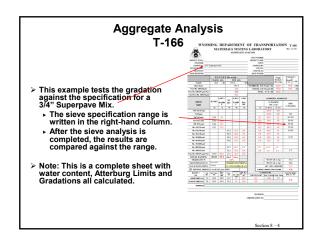
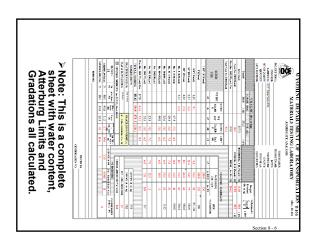


		WE	EIGH	I (lbs or	kg)				Weight	% Retained =
T-166		COARSI	E AGG.		FINE AG	9.			Retained	Acr B x 10
Example	Sample	32.6	- (T)	4	9.9	- (f)			(fbs or kg)	(0) 111
	After Wash				331.1		RETAINED No.		19.50	-
1	Pass No. 200 [75pm]				88.8			4 [4.75 mm]+ (B)		40.0
	Pass No. 200 [75 pm], Pan				33.1	-	тот	AL, A+B=(D)	32.50	
	Total Pass No. 200 [75pm]									
			% RET =	WT	% RET =	% RET		COMBINI	D AGGRE	GATE
	SIEVE SIZE	WT RET	K X 100	RET	Px 100 F	Ball 100		% PAS 100 - :		SPEC % PASSING
		+K	+Ł	-9	-R	16	-2	to 0.1%	to 1%	- THEORETO
	1 10" (97.5 mm)							100.0		
	1" (25mm)	2.10	6.4				1000	93.6		
	34" (89 mm)	4.30					13.2	80.4		
	12" [12.5 mm]	3.80					11.7			
	38" [9.5 mm]	5.10	15.6				15.6			
	No. 4 (4.75 mm)	4.20	12.9						40	
	No. 8 [2.36 mm]			77.2		7.4	7.4	32.8	33	
	No. 16 (1.15 mm)						0000			
	No. 30 [600 pm]			61.8	14.7		5.9	26.9	27	
	No. 40 425 (cm)			55.6		- 1	5.3	21.6	22	
	No. 59 (300 and			-						
	No. 100 [150 gm]			59.4	14.1	5.6	5.6	16.0	16	
	No. 200 [75 am]		_	44.0	10.5	42	42	11.8	12	
	Pass No. 200 [75 pm], Pan	13.00	39.9	121.9	29.0	11.6	100		27553255	
	TOTAL PASSING			419.9						
	SHAKER LOSS %		3 %		0.%			DILAL	th or her	
	FRACTURED FACES %	One or more		SHAKE	R LOSS F	ORMULA		DRY WY	th or kgr	
	FLAT & FLONGATED %	15 Ratio		gen-n	OTAL PANSONS	T+11-100		911 - 00	T-1000E34	



T-166 Example 2	Sample	COARSI 35.6			kg) FINE AG 76.2	G m			Weight Retained (fin or kg)	Age B x 1
	After Wash	33.6	- (4)	- 3	357.3	-03	RETAINED No. 4			50.8
	Paro No. 200 [75am]	_			18.9	-		(4.75 mm) = (4)	17.53	49.2
	Part No. 200 [75 pm], Part				23.2			L. A = B = (B)		
	Total Pers No. 200 [75pm]				232	-	101	ar, a - a - cay	33.00	
	SIEVE SIZE	WT RET	NAMET -	WT RET	% RET - F s 100 F	% RET EAL 100		% PAS		SPEC
	SIZE	-K	-L	-P	-R	-8	-2	to 0.1%	0.1%	% PASSING
	110° (31.5 mm)	-	-	-				100.0	100	
	1" (25mm)									100
	3/4" [19 mm]	3.25	9.1				9.1	90.9	91	90-100
	1/2" [12.5 mm]	5.83	16.4				16.4	74.5	75	55-90
	58° (9.5 mm)	4.68					2000			45-85
	No. 4 [4.75 mm]	4.31								30-65
	No. 5 [2.36 mm]			67.3	17.9	8.8	8.8			20-50
	No. 16 (1.18 mm)			59.3	15.8	7.8	7.8	32.7		
	Na. 20 [600 pm]			52.6				25.8	26	5-30
	No. 40 425 [am]			49.5						
	No. 50 (300 pm)			1,510						
	No. 100 [150 µm]			53.3		7.0			12	2-7
	No. 200 [75 mm]			52.1			6.8	5.5	5.5	
	Part No. 200 [75 pm], Pan	17.53		42.1		5.5	000		3133111111	
	TOTAL PASSING	11.00	99.9	376.2	100.0	0.0				
	SHAKER LOSS %	0.0	%	0.	0.%	10.000		attat	th or hip	37.3
	FRACTURED FACES %	One or more		SHAKI	R LOSS F	DRMULA		005/97	th or kg)	35.6
	FLAT & FLONGATED %	15 Retie		a=n-1	OLM PASSESS	(E-E)-100		917-0	RY - MOISTINE	1.7



