APPENDIX C INSTRUCTIONS FOR COMPLETING DAILY ACC PLANT REPORT

PROJECT NO.

Enter the project number listed on the project plans.

CONTRACT ID

Enter the nine-digit contract number listed on the contract. This is **not** the five-digit accounting ID number.

MIX DESIGN NO.

Enter the mix design number listed on Form #956, for the mix being produced for the day.

COUNTY

Enter the county listed on the project plans.

CONTRACTOR

A group of people or company must perform the work being done, either a prime contractor or a subcontractor. Enter the name of the contractor performing the work. If it is a subcontractor, list this after the contractor name.

RECYCLE SOURCE

When RAP is used on a project, it must come from a known source, list the source of where the RAP material came from. <u>Example</u>: "project grade" - "stockpile."

CLASS

Base courses are classified by class 1 or 2. If no mix class is listed on the Form #956, leave it blank.

SIZE

Each mix is designed at a certain size. Example: 1 in. (26.5 mm), 3/4 in. (19 mm), 1/2 in. (13.2 mm) or 3/8 in. (9.5 mm). Enter the proper mix size listed on the 956 form.

MIX TYPE

List the type of mix specified for the project listed in the contract documents.

PAGE NO.

Leave this line blank; it is used for filing when the project is completed.

REPORT NO.

Start with number 1 at the beginning of work for each contractor on each project for each mix placed. The ending report number shall coincide with the last day of production for each mix. Example: If it takes 15 days to place a binder mix, you shall have to report 1 through 15. If it takes 12 days to place a surface mix, you shall have to report 1 through 12. If work carries over into another construction season, do not start the sequence over; continue the numbering system until work is completed.

DESIGN BLOWS, DESIGN GYRATIONS

Either a mix is designed by using traffic count or ESALs. When the mix being used is based on traffic count, the Form #956 will have a designed Marshall blows and a triple hammer machine will be used for testing. When the mix being used is based on ESALs, the Form #956 will have a designed Gyrations and a Gyratory machine will be used for testing. Report the appropriate information listed on the Form #956.

TEST SUMMARY INFORMATION

This section is located on the left-hand side of the report. This section consists of six columns for data entries. The first column is reserved for target and specification limit information. The second, third, fourth, and fifth columns are reserved for actual test information.

HOT BOX ID NO.

During production each day, a sample of the hot mix is taken from the grade at different intervals according to the amount of mix being produced for each mix type. This sample shall be given a serial identification number for each mix tested. <u>Example:</u> "QMA, QMA-1, QMA-2" or "GYR-1, GYR-2, GYR-3."

DATE SAMPLED

Enter the date the hot box sample is taken and tested.

GRADATION ID

Enter the cold-feed gradation identification number for each sample tested on a given day of production in the second, third, and fourth columns. The fifth column shall say "Avg." if an average is calculated.

1 in. (26.5 mm), 3/4 in. (19 mm), 1/2 in. (13.2 mm), 3/8 in. (9.5 mm), #4 (4.75 mm), #8 (2.36 mm), #16 (1.18 mm), #30 (600 μ m), #50 (300 μ m), #100 (150 μ m), #200 (75 μ m).

Enter the specification limits for the proper sieves in the first column. Enter the final % passing for each sieve in the second, third, or fourth column. The second column is for the first test, the third column is for the second test, and the fourth column is for the third test. If RAP is used in the mix, the final composite % passing each sieve shall be entered in the appropriate column. The fifth column is for the average final % passing if needed.

MOVING AVERAGES

The moving averages for the #4 (4.75 mm), #8 (2.36 mm), #30 (600 μ m) and #200 (75 μ m) sieves are based on the last actual four tests performed divided by four. Enter the moving average directly below the gradation. These figures shall be entered in the appropriate rows provided.

COMPLIANCE

After a cold-feed gradation has been tested, it is compared to the specifications for compliance. If the gradation complies, enter a Y in the appropriate column. If the gradation does not comply, enter an N in the appropriate column.

INTENDED ADDED PERCENT AC

Each mix is designed with a percentage of virgin AC added to the mix. This percent is entered in the first column. This percentage is found on Form #956.

ACTUAL ADDED PERCENT AC

The % of virgin AC added to a mix is kept track of by tank stick or by an approved ticket printout. This calculated actual % virgin AC figure shall be entered in the second column.

INTENDED TOTAL PERCENT AC

When RAP is used in a mix, the RAP contains a percentage of AC. This percentage of AC, along with the virgin AC added, equals the total design AC content. Enter this calculated figure in the first column.

ACTUAL TOTAL PERCENT AC

The actual total percent AC is calculated by the percent of actual virgin AC and the percentage of AC in the RAP material. Enter this figure in the second column.

Gmb (BULK SPECIFIC GRAVITY)

This figure is arrived from the hot box samples tested throughout the day of production. The first hot box tested shall have the Gmb data entered in the second column. The second hot box tested shall have the Gmb data entered in the third column.

