.200	0.65934	($25,376.79)	- - - -	Grad Key Sieve: 1

		Tons:		I/DP:
Project Totals 13549	Asphalt Content	10,796		($14,759.50)
	Mat Density	10,796		$9,311.55
	Gradation	10,796		($25,376.79)
	Plan Quantity	11,306	Project I/DP:	($30,824.74)

Comments: Out on 1" sieve

Subaccount: 13551 ***STA 0241-038*** ***Battle Mtn to Tennessee*** ***Region: 3*** ***Supplier: 11***

Mix Design No: WCT 6015 Process No: 1 Grading: SX Price Per Ton: $35.64 Mix Design I/DP: $6,529.36

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	6346		100.000	1.03500	$2,374.58	0.077	
Density	12	6346	0	91.421	1.03231	$3,653.33	0.957	Den Mean: 94.717
Gradation	3	6346		72.719	1.01109	$501.45	- - - -	Grad Key Sieve: No. 30

Mix Design No: WCT 6015 Process No: 1 Grading: SX Price Per Ton: $35.70 Mix Design I/DP: $61,690.38

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	40	39261		93.815	1.03367	$14,158.42	0.136	
Density	80	39261	0	96.766	1.05037	$35,304.13	0.944	Den Mean: 94.047
Gradation	20	39261		94.458	1.04361	$12,227.83	- - - -	Grad Key Sieve: No. 8

		Tons:		I/DP:
Project Totals 13551	Asphalt Content	45,607		$16,533.00
	Mat Density	45,607		$38,957.46
	Gradation	45,607		$12,729.28
	Plan Quantity	44,617	Project I/DP:	$68,219.74

Comments:

Subaccount: 13573 ***NH 2254-064*** ***Iliff and I-225*** ***Region: 6*** ***Supplier: 37***

Mix Design No: 146977 Process No: 1 Grading: S Price Per Ton: $38.82 **Mix Design I/DP: ($14,137.12)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	2220			0.85000	($3,878.12)		
Density	7	2220	0	68.207	0.93692	($2,718.22)	1.120	Den Mean: 92.567
Gradation	1	2220			0.56250	($7,540.78)	- - - -	Grad Key Sieve:

Project Totals 13573		Tons:		I/DP:
	Asphalt Content	2,220		($3,878.12)
	Mat Density	2,220		($2,718.22)
	Gradation	2,220		($7,540.78)
	Plan Quantity	9,966	Project I/DP:	($14,137.12)

Comments: Reported quantity 7187 less than plan.

Subaccount: 13578 ***BR 385A-013*** ***Bridge Over Wolf Creek*** ***Region: 2*** ***Supplier: 17***

Mix Design No: 234 Process No: 1 Grading: S Price Per Ton: $46.00 **Mix Design I/DP: ($12,062.69)**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3335		69.928	0.97844	($992.28)	0.286	
Density	7	3335	0	58.241	0.85568	($11,070.41)	2.256	Den Mean: 93.043
Gradation	2	3335			1.00000	$0.00	- - - -	Grad Key Sieve:

Project Totals 13578		Tons:		I/DP:
	Asphalt Content	3,335		($992.28)
	Mat Density	3,335		($11,070.41)
	Gradation	3,335		$0.00
	Plan Quantity	3,335	Project I/DP:	($12,062.69)

Comments: Gradation & Voids Acceptance Used

Subaccount: 13733 ***NH 0851-005*** ***SH 16 to Academy Blvd*** ***Region: 2*** ***Supplier: 55***

Mix Design No: 229 Process No: 1 Grading: S Price Per Ton: $31.65 **Mix Design I/DP: $11,184.10**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	7	8726		96.442	1.03500	$2,899.87	0.164	
Density	17	8725	0	96.477	1.05000	$6,903.66	0.840	Den Mean: 93.465
Gradation	3	8724		100.000	1.02500	$1,380.57	- - - -	Grad Key Sieve: All QLs100

Mix Design No: 230 Process No: 1 Grading: S Price Per Ton: $38.90 **Mix Design I/DP: $3,397.68**

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	3296		100.000	1.03000	$1,153.93	0.126	
Density	7	3296	0	99.923	1.03500	$2,243.75	0.803	Den Mean: 93.714
Gradation	2	3296			1.00000	$0.00	- - - -	Grad Key Sieve:

Project Totals 13733		Tons:		I/DP:
	Asphalt Content	12,022		$4,053.80
	Mat Density	12,021		$9,147.41
	Gradation	12,020		$1,380.57
	Plan Quantity	11,507	Project I/DP:	$14,581.78

Comments:

Subaccount: 13735 STA 4701-100 County Line Rd: Lucent t Region: 6 Supplier: 41

Mix Design No: 105863 Process No: 1 Grading: S Price Per Ton: $39.91 Mix Design I/DP: ($2,569.30)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	2	995			1.00000	$0.00		
Density	4	995	0	52.393	0.87060	($2,569.30)	1.393	Den Mean: 92.1
Gradation	1	995			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 105871 Process No: 1 Grading: S Price Per Ton: $52.33 Mix Design I/DP: $0.00

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	1	616			1.00000	$0.00		
Density	2	616	0		1.00000	$0.00		Den Mean:
Gradation	1	616			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 105896 Process No: 1 Grading: S Price Per Ton: $39.91 Mix Design I/DP: $460.66

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	5009		82.653	1.01787	$1,071.81	0.126	
Density	10	5009	0	82.670	0.99389	($611.15)	0.369	Den Mean: 92.35
Gradation	2	5009			1.00000	$0.00	- - - -	Grad Key Sieve:

Project Totals 13735		Tons:		I/DP:
	Asphalt Content	6,620		$1,071.81
	Mat Density	6,620		($3,180.45)
	Gradation	6,620		$0.00
	Plan Quantity	6,935	Project I/DP:	($2,108.64)

Comments:

Subaccount: 13854 IM 0703-280 I-70 Chief Hosa West Region: 1 Supplier: 13

Mix Design No: 132094-2 Process No: 1 Grading: SMA Price Per Ton: $48.70 Mix Design I/DP: $12,160.76

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	8	8509		92.460	1.03973	$4,939.57	0.130	
Density	17	8506	0	90.369	1.02286	$4,735.15	1.237	Den Mean: 95
Gradation	4	8508		100.000	1.03000	$2,486.04	- - - -	Grad Key Sieve: All QLs100

Mix Design No: 132094-3 Process No: 1 Grading: SMA Price Per Ton: $48.70 Mix Design I/DP: ($27,681.87)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	24	23305		89.878	1.01541	$5,246.84	0.181	
Density	46	23308	0	82.261	0.94754	($29,771.66)	1.394	Den Mean: 94.483
Gradation	12	23304		82.115	0.98609	($3,157.05)	- - - -	Grad Key Sieve: 3/8

Mix Design No: 13293-1 Process No: 1 Grading: SX Price Per Ton: $36.40 Mix Design I/DP: ($6,701.22)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	16	15788		71.765	0.90708	($16,020.73)	0.279	
Density	32	15788	0	92.511	1.02798	$8,040.05	0.783	Den Mean: 93.119
Gradation	8	15787		85.153	1.01113	$1,279.46	- - - -	Grad Key Sieve: No. 200

Project Totals 13854		Tons:		I/DP:
	Asphalt Content	47,602		($5,834.32)
	Mat Density	47,602		($16,996.46)
	Gradation	47,599		$608.45
	Plan Quantity	49,493	Project I/DP:	($22,222.33)

Comments: Final quantities Not equal

Subaccount: 13864 ***STA 0821-063*** ***South of Glenwood*** ***Region: 3*** ***Supplier: 16***

Mix Design No: WCT 6016 Process No: 1 Grading: SX Price Per Ton: $33.21 Mix Design I/DP: $74,852.29

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	61	60240		95.793	1.04426	$26,560.23	0.143	
Density	110	54240	6000	96.044	1.04361	$39,269.54	0.974	Den Mean: 93.903
Gradation	31	60240		91.601	1.02255	$9,022.52	- - - -	Grad Key Sieve: No. 8

		Tons:		I/DP:
Project Totals 13864	Asphalt Content	60,240		$26,560.23
	Mat Density	60,240		$39,269.54
	Gradation	60,240		$9,022.52
	Plan Quantity	47,039	Project I/DP:	$74,852.29

Comments:

Subaccount: 13866 ***STA 131A-028*** ***Oak Creek South*** ***Region: 3*** ***Supplier: 16***

Mix Design No: 600702-1 Process No: 1 Grading: SX Price Per Ton: $28.62 Mix Design I/DP: $12,557.70

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	19	18280		97.492	1.05000	$7,848.56	0.140	
Density		0	0			$0.00		Den Mean:
Gradation	10	18280		98.611	1.04500	$4,709.14	- - - -	Grad Key Sieve: No. 4

Mix Design No: 600702A Process No: 1 Grading: SX Price Per Ton: $32.21 Mix Design I/DP: $2,579.24

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	3203		100.000	1.02500	$773.77	0.100	
Density	7	3203	0	97.267	1.03500	$1,805.47	1.061	Den Mean: 94.186
Gradation	2	3203			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 600702A-2 Process No: 1 Grading: SX Price Per Ton: $31.80 Mix Design I/DP: $6,859.08

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	6	5676		100.000	1.03500	$1,895.27	0.087	
Density	11	5676	0	99.576	1.04500	$4,061.30	0.744	Den Mean: 93.673
Gradation	3	5676		100.000	1.02500	$902.51	- - - -	Grad Key Sieve: All QLs100

Mix Design No: 600702A3 Process No: 1 Grading: SX Price Per Ton: $31.35 Mix Design I/DP: $29,470.19

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	19	18255		99.426	1.05000	$8,583.55	0.099	
Density	37	18255	0	96.976	1.05500	$15,736.51	0.805	Den Mean: 93.489
Gradation	10	18255		99.912	1.04500	$5,150.13	- - - -	Grad Key Sieve: All QLs100

		Tons:		I/DP:
Project Totals 13866	Asphalt Content	45,414		$19,101.15
	Mat Density	27,134		$21,603.28
	Gradation	45,414		$10,761.78
	Plan Quantity	44,476	Project I/DP:	$51,466.21

Comments: Missing Density Tests

Subaccount: 13880 ***PLH 149A-020*** ***South Fork - Creede*** ***Region: 5*** ***Supplier: 11***

Mix Design No: 600602 Process No: 1 Grading: SX Price Per Ton: $37.22 Mix Design I/DP: $41,488.58

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	59	58169		89.345	0.99607	($2,551.10)	0.166	
Density	75	37117	21052	94.058	1.02928	$20,224.13	1.068	Den Mean: 94.072
Gradation	30	58169		98.350	1.05500	$23,815.55	- - - -	Grad Key Sieve: No. 4

		Tons:		I/DP:
Project Totals 13880	Asphalt Content	58,169		($2,551.10)
	Mat Density	58,169		$20,224.13
	Gradation	58,169		$23,815.55
	Plan Quantity	39,765	Project I/DP:	$41,488.58

Comments:

Subaccount: 13917 ***STA 095A-005*** ***SH 95: 68th Ave to Over*** ***Region: 6*** ***Supplier: 33***

Mix Design No: 146992 Process No: 1 Grading: S Price Per Ton: $42.00 Mix Design I/DP: $7,405.87

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	13	12622		94.413	1.04447	$7,072.91	0.161	
Density	25	12622	0	87.790	1.00143	$378.55	0.996	Den Mean: 93.16
Gradation	7	12622		81.314	0.99957	($45.59)	- - - -	Grad Key Sieve: 3/8

Mix Design No: 147010 Process No: 1 Grading: S Price Per Ton: $42.82 Mix Design I/DP: ($4,664.47)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2039		40.326	0.81042	($4,965.56)	0.212	
Density	5	2039	0	100.000	1.03000	$1,309.65	0.406	Den Mean: 94.1
Gradation	3	2039		58.043	0.94224	($1,008.56)	- - - -	Grad Key Sieve: No. 4

		Tons:		I/DP:
Project Totals 13917	Asphalt Content	14,661		$2,107.35
	Mat Density	14,661		$1,688.20
	Gradation	14,661		($1,054.15)
	Plan Quantity	16,381	Project I/DP:	$2,741.40

Comments:

Subaccount: 13959 STA 1191-017 SH 119 Boulder Canyon Region: 4 Supplier: 41

Mix Design No: 143228 Process No: 1 Grading: S Price Per Ton: $35.60 Mix Design I/DP: ($4,081.24)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2513		51.128	0.89714	($2,760.74)	0.163	
Density	6	2513	0	86.277	1.02405	$1,075.82	1.008	Den Mean: 93.1
Gradation	2	2513			0.86607	($2,396.32)	- - - -	Grad Key Sieve:

Mix Design No: 143228A Process No: 1 Grading: S Price Per Ton: $35.60 Mix Design I/DP: $735.32

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	918		100.000	1.02500	$245.11	0.147	
Density	5	918	0	100.000	1.03000	$490.21	0.444	Den Mean: 93.42
Gradation	2	918			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 143230 Process No: 1 Grading: S Price Per Ton: $40.70 Mix Design I/DP: $5,997.16

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	5	4037		99.048	1.03000	$1,478.75	0.122	
Density	10	4037	0	99.836	1.04500	$3,696.88	0.728	Den Mean: 94.29
Gradation	3	4037		100.000	1.02500	$821.53	- - - -	Grad Key Sieve: All QLs100

Project Totals 13959		Tons:		I/DP:
	Asphalt Content	7,468		($1,036.88)
	Mat Density	7,468		$5,262.91
	Gradation	7,468		($1,574.79)
	Plan Quantity	7,952	Project I/DP:	$2,651.24

Comments:

Subaccount: 13982 IM 0253-176 I-25, SH 52 to SH 66 Region: 4 Supplier: 33

Mix Design No: 50302B Process No: 1 Grading: SX Price Per Ton: $39.00 Mix Design I/DP: $58,709.69