Correlation of Testing Technicians for Gradation

The actual calculations of the correlation will not be on the exam but you would need to have an appreciation to the process. In addition, you would need to be able to answer general questions about the process.

Section 8 -

Correlation of Testing Technicians for Gradation

(WYDOT MTM 126.0)

- ➤ General
 - Compares aggregate gradations obtained by WYDOT field laboratory and Contractor's laboratory.
 - ► The paired t-test is used.
 - ► If difference is significant, then the dispute resolution procedure will start.
 - Re-correlate if either tester is changed.
 - ► Can be done during aggregate production.

Section 8 - 1

Correlation of Testing Technicians for Gradation

- **≻** Procedure
 - ▶ Obtain 15 aggregate samples
 - Groups of 3
 - ◆Sample according to WYDOT MTM 804
 - •5 samples for WYDOT, 5 for contractor, and 5 for referee
 - When sampling from a belt, the middle sample should be the referee sample
 - ▶ Test samples
 - **◆WYDOT MTM 814.0**

Section 8 -

\sim
•
_,

Procedural Steps on Form

- > Determine percent passing each sieve size
- > Perform t-test separately for each sieve
- ➤ Calculate the difference between % passing
- > Determine the mean and the Standard Deviation (s) of the differences

Section 8 - 10

Procedure (continued)

- ➤ Compare s to the minimum and maximum values in Table 1.
- ➤ Calculate

$$t = \frac{|\overline{x}|}{\sqrt{\frac{s^2}{n}}}$$

- ≻ If t < 4.604; No significant difference
- > If t > 4.604; Significant difference
- > Check for Sign Error Do the Differences all have the same sign? Indicates Bias.

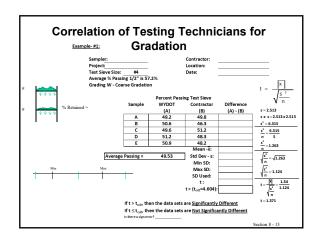
Section 8 - 11

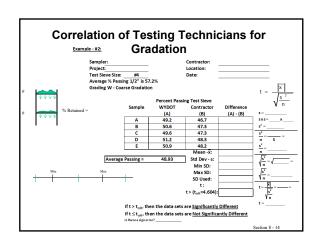
Table 1. Allowable Range of Standard Deviation

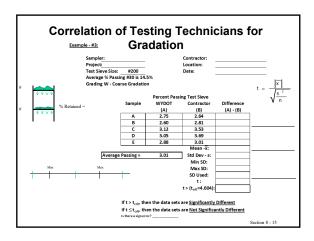
			Grading	
Percent Retained		Coarse	Fir	1e
Percent Retained	Maximum	Minimum	Maximum	Minimum
< 3%	3.00	0.39	0.60	0.21
3% - 10%	3.00	1.06	1.60	0.57
10% - 20%	4.70	1.66	2.70	0.95
20% - 30%	5.70	2.01	3.50	1.24
30% - 40%	6.90	2.44	4.00	1.41
>40%	9.00	3 18	5 20	1 41