Gmm (MAXIMUM SPECIFIC GRAVITY)

This figure is also arrived from the hot box samples tested throughout the day of production. Enter the test results the same way as listed for the Gmb test data.

Pa (% OF AIR VOIDS)

The Pa figure is calculated by using the Gmb and Gmm test results. Enter the Pa results in the second, third, fourth, and fifth columns.

MOVING AVERAGE

After four Pa figures have been calculated, a moving average is established for each mix placed. Enter the moving average figure in the appropriate column the average pertains to.

TIME

Enter the time of day each hot box sample is taken from the grade in the second, third, fourth, or fifth columns.

STATION

Enter the station number where each hot box sample is taken.

<u>SIDE</u>

On a two-lane road there is a left and right of centerline looking up station. On a divided or four-lane road, there is northbound, southbound, westbound, and eastbound. Each lane has a left and right looking up station. Enter the side where the hot box sample is taken.

Example: NB LT = northbound left side, RT = right side

SAMPLE MEGAGRAMS (TONS)

Enter the megagrams (tonnage) of mix placed which represents where the hot box sample is taken.

SUBLOT MEGAGRAMS (TONS)

A day's production is divided into sublots according to the amount of mix being produced. Enter the size of each sublot according to IM 511 requirements.

MEGAGRAMS (TONS) TO DATE

The megagrams (tons) to date is a running total of each mix placed on the roadway throughout the project. This running total does not include plant or road waste.

FINES/BITUMEN RATIO

Enter the Fines/Bitumen Ratio calculated from the percent passing #200 (75 μ m) sieve and the total percent AC figure on Marshall mixes. Enter the Fines/Bitumen Ratio calculated from the percent passing #200 (75 μ m) sieve and the Effective % AC figure on Superpave mixes. This calculation is entered in the second column provided on the report. If an average gradation is calculated, show the average Fines/Bitumen Ratio figure in the fifth column.

Gsb

Enter the bulk specific gravity on the combined aggregate listed on Form #956.

Gb

Enter the specific gravity of the asphalt cement at 25°C (77°F).

EFFECTIVE % AC

Enter the effective asphalt content %, mix basis.

MIX CHANGE INFO

Enter any mix changes that occur during production of a mix.

<u>Example:</u> An aggregate proportion change was made at 9:05 a.m. today. 235 Mg of mix had been produced before the change.

TEMPERATURES & DENSITY INFORMATION

AIR TEMPERATURE

Record the air temperature at the time intervals shown on the report.

AC TEMPERATURE

Record the virgin AC temperature at the time intervals shown on the report.

MIX TEMPERATURE

Record the mix temperature at the time intervals shown on the report.

DATE PLACED

Enter the date the mix was placed on the roadway.

DATE TESTED

Enter the date the roadway cores are tested.

COURSE PLACED

Enter the mix placed. Example: Base, Binder, and Surface.

TESTED BY

Enter the name of the person testing the roadway cores.

STATION

Enter the station where each roadway core was cut from the mat for testing.

CL REFERENCE

A roadway core is obtained at random, a distance from centerline according to where the mix is placed. Enter the distance and side from centerline where each core is cut.

Example: 4 ft. (1.22 m) RT, 3.05 m (10 ft.) LT, District.

W1 DRY

Enter the mass of each roadway core under the appropriate core number.

W2 in H₂0

Enter the mass of each roadway core under the appropriate core number.

W3 WET

Enter the mass of each core, after excess water has been blotted off.

DIFFERENCE

Enter the figure obtained by subtracting the W2 mass from the W3 mass for each core.

FIELD DENSITY

Enter the field density for each core under the appropriate core number.

PERCENT DENSITY

Enter the percent density for each core under the appropriate core number.

PERCENT VOIDS

Enter the percent voids for each core under the appropriate core number.

THICKNESS

Enter the thickness of each roadway core tested under the appropriate core number.

Gmb (LOT AVG.)

Enter the Marshall specific gravity average by adding the individual test results performed during the day of production, and divide by the number of tests performed that day.

Gmm (LOT AVG.)

Enter the maximum specific gravity average by adding the individual test results performed during the day of production, and dividing by the number of tests performed that day.

DISTRICT LABS Pa

Only use this cell when the District Materials Department does the testing on the hot box samples taken. Enter the percent air voids figure calculated by the District Materials Department.

TARGET % RAP

Enter the target % RAP for each day of production when RAP is used in the mix.

AVERAGE FIELD DENSITY

Enter the average field density by adding the seven individual field density figures together and divide by 7.

AVERAGE PERCENT DENSITY

Enter the average percent density by adding the seven individual percent density figures together and divide by 7.

AVERAGE PERCENT FIELD VOIDS

Enter the average percent field voids obtained by dividing the Average Density by the Maximum Specific Gravity figure and multiply by 100. Then subtract this figure from 100.

SPECIFIED DENSITY PERCENT

Enter the minimum density required by specification for type of compaction. **Example**: 94, 95, 96.

