LaPave

Notes:

Cells with Blue background are data entry fields

Open a copy of LaPave to follow along

The tabs are listed in order that they appear in LaPave

The Excel version of LaPave is JMF specific. Each JMF has its own LaPave file. One LaPave, One JMF.

The last page is a guide for the roadway.

Reporting Tab

The district lab:

Download the latest version of LaPave from the "Public Share Folder" that is provided by the Materials Lab (section 22)

On the reporting tab:

- 1.) "Check for Latest Version" of LaPave
- 2.) "Update Material Codes from the Server"



Send the contractor the blank LaPave with the latest Material Codes loaded

Materials Setup

The contractor can create a "Material Setup" that can be exported & imported

Materials that are specific to a contractor can be selected from drop downs. The setup will greatly reduce the selection options as well as speed up the JMF process. Mix additives, AC source & grade, coarse & fine aggregates, and RAP are some of sources that can be contractor specific

Consensus properties as well as gradations for the individual aggregates can be entered. This will auto populate certain fields for the JMF input process

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28	3 APS00	00510-Valero Marketing and Supply - St. James, LA		1002M00040-Binder PG 70-22m-Binder PG 70-22m Marathon - Garyville 1002M00050 Binder PG 76 22m Binder PG 76 22m Marathon - Garyville	PG 76 22M		70-22m							
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31	6 APS000	10660-Martin Asphalt Company - South Houston, TX 10870-Martin Asphalt Company Stanolind - Beaumont, TX												
32	7 APS000	10880-Martin Asphalt Company Neches - Beaumont, TX	▼				-							
33	8		-				Bulk		FΔΔ	Sand Eq.	Flat & Flong	CAA	Micro Deval	Friction
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36	1	APS00006600-Lafarge Aggregates-Isabel-Bogalusa,LA		1003M00120-Agg, Coarse - HMAC-Agg, Coarse - HMAC-Lafarge(Honey	+1/2" Cr Grave		2.464	2		İ				
37	2	APS00005880-Bayou Sand & Gravel, LLC-Amite, LA	_	1003M00120-Agg, Coarse - HMAC-Agg, Coarse - HMAC- Bayou S & G	-1/2" Cr Gravel		2.451	2.3	47					
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Project Tab

The Project Tab is used to enter project information that can be modified if necessary

- 1) Click the new button to create a new project
- 2) Enter the project number, project name, project engineer, contractor, ADT & ESAL count
- 3) Click the submit button record the entered information. If using the Excel version of LaPave, you must also use the "SAVE" function
- 4) The arrows are used to scroll through the projects that have been entered

If the information for a project needs editing, scroll to that project. Edit the information & click submit. If using the Excel version of LaPave, you must also use the "SAVE" function

If you are on the last entry there will be a "You are on the last record" dialogue box



Optimum AC Test Results Tab



The "Optimum AC Test Results" tab is used to enter design information. The Blue fields are data entry fields.

- 1. One G_{mm} is entered at or near the optimal AC content
- 2. The sheet will calculate the G_{mm} plus and minus 0.5% from the entered G_{mm}.

- 3. A minimum of two gyratory briqs at the three design AC contents are to be made and entered into the top portion of the tab. There is a place for a third briq at each AC content if the designer so chooses.
- 4. There is also a section for a fourth AC content point for use at the option of the designer
- 5. The tab will plot give a suggested AC content that the designer may their discretion. This is based on the design voids entered and the graph fit
- 6. A verification G_{mm} also required as part of the design process
- 7. A minimum of two design and one max brig is required for the verification point. There are places for three of each if the designer chooses to utilize all entries.
- 8. The design information is plotted for Voids, VMA and VFA. The three or four points that form the graph line are the design points. The red point on the graph represents the verification point.
- 9. Mix type entry and Contractor Mix ID

Comp. Grad. And FAA Input

This tab is being covered in two parts

The first will cover individual aggregate gradation, composite gradation, gradation bands and .45 power curve

- 1. The individual aggregate names will be picked up from the JMF input page along with bin percentages. The gradations can be populated one of two ways
 - a. If the contractor utilizes the Material Setup tab, gradation values will auto populate if they were set up.
 - b. They can be manually entered if "Other" is used on the "Aggr. Class" dropdown on the "JMF Input" tab. After manually entering the gradation, the "Aggr. Class" can be changed to either "Coarse" or "Fine"
- 2. Gradations for the individual aggregates
- 3. Composite gradation of the mix
- 4. Gradation band for the Nominal Aggregate Size
- 5. FAA values and bin percentages are auto populated from the "JMF Input" tab
- 6. .45 power curve

The second part of the "Comp. Grad. and FAA Input" tab is about mix correction factors.

This establishes gradations of lab design mixes after going through the ignition furnace as well as the difference between the known AC content compared to the scale to scale calculated AC content to create an AC correction factor.

There should be a minimum of two ignition furnace extractions, which are averaged, to determine correction.

- 1. Weight for the empty burn basket is entered. The weight of the basket and mix is entered before and after the furnace extraction. The initial weight of the recovered aggregate as well as the dried weight after washing over the #200 sieve.
- 2. The gradation weights are entered.
- 3. The weight of the + #4 crushed aggregate is entered to calculate the percent crushed.
- 4. If the difference between the two correction factors is greater than 0.15, two more furnace extractions should be performed.
- 5. A gradation comparison is given for the after burn gradation vs composite gradation.
- 6. The calculated correction factor that will be used on the JMF.
- 7. Entry for the second furnace extraction and gradation.

Repeat for the third and four if the difference between the first and second burns are greater than 0.15

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Moisture Susceptibility Design

This will be covered in two parts.

LWT AASHTO T 324 - Can be used for all mixes. Required for all mixes under traffic.

- 1. There is an entry for the LWT for design and one for plant run mix that is part of the validation process
- 2. The date sampled for both design and validation
- 3. The G_{mm} submitted with the design
- 4. The G_{mm} determined from the validation that is automatically pulled from the JMF.
- 5. Air, water, and SSD weights are entered to determined void content of the gyratory samples
- 6. Paired samples and average voids of the pair.
- 7. If a dual wheel tracker or a second set of samples are tested this will be utilized.
- 8. Temperature test was performed
- 9. The number of passes on the LWT correlating to the mix type and specification requirements
- 10. Pass / Fail dropdown
- 11. The rut depth at the corresponding pass
- 12. If a dual wheel tracker or a second set of samples are tested this will be utilized

TSR TR 322 / AASHTO T 283 – Tensile Strength Ratio – This can be used for minor mixes at the option of the contractor.

Like the LWT, this test will need to be performed on the lab design as well as plant run mix.

- 1. Date mix was sampled
- 2. Weights entered to determine air voids. Sort the specimens into two sets of three so that the average percent air voids of the two sets are as close to equal as possible
- 3. Enter after vacuum SSD and in water weights to calculate percent saturation
- 4. Enter two diameter measurements per the testing procedure
- 5. Enter three thickness measurements per the testing procedure
- 6. Enter the dial reading from the loading apparatus
- 7. Enter the maximum load from the conversion table for the loading apparatus

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JMF Input

The JMF Input page is a combination of dropdown choices and manual entries. The version with the "Material Setup" tab will have more dropdown choices.

- 1. The header information is completed with a combination of dropdowns and manual data entry.
 - a. <u>Project No.</u> Information entered in the "Project" tab will appear in a dropdown. You may have to scroll up for the entered projects to be visible. <u>Project Name</u>, <u>Project Eng</u>. And <u>Contractor</u> will auto fill when the project number is chosen.
 - b. <u>Contr. Mix #</u> Manual input
 - c. <u>Mix Code</u> Dropdown for either English or Metric. Hopefully there are very few metric projects on the shelfs
 - d. <u>SMM P/S</u> Auto populate from the "Material Setup" tab cell B5
 - e. JMF No Manual input
 - f. <u>Design Level</u> Dropdown
 - g. <u>Use</u> Dropdown
 - h. Plant type Dropdown
 - i. Nom Agg Size Dropdown
 - j. <u>ADT</u> Auto populate from <u>Project No.</u> choice
 - k. Production Rate Manual entry
 - I. <u>Mix Temp</u> Manual entry
 - m. AC Corr Factor Auto populate from the "Comp. Grad. and FAA input" tab
 - n. ESAL Auto populate from Project No. choice
 - o. <u>Adj Fac</u> Calculated from the design G_{mm} and then from the validated G_{mm} after validation
 - p. SMM ID Created from GET SMM ID
 - q. Date Manual input
 - r. Design LWT Rut Auto populate from the "Moisture Susceptibility Design" tab
 - s. No. Passes Auto populate from the "Moisture Susceptibility Design" tab
- 2. The Aggregate Type and Consensus section of the "JMF Input" tab can be completed manually in older versions of LaPave or as a combination of dropdown and manual entry in the version of LaPave with the "Material Setup" tab
 - a. For versions of LaPave with the "Material Setup" tab, <u>choose the "Aggr Class" first</u>. <u>Aggregate Type</u> has a dropdown to choose each aggregate for a JMF. The <u>P/S Code</u>, <u>Bulk Gravity</u>, <u>Absorption</u>, <u>FAA</u>, <u>Sand Eq</u>., and <u>Flat & Elong %5:1</u> will auto populate from information entered on the "Material Setup" tab. Older versions of LaPave, all the above properties will have to be entered.
 - b. The " $\underline{\%}$ " of aggregate in a manual entry.
 - c. <u>% Ret No. 8</u> and <u>% Ret No. 4</u> auto populates from the "Comp. Grad. and FAA Input" tab

- d. <u>Aggr. Class</u> has dropdowns for Coarse, Fine, RAP and Other. If RAP is chosen, it will auto populate the "<u>%</u>" based on the data entered in the section containing <u>Rap 1</u> and <u>Rap 2</u>. Choosing Other will allow manual entry of the gradation for that particular aggregate on the "Comp. Grad. and FAA Input" tab.
- 3. <u>Material</u> In older versions of LaPave this is a manual entry. In the LaPave with the "Material Setup" the Asphalt and Anti-strip can be chosen from the dropdown from each. The <u>Asphalt Content from RAP</u> is auto populated from the data entered in <u>Rap 1</u> and <u>Rap 2</u>.
- 4. <u>Warm Mix</u> Warm Mix Yes/No dropdown, Method Water, Chemical or None dropdown, Rate manual entry, If Chemical Brand Name manual entry
- 5. Draindown Control Cellulose Fiber, Mineral Fiber, Crumb Rubber, and None from the dropdown
- 6. %Crushed, Comp. Temp, and SCB Jc are manual entries
- 7. Rap 1 and Rap 2 % Mix Rap Total and % AC in RAP are manual entries
- 8. Cold Feed and Avg Oven Extract Auto Populate from the Comp. Grad. and FAA Input tab
- 9. Validated Results Populated and tolerances applied from the "JMF" tab
- 10. IMPORT button Import all the JMF information from another LaPave file

