SOIL & AGGREGATE COMPACTION INSPECTOR

WORKSHOP PROBLEMS

WORKSHOP NUMBER ONE

Random Numbers
&
Roller Pass Test Section
1)

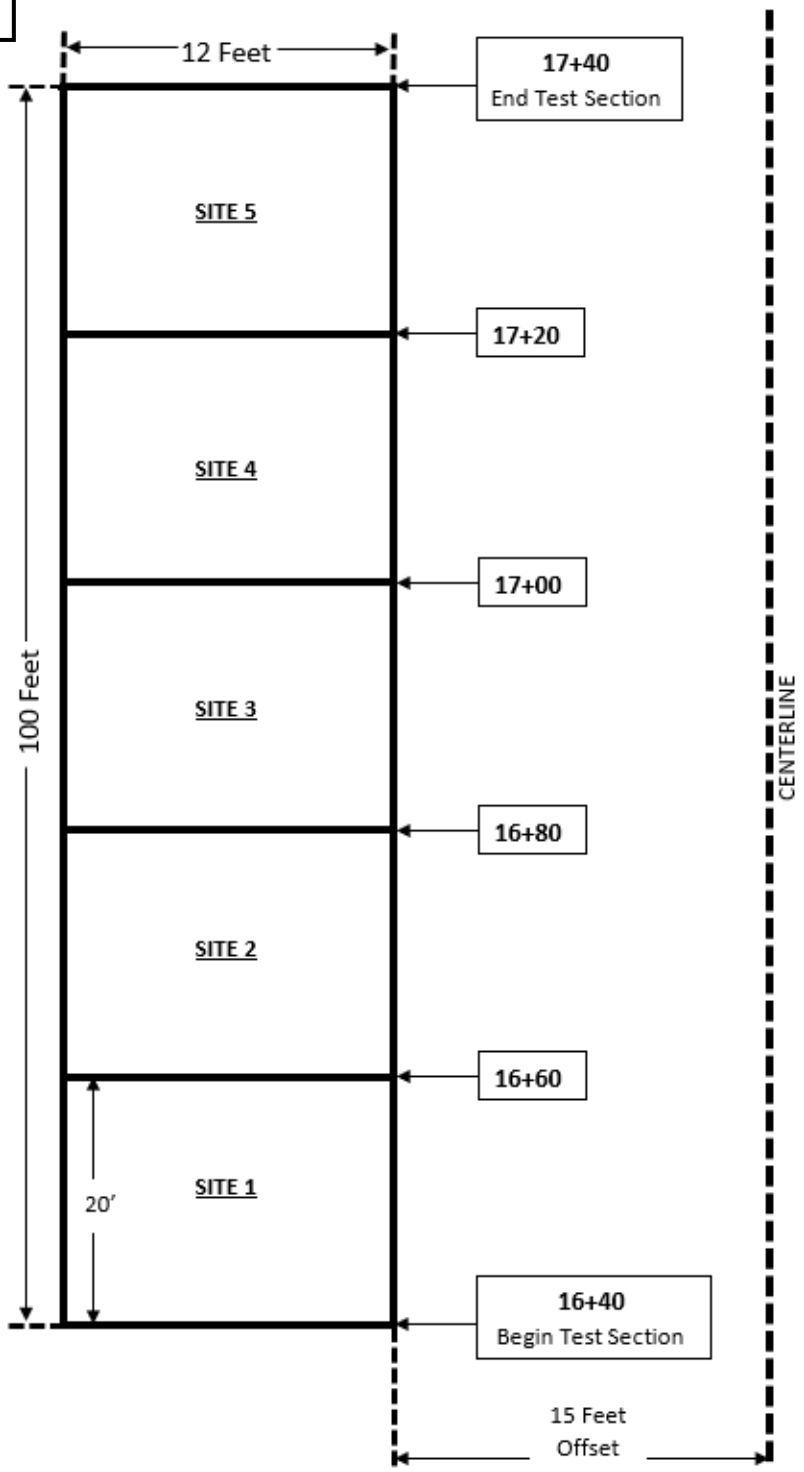
Roller Pass Test Section

Item 307-1

Example #1

RANDOM NUMBERS

1)	**.065**	**.627**
2)	**.200**	**.055**
3)	**.217**	**.882**
4)	**.237**	**.146**
5)	**.815**	**.570**



West Virginia Division of Highways **EXAMPLE #2**

Materials Control Soil and Testing Division

Lab Number	8110912
Auth. Number	SM8888C
Project Number	S 310-8-18.22
District Number	9
Item Number	307-1
Date	Today's Date

FORM T-313

MP 700.00.24

Source of Material:	Lewisburg			Length of Test Section:	100'
Roller Type:	Vibratory			Width of Test Section:	12'
Roller Weight	Static: 9.0 Ton	Working: 15.0 Ton		Gauge Number	28225
Lift Thickness Compacted:	6"			Manufacturer's Standards	
Depth Below Grade:	0			Density: 2865	Moisture: 678
Depth of Gauge Source:	6"			Standard Counts	
Observed	Yes ✓	No		Density: 2857	Moisture: 670

Test Site Number	1	2	3	4	5
Station Number	16+41	16+64	16+84	17+05	17+36
Offset	23' LT CL	16' LT CL	26' LT CL	17' LT CL	22' LT CL

A	Number of Passes	12
	Test Site	DA Dry Density
	1	127
	2	128
DB	Average	

B	Number of Passes	14
	Test Site	DA Dry Density
	1	133
	2	135
DB	Average	

C	Number of Passes	16
	Test Site	DA Dry Density
	1	135
	2	136
DB	Average	

D	Number of Passes	18
	Test Site	DA Dry Density
	1	136
	2	137
DB	Average	

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		136
2		137
3		138
4		137
5		136
DC	Max. Density	

Inspector's Name: _____

Inspector's Signature: _____

Project's Evaluation

Checked By: _____

Date: _____

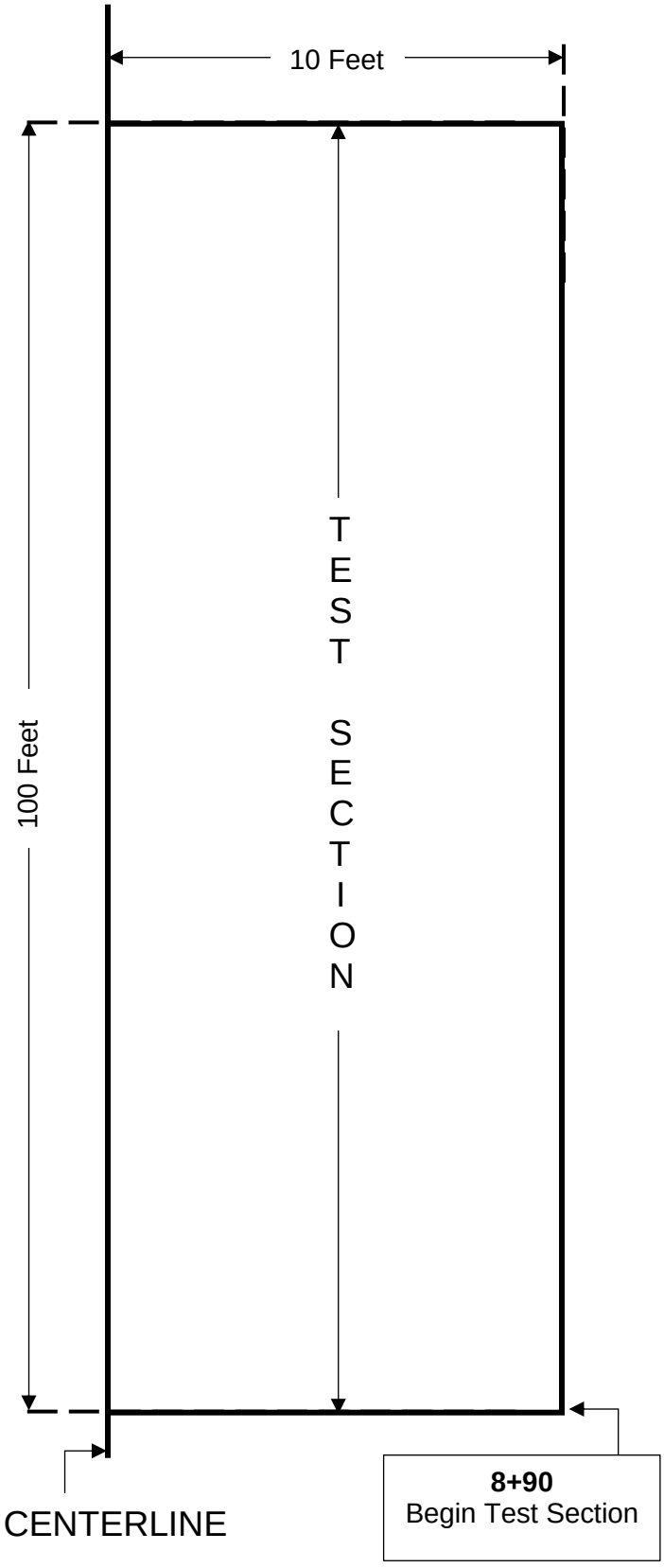
PROBLEM #1

Roller Pass Test Section

Item 307-1

RANDOM NUMBERS

1)	**.195**	**.877**
2)	**.902**	**.850**
3)	**.275**	**.023**
4)	**.794**	**.850**
5)	**.043**	**.293**



PROBLEM #2

M.P. 700.00.24
Item Number 307-1
Roller Pass Test Section T-313

Lab Number:	7112182			
Authorization Number:	FC2121C			
Project Number:	RS-0162 (054)			
District Number:	4			
Item Number:	307-1			
Date:	Today's			
Source of Material:	Clarksburg			
Roller Type:	Vibratory			
Roller Weight:	**Static:**	10 Ton	**Working:**	18.5 Ton
Lift Thickness Compacted:	6"			
Depth Below Grade:	0”			
Depth of Gauge Source:	6"			
Length of Test Section:	100'			
Width of Test Section:	10'			
Gauge Number:	11172			
Manufacturer's Standard	**Density**	2891	**Moisture**	627
Standard Counts	**Density**	2872	**Moisture**	624

Test Site Number:	**1**	**2**	**3**	**4**	**5**
Station Number:	8+94	9+28	9+36	9+66	9+71
Offset:	9' RT CL	8' RT CL	CL	8' RT CL	3' RT CL

DRY DENSITY PCF

Number of Passes	**12**	**14**	**16**	**18**	
Test Site Number 1	133	136	137	138	
Test Site Number 2	134	136	138	138	
Test Site Number 3				137	
Test Site Number 4				139	
Test Site Number 5				138	

West Virginia Division of Highways
Materials Control Soil and Testing Division

PROBLEM #2

FORM T-313
MP 700.00.24

Lab Number _____
Auth. Number _____
Project Number _____
District Number _____
Item Number _____
Date _____

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes		
	Test Site	DA	Dry Density
	1		
	2		
DB	Average		

B	Number of Passes		
	Test Site	DA	Dry Density
	1		
	2		
DB	Average		

C	Number of Passes		
	Test Site	DA	Dry Density
	1		
	2		
DB	Average		

D	Number of Passes		
	Test Site	DA	Dry Density
	1		
	2		
DB	Average		

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		
2		
3		
4		
5		
DC	Max. Density	

Inspector's Name: _____
Inspector's Signature: _____
Project's Evaluation
Checked By: _____
Date: _____

ANSWERS

Workshop
Number One

Roller Pass Test Section

Item 307-1

RANDOM NUMBERS

6)	**.065**	**.627**
7)	**.200**	**.055**
8)	**.217**	**.882**
9)	**.237**	**.146**
10)	**.815**	**.570**

Length:

1) .065 × 20 = 1
   16+40 + 1 = **16+41**

2) .200 × 20 = 4
   16+60 + 4 = **16+64**

3) .217 × 20 = 4
   16+60 + 4 = **16+84**

4) .237 × 20 = 5
   17+00 + 5 = **17+05**

5) .815 × 20 = 16
   17+20 + 16 = **17+36**

Width:

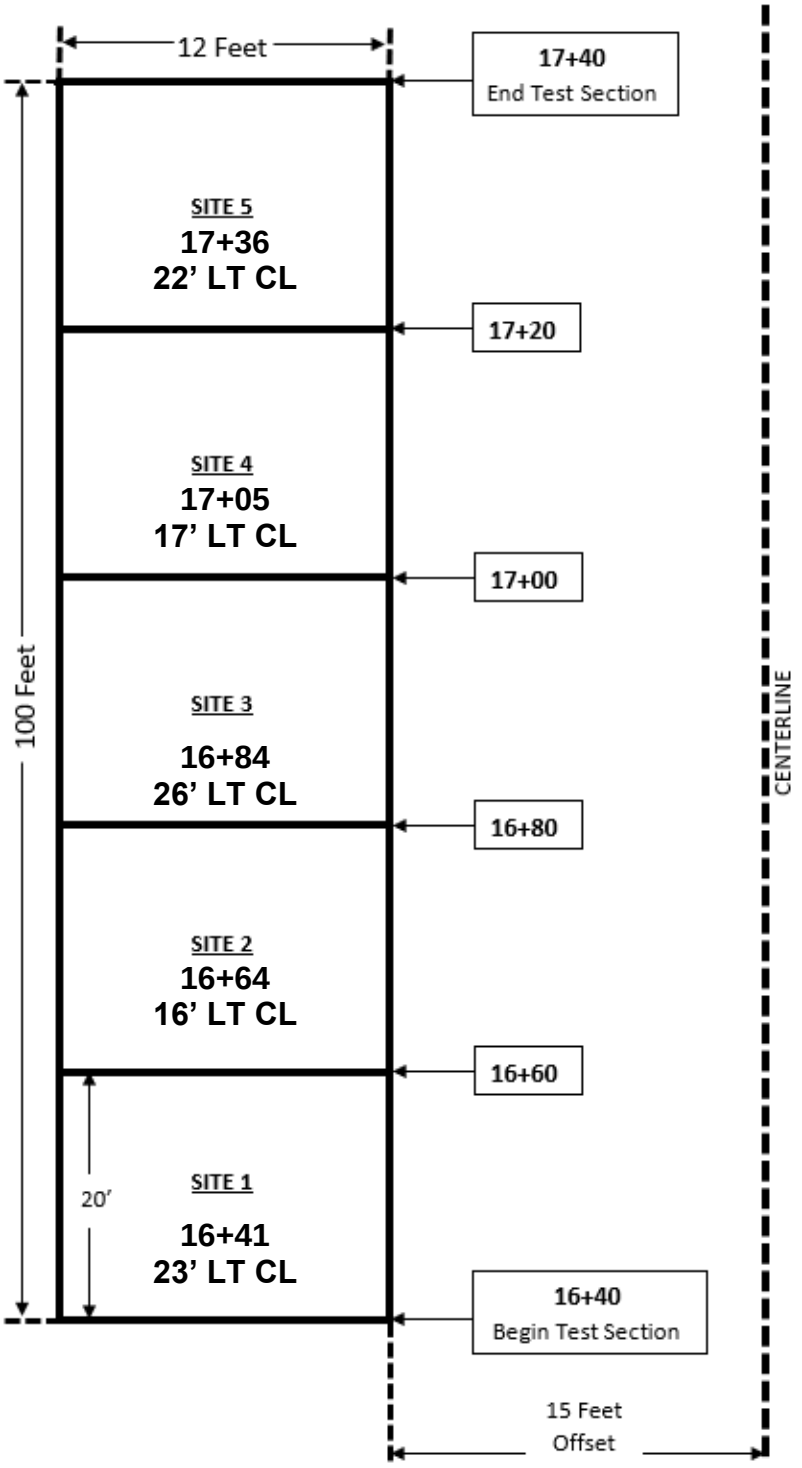
1) .627 × 12 = 8
   8 + 15 = **23' LT CL**

2) .055 × 12 = 1
   1 + 15 = **16' LT CL**

3) .882 × 12 = 11
   11 + 15 = **26' LT CL**

4) .146 × 12 = 2
   2 + 15 = **17' LT CL**

5) .570 × 12 = 7
   7 + 15 = **22" LT CL**



West Virginia Division of Highways **EXAMPLE #2**

Materials Control Soil and Testing Division

Lab Number	8110912
Auth. Number	SM8888C
Project Number	S 310-8-18.22
District Number	9
Item Number	307-1
Date	Today's Date

FORM T-313

MP 700.00.24

Source of Material:	Lewisburg			Length of Test Section:	100'
Roller Type:	Vibratory			Width of Test Section:	12'
Roller Weight	Static: 9.0 Ton	Working: 15.0 Ton		Gauge Number	28225
Lift Thickness Compacted:	6"			Manufacturer's Standards	
Depth Below Grade:	0			Density: 2865	Moisture: 678
Depth of Gauge Source:	6"			Standard Counts	
Observed	Yes ✓	No		Density: 2857	Moisture: 670

Test Site Number	1	2	3	4	5
Station Number	16+41	16+64	16+84	17+05	17+36
Offset	23' LT CL	16' LT CL	26' LT CL	17' LT CL	22' LT CL

A	Number of Passes	12
	Test Site	DA	Dry Density
	1	127
	2	128
DB	Average	128

B	Number of Passes	14
	Test Site	DA	Dry Density
	1	133
	2	135
DB	Average	134

C	Number of Passes	16
	Test Site	DA	Dry Density
	1	135
	2	136
DB	Average	136

D	Number of Passes	18
	Test Site	DA	Dry Density
	1	136
	2	137
DB	Average	137

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		136
2		137
3		138
4		137
5		136
DC	Max. Density	137

Inspector's Name: _____

Inspector's Signature: _____

Project's Evaluation

Checked By: _____

Date: _____

Roller Pass Test Section

Item 307-1

RANDOM NUMBERS

1)	**.195**	**.877**
2)	**.902**	**.850**
3)	**.275**	**.023**
4)	**.794**	**.850**
5)	**.043**	**.293**

Length:

1) .195 × 20 = 4
   8+90 + 4 = **8+94**

2) .902 × 20 = 18
   9+10 + 18 = **9+28**

3) .275 × 20 = 6
   9+30 + 6 = **9+36**

4) .794 × 20 = 16
   9+50 + 16 = **9+66**

5) .043 × 20 = 1
   9+70 + 1 = **9+71**

Width

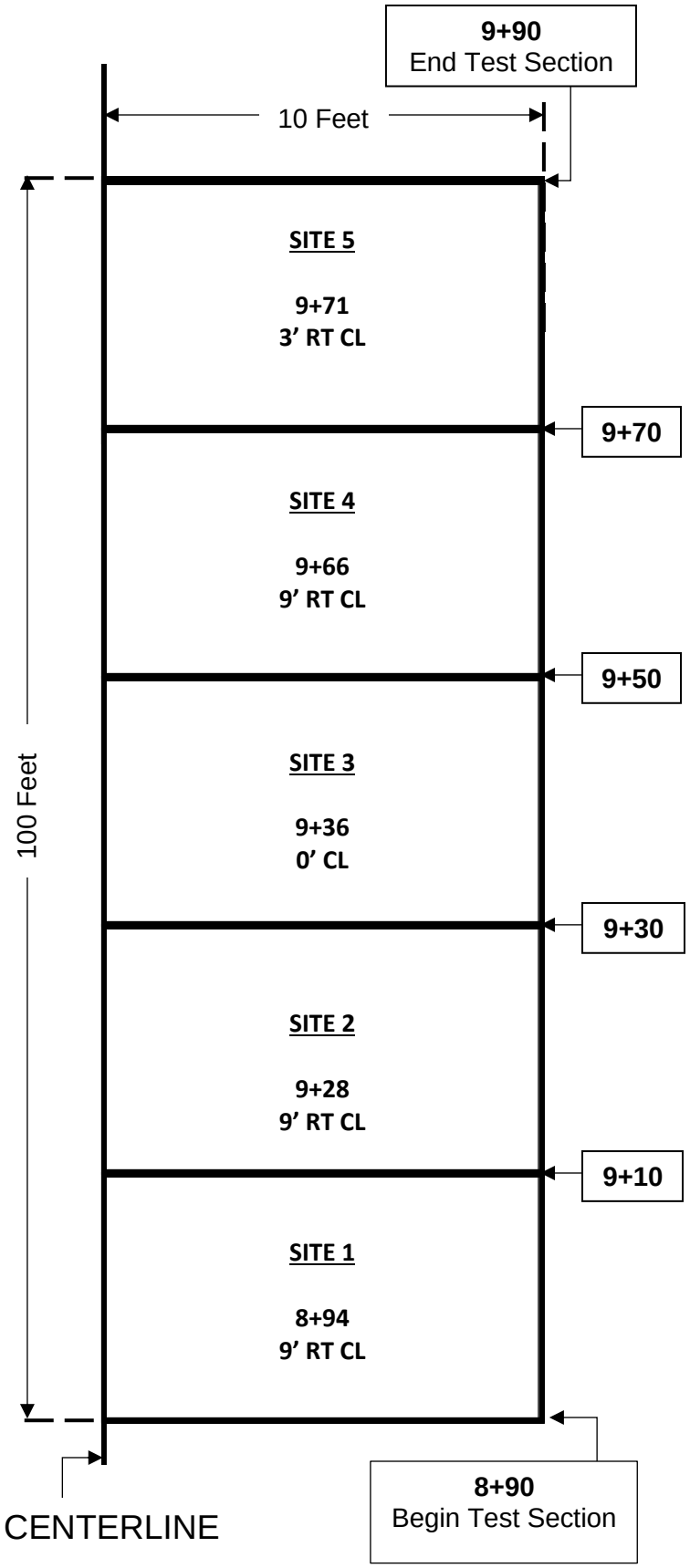
1) .887 × 10 = 9’ RT CL

2) .850 × 10 = 9’ RT CL

3) .023 × 10 = 0’ CL

4) .850 × 10 = 9’ RT CL

5) .293 × 10 = 3’ RT CL



West Virginia Division of Highways
Materials Control Soil and Testing Division

PROBLEM #2

FORM T-313
MP 700.00.24

Lab Number	7112182
Auth. Number	FC2121C
Project Number	RS-0162 (054)
District Number	4
Item Number	307-1
Date	Today's Date

