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Hot Bituminous Pavement QC&QA Projects Constructed in 1996 Under QPM 2 Specifications

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13. ABSTRACT (Maximum 200 words)

This report presents Tables and Figures which summarize the HBP Quality Level Analysis (QLA) for projects completed in 1996, the second season using the latest significant revision to the specifications. The Quality Level (QL) for the elements (sieve analysis, asphalt content, and pavement density) and the item composites are summarized. While QL determines Pay Factor (PF), it is also used to rank contractors' performance. The item QL improved 1.3 percentage points in 1996 over 1995. But the incentive/disincentive payments were not sufficient to cause some of the contractors to improve their process control. Both, the better and poorer performing contractors show up with similar rankings from year to year. The QLA specifications essentially are serving satisfactorily.

Implementation:
The PF formulas were modified for the 1997 season so as to make the PF continuous in relation to the QL, rather than in steps as has been the procedure. It is suggested the methods of applying weight factors to the element QL's for PF calculations be reviewed for possible changes. Some other changes in the specification and computer software are needed.

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CDOT REPORT FOR THE HBP QC/QA PROJECTS CONSTRUCTED IN 1996 UNDER QPM 2 SPECIFICATIONS

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CDOT FIFTH ANNUAL REPORT FOR THE HBP QC&QA PROJECTS CONSTRUCTED IN 1996

INTRODUCTION AND COMMENTS

CDOT began 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 (there were a number of projects held over and completed in 1995). The Pilot project computer software was designated QPM 1 and that designation is used herein for projects built under the Pilot specifications.

In 1994 a revised and updated specification was written, designated as QPM 2[(2)] and used on a limited number of projects completed in 1995 and essentially all HBP projects completed in 1996. Four previous reports have been made, for 1992 through 1995, [(3, 4, 5 & 6)] which are available from the CDOT library, or through the Pavement Unit located in the Central Laboratory. The report on 1995 construction contained summaries for both QPM 1 & 2.

The general format and presentation of data in this Fifth Annual report is similar to that used in the previous reports. Information on the background, development, philosophy and rationale involved with QC&QA specifications can be found in the previous reports and is not being repeated here. The total tons placed each year under each specification and the summarized data can be found in Tables 4 and 5. Also, relationships of yearly summaries to the 1991 historical base are depicted in the tables and figures 5 - 8

DISCUSSION OF THE DATA

Description of Tables and Figures.

Table 1, comprising 7 pages is a listing of each complete process (referred to in the column heading as Mix Design) summary. Each element, asphalt content, density and gradation is listed, along with a composite calculation (Totals & Weighed Means) for the applicable columns. Tons, test "n" and the incentive or disincentive payments (I/DP) are totaled. Quality Level (QL) and pay factor (PF) are the average of the element values weighted by their "W" factors (see previous reports and the QPM 2 specifications). The projects summaries are listed numerically by subaccount (SA) and mix design numbers. This table is summarized data for information only.

The three elements and mix design item summaries (composite) have been grouped together in Table 2. The data is listed by SA. Each element is totaled and averaged (weighted by tons). The 1995 QPM 2 summaries are presented immediately below the 1996 data and the differences follow. The composite is the final grouping and presents summaries for all projects reported for the 1996 season. The information in Table 2, except for the summary data at the end of each group, is the same as in Table 1, except it has been sorted by element and composite in order to do the analysis.

The summary values from Table 2 have been transferred to Tables 3 and 4 as 1996 QPM 2 data. Table 3 is the consolidated data for each project listed by SA. If there was only one process, the project data is the same. If there were two or more processes, the bid price, QL and PF are averages weighted by tons. The tons and dollars I/DP are totals. All additional tables in the Table 3 group are presentations of the same information, sorted and sub-grouped differently to aid in review and understanding.

Table 4 is the summarized element and composite data for 1991 historical and the QC&QA data for 1992 through 1996. Included are the overall summaries for all QPM 1 and all QPM 2 projects. The tons and number of tests for group are also shown. Table 5 is taken from table 4 and presented in a different mode. It groups the elements and composites together. Also, the data has been "normalized" by comparing each element for each year with the historical data, shown as a percentage of 1991. The SD column is the

inverse percentage in order to portray each of the four columns as over 100% when there has been improvement (i.e., the smaller the SD, the better the performance would be and the higher the inverse percentage). For the other columns, direct percentages are used, and over 100% indicates improvement over 1991.

Figures 1 and 2 are plotted from Table 3D and show contractors' performance by QL and PF in relation to the percentage of the overall 1996 production by each. Figures 3 - 6 are plotted from the data in Table 5. Figures 7 - 12 are frequency histograms of 1995 and 1996 element test values. For asphalt content and the No. 8 sieve (in most cases the controlling sieve for the gradation element), the field test values for each process were adjusted to a common target value equal (average for the year). The density test target remains the same for all processes, consequently no adjustment was necessary.

Significance of Data and Comments

Table 1 is merely a listing and requires no comment. The significance of the element and composite summaries shown in Table 2 is discussed below with Table 4 and 5 discussion. In Table 3A the projects are sorted by QL. The information is grouped by CDOT Region in 3B. The QL rankings probably have more to do with which contractors did the work, and various intangible factors, than it has to do with the CDOT region personnel. In Table 3C projects have been sorted by contractor, with each group ordered by QL. In Table 3D each contractor's group has been totaled and averaged, then sorted by QL; where the work was performed is not obvious, but can readily be determined by glancing at 3C.

The ranking of the contractors by QL along with tonnage represented is of interest to many. A review of the 1993 -1995 reports revealed that most of the same contractors keep showing up with similar QL rankings. That is, the better performers repeat year after year and likewise, so do the poor performers. There are occasional extenuating circumstances, such as experimental projects or other factors, that shift the rankings to some degree. Apparently, the incentives, or disincentives are not great enough to persuade some contractors to perform at a higher level. But other factors may be involved, such as location of the project in relation to the home base of potential bidders. Competition will not always guarantee the best performing, most efficient contractors will be the lowest bidders.

From Table 4, the QLs of all three elements, and the composite, have improved in 1996 over 1995 QPM 1 and 2. The 1996 composite QL is 1.3 percentage points higher than 1995 QPM 2 and 6.7 percent above 1995 QPM 1. This is a significant improvement, but a few projects with low QLs can easily have a negative effect on the yearly average. It is suggested that the element weighting (W) factors be changed to have a greater disincentive effect when any process element has a PF below 1.0. For PFs of above 1.0, there would be no change. Some preliminary study has been done with various factors applied to 1996 data. Such a change appears feasible and not too difficult to implement. It would have minimal impact on contractors performing at higher quality levels.

Figures 7 and 8, and 11 and 12 show there has been some improvement in the distribution of the field test results for asphalt content and the No 8 sieve respectively, in 1996 over 1995. Figures 9 and 10 for asphalt density show the distribution for 1996 is not as good as in 1995. There is a lack of test values just below the lower tolerance limit of 92 and a larger percentage of values just inside the specifications than is normal. This tendency has been evident to greater or lesser degrees from the beginning of the QC&QA program. All persons involved with random sampling procedures for CDOT should be thoroughly trained in proper procedures.

Other than the above comments, the HBP QC&QA program appears to be proceeding satisfactorily. Some changes in the computer software are currently in process that should reduce the QPM data manipulation problems evident in the past.

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.

TABLES AND FIGURES

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TABLE 1

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 1(95)

PROJECT LOCATION	REG/ UNIT	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE-MENT	BID $/TON	TONS 1000	TEST "n"	PRCE SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is #8		Gradation is CONTROLLING Sieve				
CC C110-002		10304	64268-1	a									A1	C
Lena Gulch	6	10304	64268-1	AC%	$25.00	12.4	12	0.18	0.02	98.7	1.050	$4,658	A1	C
Lena Gulch	6	10304	64268-1	Dn%	$25.00	12.4	25	0.77	-0.40	98.5	1.050	$7,763	A1	C
Lena Gulch	6	10304	64268-1	Grad	$25.00	12.4	6	3.50	0.30	89.4	0.944	($3,460)	A1	C
TOTALS & WTED MEANS		10304	64268-1	ITEM	$25.00	12.4	NA	NA	NA	92.7	1.029	$8,960	A1	C
CC 0931-018		10306	64268-1	a									A1	C
SH 93 & Golden Gate C	6	10306	64268-1	AC%	$27.00	10.0	10	0.13	0.16	86.3	1.016	$1,303	A1	C
SH 93 & Golden Gate C	6	10306	64268-1	Dn%	$27.00	10.0	20	0.73	-0.88	94.3	1.043	$5,839	A1	C
SH 93 & Golden Gate C	6	10306	64268-1	Grad	$27.00	10.0	5	0.89	2.40	100.0	1.030	$1,620	A1	C
TOTALS & WTED MEANS		10306	64268-1	ITEM	$27.00	10.0	NA	NA	NA	93.0	1.032	$8,762	A1	C
HB 042-041		10395	90860-1	a									C4	CX
West of Granby W	3	10395	90860-1	AC%	$27.31	24.0	24	0.17	-0.07	90.4	1.021	$4,035	C4	CX
West of Granby W	3	10395	90860-1	Dn%	$27.31	24.0	47	0.98	-0.57	92.5	1.022	$7,295	C4	CX
West of Granby W	3	10395	90860-1	Grad	$27.31	24.0	12	0.94	1.20	97.4	1.050	$6,554	C4	CX
TOTALS & WTED MEANS		10395	90860-1	ITEM	$27.31	24.0	NA	NA	NA	92.9	1.027	$17,884	C4	CX
C 2571-002		10595	81701A	a									C2	C
SH 257, US 34-Poudre	4	10595	81701A	AC%	$27.60	9.4	10	0.17	0.14	81.1	0.993	($585)	C2	C
SH 257, US 34-Poudre	4	10595	81701A	Dn%	$27.60	9.4	19	0.66	-1.04	92.9	1.035	$4,608	C2	C
SH 257, US 34-Poudre	4	10595	81701A	Grad	$27.60	9.4	5	2.30	-2.20	85.2	1.027	$1,393	C2	C
TOTALS & WTED MEANS		10595	81701A	ITEM	$27.60	9.4	NA	NA	NA	88.5	1.021	$5,416	C2	C
NH 0503-045		10652	87163A-1	a									H1	C
Royal Gorge - East	2	10652	87163A-1	AC%	$24.89	35.8	36	0.17	0.13	83.4	0.976	($6,494)	H1	C
Royal Gorge - East	2	10652	87163A-1	Dn%	$24.89	35.8	72	0.83	-0.27	98.0	1.060	$26,674	H1	C
Royal Gorge - East	2	10652	87163A-1	Grad	$24.89	35.8	18	1.62	1.60	89.2	1.021	$3,718	H1	C
TOTALS & WTED MEANS		10652	87163A-1	ITEM	$24.89	35.8	NA	NA	NA	91.9	1.027	$23,898	H1	C
C 0062-009		10679	64248A-1	a									B1	C
6TH & Union	6	10679	64248A-1	AC%	$29.53	4.9	5	0.12	-0.22	96.3	1.030	$1,313	B1	C
6TH & Union	6	10679	64248A-1	Dn%	$29.53	4.9	10	0.85	0.14	99.5	1.040	$2,919	B1	C
6TH & Union	6	10679	64248A-1	Grad	$29.53	4.9	3	1.73	-3.00	75.6	1.020	$594	B1	C
TOTALS & WTED MEANS		10679	64248A-1	ITEM	$29.53	4.9	NA	NA	NA	93.7	1.033	$4,826	B1	C
C 0062-009		10679	64254C-1	a									B1	C
6TH & Union	6	10679	64254C-1	AC%	$29.53	22.6	23	0.15	-0.02	99.5	1.050	$10,032	B1	C
6TH & Union	6	10679	64254C-1	Dn%	$29.53	22.6	46	1.18	-0.67	86.1	0.975	($8,403)	B1	C
6TH & Union	6	10679	64254C-1	Grad	$29.53	22.6	12	1.44	-1.90	99.2	0.970	($4,037)	B1	C
TOTALS & WTED MEANS		10679	64254C-1	ITEM	$29.53	22.6	NA	NA	NA	92.7	0.996	($2,408)	B1	C
IM 0252-278		10768	65442-1	a									K1	C
Greenland - North	1	10768	65442-1	AC%	$32.00	16.6	17	0.22	0.02	82.8	0.987	($2,078)	K1	C
Greenland - North	1	10768	65442-1	Dn%	$32.00	16.6	34	1.09	-0.81	85.8	0.991	($2,321)	K1	C
Greenland - North	1	10768	65442-1	Grad	$32.00	16.6	9	3.06	0.10	92.0	1.035	$3,726	K1	C
TOTALS & WTED MEANS		10768	65442-1	ITEM	$32.00	16.6	NA	NA	NA	86.1	0.999	($672)	K1	C
Greenland - North	1	10768	65442A-1	AC%	$33.00	7.2	8	0.22	-0.21	78.9	0.981	($1,332)	K1	C
Greenland - North	1	10768	65442A-1	Dn%	$33.00	7.2	NA	NA	NA	NA	1.000	$0	K1	C
Greenland - North	1	10768	65442A-1	Grad	$33.00	7.2	4	1.83	1.20	84.0	1.030	$1,431	K1	C
TOTALS & WTED MEANS		10768	65442A-1	ITEM	$33.00	7.2	NA	NA	NA	81.0	1.000	$99	K1	C
Greenland - North	1	10768	65442B-1	AC%	$32.00	13.1	13	0.17	0.12	85.3	1.001	$120	K1	C
Greenland - North	1	10768	65442B-1	Dn%	$32.00	13.1	NA	NA	NA	NA	1.000	$0	K1	C
Greenland - North	1	10768	65442B-1	Grad	$32.00	13.1	7	3.24	1.90	83.0	1.012	$982	K1	C
TOTALS & WTED MEANS		10768	65442B-1	ITEM	$32.00	13.1	NA	NA	NA	84.4	1.003	$1,101	K1	C
Greenland - North	1	10768	83239-1	AC%	$33.00	13.2	14	0.19	0.04	89.6	1.023	$2,977	K1	C
Greenland - North	1	10768	83239-1	Dn%	$33.00	13.2	NA	NA	NA	NA	1.000	$0	K1	C
Greenland - North	1	10768	83239-1	Grad	$33.00	13.2	7	7.00	-2.10	83.8	1.015	$1,293	K1	C
TOTALS & WTED MEANS		10768	83239-1	ITEM	$33.00	13.2	NA	NA	NA	87.3	1.010	$4,270	K1	C

TABLE 1

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 1(95)

PROJECT LOCATION	REG/ UNIT	SUBAC NUMBR	MIX DESIGN /FRCSS	ELE-MENT	BID $/TON	TONS 1000	TEST "n"	PRCE SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is #8		Gradation is CONTROLLING Sieve				
Greenland - North	1	10768	83239A-1	AC%	$34.00	5.5	6	0.30	0.14	63.6	0.907	($5,225)	K1	C
Greenland - North	1	10768	83239A-1	Dn%	$34.00	5.5	NA	NA	NA	NA	1.000	$0	K1	C
Greenland - North	1	10768	83239A-1	Grad	$34.00	5.5	3	1.15	-3.70	83.3	1.025	$938	K1	C
TOTALS & WTED MEANS		10768	83239A-1	ITEM	$34.00	5.5	NA	NA	NA	71.5	0.977	($4,288)	K1	C
STA 03851-008		10769	88600-1										H1	C
SH385, 20 Mi S of I 70 N	1	10769	88600-1	AC%	$30.28	26.9	27	0.10	0.06	99.5	1.050	$12,232	H1	C
SH385, 20 Mi S of I 70 N	1	10769	88600-1	Dn%	$30.28	26.9	54	0.71	-0.55	98.1	1.055	$22,425	H1	C
SH385, 20 Mi S of I 70 N	1	10769	88600-1	Grad	$30.28	26.9	14	1.96	1.00	89.6	1.023	$3,691	H1	C
TOTALS & WTED MEANS		10769	88600-1	ITEM	$30.28	26.9	NA	NA	NA	96.8	1.047	$38,347	H1	C
BR 3851-009		10790	88600-1	a									G1	C
10 M N Cheyenne Wells	1	10790	88600-1	AC%	$38.00	3.0	3	0.02	0.01	100.0	1.025	$848	G1	C
10 M N Cheyenne Wells	1	10790	88600-1	Dn%	$38.00	3.0	6	0.90	-0.90	89.5	1.035	$1,967	G1	C
10 M N Cheyenne Wells	1	10790	88600-1	Grad	$38.00	3.0	3	1.53	1.70	100.0	1.025	$565	G1	C
TOTALS & WTED MEANS		10790	88600-1	ITEM	$38.00	3.0	NA	NA	NA	94.8	1.030	$3,381	G1	C
STr 0853-029		10857	81942a	a									W2	C
So Rockport- Wyo St Line	4	10857	81942a	AC%	$22.50	13.7	14	0.14	-0.04	97.4	1.050	$4,620	W2	C
So Rockport- Wyo St Line	4	10857	81942a	Dn%	$22.50	13.7	28	0.78	-1.10	87.6	1.003	$443	W2	C
So Rockport- Wyo St Line	4	10857	81942a	Grad	$22.50	13.7	7	1.13	-1.60	82.4	1.009	$563	W2	C
TOTALS & WTED MEANS		10857	81942a	ITEM	$22.50	13.7	NA	NA	NA	91.3	1.018	$5,626	W2	C
So Rockport- Wyo St Line	4	10857	81942b	AC%	$22.50	1.4	2	NA	NA	NA	1.000	$0	W2	C
So Rockport- Wyo St Line	4	10857	81942b	Dn%	$22.50	1.4	0	NA	NA	NA	1.000	$0	W2	C
So Rockport- Wyo St Line	4	10857	81942b	Grad	$22.50	1.4	1	NA	NA	NA	1.000	$0	W2	C
TOTALS & WTED MEANS		10857	81942b	ITEM	$22.50	1.4				NA	1.000	$0	W2	C
So Rockport- Wyo St Line	4	10857	80699A	AC%	$28.85	3.0	3	0.12	0.15	100.0	1.025	$641	W2	C
So Rockport- Wyo St Line	4	10857	80699A	Dn%	$28.85	3.0	6	0.54	-1.43	85.2	1.020	$861	W2	C
So Rockport- Wyo St Line	4	10857	80699A	Grad	$28.85	3.0	2	NA	NA	NA	1.000	$0	W2	C
TOTALS & WTED MEANS		10857	80699A	ITEM	$28.85	3.0	NA	NA	NA	90.8	1.018	$1,502	W2	C
So Rockport- Wyo St Line	4	10857	80699B	AC%	$28.85	21.6	22	0.08	0.06	100.0	1.050	$9,341	W2	C
So Rockport- Wyo St Line	4	10857	80699B	Dn%	$28.85	21.6	44	0.85	-0.74	93.3	1.028	$8,653	W2	C
So Rockport- Wyo St Line	4	10857	80699B	Grad	$28.85	21.6	11	2.42	0.50	97.5	1.040	$4,982	W2	C
TOTALS & WTED MEANS		10857	80699B	ITEM	$28.85	21.6	NA	NA	NA	99.0	1.037	$22,977	W2	C
So Rockport- Wyo St Line	4	10857	81942C	AC%	$23.50	2.0	2	NA	NA	NA	1.000	$0	W2	C
So Rockport- Wyo St Line	4	10857	81942C	Dn%	$23.50	2.0	0	NA	NA	NA	1.000	$0	W2	C
So Rockport- Wyo St Line	4	10857	81942C	Grad	$23.50	2.0	1	NA	NA	NA	1.000	$0	W2	C
TOTALS & WTED MEANS		10857	81942C	ITEM	$23.50	2.0	NA	NA	NA	NA	1.000	$0	W2	C
So Rockport- Wyo St Line	4	10857	80699C	AC%	$29.85	5.0	5	0.07	0.14	100.0	1.030	$1,335	W2	C
So Rockport- Wyo St Line	4	10857	80699C	Dn%	$29.85	5.0	10	0.95	-0.08	98.5	1.040	$2,968	W2	C
So Rockport- Wyo St Line	4	10857	80699C	Grad	$29.85	5.0	3	1.15	0.70	50.0	0.889	($3,294)	W2	C
TOTALS & WTED MEANS		10857	80699C	ITEM	$29.85	5.0	NA	NA	NA	80.0	1.007	$1,009	W2	C
STR 1192-006	4	10858	81470	a									B1	C
Martin St (Longmont)- I 2	4	10858	81470	AC%	$24.90	0.9	1	NA	NA	NA	1.000	$0	B1	C
Martin St (Longmont)- I 2	4	10858	81470	Dn%	$24.90	0.9	2	NA	NA	NA	1.000	$0	B1	C
Martin St (Longmont)- I 2	4	10858	81470	Grad	$24.90	0.9	1	NA	>2V	NA	0.500	($2,219)	B1	C
TOTALS & WTED MEANS		10858	81470	ITEM	$24.90	0.9	NA	NA	NA		0.900	($2,219)	B1	C
Martin St (Longmont)- I 2	4	10858	74544	AC%	$24.90	10.9	10	0.20	0.04	86.4	1.017	$1,348	B1	C
Martin St (Longmont)- I 2	4	10858	74544	Dn%	$24.90	10.9	21	1.22	-0.71	84.4	0.982	($2,405)	B1	C
Martin St (Longmont)- I 2	4	10858	74544	Grad	$24.90	10.9	5	1.30	-2.20	66.1	0.939	($3,295)	B1	C
TOTALS & WTED MEANS		10858	74544	ITEM	$24.90	10.9	NA	NA	NA	78.3	0.984	($4,353)	B1	C