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Lapave 502_newspec_3-30-16-Instructions.xlsm - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW React Delete Format 🚔 🔏 Cut • 10 • A A = = = ≫ • ₩rap Text ▼ ≠ Arial Copy 🔹 Sort & Find & Insert Delete Format v v v v v e Clear v Filter v Select v Formatting - Table -S Number Clipboard Fa . Font Alignment Styles Editing Cells → : × √ fx 1002M00220-Ad-Here LA 2 C25 A B C D E F G H I J K L M N O P Q R S T U V W X SUPERPAVE ASPHALTIC CONCRETE MIXTURES Project No. H234567 Mix Code 26-English JME No Traffic (ADT) ESAL 20,999 999 727 Plant Type 3-dryer drum Project Name Delta Blues Design Level A Prod. Rate 300 Adj.Fac 1.00 1 Nom Agg Size 0.5 in. Mix Temp Specs 2016 AC Corr Factor Project Eng. B.B. King Mix Type Incidental Paving 300 Date 6/2/2016 GET SMM ID Use Min - Shoulder > 7ft Design LWT Rut 0.43 2.51 Contractor Lucille SMM P/S PS00000520-Contractor Supplied Contr. Mix # xyz SMM ID 005601603100942 No. Passes 20000 FAA Sand Eq. Flat & Elong P/S Aggregate Bulk CAA Friction %Ret %Ret Aggr. 1 Absorption Method A - 4.75 mm Code Gravity %5:1 Rating No.8 No.4 IMPORT Туре Class 17.8 APS00007380 1003M00120-#68 LS 2.649 1 10 98.2 96.2 Coarse 2 PS00009999 1003M01000-Fine Cr RAP 19.1 2.595 1 51.1 36.8 Rap APS00009999 1003M03320 - Cr Gravel 23.8 2.18 45 95 111 65.6 414 2.497 Fine APS00009999 1003M03270 - Cr Stone #1 27.0 2 642 1.01 47 100 111 14.9 0.0 Fine APS00009999 1003M00110- Sand 2.631 39 94 12.3 0.4 0.2 0.1 Fine 18 19 20 4 100 (21 Material % Source Code Sp. Gravity Warm Mix Asphalt Gyr. Rev Asphalt APS00000510 1002M00040-Valero 70-22m Nini 4.3 1.03 Warm Mix Yes 7 Asphalt Content from RAP 0.9 1.03 Method Water Ndes 65 Anti-strip APS00003920 1002M00220-Ad-Here LA 2 0.6 Rate 2.00% Nmax 100 25 If Chemical 26 Cold Feed Avg Oven Extract 27 Validated Results Brand Name 0 9 28 Sieve % Passing % Passing % Passing Tolerance O 29 2" 50 Draindown Control 100 100 100 5 30 1.5" 37.5 100 100 Туре 31 1" 100 100 Rate 32 3/4" 19 100 100 If Chemical ---33 1/2" 12.5 Brand Name 96 96 ---34 3/8" 9.5 86 88 ---35 #4 4.75 66 67 %Nat Sand 0 ---PSG 1.03 36 **#8 2.36** 37 **#16 1.18** Rap 1 Rap 2 53 51 correct rap agg% n ---39 36 %Design AC Туре ---J.2 38 **#30 0.6** 28 26 %Crushe 96 % MixRapTota 20.0 ---D % AC in RAP 39 **#50 0.3** 14 15 G_{sb}av 2.597 4.3 ---40 #100 0.15 % MixRap Agg 6 9 Comp Tem 295 ---19. 0.74 0.9 % MixRap AC 41 #200 0.075 44 5.9 SCB J ---42 43 Extracted %A 5.2 44 45 46 Remarks: 47 LaPave 502 v16.03.18 6/3/2016 10 🔹 🔸 Material Setup Project Optimum AC Test Results Comp. Grad. and FAA Input Moisture Susceptibility Design JMF Input JMF UMF CHECK 🛞 : 🔄 Þ READY

<u>JMF</u>

For the most part, the "JMF" tab auto populates. The signature area has some input as well as the Remarks section.

- 1. The header section auto populates based on the project selected and the design information input on the "JMF Input" tab
- 2. The aggregates, bin percentages, properties and source codes auto populate from the "JMF Input" tab.
- 3. Composite averages are calculated and shown on the "JMF" tab
- 4. Asphalt Cement and Additives are auto populated from the "JMF Input" tab
- 5. LWT and SCB Jc value are displayed in this section

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					ME SUP	FRPAVE	ASPHAL	TIC CO	NCRETE	MIXTU	RES					
N Project No.	Aetric/Engl H23	ish 4567	E	F	Plant Code	PS00000	520-Contr	ractor Su	pplied				SMM ID	005601	16031	0094
Specs 2016		Plant T	ype	3-dryer d	rum	1	Mix Type	Incider	tal Paving	Mix Use	Min - S	Shoulder >	7ft	Des.Level	1	A
SAL 20,9	99	Pr	od.Rate	300		-	Mix Temp	300						Seq No	1	999
Adj. Factor	1.00			ADT/lane	7	27	Nom	Agg.Size	0.5 in.		AC Cor	Factor	0.43			_
Project Name		Delt	ta Blues		Project Co	ont.		Lucille			Project	Engr	1	3.B. King		-
					Міх Туре		Incident	tal Paving			Mix Use	Mi	n - Shoul	der > 7ft		
agregate		_														-
Material	Source (Code			Aggr. Ty	/pe		Aggr. %	Bulk Sp Gr, Gsb	Abs.	FAA	Sand Eq	Flata Elon		Fr. Rate	%R
Cr. Aggr	APS0000	7380	1003M00	0120- # 68 LS				17.8	2.649	1			1	_		
RAP Aggr	PS00009	9999	1003M01	1000-Fine Cr	RAP			19.1	2.595	1				_		
Fine Aggr	APS0000	9999	1003M03	3320 - Cr Grav	vel			23.8	2.497	2.18	45			95		
Fine Aggr	APS0000	9999	1003M03	3270 - Cr Stor	ne #1			27.0	2.642	1.01	47			100		<u> </u>
Fine Aggr	APSUUU	19999	1003M0	JIIU-Sand				12.3	2.631	0.4	39	94		_		+
													-	-		+
											<u> </u>		-			+
																+
								D								+
Composite								GSB	2.597	1.21	44	94	1.0	96	1	
								<u></u>								
			A	sphalt Cemer	nt and Addi	tives						Load	ed Wheel	Test		
Material		Sour	ce			Material			% of Mix	6						
material		Cod	e			Name	-		70 UT MIX		Design:		No. P	asses	200	000
Asphalt Ceme	nt A	PS0000	00510	1002M00040-	Valero 70-	22m	4		4.3			5		Rut	2.	51
Rap Asphalt							-		0.9		8/3103352	9				
Anti Strip	A	PS0000	03920	1002M00220-	Ad-Here L	A 2			0.6		Validati	on:	No. P	asses		0
														Rut		_
											SCB Jc	0.74				

- 6. JMF values from the mix design
- 7. JMF average values from the validation
- 8. The standard deviation of each parameter from validation data
- 9. PWL from the validation data
- 10. Specification limits based on validation averages
- 11. Submittal and approval area
- 12. Remarks

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DESIGN	DATA		-	VALI	DATION DAT	A	J		JM	- Lim	its			
Parameter	Submittel		Average		Std. Dev		PWL		(per v	alid	avg)			
Gmm	2.406		2.414		0.00114		100		2.399	-	2.429	Submitted for Contractor	By:	
%Gmm,Nini	87.1		87.5		0.517		100				90	Date Submitted	03/14/16	6
%Gmm,Nmax	97.2		97.2		0.618		100			-	98			
VMA	14.1		13.8		0.297		100		13.0	-				
VFA	75	\top	74		1.92		100		69	-	80			
% Voids	3.5		3.6		0.377		100		2.5	-	4.5	Technicia	n	-
% Design AC	5.1													
Comp Temp	300		297		2.74		100		272	-	322	Proposal Approved	Y=Yes	
% DF Crushed	99		99		1.52				98	-			N=No	
1/2 (37.5mm)	100		100		0.00		-		96	-	100	By:	1	
1 in (25mm)	100		100		0.00		-		96	-	100	Date		
3/4 (19mm)	100		100		0.00		-	T	96	-	100			
/2in (12.5mm)	96	+	95	+	1.47	Ħ	100	Ħ	91	-	99			
3/8in (9.5mm)	78	+	79		2.66	H	94	H	75	-	83	Signatur	e	-
lo. 4 (4.75mm)	45	+	45		1.67	11	100	H	41	-	49			
No. 8(2.38mm)	30	+	30	+	0.96	Ħ	100	Ħ	27	-	33	Validation Approved	Y=Yes	
lo.16(1.18mm)	20	+	21		0.43	Ħ	100	Ħ	19	-	23		N=No	
No.30(600um)	15		16		0.45		100	Ħ	14	-	18	By:		
No.50(300um)	11		12		0.48		100	I	10	-	14	Date		
No100(150um)	8		8		0.34		100		6	-	10			
No. 200(75um)	5.4	+	6.0		0.217	11	100	Ħ	5.3	-	6.7	Number of Validation A	ttempts	
6 AC Extracted	5.1	\top	5.2		0.089		100		5.0	-	5.4			(y/i
Dust/Pbeff	1.17		1.33		0.0485		100		0.6	-	1.6	LWT = PASS .		
Gse	2.601		2.602		0.00114							Each PWL Paramete	r ≥ 90	
Pba	0.55		0.60		0.0000					٥.0 غ		Avg. within JMF spec. I	imits	
Pbe	4.6		4.5		0.000									
		-		_				-						
Remarks: S	CB Test - PC	676-2	2M = 0.71.Jc									Approved	By	-
										9			-,	
								T				Date First Used		1
×		-		-		-		-	_			out introdu		
aPave 2013 v1	3 04 24	-		1 -		-		+						6/7/20
ur ave 2010 VI	0.04.24	-				-		÷						5///20
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JMF CHECK

- 1. Header area is auto populated from the "JMF Input" tab
- 2. The aggregate section is auto populated from the "JMF Input" tab with the Apparent Gravity calculated on this sheet.
- 3. Percent Virgin AC, Percent RAP AC and anti-strip rate. This is auto populated from the "JMF Input" tab.
- 4. Average Volumetrics for the most part pulls from the Optimum AC Test Results. VFA is calculated on optimum voids (3.5 for most mixes) not the voids of the design gyratory briqs.
- 5. Shows the composite gradation from the cold feeds, the furnace extraction gradation & the average gradation from the validation with tolerances.
- 6. Warm mix information pulled from the "JMF Input" tab
- 7. Drainwdown Control information pulled from the "JMF Input" tab
- 8. Information for up to two RAP cold feeds. The overall percentage of RAP including AC, the residual %AC of the RAP, the aggregate credit to the mix and the %AC credit to the mix.
- 9. The average rut from the LWT is pulled from the "Moisture Susceptibility Design" tab
- 10. TSR information if this option is used for minor mixes is pulled from the "Moisture Susceptibility Design" tab
- 11. The N_{ini}, N_{des}, and N_{max} gyrations are pulled from the "JMF Input" tab. The type and design level of the mix chosen on the "JMF Input" tab determines these numbers