QUALITY INDEX (QI)

Three numbers are needed to calculate the Quality Index for the roadway cores. Show work.

Enter the Avg. % Density - Enter Specified Density % = Enter QI
Enter Standard Deviation

LOW OUTLIER

If the QI result is less than 0.73, a possible low outlier shall be calculated and entered.

HIGH OUTLIER

If the QI result is less than 0.73, a possible high outlier shall be calculated and entered.

NEW QI

If the original QI is below 0.73 and one of the outlier calculations is 1.80 or higher, a new QI shall be calculated by removing the test result data of the lowest density core or highest density core, depending if you have a low outlier or high outlier.

FILM THICKNESS (FT)

Enter the microns calculation.

VMA

Enter the percent Voids in Mineral Aggregates calculation.

REMARKS

Enter remarks of delays at the plant site, non-compliant test results, District. <u>Example:</u> Production was stopped for 35 minutes because of a mechanical problem on the grade.

<u>CPI</u>

Enter the Certified Plant Inspector name. Do not use initials.

CERT NO.

Enter the Certified Plant Inspector certification number.

QMA TECHNICIAN

Enter the Quality Management Asphalt Technician name. Do not use initials.

CERT NO.

Enter the Quality Management Asphalt Technician certification number.

Attached are examples of completed reports for different types of mix. Refer to the Remarks Section on each example for the type of use.

1960110	•	120 20	3		in i			ŀ				•		
Contract ID:	99-0697-023	-023		-	Contractor:	Contractor: Mathy Construction	struction	ı	Size:	19mm		Des	Design Blows:	
Mix Design No.:	ABD7-55R4	1R4		Recy	Recycle Source:			i	Mix Type:	4		Design	Design Gyrations:	88
Hot Box I.D. No.:		10-1-SP	10-2-SP	10-3-SP	10-4-SP		Time	7:00	9:00	11:00	1:00	3:00	5:00	7:00
Date Sampled:		07/29/97	7 07/29/97 07/29/97 07/29/97	76/67/1	07/29/97	4	Air Temp. (°C)	15	19	22	24	25	25	
Gradation ID:	Specs	CF10-1SP				4	A.C. Temp. (°C)	151	146	149	151	153	154	
25mm Sieve	100	100				4	Mix Temp. (°C)	146	141	138	139	143	142	
19mm Sieve	90-100	100												
12.5mm Sieve		91					Date Placed: 07/29/97	07/29/97			Ω	Date Tested: 07/30/97	78/08/10	
9.5mm Sieve		77												
* 4.75mm Sieve		42					Course Placed: Surface	Surface			Tested By:	Tested By: George Seward	eward	
* Moving Average		41												
* 2.36mm Sieve	23-35	24								Dens	Density Record			
* Moving Average		25												
1.18mm Sieve		18					Core No.:	-	2	က	4	5	ဖ	7
* 600um Sieve		+					Station	46+65	63+95	70+25	91+95	86+26	113+35	128+45
* Moving Average		11				-	CL Reference	1.2m Rt	3.0m Rt	1.8m Rt	2.4m Rt	2.4m Rt	0.6m Rt	1.8m Rt
300um Sieve		6.2					W 1 Dry	552.4	9.959	573.4	529.3	608.0	549.3	545.0
150um Sieve		3.8					W 2 in H20	302.3	356.5	316.2	292.3	338.7	298.6	304.4
* 75um Sieve	2.0-8.0	3.0					W3 Wet	552.5	657.3	573.9	530.2	608.3	550.3	545.6
* Moving Average		3.0				_	Difference	250.2	300.8	257.7	237.9	269.6	251.7	241.2
Compliance (Y/N)		\					Field Density	2.208	2.183	2.225	2.225	2.255	2.182	2.260
Intended Added, % AC	5.80						% Density	95.833	94.748	96.571	96.571	97.873	94.705	98.090
Actual Added, % AC		5.81					% Voids	8.3	9.3	7.6	9.7	6.3	9.3	6.1
Intended Total, % AC	5.80						Thickness	88	44	38	38	38	38	35
Actual Total, % AC		5.81					Gm	Gmb (Lot Avg.):			Avg. Fie	Avg. Field Density:	2.220	
Gmb:		2.297	2.321	2.296	2.301		Gmn	Gmm (Lot Avg.):	2.407		Avg.	Avg. % Density:	96.342	
Gmm:		2.413	2.398	2.402	2.414		,-	TC Labs Pa:			Avg. % F	Avg. % Field Voids:	7.0	
Pa:		4.8	3.2	4.4	4.7		Tar	Target % RAP:			Specified	Specified % Density:	95	
Moving Average	3.0-5.0	4.3	4.2	4.1	4.3									
Time		02:20	08:30	11:30	02:30		Q.I. =	96.342	;	95.000	11	0.99		
Station		430+00	380+00	320+00	235+00				1.353					
Side		돲	ž	ž	ž									
Sample Mg's		252.00	857.00	1,437.00 2,203.00	2,203.00		Low Outlier:		Ι	High Outlier:			New Q.I. =	
Subfot Mg's		500.00	833.33	833.33	964.95					ı			•	
Mg's to Date		Γ.,		20,671.66 21,636.61	21,636.61			Film Thick	Film Thickness (FT): 14.4	14.4		VMA:	14.7	
Fines / Bitumen Ratio	0.6-1.20													
Gsb:	2.544		1.0250	Effec	Effective % AC:_	4.64	Remarks	This is a	Remarks: This is an example of a sharp mix using the Gyratory.	e of a sh	arp mix u	sing the	3yratory.	
Mix Change Info:														
						:		C.P.I.:	C.P.I.: George Seward OMA Tech: Michael Gullickson	eward			C1095 Cert. No.	Cert. No.
									1					