TABLE 1

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 1(95)

PROJECT LOCATION	REG/ UNIT	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE- MENT	BID $/TON	TONS 1000	TEST "n"	PRCE SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is #8		Gradation is CONTROLLING Sieve				
Martin St (Longmont)- I 2	4	10858	61496	AC%	$24.90	19.0	19	0.21	0.04	85.2	0.987	($1,801)	B1	C
Martin St (Longmont)- I 2	4	10858	61496	Dn%	$24.90	19.0	38	1.10	-0.29	92.7	1.023	$5,488	B1	C
Martin St (Longmont)- I 2	4	10858	61496	Grad	$24.90	19.0	10	2.10	-0.40	92.3	1.039	$3,720	B1	C
TOTALS & WTED MEANS		10858	61496	ITEM	$24.90	19.0	NA	NA	NA	88.0	1.016	$7,406	B1	C
Martin St (Longmont)- I 2	4	10858	101896	AC%	$29.00	1.1	1	NA	NA	NA	1.000	$0	B1	C
Martin St (Longmont)- I 2	4	10858	101896	Dn%	$29.00	1.1	2	NA	NA	NA	1.000	$0	B1	C
Martin St (Longmont)- I 2	4	10858	101896	Grad	$29.00	1.1	1	NA	NA	NA	0.968	($203)	B1	C
TOTALS & WTED MEANS		10858	101896	ITEM	$29.00	1.1	NA	NA	NA		0.994	($203)	B1	C
Martin St (Longmont)- I 2	4	10858	89309	AC%	$20.00	5.0	5	0.31	-0.04	64.4	0.929	($2,124)	B1	CX
Martin St (Longmont)- I 2	4	10858	89309	Dn%	$20.00	5.0	1	NA	NA	NA	1.000	$0	B1	CX
Martin St (Longmont)- I 2	4	10858	89309	Grad	$20.00	5.0	3	1.00	0.00	100.0	1.025	$500	B1	CX
TOTALS & WTED MEANS		10858	89309	ITEM	$20.00	5.0	NA	NA	NA	78.6	0.984	($1,624)	B1	CX
Martin St (Longmont)- I 2	4	10858	89309A	AC%	$20.00	1.2	1	NA	>2V	NA	0.750	($1,800)	B1	CX
Martin St (Longmont)- I 2	4	10858	89309A	Dn%	$20.00	1.2	0	NA	NA	NA	0.750	($3,000)	B1	CX
Martin St (Longmont)- I 2	4	10858	89309A	Grad	$20.00	1.2	0	NA	NA	NA	0.750	($1,200)	B1	CX
TOTALS & WTED MEANS		10858	89309A	ITEM	$20.00	1.2	NA	NA	NA	0.0	0.750	($6,000)	B1	CX
CR 200-022		10944	82457-1A	a										
Mach Ptc-C Sps-Pueb	2	10944	82453-1	AC%	$32.31	6.5	7	0.24	-0.13	74.0	0.970	($1,908)	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82453-1	Dn%	$32.31	6.5	13	0.56	-0.22	100.0	1.050	$5,250	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82453-1	Grad	$32.31	6.5	4	1.71	0.30	96.8	1.030	$1,260	R1	C
TOTALS & WTED MEANS		10944	82453-1	ITEM	$32.31	6.5	NA	NA	NA	91.6	1.022	$4,602	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82454-1	AC%	$32.31	6.6	7	0.19	0.02	91.8	1.035	$2,240	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82454-1	Dn%	$32.31	6.6	14	0.74	-0.59	97.9	1.050	$5,334	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82454-1	Grad	$32.31	6.6	4	0.50	-0.20	100.0	1.030	$1,280	R1	C
TOTALS & WTED MEANS		10944	82454-1	ITEM	$32.31	6.6	NA	NA	NA	96.5	1.042	$8,855	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82455-1	AC%	$28.38	22.3	23	0.14	0.02	97.4	1.050	$9,474	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82455-1	Dn%	$28.38	22.3	46	0.77	-0.50	97.5	1.055	$17,368	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82455-1	Grad	$28.38	22.3	12	1.90	1.20	98.4	1.050	$6,316	R1	C
TOTALS & WTED MEANS		10944	82455-1	ITEM	$28.38	22.3	NA	NA	NA	97.7	1.053	$33,157	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82455-1A	AC%	$28.38	0.7	1	NA	>2xV	NA	0.750	($1,469)	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82455-1A	Dn%	$28.38	0.7	NA	NA	NA	NA	0.750	($2,448)	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82455-1A	Grad	$28.38	0.7	NA	NA	NA	NA	0.750	($979)	R1	C
TOTALS & WTED MEANS		10944	82455-1A	ITEM	$28.38	0.7	NA	NA	NA	0.0	0.750	($4,896)	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82456-1	AC%	$32.31	2.4	3	0.13	-0.16	86.3	1.025	$585	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82456-1	Dn%	$32.31	2.4	5	0.53	-0.36	93.6	1.030	$1,169	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82456-1	Grad	$32.31	2.4	2	NA	NA	NA	1.000	$0	R1	C
TOTALS & WTED MEANS		10944	82456-1	ITEM	$32.31	2.4	NA	NA	NA	90.9	1.023	$1,754	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82457-1	AC%	$32.31	6.3	7	0.19	-0.06	89.6	1.035	$2,154	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82457-1	Dn%	$32.31	6.3	13	0.86	-0.61	95.4	1.048	$4,929	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82457-1	Grad	$32.31	6.3	4	3.80	0.00	75.2	1.002	$77	R1	C
TOTALS & WTED MEANS		10944	82457-1	ITEM	$32.31	6.3	NA	NA	NA	89.6	1.035	$7,159	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82457-1A	AC%	$32.31	5.9	6	0.08	-0.03	100.0	1.035	$2,010	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82457-1A	Dn%	$32.31	5.9	12	0.90	-0.22	98.3	1.050	$4,785	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82457-1A	Grad	$32.31	5.9	3	2.00	-1.00	100.0	1.025	$957	R1	C
TOTALS & WTED MEANS		10944	82457-1A	ITEM	$32.31	5.9	NA	NA	NA	99.2	1.041	$7,752	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82458-1	AC%	$28.38	0.6	1	NA	NA	NA	1.000	$0	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82458-1	Dn%	$28.38	0.6	2	NA	NA	NA	0.996	($34)	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82458-1	Grad	$28.38	0.6	1	NA	NA	NA	1.000	$0	R1	C
TOTALS & WTED MEANS		10944	82458-1	ITEM	$28.38	0.6	NA	NA	NA	0.0	0.998	($34)	R1	C

TABLE 1

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 1(95)

PROJECT LOCATION	REG/ UNIT	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE-MENT	BID $/TON	TONS 1000	TEST "n"	PRCE SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is 98		Gradation is CONTROLLING Sieve				
C 1601-037		10996	HillG1	a									N1	G
Farmington Hill	5	10996	HillG1	AC%	$25.00	0.5	1	NA	0.00	NA	1.000	$0	N1	G
Farmington Hill	5	10996	HillG1	Dn%	$25.00	0.5	1	NA	0.00	NA	1.000	$0	N1	G
Farmington Hill	5	10996	HillG1	Grad	$25.00	0.5	1	NA	0.00	NA	1.000	$0	N1	G
TOTALS & WTED MEANS		10996	HillG1	ITEM	$25.00	0.5	NA	NA	NA	0.0	1.000	$0	N1	G
Farmington Hill	5	10996	HillG2-1	AC%	$25.00	7.8	8	0.15	0.14	84.7	1.009	$527	N1	G
Farmington Hill	5	10996	HillG2-1	Dn%	$25.00	7.8	16	1.17	-0.18	92.0	1.034	$3,289	N1	G
Farmington Hill	5	10996	HillG2-1	Grad	$25.00	7.8	4	1.50	0.20	98.2	1.030	$1,169	N1	G
TOTALS & WTED MEANS		10996	HillG2-1	ITEM	$25.00	7.8				91.0	1.026	$4,985	N1	G
Farmington Hill	5	10996	HillG2-2	AC%	$25.00	11.9	12	0.20	0.17	73.8	0.931	($6,152)	N1	G
Farmington Hill	5	10996	HillG2-2	Dn%	$25.00	11.9	24	0.87	-0.85	93.2	1.037	$5,479	N1	G
Farmington Hill	5	10996	HillG2-2	Grad	$25.00	11.9	6	85.60	-1.50	85.6	1.021	$1,282	N1	G
TOTALS & WTED MEANS		10996	HillG2-2	ITEM	$25.00	11.9				85.8	1.002	$609	N1	G
Farmington Hill	5	10996	80398	AC%	$24.50	17.4	18	0.22	0.04	81.7	0.981	($2,425)	N1	C
Farmington Hill	5	10996	80398	Dn%	$24.50	17.4	35	0.77	-0.71	95.6	1.050	$10,653	N1	C
Farmington Hill	5	10996	80398	Grad	$24.50	17.4	9	2.40	0.30	87.3	1.020	$1,715	N1	C
TOTALS & WTED MEANS		10996	80398	ITEM	$24.50	17.4	NA	NA	NA	89.8	1.023	$9,943	N1	C
C 0131 - 034		11073	76410	a									E1	CX
Rifle - North	3	11073	76410	AC%	$27.18	28.5	29	0.11	0.06	99.2	1.050	$11,638	E1	CX
Rifle - North	3	11073	76410	Dn%	$27.18	28.5	58	1.05	-0.47	92.1	1.019	$7,263	E1	CX
Rifle - North	3	11073	76410	Grad	$27.18	28.5	15	1.10	-1.50	99.7	1.050	$7,759	E1	CX
TOTALS & WTED MEANS		11073	76410	ITEM	$27.18	28.5	NA	NA	NA	95.8	1.034	$26,660	E1	
MC R600-054		11124	64271-1	a									W2	CX
Reg 6 Machine Patch	6	11124	64257-1	AC%	$27.00	10.0	10	0.18	0.05	91.4	1.036	$2,922	W2	CX
Reg 6 Machine Patch	6	11124	64257-1	Dn%	$27.00	10.0	21	0.77	-0.85	93.5	1.039	$5,229	W2	CX
Reg 6 Machine Patch	6	11124	64257-1	Grad	$27.00	10.0	5	1.79	-2.20	86.1	1.013	$682	W2	CX
TOTALS & WTED MEANS		11124	64257-1	ITEM	$27.00	10.0	NA	NA	NA	91.4	1.033	$8,832	W2	CX
Reg 6 Machine Patch	6	11124	64257-2	AC%	$27.00	10.7	11	0.18	-0.02	92.6	1.040	$3,464	W2	CX
Reg 6 Machine Patch	6	11124	64257-2	Dn%	$27.00	10.7	21	0.90	-0.55	95.1	1.048	$6,882	W2	CX
Reg 6 Machine Patch	6	11124	64257-2	Grad	$27.00	10.7	6	1.75	-0.70	100.0	1.035	$2,021	W2	CX
TOTALS & WTED MEANS		11124	64257-2	ITEM	$27.00	10.7	NA	NA	NA	95.3	1.043	$12,367	W2	CX
Reg 6 Machine Patch	6	11124	64271-1	AC%	$29.00	4.0	3	0.10	0.17	100.0	1.025	$870	W2	CX
Reg 6 Machine Patch	6	11124	64271-1	Dn%	$29.00	4.0	5	0.78	-0.80	97.0	1.030	$1,740	W2	CX
Reg 6 Machine Patch	6	11124	64271-1	Grad	$29.00	4.0	2	NA	NA	NA	1.000	$0	W2	CX
TOTALS & WTED MEANS		11124	64271-1	ITEM	$29.00	4.0	NA	NA	NA	98.1	1.023	$2,610	W2	CX
Reg 6 Machine Patch	6	11124	64271-2	AC%	$29.00	19.0	20	0.13	-0.06	96.7	1.050	$8,275	W2	CX
Reg 6 Machine Patch	6	11124	64271-2	Dn%	$29.00	19.0	42	1.23	0.17	89.8	1.002	$623	W2	CX
Reg 6 Machine Patch	6	11124	64271-2	Grad	$29.00	19.0	10	1.34	-1.30	88.7	1.026	$2,877	W2	CX
TOTALS & WTED MEANS		11124	64271-2	ITEM	$29.00	19.0	NA	NA	NA	91.7	1.021	$11,775	W2	CX
STA 0471-020		11169	85901-1	a									K2	C
SH 47, Troy Av E & W	2	11169	85901-1	AC%	$29.00	37.9	38	0.18	-0.11	83.9	0.958	($13,895)	K2	C
SH 47, Troy Av E & W	2	11169	85901-1	Dn%	$29.00	37.9	65	1.23	-0.58	86.0	0.974	($14,038)	K2	C
SH 47, Troy Av E & W	2	11169	85901-1	Grad	$29.00	37.9	19	2.73	2.90	77.8	0.937	($13,965)	K2	C
TOTALS & WTED MEANS		11169	85901-1	ITEM	$29.00	37.9	NA	NA	NA	83.7	0.962	($41,898)	K2	C
C 0142-028	4	11318	89976	a									W2	C
Buckingham - Raymer	4	11318	89976	AC%	$18.23	9.7	10	0.11	0.09	98.4	1.040	$2,114	W2	C
Buckingham - Raymer	4	11318	89976	Dn%	$18.23	9.7	0	NA	NA	NA	1.000	$0	W2	C
Buckingham - Raymer	4	11318	89976	Grad	$18.23	9.7	5	3.50	-1.40	84.4	1.024	$847	W2	C
TOTALS & WTED MEANS		11318	89976	ITEM	$18.23	9.7	NA	NA	NA	92.8	1.017	$2,961	W2	C

TABLE 1

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 1(95)