 <u>Use the coarse values</u> unless the nominal maximum aggregate size is #4 or less, in which case use the fine values

Section 8 - 12







			CORRELA								T 165 AG REV (4-2	
Testing Date:										No(s): Correla Testers	A	
QC Supervisor			_	Mechanic	al Sampler	-			_		в —	_
Control Sieve Sizes &	Tester		Perc	ents Passi	ing		Ava	Strl Dev	Max SD	Min SD		rit= TPa
Average %	rester	Pair A	Pair B	Pair C	Pair D	Pair E	~~a	JIII DEV	max 50	man ob	t=	I F
	Contractor											Т
	WYDOT											
	Difference Contractor	_	_		-	_	_					-
	WYDOT	_			-							
	Difference	_	_		-							-
	Contractor	_	_		-	_	_					-
	WYDOT				-							
	Difference		_		_							_
	Contractor				_							
	WYDOT						1					
	Difference											Т
	Contractor											
	TODYW											
	Difference				_							_
	Contractor				_	_						
	WYDOT				-							-
	Difference		_		_		_	_				_

Contractor: Curly			WYOMING DEPARTMENT OF TRANSPORTATION T 105 AG REY (4-2004)									
		С	ORRELA	TION OF	AGGRE	GATE GE	RADATI	ONS			REV (4-200	34)
				Consultant	t: Bestte	sters				No(s): 12-		
WYDOT: Moe Thy			_	Resident E	ngineer:	Larry Stu	ge	_	Test is t	o Correlat		One)
Testing Date: 2/29 QC Supervisor: M				Mechanical						Testers	A <u>X</u>	
QC Supervisor: M	. magoo		_	wwcmanica	oumper	-						
Control Sieve		Percents Passing Avn Std Dev May SD Min SD Days (
	Tester	Pair A Pair B Pair C Pair D Pair F					Avg	Avg Std Dev	w Max SD	Min SD	t=	Pass /
Average %	ontractor	89.9	Pair B 88.5	Pair C 92.5	Pair D 91.1	Pair E 86.5						Fail
	WYDOT	91.0	89.6	88.4	92.0	88.9	89.8					
	ifference	-1.1	-1.1	4.1	-0.9	-2.4	-0.28	2.52	4.7	1.66	0.248	Pass
	ontractor	78.6	79.0	77.2	81.2	81.0	79.2					
	WYDOT	79.2	78.9	76.5	79.9	80.5						
	ifference	-0.6	0.1	0.7	1.3	0.5	0.4	0.71	4.3	1.66	0.539	Pass
	ontractor WYDOT	56.3 58.9	55.4 58.0	55.0 59.5	60.4 60.2	59.8 62.3	58.6					
	ifference	-2.6	-2.6	-4.5	0.2	-2.5	-2.4	1.60	5.7	2.01	2.67	Pass
	ontractor	24.8	24.2	27.2	22.3	24.7		1.00	-	2.01	2.01	
	WYDOT	31.3	35.6	31.1	31.6	29.5	28.2					
	ifference	-6.5	-11.4	-3.9	-9.3	-4.8	-7.18	3.13	6.5	2.44	5,129	Fail
	ontractor	11.5	12.6	10.5	14.0	14.6	13.3					
	WYDOT	14.0 -2.5	12.9	11.6	15.4	15.9	-1 32	0.85	41		1,778	
	ifference	6.5	-0.3 8.2	-1.1 6.8	7.3	-1.3 8.9	-	0.80	4.3	1.66	1.778	Pass
	WYDOT	7.1	8.4	7.3	7.1	7.9	7.6					
	ifference	-0.6	-0.2	-0.5	0.2	1.0	-0.02	0.65		1.06	0.042	Pass
					•			•	•	•		
Directional Bias on	Any Sieve? Ye	25					Which 0	One(s)? #4	, #30			
Comments: There	appears to be	a signifi	icant proble	em on the I	H							