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	45	45000		94.111	1.03472	$18,279.42	0.159	
Density	89	44000	0	95.087	1.03680	$31,574.26	0.837	Den Mean: 93.382
Gradation	22	44000		91.415	1.02580	$8,856.01	- - - -	Grad Key Sieve: No. 30

Project Totals 13982		Tons:		I/DP:
	Asphalt Content	45,000		$18,279.42
	Mat Density	44,000		$31,574.26
	Gradation	44,000		$8,856.01
	Plan Quantity	50,546	Project I/DP:	$58,709.69

Comments:

Subaccount: 14002 IM 0251-161 I-25 Overlay Region: 2 Supplier: 44

Mix Design No: 218 Process No: 1 Grading: S Price Per Ton: $36.52 Mix Design I/DP: $21,045.38

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	13	12940		97.408	1.04500	$6,379.68	0.147	
Density	25	12440	0	96.493	1.05000	$11,357.72	0.966	Den Mean: 93.816
Gradation	7	12940		98.926	1.03500	$3,307.98	- - - -	Grad Key Sieve: No. 8

Mix Design No: 218 Process No: 2 Grading: S Price Per Ton: $36.52 Mix Design I/DP: ($6,017.49)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC						$0.00		
Density	1	500	0		0.34091	($6,017.49)		Den Mean:
Gradation						$0.00	- - - -	Grad Key Sieve:

		Tons:		I/DP:
Project Totals 14002	Asphalt Content	12,940		$6,379.68
	Mat Density	12,940		$5,340.23
	Gradation	12,940		$3,307.98
	Plan Quantity	13,794	Project I/DP:	$15,027.89

Comments:

Subaccount: 14046 NH 5502-041 US 550 Near Ridgeway S Region: 5 Supplier: 12

Mix Design No: 14046A Process No: 1 Grading: SX Price Per Ton: $32.51 Mix Design I/DP: $836.62

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	4	4921		79.272	1.01743	$836.62	0.154	
Density			0			$0.00		Den Mean:
Gradation	2	4921			1.00000	$0.00	- - - -	Grad Key Sieve:

Mix Design No: 14046B Process No: 1 Grading: SX Price Per Ton: $32.59 Mix Design I/DP: ($395.16)

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	3	2993		100.000	1.02500	$731.50	0.239	
Density			0			$0.00		Den Mean:
Gradation	3	2993		58.043	0.94224	($1,126.66)	- - - -	Grad Key Sieve: 3/8

Mix Design No: 14046C Process No: 1 Grading: SX Price Per Ton: $32.44 Mix Design I/DP: $35,961.06

	Tests	Tons	PF 1.0	Quality Level	Pay Factor	I/DP	Std. Dev.	
AC	29	28405		96.247	1.05241	$14,489.21	0.129	
Density	47	23426	0	99.629	1.05500	$20,899.33	0.705	Den Mean: 93.872
Gradation	14	28405		85.992	1.00311	$572.52	- - - -	Grad Key Sieve: No. 8

		Tons:		I/DP:
Project Totals 14046	Asphalt Content	36,319		$16,057.33
	Mat Density	23,426		$20,899.33
	Gradation	36,319		($554.14)
	Plan Quantity	32,814	Project I/DP:	$36,402.52

Comments: Final quantities don't match. No Density tests on Mix Designs.

Totals for all Projects Projects with Bid Dates from 1/1/02 to 12/31/02.

Number of Processes: 61

	Tons:	I/DP:
Asphalt Content	703,293	$96,870.92
Mat Density	664,614	$415,137.83
Gradation	704,288	$41,008.52
	Total I/DP:	$553,017.27

Calculated Pay Factor Composite and I/DP by Region

Criteria: Projects with Bid Dates from 1/1/02 to 12/31/02.

Projects with Plan Quantities from 0 to 200000 tons.

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
13513	12/05/02	NH 0242-034	1	SX	52,244	$27.70	1.04708	$68,129.53	17
13507	05/30/02	STA 119A-04	1	S	7,600	$45.51	1.04300	$14,872.67	45
13494	12/12/02	STA 0741-013	1	SX	16,845	$34.43	1.03355	$19,458.52	33
13434	02/07/02	NH 0403-454	1	SX	23,468	$45.25	1.01661	$17,635.30	19
13362	06/20/02	STA 086A-03	1	S	7,840	$46.46	0.99935	($237.86)	49
13435	01/31/02	STA 0061-069	1	SX	21,671	$44.78	0.99725	($2,667.00)	13
13854	12/05/02	IM 0703-280	1	SMA	47,602	$44.62	0.98954	($22,222.33)	13

Region 1

Number of Projects: 7 CPFC: Maximum: 1.04708

Total Tons: 177,270 Minimum: 0.98954

Average: 1.01805

Incentive/Disincentive Payments			
Positive ID/Ps:	4	*Sum I/DPs:*	$94,968.83
Negative ID/Ps:	3	*Maximum:*	$68,129.53
		Minimum:	($22,222.33)
		Average IDP:	$13,566.98

Region 2

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13479	01/24/02	STA 1151-013	2	S	5,970	$32.35	1.03800	$7,338.92	55
13733	06/20/02	NH 0851-005	2	S	12,022	$33.64	1.03606	$14,581.78	55
12548	03/14/02	NH 0503-057	2	S	8,980	$45.00	1.03501	$14,147.10	38
14002	06/27/02	IM 0251-161	2	S	12,940	$36.52	1.03180	$15,027.89	44
13446	01/24/02	STA 069A-01	2	S	12,032	$32.00	1.03063	$11,793.25	32
12859	06/27/02	STA 1151-011	2	S	2,700	$46.69	0.96163	($4,836.56)	44
13578	10/10/02	BR 385A-013	2	S	3,335	$46.00	0.92137	($12,062.69)	17

Region 2

Number of Projects: 7 CPFC: Maximum: 1.03800

Total Tons: 57,979 Minimum: 0.92137

Average: 1.00779

Incentive/Disincentive Payments			
Positive ID/Ps:	5	*Sum I/DPs:*	$45,989.69
Negative ID/Ps:	2	*Maximum:*	$15,027.89
		Minimum:	($12,062.69)
		Average IDP:	$6,569.96

Region 3

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13551	03/07/02	STA 0241-038	3	SX	45,607	$35.69	1.04191	$68,219.76	
13864	03/28/02	STA 0821-063	3	SX	60,240	$33.21	1.03742	$74,852.29	16
13866	03/28/02	STA 131A-02	3	SX	45,414	$30.37	1.03732	$51,466.21	16
12609	03/07/02	NH 0502-048	3	SX	18,443	$38.21	1.00979	$6,897.46	32

Region 3

Number of Projects: 4 CPFC: Maximum: 1.04191

Total Tons: 169,704 Minimum: 1.00979

Average: 1.03161

Incentive/Disincentive Payments

Sum I/DPs: $201,435.72

Positive ID/Ps: 4 *Maximum:* $74,852.29

Negative ID/Ps: 0 *Minimum:* $6,897.46

Average IDP: $50,358.93

Region 4

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13982	04/25/02	IM 0253-176	4	SX	45,000	$39.00	1.03345	$58,709.69	33
12761	06/20/02	STA 066A-00	4	S	8,748	$35.14	1.02477	$7,614.09	40
13959	05/30/02	STA 1191-017	4	S	7,468	$38.36	1.00926	$2,651.24	41

Region 4

Number of Projects: 3 CPFC: Maximum: 1.03345

Total Tons: 61,216 Minimum: 1.00926

Average: 1.02249

Incentive/Disincentive Payments

Sum I/DPs: $68,975.02

Positive ID/Ps: 3 *Maximum:* $58,709.69

Negative ID/Ps: 0 *Minimum:* $2,651.24

Average IDP: $22,991.67

Region 5

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
12800	11/14/02	NH 1602-075	5	SX	5,328	$51.00	1.03800	$10,325.66	57
14046	07/11/02	NH 5502-041	5	SX	36,319	$32.46	1.03088	$36,402.52	12
12798	01/31/02	BR 0502-049	5	SX	3,312	$67.20	1.02386	$5,310.01	12
13880	02/28/02	PLH 149A-02	5	SX	58,169	$37.22	1.01916	$41,488.59	11
13017	08/22/02	BR 0502-050	5	SX	2,667	$53.70	1.01341	$1,921.18	11

Region 5

Number of Projects: 5 CPFC: Maximum: 1.03800
Total Tons: 105,795 Minimum: 1.01341
Average: 1.02506

Incentive/Disincentive Payments

Positive ID/Ps: 5
Negative ID/Ps: 0

Sum I/DPs: $95,447.96
Maximum: $41,488.59
Minimum: $1,921.18
Average IDP: $19,089.59

Region 6

Subacct.	Bid Date	Project Code	Reg.	Grading	Total Tons	Average Price	Pay Factor Composite	Project I/DP	Supplier
13066	06/27/02	IM 0703-268	6	SMA	19,785	$42.50	1.03381	$28,431.05	19
13352	02/07/02	STA 0853-044	6	S	60,925	$45.20	1.02577	$70,954.80	33
13735	02/07/02	STA 4701-100	6	S	6,620	$41.07	1.00776	$2,108.64	41
13357	12/12/02	STA 1281-007	6	SX	12,322	$34.00	1.00765	$3,204.53	33
13917	07/11/02	STA 095A-00	6	S	14,661	$42.11	1.00444	$2,741.40	33
13340	01/24/02	STA C110-01	6	S	4,000	$38.00	0.93652	($12,061.20)	14
13549	01/24/02	STA 0853-045	6	S	10,796	$34.50	0.91724	($30,824.74)	37
13573	04/18/02	NH 2254-064	6	S	2,220	$38.82	0.83596	($14,137.12)	37

Region 6

Number of Projects: 8 CPFC: Maximum: 1.03381
Total Tons: 131,329 Minimum: 0.83596
Average: 0.97114

Incentive/Disincentive Payments

Positive ID/Ps: 5
Negative ID/Ps: 3

Sum I/DPs: $50,417.36
Maximum: $70,954.80
Minimum: ($30,824.74)
Average IDP: $6,302.17

Statewide Totals: 1/1/02 to 12/31/02. Plan Quantities 0 to 200000 tons.

Number of Projects:	34	CPFC Maximum:	1.04708
Total Tons:	703,293	Minimum:	0.83596
		Average:	1.00792

Incentive/Disincentive Payments			
		Sum I/DPs:	$557,234.58
Positive ID/Ps:	26	*Maximum:*	$74,852.29
Negative ID/Ps:	8	*Minimum:*	($30,824.74)
		Average IDP:	$16,389.25

Asphalt Content - Process Information

Criteria: Projects with Bid Dates from 1/1/02 to 12/31/02.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading: S

Bid Date	Subacct.	Region	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.
03/14/02	12548	2	8404	S	$45.00	211	1	2560	3	100.000	1.02500	0.160
06/20/02	12761	4	7263	S	$38.00	143254	1	2497	3	100.000	1.02500	0.159
06/20/02	12761	4	7263	S	$34.00	143252A	1	3251	4	100.000	1.03000	0.115
06/27/02	12859	2	2750	S	$46.69	233	1	2700	3	100.000	1.02500	0.114
01/24/02	13340	6	7441	S	$38.00	105887	1	4000	4	100.000	1.03000	0.122
06/20/02	13362	1	8340	S	$54.86	138931	1	2987	3	100.000	1.02500	0.026
06/20/02	13362	1	8340	S	$41.29	138927-2	1	2443	3	100.000	1.02500	0.085
06/20/02	13733	2	11507	S	$38.90	230	1	3296	4	100.000	1.03000	0.126
05/30/02	13959	4	7952	S	$35.60	143228A	1	918	3	100.000	1.02500	0.147
01/24/02	13446	2	12504	S	$32.00	242	1	12032	13	99.148	1.04500	0.130
05/30/02	13959	4	7952	S	$40.70	143230	1	4037	5	99.048	1.03000	0.122
03/14/02	12548	2	8404	S	$45.00	224	1	6420	7	97.942	1.03500	0.135
06/27/02	14002	2	13794	S	$36.52	218	1	12940	13	97.408	1.04500	0.147
06/20/02	13733	2	11507	S	$31.65	229	1	8726	7	96.442	1.03500	0.164
05/30/02	13507	1	5634	S	$45.51	146128-1	1	7600	8	96.087	1.04000	0.147
01/24/02	13479	2	17036	S	$32.35	191	1	5970	6	95.268	1.03500	0.135
07/11/02	13917	6	16381	S	$42.00	146992	1	12622	13	94.413	1.04447	0.161
02/07/02	13352	6	54344	S	$40.00	146980	1	25757	26	94.082	1.04030	0.143
06/20/02	12761	4	7263	S	$34.00	143252	1	3000	3	83.614	1.02500	0.245
02/07/02	13735	6	6935	S	$39.91	105896	1	5009	5	82.653	1.01787	0.126
10/10/02	13578	2	3335	S	$46.00	234	1	3335	4	69.928	0.97844	0.286
01/24/02	13549	6	11306	S	$34.50	146977	1	10796	11	63.645	0.86791	0.327
05/30/02	13959	4	7952	S	$35.60	143228	1	2513	3	51.128	0.89714	0.163
06/20/02	13362	1	8340	S	$41.29	144626	1	2410	3	47.357	0.86911	0.104
07/11/02	13917	6	16381	S	$42.82	147010	1	2039	3	40.326	0.81042	0.212

Totals Grading: S

Number of Processes: 25 Total Tons: 149,858

	Quality Level	Pay Factor	St. Dev.
Maximum:	100.000	1.04500	0.327
Minimum:	40.326	0.81042	0.026
Weighted Average:	90.838	1.01510	0.158