PROJECT LOCATION	REG/ UNIT	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE- MENT	BID $/TON	TONS 1000	TEST "n"	PRCE SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is #8		Gradation is CONTROLLING Sieve				
Buckingham - Raymer	4	11318	89976R	AC%	$28.58	23.0	23	0.14	0.00	97.4	1.050	$9,843	W2	C
Buckingham - Raymer	4	11318	89976R	Dn%	$28.58	23.0	46	1.00	-0.67	90.6	1.009	$2,805	W2	C
Buckingham - Raymer	4	11318	89976R	Grad	$28.58	23.0	12	2.60	0.20	86.0	1.005	$639	W2	C
TOTALS & WTED MEANS		11318	89976R	ITEM	$28.58	23.0	NA	NA	NA	91.7	1.020	$13,287	W2	C
C 0063-011	4	11319	87453-1	a									W2	C
Hollyoke-Neb State Line	4	11319	87453-1	AC%	$29.00	21.1	21	0.12	-0.04	98.6	1.050	$9,178	W2	C
Hollyoke-Neb State Line	4	11319	87453-1	Dn%	$29.00	21.1	NA	NA	NA	NA	1.000	$0	W2	C
Hollyoke-Neb State Line	4	11319	87453-1	Grad	$29.00	21.1	11	1.90	-0.50	99.7	1.040	$4,895	W2	C
TOTALS & WTED MEANS		11319	87453-1	ITEM	$29.00	21.1	NA	NA	NA	99.0	1.023	$14,073	W2	C
Hollyoke-Neb State Line	4	11319	87452-1	AC%	$34.00	22.0	22	0.15	0.01	96.6	1.050	$11,220	W2	C
Hollyoke-Neb State Line	4	11319	87452-1	Dn%	$34.00	22.0	44	1.15	-0.77	85.1	0.968	($12,155)	W2	C
Hollyoke-Neb State Line	4	11319	87452-1	Grad	$34.00	22.0	11	2.00	-0.60	98.3	1.040	$5,984	W2	C
TOTALS & WTED MEAN	4	11319	87452-1	ITEM	$34.00	22.0	NA	NA	NA	91.2	1.007	$5,049	W2	C
Hollyoke-Neb State Line	4	11319	87452a	AC%	$34.00	16.0	16	0.13	-0.04	98.2	1.050	$8,160	W2	C
Hollyoke-Neb State Line	4	11319	87452a	Dn%	$34.00	16.0	32	0.95	-0.71	91.2	1.025	$6,786	W2	C
Hollyoke-Neb State Line	4	11319	87452a	Grad	$34.00	16.0	8	1.10	-0.60	100.0	1.040	$4,352	W2	C
TOTALS & WTED MEAN	4	11319	87452a	ITEM	$34.00	16.0	NA	NA	NA	95.1	1.035	$19,298	W2	C
Hollyoke-Neb State Line	4	11319	87452b	AC%	$34.00	4.5	5	0.09	-0.15	98.4	1.030	$1,388	W2	C
Hollyoke-Neb State Line	4	11319	87452b	Dn%	$34.00	4.5	9	0.60	-1.36	85.9	1.014	$1,098	W2	C
Hollyoke-Neb State Line	4	11319	87452b	Grad	$34.00	4.5	3	0.60	-2.30	100.0	1.025	$771	W2	C
TOTALS & WTED MEAN	4	11319	87452b	ITEM	$34.00	4.5	NA	NA	NA	92.5	1.021	$3,257	W2	C
CR 200-040		11358	88600-1	a										C
Lamar Area-MP	2	11358	88600-1	AC%	$32.89	16.4	17	0.11	-0.07	98.5	1.050	$8,091	H1	C
Lamar Area-MP	2	11358	88600-1	Dn%	$32.89	16.4	33	0.75	-0.55	97.6	1.050	$13,486	H1	C
Lamar Area-MP	2	11358	88600-1	Grad	$32.89	16.4	9	3.03	1.80	85.4	1.012	$1,298	H1	C
TOTALS & WTED MEANS		11358	88600-1	ITEM	$32.89	16.4	NA	NA	NA	95.4	1.042	$22,875	H1	C
C R200-041		11359	82459-1	a									B2	C
Mach Pat/Pueblo Area	2	11359	82459-1	AC%	$31.25	13.3	14	0.10	-0.15	93.5	1.040	$5,013	B2	C
Mach Pat/Pueblo Area	2	11359	82459-1	Dn%	$31.25	13.3	27	0.77	-0.20	99.2	1.050	$10,361	B2	C
Mach Pat/Pueblo Area	2	11359	82459-1	Grad	$31.25	13.3	7	1.27	1.60	93.3	1.035	$2,901	B2	C
TOTALS & WTED MEANS		11359	82459-1	ITEM	$31.25	13.3	NA	NA	NA	96.3	1.044	$18,275	B2	C
STA 0852-072		11369	83560-1	a									B2	SP3/4
C 470 - South	1	11369	83560-1	AC%	$28.50	25.5	26	0.40	0.15	52.0	0.750	($54,575)	B2	SP3/4
C 470 - South	1	11369	83560-1	Dn%	$28.50	25.5	51	0.79	-0.34	98.3	1.055	$20,011	0.00	SP3/4
C 470 - South	1	11369	83560-1	Grad	$28.50	25.5	13	3.85	2.80	69.6	0.901	($14,430)	B2	SP3/4
TOTALS & WTED MEANS		11369	83560-1	ITEM	$28.50	25.5	NA	NA	NA	78.6	0.933	($48,993)	B2	SP3/4
STA 385A-011		11374	88600-1	a									0.00	C
Sheridan Lake-North	2	11374	88600-1	AC%	$27.75	22.6	23	0.10	0.00	99.9	1.050	$9,419	H1	C
Sheridan Lake-North	2	11374	88600-1	Dn%	$27.75	22.6	46	0.62	-1.07	93.4	1.028	$8,889	H1	C
Sheridan Lake-North	2	11374	88600-1	Grad	$27.75	22.6	12	1.30	2.70	93.1	1.039	$4,873	H1	C
TOTALS & WTED MEANS		11374	88600-1	ITEM	$27.75	22.6	NA	NA	NA	95.3	1.037	$23,181	H1	C
IM 073-233		11438	84415-1	a									W2	SP3/4
Geogetown - East	1	11438	84415-1	AC%	$36.00	53.0	53	0.14	0.02	97.4	1.055	$31,482	W2	SP3/4
Geogetown - East	1	11438	84415-1	Dn%	$36.00	53.0	106	1.06	0.21	93.7	1.023	$21,513	W2	SP3/4
Geogetown - East	1	11438	84415-1	Grad	$36.00	53.0	27	1.28	-1.20	94.4	1.044	$16,676	W2	SP3/4
TOTALS & WTED MEANS		11438	84415-1	ITEM	$36.00	53.0	NA	NA	NA	94.9	1.037	$69,671	W2	SP3/4
C 0503-051		11499	61393-1	a										CX
Poncha Spgs-Coaldale	5	11499	61393-1	AC%	$23.84	13.1	16	0.23	0.11	76.0	0.946	($5,096)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393-1	Dn%	$23.84	13.1	NA	NA	NA	NA	NA	$0	A2	CX
Poncha Spgs-Coaldale	5	11499	61393-1	Grad	$23.84	13.1	7	1.99	NA	77.5	0.987	($792)	A2	CX
TOTALS & WTED MEANS		11499	61393-1	ITEM	$23.84	13.1	NA	NA	NA	76.6	0.962	($5,889)	A2	CX

TABLE 1

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 1(95)

PROJECT LOCATION	REG/ UNIT	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE- MENT	BID $/TON	TONS 1000	TEST "n"	PRCE SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is #8		Gradation is CONTROLLING Sieve				
Poncha Spgs-Coaldale	5	11499	61393-1A	AC%	$23.84	2.0	NA	NA	NA	NA	0.750	($3,576)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393-1A	Dn%	$23.84	2.0	NA	NA	NA	NA	0.750	($5,960)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393-1A	Grad	$23.84	2.0	1	>2V	NA	NA	0.750	($2,384)	A2	CX
TOTALS & W'TED MEANS		11499	61393-1A	ITEM	$23.84	2.0	NA	NA	NA	0.0	0.750	($11,920)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393A-1	AC%	$23.84	1.5	2	NA	NA	NA	1.000	$0	A2	CX
Poncha Spgs-Coaldale	5	11499	61393A-1	Dn%	$23.84	1.5	NA	NA	NA	NA	NA	$0	A2	CX
Poncha Spgs-Coaldale	5	11499	61393A-1	Grad	$23.84	1.5	1	NA	NA	NA	1.000	$0	A2	CX
TOTALS & W'TED MEANS		11499	61393A-1	ITEM	$23.84	1.5	NA	NA	NA	0.0	1.000	$0	A2	CX
Poncha Spgs-Coaldale	5	11499	61393B	AC%	$23.84	33.6	34	0.23	0.01	81.4	0.962	($9,118)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393B	Dn%	$23.84	33.6	64	1.09	-1.08	79.9	0.927	($29,050)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393B	Grad	$23.84	33.6	17	1.74	1.80	84.8	0.998	($320)	A2	CX
TOTALS & W'TED MEANS		11499	61393B	ITEM	$23.84	33.6	NA	NA	NA	81.4	0.952	($38,489)	A2	CX
CX-CY 11-0121-75		90448	64257-1	a									W2	C
Wads. Blvd, 58th to 64th	6	90448	64257-1	AC%	$24.00	13.0	14	0.21	0.15	75.9	0.945	($5,148)	W2	C
Wads. Blvd, 58th to 64th	6	90448	64257-1	Dn%	$24.00	13.0	26	1.00	-1.22	78.0	0.938	($9,642)	W2	C
Wads. Blvd, 58th to 64th	6	90448	64257-1	Grad	$24.00	13.0	7	1.95	1.10	91.1	1.035	$2,184	W2	C
TOTALS & W'TED MEANS		90448	64257-1	ITEM	$24.00	13.0	NA	NA	NA	80.0	0.960	($12,606)	W2	C
Wads. Blvd, 58th to 64th	6	0	64257-1A	AC%	$24.00	1.0	NA	NA	NA	NA	0.500	($3,600)	W2	C
Wads. Blvd, 58th to 64th	6	0	64257-1A	Dn%	$24.00	1.0	2	NA	NA	NA	0.500	($6,000)	W2	C
Wads. Blvd, 58th to 64th	6	0	64257-1A	Grad	$24.00	1.0	NA	NA	NA	NA	0.500	($2,400)	W2	C
TOTALS & W'TED MEANS		0	64257-1A	ITEM	$24.00	1.0	NA	NA	NA	NA	0.500	($12,000)	W2	C
STR-SR(CX) 0086-024		91052	66486-1	a									S1	C
Kiowa - East	1	91052	66486-1	AC%	$27.27	9.3	10	0.12	-0.07	98.6	1.040	$3,040	S1	C
Kiowa - East	1	91052	66486-1	Dn%	$27.27	9.3	19	1.21	-0.24	90.5	1.021	$2,645	S1	C
Kiowa - East	1	91052	66486-1	Grad	$27.27	9.3	5	2.28	0.80	94.4	1.030	$1,520	S1	C
TOTALS & W'TED MEANS		91052	66486-1	ITEM	$27.27	9.3	NA	NA	NA	93.7	1.028	$7,204	S1	C
CX 56-0550-12	3	91416	84776	a									U1	C
S Montrose - Co Line	3	91416	84776	AC%	$25.00	6.8	7	0.16	0.20	72.2	0.960	($2,040)	U1	C
S Montrose - Co Line	3	91416	84776	Dn%	$25.00	6.8	14	1.04	-0.21	95.3	1.048	$4,069	U1	C
S Montrose - Co Line	3	91416	84776	Grad	$25.00	6.8	4	1.30	-1.50	97.5	1.030	$1,021	U1	C
TOTALS & W'TED MEANS		91416	84776	ITEM	$25.00	6.8	NA	NA	NA	86.6	1.018	$3,050	U1	C
S Montrose - Co Line	3	91416	84776A	AC%	$25.00	11.8	12	0.19	-0.05	88.5	1.018	$1,549	U1	C
S Montrose - Co Line	3	91416	84776A	Dn%	$25.00	11.8	24	1.00	-0.30	95.1	1.048	$7,024	U1	C
S Montrose - Co Line	3	91416	84776A	Grad	$25.00	11.8	6	1.40	-1.70	98.4	1.035	$2,056	U1	C
TOTALS & W'TED MEANS		91416	84776A	ITEM	$25.00	11.8				93.8	1.036	$10,629	U1	C

TABLE 1

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 1(95)

PROJECT LOCATION	REG/ UNIT	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE- MENT	BID $/TON	TONS 1000	TEST "n"	PRCE SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is #8		*Gradation is CONTROLLING Sieve*				
CY 06-0034-14		92303	82246-1	a									C2	C
Estes Park East & West	4	92303	82246-1	AC%	$27.50	4.7	5	0.21	-0.16	73.5	0.979	($814)	C2	C
Estes Park East & West	4	92303	82246-1	Dn%	$27.50	4.7	9	0.71	-0.56	99.2	1.040	$2,599	C2	C
Estes Park East & West	4	92303	82246-1	Grad	$27.50	4.7	2	NA	-3.50	NA	1.000	$0	C2	C
TOTALS & WTED MEANS		92303	82246-1	ITEM	$27.50	4.7	NA	NA	NA	89.6	1.014	$1,784	C2	C
Estes Park East & West	4	92303	82246A	AC%	$27.50	6.1	6	0.11	0.19	100.0	1.035	$1,758	C2	C
Estes Park East & West	4	92303	82246A	Dn%	$27.50	6.1	12	0.98	-0.80	89.2	1.028	$2,369	C2	C
Estes Park East & West	4	92303	82246A	Grad	$27.50	6.1	4	0.00	-5.00	88.7	1.030	$1,005	C2	C
TOTALS & WTED MEANS		92303	82246A	ITEM	$27.50	6.1	NA	NA	NA	92.3	1.031	$5,132	C2	C
Estes Park East & West	4	92303	82245-1	AC%	$32.50	4.6	5	0.10	-0.10	100.0	1.030	$1,337	C2	C
Estes Park East & West	4	92303	82245-1	Dn%	$32.50	4.6	10	0.51	-0.97	98.9	1.040	$2,971	C2	C
Estes Park East & West	4	92303	82245-1	Grad	$32.50	4.6	2	NA	-5.50	NA	0.984	($473)	C2	C
TOTALS & WTED MEANS		92303	82245-1	ITEM	$32.50	4.6	NA	NA	NA	99.3	1.026	$3,834	C2	C
Estes Park East & West	4	92303	82245-1A	AC%	$32.50	0.2	1	>2V	NA	NA	0.500	($1,136)	C2	C
Estes Park East & West	4	92303	82245-1A	Dn%	$32.50	0.2	NA	NA	NA	NA	0.500	($1,893)	C2	C
Estes Park East & West	4	92303	82245-1A	Grad	$32.50	0.2	NA	NA	NA	NA	0.500	($757)	C2	C
TOTALS & WTED MEANS		92303	82245-1A	ITEM	$32.50	0.2	NA	NA	NA		0.500	($3,786)	C2	C
STU 030A-019		92319	R6018-1	a									K1	C
Parker Road	6	92319	R6018-1	AC%	$32.00	6.2	7	0.12	-0.13	93.0	1.035	$2,075	K1	C
Parker Road	6	92319	R6018-1	Dn%	$32.00	6.2	13	0.94	-1.08	83.8	0.993	($735)	K1	C
Parker Road	6	92319	R6018-1	Grad	$32.00	6.2	4	2.80	-2.20	83.3	1.030	$1,186	K1	C
TOTALS & WTED MEANS		92319	R6018-1	ITEM	$32.00	6.2	NA	NA	NA	86.4	1.013	$2,526	K1	C

TABLE 2

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY ELEMENT, PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 2 (95)

PROJECT LOCATION	REG NO.	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE-MENT	BID $/TON	TONS 1000	TEST "n"	PRCES SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is 95		Gradation is CONTROLLING Sieve				
ASPHALT CONTENT														
Lena Gulch	6	10304	64268-1	AC%	$25.00	12.4	12	0.18	0.02	98.7	1.050	$4,658	A1	C
SH 93 & Golden Gate C	6	10306	64268-1	AC%	$27.00	10.0	10	0.13	0.16	86.3	1.016	$1,303	A1	C
West of Granby W	3	10395	90860-1	AC%	$27.31	24.0	24	0.17	-0.07	90.4	1.021	$4,035	C4	CX
SH 257, US 34-Poudre	4	10595	81701A	AC%	$27.60	9.4	10	0.17	0.14	81.1	0.993	($585)	C2	C
Royal Gorge - East	2	10652	87163A-1	AC%	$24.89	35.8	36	0.17	0.13	83.4	0.976	($6,494)	H1	C
5TH & Union	6	10679	64248A-1	AC%	$29.53	4.9	5	0.12	-0.22	96.3	1.030	$1,313	B1	C
5TH & Union	6	10679	64254C-1	AC%	$29.53	22.6	23	0.15	-0.02	99.5	1.050	$10,032	B1	C
Greenland - North	1	10768	65442-1	AC%	$32.00	16.6	17	0.22	0.02	82.8	0.987	($2,078)	K1	C
Greenland - North	1	10768	65442A-1	AC%	$33.00	7.2	8	0.22	-0.21	78.9	0.981	($1,332)	K1	C
Greenland - North	1	10768	65442B-1	AC%	$32.00	13.1	13	0.17	0.12	85.3	1.001	$120	K1	C
Greenland - North	1	10768	83239-1	AC%	$33.00	13.2	14	0.19	0.04	89.6	1.023	$2,977	K1	C
Greenland - North	1	10768	83239A-1	AC%	$34.00	5.5	6	0.30	0.14	63.6	0.907	($5,225)	K1	C
SH385, 20 MI S of I 70 N	1	10769	88600-1	AC%	$30.28	26.9	27	0.10	0.06	99.5	1.050	$12,232	H1	C
10 M N Cheyenne Wells	1	10790	88600-1	AC%	$38.00	3.0	3	0.02	0.01	100.0	1.025	$848	G1	C
So Rockport- Wyo St Line	4	10857	80699A	AC%	$28.85	3.0	3	0.12	0.15	100.0	1.025	$841	W2	C
So Rockport- Wyo St Line	4	10857	80699B	AC%	$28.85	21.6	22	0.08	0.06	100.0	1.050	$9,341	W2	C
So Rockport- Wyo St Line	4	10857	80699C	AC%	$29.85	5.0	5	0.07	0.14	100.0	1.030	$1,335	W2	C
So Rockport- Wyo St Line	4	10857	81942C	AC%	$23.50	2.0	2	NA	NA	NA	1.000	$0	W2	C
So Rockport- Wyo St Line	4	10857	81942a	AC%	$22.50	13.7	14	0.14	-0.04	97.4	1.050	$4,620	W2	C
So Rockport- Wyo St Line	4	10857	81942b	AC%	$22.50	1.4	2	NA	NA	NA	1.000	$0	W2	C
Martin St (Longmont)- I 25	4	10858	101896	AC%	$29.00	1.1	1	NA	NA	NA	1.000	$0	B1	C
Martin St (Longmont)- I 25	4	10858	81498	AC%	$24.90	19.0	19	0.21	0.04	85.2	0.987	($1,801)	B1	C
Martin St (Longmont)- I 25	4	10858	74544	AC%	$24.90	10.9	10	0.20	0.04	86.4	1.017	$1,348	B1	C
Martin St (Longmont)- I 25	4	10858	81470	AC%	$24.90	0.9	1	NA	NA	NA	1.000	$0	B1	C
Martin St (Longmont)- I 25	4	10858	89309	AC%	$20.00	5.0	5	0.31	-0.04	64.4	0.929	($2,124)	B1	CX
Martin St (Longmont)- I 25	4	10858	89309A	AC%	$20.00	1.2	1	NA	>2V	NA	0.750	($1,800)	B1	CX
Mach Ptc-C Spa-Pueb	2	10944	82453-1	AC%	$32.31	6.5	7	0.24	-0.13	74.0	0.970	($1,908)	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82454-1	AC%	$32.31	6.6	7	0.19	0.02	91.8	1.035	$2,240	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82455-1	AC%	$28.38	22.3	23	0.14	0.02	97.4	1.050	$9,474	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82455-1A	AC%	$28.38	0.7	1	NA	>2xV	NA	0.750	($1,469)	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82456-1	AC%	$32.31	2.4	3	0.13	-0.16	86.3	1.025	$585	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82457-1	AC%	$32.31	6.3	7	0.19	-0.06	89.6	1.035	$2,154	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82457-1A	AC%	$32.31	5.9	6	0.08	-0.03	100.0	1.035	$2,010	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82458-1	AC%	$28.38	0.6	1	NA	NA	NA	1.000	$0	R1	C
Farmington Hill	5	10996	A80398	AC%	$24.50	17.4	18	0.22	0.04	81.7	0.981	($2,425)	N1	C
Farmington Hill	5	10996	HillG1	AC%	$25.00	0.5	1	NA	0.00	NA	1.000	$0	N1	G
Farmington Hill	5	10996	HillG2-1	AC%	$25.00	7.8	8	0.15	0.14	84.7	1.009	$527	N1	G
Farmington Hill	5	10996	HillG2-2	AC%	$25.00	11.9	12	0.20	0.17	73.8	0.931	($6,152)	N1	G
Rifle - North	3	11073	76410	AC%	$27.18	28.5	29	0.11	0.06	99.2	1.050	$11,638	E1	CX
Reg 6 Machine Patch	6	11124	64257-1	AC%	$27.00	10.0	10	0.18	0.05	91.4	1.036	$2,922	W2	CX
Reg 6 Machine Patch	6	11124	64257-2	AC%	$27.00	10.7	11	0.18	-0.02	92.6	1.040	$3,464	W2	CX
Reg 6 Machine Patch	6	11124	64271-1	AC%	$29.00	4.0	3	0.10	0.17	100.0	1.025	$870	W2	CX
Reg 6 Machine Patch	6	11124	64271-2	AC%	$29.00	19.0	20	0.13	-0.06	96.7	1.050	$8,275	W2	CX
SH 47, Troy Av E & W	2	11169	85901-1	AC%	$29.00	37.9	38	0.18	-0.11	83.9	0.958	($13,895)	K2	C
Buckingham - Raymer	4	11318	89976	AC%	$18.23	9.7	10	0.11	0.09	98.4	1.040	$2,114	W2	C
Buckingham - Raymer	4	11318	89976R	AC%	$28.58	23.0	23	0.14	0.00	97.4	1.050	$9,843	W2	C
Hollyoke-Neb State Line	4	11319	87452-1	AC%	$34.00	22.0	22	0.15	0.01	96.6	1.050	$11,220	W2	C
Hollyoke-Neb State Line	4	11319	87452a	AC%	$34.00	16.0	16	0.13	-0.04	98.2	1.050	$8,160	W2	C