					JN	IF SUP	PERPAN	E FOR	M					
Project No.	HOODOO	MixCod	e 26	JME No.		1	Plant Code	HOOD	1 1		4567	,		-
Project Name	11000000	abcdef	e 20	Design Leve	1	Plant Type	3-drue	er drum		Prod. Rate	300			
Project Eng		JDoe	Mix Type	Wearin	q Course	No	m Aqq Size	0.5 in.		Mix Temp	300			-
Submitted	803 111	ad Builders	Mix Use	ML-1	Vearing AC C	orr Factor	Specs 0.53	2013	-	Date	6/8/20	16		
Source	Source	Aggregate	Mat'l	×	Apparen	Bulk	Abs.	FAA	Sand Eq	lat & Elon	CAA	FB	ZBel	21
Code		Type	Code		Gravity	Gravity		Method	4.75 mm	%5:1			No.8	N
BBBB	MM	# 78	834	56.2	2.656	2.556	1.48	46		1.1	100	1	93	8
RP00	Contracte	or [. Crush R/	F 840	19.1	2.597	2.597			-			3	47	-
AAAA	Pit Grave	Las Crush	024	13.Z	2.642	2.497	2.20	45			35	3	15	-
	mm	Mail Salid	034	11.5	2.714	2.042	1.01				100	3	15	_
			-						-					_
			-											_
Combined	Aggregat	es Propertie	s	100.0	2.670	2.565	1.53	46		1.1	99.3			_
	C Gra	de Material	Hat'l Cad	Sourc	e Name	×	Sp. Gravi	ity	V	arn Mix Aspl	halt		_	
Asphalt	- DR	PG76-22N	660	¥a	lero	4.2	1.03		arm Mi	Ye	s			
.sp. fm. RA	F 00	Crush R/	LF	Cont	ractor	0.9	1.03		Method	Wat	er			-
Anti-strip	5730	Ad-Here L/	105	ArrMaz	Chemical	0.6			Rate	2.00	02			_
8 Design S	ubmitted	by Contract	or						Provid Hour					
Average Vo	lumetrics		Cold Fee	TQ OTEN	Extrac	Validate	d Results		Dr	aindown Con	trol	5		
		Si	2 Passia	2 Pass	ing	2 Passing	Tolerance		Fibers	Nor	ne		-	
2 C nm	2.406		100	100		100								
Gmm Nm	97.2	H - 🤐	100	100		100	96 100		Rate					
Sab@Des co	2.322	8/4- 1	9 100	100		100	36 100		President					
VMA	14.1	12- 12.	5 95	96	_	35	91 99							
VFA	75	3/8" 9.1	5 76	78		79	75 83			Rap 1	Rap 2		-	
3 %¥oids	3.5	14 4.7	5 42	45		45	41 49		Туре	F. Crush RAP			O	
3 %DesignA(5.1	8 2.3	6 29	30		30	27 33		Percent	20.0				-
Gsb agg	2.565	16 1.18	20	20		21	19 23		Residual	4.3				<u> </u>
Cruchod	300	50 0.	2 10	15	_	10	14 18		Agg Z	19.1				-
dust/Peff	1.17	100 0.1	5 7	8	_	8	6 10		Thap ACA	0.3		/		
Gse	2.601	200 0.07	5 4.5	5.4		6.0	5.3 6.7							
Pabsorb	0.55	Extracted	AC .	5.1		5.2	5 5.4							
Pbe	4.6)						
8 AASHTO	r32 4						AASHT	D T283 a:	s modifie	d by PP28	ſ	Nini	Gyr.	R
0 Averag	e Rut (mr (Pass/Fai	n) 3.23 il) PASS					Co Desi	ntrol PSI gn TSR%		J		Ndes Nmax	6	5
3 4 Proposal a	proved by	0					1	0	Date:				4	
s 6 Validation a	approved b	y: 💙					_	LU	Date:			_	L	
-	or contract	tor	-	-				-	Date:			-		
7 8 Submitted I			71 Jo									_	_	_
7 8 Submitted I 9 0 Remarks	SCB Test	- PG76-22M = 0.												
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7 8 Submitted I 9 0 Remarks 1 2 <i>LaPare 2015</i> 1 3 4 5 5	SCB Test	- PG76-22M = 0.											6/7	72

Validation Input

- 1. The header information is a combination of auto population and user input.
 - a. <u>Proj. No.</u> Choose a project from the drop down that was entered on the "Project" tab. <u>Proj. Name</u> will auto populate from information entered on the "Project Tab"
 - b. Lot Size The tonnage in the Validation Lot. Between 1000 and 2000 tons.
 - c. <u>No. Sublots</u> Populated from the number of Rice gravities entered
 - d. <u>SMM P/S</u> Populated from the "JMF Input" tab which is pulled from the "Material Setup" tab
 - e. <u>JMF No</u>. Populated from the "JMF Input" tab
 - f. Start & End Date Manual Input
 - g. <u>%AC</u> Populated from the "JMF Input" tab
 - h. Design Level Populated from the "JMF Input" tab
 - i. <u>Gsb</u> Composite bulk gravity of aggregates auto populated from the "JMF CHECK" tab
 - j. <u>Mix Type & Mix Use</u> Drop down choices that should correlate to the design level choices made on the "JMF Input" tab for the same fields
 - k. <u>Ps</u> Percent stone (aggregate) = 100 %AC
 - I. <u>SMM ID</u> Generated and pulled from the "JMF Input" tab
 - m. AC Corr Factor Is determined on the "Comp. Grad. and FAA Input" tab
- 3. Individual G_{mm} results
- 4. Air, Water, SSD weights and heights for N_{des} and N_{max} briqs
- 5. The percent virgin AC metered rate, compaction temperature of the sample, tonnage in the validation lot the sample was taken, Mix Temp in the haul truck, and the antistrip rate
- 6. Scale to scale %AC data entry, aggregate for gradation weights and weight of crushed aggregate
- 7. Gradation weights with decant loss calculation and percent passing calculation
- 8. Repeat for the rest of the validation sublots
- 9. Roadway Density Cores Under the 2016 spec, the contractor or DOTD make take **informational** cores to check for density. The acceptance cores will come from the 37,500' roadway lot on the project.

А	B	С	D	E	F	G		Н	1	J	К	L	М	N	0	Р	Q	R
							VAL	IDATION	J									
Proj. No.	HC	000000	Plan	H000	0	Design le	evel	1	Mix Type	Wearin	g Course	Purp.Code		DATE				
Proj. Name.	a	bcdef	JMF No		Lot No.	111-	01		Mix Use	ML - V	Vearing			-				
Lot Size			Start Date	6/1/2016	808-8004-84	End D	ate	6/2/2016						1				
No Sublots	5	%AC	5.1		Gab	2 56	55		P.	94.9	AC	Corr Factor	0.53	_				
	<u> </u>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			-50	2.00			. 5	01.0			0.00					
						_												
- ([Theoretical Ma	ximum Sp	ecific Gravity.	Gmm "Ric	e" Sam	nple 1			Τ	heoretical Ma	ximum Spe	cific Gravity	Gmm "Ric	e" Sample	2		
			A	В	C	D		E	1			A	B	C	D	E		
	Wt of Mix		1835.0	1938.1	1749.9	1725	5.6	1787.2		Wt of Mix		1967.1	1850.0	1715.2	1852.2	1786.6		
	Wt of Pyc	& H2O	1396.6	1393.1	1393.1	1393	3.5	1393.5	_	Wt of Pyc 8	& H2O	1459.2	1458.7	1458.7	1458.9	1458.9		
	Wt of Pyc,	H2O & Mix	2469.6	2527.0	2418.0	2403	3.9	2441.0		Wt of Pyc,	H2O & Mix	2614.1	2543.3	2462.9	2544.1	2505.6		
		-						T #D					eu Di	OT #C				
SUBLUI#A	We Dotaine	d & Dassing	Volu	matrice	. 2	Grada	UBLU tion 14	t Detained	% Deceing	Volu	matrice		Gradation	Wt Detained	% Dessing	/olumetric		
2" 50	W. Retaine	100.0	Dico 1	2409	15	2"	50	r. Retained	100.0	Pico 1	2 410	1	2" 50	w. Retained	100.0	Dico 1	2 414	1
15" 375	7	100.0	Rice	2.400	-	1.5"	37.5		100.0	Rice 2	2.410	2	1.5" 37.5		100.0	Rice 2	2.414	
1" 25		100.0	Trice 2	2.422		1"	25		100.0	NICE 2	2.411	-	1" 25		100.0	NICE 2	2.412	-
3/4" 19	-	100.0		Brick 1	Brick 2	3/4"	19		100.0		Brick 1	Brick 2	3/4" 19		100.0		Brick 1	Brick 2
1/2" 12.5	91.4	95.7	A Ai	4748.5	4756.4	1/2"	12.5	134.3	92.8	Air	4749 1	4748.3	1/2" 12.5	58.4	96.2	Air	4749.9	4762.0
3/8" 9.5	349.8	79.2	Vate	2725.7	27418	3/8"	9.5	330.4	75.0	Water	2725.0	2740.7	3/8" 9.5	222.5	81.8	Water	2719.1	2724 1
#4 4.75	720.1	45.3	SSE	4762.8	4765.6	#4	4.75	597.1	42.9	SSD	4761.0	4755.6	#4 4.75	536.8	47.0	SSD	4761.5	4775.2
#8 2.36	297.5	31.3	N@int(mm	130.2	130.8	#8	2.36	220.5	31.0	N@int(mm)	129.9	130.6	#8 2.36	248.3	30.9	N@int(mm)	132.5	133.6
#16 1.18	204.3	21.7	N@des(mm	118.3	119.0	#16	1.18	184.8	21.1	N@des(mm)	118.5	118.9	#16 1.18	157.6	20.6	N@des(mm)	120.0	121.0
#30 0.6	108.9	16.6	@max(mm		117.4	#30	0.6	98.1	15.8	N@max(mm)		117.3	#30 0.6	78.9	15.5	N@max(mm)		119.3
#50 0.3	94.4	12.1		, 		#50	0.3	83.4	11.3				#50 0.3	65.5	11.3	, , , , , , , , , , , , , , , , , , ,		
#100 0.15	77.7	8.5		%AC Meter	4.2	#100	0.15	65.3	7.8		%AC Meter	4.2	#100 0.15	50.9	8.0	9	AC Meter	42
#200 0.075	47.9	6.2	5	Comp Temp	295	#200 0	0.075	39.2	5.7		Comp Temp	295	#200 0.075	31.3	5.9	C	omp Temp	295
Pass	217		Sam	ple Taken-Tons	117	P	ass	18.4		Sam	ole Taken-Tons	203	Pass	21.0		Samol	e Taken-Tons	394
DecLoss	110.3		Jun	Mix Temp	300	Decl	oss	87.0		5011	Mix Temp	310	DecLoss	70.7			Mix Temp	320
Cum Total	2124.0		Antistrin	06	000	Cum, T	otal	1858.5		Antistrip	06	010	Cum. Total	1541.9	1	Antistrip	0.6	020
%AC	5.2		- another	0.0		%	AC	5.1		, anothe	0.0		%AC	5.3		, anothe	0.0	
Crushed	100					Crus	hed	100					Crushed	99				
		Ir. Bskt	2872.4	Int.DryWt	2122.2			1.5	Tr. Bskt	2933.3	Int.DryWt	1860			Tr. Bskt	2872.2	Int.DryWt	1543.9
		Bskt+Mix w/AC	5123	AfterWash	2011.9			Bs	skt+Mix w/AC	4907.3	AfterWash	1773	-	B	skt+Mix w/AC	4512.2	AfterWash	1473.2
		Bskt minus AC	4995	% Diff	-0.1		-	B	skt minus AC	4796.1	% Diff	0.1		B	skt minus AC	4416.4	% Diff	0.1
		% LOSS	5.69	Wt. Crush	1161.3		-		% LOSS	5.63	Wt. Crush	1061.8			% LOSS	5.84	Wt. Crush	811.6
	CLIE	OT #D		-		- (eu pi	OT #F							
	Cradation	Wt Detained	W Dessi-	Value	otrica		240			Cradation	Wt Deteined	% Dessin	Value	otrion				
	2" Si	Wt. Retained	100.0	Diec	2 442	-				2" 50	w. Retained	70 Passing	Dieg	2 446	-			
	AF Input	IME IME CHEC	K Valid	ation Input	Validation	Plant 6	Report	Val Dant	Plant Mr	nitor Mai	inline Main	ine Monitor	Road					
· ···] JI	wir niput	JUL JUL CHEC	vallo	ation input	valuation	Flant	Report.	Plant	Plant IVIC	Will Will	Walli	ine wonto	noac (
0																		