Mix Design Nov. ABD7-2011R2 Roods GAUS Contractor, Free Charles One Free	tract ID:	9000				in the same of the		{	Class			-	Report No.:	-
Mix Degrey No. ABD7-2011R2	ign No.:	-0800-0	245			Contractor: Fre	d Carlson Co.	i	Size:	13.2mm		۵	sign Blows:	ည
Sample of the control of the contr		BD7-20	11R2		Recy	cle Source:			Mix Type:	œ		Design	Gyrations:	
Second State 100 1	HOT BOX I.D. No.:		QMA-18	QMA-19	QMA-20	QMA-21	Time	7:00	9:00	11:00	1.00	3:00	5:00	7:00
Mail	Date Sampled:		26/30/97	05/30/97	L.	05/30/97	Air Temp. (°C)	12	16	20	22	23	22	
Main Steve 100	Gradation ID:	Specs	SU-7A		SU-7C		A.C. Temp. (°C	_	149	149	149	149	149	
Separation 100	25mm Sieve	100	100		100		Mix Temp. (°C)		145	144	143	140	144	
Part	19mm Sieve	100	100		100									
Mic Name 19-92 84 85 85 85 85 85 85 85	12.5mm Sieve 9	92-100	92		94		Date Place	d: 05/30/97			۵	ate Tested:	06/02/97	
Second Series 61-75 68 68 68 68 68 68 68 6	9.5mm Sieve	79-92	84		85									
Michaelpace 68 68 68 68 68 68 68 6	_	61-75	68		69		Course Placed				Tested By:	Jay Haas		
Michaele 48-59 53 56 56 56 56 56 56 56	* Moving Average		89		89									
Michaelpace 54 54 54 54 54 54 54 5	-	49-59	53		55					Dens	ity Record			
September 16.26 24 25 25 20 20 20 20 20 20	* Moving Average		54		54									
mm. Sieve 18-26 24 25 Station 296+12 290+39 275+63 280+39 275-64 250+39 275-69 280+39 275-69 280+39 275-69 280+39 275-69 270-11 23m Lt 10/10/29 30m Lt 23m Lt 10/10/29 30m Lt 444 <td>1.18mm Sieve</td> <td></td> <td>37</td> <td></td> <td>38</td> <td></td> <td>Core No.:</td> <td>-</td> <td>2</td> <td>3</td> <td>4</td> <td>3</td> <td>9</td> <td>7</td>	1.18mm Sieve		37		38		Core No.:	-	2	3	4	3	9	7
Mix Change 124 256		18-26	24		25		Station	296+12	290+39	275+63	268+82	260+64	252+88	243+21
Mix Change Info: AZ* aggregate proportion change was made before passed by the control of the change of the chan	* Moving Average		24		25		CL Reference	2.0m Lt	3.2m Lt	2.8m Lt	2.3m Lt	0.4m Lt	2.7m Lt	2.1m Li
Michaele Garage	300um Sieve		12		13		W 1 Dry	977.4	984.6	867.4	9.688	930.8	1.019.5	807.5
Mix Change Info: A 2% aggregate proportion change was made before the following Average 3.05.8 4.8 5.0 4.9 4.7 4.4 4	150um Sieve		6.7		7.1		W 2 in H20	551.3	556.4	493.3	499.5	520.6	575.5	455.8
Mix Change 4.6 4.7 4.7 4.4.4	75um Sieve 3	3.0-5.8	4.8		5.0		W3 Wet	977.8	984.9	867.8	889.9	931.3	1,019.9	807.9
Prince (VN)	* Moving Average		4.5		4.7		Difference	426.5	428.5	374.5	390.4	410.7	444.4	352.1
ded Added, % AC 6.10 AC 7.2 6.1 AC 6.10 AC 6.10 AC 6.10 AC 7.2 6.1 AC 6.10 AC 6.10 AC 7.2 6.1 AC 6.1 AC 7.2	Compliance (Y/N)		λ		У		Field Density	2.292	2.298	2.316	2.279	2.266	2.294	2.293
Mix Change Info: AC 5.91 Ac 6.10	Intended Added, % AC	6.10					% Density	97.366	97.621	98.386	96.814	96.262	97.451	97.409
ded Total, % AC 6.10 F31 Thickness 54 55 48 49 53 56 59 53 56 48 49 53 56 56 48 49 53 56 56 48 49 53 56 56 48 49 53 56 56 48 49 53 56 56 48 49 53 56 56 48 49 53 56 56 48 49 53 56 56 48 49 53 56 56 48 49 53 56 56 48 49 53 56 56 48 49 58 56 50	Actual Added, % AC		5.91				% Voids	6.2	5.9	5.2	6.7	7.2	6.1	6.1
Carroll % AC 5.91		6.10					Thickness	54	55	48	49	53	26	43
:: 2.355 2.356 2.350 2.344 Gmm (Lot Avg): 2.443 Avg. % Density: 97.330 i: 2.443 2.448 2.449 2.440 TC Labs Pa: Target % RAP: Target % RAP: Specified % Density: 97.330 Avg. % Field Voids: 6.2 Target % RAP: Specified % Density: 97.330 Avg. % Field Voids: 6.2 Target % RAP: Specified % Density: 97.330 Avg. % Field Voids: 6.2 Target % RAP: Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Field Voids: 6.2 Specified % Density: 97.330 Avg. % Specified % Density: 97.330 Avg. % Specified % Density: 97.330 Avg. % Specified % Den	ctual Total, % AC		5.91				-S	nb (Lot Avg.):			Avg. Fie	ld Density:	2.291	