TABLE 2

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY ELEMENT, PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 2 (95)

PROJECT LOCATION	REG NO.	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE-MENT	BID $/TON	TONS 1000	TEST "n"	PRCES SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is 95		Gradation is CONTROLLING Sieve				
Hollyoke-Neb State Line	4	11319	87452b	AC%	$34.00	4.5	5	0.09	-0.15	98.4	1.030	$1,388	W2	C
Hollyoke-Neb State Line	4	11319	87453-1	AC%	$29.00	21.1	21	0.12	-0.04	98.6	1.050	$9,178	W2	C
Lamar Area-MP	2	11358	88800-1	AC%	$32.88	16.4	17	0.11	-0.07	98.5	1.050	$8,091	H1	C
Mach Pat/Pueblo Area	2	11359	82459-1	AC%	$31.25	13.3	14	0.10	-0.15	93.5	1.040	$5,013	B2	C
C 470 - South	1	11369	83560-1	AC%	$28.50	25.5	26	0.40	0.15	52.0	0.750	($54,575)	B1	SP3/4
Sheridan Lake-North	2	11374	88600-1	AC%	$27.75	22.6	23	0.10	0.00	99.9	1.050	$9,419	H1	C
Geogetown - East	1	11438	84415-1	AC%	$36.00	53.0	53	0.14	0.02	97.4	1.055	$31,482	W2	SP3/4
Poncha Spgs-Coaldale	5	11499	61393-1	AC%	$23.84	13.1	16	0.23	0.11	76.0	0.946	($5,096)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393-1A	AC%	$23.84	2.0	NA	NA	NA	NA	0.750	($3,576)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393A-1	AC%	$23.84	1.5	2	NA	NA	NA	1.000	$0	A2	CX
Poncha Spgs-Coaldale	5	11499	61393B	AC%	$23.84	33.6	34	0.23	0.01	81.4	0.962	($9,118)	A2	CX
Wads. Blvd, 58th to 64th	6	90448	64257-1	AC%	$24.00	13.0	14	0.21	0.15	75.9	0.945	($5,148)	W2	C
Wads. Blvd, 58th to 64th	6	90448	64257-1A	AC%	$24.00	1.0	NA	NA	NA	NA	0.500	($3,600)	W2	C
Kiowa - East	1	91052	66486-1	AC%	$27.27	9.3	10	0.12	-0.07	98.6	1.040	$3,040	S1	C
S Montrose - Co Line	3	91416	84776	AC%	$25.00	6.8	7	0.16	0.20	72.2	0.960	($2,040)	U1	C
S Montrose - Co Line	3	91416	84776A	AC%	$25.00	11.8	12	0.19	-0.05	88.5	1.018	$1,549	U1	C
Estes Park East & West	4	92303	82245-1	AC%	$32.50	4.6	5	0.10	-0.10	100.0	1.030	$1,337	C2	C
Estes Park East & West	4	92303	82245-1A	AC%	$32.50	0.2	1	>2V	NA	NA	0.500	($1,136)	C2	C
Estes Park East & West	4	92303	82246-1	AC%	$27.50	4.7	5	0.21	-0.16	73.5	0.979	($814)	C2	C
Estes Park East & West	4	92303	82246A	AC%	$27.50	6.1	6	0.11	0.19	100.0	1.035	$1,758	C2	C
Parker Road	6	92319	R6018-1	AC%	$32.00	6.2	7	0.12	-0.13	93.0	1.035	$2,075	K1	C
					$28.59	829.6	847	0.164	0.018	89.794	1.0077	$72,239		

ASPHALT PERCENT TOTALS & AVG (ALL GRADINGS) 1996	$28.59	829.6	847	0.164	0.018	89.794	1.0077	$72,239
ASPHALT PERCENT TOTALS & AVG (ALL GRADINGS) 1995	$30.36	327.9	342	0.178	0.017	88.658	1.0006	$1,443
Differences: 1996-1995	($1.77)	501.8	505	-0.014	0.001	1.136	0.0073	$70,796
				Absolute	0.070			

TABLE 2

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY ELEMENT, PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 2 (95)

PROJECT LOCATION	REG NO.	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE-MENT	BID $/TON	TONS 1000	TEST "n"	PRCES SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is #8		Gradation is CONTROLLING Sieve				
IN-PLACE DENSITY														
Lena Gulch	6	10304	64268-1	Dn%	$25.00	12.4	25	0.77	-0.40	98.5	1.050	$7,783	A1	C
SH 93 & Golden Gate C	6	10306	64268-1	Dn%	$27.00	10.0	20	0.73	-0.88	94.3	1.043	$5,839	A1	C
West of Granby W	3	10395	90860-1	Dn%	$27.31	24.0	47	0.98	-0.57	92.5	1.022	$7,295	C4	CX
SH 257, US 34-Poudre	4	10585	81701A	Dn%	$27.60	9.4	19	0.68	-1.04	92.9	1.035	$4,608	C2	C
Royal Gorge - East	2	10652	87163A-1	Dn%	$24.89	35.8	72	0.83	-0.27	98.0	1.060	$26,674	H1	C
6TH & Union	6	10679	64248A-1	Dn%	$29.53	4.9	10	0.85	0.14	99.5	1.040	$2,919	B1	C
6TH & Union	6	10679	64254C-1	Dn%	$29.53	22.6	46	1.18	-0.67	86.1	0.975	($8,403)	B1	C
Greenland - North	1	10768	65442-1	Dn%	$32.00	16.6	34	1.09	-0.81	85.8	0.991	($2,321)	K1	C
Greenland - North	1	10768	65442A-1	Dn%	$33.00	7.2	NA	NA	NA	NA	1.000	$0	K1	C
Greenland - North	1	10768	65442B-1	Dn%	$32.00	13.1	NA	NA	NA	NA	1.000	$0	K1	C
Greenland - North	1	10768	83239-1	Dn%	$33.00	13.2	NA	NA	NA	NA	1.000	$0	K1	C
Greenland - North	1	10768	83239A-1	Dn%	$34.00	5.5	NA	NA	NA	NA	1.000	$0	K1	C
SH385, 20 MI S of I 70 N	1	10769	88600-1	Dn%	$30.28	26.9	54	0.71	-0.55	98.1	1.055	$22,425	H1	C
10 M N Cheyenne Wells	1	10790	88600-1	Dn%	$38.00	3.0	6	0.90	-0.90	89.5	1.035	$1,967	G1	C
So Rockport- Wyo St Line	4	10857	80699A	Dn%	$28.85	3.0	6	0.54	-1.43	85.2	1.020	$861	W2	C
So Rockport- Wyo St Line	4	10857	80699B	Dn%	$28.85	21.6	44	0.85	-0.74	93.3	1.028	$8,653	W2	C
So Rockport- Wyo St Line	4	10857	80699C	Dn%	$29.85	5.0	10	0.95	-0.08	98.5	1.040	$2,988	W2	C
So Rockport- Wyo St Line	4	10857	81942C	Dn%	$23.50	2.0	0	NA	NA	NA	1.000	$0	W2	C
So Rockport- Wyo St Line	4	10857	81942a	Dn%	$22.50	13.7	28	0.78	-1.10	87.6	1.003	$443	W2	C
So Rockport- Wyo St Line	4	10857	81942b	Dn%	$22.50	1.4	0	NA	NA	NA	1.000	$0	W2	C
Martin St (Longmont)- I 25	4	10858	101896	Dn%	$29.00	1.1	2	NA	NA	NA	1.000	$0	B1	C
Martin St (Longmont)- I 25	4	10858	61496	Dn%	$24.90	19.0	38	1.10	-0.29	92.7	1.023	$5,488	B1	C
Martin St (Longmont)- I 25	4	10858	74544	Dn%	$24.90	10.9	21	1.22	-0.71	84.4	0.982	($2,405)	B1	C
Martin St (Longmont)- I 25	4	10858	81470	Dn%	$24.90	0.9	2	NA	NA	NA	1.000	$0	B1	C
Martin St (Longmont)- I 25	4	10858	89309	Dn%	$20.00	5.0	1	NA	NA	NA	1.000	$0	B1	CX
Martin St (Longmont)- I 25	4	10858	89309A	Dn%	$20.00	1.2	0	NA	NA	NA	0.750	($3,000)	B1	CX
Mach Ptc-C Sps-Pueb	2	10944	82453-1	Dn%	$32.31	6.5	13	0.56	-0.22	100.0	1.050	$5,250	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82454-1	Dn%	$32.31	6.6	14	0.74	-0.22	97.9	1.050	$5,334	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82455-1	Dn%	$28.38	22.3	48	0.77	-0.61	97.5	1.055	$17,368	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82455-1A	Dn%	$28.38	0.7	NA	NA	NA	NA	0.750	($2,448)	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82456-1	Dn%	$32.31	2.4	5	0.53	-0.36	93.6	1.030	$1,169	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82457-1	Dn%	$32.31	6.3	13	0.86	-0.50	95.4	1.048	$4,929	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82457-1A	Dn%	$32.31	5.9	12	0.90	-0.59	98.3	1.050	$4,785	R1	C
Mach Ptc-C Sps-Pueb	2	10944	82458-1	Dn%	$28.38	0.6	2	NA	NA	NA	0.996	($34)	R1	C
Farmington Hill	5	10996	A80398	Dn%	$24.50	17.4	35	0.77	-0.71	95.6	1.050	$10,653	N1	C
Farmington Hill	5	10996	HillG1	Dn%	$25.00	0.5	1	NA	NA	NA	1.000	$0	N1	G
Farmington Hill	5	10996	HillG2-1	Dn%	$25.00	7.8	16	1.17	-0.18	92.0	1.034	$3,289	N1	G
Farmington Hill	5	10996	HillG2-2	Dn%	$25.00	11.9	24	0.87	-0.85	93.2	1.037	$5,479	N1	G
Rifle - North	3	11073	76410	Dn%	$27.18	28.5	58	1.05	-0.47	92.1	1.019	$7,263	E1	CX
Reg 6 Machine Patch	6	11124	64257-1	Dn%	$27.00	10.0	21	0.77	-0.80	93.5	1.039	$5,229	W2	CX
Reg 6 Machine Patch	6	11124	64257-2	Dn%	$27.00	10.7	21	0.90	0.17	95.1	1.048	$6,882	W2	CX
Reg 6 Machine Patch	6	11124	64271-1	Dn%	$29.00	4.0	5	0.78	-0.85	97.0	1.030	$1,740	W2	CX
Reg 6 Machine Patch	6	11124	64271-2	Dn%	$29.00	19.0	42	1.23	-0.55	89.8	1.002	$823	W2	CX
SH 47, Troy Av E & W	2	11169	85901-1	Dn%	$29.00	37.9	65	1.23	-0.58	86.0	0.974	($14,038)	K2	C
Buckingham - Raymer	4	11318	89976	Dn%	$18.23	9.7	0	NA	NA	NA	1.000	$0	W2	C
Buckingham - Raymer	4	11318	89976R	Dn%	$28.58	23.0	46	1.00	-0.67	90.6	1.009	$2,805	W2	C
Lamar Area-MP	2	11358	88600-1	Dn%	$32.89	16.4	33	0.75	-0.55	97.6	1.050	$13,486	H1	C
Holiyoke-Neb State Line	4	11319	87452-1	Dn%	$34.00	22.0	44	1.15	-0.77	85.1	0.968	($12,155)	W2	C

TABLE 2

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY ELEMENT, PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 2 (95)

PROJECT LOCATION	REG NO.	SUBAC NUMBER	MIX DESIGN /PRCSS	ELE-MENT	BID $/TON	TONS 1000	TEST "n"	PRCES SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is #8		Gradation is CONTROLLING Sieve				
Hollyoke-Neb State Line	4	11319	87452a	Dn%	$34.00	16.0	32	0.95	-0.71	91.2	1.025	$6,786	W2	C
Hollyoke-Neb State Line	4	11319	87452b	Dn%	$34.00	4.5	9	0.60	-1.36	85.9	1.014	$1,098	W2	C
Hollyoke-Neb State Line	4	11319	87453-1	Dn%	$29.00	21.1	NA	NA	NA	NA	1.000	$0	W2	C
Mach Pat/Pueblo Area	2	11359	82459-1	Dn%	$31.25	13.3	27	0.77	-0.20	99.2	1.050	$10,361	B2	C
C 470 - South	1	11369	83560-1	Dn%	$28.50	25.5	51	0.79	-0.34	98.3	1.055	$20,011	B1	SP3/4
Sheridan Lake-North	2	11374	88600-1	Dn%	$27.75	22.6	46	0.62	-1.07	93.4	1.028	$8,889	H1	C
Geogetown - East	1	11438	84415-1	Dn%	$36.00	53.0	106	1.06	0.21	93.7	1.023	$21,513	W2	SP3/4
Poncha Spgs-Coaldale	5	11499	61393-1	Dn%	$23.84	13.1	NA	NA	NA	NA	1.000	$0	A2	CX
Poncha Spgs-Coaldale	5	11499	61393-1A	Dn%	$23.84	2.0	NA	NA	NA	NA	0.750	($5,960)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393A-1	Dn%	$23.84	1.5	NA	NA	NA	NA	1.000	$0	A2	CX
Poncha Spgs-Coaldale	5	11499	61393B	Dn%	$23.84	33.6	64	1.09	-1.08	79.9	0.927	($29,050)	A2	CX
Wads. Blvd, 58th to 64th	6	90448	64257-1	Dn%	$24.00	13.0	26	1.00	-1.22	78.0	0.938	($9,642)	W2	C
Wads. Blvd, 58th to 64th	6	90448	64257-1A	Dn%	$24.00	1.0	2	NA	NA	NA	0.500	($6,000)	W2	C
Kiowa - East	1	91052	66486-1	Dn%	$27.27	9.3	19	1.21	-0.24	90.5	1.021	$2,645	S1	C
S Montrose - Co Line	3	91416	84776	Dn%	$25.00	6.8	14	1.04	-0.21	95.3	1.048	$4,069	U1	C
S Montrose - Co Line	3	91416	84776A	Dn%	$25.00	11.8	24	1.00	-0.30	95.1	1.048	$7,024	U1	C
Estes Park East & West	4	92303	82245-1	Dn%	$32.50	4.6	10	0.51	-0.97	88.9	1.040	$2,971	C2	C
Estes Park East & West	4	92303	82245-1A	Dn%	$32.50	0.2	NA	NA	NA	NA	0.500	($1,893)	C2	C
Estes Park East & West	4	92303	82246-1	Dn%	$27.50	4.7	9	0.71	-0.56	99.2	1.040	$2,599	C2	C
Estes Park East & West	4	92303	82246A	Dn%	$27.50	6.1	12	0.98	-0.80	89.2	1.028	$2,369	C2	C
Parker Road	6	92319	R6018-1	Dn%	$32.00	6.2	13	0.94	-1.08	83.8	0.993	($735)	K1	C
					$28.59	829.6	1465	0.911	-0.562	91.943	1.0150	$186,434		

DENSITY PERCENT TOTALS & AVG (ALL GRADINGS) 1996	$28.59	829.6	1465	0.91	-0.56	91.94	1.0150	$186,434
DENSITY PERCENT TOTALS & AVG (ALL GRADINGS) 1995	$29.79	313.6	625	0.99	-0.38	91.70	1.0171	$84,866
Differences: 1996-1995	($1.20)	516.0	840	-0.08	-0.18	0.247	-0.0020	$101,568
				Absolute	0.60			

TABLE 2

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY ELEMENT, PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 2 (95)