Grading: SMA

Bid Date	Subacct.	Region	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.
12/05/02	13854	1	49493	SM	$48.70	132094-2	1	8509	8	92.460	1.03973	0.130
12/05/02	13854	1	49493	SM	$48.70	132094-3	1	23305	24	89.878	1.01541	0.181
06/27/02	13066	6	52799	SM	$42.50	147029	1	19785	16	87.983	1.01094	0.197
02/07/02	13352	6	54344	SM	$49.00	146988-2	1	20168	20	87.896	1.00611	0.156
02/07/02	13352	6	54344	SM	$49.00	146988-1	1	15000	15	76.531	0.94351	0.159

Totals Grading: SMA

Number of Processes: 5 Total Tons: 86,767

	Quality Level	Pay Factor	St. Dev.
Maximum:	92.460	1.03973	0.197
Minimum:	76.531	0.94351	0.130
Weighted Average:	86.931	1.00218	0.170

Grading: SX

Bid Date	Subacct.	Region	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.
01/31/02	12798	5	3307	SX	$67.20	601302A	1	3312	4	100.000	1.03000	0.118
03/07/02	13551	3	44617	SX	$35.64	Γ 601502	1	6346	6	100.000	1.03500	0.077
03/28/02	13866	3	44476	SX	$32.21	600702A	1	3203	3	100.000	1.02500	0.100
03/28/02	13866	3	44476	SX	$31.80	)0702A-2	1	5676	6	100.000	1.03500	0.087
07/11/02	14046	5	32814	SX	$32.59	14046B	1	2993	3	100.000	1.02500	0.239
03/28/02	13866	3	44476	SX	$31.35	00702A3	1	18255	19	99.426	1.05000	0.099
03/07/02	12609	3	18472	SX	$36.64	55002-2	1	6063	6	99.356	1.03500	0.135
03/28/02	13866	3	44476	SX	$28.62	300702-1	1	18280	19	97.492	1.05000	0.140
07/11/02	14046	5	32814	SX	$32.44	14046C	1	28405	29	96.247	1.05241	0.129
03/28/02	13864	3	47039	SX	$33.21	301601-2	1	60240	61	95.793	1.04426	0.143
12/05/02	13513	1	51734	SX	$27.70	146464	1	52244	53	95.148	1.04067	0.152
03/07/02	12609	3	18472	SX	$40.35	56902-T1	1	7216	8	95.049	1.03500	0.083
04/25/02	13982	4	50546	SX	$39.00	50302B	1	45000	45	94.111	1.03472	0.159
03/07/02	13551	3	44617	SX	$35.70	301502-2	1	39261	40	93.815	1.03367	0.136
11/14/02	12800	5	5149	SX	$51.00	300RAP1	1	5328	6	92.158	1.03500	0.147
02/28/02	13880	5	39765	SX	$37.22	600602	1	58169	59	89.345	0.99607	0.166
12/12/02	13494	1	17173	SX	$30.00	136164-1	1	10058	11	88.914	1.02216	0.195
03/07/02	12609	3	18472	SX	$37.05	55002-1	1	5164	5	88.459	1.03000	0.178
12/12/02	13494	1	17173	SX	$41.00	136164	1	6787	8	82.409	0.99859	0.127
02/07/02	13434	1	26077	SX	$45.25	132090	1	23468	24	82.392	0.96632	0.159
12/12/02	13357	6	13793	SX	$34.00	147007	1	4754	6	81.384	1.00499	0.230
12/12/02	13357	6	13793	SX	$34.00	147008-1	1	7568	10	81.190	0.98615	0.232
07/11/02	14046	5	32814	SX	$32.51	14046A	1	4921	4	79.272	1.01743	0.154
01/31/02	13435	1	22813	SX	$44.78	139201	1	21671	22	74.111	0.90966	0.257
12/05/02	13854	1	49493	SX	$36.40	13293-1	1	15788	16	71.765	0.90708	0.279
08/22/02	13017	5	2826	SX	$53.70	3017SX3	1	2667	3	66.501	0.98638	0.331

Totals Grading: SX

		Quality Level	Pay Factor	St. Dev.
Number of Processes: 26	Total Tons: 462,837	Maximum:	100.000	1.05241	0.331
		Minimum:	66.501	0.90708	
		Weighted Average:	91.333	1.01774	

Asphalt Content - Totals 1/1/02 to 12/31/02. Plan Quantities from 0 to 200000 tons.

		Quality Level	Pay Factor	St. Dev.
Number of Processes: 56	Total Tons: 699,462	Maximum:	100.000	1.05241	0.331
		Minimum:	40.326	0.81042	0.026
		Weighted Average:	90.681	1.01524	

Asphalt Content - Recap by Region

Criteria: Projects with Bid Dates from 1/1/02 to 12/31/02.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.
Weighted average used for: Price, Pay Factor, St. Dev., and Quality Level

Grading: S

	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
Region: 1	4	15,440	17	$45.99	1.00805	0.107	89.857	100.000	47.357
Region: 2	9	57,979	60	$36.89	1.03486	0.149	96.264	100.000	
Region: 4	6	16,216	21	$36.62	1.00743	0.157	89.158	100.000	51.128
Region: 6	6	60,223	62	$39.39	0.99994	0.179	86.317	100.000	40.326
Totals: S	25	149,858	160	$38.80	1.01510	0.158	90.838	100.000	40.326

Grading: SMA

	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
Region: 1	2	31,814	32	$48.70	1.02191	0.167	90.569	92.460	89.878
Region: 6	3	54,953	51	$46.66	0.99076	0.172	84.825	87.983	76.531
Totals: SMA	5	86,767	83	$47.41	1.00218	0.170	86.931	92.460	76.531

Grading: SX

	Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
Region: 1	6	130,016	134	$35.64	0.98556	0.188	85.352	95.148	71.765
Region: 3	10	169,704	173	$33.66	1.04087	0.129	96.159	100.000	88.459
Region: 4	1	45,000	45	$39.00	1.03472	0.159	94.111	94.111	
Region: 5	7	105,795	108	$37.63	1.01579	0.159	90.930	100.000	66.501
Region: 6	2	12,322	16	$34.00	0.99342	0.231	81.265	81.384	81.190
Totals: SX	26	462,837	476	$35.65	1.01774	0.158	91.333	100.000	66.501

Statewide Totals

Processes	Tons	Tests	Price	Pay Factor	St. Dev.	Quality Level Avg.	Quality Level High	Quality Level Low
56	699,462	719	$37.79	1.01524	0.160	90.681	100.000	40.326

Mat Density - Process Information

Criteria: Projects with Bid Dates from 1/1/02 to 12/31/02.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading: S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.	Mean
06/20/02	12761	4	7263	S	$34.00	143252	1	3000	6	100.000	1.03500	0.459	94.15
06/20/02	12761	4	7263	S	$34.00	143252A	1	3251	7	100.000	1.03500	0.503	93.3
06/20/02	12761	4	7263	S	$38.00	143254	1	2497	5	100.000	1.03000	0.808	93.56
07/11/02	13917	6	16381	S	$42.82	147010	1	2039	5	100.000	1.03000	0.406	94.1
05/30/02	13959	4	7952	S	$35.60	143228A	1	918	5	100.000	1.03000	0.444	93.42
03/14/02	12548	2	8404	S	$45.00	224	1	6420	13	99.995	1.04500	0.658	94.09
06/20/02	13733	2	11507	S	$38.90	230	1	3296	7	99.923	1.03500	0.803	93.71
05/30/02	13959	4	7952	S	$40.70	143230	1	4037	10	99.836	1.04500	0.728	94.29
05/30/02	13507	1	5634	S	$45.51	46128-1	1	7600	17	99.416	1.05000	0.812	94.04
06/20/02	13362	1	8340	S	$54.86	138931	1	2987	6	99.352	1.03500	0.739	94.63
01/24/02	13446	2	12504	S	$32.00	242	1	7532	16	99.228	1.05000	0.776	94.27
01/24/02	13549	6	11306	S	$34.50	146977	1	10796	21	98.422	1.05000	0.692	93.42
01/24/02	13479	2	17036	S	$32.35	191	1	5970	12	97.469	1.04500	0.817	93.49
06/27/02	14002	2	13794	S	$36.52	218	1	12440	25	96.493	1.05000	0.966	93.82
06/20/02	13733	2	11507	S	$31.65	229	1	8725	17	96.477	1.05000	0.840	93.47
03/14/02	12548	2	8404	S	$45.00	211	1	2560	6	92.670	1.03500	0.977	93.33
02/07/02	13352	6	54344	S	$40.00	146980	1	25757	52	92.614	1.02256	0.684	92.99
06/20/02	13362	1	8340	S	$41.29	38927-2	1	2443	5	90.358	1.03000	1.379	94.04
07/11/02	13917	6	16381	S	$42.00	146992	1	12622	25	87.790	1.00143	0.996	93.16
05/30/02	13959	4	7952	S	$35.60	143228	1	2513	6	86.277	1.02405	1.008	93.1
02/07/02	13735	6	6935	S	$39.91	105896	1	5009	10	82.670	0.99389	0.369	92.35
01/24/02	13340	6	7441	S	$38.00	105887	1	3500	7	81.871	1.00214	1.546	93.99
06/20/02	13362	1	8340	S	$41.29	144626	1	2410	5	72.114	0.97214	1.575	93
04/18/02	13573	6	9966	S	$38.82	146977	1	2220	7	68.207	0.93692	1.120	92.57
06/27/02	12859	2	2750	S	$46.69	233	1	2700	6	63.735	0.90827	2.054	93.23
10/10/02	13578	2	3335	S	$46.00	234	1	3335	7	58.241	0.85568	2.256	93.04
02/07/02	13735	6	6935	S	$39.91	105863	1	995	4	52.393	0.87060	1.393	92.1

Totals - Grading: S

			Quality Level	Pay Factor	St. Dev.	Mean
Number of Processes: 27	Total Tons: 147,572	Maximum:	100.000	1.05000	2.256	94.633
		Minimum:	52.393	0.85568	0.369	92.100
		Weighted Average:	92.455	1.02325	0.871	93.484

Grading: SMA

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.	Mean
02/07/02	13352	6	54344	SMA	$49.00	46988-2	1	20168	41	96.111	1.04895	0.942	94.71
02/07/02	13352	6	54344	SMA	$49.00	46988-1	1	15000	30	95.832	1.04963	1.003	95.11
06/27/02	13066	6	52799	SMA	$42.50	147029	1	19785	40	95.508	1.04506	0.979	94.73
12/05/02	13854	1	49493	SMA	$48.70	32094-2	1	8506	17	90.369	1.02286	1.237	95
12/05/02	13854	1	49493	SMA	$48.70	32094-3	1	23308	46	82.261	0.94754	1.394	94.48

Totals - Grading: SMA

Number of Processes: 5 Total Tons: 86,767

	Quality Level	Pay Factor	St. Dev.	
Maximum:	96.111	1.04963	1.394	95.110
Minimum:	82.261	0.94754	0.942	
Weighted Average:	91.642	1.01838	1.111	

Grading: SX

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	St. Dev.	Mean
03/07/02	12609	3	18472	SX	$36.64	55002-2	1	6063	11	99.789	1.04500	0.630	94.51
02/07/02	13434	1	26077	SX	$45.25	132090	1	23468	47	99.633	1.05500	0.710	93.91
07/11/02	14046	5	32814	SX	$32.44	14046C	1	23426	47	99.629	1.05500	0.705	93.87
03/28/02	13866	3	44476	SX	$31.80	0702A-2	1	5676	11	99.576	1.04500	0.744	93.67
12/05/02	13513	1	51734	SX	$27.70	146464	1	52244	105	98.810	1.06000	0.802	93.93
12/12/02	13494	1	17173	SX	$30.00	36164-1	1	10058	21	98.454	1.05000	0.878	93.96
03/07/02	12609	3	18472	SX	$40.35	6902-T1	1	6716	14	98.178	1.04500	0.721	93.41
01/31/02	13435	1	22813	SX	$44.78	139201	1	21671	44	97.771	1.05500	0.778	93.54
11/14/02	12800	5	5149	SX	$51.00	00RAP1	1	5328	11	97.706	1.04500	0.962	93.83
03/07/02	12609	3	18472	SX	$37.05	55002-1	1	4659	10	97.490	1.04500	0.640	94.85
03/28/02	13866	3	44476	SX	$32.21	00702A	1	3203	7	97.267	1.03500	1.061	94.19
03/28/02	13866	3	44476	SX	$31.35	0702A3	1	18255	37	96.976	1.05500	0.805	93.49
03/07/02	13551	3	44617	SX	$35.70	01502-2	1	39261	80	96.766	1.05037	0.944	94.05
03/28/02	13864	3	47039	SX	$33.21	01601-2	1	54240	110	96.044	1.04361	0.974	93.90
12/12/02	13494	1	17173	SX	$41.00	136164	1	6787	14	95.389	1.04500	0.717	94.84
04/25/02	13982	4	50546	SX	$39.00	50302B	1	44000	89	95.087	1.03680	0.837	93.38
01/31/02	12798	5	3307	SX	$67.20	01302A	1	2812	6	94.265	1.03500	0.956	94.62
02/28/02	13880	5	39765	SX	$37.22	600602	1	37117	75	94.058	1.02928	1.068	94.07
12/05/02	13854	1	49493	SX	$36.40	13293-1	1	15788	32	92.511	1.02798	0.783	93.12
12/12/02	13357	6	13793	SX	$34.00	147007	1	4754	11	92.244	1.03650	1.195	93.91
03/07/02	13551	3	44617	SX	$35.64	601502	1	6346	12	91.421	1.03231	0.957	94.72
08/22/02	13017	5	2826	SX	$53.70	017SX3	1	2667	6	91.391	1.03500	1.292	93.82
12/12/02	13357	6	13793	SX	$34.00	47008-1	1	7568	17	86.060	0.99875	0.870	92.94

Totals - Grading: SX

			Quality Level	Pay Factor	St. Dev.	Mean
Number of Processes: 23	Total Tons: 402,107	Maximum:	99.789	1.06000	1.292	94.850
		Minimum:	86.060	0.99875	0.630	92.941
		Weighted Average:	96.491	1.04517	0.865	93.835

Mat Density - Totals 1/1/02 to 12/31/0 Plan Quantities from 0 to 200000 tons.