1. 1. 1. 1. 1. 1. 1. 1.	imb:		2.355	2.366	2.350	2.344	E G	im (Lot Avg.):			Avg.	% Density:	97.330	
Moving Average 3.6 3.9 Target % RAP: RAP: Specified % Density. 95 Moving Average 3.04.0 3.6 3.5 3.6 3.9 Target % RAP: Specified % Density. 95 nn 08:00 11:00 02:00 04:30 04:30 0.662 3.52 nn 289+00 278+00 262+00 249+50 0.662 0.662 3.52 no Seb Mg's 123:00 717:00 1,265:00 2,347:00 1.00 </td <td>mm:</td> <td></td> <td>2.443</td> <td>2.448</td> <td>2.439</td> <td>2.440</td> <td></td> <td>TC Labs Pa:</td> <td></td> <td></td> <td>Avg. % F</td> <td>ield Voids:</td> <td>6.2</td> <td></td>	mm:		2.443	2.448	2.439	2.440		TC Labs Pa:			Avg. % F	ield Voids:	6.2	
Moving Average 3.6 3.6 3.6 3.6 3.6 3.6 3.5	a:		3.6	3.3	3.6	3.9	1	arget % RAP:			Specified	% Density:	95	
nn 08:00 11:00 02:00 04:30 0.1. = 97.330 95.000 = 3.52 nn 289+00 278+00 262+00 249+50 249+50 0.662 New Q.I. = 3.52 st Mg's 123.00 717.00 1,265.00 2,347.00 Low Outlier: High Outlier: High Outlier: New Q.I. = to Date to		3.0-4.0	3.6	3.5	3.5	3.6								
on 289+00 262+00 249+50 249+50 0.662 ole Mg's LT LT LT LT LT LT LT New Q.I. = ole Mg's 123.00 717.00 1,265.00 2,347.00 Low Outlier: High Outlier: High Outlier: New Q.I. = to Date to	Time		08:00	11:00	02:00	04:30	Ö		1	95.000	11	3.52		
Low Outlier: LT LT LT LT LT LT LT L	Station		289+00	278+00	262+00	249+50			0.662		•			
123.00 717.00 1,265.00 2,347.00 Low Outlier: High Outlier: High Outlier: New Q.I. = 500.00 666.67 666.87 686.84 Film Thickness (FT): 9.0 VMA: 15.1 0.3-1.20 0.81	Side		ΓŢ	5	5	r r								
500.00 666.67 666.87 686.84 Film Thickness (FT): 9.0 VMA: 15.1 0.3-1.20 0.81 1.289.42 11.289.42 11.376.26 Remarks: Die roll gradation tested. Remarks: Die roll gradation tested. This is a completed report for a Marshall Mix. 0.3-1.20 0.81 Effective % AC: 4.99 This is a completed report for a Marshall Mix. 0.3-1.20 0.81 Effective % AC: 4.99 This is a completed report for a Marshall Mix. 0.3-1.20 0.81 Effective % AC: 4.99 This is a completed report for a Marshall Mix. 0.3-1.20 0.81 Effective % AC: 4.99 This is a completed report for a Marshall Mix. 0.3-1.20 0.81 Effective % AC: 4.99 This is a completed report for a Marshall Mix. 0.3-1.20 0.81 Effective % AC: 4.99 This is a completed report for a Marshall Mix. 0.3-1.20 0.81 Effective % AC: 4.99 This is a completed report for a Marshall Mix. 0.3-1.20 0.81 Effective % AC: 4.99 This is a completed report for a Marshall Mix. 0.3-1.20 0.81 Effective % AC: 4.99 This is a completed report for a Marshall Mix. 0.3-1.20 0.81 Effective % AC: 4.99 This is a completed report for a Marshall Mix. 0.3-1.20 0.81 Effective % AC: 4.99 Effective % AC: 4.99	Sample Mg's		123.00		1,265.00	2,347.00	Low Outlie	ï	I	igh Outlier:			New Q.I. =	
9,956.08 10,622.75 11,289.42 11,976.26	Sublot Mg's		500.00	29.999	l.	686.84				,				Ì
sb: 2.509 Gb: 1.0248 Effective % AC: 4.99 This is a completed report for a Marshall Mix. C.P.I.: Jay Haas NE208	Mg's to Date				11,289.42	11,976.26		Film Thick	ness (FT):	9.0		VMA:	15.1	
2.609 Gb: 1.0248 Effective % AC: 4.99 This is a completed report for a Marshall Mix. A 2% aggregate proportion change was made before production started today. C.P.I.: Jay Haas NE208	Fines / Bitumen Ratio 0.		0.81									'		
A 2% aggregate proportion change was made before C.P.I.: Jay Haas NE208		5.609	g	1.0248	Effec		l	s: Die roll g	radation te	sted.				
production started today.		9000	, honora eten	apacho noi	1 open sem	1		This is a	complete	d report	for a Mar	shall Mix		
C.P.I.: Jay Hads		Attendion of	tarted today	201010	אמט ווומתר	Jeluic			12. H				a C C LI N	1
J	2	o iononn	ומו וכח וטחמא					֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝ ֓֡֡֞֝֞֝֞֡֞֞֞֝֓֞֝֞֡֓֓֞֝֡֓֡֓֞֝֓֡֓֞֡	Jay nads			,	NEZUO	Cerr. No.