PROJECT LOCATION	REG NO.	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE-MENT	BID $/TON	TONS 1000	TEST "n"	PRCES SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is 68		Gradation is CONTROLLING Sieve				
GRADATION														
Lena Gulch	6	10304	64268-1	Grad	$25.00	12.4	6	3.50	0.30	69.4	0.944	($3,460)	A1	C
SH 93 & Golden Gate C	6	10306	64268-1	Grad	$27.00	10.0	5	0.89	2.40	100.0	1.030	$1,620	A1	C
West of Granby W	3	10395	90880-1	Grad	$27.31	24.0	12	0.94	1.20	97.4	1.050	$6,554	C4	CX
SH 257, US 34-Poudre	4	10595	81701A	Grad	$27.60	9.4	5	2.30	-2.20	85.2	1.027	$1,393	C2	C
Royal Gorge - East	2	10652	87163A-1	Grad	$24.89	35.8	18	1.62	1.60	89.2	1.021	$3,718	H1	C
6TH & Union	6	10679	64248A-1	Grad	$29.53	4.9	3	1.73	-3.00	75.6	1.020	$594	B1	C
6TH & Union	6	10679	64254C-1	Grad	$29.53	22.6	12	1.44	-1.90	89.2	0.970	($4,037)	B1	C
Greenland - North	1	10768	65442-1	Grad	$32.00	16.6	9	3.06	0.10	92.0	1.035	$3,726	K1	C
Greenland - North	1	10768	65442A-1	Grad	$33.00	7.2	4	1.83	1.20	84.0	1.030	$1,431	K1	C
Greenland - North	1	10768	65442B-1	Grad	$32.00	13.1	7	3.24	1.90	83.0	1.012	$982	K1	C
Greenland - North	1	10768	83239-1	Grad	$33.00	13.2	7	7.00	-2.10	83.8	1.015	$1,293	K1	C
Greenland - North	1	10768	83238A-1	Grad	$34.00	5.5	3	1.15	-3.70	83.3	1.025	$938	K1	C
SH385, 20 MI S of I 70 N	1	10769	88600-1	Grad	$30.28	26.9	14	1.96	1.00	89.6	1.023	$3,691	H1	C
10 M N Cheyenne Wells	1	10790	88600-1	Grad	$38.00	3.0	3	1.53	1.70	100.0	1.025	$565	G1	C
So Rockport- Wyo St Line	4	10857	80699A	Grad	$28.85	3.0	2	NA	NA	NA	1.000	$0	W2	C
So Rockport- Wyo St Line	4	10857	80699B	Grad	$28.85	21.6	11	2.42	0.50	97.5	1.040	$4,982	W2	C
So Rockport- Wyo St Line	4	10857	80699C	Grad	$29.85	5.0	3	1.15	0.70	50.0	0.889	($3,294)	W2	C
So Rockport- Wyo St Line	4	10857	81942C	Grad	$23.50	2.0	1	NA	NA	NA	1.000	$0	W2	C
So Rockport- Wyo St Line	4	10857	81942a	Grad	$22.50	13.7	7	1.13	-1.60	82.4	1.009	$563	W2	C
So Rockport- Wyo St Line	4	10857	81942b	Grad	$22.50	1.4	1	NA	NA	NA	1.000	$0	W2	C
Martin St (Longmont)- I 25	4	10858	101896	Grad	$29.00	1.1	1	NA	NA	NA	0.968	($203)	B1	C
Martin St (Longmont)- I 25	4	10858	61496	Grad	$24.90	19.0	10	2.10	-0.40	92.3	1.039	$3,720	B1	C
Martin St (Longmont)- I 25	4	10858	74544	Grad	$24.90	10.9	5	1.30	-2.20	66.1	0.939	($3,295)	B1	C
Martin St (Longmont)- I 25	4	10858	81470	Grad	$24.90	0.9	1	NA	>2V	NA	0.500	($2,219)	B1	C
Martin St (Longmont)- I 25	4	10858	89309	Grad	$20.00	5.0	3	1.00	0.00	100.0	1.025	$500	B1	CX
Martin St (Longmont)- I 25	4	10858	89309A	Grad	$20.00	1.2	0	NA	NA	NA	0.750	($1,200)	B1	CX
Mach Ptc-C Spa-Pueb	2	10944	82453-1	Grad	$32.31	6.5	4	1.71	0.30	96.8	1.030	$1,260	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82454-1	Grad	$32.31	6.6	4	0.50	-0.20	100.0	1.030	$1,280	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82455-1	Grad	$28.38	22.3	12	1.90	1.20	98.4	1.050	$6,316	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82455-1A	Grad	$28.38	0.7	NA	NA	NA	NA	0.750	($979)	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82456-1	Grad	$32.31	2.4	2	NA	NA	NA	1.000	$0	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82457-1	Grad	$32.31	6.3	4	3.80	0.00	75.2	1.002	$77	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82457-1A	Grad	$32.31	5.9	3	2.00	-1.00	100.0	1.025	$957	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82458-1	Grad	$28.38	0.6	1	NA	NA	NA	1.000	$0	R1	C
Farmington Hill	5	10996	A80398	Grad	$24.50	17.4	9	2.40	0.30	87.3	1.020	$1,715	N1	C
Farmington Hill	5	10996	HillG1	Grad	$25.00	0.5	1	NA	0.00	NA	1.000	$0	N1	G
Farmington Hill	5	10996	HillG2-1	Grad	$25.00	7.8	4	1.50	0.20	98.2	1.030	$1,169	N1	G
Farmington Hill	5	10996	HillG2-2	Grad	$25.00	11.9	6	1.26	-1.50	85.6	1.021	$1,282	N1	G
Rifle - North	3	11073	76410	Grad	$27.18	28.5	15	1.10	-1.50	99.7	1.050	$7,759	E1	CX
Reg 6 Machine Patch	6	11124	64257-1	Grad	$27.00	10.0	5	1.79	-2.20	88.1	1.013	$682	W2	CX
Reg 6 Machine Patch	6	11124	64257-2	Grad	$27.00	10.7	6	1.75	-0.70	100.0	1.035	$2,021	W2	CX
Reg 6 Machine Patch	6	11124	64271-1	Grad	$29.00	4.0	2	NA	0.00	NA	1.000	$0	W2	CX
Reg 6 Machine Patch	6	11124	64271-2	Grad	$29.00	19.0	10	1.34	-1.30	88.7	1.026	$2,877	W2	CX
SH 47, Troy Av E & W	2	11169	85901-1	Grad	$29.00	37.9	19	2.73	2.90	77.8	0.937	($13,965)	K2	C
Buckingham - Raymer	4	11318	89976	Grad	$18.23	9.7	5	3.50	-1.40	84.4	1.024	$847	W2	C
Buckingham - Raymer	4	11318	89976R	Grad	$28.58	23.0	12	2.60	0.20	86.0	1.005	$639	W2	C
Hollyoke-Neb State Line	4	11319	87452-1	Grad	$34.00	22.0	11	2.00	-0.60	98.3	1.040	$5,984	W2	C
Hollyoke-Neb State Line	4	11319	87452a	Grad	$34.00	16.0	8	1.10	-0.60	100.0	1.040	$4,352	W2	C

TABLE 2

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY ELEMENT, PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 2 (95)

PROJECT LOCATION	REG NO.	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE-MENT	BID $/TON	TONS 1000	TEST "n"	PRCSS SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is 99		*Gradation is CONTROLLING Sieve*				
Hollyoke-Neb State Line	4	11319	87452b	Grad	$34.00	4.5	3	0.60	-2.30	100.0	1.025	$771	W2	C
Hollyoke-Neb State Line	4	11319	87453-1	Grad	$29.00	21.1	11	1.90	-0.50	99.7	1.040	$4,895	W2	C
Lamar Area-MP	2	11358	88600-1	Grad	$32.89	16.4	9	3.03	1.80	85.4	1.012	$1,298	H1	C
Mach Pat/Pueblo Area	2	11359	82459-1	Grad	$31.25	13.3	7	1.27	1.60	93.3	1.035	$2,901	B2	C
C 470 - South	1	11369	83560-1	Grad	$28.50	25.5	13	3.85	2.80	89.6	0.901	($14,430)	B1	SP3/4
Sheridan Lake-North	2	11374	88800-1	Grad	$27.75	22.6	12	1.30	2.70	93.1	1.039	$4,873	H1	C
Geogetown - East	1	11438	84415-1	Grad	$36.00	53.0	27	1.28	-1.20	94.4	1.044	$16,676	W2	SP3/4
Poncha Spgs-Coaldale	5	11499	61393-1	Grad	$23.84	13.1	7	1.99	3.40	77.5	0.987	($792)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393-1A	Grad	$23.84	2.0	1	>2V	0.00	NA	0.750	($2,384)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393A-1	Grad	$23.84	1.5	1	NA	0.00	NA	1.000	$0	A2	CX
Poncha Spgs-Coaldale	5	11499	61393B	Grad	$23.84	33.6	17	1.74	1.80	84.8	0.998	($320)	A2	CX
Wads. Blvd, 58th to 64th	6	90448	64257-1	Grad	$24.00	13.0	7	1.95	1.10	91.1	1.035	$2,184	W2	C
Wads. Blvd, 58th to 64th	6	90448	64257-1A	Grad	$24.00	1.0	NA	NA	NA	NA	0.500	($2,400)	W2	C
Kiowa - East	1	91052	86488-1	Grad	$27.27	9.3	5	2.28	0.80	94.4	1.030	$1,520	S1	C
S Montrose - Co Line	3	91416	84776	Grad	$25.00	6.8	4	1.30	-1.50	97.5	1.030	$1,021	U1	C
S Montrose - Co Line	3	91416	84776A	Grad	$25.00	11.8	6	1.40	-1.70	98.4	1.035	$2,056	U1	C
Estes Park East & West	4	92303	82245-1	Grad	$32.50	4.6	2	NA	-5.50	NA	0.984	($473)	C2	C
Estes Park East & West	4	92303	82245-1A	Grad	$32.50	0.2	NA	NA	NA	NA	0.500	($757)	C2	C
Estes Park East & West	4	92303	82246-1	Grad	$27.50	4.7	2	NA	-3.50	NA	1.000	$0	C2	C
Estes Park East & West	4	92303	82246A	Grad	$27.50	6.1	4	0.00	-5.00	88.7	1.030	$1,005	C2	C
Parker Road	6	92319	R6018-1	Grad	$32.00	6.2	4	2.80	-2.20	83.3	1.030	$1,186	K1	C
					$28.59	829.6	438	1.964	0.146	89.583	1.0119	$61,663		

GRADATION TOTALS & AVERAGES (ALL GRADINGS) 1996	$28.59	829.6	438	1.96	0.15	89.59	1.0119	$61,663	
GRADATION TOTALS & AVERAGES (ALL GRADINGS) 1996	$30.36	327.9	191	2.76	0.56	85.13	0.9904	($18,106)	
Differences: 1996-1995	($1.77)	501.8	247	-0.78	-0.40	4.46	0.0215	$80,769	
				Absolute	1.53				

TABLE 2

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY ELEMENT, PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 2 (95)

PROJECT LOCATION	REG NO.	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE-MENT	BID $/TON	TONS 1000	TEST "n"	PRCES SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is 95		Gradation is CONTROLLING Sieve				
COMPOSITE ITEM														
Lena Gulch	6	10304	64268-1	ITEM	$25.00	12.4	NA	NA	NA	92.7	1.029	$8,960	A1	C
SH 93 & Golden Gate C	6	10306	64268-1	ITEM	$27.00	10.0	NA	NA	NA	93.0	1.032	$8,762	A1	C
West of Granby W	3	10395	90860-1	ITEM	$27.31	24.0	NA	NA	NA	92.9	1.027	$17,884	C4	CX
SH 257, US 34-Poudre	4	10595	81701A	ITEM	$27.60	9.4	NA	NA	NA	88.5	1.021	$5,416	C2	C
Royal Gorge - East	2	10652	87163A-1	ITEM	$24.89	35.8	NA	NA	NA	91.9	1.027	$23,898	H1	C
6TH & Union	6	10679	64248A-1	ITEM	$29.53	4.9	NA	NA	NA	93.7	1.033	$4,826	B1	C
6TH & Union	6	10679	64254C-1	ITEM	$29.53	22.6	NA	NA	NA	88.8	0.996	($2,408)	B1	C
Greenland - North	1	10768	65442-1	ITEM	$32.00	16.6	NA	NA	NA	86.1	0.999	($672)	K1	C
Greenland - North	1	10768	65442A-1	ITEM	$33.00	7.2	NA	NA	NA	81.0	1.000	$99	K1	C
Greenland - North	1	10768	65442B-1	ITEM	$32.00	13.1	NA	NA	NA	84.4	1.003	$1,101	K1	C
Greenland - North	1	10768	83239-1	ITEM	$33.00	13.2	NA	NA	NA	87.3	1.010	$4,270	K1	C
Greenland - North	1	10768	83239A-1	ITEM	$34.00	5.5	NA	NA	NA	71.5	0.977	($4,288)	K1	C
SH385, 20 MI S of I 70 N	1	10769	88600-1	ITEM	$30.28	26.9	NA	NA	NA	96.8	1.047	$38,347	H1	C
10 M N Cheyenne Wells	1	10790	88600-1	ITEM	$38.00	3.0	NA	NA	NA	94.8	1.030	$3,381	G1	C
So Rockport- Wyo St Line	4	10857	80699A	ITEM	$28.85	3.0	NA	NA	NA	90.8	1.018	$1,502	W2	C
So Rockport- Wyo St Line	4	10857	80699B	ITEM	$28.85	21.6	NA	NA	NA	99.0	1.037	$22,977	W2	C
So Rockport- Wyo St Line	4	10857	80699C	ITEM	$29.85	5.0	NA	NA	NA	80.0	1.007	$1,009	W2	C
So Rockport- Wyo St Line	4	10857	81942C	ITEM	$23.50	2.0	NA	NA	NA	NA	1.000	$0	W2	C
So Rockport- Wyo St Line	4	10857	81942a	ITEM	$22.50	13.7	NA	NA	NA	91.3	1.018	$5,626	W2	C
So Rockport- Wyo St Line	4	10857	81942b	ITEM	$22.50	1.4	NA	NA	NA	NA	1.000	$0	W2	C
Martin St (Longmont)- I 25	4	10858	101896	ITEM	$29.00	1.1	NA	NA	NA	NA	0.994	($203)	B1	C
Martin St (Longmont)- I 25	4	10858	81498	ITEM	$24.90	19.0	NA	NA	NA	88.0	1.016	$7,406	B1	C
Martin St (Longmont)- I 25	4	10858	74544	ITEM	$24.90	10.9	NA	NA	NA	78.3	0.984	($4,353)	B1	C
Martin St (Longmont)- I 25	4	10858	81470	ITEM	$24.90	0.9	NA	NA	NA	NA	0.900	($2,219)	B1	C
Martin St (Longmont)- I 25	4	10858	89309	ITEM	$20.00	5.0	NA	NA	NA	78.6	0.984	($1,624)	B1	CX
Martin St (Longmont)- I 25	4	10858	89309A	ITEM	$20.00	1.2	NA	NA	NA	0.0	0.750	($6,000)	B1	CX
Mach Ptc-C Spa-Pueb	2	10944	82453-1	ITEM	$32.31	6.5	NA	NA	NA	91.6	1.022	$4,602	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82454-1	ITEM	$32.31	6.6	NA	NA	NA	96.5	1.042	$8,855	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82455-1	ITEM	$28.38	22.3	NA	NA	NA	97.7	1.053	$33,157	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82455-1A	ITEM	$28.38	0.7	NA	NA	NA	NA	0.750	($4,896)	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82456-1	ITEM	$32.31	2.4	NA	NA	NA	90.9	1.023	$1,754	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82457-1	ITEM	$32.31	6.3	NA	NA	NA	89.6	1.035	$7,159	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82457-1A	ITEM	$32.31	5.9	NA	NA	NA	99.2	1.041	$7,752	R1	C
Mach Ptc-C Spa-Pueb	2	10944	82458-1	ITEM	$28.38	0.6	NA	NA	NA	NA	0.998	($34)	R1	C
Farmington Hill	5	10996	A80398	ITEM	$24.50	17.4	NA	NA	NA	89.8	1.023	$9,943	N1	C
Farmington Hill	5	10996	HillG1	ITEM	$25.00	0.5	NA	NA	NA	0.0	1.000	$0	N1	G
Farmington Hill	5	10996	HillG2-1	ITEM	$25.00	7.8	NA	NA	NA	91.0	1.026	$4,985	N1	G
Farmington Hill	5	10996	HillG2-2	ITEM	$25.00	11.9	NA	NA	NA	85.8	1.002	$609	N1	G
Rifle - North	3	11073	76410	ITEM	$27.18	28.5	NA	NA	NA	95.8	1.034	$26,660	E1	CX
Reg 6 Machine Patch	6	11124	64257-1	ITEM	$27.00	10.0	NA	NA	NA	91.4	1.033	$8,832	W2	CX
Reg 6 Machine Patch	6	11124	64257-2	ITEM	$27.00	10.7	NA	NA	NA	95.3	1.043	$12,367	W2	CX
Reg 6 Machine Patch	6	11124	64271-1	ITEM	$29.00	4.0	NA	NA	NA	98.1	1.023	$2,610	W2	CX
Reg 6 Machine Patch	6	11124	64271-2	ITEM	$29.00	18.0	NA	NA	NA	91.7	1.021	$11,775	W2	CX
SH 47, Troy Av E & W	2	11169	85901-1	ITEM	$29.00	37.9	NA	NA	NA	83.7	0.962	($41,898)	K2	C
Buckingham - Raymer	4	11318	89976	ITEM	$18.23	9.7	NA	NA	NA	92.8	1.017	$2,961	W2	C
Buckingham - Raymer	4	11318	89976R	ITEM	$28.58	23.0	NA	NA	NA	91.7	1.020	$13,287	W2	C
Hollyoke-Neb State Line	4	11319	87452-1	ITEM	$34.00	22.0	NA	NA	NA	91.2	1.007	$5,049	W2	C
Hollyoke-Neb State Line	4	11319	87452a	ITEM	$34.00	16.0	NA	NA	NA	95.1	1.035	$19,298	W2	C

TABLE 2

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY ELEMENT, PROJECT AND MIX DESIGN FOR 1996 CONSTRUCTION SEASON USING QPM 2 (95)

PROJECT LOCATION	REG NO.	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE-MENT	BID $/TON	TONS 1000	TEST "n"	PRCES SD	MEAN -TC	QUAL LEVL	PAY FACT	Incent/ Disinc$	Contr Code	HBP Grad
								Gradation is 96		Gradation is CONTROLLING Sieve				
Hollyoke-Neb State Line	4	11319	87452b	ITEM	$34.00	4.5	NA	NA	NA	92.5	1.021	$3,257	W2	C
Hollyoke-Neb State Line	4	11319	87453-1	ITEM	$29.00	21.1	NA	NA	NA	99.0	1.023	$14,073	W2	C
Lamar Area-MP	2	11358	88600-1	ITEM	$32.89	16.4	NA	NA	NA	95.4	1.042	$22,875	H1	C
Mach Pat/Pueblo Area	2	11359	82459-1	ITEM	$31.25	13.3	NA	NA	NA	96.3	1.044	$18,275	B2	C
C 470 - South	1	11389	83560-1	ITEM	$28.50	25.5	NA	NA	NA	78.6	0.933	($48,993)	B1	SP3/4
Sheridan Lake-North	2	11374	88600-1	ITEM	$27.75	22.6	NA	NA	NA	95.3	1.037	$23,181	H1	C
Geogetown - East	1	11438	84415-1	ITEM	$36.00	53.0	NA	NA	NA	94.9	1.037	$69,671	W2	SP3/4
Poncha Spgs-Coaldale	5	11499	61393-1	ITEM	$23.84	13.1	NA	NA	NA	76.6	0.962	($5,889)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393-1A	ITEM	$23.84	2.0	NA	NA	NA	NA	0.750	($11,920)	A2	CX
Poncha Spgs-Coaldale	5	11499	61393A-1	ITEM	$23.84	1.5	NA	NA	NA	NA	1.000	$0	A2	CX
Poncha Spgs-Coaldale	5	11499	61393B	ITEM	$23.84	33.6	NA	NA	NA	81.4	0.952	($38,489)	A2	CX
Wads. Blvd, 58th to 64th	6	90448	64257-1	ITEM	$24.00	13.0	NA	NA	NA	80.0	0.960	($12,606)	W2	C
Wads. Blvd, 58th to 64th	6	90448	64257-1A	ITEM	$24.00	1.0	NA	NA	NA	NA	0.500	($12,000)	W2	C
Kiowa - East	1	91052	66486-1	ITEM	$27.27	9.3	NA	NA	NA	93.7	1.028	$7,204	S1	C
S Montrose - Co Line	3	91416	84776	ITEM	$25.00	6.8	NA	NA	NA	86.6	1.018	$3,050	U1	C
S Montrose - Co Line	3	91416	84776A	ITEM	$25.00	11.8	NA	NA	NA	93.8	1.036	$10,629	U1	C
Estes Park East & West	4	92303	82245-1	ITEM	$32.50	4.6	NA	NA	NA	99.3	1.026	$3,834	C2	C
Estes Park East & West	4	92303	82245-1A	ITEM	$32.50	0.2	NA	NA	NA	NA	0.500	($3,786)	C2	C
Estes Park East & West	4	92303	82246-1	ITEM	$27.50	4.7	NA	NA	NA	89.6	1.014	$1,784	C2	C
Estes Park East & West	4	92303	82246A	ITEM	$27.50	6.1	NA	NA	NA	92.3	1.031	$5,132	C2	C
Parker Road	6	92319	R6018-1	ITEM	$32.00	6.2	NA	NA	NA	86.4	1.013	$2,526	K1	C
HBP ITEM TOTALS & AVERAGES, ALL GRADINGS (1996)					$28.59	829.6	NA	NA	NA	90.829	1.0122	$320,336		
HBP ITEM TOTALS & AVERAGES, ALL GRADINGS (1995)					$30.36	327.9	NA	NA	NA	89.472	1.0062	$57,203		
Differences: 1996-1995					($1.77)	501.8	NA	NA	NA	1.356	0.0060	$263,133		

TABLE 3
HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY PROJECT
(PROCESS AVGS FOR ITEM) FOR 1996 CONSTRUCTION SEASON USING QPM 2 (95)