Source of Material:	Clarksburg	
Roller Type:	Vibratory	
Roller Weight	Static: 10 Ton	Working: 18.5 Ton
Lift Thickness Compacted:		
Depth Below Grade: 10		
Depth of Gauge Source:		
Observed	Yes	No

Length of Test Section:	100'	
Width of Test Section:	10'	
Gauge Number	11172	
Manufacturer's Standards		
Density: 2891	Moisture: 627	
Standard Counts		
Density: 2872	Moisture: 624	

Test Site Number	1	2	3	4	5
Station Number	8+94	9+28	9+36	9+66	9+71
Offset	9' RT CL	8' RT CL	CL	8' RT CL	3' RT CL

A	Number of Passes	12
	Test Site	DA Dry Density
	1	133
	2	134
DB	Average	134

B	Number of Passes	14
	Test Site	DA Dry Density
	1	136
	2	136
DB	Average	136

C	Number of Passes	16
	Test Site	DA Dry Density
	1	137
	2	138
DB	Average	138

D	Number of Passes	18
	Test Site	DA Dry Density
	1	138
	2	138
DB	Average	138

DB = ∑ DA / 2

DC = ∑ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		138
2		138
3		137
4		139
5		138
DC	Max. Density	138

Inspector's Name: _____
Inspector's Signature: _____
Project's Evaluation
Checked By: _____
Date: _____

WORKSHOP NUMBER TWO

Quality Assurance
Of
Aggregates

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER	8110913
AUTH. NUMBER	SM8888C
PROJECT NUMBER	S 310-8-19.22
DISTRICT	9
ITEM NUMBER	307-1

FORM T-317
MP 700.00.24

GAUGE #	DATE	Today's					
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER	B-1					
	BEGINNING STATION	17+40					
	ENDING STATION	34+40					
MANUFACTURER'S MOISTURE STANDARD	OFFSET	10' LT CT					
	DEPTH BELOW GRADE	0"					
	DEPTH OF GAUGE SOURCE	6"					
	LIFT THICKNESS COMPACTED	6"					
DC FROM TEST SECTION	DENSITY STANDARD	2858					
	MOISTURE STANDARD	672					

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	137					
	REFERENCE LAB NUMBER	8110912					
TEST NUMBER 1	**DE** DRY DENSITY	135					
	DF % RELATIVE DENSITY						
TEST NUMBER 2	**DE** DRY DENSITY	134					
	DF % RELATIVE DENSITY						
TEST NUMBER 3	**DE** DRY DENSITY	132					
	DF % RELATIVE DENSITY						
TEST NUMBER 4	**DE** DRY DENSITY	131					
	DF % RELATIVE DENSITY						
TEST NUMBER 5	**DE** DRY DENSITY	136					
	DF % RELATIVE DENSITY						
LOT EVALUATION	$\overline{X}$ AVERAGE **DF**						
	T TARGET						
	QL QUALITY INDEX						
	DG % WITHIN TOLERANCE						
	DH MIN. FOR 100% PAY						
	DI PASS / FAIL						

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____
PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

PROBLEM #1

MP 700.00.24

Item Number 307-1

Lot by Lot T-317

Lab Number:	7112183			
Authorization Number:	FC2121C			
Project Number:	RS-0162(054)			
District Number	4			
Item Number:	307-1			
Gauge Number:	11172			
Manufacturer's Standards	Density:	2891	Moisture:	627

Date	**Today's**				
Lot Number	**B-1**				
Beginning Station	**1+85**				
Ending Station	**20+85**				
Offset	**LT CL**				
Depth Below Grade	**0"**				
Depth of Gauge Source	**6"**				
Lift Thickness	**6"**				
Density Standards	**2884**				
Moisture Standards	**625**				
Maximum Density	**138**				
Reference Lab Number	**7112182**				

DRY DENSITY PCF

Test Site Number: 1	**134**				
Test Site Number: 2	**133**				
Test Site Number: 3	**132**				
Test Site Number: 4	**135**				
Test Site Number: 5	**137**				

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER _____
AUTH. NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
ITEM NUMBER _____

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE						
	DEPTH OF GAUGE SOURCE						
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

	DC	**MAXIMUM DENSITY**					
		REFERENCE LAB NUMBER					
TEST NUMBER 1	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 2	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 3	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 4	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 5	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**					
	T	TARGET					
	QL	QUALITY INDEX					
	DG	% WITHIN TOLERANCE					
	DH	MIN. FOR 100% PAY					
	DI	PASS / FAIL					

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

ANSWERS

Workshop Number Two

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER	8110913
AUTH. NUMBER	SM8888C
PROJECT NUMBER	S 310-8-19.22
DISTRICT	9
ITEM NUMBER	307-1

FORM T-317
MP 700.00.24

GAUGE #	DATE	Today's					
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER	B-1					
	BEGINNING STATION	17+40					
	ENDING STATION	34+40					
MANUFACTURER'S MOISTURE STANDARD	OFFSET	10' LT CT					
	DEPTH BELOW GRADE	0"					
	DEPTH OF GAUGE SOURCE	6"					
	LIFT THICKNESS COMPACTED	6"					
DC FROM TEST SECTION	DENSITY STANDARD	2858					
	MOISTURE STANDARD	672					

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	137					
	REFERENCE LAB NUMBER	8110912					
TEST NUMBER 1	**DE**	DRY DENSITY	135				
	DF	% RELATIVE DENSITY	99				
TEST NUMBER 2	**DE**	DRY DENSITY	134				
	DF	% RELATIVE DENSITY	98				
TEST NUMBER 3	**DE**	DRY DENSITY	132				
	DF	% RELATIVE DENSITY	96				
TEST NUMBER 4	**DE**	DRY DENSITY	131				
	DF	% RELATIVE DENSITY	96				
TEST NUMBER 5	**DE**	DRY DENSITY	136				
	DF	% RELATIVE DENSITY	99				
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**	97.6				
	T	TARGET	95				
	QL	QUALITY INDEX	.87				
	DG	% WITHIN TOLERANCE	99				
	DH	MIN. FOR 100% PAY	80				
	DI	PASS / FAIL	PASS				

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____
PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER	7112183
AUTH. NUMBER	FC2121C
PROJECT NUMBER	RS-0162-(054)
DISTRICT	4
ITEM NUMBER	307-1

FORM T-317
MP 700.00.24

GAUGE #	DATE	Today's					
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER	B-1					
	BEGINNING STATION	1+85					
	ENDING STATION	20+85					
MANUFACTURER'S MOISTURE STANDARD	OFFSET	LT CL					
	DEPTH BELOW GRADE	0"					
	DEPTH OF GAUGE SOURCE	6"					
	LIFT THICKNESS COMPACTED	6"					
DC FROM TEST SECTION	DENSITY STANDARD	2884					
	MOISTURE STANDARD	625					

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	138					
	REFERENCE LAB NUMBER	7112182					
TEST NUMBER 1	**DE**	DRY DENSITY	134				
	DF	% RELATIVE DENSITY	97				
TEST NUMBER 2	**DE**	DRY DENSITY	133				
	DF	% RELATIVE DENSITY	96				
TEST NUMBER 3	**DE**	DRY DENSITY	132				
	DF	% RELATIVE DENSITY	96				
TEST NUMBER 4	**DE**	DRY DENSITY	135				
	DF	% RELATIVE DENSITY	98				
TEST NUMBER 5	**DE**	DRY DENSITY	137				
	DF	% RELATIVE DENSITY	99				
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**	97.2				
	T	TARGET	95				
	QL	QUALITY INDEX	.73				
	DG	% WITHIN TOLERANCE	99				
	DH	MIN. FOR 100% PAY	80				
	DI	PASS / FAIL	PASS				

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION

CHECKED BY: _____ DATE: _____

WORKSHOP NUMBER THREE

Quality Assurance
Of
Soils

ONE-POINT PROCTOR

MP 207.07.20

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER _____
AUTHORIZATION NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
LOT NUMBER _____
ITEM NUMBER _____

FORM T-316
MP 207.07.20

GAUGE NUMBER			TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3					
		MA	MOISTURE	lb/ft^3					
		DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB		**MB**	MOISTURE	%					
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams					
CC = CA - CB		**CB**	PAN	grams					
CF = CD - CE		**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams					
		CE	PAN	grams					
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY						
					RERUN	**RERUN**	**RERUN**	**RERUN**	**RERUN**
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams					
		PB	MOLD	grams					
		PC	WEIGHT OF SOIL	grams					
		PD	WET DENSITY	lb/ft^3					
		PE	DRY DENSITY	lb/ft^3					
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams					
SE = SD - SB		**SB**	PAN	grams					
SF = SC - SE		**SC**	WET WEIGHT	grams					
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams					
		SE	DRY WEIGHT	grams					
DE = DB (100) / DC		**SF**	MOISTURE	grams					
		SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
		OB	PLUS / MINUS TOLER.						
		OC	PASS / FAIL						
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3					
		DE	RELATIVE DENSITY	%					
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
		T	TARGET	%		INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX						
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY	%		CHECKED BY:			
		DH	PASS / FAIL	YES	NO	DATE:			

GAUGE NUMBER	36688	TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
DENSITY	2935	STATION NUMBER	ft.					
MOISTURE	664	OFFSET	ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE	ft.					
DENSITY	2902	LIFT THICKNESS	in.					
MOISTURE	658	DEPTH OF SOURCE	in.					

DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	127										
		MA	MOISTURE	lb/ft^3	12										
		DB	DRY DENSITY -3/4	lb/ft^3											
MB = MA (100) / DB		**MB**	MOISTURE	%											
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams											
CC = CA - CB		**CB**	PAN	grams											
CF = CD - CE		**CC**	EXCAVATED MAT.	grams											
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams											
		CE	PAN	grams											
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams											
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%											
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY												
						RERUN		**RERUN**		**RERUN**		**RERUN**		**RERUN**	
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams											
		PB	MOLD	grams											
		PC	WEIGHT OF SOIL	grams											
		PD	WET DENSITY	lb/ft^3											
		PE	DRY DENSITY	lb/ft^3											

GAUGE NUMBER	36688	TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
DENSITY	2935	STATION NUMBER	ft.					
MOISTURE	664	OFFSET	ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE	ft.					
DENSITY	2902	LIFT THICKNESS	in.					
MOISTURE	658	DEPTH OF SOURCE	in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	127				
		MA	MOISTURE	lb/ft^3	12				
		DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB		**MB**	MOISTURE	%					
CC = CA - CB	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4910				
		CB	PAN	grams	600				
CF = CD - CE		**CC**	EXCAVATED MAT.	grams	4310				
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams					
		CE	PAN	grams					
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY						
					RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams									
		PB	MOLD	grams									
		PC	WEIGHT OF SOIL	grams									
		PD	WET DENSITY	lb/ft^3									
		PE	DRY DENSITY	lb/ft^3									

GAUGE NUMBER	36688		TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY	2935		STATION NUMBER	ft.					
MOISTURE	664		OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY	2902		LIFT THICKNESS	in.					
MOISTURE	658		DEPTH OF SOURCE	in.					
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	127				
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			CB	PAN	grams	600				
CF = CD - CE			**CC**	EXCAVATED MAT.	grams	4310				
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams	859				
			CE	PAN	grams	600				
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams	259				
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY						
						RERUN		**RERUN**		**RERUN**		**RERUN**		**RERUN**
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams									
			PB	MOLD	grams									
			PC	WEIGHT OF SOIL	grams									
			PD	WET DENSITY	lb/ft^3									
			PE	DRY DENSITY	lb/ft^3									

GAUGE NUMBER	36688		TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY	2935		STATION NUMBER	ft.					
MOISTURE	664		OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY	2902		LIFT THICKNESS	in.					
MOISTURE	658		DEPTH OF SOURCE	in.					
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		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4910				
CC = CA - CB			**CB**	PAN	grams	600				
CF = CD - CE			**CC**	EXCAVATED MAT.	grams	4310				
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams	859				
			CE	PAN	grams	600				
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams	259				
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%	6				
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY						
						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams									
			PB	MOLD	grams									
			PC	WEIGHT OF SOIL	grams									
			PD	WET DENSITY	lb/ft^3									
			PE	DRY DENSITY	lb/ft^3									

GAUGE NUMBER	36688	TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
DENSITY	2935	STATION NUMBER	ft.					
MOISTURE	664	OFFSET	ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE	ft.					
DENSITY	2902	LIFT THICKNESS	in.					
MOISTURE	658	DEPTH OF SOURCE	in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	127				
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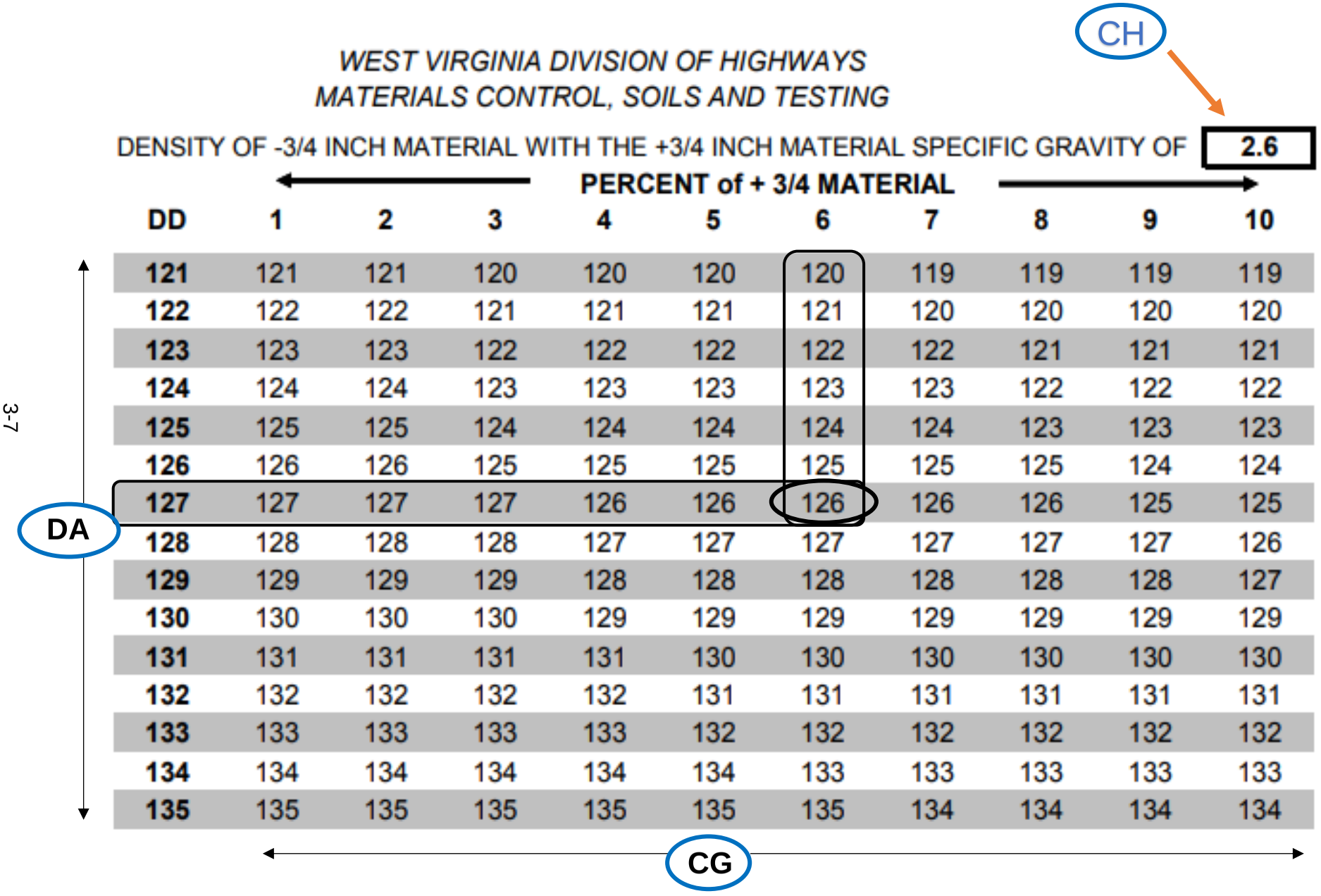
		CE	PAN	grams	600				
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	259				
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	6				
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.6				
					RERUN		**RERUN**		**RERUN**		**RERUN**		**RERUN**
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams										
		PB	MOLD	grams										
		PC	WEIGHT OF SOIL	grams										
		PD	WET DENSITY	lb/ft^3										
		PE	DRY DENSITY	lb/ft^3										


CH
WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING
DENSITY OF -3/4 INCH MATERIAL WITH THE +3/4 INCH MATERIAL SPECIFIC GRAVITY OF 2.6
PERCENT of + 3/4 MATERIAL
DD 1 2 3 4 5 6 7 8 9 10
121 121 121 120 120 120 120 119 119 119 119
122 122 122 121 121 121 121 120 120 120 120
123 123 123 122 122 122 122 122 121 121 121
124 124 124 123 123 123 123 123 122 122 122
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132 132 132 132 132 131 131 131 131 131 131
133 133 133 133 133 132 132 132 132 132 132
134 134 134 134 134 134 133 133 133 133 133
135 135 135 135 135 135 135 134 134 134 134
DA
CG

GAUGE NUMBER	36688	TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
DENSITY	2935	STATION NUMBER	ft.					
MOISTURE	664	OFFSET	ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE	ft.					
DENSITY	2902	LIFT THICKNESS	in.					
MOISTURE	658	DEPTH OF SOURCE	in.					

DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	127										
		MA	MOISTURE	lb/ft^3	12										
		DB	DRY DENSITY -3/4	lb/ft^3	126										
MB = MA (100) / DB		**MB**	MOISTURE	%	10										
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4910										
CC = CA - CB		**CB**	PAN	grams	600										
CF = CD - CE		**CC**	EXCAVATED MAT.	grams	4310										
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	859										
		CE	PAN	grams	600										
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	259										
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	6										
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.6										
						RERUN		RERUN		RERUN		RERUN		RERUN	
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams											
		PB	MOLD	grams											
		PC	WEIGHT OF SOIL	grams											
		PD	WET DENSITY	lb/ft^3											
		PE	DRY DENSITY	lb/ft^3											

GAUGE NUMBER	36688	TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
DENSITY	2935	STATION NUMBER	ft.					
MOISTURE	664	OFFSET	ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE	ft.					
DENSITY	2902	LIFT THICKNESS	in.					
MOISTURE	658	DEPTH OF SOURCE	in.					

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PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.6									
						RERUN		**RERUN**		**RERUN**		**RERUN**		**RERUN**
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4180									
		PB	MOLD	grams	2023									
		PC	WEIGHT OF SOIL	grams	2157									
		PD	WET DENSITY	lb/ft^3										
		PE	DRY DENSITY	lb/ft^3										

GAUGE NUMBER	36688	TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
DENSITY	2935	STATION NUMBER	ft.					
MOISTURE	664	OFFSET	ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE	ft.					
DENSITY	2902	LIFT THICKNESS	in.					
MOISTURE	658	DEPTH OF SOURCE	in.					

DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	127									
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						RERUN		**RERUN**		**RERUN**		**RERUN**		**RERUN**
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4180									
		PB	MOLD	grams	2023									
		PC	WEIGHT OF SOIL	grams	2157									
		PD	WET DENSITY	lb/ft^3	142									
		PE	DRY DENSITY	lb/ft^3										

GAUGE NUMBER	36688	TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
DENSITY	2935	STATION NUMBER	ft.					
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DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	127					
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PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.6					
						RERUN	RERUN	RERUN	RERUN	RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4180					
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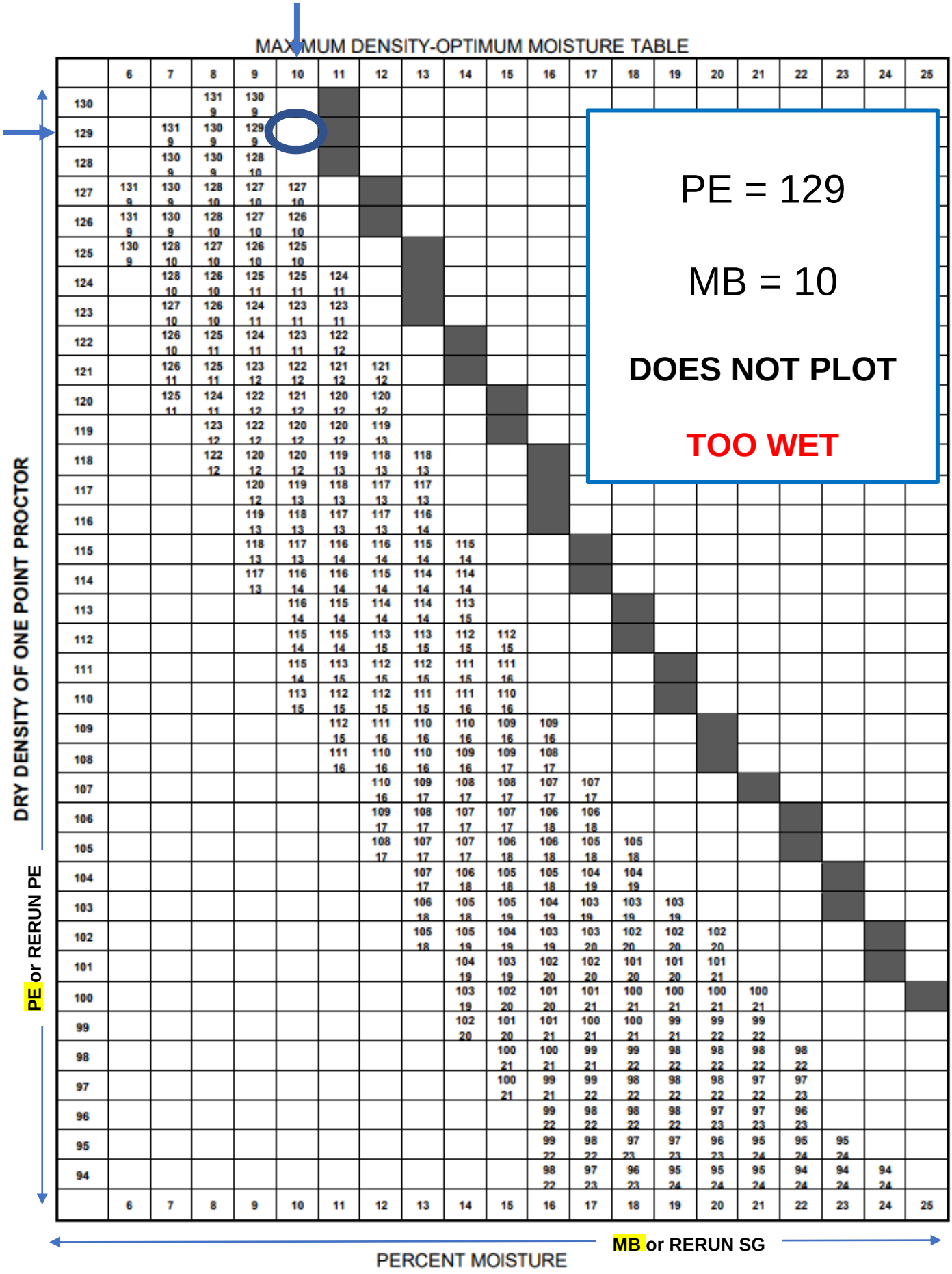
		PD	WET DENSITY	lb/ft^3	142					
		PE	DRY DENSITY	lb/ft^3	129					


MAXIMUM DENSITY-OPTIMUM MOISTURE TABLE
PE = 129
MB = 10
DOES NOT PLOT
TOO WET
DRY DENSITY OF ONE POINT PROCTOR
PE or RERUN PE
MB or RERUN SG
PERCENT MOISTURE

GAUGE NUMBER	36688	TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
DENSITY	2935	STATION NUMBER	ft.					
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						RERUN		RERUN		RERUN		RERUN		RERUN					
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4180	4131													
		PB	MOLD	grams	2023	2023													
		PC	WEIGHT OF SOIL	grams	2157	2108													
		PD	WET DENSITY	lb/ft^3	142	139													
		PE	DRY DENSITY	lb/ft^3	129														

GAUGE NUMBER	36688	TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
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						RERUN		RERUN		RERUN		RERUN		RERUN	
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4180	4131									
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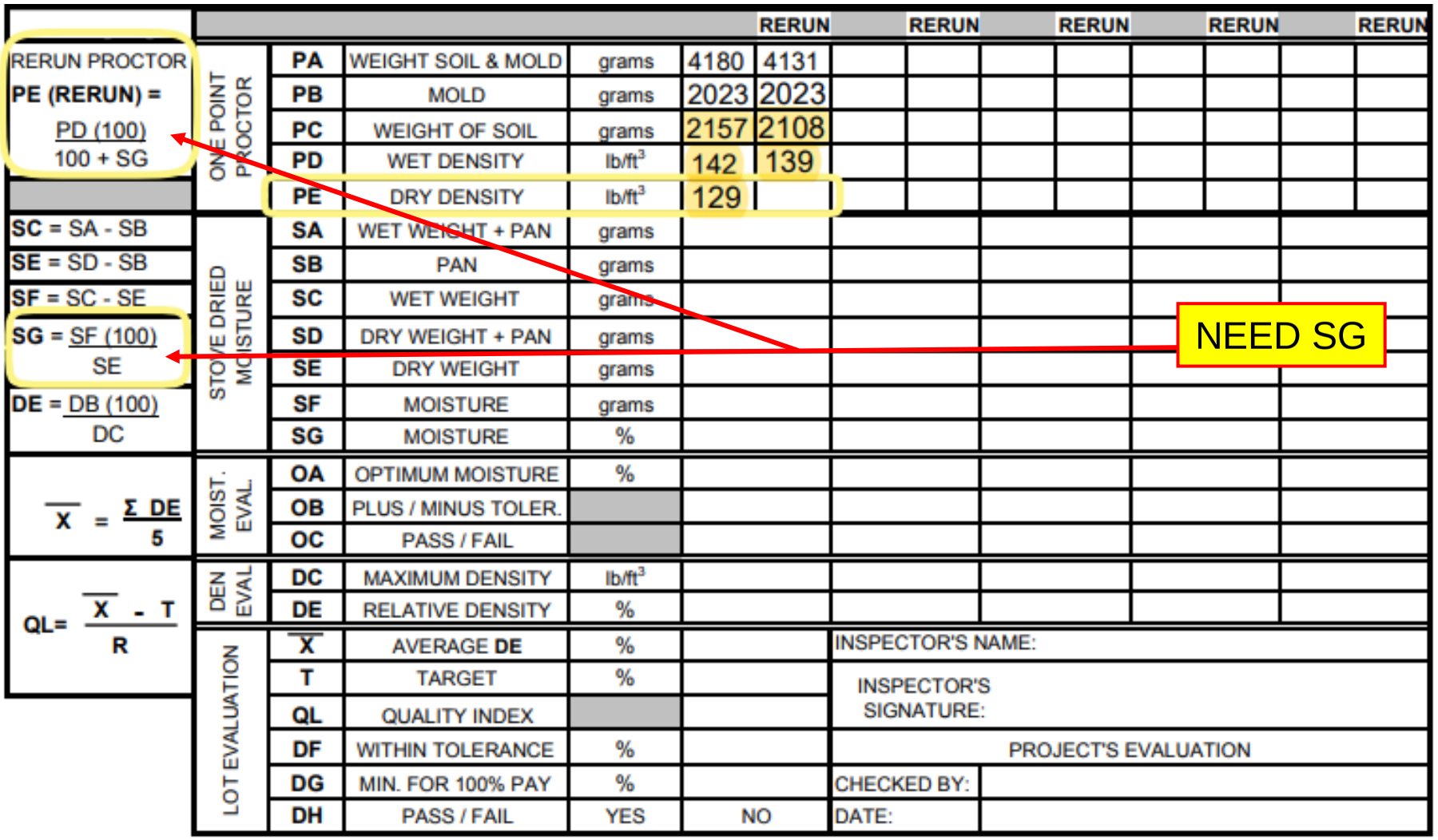
		PD	WET DENSITY	lb/ft^3	142	139									
		PE	DRY DENSITY	lb/ft^3	129										


RERUN PROCTOR
PE (RERUN) = PD (100) / 100 + SG
SC = SA - SB
SE = SD - SB
SF = SC - SE
SG = SF (100) / SE
DE = DB (100) / DC
X̄ = Σ DE / 5
QL = X̄ - T / R
ONE POINT PROCTOR
STOVE DRIED MOISTURE
MOIST. EVAL.
DEN EVAL
LOT EVALUATION
RERUN
PA WEIGHT SOIL & MOLD grams 4180 4131
PB MOLD grams 2023 2023
PC WEIGHT OF SOIL grams 2157 2108
PD WET DENSITY lb/ft3 142 139
PE DRY DENSITY lb/ft3 129
SA WET WEIGHT + PAN grams
SB PAN grams
SC WET WEIGHT grams
SD DRY WEIGHT + PAN grams
SE DRY WEIGHT grams
SF MOISTURE grams
SG MOISTURE %
OA OPTIMUM MOISTURE %
OB PLUS / MINUS TOLER.
OC PASS / FAIL
DC MAXIMUM DENSITY lb/ft3
DE RELATIVE DENSITY %
X̄ AVERAGE DE %
T TARGET %
QL QUALITY INDEX
DF WITHIN TOLERANCE %
DG MIN. FOR 100% PAY %
DH PASS / FAIL YES NO
INSPECTOR'S NAME:
INSPECTOR'S SIGNATURE:
PROJECT'S EVALUATION
CHECKED BY:
DATE:
NEED SG

						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4180	4131								
		PB	MOLD	grams	2023	2023								
		PC	WEIGHT OF SOIL	grams	2157	2108								
		PD	WET DENSITY	lb/ft^3	142	139								
		PE	DRY DENSITY	lb/ft^3	129									
SC = SA - SB **SE** = SD - SB **SF** = SC - SE **SG** = SF (100) / SE **DE** = DB (100) / DC	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	2027									
		SB	PAN	grams	1811									
		SC	WET WEIGHT	grams	216									
		SD	DRY WEIGHT + PAN	grams										
		SE	DRY WEIGHT	grams										
		SF	MOISTURE	grams										
		SG	MOISTURE	%										
$\overline{X} = \frac{\Sigma\ DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%										
		OB	PLUS / MINUS TOLER.											
		OC	PASS / FAIL											
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3										
		DE	RELATIVE DENSITY	%										
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:								
		T	TARGET	%		INSPECTOR'S SIGNATURE:								
		QL	QUALITY INDEX											
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION								
		DG	MIN. FOR 100% PAY	%		CHECKED BY:								
		DH	PASS / FAIL	YES	NO	DATE:								

						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4180	4131								
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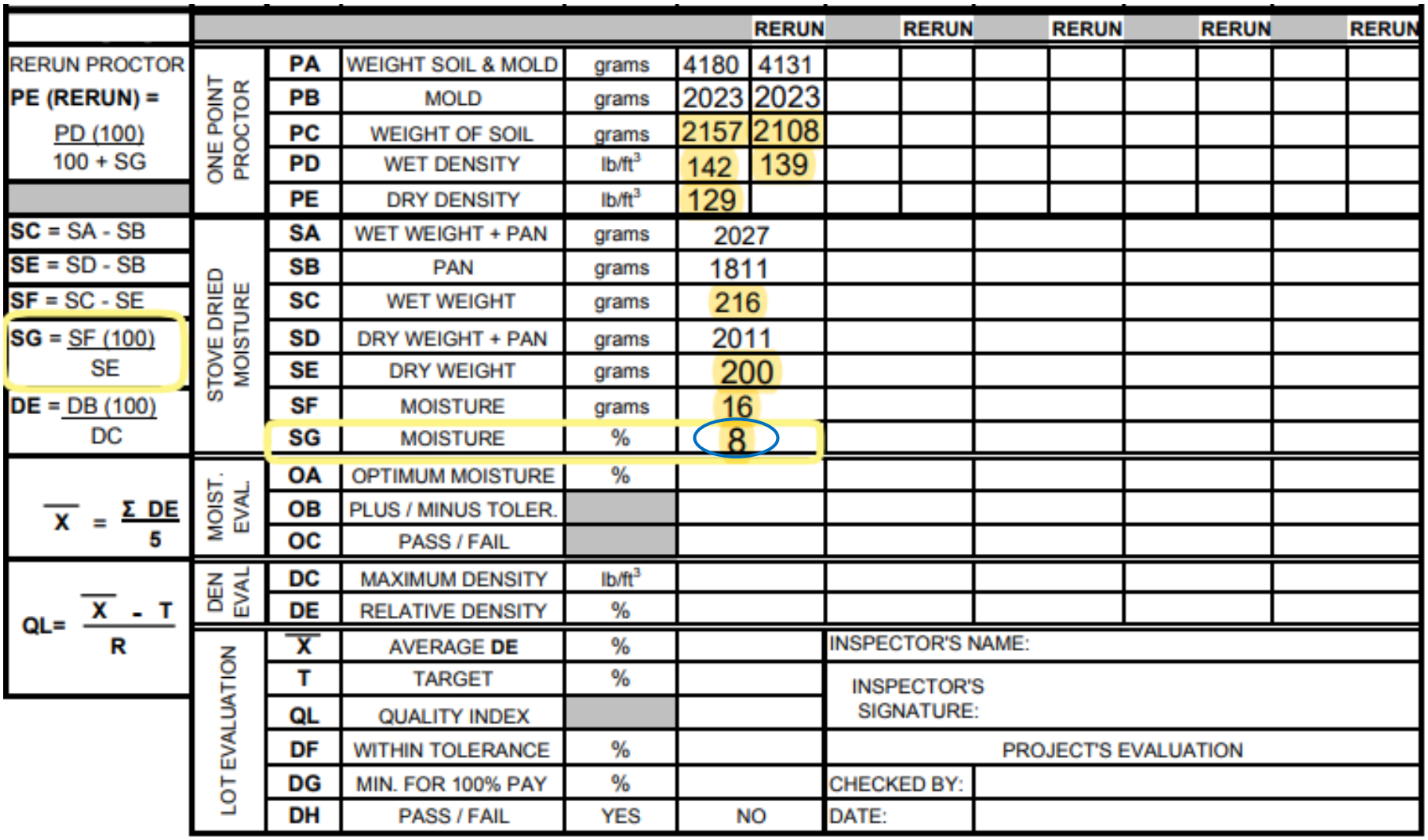
		SB	PAN	grams	1811									
		SC	WET WEIGHT	grams	216									
		SD	DRY WEIGHT + PAN	grams	2011									
		SE	DRY WEIGHT	grams	200									
		SF	MOISTURE	grams										
		SG	MOISTURE	%										
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%										
		OB	PLUS / MINUS TOLER.											
		OC	PASS / FAIL											
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3										
		DE	RELATIVE DENSITY	%										
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:								
		T	TARGET	%		INSPECTOR'S SIGNATURE:								
		QL	QUALITY INDEX											
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION								
		DG	MIN. FOR 100% PAY	%		CHECKED BY:								
		DH	PASS / FAIL	YES	NO	DATE:								

						RERUN		RERUN		RERUN		RERUN		RERUN	
RERUN PROCTOR **PE (RERUN) =** PD (100) 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4180	4131									
		PB	MOLD	grams	2023	2023									
		PC	WEIGHT OF SOIL	grams	2157	2108									
		PD	WET DENSITY	lb/ft^3	142	139									
		PE	DRY DENSITY	lb/ft^3	129										
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	2027										
SE = SD - SB		**SB**	PAN	grams	1811										
SF = SC - SE		**SC**	WET WEIGHT	grams	216										
SG = SF (100) SE		**SD**	DRY WEIGHT + PAN	grams	2011										
		SE	DRY WEIGHT	grams	200										
DE = DB (100) DC		**SF**	MOISTURE	grams	16										
		SG	MOISTURE	%											
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%											
		OB	PLUS / MINUS TOLER.												
		OC	PASS / FAIL												
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3											
		DE	RELATIVE DENSITY	%											
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:									
		T	TARGET	%		INSPECTOR'S SIGNATURE:									
		QL	QUALITY INDEX												
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION									
		DG	MIN. FOR 100% PAY	%		CHECKED BY:									
		DH	PASS / FAIL	YES	NO	DATE:									



						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4180	4131								
		PB	MOLD	grams	2023	2023								
		PC	WEIGHT OF SOIL	grams	2157	2108								
		PD	WET DENSITY	lb/ft^3	142	139								
		PE	DRY DENSITY	lb/ft^3	129									
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	2027									
SE = SD - SB		**SB**	PAN	grams	1811									
SF = SC - SE		**SC**	WET WEIGHT	grams	216									
SG = SF (100) SE		**SD**	DRY WEIGHT + PAN	grams	2011									
		SE	DRY WEIGHT	grams	200									
DE = DB (100) DC		**SF**	MOISTURE	grams	16									
		SG	MOISTURE	%	8									
$\overline{X} = \frac{\Sigma\ DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%										
		OB	PLUS / MINUS TOLER.											
		OC	PASS / FAIL											
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3										
		DE	RELATIVE DENSITY	%										
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:								
		T	TARGET	%		INSPECTOR'S SIGNATURE:								
		QL	QUALITY INDEX											
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION								
		DG	MIN. FOR 100% PAY	%		CHECKED BY:								
		DH	PASS / FAIL	YES	NO	DATE:								

RERUN PROCTOR

PE (RERUN) = $\frac{PD\ (100)}{100 + SG}$

SC = SA - SB

SE = SD - SB

SF = SC - SE

SG = $\frac{SF\ (100)}{SE}$

DE = $\frac{DB\ (100)}{DC}$

$\overline{X} = \frac{\Sigma\ DE}{5}$

$QL = \frac{\overline{X} - T}{R}$

					RERUN		RERUN		RERUN		RERUN		RERUN
ONE POINT PROCTOR	PA	WEIGHT SOIL & MOLD	grams	4180	4131								
	PB	MOLD	grams	2023	2023								
	PC	WEIGHT OF SOIL	grams	2157	2108								
	PD	WET DENSITY	lb/ft^3	142	139								
	PE	DRY DENSITY	lb/ft^3	129	129								
STOVE DRIED MOISTURE	SA	WET WEIGHT + PAN	grams	2027									
	SB	PAN	grams	1811									
	SC	WET WEIGHT	grams	216									
	SD	DRY WEIGHT + PAN	grams	2011									
	SE	DRY WEIGHT	grams	200									
	SF	MOISTURE	grams	16									
	SG	MOISTURE	%	8									
MOIST. EVAL.	OA	OPTIMUM MOISTURE	%										
	OB	PLUS / MINUS TOLER.											
	OC	PASS / FAIL											
DEN EVAL	DC	MAXIMUM DENSITY	lb/ft^3										
	DE	RELATIVE DENSITY	%										
LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%										
	T	TARGET	%										
	QL	QUALITY INDEX											
	DF	WITHIN TOLERANCE	%										
	DG	MIN. FOR 100% PAY	%										
	DH	PASS / FAIL	YES	NO									