			Quality Level	Pay Factor	St. Dev.	Mean
Number of Processes: 55	Total Tons: 636,446	Maximum:	100.000	1.06000	2.256	95.110
		Minimum:	52.393	0.85568	0.369	92.100
		Weighted Average:	94.894	1.03643	0.900	93.878

Mat Density - Recap by Region

Criteria: Projects with Bid Dates from 1/1/02 to 12/31/02.
Projects with Plan Quantities from 0 to 200000 tons.
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.	Quality Level High	Quality Level Low
Region 1	4	15,440	33	$45.99	1.03178	1.007	93.99	93.709	99.416	72.114
Region 2	9	52,978	109	$37.31	1.02772	0.991	93.71	93.365	99.995	58.241
Region 4	6	16,216	39	$36.62	1.03474	0.673	93.72	97.833	100.000	86.277
Region 6	8	62,938	131	$39.39	.01443	0.788	93.11	89.997	100.000	52.393
Totals: S	27	147,572	312	$39.03	1.02325	0.871	93.48	92.455	100.000	52.393

Grading: SMA

	Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Quality Level Avg.	Quality Level High	Quality Level Low
Region 1	2	31,814	63	$48.70	0.96768	1.352	94.62	84.429	90.369	82.261
Region 6	3	54,953	111	$46.66	1.04774	0.972	94.82	95.818	96.111	95.508
Totals: SMA	5	86,767	174	$47.41	1.01838	1.111	94.75	91.642	96.111	82.261

Grading: SX

	Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Quality Level Avg.	Quality Level High	Quality Level Low
Region 1	6	130,016	263	$35.64	1.05282	0.781	93.81	97.814	99.633	92.511
Region 3	9	144,419	292	$34.28	1.04642	0.900	93.96	96.624	99.789	91.421
Region 4	1	44,000	89	$39.00	1.03680	0.837	93.38	95.087	95.087	95.087
Region 5	5	71,350	145	$38.48	1.03934	0.945	94.00	96.068	99.629	91.391
Region 6	2	12,322	28	$34.00	1.01331	0.995	93.31	88.446	92.244	86.060
Totals: SX	23	402,107	817	$35.97	1.04517	0.865	93.83	96.491	99.789	86.060

Statewide Totals

Processes	Total Tons	Tests	Price	Pay Factor	St. Dev.	Mean	Avg.	High	Low
55	636,446	1,303	$38.24	1.03643	0.900	93.88	94.894	100.000	52.393

Gradation - Process Information

Criteria: Projects with Bid Dates from 1/1/02 to 12/31/02.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading: S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
01/24/02	13479	2	17036	S	$32.35	191		5970	3	100.000	1.02500	All QLs100
06/20/02	13733	2	11507	S	$31.65	229		8724	3	100.000	1.02500	All QLs100
05/30/02	13959	4	7952	S	$40.70	143230		4037	3	100.000	1.02500	All QLs100
06/27/02	14002	2	13794	S	$36.52	218		12940	7	98.926	1.03500	No. 8
02/07/02	13352	6	54344	S	$40.00	146980		25757	13	98.319	1.04500	No. 8
05/30/02	13507	1	5634	S	$45.51	46128-1		7600	4	90.825	1.03000	No. 30
03/14/02	12548	2	8404	S	$45.00	224		6420	4	88.202	1.03000	No. 200
01/24/02	13446	2	12504	S	$32.00	242		12032	7	83.042	1.00740	No. 4
07/11/02	13917	6	16381	S	$42.00	146992		12622	7	81.314	0.99957	3/8
06/20/02	13362	1	8340	S	$54.86	138931		2987	3	66.667	0.98713	No. 30
07/11/02	13917	6	16381	S	$42.82	147010		2039	3	58.043	0.94224	No. 4
01/24/02	13549	6	11306	S	$34.50	146977		10796	6	35.200	0.65934	1

Totals Grading: S

Processes	Total Tons		Quality Level	Pay Factor	Key Sieve Count	
					1/2"	0
					3/8"	
12	111,924	Maximum:	100.000	1.04500	No. 4	2
		Minimum:	35.200	0.65934	No. 8	2
					No. 30	
		Weighted Average:	86.355	0.98884	No. 200	1

Grading: SMA

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
12/05/02	13854		49493	SM	$48.70	32094-2	1	8508	4	100.000	1.03000	All QLs100
06/27/02	13066	6	52799	SM	$42.50	147029	1	19785	9	93.841	1.04000	No. 200
02/07/02	13352	6	54344	SM	$49.00	46988-1	1	15000	7	87.615	1.02615	No. 4
02/07/02	13352	6	54344	SM	$49.00	46988-2	1	20168	10	85.953	1.01003	No. 200
12/05/02	13854	1	49493	SM	$48.70	32094-3	1	23304	12	82.115	0.98609	3/8

Grading: SMA

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve

Totals Grading: SMA

Processes	Total Tons		Quality Level	Pay Factor
5	86,765	Maximum:	100.000	1.04000
		Minimum:	82.115	0.98609
		Weighted Average:	88.386	1.01518

Key Sieve Count	
1/2"	0
3/8"	1
No. 4	1
No. 8	0
No. 30	0
No. 200	2

Grading: SX

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Mix Design	Process No.	Tons	Tests	Quality Level	Pay Factor	Key Sieve
11/14/02	12800	5	5149	SX	$51.00	00RAP1	1	5328	3	100.000	1.02500	All QLs100
03/28/02	13866	3	44476	SX	$31.80	0702A-2	1	5676	3	100.000	1.02500	All QLs100
03/28/02	13866	3	44476	SX	$31.35	00702A3	1	18255	10	99.912	1.04500	All QLs100
03/28/02	13866	3	44476	SX	$28.62	00702-1	1	18280	10	98.611	1.04500	No. 4
02/28/02	13880	5	39765	SX	$37.22	600602	1	58169	30	98.350	1.05500	No. 4
03/07/02	13551	3	44617	SX	$35.70	01502-2	1	39261	20	94.458	1.04361	No. 8
03/28/02	13864	3	47039	SX	$33.21	01601-2	1	60240	31	91.601	1.02255	No. 8
12/05/02	13513	1	51734	SX	$27.70	146464	1	52244	27	91.574	1.02439	No. 4
04/25/02	13982	4	50546	SX	$39.00	50302B	1	44000	22	91.415	1.02580	No. 30
12/12/02	13494	1	17173	SX	$30.00	36164-1	1	10058	6	89.485	1.03473	No. 8
07/11/02	14046	5	32814	SX	$32.44	14046C	1	28405	14	85.992	1.00311	No. 8
12/05/02	13854	1	49493	SX	$36.40	13293-1	1	15787	8	85.153	1.01113	No. 200
12/12/02	13357	6	13793	SX	$34.00	47008-1	1	7568	5	84.441	1.02414	No. 8
12/12/02	13494	1	17173	SX	$41.00	136164	1	6787	4	84.157	1.03000	No. 4
02/07/02	13434	1	26077	SX	$45.25	132090	1	23468	12	83.949	0.99605	No. 8
01/31/02	13435		22813	SX	$44.78	139201	1	21671	11	81.324	0.98427	No. 8
03/07/02	13551	3	44617	SX	$35.64	601502	1	6346	3	72.719	1.01109	No. 30
03/07/02	12609	3	18472	SX	$36.64	55002-2	1	6063	3	58.865	0.94706	No. 4
07/11/02	14046	5	32814	SX	$32.59	14046B	1	2993	3	58.043	0.94224	3/8
03/07/02	12609	3	18472	SX	$37.05	55002-1	1	5164	3	54.428	0.91968	No. 4
03/07/02	12609	3	18472	SX	$40.35	6902-T1	1	7216	4	47.478	0.83225	No. 4

Totals Grading: SX

Processes	Total Tons		Quality Level	Pay Factor
21	442,979	Maximum:	100.000	1.05500
		Minimum:	47.478	0.83225
		Weighted Average:	89.680	1.02058

Key Sieve Count	
1/2"	0
3/8"	1
No. 4	7
No. 8	7
No. 30	2
No. 200	1

Gradation Totals 1/1/02 to 12/31/02 Plan Quantities from 0 to 200000 tons.

Processes	Total Tons		Quality Level	Pay Factor	Key Sieve Count	
					1/2"	0
					3/8"	3
38	641,668	Maximum:	100.000	1.05500	No. 4	10
		Minimum:	35.200	0.65934	No. 8	9
					No. 30	4
		Weighted Average:	88.925	1.01431	No. 200	4

Gradation - Process Information - Recap by Region

Criteria: Projects with Bid Dates from 1/1/02 to 12/31/02.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.
Weighted average used for: Price, Pay Factor, and Quality Level

Grading: S

	Processes	Tons	Tests	Price	Pay Factor	Quality Level Avg.	Quality Level High	Quality Level Low
Region 1	2	10,587	7	$48.15	1.01790	84.009	90.825	66.667
Region 2	5	46,086	24	$35.06	1.02391	93.628	100.000	83.042
Region 4	1	4,037	3	$40.70	1.02500	100.000	100.000	100.000
Region 6	4	51,214	29	$39.45	0.94841	79.219	98.319	35.200
Totals: S	12	111,924	63	$38.51	0.98884	86.355	100.000	35.200

Grading: SMA

	Processes	Tons	Tests	Price	Pay Factor	Quality Level Avg.	Quality Level High	Quality Level Low
Region 1	2	31,812	16	$48.70	0.99783	86.898	100.000	82.115
Region 6	3	54,953	26	$46.66	1.02522	89.247	93.841	85.953
Totals: SMA	5	86,765	42	$47.41	1.01518	88.386	100.000	82.115

Grading: SX

	Processes	Tons	Tests	Price	Pay Factor	Quality Level Avg.	Quality Level High	Quality Level Low
Region 1	6	130,015	68	$35.64	1.01207	87.161	91.574	81.324
Region 3	9	166,501	87	$33.69	1.01790	89.265	100.000	47.478
Region 4	1	44,000	22	$39.00	1.02580	91.415	91.415	91.415
Region 5	4	94,895	50	$36.42	1.03423	93.472	100.000	58.043
Region 6	1	7,568	5	$34.00	1.02414	84.441	84.441	84.441
Totals: SX	21	442,979	232	$35.38	1.02058	89.680	100.000	47.478

Statewide Totals

Processes	Tons	Tests	Price	Pay Factor	Quality Level Avg.	Quality Level High	Quality Level Low
38	641,668	337	$37.55	1.01431	88.925	100.000	35.200

Gradation - Standard Deviation Information

Criteria: Projects with Bid Dates from 1/1/02 to 12/31/02.
Projects with Plan Quantities from 0 to 200000 tons.
Processes with less than 3 tests not included.

Grading S

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Tons	Tests	Key Sieve	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
01/24/02	13446	2	12504	S	$32.00	12032	7	No. 4	0.800	2.000	2.400	2.500	1.900	1.000	0.430
01/24/02	13479	2	17036	S	$32.35	5970	3	QLs100	0.000	1.700	1.200	1.500	1.000	1.000	0.910
01/24/02	13549	6	11306	S	$34.50	10796	6	1	1.000	3.700	3.000	3.700	3.400	2.200	0.830
02/07/02	13352	6	54344	S	$40.00	25757	13	No. 8	0.000	1.700	1.600	2.000	1.800	1.100	0.320
03/14/02	12548	2	8404	S	$45.00	6420	4	No. 200	0.000	2.200	2.200	0.800	0.500	0.800	1.070
05/30/02	13507	1	5634	S	$45.51	7600	4	No. 30	2.400	4.000	3.400	2.900	2.800	0.800	0.260
05/30/02	13959	4	7952	S	$40.70	4037	3	QLs100	0.000	2.100	1.500	1.700	1.500	1.200	0.210
06/20/02	13362	1	8340	S	$54.86	2987	3	No. 30	1.000	2.600	1.500	1.200	1.000	0.600	0.360
06/20/02	13733	2	11507	S	$31.65	8724	3	QLs100	0.000	1.700	1.500	0.600	1.200	1.000	0.690
06/27/02	14002	2	13794	S	$36.52	12940	7	No. 8	0.800	1.800	1.800	2.000	1.900	0.700	0.560
07/11/02	13917	6	16381	S	$42.00	12622	7	3/8	0.000	3.800	4.700	3.400	2.100	1.600	0.370
07/11/02	13917	6	16381	S	$42.82	2039	3	No. 4	0.600	2.500	3.200	2.300	1.500	0.600	0.200

Totals Grading: S

			3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	12	Max.	2.400	4.000	4.700	3.700	3.400	2.200	1.070
Total Tons:	111,924	Min.	0.000	1.700	1.200	0.600	0.500	0.600	0.200
		Weighted Average:	0.476	2.411	2.344	2.205	1.877	1.136	
		Key Sieve Count		0		2	2	2	1

Grading SMA

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Tons	Tests	Key Sieve	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
02/07/02	13352	6	54344	SM	$49.00	15000	7	No. 4		1.700	1.700	3.000	2.300	1.300	1.330
02/07/02	13352	6	54344	SM	$49.00	20168	10	No. 200		1.900	2.400	2.000	1.200	0.700	0.700
06/27/02	13066	6	52799	SM	$42.50	19785	9	No. 200		1.700	2.800	2.600	1.700	1.700	0.860
12/05/02	13854	1	49493	SM	$48.70	8508	4	QLs100		1.400	2.400	1.800	1.400	0.800	0.630
12/05/02	13854	1	49493	SM	$48.70	23304	12	3/8		3.400	3.500	2.400	1.800	1.000	0.630