PROJECT LOCATION	REG/ UNIT	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE- MENT	BID $/TON	TONS 1000	QUALITY LEVEL	PAY FACT	Incent/ Disinc$	Contr Code
							Gradation is CONTROLLING Sieve			
LISTED BY SUBACCOUNT NUMBER										
Lena Gulch	6	10304	PROJECT	ITEM	$25.00	12.4	92.7	1.029	$8,960	A1
SH 93 & Golden Gate C	6	10306	PROJECT	ITEM	$27.00	10.0	93.0	1.032	$8,762	A1
West of Granby W	3	10395	PROJECT	ITEM	$27.31	24.0	92.9	1.027	$17,884	C4
SH 257, US 34-Poudre	4	10595	PROJECT	ITEM	$27.60	9.4	88.5	1.021	$5,416	C2
Royal Gorge - East	2	10652	PROJECT	ITEM	$24.89	35.8	91.9	1.027	$23,898	H1
6TH & Union	6	10679	PROJECT	ITEM	$29.53	27.6	92.9	1.003	$2,418	B1
Greenland - North	1	10768	PROJECT	ITEM	$32.56	55.8	83.9	1.000	$510	K1
SH385, 20 Mi S of I 70 N	1	10769	PROJECT	ITEM	$30.28	26.9	96.8	1.047	$38,347	H1
10 M N Cheyenne Wells	1	10790	PROJECT	ITEM	$38.00	3.0	94.8	1.030	$3,381	G1
So Rockport- Wyo St Line	4	10857	PROJECT	ITEM	$26.67	46.6	93.8	1.024	$31,114	W2
Martin St (Longmont)- I 25	4	10858	PROJECT	ITEM	$24.22	38.0	83.7	0.991	($6,992)	B1
Mach Ptc-C Sps-Pueb	2	10944	PROJECT	ITEM	$30.51	51.3	95.5	1.038	$58,350	R1
Farmington Hill	5	10996	PROJECT	ITEM	$24.77	37.6	88.8	1.017	$15,538	N1
Rifle - North	3	11073	PROJECT	ITEM	$27.18	28.5	95.8	1.034	$26,660	E1
Reg 6 Machine Patch	6	11124	PROJECT	ITEM	$29.00	19.0	91.7	1.021	$11,775	W2
Reg 6 Machine Patch	6	11124	PROJECT	ITEM	$27.32	24.7	94.2	1.035	$23,809	W2
SH 47, Troy Av E & W	2	11169	PROJECT	ITEM	$29.00	37.9	83.7	0.962	($41,898)	K2
Buckingham - Raymer	4	11318	PROJECT	ITEM	$25.51	32.6	92.0	1.019	$16,248	W2
Hollyoke-Neb State Line	4	11319	PROJECT	ITEM	$32.34	63.6	94.9	1.020	$41,678	W2
Lamar Area-MP	2	11358	PROJECT	ITEM	$32.89	16.4	95.4	1.042	$22,875	H1
Mach Pat/Pueblo Area	2	11359	PROJECT	ITEM	$31.25	13.3	96.3	1.044	$18,275	B2
C 470 - South	1	11369	PROJECT	ITEM	$28.50	25.5	78.6	0.933	($48,993)	B1
Sheridan Lake-North	2	11374	PROJECT	ITEM	$27.75	22.6	95.3	1.037	$23,181	H1
Geogetown - East	1	11438	PROJECT	ITEM	$36.00	53.0	94.9	1.037	$69,671	W2
Poncha Spgs-Coaldale	5	11499	PROJECT	ITEM	$23.84	50.2	80.0	0.948	($56,297)	A2
Wads. Blvd, 58th to 64th	6	90448	PROJECT	ITEM	$24.00	14.0	80.0	0.927	($24,606)	W2
Kiowa - East	1	91052	PROJECT	ITEM	$27.27	9.3	93.7	1.028	$7,204	S1
S Montrose - Co Line	3	91416	PROJECT	ITEM	$25.00	18.6	91.2	1.029	$13,679	U1
Estes Park East & West	4	92303	PROJECT	ITEM	$29.04	15.6	93.6	1.016	$6,964	C2
Parker Road	6	92319	PROJECT	ITEM	$32.00	6.2	86.4	1.013	$2,526	K1
HBP ITEM TOTALS & AVERAGES, ALL GRADINGS					**$28.59**	**829.6**	**90.829**	**1.0122**	**$320,336**	

TABLE 3A
SORTED BY QUALITY LEVEL

C 470 - South	1	11369	PROJECT	ITEM	$28.50	25.5	78.6	0.933	($48,993)	B1
Wads. Blvd, 58th to 64th	6	90448	PROJECT	ITEM	$24.00	14.0	80.0	0.927	($24,606)	W2
Poncha Spgs-Coaldale	5	11499	PROJECT	ITEM	$23.84	50.2	80.0	0.948	($56,297)	A2
Martin St (Longmont)- I 25	4	10858	PROJECT	ITEM	$24.22	38.0	83.7	0.991	($6,992)	B1
SH 47, Troy Av E & W	2	11169	PROJECT	ITEM	$29.00	37.9	83.7	0.962	($41,898)	K2
Greenland - North	1	10768	PROJECT	ITEM	$32.56	55.8	83.9	1.000	$510	K1
Parker Road	6	92319	PROJECT	ITEM	$32.00	6.2	86.4	1.013	$2,526	K1
SH 257, US 34-Poudre	4	10595	PROJECT	ITEM	$27.60	9.4	88.5	1.021	$5,416	C2
Farmington Hill	5	10996	PROJECT	ITEM	$24.77	37.6	88.8	1.017	$15,538	N1
S Montrose - Co Line	3	91416	PROJECT	ITEM	$25.00	18.6	91.2	1.029	$13,679	U1
Reg 6 Machine Patch	6	11124	PROJECT	ITEM	$29.00	19.0	91.7	1.021	$11,775	W2
Royal Gorge - East	2	10652	PROJECT	ITEM	$24.89	35.8	91.9	1.027	$23,898	H1
Buckingham - Raymer	4	11318	PROJECT	ITEM	$25.51	32.6	92.0	1.019	$16,248	W2
Lena Gulch	6	10304	PROJECT	ITEM	$25.00	12.4	92.7	1.029	$8,960	A1
West of Granby W	3	10395	PROJECT	ITEM	$27.31	24.0	92.9	1.027	$17,884	C4
6TH & Union	6	10679	PROJECT	ITEM	$29.53	27.6	92.9	1.003	$2,418	B1
SH 93 & Golden Gate C	6	10306	PROJECT	ITEM	$27.00	10.0	93.0	1.032	$8,762	A1
Estes Park East & West	4	92303	PROJECT	ITEM	$29.04	15.6	93.6	1.016	$6,964	C2
Kiowa - East	1	91052	PROJECT	ITEM	$27.27	9.3	93.7	1.028	$7,204	S1
So Rockport- Wyo St Line	4	10857	PROJECT	ITEM	$26.67	46.6	93.8	1.024	$31,114	W2
Reg 6 Machine Patch	6	11124	PROJECT	ITEM	$27.32	24.7	94.2	1.035	$23,809	W2
10 M N Cheyenne Wells	1	10790	PROJECT	ITEM	$38.00	3.0	94.8	1.030	$3,381	G1
Hollyoke-Neb State Line	4	11319	PROJECT	ITEM	$32.34	63.6	94.9	1.020	$41,678	W2
Geogetown - East	1	11438	PROJECT	ITEM	$36.00	53.0	94.9	1.037	$69,671	W2
Sheridan Lake-North	2	11374	PROJECT	ITEM	$27.75	22.6	95.3	1.037	$23,181	H1
Lamar Area-MP	2	11358	PROJECT	ITEM	$32.89	16.4	95.4	1.042	$22,875	H1
Mach Ptc-C Sps-Pueb	2	10944	PROJECT	ITEM	$30.51	51.3	95.5	1.038	$58,350	R1
Rifle - North	3	11073	PROJECT	ITEM	$27.18	28.5	95.8	1.034	$26,660	E1
Mach Pat/Pueblo Area	2	11359	PROJECT	ITEM	$31.25	13.3	96.3	1.044	$18,275	B2
SH385, 20 Mi S of I 70 N	1	10769	PROJECT	ITEM	$30.28	26.9	96.8	1.047	$38,347	H1
HBP ITEM TOTALS & AVERAGES, ALL GRADINGS					**$28.59**	**829.6**	**90.829**	**1.0122**	**$320,336**	

TABLE 3B

HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY PROJECT
(PROCESS AVGS FOR ITEM) FOR 1996 CONSTRUCTION SEASON USING QPM 2 (95)

PROJECT LOCATION	REG/ UNIT	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE- MENT	BID $/TON	TONS 1000	QUALITY LEVEL	PAY FACT	Incent/ Disinc$	Contr Code
							Gradation is CONTROLLING Sieve			
SORTED & AVERAGED BY CDOT REGION										
C 470 - South	1	11369	PROJECT	ITEM	$28.50	25.5	78.6	0.933	($48,993)	B1
Greenland - North	1	10768	PROJECT	ITEM	$32.56	55.8	83.9	1.000	$510	K1
Kiowa - East	1	91052	PROJECT	ITEM	$27.27	9.3	93.7	1.028	$7,204	S1
10 M N Cheyenne Wells	1	10790	PROJECT	ITEM	$38.00	3.0	94.8	1.030	$3,381	G1
Georgetown - East	1	11438	PROJECT	ITEM	$36.00	53.0	94.9	1.037	$69,671	W2
SH385, 20 M S of I70 N	1	10769	PROJECT	ITEM	$30.28	28.9	96.8	1.047	$38,347	H1
					$32.47	**173.5**	**89.2**	**1.011**	**$70,119**	
SH 47, Troy Av E & W	2	11169	PROJECT	ITEM	$29.00	37.9	83.7	0.962	($41,898)	K2
Royal Gorge - East	2	10652	PROJECT	ITEM	$24.89	35.8	91.9	1.027	$23,898	H1
Sheridan Lake-North	2	11374	PROJECT	ITEM	$27.75	22.6	95.3	1.037	$23,181	H1
Lamar Area MP	2	11358	PROJECT	ITEM	$32.89	16.4	95.4	1.042	$22,875	H1
Mach Pav-C Spg-Pueb	2	10944	PROJECT	ITEM	$30.51	51.3	95.5	1.038	$58,350	R1
Mach Pat/Pueblo Area	2	11359	PROJECT	ITEM	$31.25	13.3	96.3	1.044	$18,275	B2
					$28.97	**177.4**	**92.3**	**1.020**	**$104,681**	
S Montrose - Co Line	3	91416	PROJECT	ITEM	$25.00	18.6	91.2	1.029	$13,879	U1
West of Granby W	3	10395	PROJECT	ITEM	$27.31	24.0	92.9	1.027	$17,884	C4
Rifle - North	3	11073	PROJECT	ITEM	$27.18	28.5	95.8	1.034	$26,660	E1
					$26.65	71.1	93.6	1.031	$58,223	
Holyoke-Neb State Line	4	11319	PROJECT	ITEM	$32.34	63.6	94.9	1.020	$41,678	W2
Estes Park East & West	4	92303	PROJECT	ITEM	$29.04	15.6	93.6	1.016	$6,964	C2
SH 257, US 34-Poudre	4	10595	PROJECT	ITEM	$27.60	9.4	88.5	1.021	$5,416	C2
So Rockport - Wyo St Line	4	10857	PROJECT	ITEM	$26.67	46.6	93.8	1.024	$31,114	W2
Martin St (Longmont)-I-25	4	10858	PROJECT	ITEM	$24.22	38.0	83.7	0.991	($6,992)	B1
Buckingham - Raymer	4	11318	PROJECT	ITEM	$25.51	32.8	92.0	1.019	$16,248	W2
					$28.01	**205.9**	**91.7**	**1.015**	**$94,428**	
Poncha Spgs-Coaldale	5	11499	PROJECT	ITEM	$23.84	50.2	80.0	0.948	($56,297)	A2
Farmington Hill	5	10996	PROJECT	ITEM	$24.77	37.6	88.8	1.017	$15,538	N1
					$24.24	**87.9**	**83.8**	**0.977**	**($40,760)**	
Wads. Blvd, 58th to 64th	6	90448	PROJECT	ITEM	$24.00	14.0	80.0	0.927	($24,606)	W2
Parker Road	6	92319	PROJECT	ITEM	$32.00	6.2	86.4	1.013	$2,526	K1
Reg 6 Machine Patch	6	11124	PROJECT	ITEM	$29.00	19.0	91.7	1.021	$11,775	W2
Lena Gulch	6	10304	PROJECT	ITEM	$25.00	12.4	92.7	1.029	$8,960	A1
6TH & Union	6	10679	PROJECT	ITEM	$29.53	27.6	92.9	1.003	$2,418	B1
SH 93 & Golden Gate C	6	10306	PROJECT	ITEM	$27.00	10.0	95.0	1.032	$8,762	A1
Reg 6 Machine Patch	6	11124	PROJECT	ITEM	$27.32	24.7	94.2	1.035	$23,809	W2
					$24.75	**113.9**	**91.0**	**1.010**	**($47,874)**	
HBP ITEM TOTALS & AVERAGES, ALL GRADINGS					**$28.59**	**829.6**	**90.829**	**1.0122**	**$320,336**	

TABLE 3C
HOT BITUMINOUS PAVEMENT QC/QA DETAILS & SUMMARY BY PROJECT
(PROCESS AVGS FOR ITEM) FOR 1996 CONSTRUCTION SEASON USING QPM 2 (95)

PROJECT LOCATION	REG/ UNIT	SUBAC NUMBR	MIX DESIGN /PRCSS	ELE- MENT	BID $/TON	TONS 1000	QUALITY LEVEL	PAY FACT	Incent/ Disinc$	Contr Code
							Gradation is CONTROLLING Sieve			
SORTED BY CONTRACTOR & QL										
Lena Gulch	6	10304	PROJECT	ITEM	$25.00	12.4	92.7	1.029	$8,960	A1
SH 93 & Golden Gate C	6	10305	PROJECT	ITEM	$27.00	10.0	93.0	1.032	$8,762	A1
Poncha Spgs-Coaldale	5	11499	PROJECT	ITEM	$23.84	50.2	80.0	0.948	($56,297)	A2
C 470 - South	1	11369	PROJECT	ITEM	$28.50	25.5	78.6	0.933	($48,993)	B1
Martin St (Longmont)- I 25	4	10858	PROJECT	ITEM	$24.22	38.0	83.7	0.991	($6,992)	B1
6TH & Union	6	10679	PROJECT	ITEM	$29.53	27.6	92.9	1.003	$2,418	B1
Mach Pat/Pueblo Area	2	11359	PROJECT	ITEM	$31.25	13.3	96.3	1.044	$18,275	B2
SH 257, US 34-Poudre	4	10595	PROJECT	ITEM	$27.50	9.4	88.5	1.021	$5,416	C2
Estes Park East & West	4	92303	PROJECT	ITEM	$29.04	15.6	93.6	1.018	$6,964	C2
West of Granby W	3	10395	PROJECT	ITEM	$27.31	24.0	92.9	1.027	$17,884	C4
Rifle - North	3	11073	PROJECT	ITEM	$27.18	28.5	95.8	1.034	$26,660	E1
10 M N Cheyenne Wells	1	10790	PROJECT	ITEM	$38.00	3.0	94.8	1.030	$3,381	G1
Royal Gorge - East	2	10652	PROJECT	ITEM	$24.89	35.8	91.9	1.027	$23,898	H1
Sheridan Lake-North	2	11374	PROJECT	ITEM	$27.75	22.6	95.3	1.037	$23,181	H1
Lamar Area-MP	2	11358	PROJECT	ITEM	$32.89	16.4	95.4	1.042	$22,875	H1
SH385, 20 MI S of I 70 N	1	10769	PROJECT	ITEM	$30.28	26.9	96.8	1.047	$38,347	H1
Greenland - North	1	10768	PROJECT	ITEM	$32.56	55.8	83.9	1.000	$510	K1
Parker Road	6	92319	PROJECT	ITEM	$32.00	6.2	86.4	1.013	$2,526	K1
SH 47, Troy Av E & W	2	11169	PROJECT	ITEM	$29.00	37.9	83.7	0.962	($41,898)	K2
Farmington Hill	5	10996	PROJECT	ITEM	$24.77	37.6	88.8	1.017	$15,538	N1
Mach.Pkr-C Spg-Pueb	2	10944	PROJECT	ITEM	$30.51	51.3	95.5	1.038	$58,350	R1
Kiowa - East	1	91052	PROJECT	ITEM	$27.27	9.3	93.7	1.028	$7,204	S1
S Montrose - Co Line	3	91416	PROJECT	ITEM	$25.00	18.6	91.2	1.029	$13,679	U1
Wads. Blvd, 58th to 64th	6	90448	PROJECT	ITEM	$24.00	14.0	80.0	0.927	($24,606)	W2
Reg 6 Machine Patch	6	11124	PROJECT	ITEM	$29.00	19.0	91.7	1.021	$11,775	W2
Buckingham - Raymer	4	11318	PROJECT	ITEM	$25.51	32.6	92.0	1.019	$16,248	W2
So Rockport- Wyo St Line	4	10857	PROJECT	ITEM	$26.67	46.6	93.8	1.024	$31,114	W2
Reg 6 Machine Patch	6	11124	PROJECT	ITEM	$27.32	24.7	94.2	1.035	$23,809	W2
Hollyoke-Neb State Line	4	11319	PROJECT	ITEM	$32.34	63.6	94.9	1.020	$41,678	W2
Geogetown - East	1	11438	PROJECT	ITEM	$36.00	53.0	94.9	1.037	$69,671	W2
HBP ITEM TOTALS & AVERAGES, ALL GRADINGS					**$28.59**	**829.6**	**90.829**	**1.0122**	**$320,336**	

TABLE 3D
CONTRACTORS AVERAGES SORTED BY QL

% '96 TONS	BID $/TON	TONS 1000	QUALITY LEVEL	PAY FACT	Incent/ Disinc$	Contr Code
			Gradation is CONTROLLING Sieve			
6.1	$23.84	50.2	80.0	0.948	($56,297)	A2
4.6	$29.00	37.9	83.7	0.962	($41,898)	K2
7.5	$32.51	61.9	84.1	1.002	$3,037	K1
11.0	$27.03	91.2	85.1	0.978	($53,568)	B1
4.5	$24.77	37.6	88.8	1.017	$15,538	N1
2.2	$25.00	18.6	91.2	1.029	$13,679	U1
3.0	$28.50	25.0	91.6	1.018	$12,380	C2
2.7	$25.89	22.4	92.9	1.030	$17,722	A1
2.9	$27.31	24.0	92.9	1.027	$17,884	C4
30.6	$29.99	253.6	93.2	1.021	$169,689	W2
1.1	$27.27	9.3	93.7	1.028	$7,204	S1
12.3	$28.24	101.8	94.5	1.037	$108,301	H1
0.4	$38.00	3.0	94.8	1.030	$3,381	G1
6.2	$30.51	51.3	95.5	1.038	$58,350	R1
3.4	$27.18	28.5	95.8	1.034	$26,660	E1
1.6	$31.25	13.3	96.3	1.044	$18,275	B2
100.1	$28.59	829.6	90.829	1.0122	$320,336	