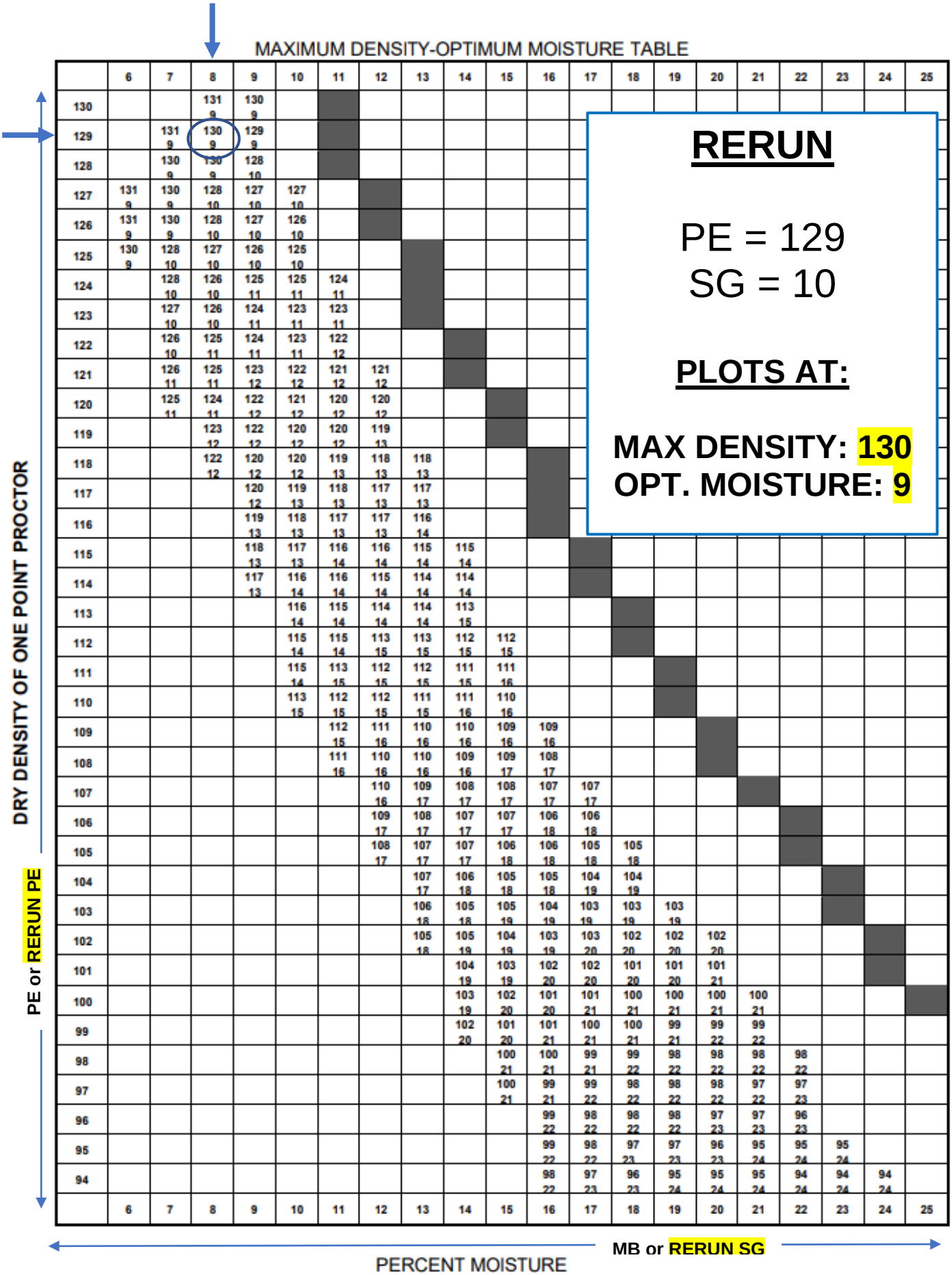
INSPECTOR'S NAME:

INSPECTOR'S SIGNATURE:

PROJECT'S EVALUATION

CHECKED BY:

DATE:


MAXIMUM DENSITY-OPTIMUM MOISTURE TABLE
DRY DENSITY OF ONE POINT PROCTOR
PE or RERUN PE
MB or RERUN SG
PERCENT MOISTURE
RERUN
PE = 129
SG = 10
PLOTS AT:
MAX DENSITY: 130
OPT. MOISTURE: 9

						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4180	4131								
		PB	MOLD	grams	2023	2023								
		PC	WEIGHT OF SOIL	grams	2157	2108								
		PD	WET DENSITY	lb/ft^3	142	139								
		PE	DRY DENSITY	lb/ft^3	129	129								
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	2027									
SE = SD - SB		**SB**	PAN	grams	1811									
SF = SC - SE		**SC**	WET WEIGHT	grams	216									
SG = SF (100) SE		**SD**	DRY WEIGHT + PAN	grams	2011									
		SE	DRY WEIGHT	grams	200									
DE = DB (100) DC		**SF**	MOISTURE	grams	16									
		SG	MOISTURE	%	8									
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%	9									
		OB	PLUS / MINUS TOLER.		+3/-4									
		OC	PASS / FAIL											
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3	130									
		DE	RELATIVE DENSITY	%										
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:								
		T	TARGET	%		INSPECTOR'S SIGNATURE:								
		QL	QUALITY INDEX											
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION								
		DG	MIN. FOR 100% PAY	%		CHECKED BY:								
		DH	PASS / FAIL	YES	NO	DATE:								

Specification

% Moisture (MB)

Must be within +3 and -4 of Optimum Moisture

Optimum Moisture = 9%
9+3=12
9-4=5

Range = 5% to 12%

GAUGE NUMBER	36688		TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY	2935		STATION NUMBER	ft.					
MOISTURE	664		OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY	2902		LIFT THICKNESS	in.					
MOISTURE	658		DEPTH OF SOURCE	in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	127				
		MA	MOISTURE	lb/ft^3	12				
		DB	DRY DENSITY -3/4	lb/ft^3	126				
MB = MA (100) / DB		**MB**	MOISTURE	%	10				
CC = CA - CB	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4910				
CF = CD - CE		**CB**	PAN	grams	600				
CG = CF (100) / CC		**CC**	EXCAVATED MAT.	grams	4310				
PC = PA - PB		**CD**	PLUS 3/4 MAT. + PAN	grams	859				
PD = PC (0.066)		**CE**	PAN	grams	600				
PE = PD (100) / 100 + MB		**CF**	PLUS 3/4 MAT.	grams	259				
		CG	PLUS 3/4 MAT.	%	6				
		CH	SPECIFIC GRAVITY		2.6				
						RERUN	RERUN	RERUN	RERUN	RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4180	4131				
		PB	MOLD	grams	2023	2023				
		PC	WEIGHT OF SOIL	grams	2157	2108				
		PD	WET DENSITY	lb/ft^3	142	139				
		PE	DRY DENSITY	lb/ft^3	129	129			

% MOISTURE (MB)

+3/-4 of Optimum 9

Range
5% to 12%

RERUN PROCTOR

PE (RERUN) =

$$\frac{PD\ (100)}{100 + SG}$$

SC = SA - SB

SE = SD - SB

SF = SC - SE

SG = SF (100) / SE

DE = DB (100) / DC

$$\overline{X} = \frac{\Sigma\ DE}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

						RERUN		RERUN		RERUN		RERUN		RERUN
ONE POINT PROCTOR	PA	WEIGHT SOIL & MOLD	grams	4180	4131									
	PB	MOLD	grams	2023	2023									
	PC	WEIGHT OF SOIL	grams	2157	2108									
	PD	WET DENSITY	lb/ft^3	142	139									
	PE	DRY DENSITY	lb/ft^3	129	129									
STOVE DRIED MOISTURE	SA	WET WEIGHT + PAN	grams	2027										
	SB	PAN	grams	1811										
	SC	WET WEIGHT	grams	216										
	SD	DRY WEIGHT + PAN	grams	2011										
	SE	DRY WEIGHT	grams	200										
	SF	MOISTURE	grams	16										
	SG	MOISTURE	%	8										
MOIST. EVAL.	OA	OPTIMUM MOISTURE	%	9										
	OB	PLUS / MINUS TOLER.		+3/-4										
	OC	PASS / FAIL		PASS										
DEN EVAL	DC	MAXIMUM DENSITY	lb/ft^3	130										
	DE	RELATIVE DENSITY	%	97										
LOT EVALUATION	X	AVERAGE **DE**	%											
	T	TARGET	%											
	QL	QUALITY INDEX												
	DF	WITHIN TOLERANCE	%											
	DG	MIN. FOR 100% PAY	%											
	DH	PASS / FAIL	YES	NO										

INSPECTOR'S NAME:

INSPECTOR'S SIGNATURE:

PROJECT'S EVALUATION

CHECKED BY:

DATE:

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER	9112762
AUTHORIZATION NUMBER	FC3838H
PROJECT NUMBER	S 317 - 2 - 41.55
DISTRICT	4
LOT NUMBER	F25
ITEM NUMBER	207.1

EXAMPLE #1

FORM T-316

MP 207.07.20

GAUGE NUMBER	26895			TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS				DATE						
DENSITY	2912			STATION NUMBER	ft.	14+65	15+32	17+18	18+92	20+42
MOISTURE	662			OFFSET	ft.	8' LT CL	12' RT CL	38' RT CL	29' LT CL	10' LT CL
GAUGE STANDARD COUNTS				DEPTH BELOW GRADE	ft.	18'	18'	18'	18'	18'
DENSITY	2901			LIFT THICKNESS	in.	6"	6"	6"	6"	6"
MOISTURE	655			DEPTH OF SOURCE	in.	6"	6"	6"	6"	6"
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft³	125	123	124	120	118
			MA	MOISTURE	lb/ft³	10	11	12	16	16
			DB	DRY DENSITY -3/4	lb/ft³					
MB = MA (100) / DB			**MB**	MOISTURE	%					
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	5035			4916	
CC = CA - CB			**CB**	PAN	grams	415			415	
CF = CD - CE			**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams	829			1125	
			CE	PAN	grams	465			465	
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY		2.5			2.5	
						RERUN	RERUN	RERUN	RERUN	RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3941			4014 / 4032	
			PB	MOLD	grams	2009			2009 / 2009	
			PC	WEIGHT OF SOIL	grams					
			PD	WET DENSITY	lb/ft³					
			PE	DRY DENSITY	lb/ft³					
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams				598	
SE = SD - SB			**SB**	PAN	grams				245	
SF = SC - SE			**SC**	WET WEIGHT	grams					
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams				560	
			SE	DRY WEIGHT	grams					
DE = DB (100) / DC			**SF**	MOISTURE	grams					
			SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
			OB	PLUS / MINUS TOLER.						
			OC	PASS / FAIL						
$QL = \frac{\overline{X} - T}{R}$		DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft³					
			DE	RELATIVE DENSITY	%					
		LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
			T	TARGET	%		INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX						
			DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION			
			DG	MIN. FOR 100% PAY	%		CHECKED BY:			
			DH	PASS / FAIL	YES	NO	DATE:			

PROBLEM #1

Lab Number:	5111297			
Authorization Number:	FC3636K			
Project Number:	S326-17 - 3.65			
District Number	4			
Lot Number:	P - 218			
Item Number:	604 (36)			
Gauge Number:	57420			
Manufacturer's Standards	Density:	3165	Moisture:	621

MP 207.07.20

One Point T-316

Test Number	**1**	**2**	**3**	**4**	**5**
Date	Today's	Today's	Today's	Today's	Today's
Station Number	206+18	206+18	206+18		206+18
Offset	37' RT CL	39' RT CL	31' RT CL	25' RT CL	42' RT CL
Density Standards	3152	3152	3152	3152	3152
Moisture Standards	620	620	620	620	620
Depth Below Grade	14'	13'	12'	10'	9'
Lift Thickness	4"	4"	4"	4"	4"
Depth of Gauge Source	4"	4"	4"	4"	4"
Total Dry Density PCF	114	111	112	115	116
Moisture PCF	15	18	18	14	16
Excavated Material + Pan	5057				
Pan	525				
+3/4" Material + Pan	829				
Pan	545				
Specific Gravity	2.5				
Wt. of Soil + Mold (g)	3945				
Wt. Mold (g)	2000				
Wt. Soil + Mold ---RERUN					
Wt. Mold---- *RERUN*					
Wet Wt. + Pan					
Pan					
Dry Wt. + Pan					

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER _____
AUTHORIZATION NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
LOT NUMBER _____
ITEM NUMBER _____

FORM T-316
MP 207.07.20

GAUGE NUMBER			TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		**DA**	TOTAL DRY DENSITY	lb/ft^3					
	Field Density Moisture	**MA**	MOISTURE	lb/ft^3					
		DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB		**MB**	MOISTURE	%					
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams					
CC = CA - CB		**CB**	PAN	grams					
CF = CD - CE		**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams					
		CE	PAN	grams					
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY						
						RERUN	RERUN	RERUN	RERUN	RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams										
		PB	MOLD	grams										
		PC	WEIGHT OF SOIL	grams										
		PD	WET DENSITY	lb/ft^3										
		PE	DRY DENSITY	lb/ft^3										
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams										
SE = SD - SB		**SB**	PAN	grams										
SF = SC - SE		**SC**	WET WEIGHT	grams										
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams										
		SE	DRY WEIGHT	grams										
DE = DB (100) / DC		**SF**	MOISTURE	grams										
		SG	MOISTURE	%										
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%										
		OB	PLUS / MINUS TOLER.											
		OC	PASS / FAIL											
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL.	**DC**	MAXIMUM DENSITY	lb/ft^3										
		DE	RELATIVE DENSITY	%										
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:								
		T	TARGET	%		INSPECTOR'S SIGNATURE:								
		QL	QUALITY INDEX											
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION								
		DG	MIN. FOR 100% PAY	%		CHECKED BY:								
		DH	PASS / FAIL	YES	NO	DATE:								

PROBLEM #2

Lab Number:	61181932			
Authorization Number:	FM2002C			
Project Number:	S344-41-9.82			
District Number	10			
Lot Number:	F - 32			
Item Number:	207.1			
Gauge Number:	11162			
Manufacturer's Standards	Density:	2914	Moisture:	667

MP 207.07.20

One Point T-316

Test Number	**1**	**2**	**3**	**4**	**5**
Date	Today's	Today's	Today's	Today's	Today's
Station Number	87+14	88+21	89+33	90+62	92+03
Offset	18' RT CL	29' LT CL	4' LT CL	16' RT CL	23' RT CL
Density Standards	2896				
Moisture Standards	664				
Depth Below Grade	82'				
Lift Thickness	6"				
Depth of Gauge Source	6"				
Total Dry Density PCF	114	112	122	119	120
Moisture PCF	18	16	14	13	12
Excavated Material + Pan	4921		4936		
Pan	450		450		
+3/4" Material + Pan	896		1094		
Pan	421		421		
Specific Gravity	2.5		2.7		
Wt. of Soil + Mold (g)	3941		4059		
Wt. Mold (g)	2000		2000		
Wt. Soil + Mold ---RERUN	3923				
Wt. Mold---- *RERUN*	2000				
Wet Wt. + Pan	2146				
Pan	1827				
Dry Wt. + Pan	2112				

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER _____
AUTHORIZATION NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
LOT NUMBER _____
ITEM NUMBER _____

FORM T-316
MP 207.07.20

GAUGE NUMBER			TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		**DA**	TOTAL DRY DENSITY	lb/ft^3					
	Field Density Moisture	**MA**	MOISTURE	lb/ft^3					
		DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB		**MB**	MOISTURE	%					
CC = CA - CB	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams					
CF = CD - CE		**CB**	PAN	grams					
CG = CF (100) / CC		**CC**	EXCAVATED MAT.	grams					
PC = PA - PB		**CD**	PLUS 3/4 MAT. + PAN	grams					
PD = PC (0.066)		**CE**	PAN	grams					
PE = PD (100) / 100 + MB		**CF**	PLUS 3/4 MAT.	grams					
		CG	PLUS 3/4 MAT.	%					
		CH	SPECIFIC GRAVITY						
					RERUN	RERUN	RERUN	RERUN	RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams					
		PB	MOLD	grams					
		PC	WEIGHT OF SOIL	grams					
		PD	WET DENSITY	lb/ft^3					
		PE	DRY DENSITY	lb/ft^3					
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams					
SE = SD - SB		**SB**	PAN	grams					
SF = SC - SE		**SC**	WET WEIGHT	grams					
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams					
DE = DB (100) / DC		**SE**	DRY WEIGHT	grams					
		SF	MOISTURE	grams					
		SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
		OB	PLUS / MINUS TOLER.						
		OC	PASS / FAIL						
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL.	**DC**	MAXIMUM DENSITY	lb/ft^3					
		DE	RELATIVE DENSITY	%					
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
		T	TARGET	%		INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX						
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY	%		CHECKED BY:			
		DH	PASS / FAIL	YES	NO	DATE:			

ANSWERS

WORKSHOP NUMBER THREE

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER	9112762
AUTHORIZATION NUMBER	FC3838H
PROJECT NUMBER	S 317 - 2 - 41.55
DISTRICT	4
LOT NUMBER	F25
ITEM NUMBER	207.1

EXAMPLE #1

FORM T-316

MP 207.07.20

GAUGE NUMBER	26895	TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE							
DENSITY	2912	STATION NUMBER		ft.	14+65	15+32	17+18	18+92	20+42
MOISTURE	662	OFFSET		ft.	8' LT CL	12' RT CL	38' RT CL	29' LT CL	10' LT CL
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE		ft.	18'	18'	18'	18'	18'
DENSITY	2901	LIFT THICKNESS		in.	6"	6"	6"	6"	6"
MOISTURE	655	DEPTH OF SOURCE		in.	6"	6"	6"	6"	6"
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	125	123	124	120	118
		MA	MOISTURE	lb/ft^3	10	11	12	16	16
		DB	DRY DENSITY -3/4	lb/ft^3	124	122	123	117	115
MB = MA (100) / DB		**MB**	MOISTURE	%	8	9	10	14	14
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	5035			4916	
		CB	PAN	grams	415			415	
CC = CA - CB		**CC**	EXCAVATED MAT.	grams	4620			4501	
CF = CD - CE		**CD**	PLUS 3/4 MAT. + PAN	grams	829			1125	
CG = CF (100) / CC		**CE**	PAN	grams	465			465	
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	364			660	
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	8			15	
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.5			2.5	
						RERUN	RERUN	RERUN	RERUN	RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3941			4014 / 4032	
		PB	MOLD	grams	2009			2009 / 2009	
		PC	WEIGHT OF SOIL	grams	1932			2005 / 2023	
		PD	WET DENSITY	lb/ft^3	128			132 / 134	
		PE	DRY DENSITY	lb/ft^3	119			116 / 120	
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams				598	
SE = SD - SB		**SB**	PAN	grams				245	
SF = SC - SE		**SC**	WET WEIGHT	grams				353	
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams				560	
DE = DB (100) / DC		**SE**	DRY WEIGHT	grams				315	
		SF	MOISTURE	grams				38	
		SG	MOISTURE	%				12	
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%	12	12	12	12	12
		OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
		OC	PASS / FAIL		Pass	Pass	Pass	Pass	Pass
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3	123	123	123	120	120
		DE	RELATIVE DENSITY	%	101	99	100	98	96
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%	98.8	INSPECTOR'S NAME:			
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX		0.76				
		DF	WITHIN TOLERANCE	%	99	PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
		DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER	5111297
AUTHORIZATION NUMBER	FC3636K
PROJECT NUMBER	S 326 - 17 - 3.65
DISTRICT	4
LOT NUMBER	P-218
ITEM NUMBER	604 (36)

FORM T-316
MP 207.07.20

GAUGE NUMBER			TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE			Todays	Todays	Todays	Todays	Todays
DENSITY			STATION NUMBER		ft.	206+18	206+18	206+18	206+18	206+18
MOISTURE			OFFSET		ft.	37' RT CL	39' RT CL	31' RT CL	25' RT CL	42' RT CL
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE		ft.	14	13	12	10	9
DENSITY			LIFT THICKNESS		in.	4	4	4	4	4
MOISTURE			DEPTH OF SOURCE		in.	4	4	4	4	4
DB FROM TABLES		**DA**	TOTAL DRY DENSITY		lb/ft^3	114	111	112	115	116
	Field Density Moisture	**MA**	MOISTURE		lb/ft^3	15	18	18	14	16
		DB	DRY DENSITY -3/4		lb/ft^3	113	109	110	114	115
MB = MA (100) / DB		**MB**	MOISTURE		%	13	17	16	12	14
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN		grams	5057				
CC = CA - CB		**CB**	PAN		grams	525				
CF = CD - CE		**CC**	EXCAVATED MAT.		grams	4532				
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN		grams	829				
		CE	PAN		grams	545				
PC = PA - PB		**CF**	PLUS 3/4 MAT.		grams	284				
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.		%	6				
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY			2.5				
							RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD		grams	3945									
		PB	MOLD		grams	2000									
		PC	WEIGHT OF SOIL		grams	1945									
		PD	WET DENSITY		lb/ft^3	128									
		PE	DRY DENSITY		lb/ft^3	113									
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN		grams										
SE = SD - SB		**SB**	PAN		grams										
SF = SC - SE		**SC**	WET WEIGHT		grams										
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN		grams										
		SE	DRY WEIGHT		grams										
DE = DB (100) / DC		**SF**	MOISTURE		grams										
		SG	MOISTURE		%										
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE		%	14	14	14	14	14
		OB	PLUS / MINUS TOLER.			+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
		OC	PASS / FAIL			Pass	Pass	Pass	Pass	Pass
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL.	**DC**	MAXIMUM DENSITY		lb/ft^3	114	114	114	114	114
		DE	RELATIVE DENSITY		%	99	96	96	100	101
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**		%	98.4	INSPECTOR'S NAME:			
		T	TARGET		%	95	INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX			0.68				
		DF	WITHIN TOLERANCE		%	100	PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY		%	80	CHECKED BY:			
		DH	PASS / FAIL		YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER	61181932
AUTHORIZATION NUMBER	FM2002C
PROJECT NUMBER	S 344 - 41 - 9.82
DISTRICT	10
LOT NUMBER	F - 32
ITEM NUMBER	207.1