Totals Grading: SMA

			3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	5	Max.		3.400	3.500	3.000	2.300	1.700	1.330
Total Tons:	86,765	Min.		1.400	1.700	1.800	1.200	0.700	0.630
		Weighted Average:		2.174	2.666	2.398	1.685	1.122	
		Key Sieve Count		0	1		0	0	2

Grading SX

Bid Date	Subacct.	Reg.	Plan Quant.	Grading	Price	Tons	Tests	Key Sieve	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
01/31/02	13435	1	22813	SX	$44.78	21671	11	No. 8		1.400	2.600	2.600	3.800	1.800	0.660
02/07/02	13434	1	26077	SX	$45.25	23468	12	No. 8		1.000	1.900	3.400	3.600	2.000	0.400
02/28/02	13880	5	39765	SX	$37.22	58169	30	No. 4		0.800	2.300	2.200	2.100	1.200	0.380
03/07/02	12609	3	18472	SX	$37.05	5164	3	No. 4		2.000	1.200	2.100	2.500	0.600	0.740
03/07/02	12609	3	18472	SX	$36.64	6063	3	No. 4		1.500	1.700	5.500	4.600	2.300	0.870
03/07/02	12609	3	18472	SX	$40.35	7216	4	No. 4		1.600	1.900	3.300	3.200	1.900	0.710
03/07/02	13551	3	44617	SX	$35.64	6346	3	No. 30		1.200	2.600	2.500	3.100	2.600	0.440
03/07/02	13551	3	44617	SX	$35.70	39261	20	No. 8		1.000	2.000	2.600	2.600	1.700	0.650
03/28/02	13864	3	47039	SX	$33.21	60240	31	No. 8		0.600	2.000	2.500	2.100	1.200	0.680
03/28/02	13866	3	44476	SX	$28.62	18280	10	No. 4		0.300	1.300	1.800	1.300	0.800	0.400
03/28/02	13866	3	44476	SX	$31.80	5676	3	QLs100		0.000	1.000	1.000	2.000	0.600	0.000
03/28/02	13866	3	44476	SX	$31.35	18255	10	QLs100		0.000	1.700	1.900	1.600	0.900	0.350
04/25/02	13982	4	50546	SX	$39.00	44000	22	No. 30		0.800	1.700	2.900	2.400	1.400	0.730
07/11/02	14046	5	32814	SX	$32.59	2993	3	3/8		0.600	2.300	3.000	1.500	1.200	0.640
07/11/02	14046	5	32814	SX	$32.44	28405	14	No. 8		2.000	3.500	3.300	3.300	1.900	0.530
11/14/02	12800	5	5149	SX	$51.00	5328	3	QLs100		0.600	1.500	0.600	1.500	2.000	0.360
12/05/02	13513	1	51734	SX	$27.70	52244	27	No. 4		1.100	1.900	2.100	2.000	1.500	0.440
12/05/02	13854	1	49493	SX	$36.40	15787	8	No. 200		0.400	2.200	2.500	2.200	1.200	0.240
12/12/02	13357	6	13793	SX	$34.00	7568	5	No. 8		1.300	1.800	2.100	3.100	1.600	1.190
12/12/02	13494	1	17173	SX	$41.00	6787	4	No. 4		1.000	2.100	1.700	1.300	1.300	0.580
12/12/02	13494	1	17173	SX	$30.00	10058	6	No. 8		1.300	1.200	1.800	2.700	1.500	0.530

Totals Grading: SX

			3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	21	Max.		2.000	3.500	5.500	4.600	2.600	1.190
Total Tons:	442,979	Min.		0.000	1.000	0.600	1.300	0.600	0.000
		Weighted Average:		0.926	2.041	2.488	2.429	1.444	0.540
		Key Sieve Count		0	1	7	7	2	

Gradation Totals

1/1/02 to 12/31/02 Plan Quantities from 0 to 200000 tons.

			3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Number of Processes:	38	Max.	2.400	4.000	4.700	5.500	4.600	2.600	1.330
Total Tons:	641,668	Min.	0.000	0.000	1.000	0.600	0.500	0.600	0.000
		Weighted Average:		1.354	2.178	2.426	2.232	.347	0.572
		Key Sieve Count		0	3	10	9	4	4

Gradation - Standard Deviation - Recap by Region

Criteria: Projects with Bid Dates from 1/1/02 to 12/31/02.
Projects with Plan Quantities from 0 to 200000 tons.
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
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		4,037	3	$40.70	0.000	2.100	1.500	1.700	1.500	1.200	0.210
Region 6	4	51,214	29	$39.45	0.235	2.671	2.723	2.715	2.199	1.435	0.435
Totals S	12	111,924	63	$38.51	0.476	2.411	2.344	2.205	1.877	1.136	0.509

Grading: SMA

				Weighted Average							
	Processes	Tons	Tests	Price	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Region 1	2	31,812	16	$48.70		2.865	3.206	2.240	1.693	0.947	0.630
Region 6	3	54,953	26	$46.66		1.773	2.353	2.489	1.680	1.224	0.930
Totals SMA	5	86,765	42	$47.41		2.174	2.666	2.398	1.685	1.122	0.820

Grading: SX

				Weighted Average							
	Processes	Tons	Tests	Price	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
Region 1	6	130,015	68	$35.64		1.057	2.009	2.422	2.631	1.593	0.459
Region 3	9	166,501	87	$33.69		0.718	1.839	2.461	2.261	1.326	0.584
Region 4		44,000	22	$39.00		0.800	1.700	2.900	2.400	1.400	0.730
Region 5	4	94,895	50	$36.42		1.142	2.614	2.465	2.407	1.454	0.432
Region 6		7,568	5	$34.00		1.300	1.800	2.100	3.100	1.600	1.190
Totals SX	21	442,979	232	$35.38		0.926	2.041	2.488	2.429	1.444	0.540

Statewide Totals

				Weighted Average							
	Processes	Tons	Tests	Price	3/4"	1/2"	3/8"	No. 4	No. 8	No. 30	No. 200
	38	641,668	337	$37.55		1.354	2.178	2.426	2.232	1.347	0.572

Appendix E

Revision to Sections 105 & 106, Quality of Hot Bituminous Pavement

REVISION OF SECTIONS 105 AND 106
QUALITY OF HOT BITUMINOUS PAVEMENT

Sections 105 and 106 of the Standard Specifications are hereby revised for this project as follows:

Subsection 105.03 shall include the following:

Conformity to the Contract of all Hot Bituminous Pavement, Item 403, except Hot Bituminous Pavement (Patching) and temporary pavement will be determined by tests and evaluations of asphalt content, gradation and in-place density in accordance with the following:

All work performed and all materials furnished shall conform to the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown in the Contract.

For those items of work where working tolerances are not specified, the Contractor shall perform the work in a manner consistent with reasonable and customary manufacturing and construction practices.

When the Engineer finds the materials or work furnished, work performed, or the finished product are not in conformity with the Contract and has resulted in an inferior or unsatisfactory product, the work or material shall be removed and replaced or otherwise corrected at the expense of the Contractor.

Materials will be sampled randomly and tested by the Department in accordance with Section 106 and with the applicable procedures contained in the Department s Field Materials Manual. The approximate maximum quantity represented by each sample will be as set forth in Section 106. Additional samples may be selected and tested as set forth in Section 106 at the Engineer s discretion.

A process will consist of a series of values resulting from tests of the Contractor's work and materials. Each process will consist of one or more test results. All materials produced will be assigned to a process. A process normally will include all materials produced prior to a change in the job mix formula (CDOT form 43). The Engineer will establish a new process when job mix formula changes occur. The Engineer may separate a process in order to accommodate small quantities or unusual variations.

Evaluation of materials for pay factors (PF) will be done using only the Department's acceptance test results. Each process will have a PF computed in accordance with the requirements of this Section. Test results determined to have sampling or testing errors will not be used.

Any test result for an element greater than the distance 2 x V (see Table 105-2) outside the tolerance limits will be designated as a separate process and the pay factor will be calculated in accordance with subsection 105.03(a). A pay factor less than zero shall be zero. The calculated PF will be used to determine PF_A for the element in accordance with subsection 105.03(e).

In the case of in-place density, the Contractor will be allowed to core the exact location of a test result more than 2 x V outside the tolerance limit. The core must be taken and furnished to the Engineer within eight hours after notification by the Engineer of the test result. The result of this core will be used in lieu of the previous test result. Cores not taken within eight hours after notification will not be used in lieu of the test result. All costs associated with coring will be at the Contractor s expense.

(a) Representing Small Quantities. When it is necessary to represent a process by only one or two test results, PF will be the average of PFs resulting from the following:

If the test result is within the tolerance limits then PF = 1.00

If the test result is above the maximum specified limit, then

$$PF = 1.00 - [0.25(T_O - T_U)/V]$$

If the test result is below the minimum specified limit, then

$$PF = 1.00 - [0.25(T_L - T_O)/V]$$

Where: PF = pay factor.

V = V factor from Table 105-2.

T_O = the individual test result.

T_U = upper specification limit.

T_L = lower specification limit.

The calculated PF will be used to determine PF_A for the element in accordance with subsection 105.03(e).

(b) Determining Quality Level. Each process with three or more test results will be evaluated for a quality level (QL) in accordance with Colorado Procedure 71.

(c) Gradation Element. Each specified sieve will be evaluated for QL separately. The lowest QL for any specified sieve will be designated as the QL for gradation element for the process.

(d) Element Pay Factor. Using QL, compute PF, as follows: The final number of random samples (Pn) in each process will determine the final pay factor for each element. As test values are accumulated, Pn will change accordingly. When the process has been completed, the number of random samples it contains will determine the computation of PF, based on Table 105-3 and formula (1) below. When Pn is from 3 to 9, or greater than 200, PF will be computed using the formulas designated in Table 105-3. Where Pn is equal to or greater than 10 and less than 201, PF will be computed by formula (1):

$$(1)\quad PF = \frac{(PF_1 + PF_2)}{2} + \left[\frac{(PF_2 + PF_3)}{2} - \frac{(PF_1 + PF_2)}{2}\right] \frac{(Pn_2 - Pn_X)}{(Pn_2 - Pn_3)}$$

Where, when referring to Table 105-3:

PF_1= PF determined at the next lowest Pn formula using process QL

PF_2= PF determined using the Pn formula shown for the process QL

PF_3= PF determined at the next highest Pn formula using process QL

Pn_2= the lowest Pn in the spread of values listed for the process Pn formula

Pn_3= the lowest Pn in the spread of values listed for the next highest Pn formula

Pn_X= the actual number of test values in the process

When evaluating the item of Furnish Hot Bituminous Pavement, the PF for the element of In-Place Density shall be 1.0.

Regardless of QL, the maximum PF in relation to Pn is limited in accordance with Table 105-3.

(e) Element Average Pay Factor. A pay factor will be determined for all material or work represented by the elements listed in Table 105-2. For the pay estimates, each individual element will have the average pay factor (PF_A), weighted by the quantities, computed as follows:

$$PF_A = \frac{[M_1 (PF_1) + M_2 (PF_2) + \quad M_j (PF_j)]}{\Sigma M}$$

Where: M_j = Quantity of item represented by the process.

Pf_j = The process pay factor.

ΣM = Sum of Quantities, M_1 to M_j (the total quantity).

(f) Composite Pay Factor. When there is more than one element for the item, determine the composite pay factor (PF_C) as follows (ΣM used to compute each element PF_A must be numerically the same):

$$PF_C = \frac{[W_1 (PF_{A1}) + W_2 (PF_{A2}) + \ldots W_j (PF_{Aj})]}{\Sigma W}$$

Where: W = element factor from Table 105-2.
PF_{Aj} = element average pay factor.
ΣW = sum of the element factors.

As test results become available, they will be used to calculate accumulated QL and PF numbers for each element and for the item. The test results and the accumulated calculations will be made available to the Contractor upon request.

Numbers from the calculations will be carried to significant figures and rounded according to AASHTO Standard Recommended Practice R-11, Rounding Method.

(g) Evaluation of Work. When the PF of a process is 0.75 or greater, the finished quantity of work represented by the process will be accepted at the appropriate pay factor. If PF is less than 0.75, the Engineer may:

Require complete removal and replacement with specification material at no additional cost to the Department; or

2. Where the finished product is found to be capable of performing the intended purpose and the value of the finished product is not affected, permit the Contractor to leave the material in place.

If the material is permitted to remain in place, the PF for the process will not be greater than 0.75. When condition red, as described in Section 106, exists for any element, resolution and correction will be in accordance with Section 106. Material which the Engineer determines is defective may be isolated and rejected without regard to sampling sequence or location within a process.