TABLE 4
HBP EVALUATION SUMMARIZED BY YEAR, 1991 HISTORICAL & 1992 - 1996 QC/QA

IDENTIFICATION YEAR	ELEMENT	TONS 1000s	TESTS "n"	STD DEV	MEAN - TARGET		QPM 2 QUAL LEV	QPM 1 PAY FACT	QPM 2 PAY FACT
Composites are element values weighted by "F" fact Element data are process averages weighted X tons. Gradation SD & Mean - Target ar									
1991	Asphalt %	2000	4027	0.18	0.07	Abs	87.0	1.005	1.000
Historical	Density %	990	1985	1.05	1.00	Abs	84.0	1.002	0.960
Elements	Gradation	2000	2317	2.58	1.82	Abs	85.7	1.005	0.988
Composite	Item	2000					85.2	1.004	0.978
1992	Asphalt %	282	214	0.14	0.06	Abs	96.3	1.039	1.042
QPM 1	Density %	282	570	1.00	0.71	Abs	88.9	1.018	0.990
Elements	Gradation	282	180	2.11	1.21	Abs	90.0	1.020	1.014
Composite	Item	282					91.3	1.025	1.010
1993	Asphalt %	482	837	0.15	0.04	Abs	93.2	1.032	1.028
QPM1	Density %	482	989	0.98	0.48	Abs	92.4	1.028	1.018
Elements	Gradation	482	309	2.31	1.53	Abs	88.8	1.016	1.010
Composite	Item	482			ABS	ALGEB	91.9	1.027	1.019
1994	Asphalt %	1496	1277	0.15	0.06	0.01	90.6	1.034	1.022
QPM1	Density %	1400	2812	0.96	0.57	-0.47	90.3	1.023	1.007
Elements	Gradation	1496	1053	2.05	1.12	-0.93	88.3	1.021	1.014
Composite	Item	1496					90.0	1.026	1.013
1995	Asphalt %	776	764	0.17	0.09	0.03	86.1	1.017	0.993
QPM1	Density %	757	1378	1.14	0.97	-0.85	81.1	0.999	0.950
Elements	Gradation	779	547	2.10	1.18	-0.18	86.9	1.017	1.015
Composite	Item	779					84.2	1.008	0.976
1991 - 1995	Asphalt %	3036	3092	0.15	0.07	0.02	90.4	1.030	1.017
Summary of	Density %	2921	5729	1.01	0.67	-0.60	88.1	1.017	0.992
QPM 1 Elements	Gradation	3036	2089	2.11	1.21	-0.67	88.7	1.019	1.014
SUMMARY QPM1 COMPOSITES		3036					88.9	1.021	1.004
1995	Asphalt %	328	342	0.18	0.05	0.02	86.7	1.014	1.000
QPM 2	Density %	314	625	0.89	0.48	-0.38	91.7	1.023	1.017
Elements	Gradation	328	191	2.78	1.18	0.55	85.1	1.003	0.990
Composite	Item	328					89.5	1.016	1.007
1996	Asphalt %	830	847	0.16	0.07	0.02	89.8	NA	1.008
QPM 2	Density %	830	1465	0.91	0.60	-0.56	91.9	NA	1.015
Elements	Gradation	830	438	1.98	1.53	0.15	89.6	NA	1.012
Composite	Item	830					90.8	NA	1.012
1995 - 1996	Asphalt %	1158	1189	0.17	0.07	0.02	89.5	NA	1.006
Summary of	Density %	1144	2090	0.93	0.56	-0.51	91.9	NA	1.016
QPM 2 Elements	Gradation	1158	629	2.20	1.44	0.26	88.3	NA	1.006
SUMM QPM2 COMPOSITES		1158					90.4	NA	1.011
SUMM QC/QA PROJECTS		4194					89.3	NA	1.006

TABLE 5

QC/QA HBP EVALUATION, SUMMARY BY ELEMENT AND YEARLY COMPOSITES

1992 - 1996 Average Values (Weighted by Tons) Related to 1991 Historical

Year & Identity	Element or Composite	Standard Deviation		Avg Abs Mean-Tol Lim		QPM 2 Quality Level		QPM 2 Pay Factor	
		Value	Inv % '91	Value	% of '91	Value	% of '91	Value	% of '91
'91 Historical	Asphalt %	0.18	100.0	0.23	100.0	87.0	100.0	1.000	100.0
'92 QPM1	Asphalt %	0.14	128.6	0.24	104.3	96.3	110.7	1.042	104.2
'93 QPM1	Asphalt %	0.15	120.0	0.26	113.0	93.2	107.1	1.028	102.8
'94 QPM1	Asphalt %	0.15	120.0	0.24	106.1	90.6	104.1	1.022	102.2
'95 QPM1	Asphalt %	0.17	104.0	0.21	90.0	86.1	99.0	0.993	99.3
'95 QPM2	Asphalt %	0.18	100.6	0.25	107.0	88.6	101.8	1.000	100.0
'96 QPM2	Asphalt %	0.16	109.8	0.23	100.0	89.8	103.2	1.008	100.8
All QC/QA	Asphalt %	0.16	113.5	0.24	102.7	90.1	103.6	1.014	101.4
'91 Hist.	Density %	1.05	100.0	1.00	100.0	84.0	100.0	0.960	100.0
'92 QPM1	Density %	1.00	105.0	1.29	129.0	88.9	105.8	0.990	103.1
'93 QPM1	Density %	0.96	109.4	1.52	152.0	92.4	110.0	1.018	106.0
'94 QPM1	Density %	0.96	109.4	1.43	143.0	90.3	107.5	1.007	104.9
'95 QPM1	Density %	1.14	91.9	1.03	102.8	81.1	96.5	0.949	98.9
'95 QPM2	Density %	0.99	106.1	1.54	153.6	91.7	109.2	1.017	105.9
'96 QPM2	Density %	0.91	115.3	1.40	140.1	91.9	109.5	1.015	105.7
All QC/QA	Density %	0.99	106.2	1.36	136.0	89.2	106.2	0.999	104.1
		Based on the N0. 8 Sieve				Based on Gradation (QPM Controlling Sieve)			
'91 Hist.	Gradation	2.59	100.0	3.18	100.0	85.7	100.0	0.989	100.0
'92 QPM1	Gradation	2.11	122.7	3.79	119.2	90.0	105.0	1.014	102.5
'93 QPM1	Gradation	2.31	112.1	3.47	109.1	88.8	103.6	1.010	102.1
'94 QPM1	Gradation	2.05	126.3	3.88	122.0	88.3	103.0	1.014	102.5
'95 QPM1	Gradation	2.10	123.3	3.84	120.6	88.9	103.7	1.016	102.8
'95 QPM2	Gradation	2.76	93.8	3.81	119.7	85.1	99.3	0.990	100.1
'95 QPM2	Gradation	1.98	130.5	3.47	109.0	89.6	104.5	1.012	102.3
All QC/QA	Gradation	2.14	121.3	3.73	117.3	88.6	103.4	1.012	102.3
		Values Below Are Composites of Above Values, i.e, Elements Weighted by "W" Factors							
'91 Hist.	Composite	—	100.0	—	100.0	85.2	100.0	0.978	100.0
'92 QPM1	Composite	—	115.6	—	119.6	91.3	107.1	1.010	103.3
'93 QPM1	Composite	—	113.1	—	131.7	91.9	107.9	1.019	104.3
'94 QPM1	Composite	—	116.0	—	127.7	90.0	105.6	1.013	103.6
'95 QPM1	Composite	—	101.8	—	102.5	84.2	98.7	0.976	99.8
'95 QPM2	Composite	—	102.0	—	132.8	89.5	105.0	1.007	103.0
'96 QPM2	Composite	—	116.7	—	121.9	90.8	106.6	1.012	103.6
All QC/QA	Composite	—	111.4	—	122.3	89.4	104.8	1.006	102.9