A	B	С	D	E	F	G	Н	1	J	K	L	M	Ν	0	P	Q	R
		% LOSS	5.69	Wt. Crush	1161.3			% LOSS	5.63	Wt. Crush	1061.8			% LOSS	5.84	Wt. Crush	811.6
	SUDI	OT #D							el IDI	OT #F							
	Gradation	Wt Potained	% Dassing	Volum	atrice				Gradation	Wt Retained	% Dassing	Volun	atrice				
	2" 50	W. Netunieu	100.0	Rice 1	2 413				2" 50	W. Retuined	100.0	Rice 1	2 4 16	1			
	1.5" 37.5		100.0	Rice 2	2 415				1.5" 37.5		100.0	Rice 2	2 415				
	1" 25		100.0	TRICC 2	2.415				1" 25		100.0	TRICC Z	2.410				
	3/4" 19		100.0		Brick 1	Brick 2			3/4" 19		100.0		Brick 1	Brick 2			
	1/2" 12.5	82.6	96.1	Air	4744.4	4749.7	0		1/2" 12.5	92.0	94.2	Air	4748.9	4754.2			
	3/8" 9.5	335.0	80.1	Water	2724.3	2743.7	0		3/8" 9.5	275.7	77.0	Water	2717.3	2741.7			
	#4 4.75	733.8	45.2	SSD	4754.4	4756.4			#4 4.75	537.9	43.3	SSD	4768.7	4766.2			
	#8 2.36	327.7	29.5	N@int(mm)	130.4	130.2			#8 2.36	225.0	29.2	N@int(mm)	131.6	132.0			
	#16 1.18	180.0	21.0	N@des(mm)	118.0	118.0			#16 1.18	134.3	20.7	N@des(mm)	119.2	119.3			
	#30 0.6	96.5	16.4	N@max(mm)		116.4			#30 0.6	72.4	16.2	N@max(mm)		117.7			
	#50 0.3	85.8	12.3						#50 0.3	65.7	12.1						
	#100 0.15	77.5	8.6	9	AC Meter	4.2			#100 0.15	59.2	8.4		%AC Meter	4.2			
	#200 0.075	51.1	6.2	С	omp Temp	300		#	200 0.075	38.8	5.9	(Comp Temp	300			
	Pass	21.5	1	Sample	e Taken-Tons	899.2			Pass	11.5		Samp	le Taken-Tons	1579.5			
	Dec Loss	107.8			Mix Temp	305			Dec Loss	83.4			Mix Temp	310			
	Cum. Total	2099.3		Antistrip	0.6				Cum. Total	1595.9		Antistrip	0.6				
	%AC	5.3							%AC	5.3							
	Crushed	97	ļ l						Crushed	97							
			Tr. Bskt	2832.6	Int.DryWt	2099.9					Tr. Bskt	2933.3	Int.DryWt	1596.5			
		Bs	skt+Mix w/AC	5064.1	AfterWash	1992.1				Bs	kt+Mix w/AC	4628.1	AfterWash	1513.1			
		B	skt minus AC	4934.6	% Diff	0				B	skt minus AC	4528.5	% Diff	0			
			% LOSS	5.80	Wt. Crush	1119.8					% LOSS	5.88	Wt. Crush	874.2			
								12	Roadw	ay Density	Cores						
	_							A	В	C	D	E					
							Use	Binder	Binder	Binder	Binder	Binder					
							Station										
	_						Location						0				
							Inickness						7				
							AIF										
	-						water										
							SSD						1			-	
							Toppage						1				
							Tonnage					4					
Remarks	5.																
D	10.10.01.01																0.77.00.0
aPave 20	13 13.04.24															-	6/1/20

Validation

- 1. Summary of the 5 sublots test for the validation
- 2. The mean of the 5 sublot test that become the target values for the JMF
- 3. The standard deviation of the test results
- 4. PWL information
- 5. Whether or not the parameter meets specifications