Project No.:		STPN-9-6(45)2J-66	တ္တ		County: IVII	Mitchell		Class:			_	vepoli No	+
	66-0096-045	145		•	Contractor: Fr	Contractor: Fred Carlson, Co.	i	Size:	2		Des	Design Blows:	20
		33 R1		Recyc	Recycle Source:		İ	Mix Type:	В		Design	Design Gyrations:	
No.		OMA-13	OMA-14	QMA-15	QMA-16	Time	7:00	9:00	11:00	1:00	3:00	5:00	7:00
Date Sampled:		T.	I	i.	05/05/97	Air Temp. (°C)	L	13	17	18	19	21	
Gradation ID:	Specs	BI-4A	81-48	BI-4C	Avg.	A.C. Temp. (°C)		149	149	149	149	149	
25mm Sieve		<u>6</u>	100	92	100	Mix Temp. (°C)	(°C) 140	144	141	136	138	139	
19mm Sieve	98-100	26	66	100	66							9	
12.5mm Sieve	83-97	93	8	06	91	Date P.	Date Placed: 05/05/97	<u>_</u> _		ä	Date Tested: 05/06/97	76/90/90	
9.5mm Sieve	74-88	78	78	88	79		i			!	1		
* 4.75mm Sieve	57-71	61	61	65	62	Course PI	Course Placed: Binder		1	Tested By:	Tested By: Jay Haas		
* Moving Average		61	61	62					1				
* 2.36mm Sieve	41-53	45	45	48	46				Dens	Density Record			
* Moving Average		44	45	46									
1.18mm Sieve		35	35	37	36	Core No.:	No.:	2	3	4	2	9	_
* 600um Sieve	16-26	23	23	25	24	Station	291+15			318+29	318+70	329+19	334+85
* Moving Average		23	23	23		CL Reference			_	2.5m Lt	3.2m Lt	3.2m Lt	Z.1m L.
300um Sieve		10	6.6	10	10	W 1 Dry	993.2		930.8	943.0	816.2	939.4	/98.1
150um Sieve		5.4	5.4	4.9	5.2	W 2 in H20		\dashv	523.2	534.2	459.1	530.4	453.7
* 75um Sieve	3.0-6.3	4.1	4.0	3.7	3.9	W3 Wet	993.3	-	931.4	943.4	816.7	939.7	798.5
* Moving Average		3.9	4.0	4.0		Difference			408.2	409.2	357.6	409.3	344.8
Compliance (Y/N.)		z	>	>	3	Field Density	ity 2.315	2.325	2.280	2.304	2.282	2.295	2.315
Intended Added % AC	5.90					% Density	98.260	6	96.774	97.793	96.859	97.411	98.260
Actual Added. % AC		5.76			5.76	% Voids	5.2	4.8	9.9	5.7	9.9	0.9	5.2
Intended Total. % AC	5.90					Thickness			47	48	43	47	45
Actual Total. % AC		5.76			5.76		Gmb (Lot Avg.):	7	1 01	Avg. Fit	Avg. Field Density:	2.302	
Gmb:		2.374	2.341	2.344	2.363		Gmm (Lot Avg.):	.): 2.442	O.I	Avg.	Avg. % Density:	97.720	
Gmm.		2.441	2.441	2.441	2.444		TC Labs Pa:	a:	1	Avg. % I	Avg. % Field Voids:	5.7	
D2.		2.7	4.1	4.0	3.3		Target % RAP:	ä	ı	Specified	Specified % Density:	95	
Moving Average	3.0-4.5	3.3	3.6	3.6	3.5								
- Barray Billioni		08:15	10:45	01:45	02:44		Q.I. = 97.720		95.000	JI	3.70		
Chation		337+00	325+00	314+00	300+00			0.736					
Cido		=	-	-	=======================================								
Sample Male		252 00	854 00	1 460 00 2 333 00	2 333 00	Low C	Low Outlier:		High Outlier:			New Q.I. =	
Cattiple Ing a		500 00	666.67	666.67	910.02			1	ı				
Subject Mgs		7 085 06	8 652 63	931930	10 229 32		Film Th	Film Thickness (FT):	6.6		VMA:	14.5	
Mys to Date	0.2-1.20	0.71			0.68			,					
	4					Rer	Remarks: This is a completed example of a Marshall Mix Report were	a comple	This is a completed example of a Marshall Mix Report were to see the complete the fact of the ware tested	ole of a M	arshall M	ix Repor	t were
Gsb:	2.598	ë	1.0248	Effe	Effective % AC:	4.00	an ave	rage grad	an average gradation & new FBR was calculated	w FBR w	as calcul	ated.	(200
Mix Change Info:							(100 Hoose	ي			NEODR	No.
		1	1	4			OMA Tech	Jayriaa h Al Forde	2 ~			NE118	Cert. No.