Table 105-2
"W" and "V" Factors For Various Elements

HOT BITUMINOUS PAVEMENT		
ELEMENT	**V FACTOR**	**W FACTOR**
2.36 mm (No. 8) mesh and larger sieves	2.80	N/A
600 µm (No. 30) mesh sieve	1.80	N/A
75 µm (No. 200) mesh sieve	0.80	N/A
Gradation	N/A	20
Asphalt Content	0.20	30
In-place Density	1.10	50

TABLE 105-3
Formulas For Calculating PF Based on Pn

Pn	When Pn as shown at left is 3 to 9, or greater than 200, use designated formula below to calculate Pay Factor, PF = ..., when Pn is 10 to 200, use formula (1) above:	Maximum PF
3	$0.31177 + 1.57878 (QL/100) - 0.84862 (QL/100)^2$	1.025
4	$0.27890 + 1.51471 (QL/100) - 0.73553 (QL/100)^2$	1.030
5	$0.25529 + 1.48268 (QL/100) - 0.67759 (QL/100)^2$	1.030
6	$0.19468 + 1.56729 (QL/100) - 0.70239 (QL/100)^2$	1.035
7	$0.16709 + 1.58245 (QL/100) - 0.68705 (QL/100)^2$	1.035
8	$0.16394 + 1.55070 (QL/100) - 0.65270 (QL/100)^2$	1.040
9	$0.11412 + 1.63532 (QL/100) - 0.68786 (QL/100)^2$	1.040
10 to 11	$0.15344 + 1.50104 (QL/100) - 0.58896 (QL/100)^2$	1.045
12 to 14	$0.07278 + 1.64285 (QL/100) - 0.65033 (QL/100)^2$	1.045
15 to 18	$0.07826 + 1.55649 (QL/100) - 0.56616 (QL/100)^2$	1.050
19 to 25	$0.09907 + 1.43088 (QL/100) - 0.45550 (QL/100)^2$	1.050
26 to 37	$0.07373 + 1.41851 (QL/100) - 0.41777 (QL/100)^2$	1.055
38 to 69	$0.10586 + 1.26473 (QL/100) - 0.29660 (QL/100)^2$	1.055
70 to 200	$0.21611 + 0.86111 (QL/100)$	1.060
$\geq$ 201	$0.15221 + 0.92171 (QL/100)$	1.060

(h) Computation of Incentive/Disincentive Payment (I/DP). Compute the I/DP for the process:

$I/DP = (PF - 1)(Ton_{HBP})(UP_{HBP})$ When AC is not paid for separately

$I/DP = (PF - 1)(Ton_{HBP})(UP_{HBP}) + (PF - 1)(Ton_{AC})(UP_{AC})$ When AC is paid for separately

Where: I/DP = Incentive/Disincentive Payment
PF = Pay Factor
Ton_{HBP} = Tons of Asphalt Mix
UP_{HBP} = Unit Price of Asphalt Mix
Ton_{AC} = Tons of Asphalt Cement
UP_{AC} = Unit Price of Asphalt Cement

Subsection 106.03 shall include the following:

All Hot Bituminous Pavement, Item 403, except Hot Bituminous Pavement (Patching) and temporary pavement shall be tested in accordance with the following program of process control testing and acceptance testing:

(a) Process Control Testing. The Contractor shall be responsible for process control testing on all elements listed in Table 106-1. Process control testing shall be performed at the expense of the Contractor. The Contractor shall develop a quality control plan (QCP) in accordance with the following:

Quality Control Plan. For each element listed in Table 106-1, the QCP must provide adequate details to ensure that the Contractor will perform process control. The Contractor shall submit the QCP to the Engineer at the preconstruction conference. The Contractor shall not start any work on the project until the Engineer has approved the QCP in writing.

A. Frequency of Tests or Measurements. The QCP shall indicate a random sampling frequency, which shall not be less than that shown in Table 106-1. The process control tests shall be independent of acceptance tests.

B. Test Result Chart. Each process control test result, the appropriate tonnage and the tolerance limits shall be plotted. For in-place density tests, only results after final compaction shall be shown. The chart shall be posted daily at a location convenient for viewing by the Engineer.

C. Quality Level Chart. The Quality Level (QL) for each element in Table 106-1 and each required sieve size shall be plotted. The QL will be calculated in accordance with the procedure in CP 71 for Determining Quality Level (QL). The QL will be calculated on tests 1 through 3, then tests 1 through 4, then tests 1 through 5, then thereafter the last five consecutive test results. The tonnage of material represented by the last test result shall correspond to the QL. For in-place density tests, only results after final compaction shall be shown. The chart shall be posted daily at a location convenient for viewing by the Engineer.

2. Elements Not Conforming to Process Control. The QL of each discrete group of five test results, beginning with the first group of five test results, shall be a standard for evaluating material not conforming to process control. When the group QL is below 65, the process shall be considered as not conforming to the QCP. In this case, the Contractor shall take immediate action to bring the process back into control. Except where the cause of the problem is readily apparent and corrected without delay, production shall be suspended until the source of the problem is determined and corrected. A written explanation of actions taken to correct control problems shall accompany the test data and be submitted to the Engineer on the day the actions are taken.

3. Point of Sampling. The material for process control testing shall be sampled by the Contractor using approved procedures. Acceptable procedures are Colorado Procedures, AASHTO and ASTM. The order of precedence is Colorado Procedures, AASHTO procedures and then ASTM procedures. The location where material samples will be taken shall be indicated in the QCP.

4. Testing Standards. The QCP shall indicate which testing standards will be followed. Acceptable standards are Colorado Procedures, AASHTO and ASTM. The order of precedence is Colorado Procedures, AASHTO procedures and then ASTM procedures.

5. Testing Supervisor Qualifications. The person responsible for the process control sampling and testing shall be identified in the QCP and be qualified according to the requirements of CP 10

6. Technician Qualifications. Technicians taking samples and performing tests must be qualified according to the requirements of CP 10.

7. Testing Equipment. All of the testing equipment used to conduct process control testing shall conform to the standards specified in the test procedures and be in good working order. Nuclear testing devices used for process control testing of in-place density do not have to be calibrated on the Department s calibration blocks.

8. Reporting and Record Keeping. The Contractor shall report the results of the process control tests to the Engineer in writing at least once per day. The Contractor shall make provisions such that the Engineer can inspect process control work in progress, including sampling, testing, plants, and the Contractor s testing facilities at any time.

(b) Acceptance Testing. Acceptance testing is the responsibility of the Department and shall not be addressed in the QCP. The Department will determine the locations where samples or measurements are to be taken and as designated in Section 403. The maximum quantity of material represented by

each test result and the minimum number of test results will be in accordance with Table 106-1. The location or time of sampling will be based on a stratified random procedure as described in CP 75. Acceptance sampling and testing procedures will be in accordance with the Schedule for Minimum Materials Sampling, Testing and Inspection in the Department's Field Materials Manual. Samples for project acceptance testing shall be taken by the Contractor in accordance with the designated method. The samples shall be taken in the presence of the Engineer. Where appropriate, the Contractor shall reduce each sample to the size designated by the Engineer. The Contractor may retain a split of each sample which cannot be included as part of the QCP.

All materials being used are subject to inspection and testing at any time prior to, during, or after incorporation into work. Acceptance tests will be made by and at the expense of the Department, except when otherwise provided.

(c) Check Testing Program. Prior to, or in conjunction with, placing the first 500 metric tons (500 tons) of asphalt pavement, under the direction of the Engineer, a CTP will be conducted between acceptance testing and process control testing programs. The CTP will consist of testing for asphalt content, HBP 4.75 mm (#4) sieve, HBP 2.36 mm (#8) sieve, HBP 75 μm (#200) sieve, voids in the mineral aggregate, air voids, and in-place density in accordance with CP 13 of the Department's Field Materials Manual. If the Contractor intends to test to determine air voids and VMA, check testing for these tests is recommended. The CTP will be continued until the acceptance and process control test results are within the acceptable limits shown in Table 13-1 of CP 13.

During production a split sample check will be conducted at the frequency shown in Table 106-1. The split samples will be from an acceptance sample obtained in accordance with subsection 106.03(b). The acceptance test result will be compared to the process control test result obtained by the Contractor using the acceptable limits shown in Table 13-1 of CP 13.

If production has been suspended and then resumed, the Engineer may order a CTP between process control and acceptance testing persons to assure the test results are within the acceptable limits shown in Table 13-1 of CP 13. Check test results shall not be included in process control testing. The Region Materials Engineer shall be called upon to resolve differences if a CTP shows unresolved differences beyond the values shown in Table 13-1 of CP 13.

(d) Stability Verification Testing. After the mix design has been approved and production commences, the Department will perform a minimum of three stability verification tests to verify that the field produced Hot Bituminous Pavement conforms to the approved mix design:

The test frequency shall be one per day unless altered by the Engineer.

The test results will be evaluated and the Contractor shall make adjustments if required in accordance with the following:

1 The minimum value for stability will be the minimum specified in Table 403-1 of the specifications. There will be no tolerance limit.

2. Quality Level. Calculate a QL for stability.

   If the QL for stability is less than 65, then production shall be halted and the Contractor shall submit a written proposal for a mix design revision to the Engineer. The Engineer shall give written approval to the proposed mix design revision before production continues.

   After a new or revised mix design is approved, three additional stability tests will be performed on asphalt produced with the new or revised mix design. The test frequency shall be one per day unless altered by the Engineer.

   If the stability QL is less than 65, then production shall be halted until a new mix design has been completed and approved using plant produced material or the Contractor shall submit a written proposal for a mix design revision to the Engineer. The Engineer shall give written approval to the

proposed mix design revision before production continues.

3. New or Revised Mix Design. Whenever a new or revised mix design is used and production resumes, three additional stability field verification tests shall be performed and the test results evaluated in accordance with the above requirements. The test frequency shall be one per day unless altered by the Engineer.

4. Field Verification Process Complete. When the field verification process described above is complete and production continues, the sample frequency will revert back to 1/10,000 tons (1/10 000 metric tons).

(e) Mix Verification Testing. After the mix design has been approved and production commences, the Department will perform a minimum of three volumetric verification tests for each of the following elements to verify that the field produced Hot Bituminous Pavement conforms to the approved mix design:

(1) Air Voids: When the Superpave gyratory is used, the air voids will be determined at N(design), as shown in Table 403-1, in accordance with CPL 5115.
(2) Voids in Mineral Aggregate (VMA).
(3) Asphalt Content (AC).

The test frequency shall be one per day unless altered by the Engineer.

The test results will be evaluated and the Contractor shall make adjustments if required in accordance with the following:

1 Target Values. The target values for the test element of air voids shall be the mix design air voids as shown on the Form 43. The target value for the test element of AC will be taken from the job mix formula (CDOT Form 43). The target value for the test element of VMA will be the average of the first three volumetric field verification test results on project produced Hot Bituminous Pavement or the target value specified in Table 403-1 and Table 403-2 of the specifications, whichever is higher.

2. Tolerance Limits. The tolerance limits for each test element shall be:

AC	± 0.3%
Air Voids	± 1.2%
VMA	± 1.2%

3. Quality Levels. Calculate an individual QL for each of the elements using the volumetric field verification test results.

4. Total Quality Level. Add the three individual QLs and divide by three to determine the Total Quality Level (TQL).

A. If TQL is 90 or greater, then no change is required and production can continue.

B. If TQL is 65 or greater and less than 90 and the QL for the test element of air voids is 70 or greater, then no change is required and production can continue.

C. If TQL is 65 or greater and less than 90 and the QL for the test element of air voids is less than 70 or the TQL is less than 65, then production shall be halted and the Contractor shall submit a written proposal for a mix design revision to the Engineer. The Engineer shall give written approval to the proposed mix design revision before production continues.

After a new or revised mix design is approved, three additional volumetric field verification tests will be performed on asphalt produced with the new or revised mix design. The test frequency shall be one per day unless altered by the Engineer.

(1) If TQL is 90 or greater, then no change is required and production can continue.

(2) If TQL is 65 or greater and less than 90 and the QL for the test element of air voids is 70 or greater, then no change is required and production can continue.

(3) If TQL is 65 or greater and less than 90 and the QL for the test element of air voids is less than 70 or the TQL is less than 65, then production shall be halted until a new mix design has been completed and approved using plant produced material or the Contractor shall submit a written proposal for a mix design revision to the Engineer. The Engineer shall give written approval to the proposed mix design revision before production continues.

5. New or Revised Mix Design. Whenever a new or revised mix design is used and production resumes, three additional volumetric field verification tests shall be performed and the test results evaluated in accordance with the above requirements. The test frequency shall be one per day unless altered by the Engineer.

6. Field Verification Process Complete. When the field verification process described above is complete and production continues, the sample frequency will revert back to a minimum of 1/10,000 metric tons (1/10 000 tons). The Engineer has the discretion to conduct additional verification tests at any time.

(f) Testing Schedule. Process control and project acceptance testing frequency shall be in accordance with Table 106-1.

(g) Reference Conditions. Three reference conditions can exist determined by the Moving Quality Level (MQL). The MQL will be calculated in accordance with the procedure in CP 71 for Determining Quality Level (QL). The MQL will be calculated using only acceptance tests. The MQL will be calculated on tests 1 through 3, then tests 1 through 4, then tests 1 through 5, then thereafter on the last five consecutive test results. The MQL will not be used to determine pay factors. The three reference conditions and actions that will be taken are described as follows:

1 Condition green will exist for an element when an MQL of 90 or greater is reached, or maintained, and the past five consecutive test results are within the specification limits.

2. Condition yellow will exist for all elements at the beginning of production or when a new process is established because of changes in materials or the job-mix formula, following an extended suspension of work, or when the MQL is less than 90 and equal to or greater than 65. Once an element is at condition green, if the MQL falls below 90 or a test result falls outside the specification limits, the condition will revert to yellow or red as appropriate.

3. Condition red will exist for any element when the MQL is less than 65. The Contractor shall be notified immediately in writing and the process control sampling and testing frequency increased to a minimum rate of 1/250 metric tons (1/250 tons) for that element. The process control sampling and testing frequency shall remain at 1/250 metric tons (1/250 tons) until the process control QL reaches or exceeds 78. If the QL for the next five process control tests is below 65, production will be suspended.

If gradation is the element with MQL less than 65, the Department will test one randomly selected sample in the first 1250 metric tons (1250 tons) produced in condition red. If this test result is outside the tolerance limits, production will be suspended. (This test result will not be included as an acceptance test.)

After condition red exists, a new MQL will be started. Acceptance testing will stay at the frequency shown in Table 106-1. After three acceptance tests, if the MQL is less than 65, production will be suspended.

Production will remain suspended until the source of the problem is identified and corrected. Each time production is suspended, corrective actions shall be proposed in writing by the Contractor and approved in writing by the Engineer before production may resume.

Upon resuming production, the process control sampling and testing frequency for the elements causing the condition red shall remain at 1/250 metric tons (1/250 tons). If the QL for the next five process control tests is below 65, production will be suspended again. If gradation is the element with MQL less than 65, the Department will test one randomly selected sample in the first 1250 metric tons (1250 tons) produced in condition red. If this test result is outside the tolerance limits, production will be suspended.