Project F Gmm Gmb, ND %Gmm, NI %Gmm, NI %Gmm, NI %Voids VMA VFA Gmb, NM %Gmm, NM slope orrection factor Gsb agg 2" 50 15" 37.5 1" 25 3/4" 19 1/2" 12.5 3/4" 19 1/2" 12.5 3/4" 3.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #50 0.30 #50 0.30 #50 0.30 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pbe %Antistrip %Crushed	H000000 #1 2.415 2.331 87.7 96.5 3.5 13.8 75 2.350 97.3 9.090 1.026 2.555	Mix Type #2 2.414 2.333 88.2 96.6 3.4 13.7 75 2.357 97.6	Wearing Lot #3 2.413 2.326 87.3 96.4 3.6 13.9	Course 111-01 #4 2.414 2.337 87.6	JMF No. Lot Size #5 2.416 2.315	Mean	Plant	H000	Date				
Project P Gmm, ND %Gmm, NI %Gmm, ND %Voids VMA VFA Gmb, NM %Gmm, NM %Gmm, NM %Gmm, NM slope orrection factor Gsb agg 2" 2" 50 1.5" 37.5 1" 25 3/4" 19 1/2" 12.5 3/8" 9.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #50 0.30 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba %Antistrip %Crushed %	#1 2.415 2.331 87.7 96.5 3.5 13.8 75 2.350 97.3 9.090 1.026 2.555	#2 2.414 2.333 88.2 96.6 3.4 13.7 75 2.357 97.6	#3 2.413 2.326 87.3 96.4 3.6 13.9	#4 2.414 2.337 87.6	#5 2.416 2.315	Mean		HUUU	Date				
Gmm Gmb, ND %Gmm, NI %Gmm, ND %Voids VMA VFA Gmb, NM %Gmb, ND %Crushed %Gmb, ND %Gmb, ND %Gmb, ND %Crushed	#1 2.415 2.331 87.7 96.5 3.5 13.8 75 2.350 97.3 9.090 1.026 2.555	#2 2.414 2.333 88.2 96.6 3.4 13.7 75 2.357 97.6	#3 2.413 2.326 87.3 96.4 3.6 13.9	#4 2.414 2.337 87.6	#5 2.416 2.315	Mean		and the second se					
Gmm Gmb, ND %Gmm, NI %Gmm, ND %Voids VMA VFA Gmb, NM %Gmm, NM slope orrection factor Gsb agg 2" 50 15" 37.5 1" 25 3/4" 19 1/2" 12.5 3/4" 19 1/2" 12.5 3/4" 19 1/2" 12.5 3/4" 3.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #100 0.15 #200 0.075 %AC dust/Peff Gsse Pba Pba Pba Pba Pba Pba Pba Pba	2.415 2.331 87.7 96.5 3.5 13.8 75 2.350 97.3 9.090 1.026 2.555	2.414 2.333 88.2 96.6 3.4 13.7 75 2.357 97.6	2.413 2.326 87.3 96.4 3.6 13.9	2.414 2.337 87.6	2.416		StDev	Q.	Qu	PWL	PWLu	PWL	Validate?
Gmb, ND %Gmm, NI %Gmm, NI %Voids VMA VFA Gmb, NM %Gmm, NM slope orrection factor Gsb agg 2" 50 15" 37.5 1" 25 3/4" 19 1/2" 12.5 3/4" 19 1/2" 12.5 3/4" 19 1/2" 12.5 3/8" 9.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pba Pba Pba Pba Pba Pba	2.331 87.7 96.5 3.5 13.8 75 2.350 97.3 9.090 1.026 2.565	2.333 88.2 96.6 3.4 13.7 75 2.357 97.6	2.326 87.3 96.4 3.6 13.9	2.337 87.6	2,315	2.4144	0.001140	13.16	13.16	100	100	100	OK
%Gmm, NI %Gmm, ND %Voids VMA VFA Gmb, NM %Gmm, NM %Star %Star <td>87.7 96.5 3.5 13.8 75 2.350 97.3 9.090 1.026 2.555</td> <td>88.2 96.6 3.4 13.7 75 2.357 97.6</td> <td>87.3 96.4 3.6 13.9</td> <td>87.6</td> <td></td> <td>2.3284</td> <td>0.008473</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	87.7 96.5 3.5 13.8 75 2.350 97.3 9.090 1.026 2.555	88.2 96.6 3.4 13.7 75 2.357 97.6	87.3 96.4 3.6 13.9	87.6		2.3284	0.008473						
%Usmm, NU %Voids VMA VFA Gmb, NM %Gmm, NM slope orrection factor Gsb agg 2" 50 1.5" 37.5 1" 25 3/4" 19 1/2" 3/8" 9.5 #4 #30 0.60 #30 9.0 9.0 9.0 44.75 #8 2.36 #16 1.18 #30 9.5 #44 9.5 #40 0.60 #30 9.0 #16 1.18 #30 9.5 #44 9.5 #200 0.15 #200 0.075 <td>96.5 3.5 13.8 75 2.350 97.3 9.090 1.026 2.565</td> <td>96.6 3.4 13.7 75 2.357 97.6</td> <td>96.4 3.6 13.9</td> <td>00.0</td> <td>86.8</td> <td>87.52</td> <td>0.5167</td> <td></td> <td>6.74</td> <td></td> <td>100</td> <td>100</td> <td>OK</td>	96.5 3.5 13.8 75 2.350 97.3 9.090 1.026 2.565	96.6 3.4 13.7 75 2.357 97.6	96.4 3.6 13.9	00.0	86.8	87.52	0.5167		6.74		100	100	OK
Voids VFA Gmb, NM VFA Gmb, NM Slope orrection factor Gsb agg 2" 50 1.5" 37.5 1" 25 3/4" 19 1/2" 12.5 3/4" 19 1/2" 12.5 3/4" 19 1/2" 12.5 3/4" 3.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pba Pba Pba %Antistrip %Crushed	3.5 13.8 75 2.350 97.3 9.090 1.026 2.565	3.4 13.7 75 2.357 97.6	13.9	96.8	95.8	96.42	0.3768	2.44	2.87	100	100	100	OK
VFA Gmb, NM %Gmm, NM slope orrection factor Gsb agg 2" 50 1.5" 37.5 1" 25 3/4" 19 1/2" 12.5 3/8" 9.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #50 0.30 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pba Pba Pba Pba Pba	75 2.350 97.3 9.090 1.026	75 2.357 97.6	15.5	13.5	4.2	3.50	0.3766	2.01	2.44	100	100	100	OK
Gmb, NM %Gmm, NM slope orrection factor Gsb agg 2" 50 1.5" 37.5 1" 25 3/4" 19 1/2" 12.5 3/4" 19 1/2" 12.5 3/4" 4.75 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #50 0.30 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pba Pba Pba Pba Pba	2.350 97.3 9.090 1.026 2.565	2.357	74	76	71	74.2	1924	2.03	3.01	100	100	100	OK
%Gmm, NM slope orrection factor Gsb agg 2" 50 1.5" 37.5 1" 25 3/4" 19 1/2" 12.5 3/8" 9.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #50 0.30 #100 #100 #200 0.075 %AC Gse Pba Pba %Antistrip %Crushed	97.3 9.090 1.026 2.565	97.6	2 322	2,360	2 348	2 3474	0.015027						UN
slope orrection factor Gsb agg 2" 50 15" 37.5 1" 25 3/4" 19 1/2" 12.5 3/4" 19 1/2" 12.5 3/8" 9.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pbe %Antistrip %Crushed	9.090 1.026 2.565		96.2	97.8	97.2	97.22	0.6181		1.26		91	91	OK
orrection factor Gsb agg 2" 50 15" 37.5 1" 25 3/4" 19 1/2" 12.5 3/8" 9.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pbe %Antistrip %Crushed	1.026	8.680	9,400	9.510	9.300	9,1960	0.327307						
Gsb agg 2" 50 1.5" 37.5 1" 1" 25 3/4" 19 1/2" 12.5 3/8" 3.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #50 0.30 #100 0.15 #200 0.075 ::::::::::::::::::::::::::::::::::::	2 565	1.167	1.163	1.169	1.158	1.14	0.0616						
2" 50 1.5" 37.5 1" 25 3/4" 19 1/2" 12.5 3/8" 9.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #50 0.30 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pba Pba %Antistrip %Crushed	2.000	2.565	2.565	2.565	2.565	2.5650	0.000000						
1.5" 37.5 1" 25 3/4" 19 1/2" 12.5 3/8" 3.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #50 0.30 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pba %Antistrip %Crushed	100.0	100.0	100.0	100.0	100.0	100.00	0.0000						
T 25 3/4" 19 1/2" 12.5 3/8" 9.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #50 0.30 #100 0.15 #200 0.075 %AC Gse Pba Pbe %Antistrip %Crushed	100.0	100.0	100.0	100.0	100.0	100.00	0.0000						
3r4 19 1/2" 12.5 3/8" 9.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #50 0.30 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pbe %Antistrip %Crushed	100.0	100.0	100.0	100.0	100.0	100.00	0.0000						
#2 12.5 3/8" 9.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pba Pba %Antistrip %Crushed	100.0	100.0	100.0	100.0	100.0	100.00	14000	2.70	2 70	400		100	OK
3ro 3.5 #4 4.75 #8 2.36 #16 1.18 #30 0.60 #50 0.30 #100 0.15 #200 0.075 %AC	35.7	32.8	36.2	36.1	34.2	79.62	1.4680	150	1.12	07	07	00	OK
#4 4,13 #8 2,36 #16 1.18 #30 0.60 #50 0.30 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pbe %Antistrip %Crushed	13.2	13.0	47.0	45.2	42.2	10.02	2.0031	2.40	2.40	97	100	100	UK
#16 1.18 #30 0.60 #50 0.30 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba Pba %Antistrip %Crushed	45.5	42.5	30.9	29.5	29.2	30.38	0.9576	3.13	2.40	100	100	100	Inder Specilim
#30 0.60 #50 0.30 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba %Antistrip %Crushed	217	211	20.6	21.0	20.7	21.02	0.4324	4.63	4.63	100	100	100	phoer specium
#50 0.30 #100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba %Antistrip %Crushed	16.6	15.8	15.5	16.4	16.2	16 10	0.4624	4 47	4.00	100	100	100	
#100 0.15 #200 0.075 %AC dust/Peff Gse Pba Pba %Antistrip %Crushed	12.1	11.3	11.3	12.3	12.1	11.82	0.4817	4.15	4.15	100	100	100	
#200 0.075 %AC dust/Peff Gse Pba Pbe %Antistrip %Crushed	8.5	7.8	8.0	8.6	8.4	8.26	0.3435	5.82	5.82	100	100	100	
XAC dust/Peff Gse Pba Pbe XAntistrip XCrushed	6.2	5.7	5.9	6.2	5.9	5.98	0.2168	3.23	3.23	100	100	100	OK
dust/Peff Gse Pba Pbe XAntistrip XCrushed	5.2	5.1	5.3	5.3	5.3	5.24	0.0894	2.24	2.24	100	100	100	
Gse Pba Pbe XAntistrip XCrushed	1.38	1.27	1.31	1.38	1.31	1.330	0.04848	15.06	5.57	100	100	100	OK
Pba Pbe %Antistrip %Crushed	2.603	2.602	2.601	2.602	2.604	2.6024	0.001140						
Pbe %Antistrip %Crushed	0.6	0.6	0.6	0.6	0.6	0.600	0.00000						
%Antistrip %Crushed	4.5	4.5	4.5	4.5	4.5	4.50	0.00000						
%Urushed	0.6	0.6	0.6	0.6	0.6	0.60	0.0000						_
C T	100.0	100.0	99.0	97.0	97.0	98.60	1.5166		0.10	100	400	100	
Lomp lemp	235	235	235	300	300	297.00	2.1	3.13	3.13	100	100	100	
Materia AC	300	310	320	305	310	4 20	6.4						-
MeterAL	4.2	4.2	4.2	4.2	4.2	4.20	0.0					_	
1	Core A	Roadw	ay Density	Cores	Core F	2	Manuine	Tonnage	% Pay #DIV/01	#DN//01			
-						4	Mar A		TOTATO.	worvro.	-4		
	Main	Main	Main	Main	Main		Minor B						
							Minor C						-
uses PWL for Main	line if 3 or m	ore sublots a	are Mainlin	e use			Minor D						
"Mainline = WC, Bi	inder, Base	e, Ramp >30	Oft, Ints. A	ACC/Dec, A	Airport Cen	ter	Minor E	eichted hy	toonage	associated	with core		
	_						/oray w	cigined by	tonnage	associated	With Core	3	
Ut. Mainline Der 5	. Mean #DIV/0!	#DIV/0!	QL #DIV/0!	Q ₀ #DIV/0!	#DIV/0!								
	Total To	ns		0			Fin				<u> </u>		
	Gmm			2.414	-		Fin	ai 70 Pa	y			-	
	Adjustn	nent Facto	r	1.00			Adjust	od Ton	0000	0	N		
	Adjuste	d Total To	ns	0			Aujust	eu rom	lage		<u></u>		
	-												
• •	JMF Inpu	t JMF	JM	F CHECK	Vali	dation In	put Va	lidation	n Pla	nt Repor	t-Val	Plant	Plant Monit

<u>Plant Report – Val</u>

The Plant Report – Val - A summary sheet of the validation that contains some of the raw data.

	5	1.75 I. 75		Supernave	Aenhalt Con	crete Plant	enort		U 1	<u> </u>		
				Superpave	AsphaltCon	crete Plant P	report			r - r		
Proj. No.	H000000		Plant	H000		Desig	n Level	1		Mix Type	Wearing	Course
Proj. No.	abcdef		JMF No.			3	Lot No.	111-	01	Mix Use	ML - V	Vearing
Lot Size			Start Date	6/1/2016		En	d Date	6/2/2	016	Purpose Code		
No. Sublots	5		%AC	5.1			Gsb	2.5	65	Ps	94.9	
R	oadway Category											
	exclusio	ons/grindings	0.534 (yes/no)								
	IRI											
		Theo	retical Maximu	m Specific G	ravity, Gmm "F	Rice" (AASHT	O T209	or DOT	D TR327)			
		G	m1	G	nm2	Gn	nm3		G	mm4	G,	nm5
		A	B	A	B	A	B		A	В	A	B
Wt of Mix		1835.0	1967.1	1938.1	1850.0	1749.9	171	5.2	1725.6	1852.2	1787.2	1786.6
Wt of Pyc & H2O		1396.6	1459.2	1393.1	1458.7	1393.1	145	8.7	1393.5	1458.9	1393.5	1458.9
Wt of Pyc, H2O &	Mix	2469.6	2614.1	2527.0	2543.3	2418.0	246	2.9	2403.9	2544.1	2441.0	2505.6
G _{mm} , Rice Gravity	y	2.408	2.422	2.410	2.417	2.414	2.4	12	2.413	2.415	2.416	2.415
Average G _{mm}		G _{mm1} =	2.415	G _{mm2} =	2.414	G _{mm3} =	2.4	13	G _{mm4} =	= 2.414	G _{mm5} =	2.416
			Plant Test Prop	perties (AASH	ITO T166, T20	9, T245/DOTE	TR 30-	4, 305,	&327)			
	Sublot No.				2	:	3			4		5
G _{mm}		2.4	15	2.4	414	2.4	113		2.	.414	2.4	416
Wt (Mass) in Air		474	8.5	474	49.1	474	19.9		47	44.4	474	18.9
Wt (Mass) in Wat	er	272	5.7	272	25.0	271	19.1		27	24.3	27	17.3
SSD Wt (Mass)		476	2.8	476	61.0	476	51.5		47	54.4	476	68.7
G _{mb} , ND		2.3	31	2.3	333	2.3	326		2.	.337	2.3	315
Density		14	5.5	14	5.6	14	5.1		14	45.8	14	4.5
% G _{mm} , ND		96	.5	96	6.6	96	6.4	T	9	6.8	9	5.8
Ht. @ NI (mm)		13	0.2	12	9.9	13	2.5		13	30.4	13	1.6
Ht. @ ND (mm)		11	3.3	11	8.5	12	0.0		11	18.0	11	9.2
% G _{mm} , NI		87	.7	88	3.2	87	7.3	T	8	37.6	86	6.8
% Voids, Va	i	3	5	3	.4	3	.6			3.2	4	.2
% VMA		13	.8	1	3.7	13	3.9		1	3.5	14	1.3
% VFA		7	5	7	5	7	4			76	7	1