Hot Box I.D. No.: ABD7-2011 Recycle Source: Time 7:00 Date Sampled: 65/30/97 05/30/97 05/30/97 05/30/97 05/30/97 05-12A DS-12A DS-12A DS-12C Time 7:00 25mm Sleve 100 100 100 100 100 144 19mm Sleve 100 100 100 100 100 144 12.5mm Sleve 17-92 84 Ac. Temp. (***) 144 12.5mm Sleve 17-92 84 Ac. Temp. (***) 144 1.18mm Sleve 17-92 84 Ac. Temp. (***) 144 2.26mm Sleve 17-94 8-8 8-8 8-8 8-8 1.18mm Sleve 12-2 Acta Sleve Course Placed: GE/30/97 Core No.: 1 1-1 5.00mm Sleve 6.7 Acta Sleve 8-7 W. J. Dry W. J. Dry W. J. Dry 5.00mm Sleve 6.7 Acta Sleve 6.7 W. J. Dry W. J. Dry W. J. Dry W. J. Dry 5.00m Sleve 6.10 T. A.	Mix Tyne.	
Specs Su-7A DS-12B DS-12C Air Temp. (°C) 100	ם	Design Gyrations:
Specs SU-7A Air Temp. (°C) Air T	11:00 1:00	
Specs SU-7A Mix Temp. (°C) 100	16 20 22	\dashv
100 100	149 149 149	+
100 100	44 145 144 143 140	144
92-100 92 Date Placed: Universe Placed: Seriage 49-59 53 Course Placed: Seriage 37 Core No.: Station Core No		1,06,000,007
73-92 84 Course Placed: Series	-	Date Tested: 00/02/9/
61-75 68 Course Placed: State		Otophord
18-26 53 Core No.: Core No.: Station	Tace lested by: Dallily Steelinan	y Steet It laid
18-56 53 Core No.: 18-26 24 Station 18-26 24 Station 12 W.1 Dry 12 W.2 in H20 13 W 2 in H20 13 W 3 Wet 14 W 4C St.10 W 3 Wet 15 W 4C St.10 W 3 Wet 16 W 5.91 W 10 17 W 10 W 10 18 W 10 W 10 19 W 10 1	6	
18-26 24 Core No.:	Density Record	
verage 37 Core No.: verage 12 CL Reference verage 6.7 W.1 Dry verage W.2 in H20 NJ) Y W.2 in H20 N, Max W.2 in H20 W.2 in H20 N, Max W.3 in H20 W.3 in H20 N, Max W.3 in H20 W.3 in H20 W.3 in H20 W.3 in H20 W.3 in H20 W.3 in H20 W.3 in H20 W.3 in H20 W.3 in H20 W.3 in H20 W.3 in H20 W.4 Dry W.2 in H20 W.3 in H20 W.5 Density % Voids AC 5.91 % Voids AC 5.91 W.0 ids AC 5.91 W.0 ids Rerage 3.0-4.0 08:00 12:00 B Rt Rt Rt Rt Rt		
verage 18-26 24 Station verage 12 CL Reference CL Reference Nu 1 Dry W1 Dry W2 in H20 Nu 2 in H20 W2 in H20 W2 in H20 Nu 3 Wet W3 Wet Pield Density No AC 6.10 % Density % Density No AC 6.10 % Density % Voids No AC 6.01 100 Density % Density No AC 6.10 100 Density % Density No Ac 6.00 100 Density 100 Density Rett Rt Rt Rt Rt Rt Rt Rt	2 3 4	0
Average 12 CL Reference 6.7 6.7 W1 Dry Average 4.8 W2 in H20 Average W3 Wet Average W3 Wet Average Bield Density % AC 6.10 6.40 5.91 Ac 6.591 Ac 6.591 Ac 7 Ac 6.80 Ac 1.100 Ac 1.100 Ac 1.200	290+39 275+63 268+82	252+88
12 12 W1 Dry	3.2m Lt 2.8m Lt 2.3m Lt	2.7m Lt
Average 6.7 W2 in H20 Average 4.8 W3 Wet Average 5.91 % Voids % AC 6.10 % Voids % AC 6.10 % Voids % AC 6.10 % Voids % AC 6.91 % Voids % AC 6.91 % Voids % AC 6.91 Thickness % AC 6.91 Thickness % AC 6.91 Thickness % AC 6.92 Trackness Merage 3.04.0 Thickness Merage 3.04.0 Thickness RR Rt Rt Rt Rt Rt Rt Rt Rt 167.00 1,305.00 1,680.00 9,956.08 Low Outlier	984.6 867.4 889.6	1,019.5