TABLE 106-1
SCHEDULE FOR MINIMUM SAMPLING AND TESTING

ELEMENT	PROCESS CONTROL	ACCEPTANCE	CHECK (CTP)
Asphalt Content	1/500 metric tons (1/500 T)	1/1000 metric tons (1/1000 T)	1/10 000 metric tons (1/10,000 T)
Gradation	1/Day	1/2000 metric tons (1/2000 T)	1/20 000 metric tons (1/20,000 T)
In-Place density	1/500 metric tons (1/500 T)	1/500 metric tons (1/500 T)	1/5000 metric tons (1/5000 T)

Notes for Table 106-1:

(1) The minimum number of acceptance tests will be at least 5 asphalt content, 3 gradation and 10 in-place density for all projects.

(2) When unscheduled job mix formula changes are made (CDOT form 43) acceptance of the elements, except for in-place density, will be based on the actual number of samples that have been selected up to that time, even if the number is below the minimum listed in the schedule. At the Engineer's discretion, additional random in-place density tests may be taken in order to meet scheduled minimums, provided the applicable pavement layer is available for testing under safe conditions. Beginning with the new job mix formula, the quantity it will represent shall be estimated. A revised schedule of acceptance tests will be based on that estimate.

Appendix F

Colorado Procedure 71

Colorado Procedure 71-00

Standard Specification for

Determining Quality Level (Percent Within Tolerance Limits)

1. SCOPE

1.1 Use this procedure with Quality Assurance type specifications where Pay Factors or acceptance decisions are based on Quality Level (QL), defined as percent within specification (tolerance) limits. QL is a measure of quality of a lot or process.

1.2 QL represents the percentage of the population (lot or process) that falls above a single lower limit, below a single upper limit, or between the upper and lower limits of double-limit specifications.

1.3 For this procedure to be meaningful, select all samples by random or stratified random procedures. Perform all testing and measuring strictly in accordance with standard acceptable practices. When used for contractual purposes, do all sampling and testing in accordance with the applicable specifications.

1.4 Manual, computer assisted, and mathematical procedures are described. Where contractual pay factors are based on QL, use only the computer assisted procedure.

2. SUMMARY OF METHOD

2.1 The method involves calculating statistical parameters from three or more representative measurements, test results, or values for each specified element in a lot or sample. The arithmetic average (mean) value of the sample is calculated. As a measure of variability, the sample Standard Deviation is calculated. Using these results, the distance from the sample mean to each limit is divided by the standard deviation, which yields the Quality Index.

2.2 The incomplete beta function ratio, using sample sizes and quality indices as variables, is used in the computer version to calculate areas under the beta distribution. With variables typical for QL determinations, the beta distribution (Figure 71-1) is similar to the normal distribution (Figure 71-2).

2.3 The total area under the beta distribution outside the specification limits is the fraction defective which is then multiplied by 100 to yield the percent defective; this subtracted from 100 gives the percent within limits.

2.4 Table 71-1 contains values for percent within limits as related to sample sizes and quality indices. The table was developed from mathematical calculations and is used in the manual method to estimate QL.

3. MANUAL PROCEDURE

3.1 Determine the arithmetic mean and standard deviation for the several test results from the lot for each element being evaluated. Compute these as shown in Equations 3.1 and 3.2.

$$\bar{X} = \frac{\Sigma X}{n} \qquad \textbf{Equation 3.1}$$

$$s = \sqrt{\frac{\Sigma (X - \bar{X})^2}{n - 1}} \qquad \textbf{Equation 3.2}$$

Where:

$\bar{X}$ = Sample mean,
Σ = Summation of,
X = Individual test value to X_n,
n = Total number of test values,
s = Sample standard deviation.

3.2 Compute the upper quality index (Q_u) per Equation 3.3.

$$Q_U = \frac{T_u - \bar{X}}{s} \qquad \textbf{Equation 3.3}$$

Where:
Q_u = Upper quality index,
T_u = Upper specification limits.

3.2.1 Determine P_u (percent within the upper specification limit which corresponds to a given Q_u) from Table 71-1. If desired, P_u may be interpolated to the nearest 0.1. Where T_u is not specified, P_u will be 100.

3.3 Compute the lower quality index (Q_L) per Equation 3.4.

$$Q_L = \frac{\bar{X} - T_L}{s} \qquad \textbf{Equation 3.4}$$

Where:
Q_L = Lower quality index,
T_L = Lower specification limits.

3.3.1 Determine P_L (percent within the lower specification limit which corresponds to a given Q_L) from Table 71-1. If desired, P_L may be interpolated to the nearest 0.1. Where T_L is not specified, P_L will be 100.

3.4 Compute QL (the total percent within specification limits) per Equation 3.5.

$$QL = (P_u + P_L) - 100 \qquad \textbf{Equation 3.5}$$

3.5 The manual method for determining QL essentially conforms to the applicable portions of AASHTO Standard Recommended Practice R 9, Acceptance Sampling Plans for Highway Construction.

3.6 A sample calculation is provided at the end of this procedure demonstrating the calculation of Quality Level and Pay Factors using this manual procedure.

4. COMPUTER ASSISTED PROCEDURE

4.1 The calculations for determining Quality Level may be performed by using the latest versions of the Departments quality level programs.

4.2 In the quality level programs, the areas under the beta distribution are calculated from the incomplete beta function ratio by assigning the variables used in Equations 3.1 through 3.4. The procedure is as described in *Numerical Recipes in C_1, Chapter 6.* A detailed discussion of the theories involved is provided by Willenbrock and Kopac in *TRR 691, Process Control in the Construction Industry*$_2$.

4.3 All numbers from the calculations are carried to significant figures and round according to AASHTO Standard Recommended Practice R 11, using the Rounding Method.

4.4 Where contractual pay factors are based on QL use the computer-assisted procedure only.

MATHEMATICAL PROCEDURE - Adapted from *Resolution of beta-distribution equations for quality level analysis...*[3]

5.1 In order to evaluate the necessary quality parameters, the integral

$$I_n = \frac{}{B(\frac{n}{2} - 1, \frac{n}{2} - 1)} \int_0^g t^{\frac{n}{2} - 2} (1 - t)^{\frac{n}{2} - 2} dt \qquad \textbf{Equation 5.1}$$

must be evaluated. In equation 5.1 B(n/2-1,n/2-1) is generally referred to as the complete beta-function (or just the beta-function) with parameters n/2-1,n/2-1, and the integral is the incomplete beta-function. Together they form the beta distribution from a random variable. The beta function is defined by

$$B(\frac{n}{2} - 1, \frac{n}{2} - 1) = \int_0^1 t^{\frac{n}{2} - 2} (1 - t)^{\frac{n}{2} - 2} dt, \qquad \textbf{Equation 5.2}$$

and the upper limit in 5.1 is given by

$$g = \frac{1}{2} - \frac{Q\sqrt{n}}{2(n - 1)} \qquad \textbf{Equation 5.3}$$

where Q is the quality index defined in Equations 3.3 and 3.4 and n is the sample size.

5.2 For small sample sizes no numerical integration is necessary as the integral may be economically evaluated in close form. In particular we have:

$$I_3 = \frac{1}{2} + \frac{1}{p} \sin^{-1}(2g - 1) \qquad \textbf{Equation 5.4}$$

$$I_4 = g \qquad \textbf{Equation 5.5}$$

$$I_5 = \frac{1}{2} + \frac{1}{p} \sin^{-1}(2g - 1) + \frac{2}{p} \sqrt{g - g^2}\,(2g - 1) \qquad \textbf{Equation 5.6}$$

$$I_6 = 3g^2 - 2g^3 \qquad \textbf{Equation 5.7}$$

$$I_7 = \frac{1}{2} + \frac{1}{p} \sin^{-1}(2g - 1) - \frac{2}{3p} \sqrt{g - g^2}\,(2g - 1)(8g^2 - 8g - 3) \qquad \textbf{Equation 5.8}$$

$$I_8 = 10g^3 - 15g^4 + 6g^5 \qquad \textbf{Equation 5.9}$$

These expressions are small enough to be used with some hand calculators. As the value of n increases the calculations become more complex. With the availability of personal computers, we include the equation for information and recommend the use of personal computers.

TABLE 71-1

Upper Quality Index Qu or Lower Quality Index QL															
P_u or P_L %	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10 to n=11	n=12 to n=14	n=15 to n=18	n=19 to n=25	n=26 to n=37	n=38 to n=69	n=70 to n= 200	n= 201 to n=x
100	1.16	1.50	1.79	2.03	2.23	2.39	2.53	2.65	2.83	3.03	3.20	3.38	3.54	3.70	3.83
99		1.47	1.67	1.80	1.89	1.95	2.00	2.04	2.09	2.14	2.18	2.22	2.26	2.29	2.31
98	1.15	1.44	1.60	1.70	1.76	1.81	1.84	1.86	1.91	1.93	1.96	1.99	2.01	2.03	2.05
97		1.41	1.54	1.62	1.67	1.70	1.72	1.74	1.77	1.79	1.81	1.83	1.85	1.86	1.87
96	1.14	1.38	1.49	1.55	1.59	1.61	1.63	1.65	1.67	1.68	1.70	1.71	1.73	1.74	1.75
95		1.35	1.44	1.49	1.52	1.54	1.55	1.56	1.58	1.59	1.61	1.62	1.63	1.63	1.64
94	1.13	1.32	1.39	1.43	1.46	1.47	1.48	1.49	1.50	1.51	1.52	1.53	1.54	1.55	1.55
93		1.29	1.35	1.38	1.40	1.41	1.42	1.43	1.44	1.44	1.45	1.46	1.46	1.47	1.47
92	1.12	1.26	1.31	1.33	1.35	1.36	1.36	1.36	1.37	1.37	1.39	1.39	1.40	1.40	1.40
91	1.11	1.23	1.27	1.29	1.30	1.30	1.31	1.31	1.32	1.32	1.33	1.33	1.33	1.34	1.34
90	1.10	1.20	1.23	1.24	1.25	1.25	1.26	1.26	1.26	1.27	1.27	1.27	1.28	1.28	1.28
89	1.09	1.17	1.19	1.20	1.20	1.21	1.21	1.21	1.21	1.22	1.22	1.22	1.22	1.22	1.23
88	1.07	1.14	1.15	1.16	1.16	1.16	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
87	1.06	1.11	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.13	1.13
86	1.04	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
85	1.03	1.05	1.05	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
84	1.01	1.02	1.01	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
83	1.00	0.99	0.98	0.97	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.95	0.95	0.95
82	0.97	0.96	0.95	0.94	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
81	0.96	0.93	0.91	0.90	0.90	0.89	0.89	0.89	0.89	0.88	0.88	0.88	0.88	0.88	0.88
80	0.93	0.90	0.88	0.87	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.84	0.84	0.84	0.84
79	0.91	0.87	0.85	0.84	0.83	0.82	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81
78	0.89	0.84	0.82	0.80	0.80	0.79	0.79	0.79	0.78	0.78	0.78	0.78	0.77	0.77	0.77
77	0.87	0.81	0.78	0.77	0.76	0.76	0.76	0.75	0.75	0.75	0.75	0.74	0.74	0.74	0.74
76	0.84	0.78	0.75	0.74	0.73	0.73	0.72	0.72	0.72	0.71	0.71	0.71	0.71	0.71	0.71
75	0.82	0.75	0.72	0.71	0.70	0.70	0.69	0.69	0.69	0.68	0.68	0.68	0.68	0.68	0.67
74	0.79	0.72	0.69	0.68	0.67	0.66	0.66	0.66	0.66	0.65	0.65	0.65	0.65	0.64	0.64
73	0.76	0.69	0.66	0.65	0.64	0.63	0.63	0.63	0.62	0.62	0.62	0.62	0.62	0.61	0.61
72	0.74	0.66	0.63	0.62	0.61	0.60	0.60	0.60	0.59	0.59	0.59	0.59	0.59	0.58	0.58
71	0.71	0.63	0.60	0.59	0.58	0.57	0.57	0.57	0.57	0.56	0.56	0.56	0.56	0.55	0.55
70	0.68	0.60	0.57	0.56	0.55	0.55	0.54	0.54	0.54	0.53	0.53	0.53	0.53	0.53	0.52
69	0.65	0.57	0.54	0.53	0.52	0.52	0.51	0.51	0.51	0.50	0.50	0.50	0.50	0.50	0.50
68	0.62	0.54	0.51	0.50	0.49	0.49	0.48	0.48	0.48	0.48	0.47	0.47	0.47	0.47	0.47
67	0.59	0.51	0.47	0.47	0.46	0.46	0.46	0.45	0.45	0.45	0.45	0.44	0.44	0.44	0.44
66	0.56	0.48	0.45	0.44	0.44	0.43	0.43	0.43	0.42	0.42	0.42	0.42	0.41	0.41	0.41
65	0.52	0.45	0.43	0.41	0.41	0.40	0.40	0.40	0.40	0.39	0.39	0.39	0.39	0.39	0.39
64	0.49	0.42	0.40	0.39	0.38	0.38	0.37	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36
63	0.46	0.39	0.37	0.36	0.35	0.35	0.35	0.34	0.34	0.34	0.34	0.34	0.33	0.33	0.33
62	0.43	0.36	0.34	0.33	0.32	0.32	0.32	0.32	0.31	0.31	0.31	0.31	0.31	0.31	0.31
61	0.39	0.33	0.31	0.30	0.30	0.29	0.29	0.29	0.29	0.29	0.28	0.28	0.28	0.28	0.28
60	0.36	0.30	0.28	0.27	0.27	0.27	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.25	0.25
59	0.32	0.27	0.25	0.25	0.24	0.24	0.24	0.24	0.23	0.23	0.23	0.23	0.23	0.23	0.23
58	0.29	0.24	0.23	0.22	0.21	0.21	0.21	0.21	0.21	0.21	0.20	0.20	0.20	0.20	0.20
57	0.25	0.21	0.20	0.19	0.19	0.19	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
56	0.22	0.18	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15	0.15
55	0.18	0.15	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
54	0.14	0.12	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
53	0.11	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
52	0.07	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
51	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