35			Asph	Aggr	RAP	AntiStrip	Asph	Aggr	RAP	AntiStrip	Asph	Aggr	RAP	AntiStrip	Asph	Aggr	RAP	AntiStrip	Asph	Aggr	RAP	AntiStrip
36		1st Meter Reading, AM																				
37	% Asphalt	1st Meter Reading, PM																				
38	Content	2nd Meter Reading, AM																				
39		2nd Meter Reading, PM																				
40	% AC Meter			4.	2			4	2			4	2			4.	2			4.	2	
41	Comp. Tem	D.		29)5			29	95			29	95			30)0			- 30)0	
42	Dust/P _{eff}			1.3	38			1.3	27			1.3	31			1.3	38			1.3	31	
43	G _{se}			2.6	03			2.6	602			2.6	01			2.6	02			2.6	04	
44	P _{ba}			0.	6			0.	.6			0.	.6			0.	6			0.	6	
45	P _{be}			4.	5			4	.5			4	.5			4.	5			4.	5	
46	Total Sublot	Tons																				
47	Sample Take	en, Tons Accum.		11	7			20)3			- 39	94			89	99			15	80	
48	Mix Tempera	ature		- 30	0			31	10			32	20			- 30)5			31	0	
49			Test 1	Test 2																		
50	% Anti Strip		0.6	0.6																		
51	% Lime																					
52	Remarks:																					
53																						
54																						
55																						
56	OTD Cert. A	sphaltic Concrete Plant	t Tech.				QC Ce	ert. Asp	haltic (Concret	e Plant	Tech.				APPRO	OVED B	BY: Dist	trict Lat	oratory	/ Engin	eer
57																						
58	LaPave 2013	3 v13.04.24																			6/	7/2016

<u>Plant</u>

This tab is for inputting P-Lot test data and monitoring the rolling averages of plant data

Blue fields are for input

- 1. "NEW" button initiates a new test set for a P-Lot. If the time line and daily tonnage requires multiple test in the same sublot, the P-Lot No. nomenclature can be modified by adding A, B, C....etc to the end of the lot number. It will be necessary to click "NEW" for each test set.
- 2. In the dropdown, choose either Contractor (Acceptance), DOTD (Verification), Contractor (QC only)
- 3. In the drop down, choose whether to use "No Oven Temp Corr.", or "With Oven Temp Corr."
- 4. In the drop down, choose whether the validation data is included in the "Rolling 5" data calculation.
- 5. Enter date(s) and P-Lot number. (The JMF sequence number plus the P-Lot, ex 101-001)
- 6. Enter the tonnage at which the sample was taken
- 7. Enter weights for moisture content of the loose mix
- 8. Enter the Metered AC (Virgin AC metered into the mix), the lab compaction temperature, the mix temperature in the haul truck, and the rate of anti-strip check
- 9. Gmm data entry
- 10. Furnace extraction data entry
- 11. Ndes briq data entry.
- 12. For every 5th P-Lot, a N_{max} briq needs to be tested. After the "Submit" (#16 below) button has be clicked, the N_{des} data can be cleared and the N_{max} data can be entered. The submit button will need to be clicked again.
- 13. The recovered aggregate from the furnace extraction and the after wash weight of the aggregate.
- 14. Gradation weights
- 15. Weight of the crushed aggregate
- 16. The "Submit" button. This button has to be clicked to submit the entered data to the tables in the different Plant Summary tabs. Data can be edited or updated, but the "Submit" button will need to be clicked again to update the tables.
- 17. Weights of LWT briqs for calculating the void content.
- 18. Depending on if one pair of LWT briqs (single wheel tracker) or two pair (double wheel tracker) are made, this drop down chooses the pairing up to match the voids. This data can be added after the P-Lot data is entered. The "Scroll" (#21) and "Submit" (#16) buttons will help in navigating between P-Lots.
- 19. Data and parameter entry for LWT testing.
- 20. The rut depth for the correlating number of wheel passes.
- 21. The "Scroll" button displays data from previously entered P-Lots. Using the dropdown (#2), the three data entry types can be viewed & edited/updated by clicking the "Submit" (#16) button.
- 22. The "Print" button prints the data entry numbers and the rolling averages from the "Plant" tab.
- 23. The tonnage for the P-Lot. This can be entered after the P-Lot is closed. The "Scroll" and "Submit" buttons can be helpful here.

24. Append buttons. Data will be "Pushed" **from** this LaPave file **to** another LaPave file. This is helpful in sharing data between the contractor and DOTD. One of the three types of data can be pushed or all three can be pushed together to another LaPave file.

REMEMBER TO ALWAYS USE THE SAVE FUNCTION OF EXCEL. THE "SUBMIT" BUTTON DOES NOT SAVE THE DATA, IT ONLY PUTS IT IN THE DATA TABLES

	А	В	С	D	E	F	G	Н	1	J	К	L	М	N	0	Р	Q	R	S	Т	U	V	W	Х
1							D	ata fo	r Plant															
2				5																				
3	DAT	5/4/	2016		Plant	t	Des	sign level	1		Міх Туре	Wearing	Course		Gyr.	Rev								
4					JMF No.	70	1-A								Nini	7								
5	Start Dat	e 5/3/	2016												Ndes	65							24	
6	End Dat	5/3/	2016	%A0	5.2	G _{sb}	2.597	Ps	94.8	AC Co	orr Factor	0.43			Nmax	100							27	
7								102				_			_							- N		
8	P-Lot No	. 701	-005		P-Lot To	100	03.6	23	Counter	4			Contract	or (Accep	tance)] 2								AL 1
9					`																		PEND	
10	Theoretical M	laximum S	pecific Gr	avity, Gr	nm "Rice	יי ר			Grada	tion	% Pass	Vo	lumetric	s							1			
11				1	2				2" 50		100	Ri	ice 1	2.432					NEW		•	\		
12	Wt of Mix			1823.8	2039.3				1.5" 37.5	14	100	R	ice 2	2.444									APPEND	
13	Wt of Pyc & W	ater		1393.0	1458.7	9			1" 25	•••	100		- 1				- (Acce	ntance (Only
14	Wt of Pyc, Wat	ter & Mix		2466.9	2663.5	J			3/4" 19		100	Ai	r	4/4/.5	11			4			21		plance	
15									1/2" 12.5	126.6	93	W	/ater	2744.6										
16	LW I (one per	·JMF, proj	ect, or ev	ery 20,00	JU tons)	1.4			3/8" 9.5	128.8	85	S	SD	4/50.8			\rightarrow							
18	A White air (dru)	3945.0	3946.9		1	Len Bricks:	1.8.2	118	#4 4.75	242.1	51	H	t@Nd	122.7)		- f				16		APPEND	
19	3 Wt in water	2220.1	2222.4	17	7	Avg AV	7.1	ייו	#16 1.18	262.5	35		Ht@Nma		h 12			SU	JRIMIT		10	Veri	fication (Only 📗
20	C Wt in air (SSD)	3960.8	3962.6	<u> </u>		1 Č			#30 0.6	166.4	25		Ŭ,			•	- L							
21	/ Volume (C-B)	1740.7	1740.2						#50 0.3	179.8	15	1	Meter AC	4.3			- 7					-		
22	D Bk SpGr (Alv)	2.266	2.268			Right			#100 0.1	106.4	8	Cor	np Tem	295	8			P	RINT		22			00
23	F %MxThGr 100D/E	E 92.9	93.0			Bricks:	3&4		#200 0.07	38.9	6.1	N	Mix Temp	320									ND	UC
24	4 % Voids (100-F)	7.1	7.0			Avg Av	#DIV/0!		Dec Loss	15.7		· · ·	AntiStrip	0.0									Only	
26	Temp(°C	50		Pass	_ l eft	Right			Cum Total	1682.5		Sample Tak	ken-Ton	114	6									
27	Avg Rut (mm	3.66		5000	2.56				%AC	5.0		10			J									
28	At Pass	20000	10	7500	2.83	20			%Crushed	98		<u> </u>		_					_		-			
29	(Pass/Fail	PASS	13	10000	3.03	20					Tr. Bs.t	2832.1	Int.DryW	1683	13					on Ton		3		
30	Data Taata	E12/201		15000	3.32	 		Initial Vit	1891.4	7 Bsk	t+Mix w/AC	4613	AfterWash	1595.8) '``			U		ven rer	np Con.	J		
31	Date Tester	5/3/201	9	20000	3.00	/		Final Vit Moisture	0.03	/ Bsk	t minus AL	4017.1	Vt Crust	572.3	115			ſ				4		
33	LaPave 502 v1	16.03.18						in noiside	0.00	%Los:	s - Moisture	5.35	in a braid.	072.0		/28/2016			Valid	ation in F	Rolling 5			
34																		<u> </u>	-					
•	▶ P	lant Repo	rt-Val	Plant	Plant	Monitor	Mair	line	Mainline M	onitor	Roadwa	y Report	Mino	or Pro	oject Su	ımmar	+ :	4						
REAL	γc																						Ħ	

There is no data entry for the "Rolling Average."

The following screen shot below displays the "Rolling Averages". By using the "Scroll" (#21) button above, the "Rolling Average" can be moved within the recorded data.