FORM T-316
MP 207.07.20

GAUGE NUMBER	11162		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE			Todays	Todays	Todays	Todays	Todays
DENSITY	2914		STATION NUMBER		ft.	87+14	88+21	89+33	90+62	92+03
MOISTURE	667		OFFSET		ft.	18' RT CL	21' LT CL	4' LT CL	16' RT CL	23' RT CL
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE		ft.	82'	82'	82'	82'	82'
DENSITY	2896		LIFT THICKNESS		in.	6"	6"	6"	6"	6"
MOISTURE	664		DEPTH OF SOURCE		in.	6"	6"	6"	6"	6"
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	114	112	122	119	120
			MA	MOISTURE	lb/ft^3	18	16	14	13	12
			DB	DRY DENSITY -3/4	lb/ft^3	111	109	117	114	115
MB = MA (100) / DB			**MB**	MOISTURE	%	16	15	12	11	10
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4921		4936		
CC = CA - CB			**CB**	PAN	grams	450		450		
CF = CD - CE			**CC**	EXCAVATED MAT.	grams	4471		4486		
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams	896		1094		
			CE	PAN	grams	421		421		
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams	475		673		
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%	11		15		
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY		2.5		2.7		
						RERUN	RERUN	RERUN	RERUN	RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3941 / 3923		4059		
			PB	MOLD	grams	2000 / 2000		2000		
			PC	WEIGHT OF SOIL	grams	1941 / 1923		2059		
			PD	WET DENSITY	lb/ft^3	128 / 127		136		
			PE	DRY DENSITY	lb/ft^3	110 / 113		121		
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	2146				
SE = SD - SB			**SB**	PAN	grams	1827				
SF = SC - SE			**SC**	WET WEIGHT	grams	319				
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams	2112				
			SE	DRY WEIGHT	grams	285				
DE = DB (100) / DC			**SF**	MOISTURE	grams	34				
			SG	MOISTURE	%	12				
$\bar{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%	14	14	12	12	12
			OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
			OC	PASS / FAIL		Pass	Pass	Pass	Pass	Pass
$QL = \frac{\bar{X} - T}{R}$		DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3	114	114	121	121	121
			DE	RELATIVE DENSITY	%	97	96	97	94	95
		LOT EVALUATION	$\bar{X}$	AVERAGE **DE**	%	95.8	INSPECTOR'S NAME:			
			T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX		0.27				
			DF	WITHIN TOLERANCE	%	73	PROJECT'S EVALUATION			
			DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
			DH	PASS / FAIL	YES	NO	DATE:			

BLANK FORMS

T-313

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number _____
Auth. Number _____
Project Number _____
District Number _____
Item Number _____
Date _____

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes		
	Test Site	DA	Dry Density
	1		
	2		
DB	Average		

B	Number of Passes		
	Test Site	DA	Dry Density
	1		
	2		
DB	Average		

C	Number of Passes		
	Test Site	DA	Dry Density
	1		
	2		
DB	Average		

D	Number of Passes		
	Test Site	DA	Dry Density
	1		
	2		
DB	Average		

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		
2		
3		
4		
5		
DC	Max. Density	

Inspector's Name: _____
Inspector's Signature: _____

Project's Evaluation

Checked By: _____
Date: _____

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number _____
Auth. Number _____
Project Number _____
District Number _____
Item Number _____
Date _____

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:	
Roller Type:			Width of Test Section:	
Roller Weight	Static:	Working:	Gauge Number	
Lift Thickness Compacted:			Manufacturer's Standards	
Depth Below Grade:			Density:	Moisture:
Depth of Gauge Source:			Standard Counts	
Observed	Yes	No	Density:	Moisture:

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes		
	Test Site	**DA**	Dry Density
	1		
	2		
DB	Average		

B	Number of Passes		
	Test Site	**DA**	Dry Density
	1		
	2		
DB	Average		

C	Number of Passes		
	Test Site	**DA**	Dry Density
	1		
	2		
DB	Average		

D	Number of Passes		
	Test Site	**DA**	Dry Density
	1		
	2		
DB	Average		

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	**DA**	Dry Density
1		
2		
3		
4		
5		
DC	**Max. Density**	

Inspector's Name: _____
Inspector's Signature: _____

Project's Evaluation

Checked By: _____
Date: _____

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number _____
Auth. Number _____
Project Number _____
District Number _____
Item Number _____
Date _____

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:	
Roller Type:			Width of Test Section:	
Roller Weight	Static:	Working:	Gauge Number	
Lift Thickness Compacted:			Manufacturer's Standards	
Depth Below Grade:			Density:	Moisture:
Depth of Gauge Source:			Standard Counts	
Observed	Yes	No	Density:	Moisture:

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes		
	Test Site	**DA**	Dry Density
	1		
	2		
DB	Average		

B	Number of Passes		
	Test Site	**DA**	Dry Density
	1		
	2		
DB	Average		

C	Number of Passes		
	Test Site	**DA**	Dry Density
	1		
	2		
DB	Average		

D	Number of Passes		
	Test Site	**DA**	Dry Density
	1		
	2		
DB	Average		

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	**DA**	Dry Density
1		
2		
3		
4		
5		
DC	**Max. Density**	

Inspector's Name: _____
Inspector's Signature: _____

Project's Evaluation

Checked By: _____
Date: _____

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T-317

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER _____
AUTH. NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
ITEM NUMBER _____

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE						
	DEPTH OF GAUGE SOURCE						
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**						
	REFERENCE LAB NUMBER						
TEST NUMBER 1	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 2	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 3	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 4	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 5	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**					
	T	TARGET					
	QL	QUALITY INDEX					
	DG	% WITHIN TOLERANCE					
	DH	MIN. FOR 100% PAY					
	DI	PASS / FAIL					

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION

CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER _____
AUTH. NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
ITEM NUMBER _____

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE						
	DEPTH OF GAUGE SOURCE						
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**						
	REFERENCE LAB NUMBER						
TEST NUMBER 1	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 2	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 3	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 4	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 5	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**					
	T	TARGET					
	QL	QUALITY INDEX					
	DG	% WITHIN TOLERANCE					
	DH	MIN. FOR 100% PAY					
	DI	PASS / FAIL					

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION

CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER _____
AUTH. NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
ITEM NUMBER _____

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE						
	DEPTH OF GAUGE SOURCE						
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**						
	REFERENCE LAB NUMBER						
TEST NUMBER 1	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 2	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 3	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 4	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
TEST NUMBER 5	**DE**	DRY DENSITY					
	DF	% RELATIVE DENSITY					
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**					
	T	TARGET					
	QL	QUALITY INDEX					
	DG	% WITHIN TOLERANCE					
	DH	MIN. FOR 100% PAY					
	DI	PASS / FAIL					

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION

CHECKED BY: _____ DATE: _____

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T-316

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316
MP 207.07.20

LAB NUMBER _____
AUTHORIZATION NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
LOT NUMBER _____
ITEM NUMBER _____

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3					
			MA	MOISTURE	lb/ft^3					
			DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB			**MB**	MOISTURE	%					
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams					
CC = CA - CB			**CB**	PAN	grams					
CF = CD - CE			**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams					
			CE	PAN	grams					
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY						
						RERUN	**RERUN**	**RERUN**	**RERUN**	**RERUN**
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams					
			PB	MOLD	grams					
			PC	WEIGHT OF SOIL	grams					
			PD	WET DENSITY	lb/ft^3					
			PE	DRY DENSITY	lb/ft^3					
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams					
SE = SD - SB			**SB**	PAN	grams					
SF = SC - SE			**SC**	WET WEIGHT	grams					
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams					
			SE	DRY WEIGHT	grams					
DE = DB (100) / DC			**SF**	MOISTURE	grams					
			SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
			OB	PLUS / MINUS TOLER.						
			OC	PASS / FAIL						
$QL = \frac{\overline{X} - T}{R}$		DEN EVAL.	**DC**	MAXIMUM DENSITY	lb/ft^3					
			DE	RELATIVE DENSITY	%					
		LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
			T	TARGET	%		INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX			PROJECT'S EVALUATION			
			DF	WITHIN TOLERANCE	%		CHECKED BY:			
			DG	MIN. FOR 100% PAY	%		DATE:			
			DH	PASS / FAIL	YES	NO				

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316
MP 207.07.20

LAB NUMBER _____
AUTHORIZATION NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
LOT NUMBER _____
ITEM NUMBER _____

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3					
			MA	MOISTURE	lb/ft^3					
			DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB			**MB**	MOISTURE	%					
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams					
CC = CA - CB			**CB**	PAN	grams					
CF = CD - CE			**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams					
			CE	PAN	grams					
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY						
						RERUN	**RERUN**	**RERUN**	**RERUN**	**RERUN**
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams					
			PB	MOLD	grams					
			PC	WEIGHT OF SOIL	grams					
			PD	WET DENSITY	lb/ft^3					
			PE	DRY DENSITY	lb/ft^3					
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams					
SE = SD - SB			**SB**	PAN	grams					
SF = SC - SE			**SC**	WET WEIGHT	grams					
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams					
			SE	DRY WEIGHT	grams					
DE = DB (100) / DC			**SF**	MOISTURE	grams					
			SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
			OB	PLUS / MINUS TOLER.						
			OC	PASS / FAIL						
$QL = \frac{\overline{X} - T}{R}$		DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3					
			DE	RELATIVE DENSITY	%					
		LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
			T	TARGET	%		INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX			PROJECT'S EVALUATION			
			DF	WITHIN TOLERANCE	%		CHECKED BY:			
			DG	MIN. FOR 100% PAY	%		DATE:			
			DH	PASS / FAIL	YES	NO				

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316
MP 207.07.20

LAB NUMBER _____
AUTHORIZATION NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
LOT NUMBER _____
ITEM NUMBER _____

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3					
			MA	MOISTURE	lb/ft^3					
			DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB			**MB**	MOISTURE	%					
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams					
CC = CA - CB			**CB**	PAN	grams					
CF = CD - CE			**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams					
			CE	PAN	grams					
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY						
						RERUN	**RERUN**	**RERUN**	**RERUN**	**RERUN**
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams					
			PB	MOLD	grams					
			PC	WEIGHT OF SOIL	grams					
			PD	WET DENSITY	lb/ft^3					
			PE	DRY DENSITY	lb/ft^3					
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams					
SE = SD - SB			**SB**	PAN	grams					
SF = SC - SE			**SC**	WET WEIGHT	grams					
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams					
			SE	DRY WEIGHT	grams					
DE = DB (100) / DC			**SF**	MOISTURE	grams					
			SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
			OB	PLUS / MINUS TOLER.						
			OC	PASS / FAIL						
$QL = \frac{\overline{X} - T}{R}$		DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3					
			DE	RELATIVE DENSITY	%					
		LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
			T	TARGET	%		INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX			PROJECT'S EVALUATION			
			DF	WITHIN TOLERANCE	%		CHECKED BY:			
			DG	MIN. FOR 100% PAY	%		DATE:			
			DH	PASS / FAIL	YES	NO				

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316
MP 207.07.20

LAB NUMBER _____
AUTHORIZATION NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
LOT NUMBER _____
ITEM NUMBER _____

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3					
			MA	MOISTURE	lb/ft^3					
			DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB			**MB**	MOISTURE	%					
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams					
CC = CA - CB			**CB**	PAN	grams					
CF = CD - CE			**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams					
			CE	PAN	grams					
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY						
						RERUN	**RERUN**	**RERUN**	**RERUN**	**RERUN**
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams					
			PB	MOLD	grams					
			PC	WEIGHT OF SOIL	grams					
			PD	WET DENSITY	lb/ft^3					
			PE	DRY DENSITY	lb/ft^3					
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams					
SE = SD - SB			**SB**	PAN	grams					
SF = SC - SE			**SC**	WET WEIGHT	grams					
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams					
			SE	DRY WEIGHT	grams					
DE = DB (100) / DC			**SF**	MOISTURE	grams					
			SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
			OB	PLUS / MINUS TOLER.						
			OC	PASS / FAIL						
$QL = \frac{\overline{X} - T}{R}$		DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3					
			DE	RELATIVE DENSITY	%					
		LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
			T	TARGET	%		INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX			PROJECT'S EVALUATION			
			DF	WITHIN TOLERANCE	%		CHECKED BY:			
			DG	MIN. FOR 100% PAY	%		DATE:			
			DH	PASS / FAIL	YES	NO				

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316
MP 207.07.20

LAB NUMBER _____
AUTHORIZATION NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
LOT NUMBER _____
ITEM NUMBER _____

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3					
			MA	MOISTURE	lb/ft^3					
			DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB			**MB**	MOISTURE	%					
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams					
CC = CA - CB			**CB**	PAN	grams					
CF = CD - CE			**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams					
			CE	PAN	grams					
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY						
						RERUN	**RERUN**	**RERUN**	**RERUN**	**RERUN**
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams					
			PB	MOLD	grams					
			PC	WEIGHT OF SOIL	grams					
			PD	WET DENSITY	lb/ft^3					
			PE	DRY DENSITY	lb/ft^3					
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams					
SE = SD - SB			**SB**	PAN	grams					
SF = SC - SE			**SC**	WET WEIGHT	grams					
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams					
			SE	DRY WEIGHT	grams					
DE = DB (100) / DC			**SF**	MOISTURE	grams					
			SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
			OB	PLUS / MINUS TOLER.						
			OC	PASS / FAIL						
$QL = \frac{\overline{X} - T}{R}$		DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3					
			DE	RELATIVE DENSITY	%					
		LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
			T	TARGET	%		INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX			PROJECT'S EVALUATION			
			DF	WITHIN TOLERANCE	%		CHECKED BY:			
			DG	MIN. FOR 100% PAY	%		DATE:			
			DH	PASS / FAIL	YES	NO				

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316
MP 207.07.20

LAB NUMBER _____
AUTHORIZATION NUMBER _____
PROJECT NUMBER _____
DISTRICT _____
LOT NUMBER _____
ITEM NUMBER _____

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3					
			MA	MOISTURE	lb/ft^3					
			DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB			**MB**	MOISTURE	%					
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams					
CC = CA - CB			**CB**	PAN	grams					
CF = CD - CE			**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams					
			CE	PAN	grams					
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY						
						RERUN	**RERUN**	**RERUN**	**RERUN**	**RERUN**
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams					
			PB	MOLD	grams					
			PC	WEIGHT OF SOIL	grams					
			PD	WET DENSITY	lb/ft^3					
			PE	DRY DENSITY	lb/ft^3					
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams					
SE = SD - SB			**SB**	PAN	grams					
SF = SC - SE			**SC**	WET WEIGHT	grams					
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams					
			SE	DRY WEIGHT	grams					
DE = DB (100) / DC			**SF**	MOISTURE	grams					
			SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
			OB	PLUS / MINUS TOLER.						
			OC	PASS / FAIL						
$QL = \frac{\overline{X} - T}{R}$		DEN EVAL.	**DC**	MAXIMUM DENSITY	lb/ft^3					
			DE	RELATIVE DENSITY	%					
		LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
			T	TARGET	%		INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX			PROJECT'S EVALUATION			
			DF	WITHIN TOLERANCE	%		CHECKED BY:			
			DG	MIN. FOR 100% PAY	%		DATE:			
			DH	PASS / FAIL	YES	NO				

COMPACTION INSPECTOR
PRACTICE PROBLEMS

* Data for all lines are given or correspond to an equation on the left side of the page

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER

AUTHORIZATION NUMBER — GENERAL

PROJECT NUMBER — PROJECT

DISTRICT — INFORMATION

LOT NUMBER

ITEM NUMBER

Note: Data from CG, CH, OA, & DC always carry over from Left to Right until a new proctor is established.

FORM T-316
MP 207.07.20

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					

General Test Location / Identification

DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft³	1	**From Nuclear Gauge**				
		MA	MOISTURE	lb/ft³	1	From Tables Using CG, CH, & DA				
		DB	DRY DENSITY -3/4	lb/ft³	3					
MB = MA (100) / DB		**MB**	MOISTURE	%	4					
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	2					
CC = CA - CB		**CB**	PAN	grams	2					
CF = CD - CE		**CC**	EXCAVATED MAT.	grams	2					
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	2					
		CE	PAN	grams	2					
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	2					
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	2					
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY							
						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	5									
		PB	MOLD	grams	5									
		PC	WEIGHT OF SOIL	grams	5									
		PD	WET DENSITY	lb/ft³	5									
		PE	DRY DENSITY	lb/ft³	5									
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams		This section is performed 6th, only used if a rerun proctor is performed (stove dried moisture is used to plot max density / optimum moisture				
SE = SD - SB		**SB**	PAN	grams						
SF = SC - SE		**SC**	WET WEIGHT	grams						
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams						
		SE	DRY WEIGHT	grams						
DE = DB (100) / DC		**SF**	MOISTURE	grams						
		SG	MOISTURE	%						
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL	**OA**	OPTIMUM MOISTURE	%	6 if no Rerun needed / 7 if first proctor doesnt plot					
		OB	PLUS / MINUS TOLER.		+/-4	+/-4	+/-4	+/-4	+/-4	
		OC	PASS / FAIL							
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft³	6 if no Reun needed / 7 if first proctor doesnt plot					
		DE	RELATIVE DENSITY	%						
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:				
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:				
		QL	QUALITY INDEX							
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION				
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:				
		DH	PASS / FAIL	YES	NO	DATE:				

*DF found in QL Tables

R= Highest DE- Lowest DE

Attachment 2 of MP 207.07.20 (Page 6-14)

Attachment 3 of MP 207.07.20 (Page 6-15)

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316

MP 207.07.20

LAB NUMBER A

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

GAUGE NUMBER				TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS				DATE						
DENSITY				STATION NUMBER	ft.					
MOISTURE				OFFSET	ft.					
GAUGE STANDARD COUNTS				DEPTH BELOW GRADE	ft.					
DENSITY				LIFT THICKNESS	in.					
MOISTURE				DEPTH OF SOURCE	in.					
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	127	125	122	126	119
			MA	MOISTURE	lb/ft^3	14	15	17	14	17
			DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB			**MB**	MOISTURE	%					
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4952				
CC = CA - CB			**CB**	PAN	grams	316				
CF = CD - CE			**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams	759				
			CE	PAN	grams	316				
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY		2.7	2.7	2.7	2.7	2.7
						RERUN	**RERUN**	**RERUN**	**RERUN**	**RERUN**
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4055				
			PB	MOLD	grams	2009				
			PC	WEIGHT OF SOIL	grams					
			PD	WET DENSITY	lb/ft^3					
			PE	DRY DENSITY	lb/ft^3					
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams					
SE = SD - SB			**SB**	PAN	grams					
SF = SC - SE			**SC**	WET WEIGHT	grams					
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams					
			SE	DRY WEIGHT	grams					
DE = DB (100) / DC			**SF**	MOISTURE	grams					
			SG	MOISTURE	%					
$\bar{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
			OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
			OC	PASS / FAIL						
$QL = \frac{\bar{X} - T}{R}$		DEN EVAL.	**DC**	MAXIMUM DENSITY	lb/ft^3					
			DE	RELATIVE DENSITY	%					
		LOT EVALUATION	$\bar{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
			T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX						
			DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION			
			DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
			DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316
MP 207.07.20

LAB NUMBER B
AUTHORIZATION NUMBER
PROJECT NUMBER
DISTRICT
LOT NUMBER
ITEM NUMBER

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE							
DENSITY		STATION NUMBER		ft.					
MOISTURE		OFFSET		ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE		ft.					
DENSITY		LIFT THICKNESS		in.					
MOISTURE		DEPTH OF SOURCE		in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	111	109	108	110	109
		MA	MOISTURE	lb/ft^3	14	15	17	14	17
		DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB		**MB**	MOISTURE	%					
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	5541				
CC = CA - CB		**CB**	PAN	grams	502				
CF = CD - CE		**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	759				
		CE	PAN	grams	502				
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.5	2.5	2.5	2.5	2.5
						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3822									
		PB	MOLD	grams	1995									
		PC	WEIGHT OF SOIL	grams										
		PD	WET DENSITY	lb/ft^3										
		PE	DRY DENSITY	lb/ft^3										
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams										
SE = SD - SB		**SB**	PAN	grams										
SF = SC - SE		**SC**	WET WEIGHT	grams										
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams										
		SE	DRY WEIGHT	grams										
DE = DB (100) / DC		**SF**	MOISTURE	grams										
		SG	MOISTURE	%										
$\bar{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%										
		OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4					
		OC	PASS / FAIL											
$QL = \frac{\bar{X} - T}{R}$	DEN EVAL.	**DC**	MAXIMUM DENSITY	lb/ft^3										
		DE	RELATIVE DENSITY	%										
	LOT EVALUATION	$\bar{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:								
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:								
		QL	QUALITY INDEX											
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION								
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:								
		DH	PASS / FAIL	YES	NO	DATE:								

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316

MP 207.07.20

LAB NUMBER C

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE							
DENSITY		STATION NUMBER		ft.					
MOISTURE		OFFSET		ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE		ft.					
DENSITY		LIFT THICKNESS		in.					
MOISTURE		DEPTH OF SOURCE		in.					

DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	108	109	108	110	111
		MA	MOISTURE	lb/ft^3	20	19	20	18	20
		DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB		**MB**	MOISTURE	%					
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4862				
CC = CA - CB		**CB**	PAN	grams	298				
CF = CD - CE		**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	2045				
		CE	PAN	grams	298				
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.4	2.4	2.4	2.4	2.4

						RERUN		RERUN		RERUN		RERUN		RERUN		
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3799											
		PB	MOLD	grams	2022											
		PC	WEIGHT OF SOIL	grams												
		PD	WET DENSITY	lb/ft^3												
		PE	DRY DENSITY	lb/ft^3												
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams												
SE = SD - SB		**SB**	PAN	grams												
SF = SC - SE		**SC**	WET WEIGHT	grams												
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams												
		SE	DRY WEIGHT	grams												
DE = DB (100) / DC		**SF**	MOISTURE	grams												
		SG	MOISTURE	%												
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%												
		OB	PLUS / MINUS TOLER.		+3/-4		+3/-4		+3/-4		+3/-4		+3/-4			
		OC	PASS / FAIL													
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3												
		DE	RELATIVE DENSITY	%												
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%												
		T	TARGET	%	95											
		QL	QUALITY INDEX													
		DF	WITHIN TOLERANCE	%												
		DG	MIN. FOR 100% PAY	%	80											
		DH	PASS / FAIL	YES	NO											

INSPECTOR'S NAME:

INSPECTOR'S SIGNATURE:

PROJECT'S EVALUATION

CHECKED BY:

DATE:

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER D
AUTHORIZATION NUMBER
PROJECT NUMBER
DISTRICT
LOT NUMBER
ITEM NUMBER

FORM T-316
MP 207.07.20

GAUGE NUMBER		TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
DENSITY		STATION NUMBER	ft.					
MOISTURE		OFFSET	ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE	ft.					
DENSITY		LIFT THICKNESS	in.					
MOISTURE		DEPTH OF SOURCE	in.					

DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	130		130		131		129		127	
		MA	MOISTURE	lb/ft^3	11		9		8		10		11	
		DB	DRY DENSITY -3/4	lb/ft^3										
MB = MA (100) / DB		**MB**	MOISTURE	%										
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	5005									
CC = CA - CB		**CB**	PAN	grams	259									
CF = CD - CE		**CC**	EXCAVATED MAT.	grams										
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	759									
		CE	PAN	grams	259									
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams										
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%										
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.7		2.7		2.7		2.7		2.7	
						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4100									
		PB	MOLD	grams	2001									
		PC	WEIGHT OF SOIL	grams										
		PD	WET DENSITY	lb/ft^3										
		PE	DRY DENSITY	lb/ft^3										
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams										
SE = SD - SB		**SB**	PAN	grams										
SF = SC - SE		**SC**	WET WEIGHT	grams										
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams										
		SE	DRY WEIGHT	grams										
DE = DB (100) / DC		**SF**	MOISTURE	grams										
		SG	MOISTURE	%										
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%										
		OB	PLUS / MINUS TOLER.		+3/-4		+3/-4		+3/-4		+3/-4		+3/-4	
		OC	PASS / FAIL											
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3										
		DE	RELATIVE DENSITY	%										
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%										
		T	TARGET	%	95									
		QL	QUALITY INDEX											
		DF	WITHIN TOLERANCE	%										
		DG	MIN. FOR 100% PAY	%	80									
		DH	PASS / FAIL	YES	NO									

INSPECTOR'S NAME:
INSPECTOR'S SIGNATURE:
PROJECT'S EVALUATION
CHECKED BY:
DATE:

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316

MP 207.07.20

LAB NUMBER E

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

GAUGE NUMBER		TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
DENSITY		STATION NUMBER	ft.					
MOISTURE		OFFSET	ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE	ft.					
DENSITY		LIFT THICKNESS	in.					
MOISTURE		DEPTH OF SOURCE	in.					

DB FROM TABLES

MB = MA (100) / DB

CC = CA - CB

CF = CD - CE

CG = CF (100) / CC

PC = PA - PB

PD = PC (0.066)

PE = PD (100) / 100 + MB

RERUN PROCTOR

PE (RERUN) = PD (100) / 100 + SG

SC = SA - SB

SE = SD - SB

SF = SC - SE

SG = SF (100) / SE

DE = DB (100) / DC

$\overline{X} = \frac{\Sigma DE}{5}$

$QL = \frac{\overline{X} - T}{R}$

Field Density Moisture	DA	TOTAL DRY DENSITY	lb/ft³	122		125		128		129		127	
	MA	MOISTURE	lb/ft³	11		9		10		9		11	
	DB	DRY DENSITY -3/4	lb/ft³										
	MB	MOISTURE	%										
PLUS 3/4 MATERIAL DETERMINATION	CA	EXC. MATERIAL + PAN	grams	6004									
	CB	PAN	grams	1009									
	CC	EXCAVATED MAT.	grams										
	CD	PLUS 3/4 MAT. + PAN	grams	1894									
	CE	PAN	grams	1009									
	CF	PLUS 3/4 MAT.	grams										
	CG	PLUS 3/4 MAT.	%										
	CH	SPECIFIC GRAVITY		2.6		2.6		2.6		2.6		2.6	
					RERUN		RERUN		RERUN		RERUN		RERUN
ONE POINT PROCTOR	PA	WEIGHT SOIL & MOLD	grams	3975									
	PB	MOLD	grams	1954									
	PC	WEIGHT OF SOIL	grams										
	PD	WET DENSITY	lb/ft³										
	PE	DRY DENSITY	lb/ft³										
STOVE DRIED MOISTURE	SA	WET WEIGHT + PAN	grams										
	SB	PAN	grams										
	SC	WET WEIGHT	grams										
	SD	DRY WEIGHT + PAN	grams										
	SE	DRY WEIGHT	grams										
	SF	MOISTURE	grams										
	SG	MOISTURE	%										
MOIST. EVAL.	OA	OPTIMUM MOISTURE	%										
	OB	PLUS / MINUS TOLER.		+3/-4		+3/-4		+3/-4		+3/-4		+3/-4	
	OC	PASS / FAIL											
DEN EVAL	DC	MAXIMUM DENSITY	lb/ft³										
	DE	RELATIVE DENSITY	%										
LOT EVALUATION	$\overline{X}$	AVERAGE DE	%										
	T	TARGET	%	95									
	QL	QUALITY INDEX											
	DF	WITHIN TOLERANCE	%										
	DG	MIN. FOR 100% PAY	%	80									
	DH	PASS / FAIL	YES	NO									

INSPECTOR'S NAME:

INSPECTOR'S SIGNATURE:

PROJECT'S EVALUATION

CHECKED BY:

DATE:

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316

MP 207.07.20

LAB NUMBER F

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	118	120	119	117	120
		MA	MOISTURE	lb/ft^3	17	14	16	15	16
		DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB		**MB**	MOISTURE	%					
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4839				
CC = CA - CB		**CB**	PAN	grams	306				
CF = CD - CE		**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	1229				
		CE	PAN	grams	306				
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.4	2.4	2.4	2.4	2.4
						RERUN	RERUN	RERUN	RERUN	RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3975	3958								
		PB	MOLD	grams	1954	1954								
		PC	WEIGHT OF SOIL	grams										
		PD	WET DENSITY	lb/ft^3										
		PE	DRY DENSITY	lb/ft^3										
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	1876				
SE = SD - SB		**SB**	PAN	grams	1501				
SF = SC - SE		**SC**	WET WEIGHT	grams					
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams	1839				
		SE	DRY WEIGHT	grams					
DE = DB (100) / DC		**SF**	MOISTURE	grams					
		SG	MOISTURE	%					
$\bar{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
		OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
		OC	PASS / FAIL						
$QL = \frac{\bar{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3					
		DE	RELATIVE DENSITY	%					
	LOT EVALUATION	$\bar{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX						
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
		DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER G

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

FORM T-316

MP 207.07.20

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	108	110	110	111	109
			MA	MOISTURE	lb/ft^3	17	16	16	17	16
			DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB			**MB**	MOISTURE	%					
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	5245				
CC = CA - CB			**CB**	PAN	grams	555				
CF = CD - CE			**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams	605				
			CE	PAN	grams	555				
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY		2.4	2.4	2.4	2.4	2.4
							RERUN	RERUN	RERUN	RERUN	RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3957	3944				
			PB	MOLD	grams	2003	2003				
			PC	WEIGHT OF SOIL	grams						
			PD	WET DENSITY	lb/ft^3						
			PE	DRY DENSITY	lb/ft^3						
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	1111				
SE = SD - SB			**SB**	PAN	grams	879				
SF = SC - SE			**SC**	WET WEIGHT	grams					
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams	1082				
			SE	DRY WEIGHT	grams					
DE = DB (100) / DC			**SF**	MOISTURE	grams					
			SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
			OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
			OC	PASS / FAIL						
$QL = \frac{\overline{X} - T}{R}$		DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3					
			DE	RELATIVE DENSITY	%					
		LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
			T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX						
			DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION			
			DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
			DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER H

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

FORM T-316

MP 207.07.20

GAUGE NUMBER			TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		**DA**	TOTAL DRY DENSITY	lb/ft^3	116	116	116	116	117
	Field Density Moisture	**MA**	MOISTURE	lb/ft^3	17	15	15	14	13
		DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB		**MB**	MOISTURE	%					
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4839				
CC = CA - CB		**CB**	PAN	grams	339				
CF = CD - CE		**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	777				
		CE	PAN	grams	339				
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.5	2.5	2.5	2.5	2.5
						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3999	3969								
		PB	MOLD	grams	1999	1999								
		PC	WEIGHT OF SOIL	grams										
		PD	WET DENSITY	lb/ft^3										
		PE	DRY DENSITY	lb/ft^3										
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	1542				
SE = SD - SB		**SB**	PAN	grams	1200				
SF = SC - SE		**SC**	WET WEIGHT	grams					
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams	1511				
		SE	DRY WEIGHT	grams					
DE = DB (100) / DC		**SF**	MOISTURE	grams					
		SG	MOISTURE	%					
$\bar{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
		OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
		OC	PASS / FAIL						
$QL = \frac{\bar{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3					
		DE	RELATIVE DENSITY	%					
	LOT EVALUATION	$\bar{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX						
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
		DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER I

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

FORM T-316

MP 207.07.20

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	117	117	117	117	116
			MA	MOISTURE	lb/ft^3	17	15	15	14	13
			DB	DRY DENSITY -3/4	lb/ft^3					
MB = MA (100) / DB			**MB**	MOISTURE	%					
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4839				
CC = CA - CB			**CB**	PAN	grams	339				
CF = CD - CE			**CC**	EXCAVATED MAT.	grams					
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams	777				
			CE	PAN	grams	339				
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams					
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%					
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY		2.5				
						RERUN	**RERUN**	**RERUN**	**RERUN**	**RERUN**
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3999 / 3969				
			PB	MOLD	grams	1999 / 1999				
			PC	WEIGHT OF SOIL	grams					
			PD	WET DENSITY	lb/ft^3					
			PE	DRY DENSITY	lb/ft^3					
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	1542				
SE = SD - SB			**SB**	PAN	grams	1200				
SF = SC - SE			**SC**	WET WEIGHT	grams					
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams	1511				
			SE	DRY WEIGHT	grams					
DE = DB (100) / DC			**SF**	MOISTURE	grams					
			SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%					
			OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
			OC	PASS / FAIL						
$QL = \frac{\overline{X} - T}{R}$		DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3					
			DE	RELATIVE DENSITY	%					
		LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:			
			T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX						
			DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION			
			DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
			DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER J

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

FORM T-316

MP 207.07.20

GAUGE NUMBER			TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE							
DENSITY			STATION NUMBER		ft.					
MOISTURE			OFFSET		ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE		ft.					
DENSITY			LIFT THICKNESS		in.					
MOISTURE			DEPTH OF SOURCE		in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY		lb/ft^3	105	117	116	124	111
		MA	MOISTURE		lb/ft^3	16	15	16	12	18
		DB	DRY DENSITY -3/4		lb/ft^3					
MB = MA (100) / DB		**MB**	MOISTURE		%					
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN		grams	5003	5121		5346	5224
CC = CA - CB		**CB**	PAN		grams	500	500		500	500
CF = CD - CE		**CC**	EXCAVATED MAT.		grams					
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN		grams	654	1026		742	833
		CE	PAN		grams	500	500		500	500
PC = PA - PB		**CF**	PLUS 3/4 MAT.		grams					
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.		%					
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY			2.4	2.6	2.6	2.7	2.5
						RERUN		RERUN	RERUN	RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD		grams	3901	3985		4108	3954 / 3931
		PB	MOLD		grams	2004	2004		2004	2004 / 2004
		PC	WEIGHT OF SOIL		grams					
		PD	WET DENSITY		lb/ft^3					
		PE	DRY DENSITY		lb/ft^3					
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN		grams					1564
SE = SD - SB		**SB**	PAN		grams					1209
SF = SC - SE		**SC**	WET WEIGHT		grams					
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN		grams					1524
		SE	DRY WEIGHT		grams					
DE = DB (100) / DC		**SF**	MOISTURE		grams					
		SG	MOISTURE		%					
$\bar{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE		%					
		OB	PLUS / MINUS TOLER.			+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
		OC	PASS / FAIL							
$QL = \frac{\bar{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY		lb/ft^3					
		DE	RELATIVE DENSITY		%					
	LOT EVALUATION	$\bar{X}$	AVERAGE **DE**		%		INSPECTOR'S NAME:			
		T	TARGET		%	95	INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX							
		DF	WITHIN TOLERANCE		%		PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY		%	80	CHECKED BY:			
		DH	PASS / FAIL		YES	NO	DATE:			

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number K
Auth. Number
Project Number
District Number
Item Number
Date

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes	12
	Test Site	DA Dry Density
	1	132
	2	134
DB	Average	

B	Number of Passes	14
	Test Site	DA Dry Density
	1	133
	2	135
DB	Average	

C	Number of Passes	
	Test Site	DA Dry Density
	1	
	2	
DB	Average	

D	Number of Passes	
	Test Site	DA Dry Density
	1	
	2	
DB	Average	

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		
2		
3		136
4		132
5		135
DC	Max. Density	

Inspector's Name:
Inspector's Signature:
Project's Evaluation
Checked By:
Date:

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number L
Auth. Number
Project Number
District Number
Item Number
Date

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes	12
	Test Site	DA Dry Density
	1	124
	2	127
DB	Average	

B	Number of Passes	14
	Test Site	DA Dry Density
	1	127
	2	129
DB	Average	

C	Number of Passes	16
	Test Site	DA Dry Density
	1	128
	2	130
DB	Average	

D	Number of Passes	
	Test Site	DA Dry Density
	1	
	2	
DB	Average	

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		
2		
3		127
4		126
5		128
DC	Max. Density	

Inspector's Name:
Inspector's Signature:
Project's Evaluation
Checked By:
Date:

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number M
Auth. Number
Project Number
District Number
Item Number
Date

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes	12
	Test Site	DA Dry Density
	1	140
	2	141
DB	Average	

B	Number of Passes	14
	Test Site	DA Dry Density
	1	142
	2	143
DB	Average	

C	Number of Passes	16
	Test Site	DA Dry Density
	1	145
	2	145
DB	Average	

D	Number of Passes	18
	Test Site	DA Dry Density
	1	146
	2	144
DB	Average	

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		
2		
3		147
4		143
5		145
DC	Max. Density	

Inspector's Name:
Inspector's Signature:
Project's Evaluation
Checked By:
Date:

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number N
Auth. Number
Project Number
District Number
Item Number
Date

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes	12
	Test Site	DA Dry Density
	1	105
	2	101
DB	Average	

B	Number of Passes	14
	Test Site	DA Dry Density
	1	106
	2	104
DB	Average	

C	Number of Passes	16
	Test Site	DA Dry Density
	1	108
	2	107
DB	Average	

D	Number of Passes	18
	Test Site	DA Dry Density
	1	109
	2	109
DB	Average	

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		
2		
3		108
4		105
5		110
DC	Max. Density	

Inspector's Name:
Inspector's Signature:
Project's Evaluation
Checked By:
Date:

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number O
Auth. Number
Project Number
District Number
Item Number
Date

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes	12
	Test Site	DA Dry Density
	1	131
	2	133
DB	Average	

B	Number of Passes	14
	Test Site	DA Dry Density
	1	134
	2	134
DB	Average	

C	Number of Passes	16
	Test Site	DA Dry Density
	1	135
	2	137
DB	Average	

D	Number of Passes	18
	Test Site	DA Dry Density
	1	136
	2	136
DB	Average	

DB = ∑ DA / 2

DC = ∑ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		
2		
3		138
4		139
5		132
DC	Max. Density	

Inspector's Name:
Inspector's Signature:
Project's Evaluation
Checked By:
Date:

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER P
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE	6	4	8	6	4	
	DEPTH OF GAUGE SOURCE	6	4	8	6	4	
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						
DC	**MAXIMUM DENSITY**	134	128	145	108	136	
	REFERENCE LAB NUMBER	K	L	M	N	O	
TEST NUMBER 1	**DE** DRY DENSITY	127	125	139	107	138	
	DF % RELATIVE DENSITY						
TEST NUMBER 2	**DE** DRY DENSITY	131	129	144	101	137	
	DF % RELATIVE DENSITY						
TEST NUMBER 3	**DE** DRY DENSITY	134	130	141	107	139	
	DF % RELATIVE DENSITY						
TEST NUMBER 4	**DE** DRY DENSITY	131	127	138	106	139	
	DF % RELATIVE DENSITY						
TEST NUMBER 5	**DE** DRY DENSITY	139	129	139	108	141	
	DF % RELATIVE DENSITY						
LOT EVALUATION	$\overline{X}$ AVERAGE **DF**						
	T TARGET	95	95	95	95	95	
	QL QUALITY INDEX						
	DG % WITHIN TOLERANCE						
	DH MIN. FOR 100% PAY	80	80	80	80	80	
	DI PASS / FAIL						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER Q
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE						
	DEPTH OF GAUGE SOURCE						
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	137					
	REFERENCE LAB NUMBER	70-1					
TEST NUMBER 1	**DE** DRY DENSITY	127					
	DF % RELATIVE DENSITY						
TEST NUMBER 2	**DE** DRY DENSITY	131					
	DF % RELATIVE DENSITY						
TEST NUMBER 3	**DE** DRY DENSITY	134					
	DF % RELATIVE DENSITY						
TEST NUMBER 4	**DE** DRY DENSITY	131					
	DF % RELATIVE DENSITY						
TEST NUMBER 5	**DE** DRY DENSITY	139					
	DF % RELATIVE DENSITY						
LOT EVALUATION	$\overline{X}$ AVERAGE **DF**						
	T TARGET	95					
	QL QUALITY INDEX						
	DG % WITHIN TOLERANCE						
	DH MIN. FOR 100% PAY	80					
	DI PASS / FAIL						

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER R
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE	6	6	6			
	DEPTH OF GAUGE SOURCE	6	6	6			
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	137	137	137			
	REFERENCE LAB NUMBER	70-1	70-1	70-1			
TEST NUMBER 1	**DE**	DRY DENSITY	136	135	139		
	DF	% RELATIVE DENSITY					
TEST NUMBER 2	**DE**	DRY DENSITY	136	137	144		
	DF	% RELATIVE DENSITY					
TEST NUMBER 3	**DE**	DRY DENSITY	134	138	141		
	DF	% RELATIVE DENSITY					
TEST NUMBER 4	**DE**	DRY DENSITY	135	141	138		
	DF	% RELATIVE DENSITY					
TEST NUMBER 5	**DE**	DRY DENSITY	143	142	143		
	DF	% RELATIVE DENSITY					
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**					
	T	TARGET	95	95	95		
	QL	QUALITY INDEX					
	DG	% WITHIN TOLERANCE					
	DH	MIN. FOR 100% PAY	80	80	80		
	DI	PASS / FAIL					