Average W.3 Wet Average V W.3 Wet Interest Difference Difference Interest P. Density P. Density % AC 6.10 P. Voids % AC 6.10 P. Voids % AC 6.10 P. Voids % AC 6.91 P. Voids AC 5.91 P. Voids Gmb (Gmb) Cmm (Gmb) Cmm (Gmb) AC 289+00 12:00 02:00 AC 289+00 271+50 258+75 AC Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt AC 167.00 1,305.00 1,680.00 Low Outlier:	556.4 493.3 499.5	575.5
Average Y Difference (IN) 4, % AC 6.10 Field Density 4, % AC 6.10 % Density % Density % AC 6.10 % Voids % Voids % AC 6.10 % Voids % Voids % AC 6.20 Thickness Thickness % AC 6.4C Thickness Thickness AC 6.4C 108.00 12:00 02:00 AC 6.4C 167.00 1,305.00 1,680.00 AC 1,305.00	984.9 867.8 889.9	1,019.9
AC 6.10	6.5 428.5 374.5 390.4 410.7	444.4
AC 6.10	\vdash	2.294
Added, % AC 6.10 5.91 Thickness Added, % AC 6.10 5.91 Thickness Camb (Total, % AC 6.10 5.91 Thickness Camb (Gmm (Gmm (Gmm (Added (Gmm (Gm	366 97.621 98.386 96.814 96.262	62 97.451 97.409
Autoral, % AC 6.10 5.91 Thickness Thickness Total, % AC 6.10 5.91 Thickness Gmb (Gmm (Gmm (Autorage 3.0-4.0 2.89+00 2.71+50 2.58+75 Targe T	5.9 5.2	6.1
Total, % AC 5.91 Gmb	55 48 49	56 43
Control % AC 2.91 Control	2 354 Ava Field	
Common	2.334	
Towing Average 3.0.4.0 Targe Towing Average 3.0.4.0 Targe Targe Targe Targe 289+00 271+50 258+75 Call =	2.443	1
fowing Average 3.0.4.0 Targe 12:00 02:00 02:00 289+00 271+50 258+75 8 Mg's 167:00 1,305:00 167:00 1,305:00 1,680:00 Low Outlier: 9,956:08	3.6	
Moving Average 3.0-4.0 08:00 12:00 02:00 0.00 n 289+00 271+50 258+75 289+00 271+50 258+75 Low Outlier: le Mg's 167:00 1,305:00 1,680:00 Low Outlier: Low Outlier: th Mg's 9,956:08 9,956:08 Pate Pate	RAP: Specified % Density:	Sty: 65
n 289+00 12:00 02:00 Q.1.= n 289+00 271+50 258+75 le Mg's Rt Rt Low Outlier: Low Outlier: th Mg's 9,956.08		
n 289+00 271+50 258+75 Rt Rt Rt Rt Is Mg's 167.00 1,305.00 1,680.00 to Date 9,956.08 1,995.08		2
le Mg's 167.00 1,305.00 1,680.00 Low Outlier. Low Date 9,956.08	0.662	
t Mg's 167.00 1,305.00 1,680.00 Low Outlier: 1 t Mg's 9,956.08		
80,356,9	High Outlier:	New Q.I. =
80'926'08		
9,930,00	Film Thickness (ET): 9 0	VMA: 15.1
		1
Fines / Bitumen Ratio 0.3-1.20 0.81		
Remarks: Remarks: Remarks: This Cab: 2.609 Gb: 1.0248 Effective % AC: 4.99 This Hot t	This is a completed report for a non-QMA tested mix. Hot box testing performed by TC Materials Department.	A tested mix. als Department.
Mix Change Info:		000
S	C.P.I.: Jay Haas	NEZUO Cer. No.