	A	В	С	D	E	F	G	Н	1	J	K	L	M	N	0
34															
35							Rol	lina 5 f	or Plant	F .					
26	Polling 5	Activo					1.01	IME	MEAN	StDov	01	011	DWI		
27	Rolling 5	111 007	111 006	111 005	11 004	11 002		JWF	MEAN	SIDEV	QL	QU	PVVL		
20	P-LOUNO.	1000.02	1000 5	4004	10041	1003									
30	P-LOUTON	1009.03	0.420	0.420	0.425	0.422		0.400	0.4240	0.002404	4.20	4.20	400		OK
39	Gmm	2.430	2.438	2.438	2.435	2.433		2.429	2.4348	0.003421	4.38	4.38	100		OK
40	GMD,ND	2.355	2.362	2.366	2.352	2.362		2.348	2.3594	0.005727	4.19	4.19	100		01/
41	%Gmm,NI	90.6	90.8	90.6	90.4	90.9		90.22	90.66	0.1949		1.74	100		OK
42	%Gmm,ND	96.9	96.9	97.0	96.6	97.1		96.64	96.9	0.1871	7.48	3.21	100		
43	VFA	78	78	78	76	79		76.6	77.8	1.095	8.04	2.01	100		OK
44	VMA	14.0	13.8	13.6	14.1	13.8		14.30	13.86	0.1949	1.85		100		OK
45	%Voids	3.1	3.1	3.0	3.4	2.9		3.36	3.10	0.1871	3.21	7.48	100		OK
46	Extracted AC	5.2	5	5.0	5.1	5.0		5.20	5.06	0.0894	2.24	2.24	100		OK
47	Comp Temp	295	295	295	295	295		295	295.0	0.0					
48															
49	Gradation							JMF	MEAN	StDev	QL	QU	PWL		
50	2" 50	100.0	100.0	100.0	100.0	100.0		100.00	100.00	0.0000					
51	1.5" 37.5	100.0	100.0	100.0	100.0	100.0		100.00	100.00	0.0000					
52	1" 25	100.0	100.0	100.0	100.0	100.0		100.00	100.00	0.0000					
53	3/4" 19	100.0	100.0	100.0	100.0	100.0		100.00	100.00	0.0000					OK
54	1/2" 12.5	94.8	94.3	92.5	94.3	93.7		91.90	93.92	0.8843	4.52	4.52	100		OK
55	3/8" 9.5	87.9	86.1	84.8	87.0	86.8		84.66	86.52	1.1563	3.46	3.46	100		OK
56	#4 4.75	69.1	68.2	65.3	67.1	67.5		67.98	67.44	1.4170	2.82	2.82	100		
57	#8 2.36	53.8	54.4	50.9	53.0	53.8		53.30	53.18	1.3682	2.19	2.19	100		OK
58	#16 1.18	36.6	37.2	35.3	35.9	36.8		35.52	36.36	0.76	2.64	2.64	100		
59	#30 0.6	25.5	26.6	25.4	25.4	26.5		24,90	25.88	0.6140	3.26	3.26	100		
60	#50 0.3	14.4	15.1	14.8	14.3	15.5		14.10	14.82	0.4970	4.02	4.02	100		
61	#100 0.15	8.2	8.4	8.4	7.9	8.7		7.96	8.32	0.2950	6.78	6.78	100		
62	#200 0 075	5.9	5.9	6.1	5.6	6.0		5.82	5.90	0.1871	3.74	3.74	100		OK
63		0.0													
64	Other Factors	(Informati	onal Too	Is Only)				JME	MFAN	StDev	QI	QU	PWI		
65	GmbEstND	2,338	2.340	2.346	2.329	2.339			2.3384	0.006107		-			
66	GmbEst Nma							2.365							
67	%Gmm Nmax							97.36							
68	Design AC	52	52	52	52	52			5 20	0 0000					
69	%Antistrin	0.6	0.6	0.6	0.6	0.6		0.60	0.60	0,0000					
70	Meter AC	4.3	43	43	43	43			4 30	0.0000					
71	%Crushed	96.5	95.0	16.7	97.5	95.8		97.80	80.30	35 5870					
72	Mix Temp	300	200	320	315	280		205	301.0	16.7					
73	Cee	2 626	2 636	2 636	2 632	2 620		2.625	2 632	0.004382			_		
74	Pha	2.020	2.000	2.000	2.002	2.025		0.4	2.002	0.004302					
75	Pho	1.4	4.6	4.6	4.7	4.7		1.0	4.7	0.004					
76	duct/Doff	4.0	4.0	4.0	1 10	1 20		4.0	1.26	0.0626					
77	clopo	6.51	6.20	6.61	6.41	6.41		1.22	6.45	0.0330					
70	siope	1.0072	1 0004	1 000	1.01	1.01		1.011	1 0000	0.00100					
70	concurración	1.0075	1.0094	1.009	1.01	1.01		1.011	1.0090	0.00109					
19															
80							Roll	ing 10	for Plan	t					
81	Rolling 10	Active										MEAN	StDev		
82	P-Lot No.	111-007	701-006	701-005	701-004	701-003	701-002	Val E	Val D	Val C	Val B				
83	Gmm	2.430	2.438	2.438	2.435	2.433	2.436	2.434	2.438	2.427	2.424	2.4333	0.00487	7	OK
84	%Voids	3.1	3.1	3.0	3.4	2.9	3.2	3.1	4.1	3.1	3.3	3.23	0.3368	0	OK
05													1	-	-
	• • …	Validatio	n Pl	lant Rep	ort-Val	Plai	nt P	lant Mor	nitor N	lainline	Main	line Moi	nitor	Roadway	/ Report

Plant Monitor

This tab will display F & t analysis for plant data.

Mainline

- 1. Click "NEW" to start a new roadway lot
- 2. Choose a project from the dropdown. This associates the cores to the project. (Remember, it is possible to have the same lot number on multiple projects. Each project starts with roadway lot #1.)
- 3. Enter Date, from dropdown choose whether method 1 or 2, and enter Roadway Lot #. Depending on choice in #4, it will display "Mainline Lot #" or "Minor Lot #".
- 4. Choosing the mix use in this dropdown, will trigger between Mainline or Minor mix calculations.
- 5. Enter the beginning date and ending date of the mix placement for the lot. This can changed or edited later, using the Scroll (#12) and Submit (#11) buttons.
- 6. The tons for the sublot can be entered in just one block of each sublot or for each core.
- 7. The mix use and location are dropdown choices with the rest of the areas typable entries. The random number entry is for the transverse location. The station number represents the longitudinal location. Each sublot has three acceptance core entries.
- 8. The verification core has the same data fields as the acceptance cores.
- 9. The G_{mm} check from a randomly chosen core from the lot is entered here. If the first one fails to verify then two more roadway cores are randomly selected and the G_{mm} data is entered here.
- 10. To override the default G_{mm} , enter the G_{mm} to be used here.
- 11. After the data for the current session has been entered, click the submit button. This will put the data in the summary tables.
- 12. The "APPEND" button will "PUSH" any added data from this tab to another LaPave file. The intended use of this feature is for data transfer between the contractor and DOTD, the inspector updating the LaPave file at district, or updating files over a network. After clicking this button, the user will be prompted what file to append to. The user will have to navigate to where the second file is to send the new date to. The file can be located on the same computer, a USB stick or over a network.
- 13. Resolution core information is entered in this area.
- 14. G_{mm} data derived from resolution cores is entered here.
- 15. The print button will print both the top and bottom of the "Mainline" tab.

REMEMBER TO ALWAYS USE THE SAVE FUNCTION OF EXCEL. THE "SUBMIT" BUTTON DOES NOT SAVE THE DATA, IT ONLY PUTS IT IN THE DATA TABLES

The second screen shot is the bottom portion of the "Mainline" tab with the density and statistical data.

÷ A		B	С	D	Е	F	G	н	1	J	К	L	М	N	0	Р	Q	R S	T	U	V	W	×	Y
1							Data fo	r Road	way	Mainlii	ne Lot										_			
2 0			4.4																					
3 2Pro	N. H	<u>1111</u>	11		- Flant	H000	De	esign level	1		Міх Туре	-		1										
4 Proj. I	Varrel		A1.		JMF No.	70	1-B				Mixuse	ML-W	earing	4				(10.00	111			
5	TEL	E1313	016											_	-				Gmm Man	ual Override	11			
7 3 Me		1	24C	52	G.	2 597	P	94.8	G	2 4 2 9	i ſ	Start Date	4/29	/2016	1 5	-					J			
8			71110	0.6	-//	2.001	.,	01.0	 G	JMF Vali	dated	EndDate	5/5/	2016	1 v	-						-		
9 Mainline	Lot #	3			Counter	1									-				1.1		10.5		-	-
10		-																4			a (<u> </u>		
11	6		Subl	ot #A			Subl	ot #B			Sub	lot #C			Subl	ot #D			N 1	JFW			PEND	ш
12 12 Miul Ian	A	cc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver		· ·				LITE	
14 Station	29	1+77	256+00	234+00	259+80	301+16	285+66	252+71	294+21	240+63	217+14	184+83	204+51	Wearing 34+71	Wearing 64+43	79+63	Wearing 50+58			2015				
15 Locatio	n Bi	TCL	RTCL	RTCL	200.00	RTCL	LTCL	LTCL	201121	LTCL	LTCL	LTCL	201101	RTCL	RTCL	RTCL	00.00	12					10	
16 Randon	n 0.	533	0.964	0.844	0.604	0.73	0.35	0.668	0.336	0.151	0.08	0.383	0.532	0.379	0.568	0.176	0.532	14	$ $ \leftarrow	\rightarrow			12	
17 Thickne	ss 2	.50	2.50	2.50	2.09	2.38	2.00	1.88	2.04	1.96	1.84	2.15	1.77	2.17	2.19	2.40	2.19							
18 Air 19 Water	24	41.4	2150.2	2442.4	1709.1	1275.9	2176.3	1843.0	1707.5 969 E	1844.1	1725.6	2174.4	1657.0	1919.2	2138.5	2261.9 1307 F	1902.8	44	1					
20 SSD	24	43.6	2152.0	2444.6	1711.6	2246.9	2178.2	1846.3	1709.9	1846.0	1726.9	2175.7	1658.1	1921.3	2140.0	2263.0	1903.9		SU SU	BMIT				
21 Gmb	2.	309	2.346	2.343	2.272	2.312	2.308	2.242	2.303	2.295	2.332	2.355	2.367	2.304	2.362	2.367	2.357							
22 Density	9	5.1	96.6	96.5	93.5	95.2	95.0	92.3	94.8	94.5	96.0	97.0	97.4	94.9	97.2	97.4	97.0	- 0	7		-	45		
23 Tonnag	je 10	062				1019.5				1040.5				1113.1					D	DINT		15		
24 P-Lot#						8													I FI					
25		1	Subl	ot #F		<u> </u>	Sub	ot #F		-				Besol	ution									
27	A	cc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver			●A	●B	+C	*D	●E	*F							
28 MixUse	We	aring	Wearing	Wearing	Wearing						Mix Use													
29 Station	106	5+93	133+30	23+43	122+43						Station													
30 Locatio 31 Bandon		199	0.254	0.075	0.273	1					Bandor							12						
32 Thickne	55 2	.24	2.13	2.24	2.36					т	hickness							13						
33 Air	21	05.6	2114.2	2085.5	2182.5						Air													
34 Water	11	33.8	1223.8	1187.3	1256.7						Water													
35 SSD	21	07.3	2115.5	2087.0	2183.8						SSD													
37 Densitu	- 2.	4.9	97.6	95.4	2.354					-	Depsitu													
38 Tonnag	e 10	71.9		00.1						-	Tonnage									-				
39 P-Lot#											P-Lot#													
41 42 Sublet		IC I	G	mm Cheo	CK		-			resoluti	on I													
43 Core	A	cc1			Ava			-		-										-				
44 Mix	18	34.4													11									
45 Pyc&W	ater 13	85.8													14									
46 Pyc,Wtr	8.M (24	69.8					_		_	_														
47 Lore G,	2	445			2								-											
49	0.	010	<u> </u>				_						-						-					
50 LaPace	2013 -13	04.24														5	23/2015		1					
51																								
52		_	_					and the second			1.00.00		-											
53	Data for Roadway Mainline Lot Pay																							
54	-	DI		Dian				11		1	A		Andreas Artic and Andreas	De							- Com	and the second second		
• •	• •••	Pla	ant	Plant	ivioni	tor	wain	line	Mair	nine M	vionito	R	oadwa	ау кер	on	Minc	DT F	roject Sun	imary	Plar	it sum	mary	Pla	nt v
READY																								