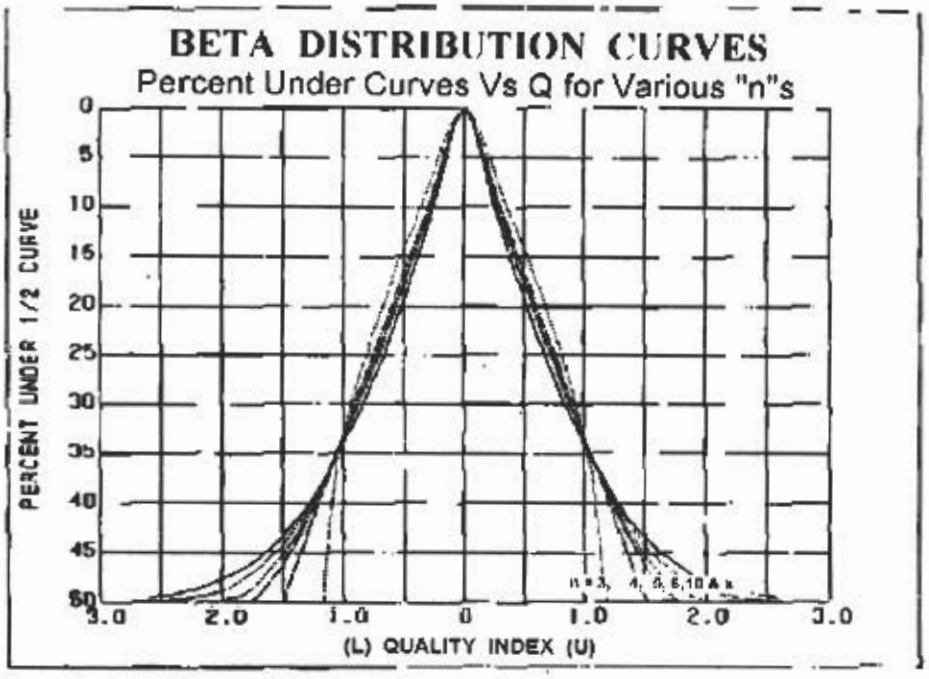
NOTE: When Q_u or Q_L falls between table values, estimate P_u or P_L to the closest 0.10.

TABLE 71-1

Upper Quality Index Qu or Lower Quality Index QL

P_u or P_L %	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10 to n=11	n=12 to n=14	n=15 to n=18	n=19 to n=25	n=26 to n=37	n=38 to n=69	n=70 to n= 200	n= 201 to n=x
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	-0.04	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.02
48	-0.07	-0.06	-0.06	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
47	-0.11	-0.09	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
46	-0.14	-0.12	-0.11	-0.11	-0.11	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10
45	-0.18	-0.15	-0.14	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13
44	-0.22	-0.18	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15
43	-0.25	-0.21	-0.20	-0.19	-0.19	-0.19	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18
42	-0.29	-0.24	-0.23	-0.22	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.20	-0.20	-0.20	-0.20	-0.20
41	-0.32	-0.27	-0.25	-0.25	-0.24	-0.24	-0.24	-0.24	-0.23	-0.23	-0.23	-0.23	-0.23	-0.23	-0.23
40	-0.36	-0.30	-0.28	-0.27	-0.27	-0.27	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.25	-0.25
39	-0.39	-0.33	-0.31	-0.30	-0.30	-0.29	-0.29	-0.29	-0.29	-0.29	-0.28	-0.28	-0.28	-0.28	-0.28
38	-0.43	-0.36	-0.34	-0.33	-0.32	-0.32	-0.32	-0.32	-0.31	-0.31	-0.31	-0.31	-0.31	-0.31	-0.31
37	-0.46	-0.39	-0.37	-0.36	-0.35	-0.35	-0.35	-0.34	-0.34	-0.34	-0.34	-0.34	-0.33	-0.33	-0.33
36	-0.49	-0.42	-0.40	-0.39	-0.38	-0.38	-0.37	-0.37	-0.37	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36
35	-0.52	-0.45	-0.43	-0.41	-0.41	-0.40	-0.40	-0.40	-0.40	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39
34	-0.56	-0.48	-0.45	-0.44	-0.44	-0.43	-0.43	-0.43	-0.42	-0.42	-0.42	-0.42	-0.41	-0.41	-0.41
33	-0.59	-0.51	-0.47	-0.47	-0.46	-0.46	-0.46	-0.45	-0.45	-0.45	-0.45	-0.44	-0.44	-0.44	-0.44
32	-0.62	-0.54	-0.51	-0.50	-0.49	-0.49	-0.48	-0.48	-0.48	-0.48	-0.47	-0.47	-0.47	-0.47	-0.47
31	-0.65	-0.57	-0.54	-0.53	-0.52	-0.52	-0.51	-0.51	-0.51	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50
30	-0.68	-0.60	-0.57	-0.56	-0.55	-0.55	-0.54	-0.54	-0.54	-0.53	-0.53	-0.53	-0.53	-0.53	-0.52
29	-0.71	-0.63	-0.60	-0.59	-0.58	-0.57	-0.57	-0.57	-0.57	-0.56	-0.56	-0.56	-0.56	-0.55	-0.55
28	-0.74	-0.66	-0.63	-0.62	-0.61	-0.60	-0.60	-0.60	-0.59	-0.59	-0.59	-0.59	-0.59	-0.58	-0.58
27	-0.76	-0.69	-0.66	-0.65	-0.64	-0.63	-0.63	-0.63	-0.62	-0.62	-0.62	-0.62	-0.62	-0.61	-0.61
26	-0.79	-0.72	-0.69	-0.68	-0.67	-0.66	-0.66	-0.66	-0.66	-0.65	-0.65	-0.65	-0.65	-0.64	-0.64
25	-0.82	-0.75	-0.72	-0.71	-0.70	-0.70	-0.69	-0.69	-0.69	-0.68	-0.68	-0.68	-0.68	-0.68	-0.67
24	-0.84	-0.78	-0.75	-0.74	-0.73	-0.73	-0.72	-0.72	-0.72	-0.71	-0.71	-0.71	-0.71	-0.71	-0.71
23	-0.87	-0.81	-0.78	-0.77	-0.76	-0.76	-0.76	-0.75	-0.75	-0.75	-0.75	-0.74	-0.74	-0.74	-0.74
22	-0.89	-0.84	-0.82	-0.80	-0.80	-0.79	-0.79	-0.79	-0.78	-0.78	-0.78	-0.78	-0.77	-0.77	-0.77
21	-0.91	-0.87	-0.85	-0.84	-0.83	-0.82	-0.82	-0.82	-0.82	-0.81	-0.81	-0.81	-0.81	-0.81	-0.81
20	-0.93	-0.90	-0.88	-0.87	-0.86	-0.86	-0.86	-0.85	-0.85	-0.85	-0.85	-0.84	-0.84	-0.84	-0.84
19	-0.96	-0.93	-0.91	-0.90	-0.90	-0.89	-0.89	-0.89	-0.89	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88
18	-0.97	-0.96	-0.95	-0.94	-0.93	-0.93	-0.93	-0.92	-0.92	-0.92	-0.92	-0.92	-0.92	-0.92	-0.92
17	-1.00	-0.99	-0.98	-0.97	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.95	-0.95	-0.95
16	-1.01	-1.02	-1.01	-1.01	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-0.99	-0.99	-0.99
15	-1.03	-1.05	-1.05	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04
14	-1.04	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08
13	-1.06	-1.11	-1.12	-1.12	-1.12	-1.12	-1.12	-1.12	-1.12	-1.12	-1.12	-1.12	-1.12	-1.13	-1.13
12	-1.07	-1.14	-1.15	-1.16	-1.16	-1.16	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17
11	-1.09	-1.17	-1.19	-1.20	-1.20	-1.21	-1.21	-1.21	-1.21	-1.22	-1.22	-1.22	-1.22	-1.22	-1.23
10	-1.10	-1.20	-1.23	-1.24	-1.25	-1.25	-1.26	-1.26	-1.26	-1.27	-1.27	-1.27	-1.28	-1.28	-1.28
9	-1.11	-1.23	-1.27	-1.29	-1.30	-1.30	-1.31	-1.31	-1.32	-1.32	-1.33	-1.33	-1.33	-1.34	-1.34
8	-1.12	-1.26	-1.31	-1.33	-1.35	-1.36	-1.36	-1.36	-1.37	-1.37	-1.39	-1.39	-1.40	-1.40	-1.40
7		-1.29	-1.35	-1.38	-1.40	-1.41	-1.42	-1.43	-1.44	-1.44	-1.45	-1.46	-1.46	-1.47	-1.47
6	-1.13	-1.32	-1.39	-1.43	-1.46	-1.47	-1.48	-1.49	-1.50	-1.51	-1.52	-1.53	-1.54	-1.55	-1.55
5		-1.35	-1.44	-1.49	-1.52	-1.54	-1.55	-1.56	-1.58	-1.59	-1.61	-1.62	-1.63	-1.63	-1.64
4	-1.14	-1.38	-1.49	-1.55	-1.59	-1.61	-1.63	-1.65	-1.67	-1.68	-1.70	-1.71	-1.73	-1.74	-1.75
3		-1.41	-1.54	-1.62	-1.67	-1.70	-1.72	-1.74	-1.77	-1.79	-1.81	-1.83	-1.85	-1.86	-1.87
2	-1.15	-1.44	-1.60	-1.70	-1.76	-1.81	-1.84	-1.86	-1.91	-1.93	-1.96	-1.99	-2.01	-2.03	-2.05
1		-1.47	-1.67	-1.80	-1.89	-1.95	-2.00	-2.04	-2.09	-2.14	-2.18	-2.22	-2.26	-2.29	-2.31
0	-1.16	-1.50	-1.79	-2.03	-2.23	-2.39	-2.53	-2.65	-2.83	-3.03	-3.20	-3.38	-3.54	-3.70	-3.83

NOTE: When Q_u or Q_L falls between table values, estimate P_u or P_L to the closest 0.10.


BETA DISTRIBUTION CURVES
Percent Under Curves Vs Q for Various "n"s
PERCENT UNDER 1/2 CURVE
0
5
10
15
20
25
30
35
40
45
50
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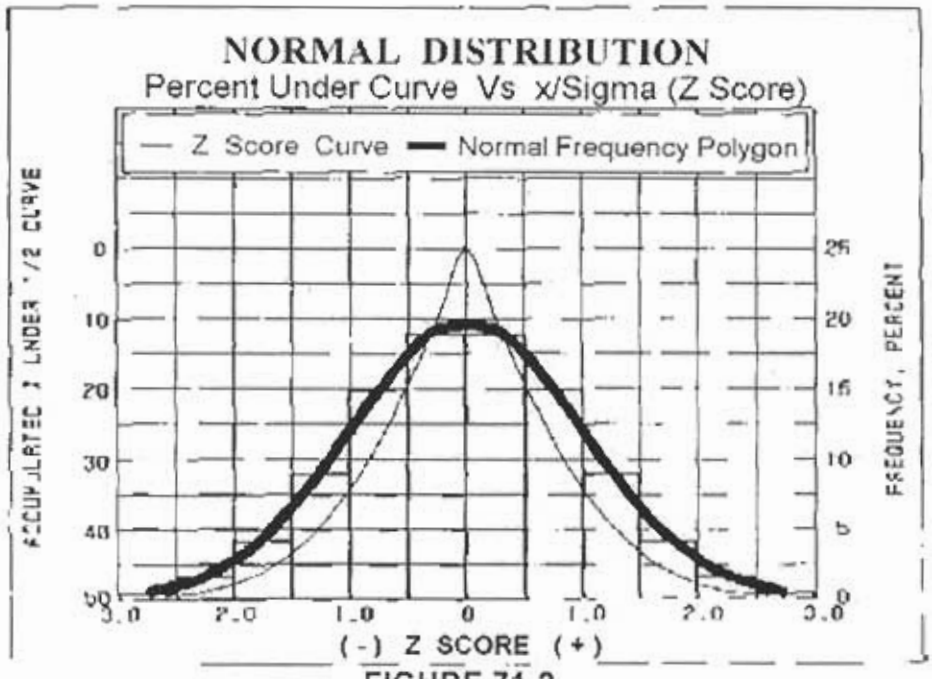
2.0
1.0
0
1.0
2.0
3.0
(L) QUALITY INDEX (U)


NORMAL DISTRIBUTION
Percent Under Curve Vs x/Sigma (Z Score)
Z Score Curve
Normal Frequency Polygon
ACCUMULATED % UNDER 1/2 CURVE
FREQUENCY, PERCENT
0
10
20
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50
25
20
15
10
5
0
3.0
2.0
1.0
0
1.0
2.0
3.0
(-) Z SCORE (+)

FIGURE 71-2

Footnotes:

1. Numerical Recipes in C, the Art of Scientific Computing; by W. H. Press, B.P. Flannery, S. A. Teukolsky and W.T. Vetterling. Cambridge University Press, The Pitt Bldg, Trumpington Street, CB2 1RP, 40 West 20th St., New York, NY 10011. Copyright 1988.

2. Development of a Highway Acceptance Plan, by Jack H. Willenbrock, Pennsylvania State University and Peter A. Kopac, Federal Highway Administration. TRR 691, Process Control in the Construction Industry, National Academy of Sciences, Washington, D.C. 1978.

3. Resolution of Beta-Distribution Formulas for Quality Level Analysis, a report to the Colorado Department of Transportation from the Colorado Workshop on Mathematical Problems in Industry, prepared by F. Jay Bourland, Department of Mathematics, Colorado State University and Alistair Fitt, Department of Mathematics, University of Southampton.