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER S
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE	6	6				
	DEPTH OF GAUGE SOURCE	6	6				
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	140	140				
	REFERENCE LAB NUMBER	70-1	70-1				
TEST NUMBER 1	**DE**	DRY DENSITY	138	140			
	DF	% RELATIVE DENSITY					
TEST NUMBER 2	**DE**	DRY DENSITY	141	137			
	DF	% RELATIVE DENSITY					
TEST NUMBER 3	**DE**	DRY DENSITY	143	137			
	DF	% RELATIVE DENSITY					
TEST NUMBER 4	**DE**	DRY DENSITY	137	140			
	DF	% RELATIVE DENSITY					
TEST NUMBER 5	**DE**	DRY DENSITY	143	142			
	DF	% RELATIVE DENSITY					
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**					
	T	TARGET	95	95			
	QL	QUALITY INDEX					
	DG	% WITHIN TOLERANCE					
	DH	MIN. FOR 100% PAY	80	80			
	DI	PASS / FAIL					

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER T
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE	6	6	6	6		
	DEPTH OF GAUGE SOURCE	6	6	6	6		
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	132	132	132	132		
	REFERENCE LAB NUMBER	70-1	70-1	70-1	70-1		
TEST NUMBER 1	**DE**	DRY DENSITY	128	125	139	127	
	DF	% RELATIVE DENSITY					
TEST NUMBER 2	**DE**	DRY DENSITY	131	129	134	126	
	DF	% RELATIVE DENSITY					
TEST NUMBER 3	**DE**	DRY DENSITY	134	130	131	127	
	DF	% RELATIVE DENSITY					
TEST NUMBER 4	**DE**	DRY DENSITY	126	127	127	128	
	DF	% RELATIVE DENSITY					
TEST NUMBER 5	**DE**	DRY DENSITY	133	129	130	126	
	DF	% RELATIVE DENSITY					
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**					
	T	TARGET	95	95	95	95	
	QL	QUALITY INDEX					
	DG	% WITHIN TOLERANCE					
	DH	MIN. FOR 100% PAY	80	80	80	80	
	DI	PASS / FAIL					

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER U
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE	6	6				
	DEPTH OF GAUGE SOURCE	6	6				
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	112	118				
	REFERENCE LAB NUMBER	1233	1234				
TEST NUMBER 1	**DE** DRY DENSITY	110	115				
	DF % RELATIVE DENSITY						
TEST NUMBER 2	**DE** DRY DENSITY	108	116				
	DF % RELATIVE DENSITY						
TEST NUMBER 3	**DE** DRY DENSITY	111	113				
	DF % RELATIVE DENSITY						
TEST NUMBER 4	**DE** DRY DENSITY	109	117				
	DF % RELATIVE DENSITY						
TEST NUMBER 5	**DE** DRY DENSITY	108	113				
	DF % RELATIVE DENSITY						
LOT EVALUATION	$\overline{X}$ AVERAGE **DF**						
	T TARGET	95	95				
	QL QUALITY INDEX						
	DG % WITHIN TOLERANCE						
	DH MIN. FOR 100% PAY	80	80				
	DI PASS / FAIL						

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

COMPACTION INSPECTOR

PRACTICE ANSWERS

* Data for all lines are given or correspond to an equation on the left side of the page

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER

AUTHORIZATION NUMBER — GENERAL

PROJECT NUMBER — PROJECT

DISTRICT — INFORMATION

LOT NUMBER

ITEM NUMBER

Note: Data from CG, CH, OA, & DC always carry over from Left to Right until a new proctor is established.

FORM T-316
MP 207.07.20

GAUGE NUMBER		TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE		General Test Location / Identification				
DENSITY		STATION NUMBER	ft.					
MOISTURE		OFFSET	ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE	ft.					
DENSITY		LIFT THICKNESS	in.					
MOISTURE		DEPTH OF SOURCE	in.					

DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft³	1	**From Nuclear Gauge**			
		MA	MOISTURE	lb/ft³	1	From Tables Using CG, CH, & DA			
		DB	DRY DENSITY -3/4	lb/ft³	3				
MB = MA (100) / DB		**MB**	MOISTURE	%	4				
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	2				
CC = CA - CB		**CB**	PAN	grams	2				
CF = CD - CE		**CC**	EXCAVATED MAT.	grams	2				
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	2				
		CE	PAN	grams	2				
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	2				
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	2				
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY						

					RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	5								
		PB	MOLD	grams	5								
		PC	WEIGHT OF SOIL	grams	5								
		PD	WET DENSITY	lb/ft³	5								
		PE	DRY DENSITY	lb/ft³	5								
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	This section is performed 6th, only used if a rerun proctor is performed (stove dried moisture is used to plot max density / optimum moisture								
SE = SD - SB		**SB**	PAN	grams									
SF = SC - SE		**SC**	WET WEIGHT	grams									
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams									
		SE	DRY WEIGHT	grams									
DE = DB (100) / DC		**SF**	MOISTURE	grams									
		SG	MOISTURE	%									
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL	**OA**	OPTIMUM MOISTURE	%	6 if no Rerun needed / 7 if first proctor doesnt plot								
		OB	PLUS / MINUS TOLER.		+3/-4	+3/-4		+3/-4		+3/-4		+3/-4	
		OC	PASS / FAIL										
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft³	6 if no Reun needed / 7 if first proctor doesnt plot								
		DE	RELATIVE DENSITY	%									
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		INSPECTOR'S NAME:							
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:							
		QL	QUALITY INDEX										
		DF	WITHIN TOLERANCE	%		PROJECT'S EVALUATION							
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:							
		DH	PASS / FAIL	YES	NO	DATE:							

*DF found in QL Tables

R= Highest DE- Lowest DE

Attachment 2 of MP 207.07.20 (Page 6-14)

Attachment 3 of MP 207.07.20 (Page 6-15)

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316

MP 207.07.20

LAB NUMBER A

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

GAUGE NUMBER			TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	127	125	122	126	119
		MA	MOISTURE	lb/ft^3	14	15	17	14	17
		DB	DRY DENSITY -3/4	lb/ft^3	125	122	119	124	116
MB = MA (100) / DB		**MB**	MOISTURE	%	11	12	14	11	15
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4952				
CC = CA - CB		**CB**	PAN	grams	316				
CF = CD - CE		**CC**	EXCAVATED MAT.	grams	4636				
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	759				
		CE	PAN	grams	316				
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	443				
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	10	10	10	10	10
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.7	2.7	2.7	2.7	2.7
						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	4055									
		PB	MOLD	grams	2009									
		PC	WEIGHT OF SOIL	grams	2046									
		PD	WET DENSITY	lb/ft^3	135									
		PE	DRY DENSITY	lb/ft^3	122									
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams										
SE = SD - SB		**SB**	PAN	grams										
SF = SC - SE		**SC**	WET WEIGHT	grams										
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams										
		SE	DRY WEIGHT	grams										
DE = DB (100) / DC		**SF**	MOISTURE	grams										
		SG	MOISTURE	%										
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%	12	12	12	12	12
		OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
		OC	PASS / FAIL		Pass	Pass	Pass	Pass	Pass
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3	122	122	122	122	122
		DE	RELATIVE DENSITY	%	102	100	98	102	95
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%	99.4	INSPECTOR'S NAME:			
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX		0.63				
		DF	WITHIN TOLERANCE	%	97	PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
		DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

FORM T-316

MP 207.07.20

LAB NUMBER B

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

GAUGE NUMBER			TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	111	109	108	110	109
		MA	MOISTURE	lb/ft^3	14	15	17	14	17
		DB	DRY DENSITY -3/4	lb/ft^3	110	108	106	109	108
MB = MA (100) / DB		**MB**	MOISTURE	%	13	14	16	13	16
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	5541				
CC = CA - CB		**CB**	PAN	grams	502				
CF = CD - CE		**CC**	EXCAVATED MAT.	grams	5039				
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	759				
		CE	PAN	grams	502				
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	257				
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	5				
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.5	2.5	2.5	2.5	2.5
						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3822									
		PB	MOLD	grams	1995									
		PC	WEIGHT OF SOIL	grams	1827									
		PD	WET DENSITY	lb/ft^3	121									
		PE	DRY DENSITY	lb/ft^3	107									
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams					
SE = SD - SB		**SB**	PAN	grams					
SF = SC - SE		**SC**	WET WEIGHT	grams					
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams					
		SE	DRY WEIGHT	grams					
DE = DB (100) / DC		**SF**	MOISTURE	grams					
		SG	MOISTURE	%					
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%	17	17	17	17	17
		OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
		OC	PASS / FAIL		Pass	Pass	Pass	Pass	Pass
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3	109	109	109	109	109
		DE	RELATIVE DENSITY	%	101	99	97	100	99
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%	99.2	INSPECTOR'S NAME:			
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX		1.05				
		DF	WITHIN TOLERANCE	%	100	PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
		DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER C

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

FORM T-316

MP 207.07.20

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE							
DENSITY		STATION NUMBER		ft.					
MOISTURE		OFFSET		ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE		ft.					
DENSITY		LIFT THICKNESS		in.					
MOISTURE		DEPTH OF SOURCE		in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	108	109	108	110	111
		MA	MOISTURE	lb/ft^3	20	19	20	18	20
		DB	DRY DENSITY -3/4	lb/ft^3	93	95	93	97	98
MB = MA (100) / DB		**MB**	MOISTURE	%	22	20	22	19	20
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4862				
CC = CA - CB		**CB**	PAN	grams	298				
CF = CD - CE		**CC**	EXCAVATED MAT.	grams	4564				
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	2045				
		CE	PAN	grams	298				
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	1747				
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	38	38	38	38	38
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.4	2.4	2.4	2.4	2.4
						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3799									
		PB	MOLD	grams	2022									
		PC	WEIGHT OF SOIL	grams	1777									
		PD	WET DENSITY	lb/ft^3	117									
		PE	DRY DENSITY	lb/ft^3	96									
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams										
SE = SD - SB		**SB**	PAN	grams										
SF = SC - SE		**SC**	WET WEIGHT	grams										
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams										
		SE	DRY WEIGHT	grams										
DE = DB (100) / DC		**SF**	MOISTURE	grams										
		SG	MOISTURE	%										
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%	23	23	23	23	23
		OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
		OC	PASS / FAIL		Pass	Pass	Pass	Pass	Pass
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3	96	96	96	96	96
		DE	RELATIVE DENSITY	%	97	99	97	101	102
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%	99.2	INSPECTOR'S NAME:			
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX		0.84				
		DF	WITHIN TOLERANCE	%	100	PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
		DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER D

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

FORM T-316

MP 207.07.20

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE							
DENSITY		STATION NUMBER		ft.					
MOISTURE		OFFSET		ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE		ft.					
DENSITY		LIFT THICKNESS		in.					
MOISTURE		DEPTH OF SOURCE		in.					

DB FROM TABLES

MB = MA (100) / DB

CC = CA - CB

CF = CD - CE

CG = CF (100) / CC

PC = PA - PB

PD = PC (0.066)

PE = PD (100) / 100 + MB

RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG

SC = SA - SB

SE = SD - SB

SF = SC - SE

SG = SF (100) / SE

DE = DB (100) / DC

$\overline{X} = \frac{\Sigma DE}{5}$

QL = $\frac{\overline{X} - T}{R}$

Field Density Moisture	DA	TOTAL DRY DENSITY		lb/ft³	130		130		131		129		127	
	MA	MOISTURE		lb/ft³	11		9		8		10		11	
	DB	DRY DENSITY -3/4		lb/ft³	128		128		129		127		124	
	MB	MOISTURE		%	9		7		6		8		9	
PLUS 3/4 MATERIAL DETERMINATION	CA	EXC. MATERIAL + PAN		grams	5005									
	CB	PAN		grams	259									
	CC	EXCAVATED MAT.		grams	4746									
	CD	PLUS 3/4 MAT. + PAN		grams	759									
	CE	PAN		grams	259									
	CF	PLUS 3/4 MAT.		grams	500									
	CG	PLUS 3/4 MAT.		%	11		11		11		11		11	
	CH	SPECIFIC GRAVITY			2.7		2.7		2.7		2.7		2.7	
						RERUN		RERUN		RERUN		RERUN		RERUN
ONE POINT PROCTOR	PA	WEIGHT SOIL & MOLD		grams	4100									
	PB	MOLD		grams	2001									
	PC	WEIGHT OF SOIL		grams	2099									
	PD	WET DENSITY		lb/ft³	139									
	PE	DRY DENSITY		lb/ft³	128									
STOVE DRIED MOISTURE	SA	WET WEIGHT + PAN		grams										
	SB	PAN		grams										
	SC	WET WEIGHT		grams										
	SD	DRY WEIGHT + PAN		grams										
	SE	DRY WEIGHT		grams										
	SF	MOISTURE		grams										
	SG	MOISTURE		%										
MOIST. EVAL.	OA	OPTIMUM MOISTURE		%	10		10		10		10		10	
	OB	PLUS / MINUS TOLER.			+3/-4		+3/-4		+3/-4		+3/-4		+3/-4	
	OC	PASS / FAIL			Pass		Pass		Pass		Pass		Pass	
DEN EVAL	DC	MAXIMUM DENSITY		lb/ft³	128		128		128		128		128	
	DE	RELATIVE DENSITY		%	100		100		101		99		97	
LOT EVALUATION	$\overline{X}$	AVERAGE **DE**		%	99.4									
	T	TARGET		%	95									
	QL	QUALITY INDEX			1.10									
	DF	WITHIN TOLERANCE		%	100									
	DG	MIN. FOR 100% PAY		%	80									
	DH	PASS / FAIL			YES	NO								

INSPECTOR'S NAME:

INSPECTOR'S SIGNATURE:

PROJECT'S EVALUATION

CHECKED BY:

DATE:

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER E

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

FORM T-316

MP 207.07.20

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE							
DENSITY		STATION NUMBER		ft.					
MOISTURE		OFFSET		ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE		ft.					
DENSITY		LIFT THICKNESS		in.					
MOISTURE		DEPTH OF SOURCE		in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	122	125	128	129	127
		MA	MOISTURE	lb/ft^3	11	9	10	9	11
		DB	DRY DENSITY -3/4	lb/ft^3	117	120	124	125	122
MB = MA (100) / DB		**MB**	MOISTURE	%	9	7	8	7	9
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	6004				
CC = CA - CB		**CB**	PAN	grams	1009				
CF = CD - CE		**CC**	EXCAVATED MAT.	grams	4995				
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	1894				
		CE	PAN	grams	1009				
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	885				
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	18	18	18	18	18
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.6	2.6	2.6	2.6	2.6
						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3975									
		PB	MOLD	grams	1954									
		PC	WEIGHT OF SOIL	grams	2021									
		PD	WET DENSITY	lb/ft^3	133									
		PE	DRY DENSITY	lb/ft^3	122									
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams										
SE = SD - SB		**SB**	PAN	grams										
SF = SC - SE		**SC**	WET WEIGHT	grams										
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams										
		SE	DRY WEIGHT	grams										
DE = DB (100) / DC		**SF**	MOISTURE	grams										
		SG	MOISTURE	%										
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%	11	11	11	11	11
		OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
		OC	PASS / FAIL		Pass	Pass	Pass	Pass	Pass
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3	124	124	124	124	124
		DE	RELATIVE DENSITY	%	94	98	101	102	100
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%	99.0	INSPECTOR'S NAME:			
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX		0.50				
		DF	WITHIN TOLERANCE	%	90	PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
		DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER F
AUTHORIZATION NUMBER
PROJECT NUMBER
DISTRICT
LOT NUMBER
ITEM NUMBER

FORM T-316
MP 207.07.20

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE							
DENSITY		STATION NUMBER		ft.					
MOISTURE		OFFSET		ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE		ft.					
DENSITY		LIFT THICKNESS		in.					
MOISTURE		DEPTH OF SOURCE		in.					

DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft³	118	120	119	117	120
		MA	MOISTURE	lb/ft³	17	14	16	15	16
		DB	DRY DENSITY -3/4	lb/ft³	115	117	116	113	117
MB = MA (100) / DB		**MB**	MOISTURE	%	15	12	14	13	14
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4839				
CC = CA - CB		**CB**	PAN	grams	306				
CF = CD - CE		**CC**	EXCAVATED MAT.	grams	4533				
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	1229				
		CE	PAN	grams	306				
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	923				
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	20				
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.4	2.4	2.4	2.4	2.4

						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3975	3958								
		PB	MOLD	grams	1954	1954								
		PC	WEIGHT OF SOIL	grams	2021	2004								
		PD	WET DENSITY	lb/ft³	133	132								
		PE	DRY DENSITY	lb/ft³	116	119								
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	1876									
SE = SD - SB		**SB**	PAN	grams	1501									
SF = SC - SE		**SC**	WET WEIGHT	grams	375									
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams	1839									
		SE	DRY WEIGHT	grams	338									
DE = DB (100) / DC		**SF**	MOISTURE	grams	37									
		SG	MOISTURE	%	11									
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%	12	12	12	12	12
		OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
		OC	PASS / FAIL		Pass	Pass	Pass	Pass	Pass
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft³	120	120	120	120	120
		DE	RELATIVE DENSITY	%	96	98	97	94	98
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%	96.6	INSPECTOR'S NAME:			
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX		0.40				
		DF	WITHIN TOLERANCE	%	83	PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
		DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER G

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

FORM T-316

MP 207.07.20

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE							
DENSITY		STATION NUMBER		ft.					
MOISTURE		OFFSET		ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE		ft.					
DENSITY		LIFT THICKNESS		in.					
MOISTURE		DEPTH OF SOURCE		in.					

DB FROM TABLES

MB = MA (100) / DB

CC = CA - CB

CF = CD - CE

CG = CF (100) / CC

PC = PA - PB

PD = PC (0.066)

PE = PD (100) / 100 + MB

RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG

SC = SA - SB

SE = SD - SB

SF = SC - SE

SG = SF (100) / SE

DE = DB (100) / DC

$\overline{X} = \frac{\Sigma DE}{5}$

$QL = \frac{\overline{X} - T}{R}$

Field Density Moisture	DA	TOTAL DRY DENSITY	lb/ft³		108		110		110		111		109	
	MA	MOISTURE	lb/ft³		17		16		16		17		16	
	DB	DRY DENSITY -3/4	lb/ft³		108		110		110		111		109	
	MB	MOISTURE	%		16		15		15		15		15	
PLUS 3/4 MATERIAL DETERMINATION	CA	EXC. MATERIAL + PAN	grams		5245									
	CB	PAN	grams		555									
	CC	EXCAVATED MAT.	grams		4690									
	CD	PLUS 3/4 MAT. + PAN	grams		605									
	CE	PAN	grams		555									
	CF	PLUS 3/4 MAT.	grams		50									
	CG	PLUS 3/4 MAT.	%		1									
	CH	SPECIFIC GRAVITY			2.4		2.4		2.4		2.4		2.4	
						RERUN		RERUN		RERUN		RERUN		RERUN
ONE POINT PROCTOR	PA	WEIGHT SOIL & MOLD	grams		3957	3944								
	PB	MOLD	grams		2003	2003								
	PC	WEIGHT OF SOIL	grams		1954	1941								
	PD	WET DENSITY	lb/ft³		129	128								
	PE	DRY DENSITY	lb/ft³		111	112								
STOVE DRIED MOISTURE	SA	WET WEIGHT + PAN	grams		1111									
	SB	PAN	grams		879									
	SC	WET WEIGHT	grams		232									
	SD	DRY WEIGHT + PAN	grams		1082									
	SE	DRY WEIGHT	grams		203									
	SF	MOISTURE	grams		23									
	SG	MOISTURE	%		14									
MOIST. EVAL.	OA	OPTIMUM MOISTURE	%		15		15		15		15		15	
	OB	PLUS / MINUS TOLER.			+3/-4		+3/-4		+3/-4		+3/-4		+3/-4	
	OC	PASS / FAIL			Pass		Pass		Pass		Pass		Pass	
DEN EVAL	DC	MAXIMUM DENSITY	lb/ft³		112		112		112		112		112	
	DE	RELATIVE DENSITY	%		96		98		98		99		97	
LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%		97.6									
	T	TARGET	%		95									
	QL	QUALITY INDEX			0.87									
	DF	WITHIN TOLERANCE	%		100									
	DG	MIN. FOR 100% PAY	%		80									
	DH	PASS / FAIL	YES		NO									

INSPECTOR'S NAME:

INSPECTOR'S SIGNATURE:

PROJECT'S EVALUATION

CHECKED BY:

DATE:

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER H

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

FORM T-316

MP 207.07.20

GAUGE NUMBER		TEST NUMBER			1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES		Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	116	116	116	116	117
			MA	MOISTURE	lb/ft^3	17	15	15	14	13
			DB	DRY DENSITY -3/4	lb/ft^3	114	114	114	114	115
MB = MA (100) / DB			**MB**	MOISTURE	%	15	13	13	12	11
		PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4839				
CC = CA - CB			**CB**	PAN	grams	339				
CF = CD - CE			**CC**	EXCAVATED MAT.	grams	4500				
CG = CF (100) / CC			**CD**	PLUS 3/4 MAT. + PAN	grams	777				
			CE	PAN	grams	339				
PC = PA - PB			**CF**	PLUS 3/4 MAT.	grams	438				
PD = PC (0.066)			**CG**	PLUS 3/4 MAT.	%	10	10	10	10	10
PE = PD (100) / 100 + MB			**CH**	SPECIFIC GRAVITY		2.5	2.5	2.5	2.5	2.5
						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG		ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3999	3969								
			PB	MOLD	grams	1999	1999								
			PC	WEIGHT OF SOIL	grams	2000	1970								
			PD	WET DENSITY	lb/ft^3	132	130								
			PE	DRY DENSITY	lb/ft^3	115	118								
SC = SA - SB		STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	1542				
SE = SD - SB			**SB**	PAN	grams	1200				
SF = SC - SE			**SC**	WET WEIGHT	grams	342				
SG = SF (100) / SE			**SD**	DRY WEIGHT + PAN	grams	1511				
			SE	DRY WEIGHT	grams	311				
DE = DB (100) / DC			**SF**	MOISTURE	grams	31				
			SG	MOISTURE	%	10				
$\overline{X} = \frac{\Sigma DE}{5}$		MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%	12	12	12	12	12
			OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
			OC	PASS / FAIL		Pass	Pass	Pass	Pass	Pass
$QL = \frac{\overline{X} - T}{R}$		DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3	120	120	120	120	120
			DE	RELATIVE DENSITY	%	95	95	95	95	96
		LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%	95.2	INSPECTOR'S NAME:			
			T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
			QL	QUALITY INDEX		.20				
			DF	WITHIN TOLERANCE	%	68	PROJECT'S EVALUATION			
			DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
			DH	PASS / FAIL	YES	NO	DATE:			

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER I

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

FORM T-316

MP 207.07.20

GAUGE NUMBER		TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS		DATE						
DENSITY		STATION NUMBER	ft.					
MOISTURE		OFFSET	ft.					
GAUGE STANDARD COUNTS		DEPTH BELOW GRADE	ft.					
DENSITY		LIFT THICKNESS	in.					
MOISTURE		DEPTH OF SOURCE	in.					

DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	117		117		117		117		116	
		MA	MOISTURE	lb/ft^3	17		15		15		14		13	
		DB	DRY DENSITY -3/4	lb/ft^3	115		115		115		115		114	
MB = MA (100) / DB		**MB**	MOISTURE	%	15		13		13		12		11	
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	4839									
CC = CA - CB		**CB**	PAN	grams	339									
CF = CD - CE		**CC**	EXCAVATED MAT.	grams	4500									
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	777									
		CE	PAN	grams	339									
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	438									
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	10		10		10		10		10	
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.5		2.5		2.5		2.5		2.5	
						RERUN		RERUN		RERUN		RERUN		RERUN
RERUN PROCTOR **PE (RERUN) =** PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3999	3969								
		PB	MOLD	grams	1999	1999								
		PC	WEIGHT OF SOIL	grams	2000	1970								
		PD	WET DENSITY	lb/ft^3	132	130								
		PE	DRY DENSITY	lb/ft^3	115	118								
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams	1542									
SE = SD - SB		**SB**	PAN	grams	1200									
SF = SC - SE		**SC**	WET WEIGHT	grams	342									
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams	1511									
		SE	DRY WEIGHT	grams	311									
DE = DB (100) / DC		**SF**	MOISTURE	grams	31									
		SG	MOISTURE	%	10									
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%	12		12		12		12		12	
		OB	PLUS / MINUS TOLER.		+3/-4		+3/-4		+3/-4		+3/-4		+3/-4	
		OC	PASS / FAIL		Pass		Pass		Pass		Pass		Pass	
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3	120		120		120		120		120	
		DE	RELATIVE DENSITY	%	96		96		96		96		95	
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%	95.8		INSPECTOR'S NAME:							
		T	TARGET	%	95		INSPECTOR'S SIGNATURE:							
		QL	QUALITY INDEX		0.80									
		DF	WITHIN TOLERANCE	%	100		PROJECT'S EVALUATION							
		DG	MIN. FOR 100% PAY	%	80		CHECKED BY:							
		DH	PASS / FAIL	YES	NO		DATE:							

WEST VIRGINIA DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER J

AUTHORIZATION NUMBER

PROJECT NUMBER

DISTRICT

LOT NUMBER

ITEM NUMBER

FORM T-316

MP 207.07.20

GAUGE NUMBER			TEST NUMBER		1	2	3	4	5
MANUFACTURER'S STANDARDS			DATE						
DENSITY			STATION NUMBER	ft.					
MOISTURE			OFFSET	ft.					
GAUGE STANDARD COUNTS			DEPTH BELOW GRADE	ft.					
DENSITY			LIFT THICKNESS	in.					
MOISTURE			DEPTH OF SOURCE	in.					
DB FROM TABLES	Field Density Moisture	**DA**	TOTAL DRY DENSITY	lb/ft^3	105	117	116	124	111
		MA	MOISTURE	lb/ft^3	16	15	16	12	18
		DB	DRY DENSITY -3/4	lb/ft^3	104	114	113	123	109
MB = MA (100) / DB		**MB**	MOISTURE	%	15	13	14	10	17
	PLUS 3/4 MATERIAL DETERMINATION	**CA**	EXC. MATERIAL + PAN	grams	5003	5121		5346	5224
CC = CA - CB		**CB**	PAN	grams	500	500		500	500
CF = CD - CE		**CC**	EXCAVATED MAT.	grams	4503	4621		4846	4724
CG = CF (100) / CC		**CD**	PLUS 3/4 MAT. + PAN	grams	654	1026		742	833
		CE	PAN	grams	500	500		500	500
PC = PA - PB		**CF**	PLUS 3/4 MAT.	grams	154	526		242	333
PD = PC (0.066)		**CG**	PLUS 3/4 MAT.	%	3	11	11	5	7
PE = PD (100) / 100 + MB		**CH**	SPECIFIC GRAVITY		2.4	2.6	2.6	2.7	2.5
					RERUN	RERUN	RERUN	RERUN	RERUN
RERUN PROCTOR **PE (RERUN)** = PD (100) / 100 + SG	ONE POINT PROCTOR	**PA**	WEIGHT SOIL & MOLD	grams	3901	3985		4108	3954 / 3931
		PB	MOLD	grams	2004	2004		2004	2004 / 2004
		PC	WEIGHT OF SOIL	grams	1897	1981		2104	1950 / 1927
		PD	WET DENSITY	lb/ft^3	125	131		139	129 / 127
		PE	DRY DENSITY	lb/ft^3	109	116		126	110 / 112
SC = SA - SB	STOVE DRIED MOISTURE	**SA**	WET WEIGHT + PAN	grams					1564
SE = SD - SB		**SB**	PAN	grams					1209
SF = SC - SE		**SC**	WET WEIGHT	grams					355
SG = SF (100) / SE		**SD**	DRY WEIGHT + PAN	grams					1524
		SE	DRY WEIGHT	grams					315
DE = DB (100) / DC		**SF**	MOISTURE	grams					40
		SG	MOISTURE	%					13
$\overline{X} = \frac{\Sigma DE}{5}$	MOIST. EVAL.	**OA**	OPTIMUM MOISTURE	%	16	14	14	10	15
		OB	PLUS / MINUS TOLER.		+3/-4	+3/-4	+3/-4	+3/-4	+3/-4
		OC	PASS / FAIL		Pass	Pass	Pass	Pass	Pass
$QL = \frac{\overline{X} - T}{R}$	DEN EVAL	**DC**	MAXIMUM DENSITY	lb/ft^3	109	116	116	126	113
		DE	RELATIVE DENSITY	%	95	98	97	98	96
	LOT EVALUATION	$\overline{X}$	AVERAGE **DE**	%	96.8	INSPECTOR'S NAME:			
		T	TARGET	%	95	INSPECTOR'S SIGNATURE:			
		QL	QUALITY INDEX		0.60				
		DF	WITHIN TOLERANCE	%	96	PROJECT'S EVALUATION			
		DG	MIN. FOR 100% PAY	%	80	CHECKED BY:			
		DH	PASS / FAIL	YES	NO	DATE:			

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number K
Auth. Number
Project Number
District Number
Item Number
Date

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes	12
	Test Site	DA	Dry Density
	1	132
	2	134
DB	Average	133

B	Number of Passes	14
	Test Site	DA	Dry Density
	1	133
	2	135
DB	Average	134

C	Number of Passes	
	Test Site	DA	Dry Density
	1	
	2	
DB	Average	

D	Number of Passes	
	Test Site	DA	Dry Density
	1	
	2	
DB	Average	

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		133
2		135
3		136
4		132
5		135
DC	Max. Density	134

Inspector's Name:
Inspector's Signature:
Project's Evaluation
Checked By:
Date:

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number L
Auth. Number
Project Number
District Number
Item Number
Date

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes	12
	Test Site	DA Dry Density
	1	124
	2	127
DB	Average	126

B	Number of Passes	14
	Test Site	DA Dry Density
	1	127
	2	129
DB	Average	128

C	Number of Passes	16
	Test Site	DA Dry Density
	1	128
	2	130
DB	Average	129

D	Number of Passes	
	Test Site	DA Dry Density
	1	
	2	
DB	Average	

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		128
2		130
3		127
4		126
5		128
DC	Max. Density	128

Inspector's Name:
Inspector's Signature:
Project's Evaluation
Checked By:
Date:

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number M
Auth. Number
Project Number
District Number
Item Number
Date

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes	12
	Test Site	DA Dry Density
	1	140
	2	141
DB	Average	141

B	Number of Passes	14
	Test Site	DA Dry Density
	1	142
	2	143
DB	Average	143

C	Number of Passes	16
	Test Site	DA Dry Density
	1	145
	2	145
DB	Average	145

D	Number of Passes	18
	Test Site	DA Dry Density
	1	146
	2	144
DB	Average	145

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		146
2		144
3		147
4		143
5		145
DC	Max. Density	145

Inspector's Name:
Inspector's Signature:
Project's Evaluation
Checked By:
Date:

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number N
Auth. Number
Project Number
District Number
Item Number
Date

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes	12
	Test Site	DA Dry Density
	1	105
	2	101
DB	Average	103

B	Number of Passes	14
	Test Site	DA Dry Density
	1	106
	2	104
DB	Average	105

C	Number of Passes	16
	Test Site	DA Dry Density
	1	108
	2	107
DB	Average	108

D	Number of Passes	18
	Test Site	DA Dry Density
	1	109
	2	109
DB	Average	109

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		109
2		109
3		108
4		105
5		110
DC	Max. Density	108

Inspector's Name:
Inspector's Signature:
Project's Evaluation
Checked By:
Date:

West Virginia Division of Highways
Materials Control Soil and Testing Division

Lab Number O
Auth. Number
Project Number
District Number
Item Number
Date

FORM T-313
MP 700.00.24

Source of Material:			Length of Test Section:		
Roller Type:			Width of Test Section:		
Roller Weight	Static:	Working:	Gauge Number		
Lift Thickness Compacted:			Manufacturer's Standards		
Depth Below Grade:			Density:	Moisture:	
Depth of Gauge Source:			Standard Counts		
Observed	Yes	No	Density:	Moisture:	

Test Site Number	1	2	3	4	5
Station Number					
Offset					

A	Number of Passes	12
	Test Site	DA Dry Density
	1	131
	2	133
DB	Average	132

B	Number of Passes	14
	Test Site	DA Dry Density
	1	134
	2	134
DB	Average	134

C	Number of Passes	16
	Test Site	DA Dry Density
	1	135
	2	137
DB	Average	136

D	Number of Passes	18
	Test Site	DA Dry Density
	1	136
	2	136
DB	Average	136

DB = $\sum$ DA / 2

DC = $\sum$ DA / 5

Maximum Denisty Determination		
Test Site	DA	Dry Density
1		136
2		136
3		138
4		139
5		132
DC	Max. Density	136

Inspector's Name:
Inspector's Signature:
Project's Evaluation
Checked By:
Date:

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER P
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE	6	4	8	6	4	
	DEPTH OF GAUGE SOURCE	6	4	8	6	4	
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	134	128	145	108	136
	REFERENCE LAB NUMBER	K	L	M	N	O
TEST NUMBER 1	**DE** DRY DENSITY	127	125	139	107	138
	DF % RELATIVE DENSITY	95	98	96	99	101
TEST NUMBER 2	**DE** DRY DENSITY	131	129	144	101	137
	DF % RELATIVE DENSITY	98	101	99	94	101
TEST NUMBER 3	**DE** DRY DENSITY	134	130	141	107	139
	DF % RELATIVE DENSITY	100	102	97	99	102
TEST NUMBER 4	**DE** DRY DENSITY	131	127	138	106	139
	DF % RELATIVE DENSITY	98	99	95	98	102
TEST NUMBER 5	**DE** DRY DENSITY	139	129	139	108	141
	DF % RELATIVE DENSITY	104	101	96	100	104
LOT EVALUATION	$\overline{X}$ AVERAGE **DF**	99.0	100.2	96.6	98.0	102.0
	T TARGET	95	95	95	95	95
	QL QUALITY INDEX	0.44	1.30	0.40	0.50	2.33
	DG % WITHIN TOLERANCE	86	100	83	90	100
	DH MIN. FOR 100% PAY	80	80	80	80	80
	DI PASS / FAIL	Pass	Pass	Pass	Pass	Pass

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER Q
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE						
	DEPTH OF GAUGE SOURCE						
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	137					
	REFERENCE LAB NUMBER	70-1					
TEST NUMBER 1	**DE**	DRY DENSITY	127				
	DF	% RELATIVE DENSITY	93				
TEST NUMBER 2	**DE**	DRY DENSITY	131				
	DF	% RELATIVE DENSITY	96				
TEST NUMBER 3	**DE**	DRY DENSITY	134				
	DF	% RELATIVE DENSITY	98				
TEST NUMBER 4	**DE**	DRY DENSITY	131				
	DF	% RELATIVE DENSITY	96				
TEST NUMBER 5	**DE**	DRY DENSITY	139				
	DF	% RELATIVE DENSITY	101				
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**	96.8				
	T	TARGET	95				
	QL	QUALITY INDEX	0.23				
	DG	% WITHIN TOLERANCE	70				
	DH	MIN. FOR 100% PAY	80				
	DI	PASS / FAIL	FAIL				

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION

CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER R
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE	6	6	6			
	DEPTH OF GAUGE SOURCE	6	6	6			
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	137	137	137			
	REFERENCE LAB NUMBER	70-1	70-1	70-1			
TEST NUMBER 1	**DE**	DRY DENSITY	136	135	139		
	DF	% RELATIVE DENSITY	99	99	101		
TEST NUMBER 2	**DE**	DRY DENSITY	136	137	144		
	DF	% RELATIVE DENSITY	99	100	105		
TEST NUMBER 3	**DE**	DRY DENSITY	134	138	141		
	DF	% RELATIVE DENSITY	98	101	103		
TEST NUMBER 4	**DE**	DRY DENSITY	135	141	138		
	DF	% RELATIVE DENSITY	99	103	101		
TEST NUMBER 5	**DE**	DRY DENSITY	143	142	143		
	DF	% RELATIVE DENSITY	104	104	104		
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**	99.8	101.4	102.8		
	T	TARGET	95	95	95		
	QL	QUALITY INDEX	0.80	1.28	1.95		
	DG	% WITHIN TOLERANCE	100	100	100		
	DH	MIN. FOR 100% PAY	80	80	80		
	DI	PASS / FAIL	Pass	Pass	Pass		

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER S
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE	6	6				
	DEPTH OF GAUGE SOURCE	6	6				
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	140	140				
	REFERENCE LAB NUMBER	70-1	70-1				
TEST NUMBER 1	**DE**	DRY DENSITY	138	140			
	DF	% RELATIVE DENSITY	99	103			
TEST NUMBER 2	**DE**	DRY DENSITY	141	137			
	DF	% RELATIVE DENSITY	101	98			
TEST NUMBER 3	**DE**	DRY DENSITY	143	137			
	DF	% RELATIVE DENSITY	102	98			
TEST NUMBER 4	**DE**	DRY DENSITY	137	140			
	DF	% RELATIVE DENSITY	98	100			
TEST NUMBER 5	**DE**	DRY DENSITY	143	142			
	DF	% RELATIVE DENSITY	102	101			
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**	100.4	100.0			
	T	TARGET	95	95			
	QL	QUALITY INDEX	1.35	1.00			
	DG	% WITHIN TOLERANCE	100	100			
	DH	MIN. FOR 100% PAY	80	80			
	DI	PASS / FAIL	Pass	Pass			

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION

CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER T
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE					
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER					
	BEGINNING STATION					
	ENDING STATION					
MANUFACTURER'S MOISTURE STANDARD	OFFSET					
	DEPTH BELOW GRADE	6	6	6	6	
	DEPTH OF GAUGE SOURCE	6	6	6	6	
	LIFT THICKNESS COMPACTED					
DC FROM TEST SECTION	DENSITY STANDARD					
	MOISTURE STANDARD					

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	132	132	132	132	
	REFERENCE LAB NUMBER	70-1	70-1	70-1	70-1	
TEST NUMBER 1	**DE** DRY DENSITY	128	125	139	127	
	DF % RELATIVE DENSITY	97	95	105	96	
TEST NUMBER 2	**DE** DRY DENSITY	131	129	134	126	
	DF % RELATIVE DENSITY	99	98	102	95	
TEST NUMBER 3	**DE** DRY DENSITY	134	130	131	127	
	DF % RELATIVE DENSITY	102	98	99	96	
TEST NUMBER 4	**DE** DRY DENSITY	126	127	127	128	
	DF % RELATIVE DENSITY	95	96	96	97	
TEST NUMBER 5	**DE** DRY DENSITY	133	129	130	126	
	DF % RELATIVE DENSITY	101	98	98	95	
LOT EVALUATION	$\overline{X}$ AVERAGE **DF**	98.8	97.0	100.0	95.8	
	T TARGET	95	95	95	95	
	QL QUALITY INDEX	0.54	0.67	0.56	0.40	
	DG % WITHIN TOLERANCE	93	100	94	83	
	DH MIN. FOR 100% PAY	80	80	80	80	
	DI PASS / FAIL	Pass	Pass	Pass	Pass	

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION
CHECKED BY: _____ DATE: _____

WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

LAB NUMBER U
AUTH. NUMBER
PROJECT NUMBER
DISTRICT
ITEM NUMBER

FORM T-317
MP 700.00.24

GAUGE #	DATE						
MANUFACTURER'S DENSITY STANDARD	LOT NUMBER						
	BEGINNING STATION						
	ENDING STATION						
MANUFACTURER'S MOISTURE STANDARD	OFFSET						
	DEPTH BELOW GRADE	6	6				
	DEPTH OF GAUGE SOURCE	6	6				
	LIFT THICKNESS COMPACTED						
DC FROM TEST SECTION	DENSITY STANDARD						
	MOISTURE STANDARD						

$$DF = \frac{DE\ (100)}{DC}$$

$$\overline{X} = \frac{\Sigma\ DF}{5}$$

$$QL = \frac{\overline{X} - T}{R}$$

DC	**MAXIMUM DENSITY**	112	118				
	REFERENCE LAB NUMBER	1233	1234				
TEST NUMBER 1	**DE**	DRY DENSITY	110	115			
	DF	% RELATIVE DENSITY	98	97			
TEST NUMBER 2	**DE**	DRY DENSITY	108	116			
	DF	% RELATIVE DENSITY	96	98			
TEST NUMBER 3	**DE**	DRY DENSITY	111	113			
	DF	% RELATIVE DENSITY	99	96			
TEST NUMBER 4	**DE**	DRY DENSITY	109	117			
	DF	% RELATIVE DENSITY	97	99			
TEST NUMBER 5	**DE**	DRY DENSITY	108	113			
	DF	% RELATIVE DENSITY	96	96			
LOT EVALUATION	$\overline{X}$	AVERAGE **DF**	97.2	97.2			
	T	TARGET	95	95			
	QL	QUALITY INDEX	0.73	0.73			
	DG	% WITHIN TOLERANCE	100	100			
	DH	MIN. FOR 100% PAY	80	80			
	DI	PASS / FAIL	Pass	Pass			

INSPECTOR'S NAME: _____
INSPECTOR'S SIGNATURE: _____

PROJECT'S EVALUATION

CHECKED BY: _____ DATE: _____

West Virginia Department of Transportation

Report Fraud, Waste and Abuse

Call the WVDOT

Office of Investigations

HOTLINE

1-866-206-2728

Mail:

WVDOT Office of Investigations
1900 Kanawha Boulevard East
Building #5 Room 503
Charleston, WV 25305

Email:

DOT.Fraud@wv.gov

Designed by the WVDOT Office of Communications