	А	В	С	D	E	F	G	H	1	J	K	L	Μ	N	0	Р	Q
53						D	ata for R	loadwa	v Ma	inline	Lot Par	v					
54									· ·								
55		N	lainline D	ensity						Mainli	ne Accent	anco Donsi	ty PWI				
56	Mainline	Ac1		Ac3	Ver	Res			Ac Count	Mann	15	unce Densi		2.65			
57	Sublot #A	95.1	96.6	96.5	93.5				Ac Mean		95.7			2.00			
58	Sublot #B	95.2	95.0	92.3	94.8				Ac Stdev		1 400		PWI	100			
59	Sublot #C	94.5	96.0	97.0	97.4												
60	Sublot #D	94.9	97.2	97.4	97.0				Mainline I	Min	92						
61	Sublot #E	94.9	97.6	95.4	96.9					0/			0				
62	Sublot #F								Рау	/ %		10	0				
63																	
64	Method		1														
65										Mainli	ine Resolu	tion Densit	y PWL				
66	Testing Labo	ratory	District Lal	b					Res Count	t	0		QL				
67	Ac Count		15						Res Mean				QU				
68	Ac Mean		95.7						Res Stdev				PWL				
69	Ac Stdev		1.400														
70									Mainline I	Min	92						
71	Testing Labo	ratory	Contractor														
72	Ver Count		5														
73	Ver Mean		95.9														
74	Ver Stdev		1.690														
75									Mainline I	_ot #		3					
76	Difference of	Means	0.20					-	Total Tons	S		5306	6.95				
77	Rolling F & T	Equal	Yes						G _{mm}			2.4	29				
78									G _{mm} from			JMF Va	lidated				
79									Adjustmer	nt Factor		1.0	00				
80									Adjusted 1	Total Tor	IS	5306	. 9 5				
81																	
82																	
83											Previ	ous Lot					
84									Lot#								
85									Mix Use								
86									From								
87									Pay %								
88																	
89	LaPave 2013	v13.04.24															6/29/2016
90																	
91																	
		Plant	Plant N	Ionitor	Mainli	ne	Mainline	Monitor	Roa	dway R	eport	Minor	Projec	t Summa	arv	Plant Su	mmary
		- Tearre	- Marine IV						nou	sinay it	-porc		. rojec			- and - Bu	, and a second sec
RE4	ADY																

Mainline Monitor

The "Mainline Monitor" tab displays the "F & t' statistical information for a JMF.

It can calculate the for cores on a project or for all mainline information entered for a JMF.

- 1. The information populated in the header is from the information displayed on the "Mainline" tab.
- 2. The next area displays the date, Method 1 or 2, which mainline Lot # the data starts with & associated counter in LaPave. The higher the Mainline Lot # chosen on the previous tab (Mainline) the more data is used. The lot chosen to start the data analysis will also move the F & t test through the data set.
- 3. The dropdown choices are all cores or project only cores. The project choice is filtered by which project on the "Mainline" is chosen.
- 4. The statistical data.
- 5. Note to point out that the lot chosen on the "Mainline" tab is where the data analysis starts. F & t only performed on "Mainline" core data.
- 6. Print button to print the displayed data set.

Proj. No.		H111111	1	Plant	H000	Desi	an level	1	Mix Type	Wearing Cour	se	1
Proj. Name		LA 1		JMF No.		111	Í		Mix use	ML - We	earing	1
-				5	start Date	5/5/201	6		End Date	5/6/2016		
DATE	5/12/2	2016		-			5					
Method	1			2							3	
Starting a	t Mainline	Lot #	4	_	Counter	2		Level	All		v	
	Rolling 3	0 Accept	tance				Rollin	ng 10 Verifica	ation			
Project	Lot #	Sublot	Station	Density		Project	Lot #	Sublot	Station	Density		PRINT
1111111	4	#C	178+52	96.9		H.011560	4	#C	130+85	96		
1111111	4	#C	156+40	96.7		H.011560	4	#B	137+18	95		
1111111	4	#C	123+24	96.8		H.011560	4	#A	102+80	96.9		
1111111	4	#B	133+08	96.3		H.011560	3	#E	122+43	96.9		6
11111	4	#B	103+74	97.1		H.011560	3	#0	204+58	97 4		
111111	4	#D	104+27	96.2		H 011560	3	#B	294+21	94.8		
111111	4	#A	91+40	92.4		H.011560	3	#A	259+80	93.5		
111111	4	#A	46+60	94.7								
111111	3	#E	23+43	95.4								
111111	3	#E	133+30	97.6								
111111	3	#E	106+93	94.9							1	
111111	3	#D	79+63	97.4							4	
111111	3	#D	64+43	97.2				d1	d2			
111111	3	#D	34+/1	94.9		Aug 100		Verification	Acceptance			
111111	3	#0	217+41	97		Averag	le /	1 3752	14060			
111111	3	#C	240+63	94.5		Varian	Ce.	1.8913	1.4000			
1111111	3	#B	252+71	92.3		df		7	23			
1111111	3	#B	285+66	95								
1111111	3	#B	301+16	95.2		F		0.9	568			
1111111	3	#A	234+00	96.5		F Critic	al	2.4	40			
1111111	3	#A	256+00	96.6		Varianc	e?	Eq	ual			
1111111	3	#A	291+//	95.1		P(1<=	()	0.7	//9			
						Equal Data	setsr	16	15			
			. Tabat		_							
hows Main	ine Lots w	ith "MI -" N	lix lises on	h/**	5		-					
notro indiri	LOID W		00000	<u> </u>	-							
Pave 201	3 v13.04.2	24									6/16/2016	

Roadway Report

This tab produces a summary of roadway data that is project specific.

- 1. Choose the desired project from the dropdown. The associated information will populate.
- 2. The dropdown will filer the information for Mainline, Minor, or Mainline and Minor mix use.
- 3. Summary of roadway core information.
- 4. Print a project summary of roadway data.

4	В	С	D	E	F	G	Н	1	J	К	L	M	N	0	Р	QR	S	T
1					_	Roadwa	y Summ	ary Repo	ort							<u></u>		
2	Н	011560		Pla	nt H000		Design leve	1		Mix Type	Wearin	ng Course					_	
4 5 6 7	Some Cont	Doe ractor		1	Show:	Mainli	ne only	2		JMF MIX USE	ML - V	vvearing				**lf a	ny informat	tion is not sł
8 9 10 11 12	Mix Use ML - Wearing ML - Wearing	Method 1 1	Acc Mean 95.7 95.9	Ver Mean 95.9 96.0	0.2 0.1	Acc PWL 100 100	Acc Pay 100 100	Res Mean	Res PWL 	Res Pay	Gmm 2.429 2.429	Gmm From JMF Validated JMF Validated	Adj Factor 1.00 1.00	Total Ton 5279.0 3177.0	Adj Ton 5279.0 3177.0		PRIN	іт
13 14 15								3									4	
16 17 18																		
20 21 22																		
23 24 25																	_	
26 27 28																		
29 30 31																		
33 34 35																		
36 37 38																		
39 40	۰ JMF CHE	CK Validat	ion Input	/alidation	Plant Report-Val	Plant	Plant Monitor	Mainline	Mainline N	Aonitor Roa	dway Report	Minor Proje	ect Summary	Plant Summ	nary Plan	t Verification	Mainline	Summary .
READ	W .																	

The summary tabs to the right of the "Roadway Report" tab contain the tables for the data entered in previously covered tabs.

Reporting

Various printouts can be made from the "Reporting" tab. Portions of the reports can be included or omitted with the "Y"/"N" dropdowns.

Print All	Check for Latest Version	Update Material Codes from Server						
Export for Attachement	Upload This File to Server	Import Material Codes from File						
Print Design Report	Y Dptimum AC and Verification Samples data Y Dptimum AC charts Y Combined Gradation N 0.45 Curve N Ignition Oven Correction Factors and Verification Gradations N LWT Design	SMM codes updated 6/30/2016 Export Material Codes to File						
Print JMF Report	N Lottman Design Y JMF Input Y JMF Y JMF Check	Image: state stat						
Print Validation Report	Y Validation Input Y Validation Report Y Validation Plant Report							
Print Plant Report	Y Plant Y Plant Monitor							
Print Roadway Report	Y Roadway Report Y Mainline Y Mainline Monitor Y Minor	Image: state stat						
Import All	Image: Constraint of the sector of the se	Image: constraint of the sector of the se						
Admin / Unlocked								
Instructions Reporting	Material Setup Project Optimum AC Test Result	s Comp. Grad. and FAA Input Mois 🕂						

DOTD Roadway Duties

Check roadway equipment. Check tack rate. Get haul tickets. Check temperature of mix. Check yield. Choose locations for cores using random numbers. Send acceptance and resolution cores to District Lab; GPC core to Matlab Complete roadway report. Observe contractor's daily profiler set-up procedures, take IRI results.

Mainline Lots (92.0 min Density)7500 LF Sublots37,500 LF Lots

Travel lane base, binder and wearing; ramps > 300', interstate accel/decel lanes, turn lanes.

Take 3 Acceptance cores per sublot = 15 per lot. (To District Lab)

Take 1 Verification core per sublot = 5 per lot. (To Plant)

Take 1 Resolution core per sublot = 5 per lot. (To District Lab)

	Mainline Roadway Cores 37,500 LF LOT													
7500 LF SUBLOT			7500	LF SU	BLOT	7500	LF SU	BLOT	7500	LF SU	BLOT	7500	BLOT	
A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15
Core	Core	Core	Core	Core	Core	Core	Core	Core	Core	Core	Core	Core	Core	Core
V1 Core		V2 Core			V3 Core			V4 Co	re		V5 Core			
R1 Core		R2 Co	re		R3 Co	re		R4 Co	re		R5 Core			

For sublots < 7500 LF, take a minimum of 3 cores. (For < 250 tons, PE decides.)

Minor Lots (90.0 min Density) 1000 Ton Lots - Bike paths, crossovers, detour roads, leveling > 1.5" thick, parking lots, shoulders > 4' wide, ramps < 300', patching, and widening > 2.5'. Take 3 minor cores per lot. (To District Lab) (For < 250 tons, PE decides.)

Minor Mix Cores 1000 TON LOT											
333 TONS	333 TONS	334 T <i>O</i> NS									
M1 Core	M2 Core	M3 Core									

Minor without density requirements – curbs, driveways, guardrail widening, islands, joint repair, spot leveling, medians, tapers, turnouts and shoulders \leq 4' paved with the roadway. (For < 250 tons, PE decides.)

Take 3 cores per project for Gmm verification. (To District Lab)

PROJECT --- Take 1 GPC core for asphalt cement verification (To Matlab)