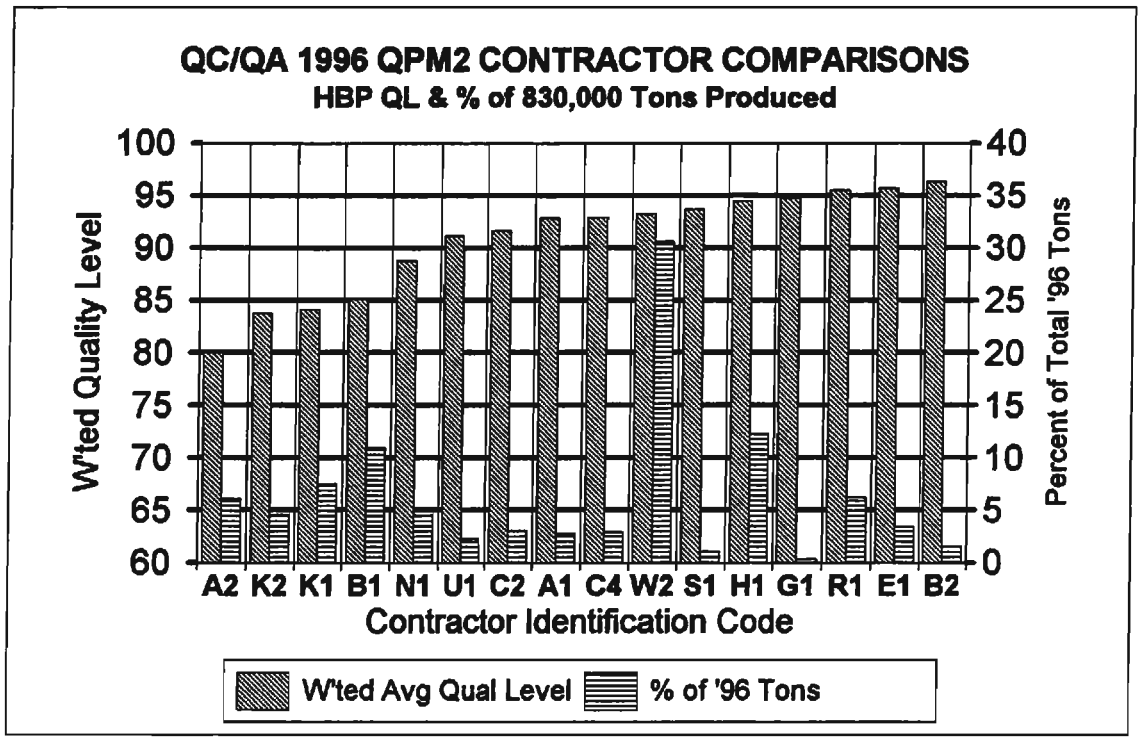

Figure 1

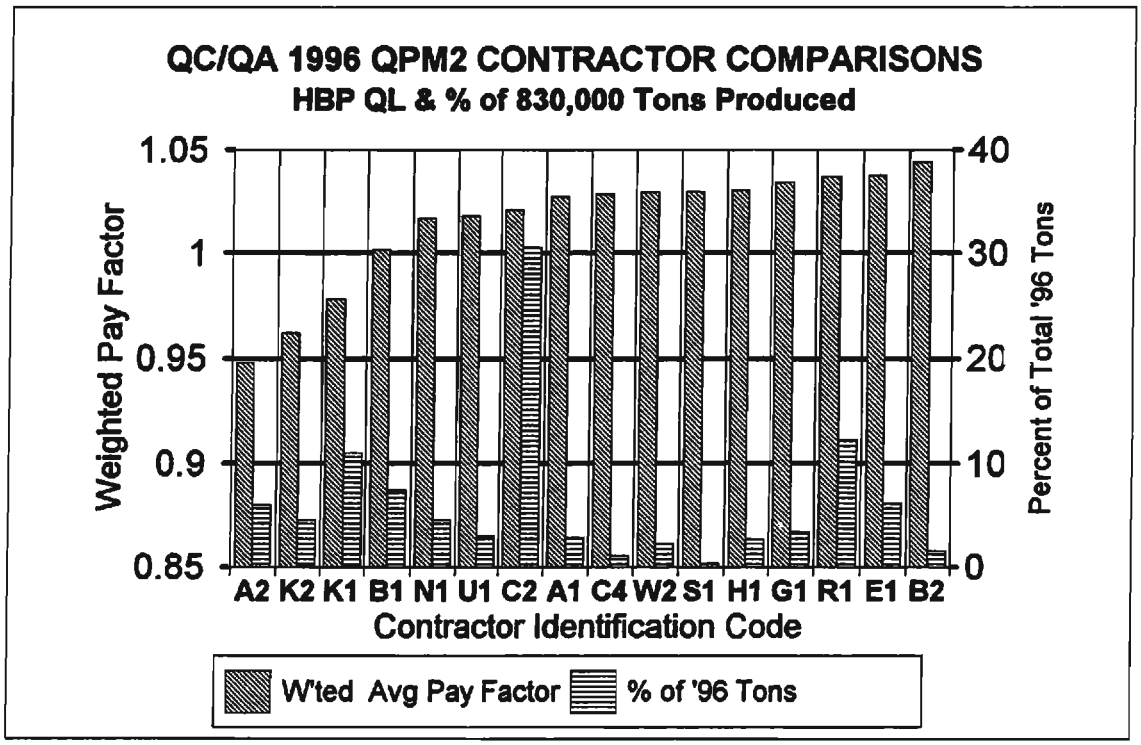

Figure 2

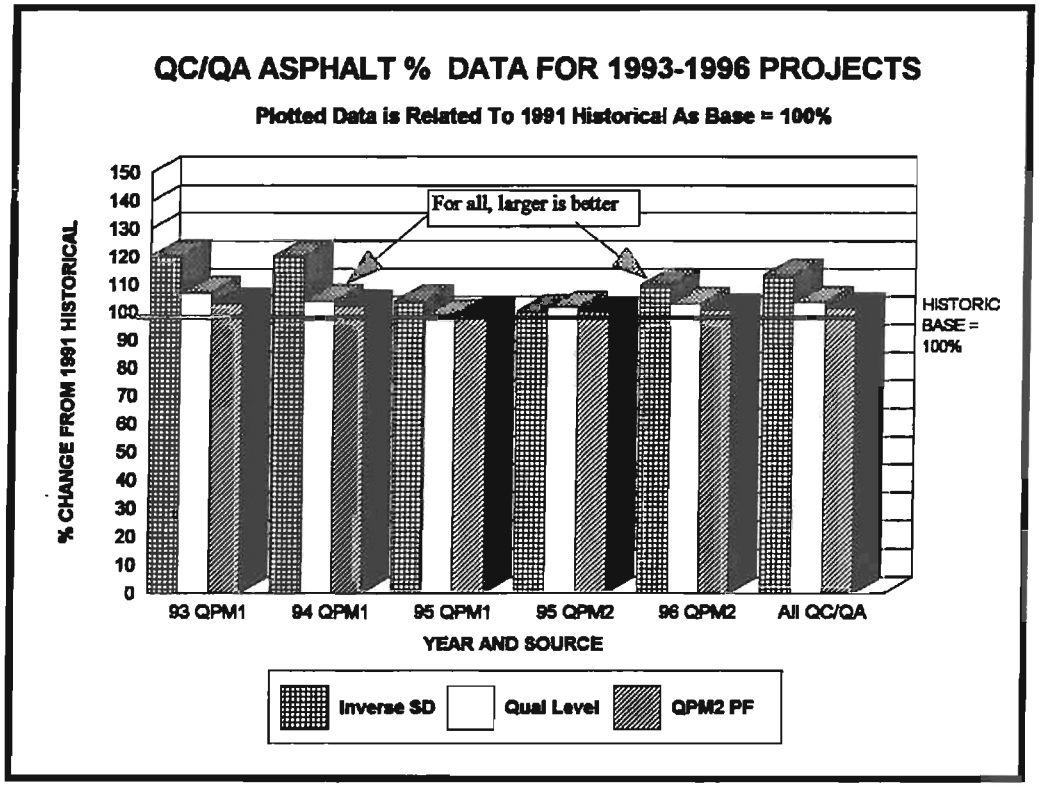

Figure 4

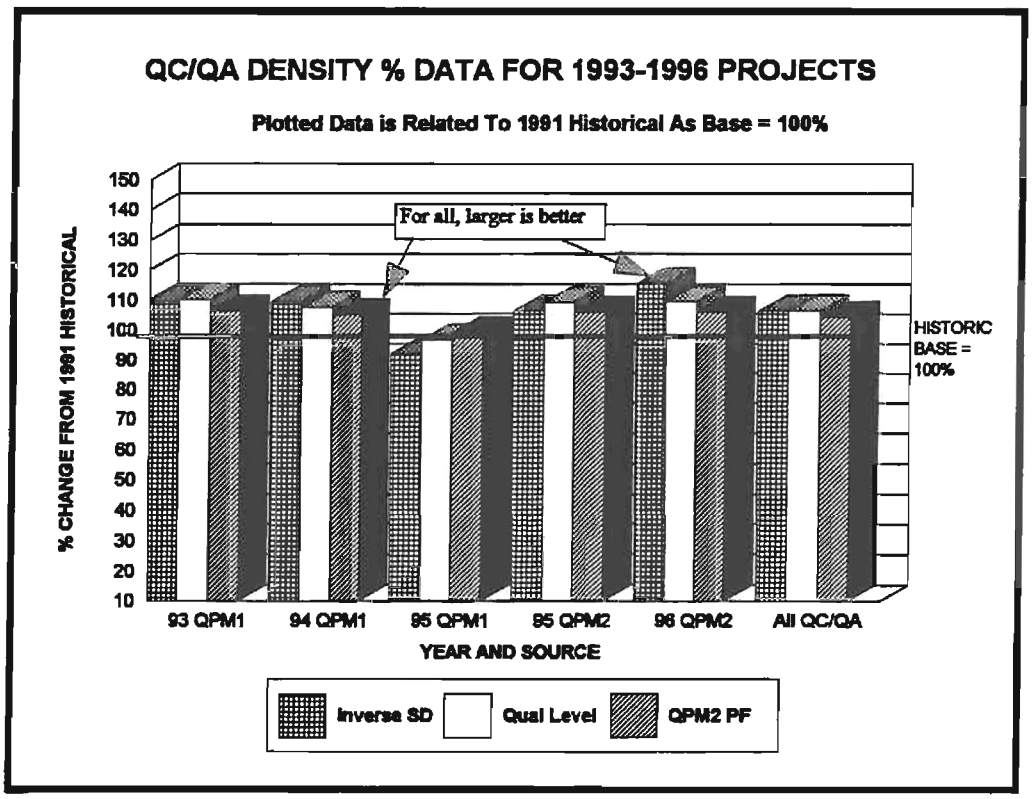

Figure 5

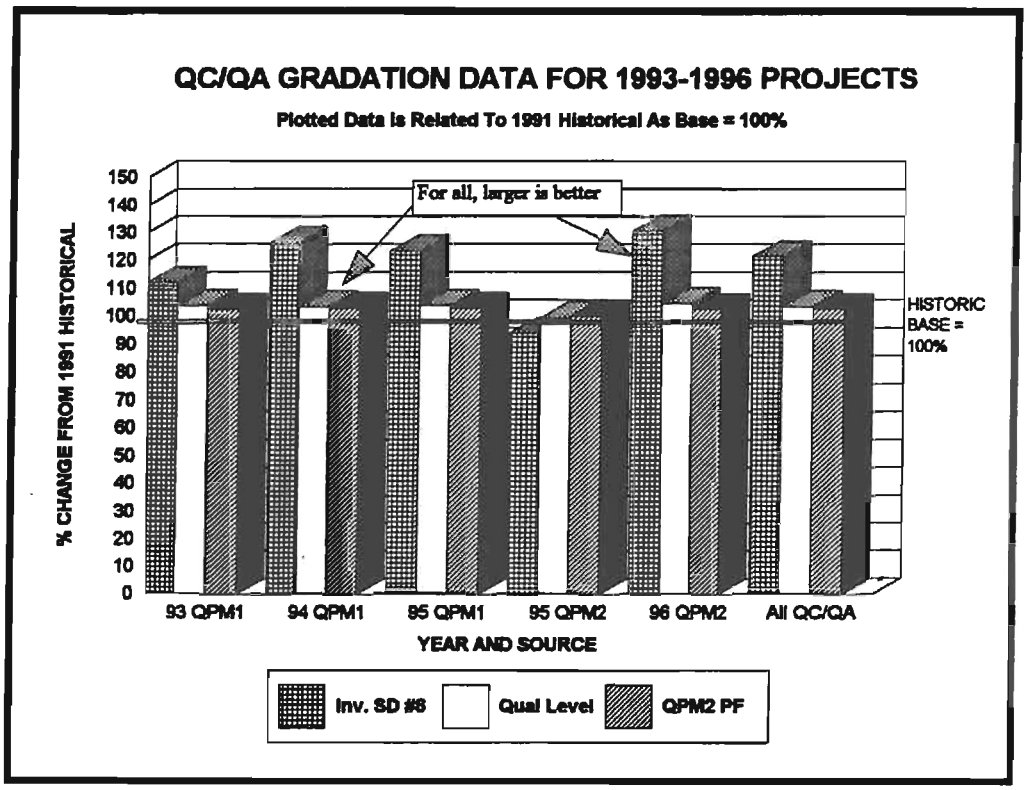

Figure 6

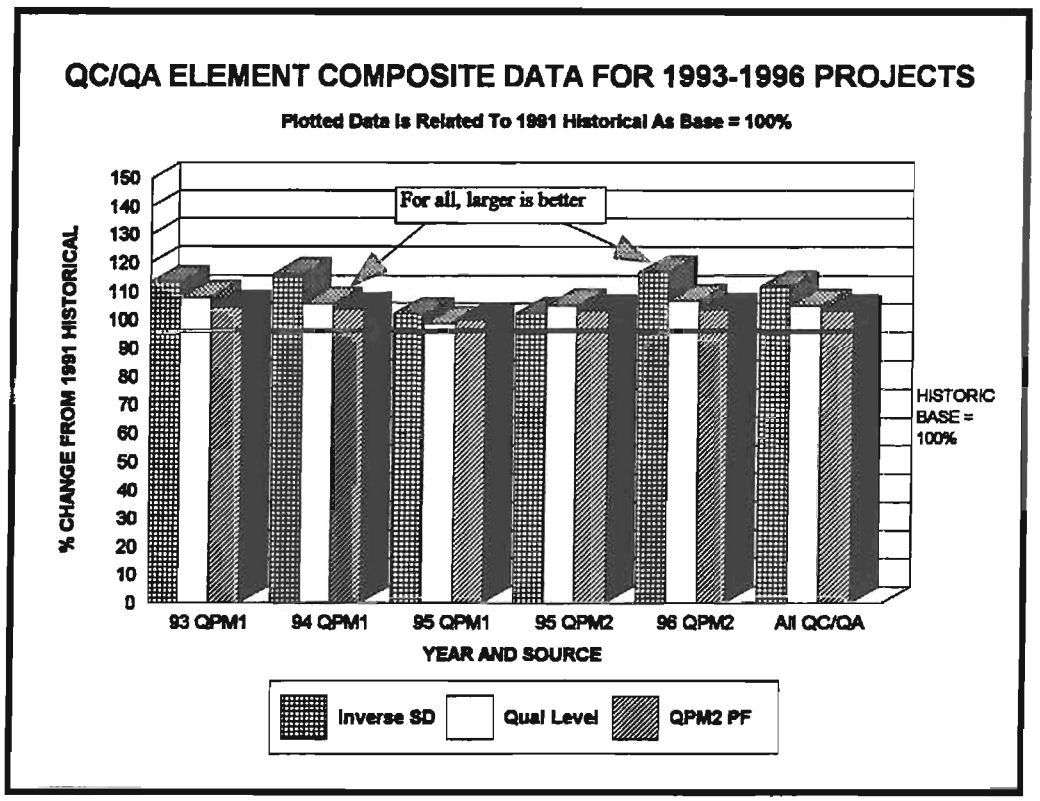

Figure 6

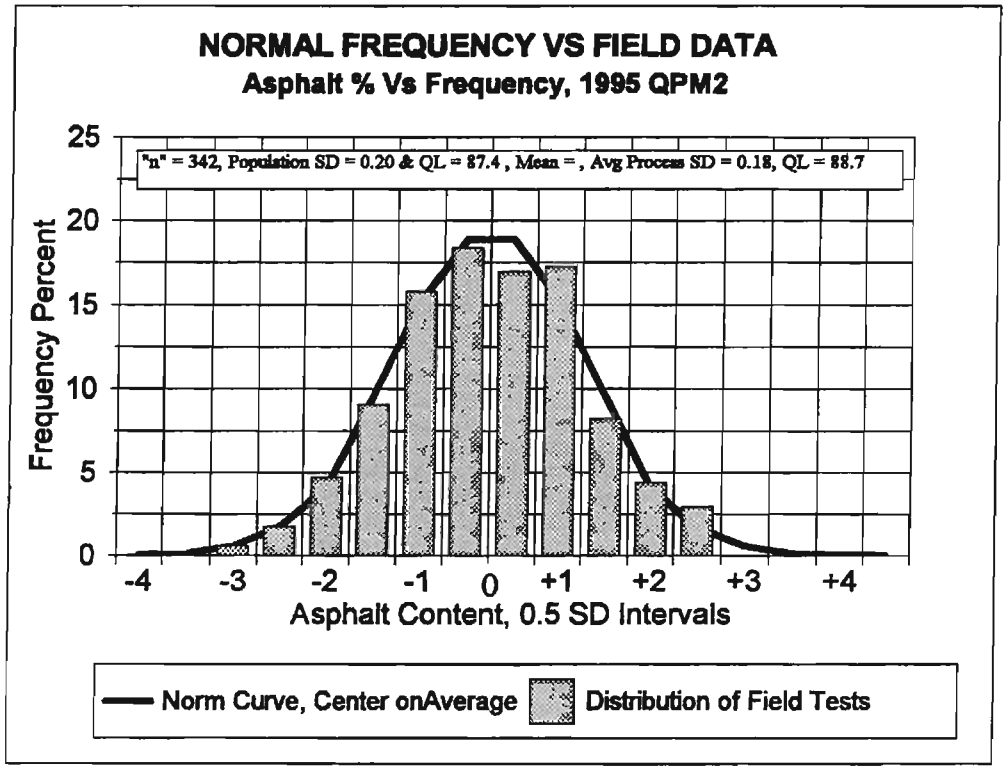

Figure 7

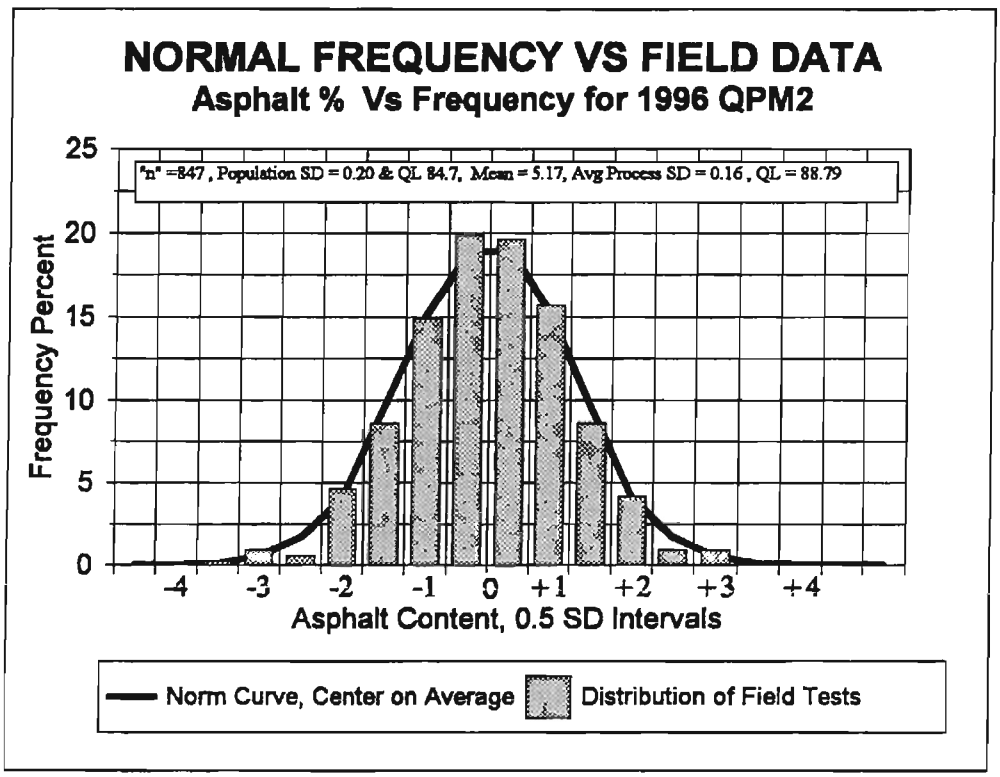

Figure 8

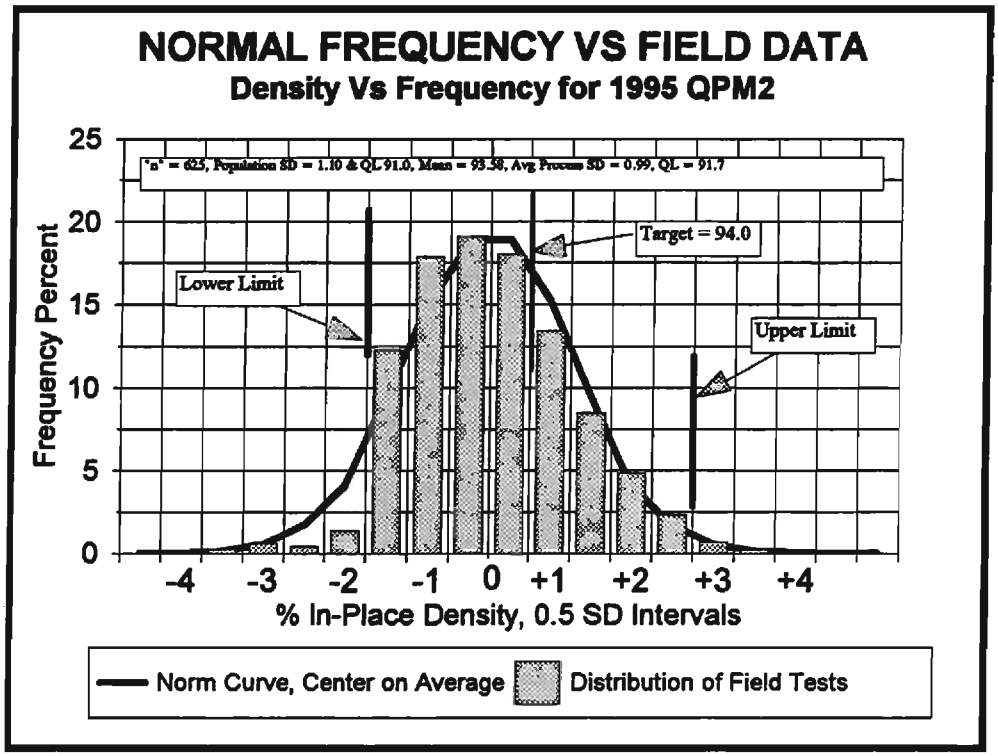

Figure 9

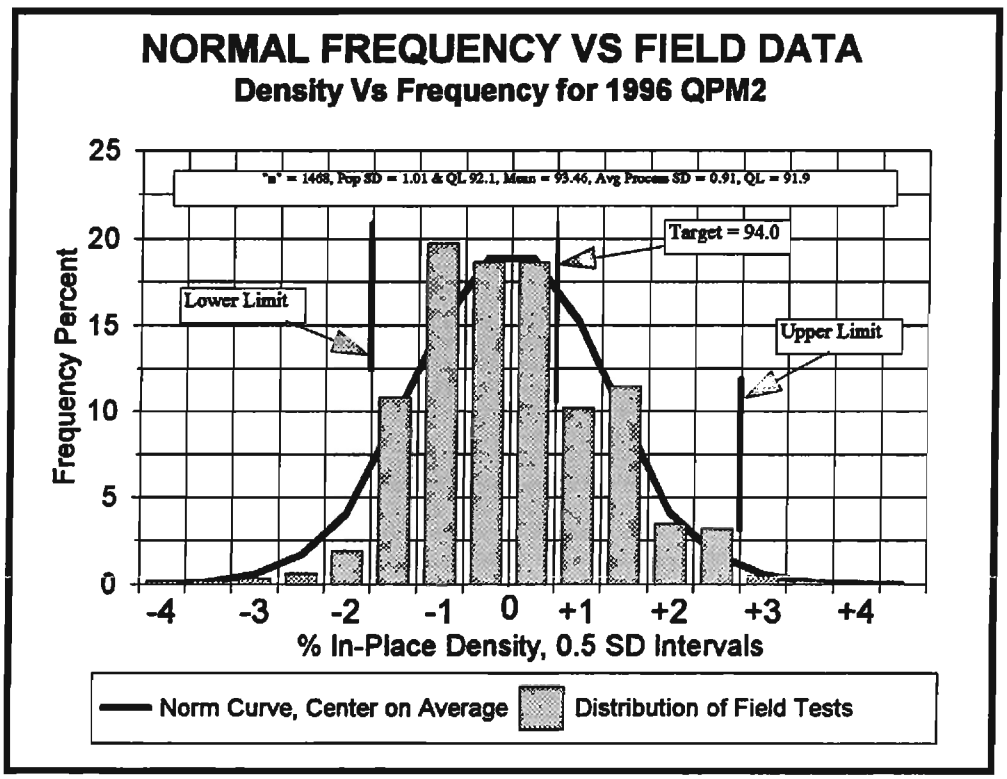

Figure 10

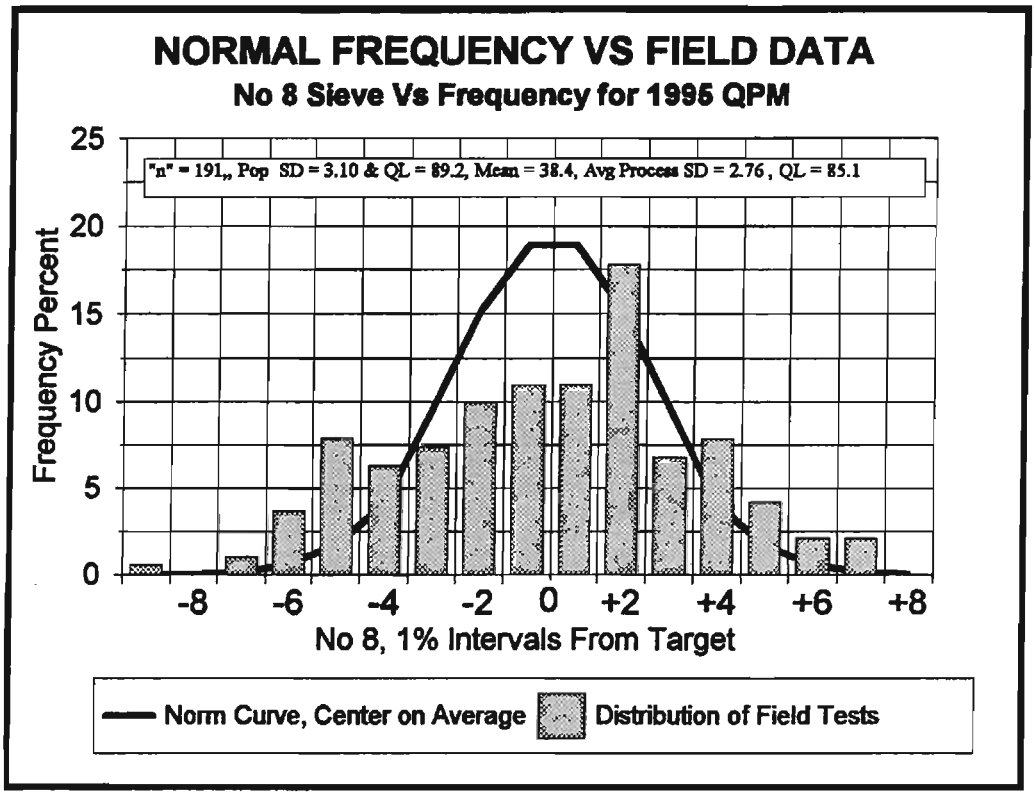

Figure 11

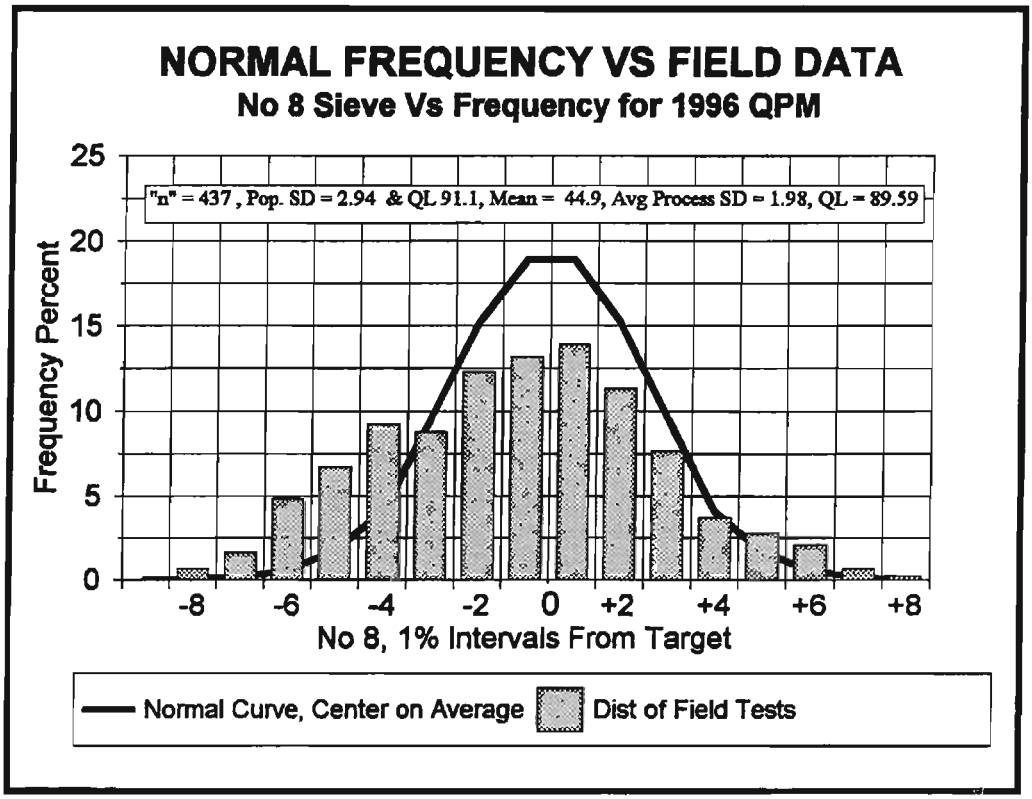

Figure 12