ARIZONA DEPARTMENT OF TRANSPORTATION

SOIL AND AGGREGATE TABULATION

Clear

USE CAPITAL LETTERS

LAB NUMBER | ORG NUMBER | MATL | TYPE | PUR-POSE | TEST LAB | SIZE | SIZE %

TEST NO. | SUFFIX | SAMPLED BY | MO | DAY | YEAR | TIME (MILITARY TIME)

SAMPLED FROM | LIFT NO. | RDWY | STATION (IF MILEPOST, INPUT DECIMAL)

ORIGINAL SOURCE | PROJECT ENGINEER / SUPERVISOR | PROJECT NUMBER | TRACS NUMBER

REMARKS

CONTACT PHONE NO.

Sieve Analysis and Wash (T-27/T-11)

% OVERSIZE: + 3″ | + 6″

WET SAMPLE PREWEIGHT = _____

WET WT. OF - #4 = _____

- #4 SPLIT WET WT. = _____

ACCUMULATIVE WEIGHTS RETAINED	% RET.	% PASS	SPECS.	CUMULATIVE % RET. FINENESS MODULUS
3″				
2 1/2″				
2″				
1 1/2″				
1″				
3/4″				
1/2″				
3/8″				
1/4″				
#4				
- #4				
Total				

IF TOTAL SAMPLE IS WASHED:

UNWASHED WT. = _____

WASHED WT. = _____

ELUTRIATION = _____

DRY WT. OF -#4 SPLIT

ACCUMULATIVE WEIGHTS RETAINED	% RET.	% PASS	SPECS.	
#8				
#10				
#16				
#30				
#40				
#50				
#100				
#200				
-#200				
Total				
Elutri-ation				

Dry Weight

T = AASHTO Tests

			SPECS.
Liquid Limit (LL)	T-89		
Plastic Limit (PL)	T-90		
Plasticity Index (PI) = LL - PL	T-90		
Abrasion method (A,B,C,D)	T-96		
@ 100 Revolutions		%	%
@ 500 Revolutions		%	%
Specific Gravity, OD	T-84 / T-85		
Specific Gravity, SSD			
Specific Gravity, Apparent	T-84 / T-85		
Absorption, H_2O	T-84 / T-85		
Proctor Method			T-99/T-180 Method A,B,C,D
Optimum Moisture		%	
Max. Dry Density		PCF	
Sand Equivalent			
At Least One Fractured Face	T-335	%	
At Least Two Fractured Faces	T-335	%	
Uncompacted Void Content	T-304 A, B, or C		
Moisture Content	T-265 / T-255		
Flakiness Index	ARIZ 233		
Carbonates	ARIZ 238		
pH	T-289		
Resistivity (ohm-cm)	T-288		
Soluble Salts (PPM)	ARIZ 237		
Unit Weight	T-19	PCF	
Voids	T-19	%	
Organic Impurities	T-21		
Clay Lumps	T-112	%	
Chloride Content (PPM)	T-291		
Sulfate Content (PPM)	T-290		
Exchangeable Sodium (%)	ARIZ 729		
Exchangeable Sodium (PPM)	ARIZ 729		
Calcium Carbonate (%)	ARIZ 732		

FINENESS MODULUS = TOTAL CUMULATIVE % RET. / 100

RECEIVED DATE | TEST OPERATOR & DATE | SUPERVISOR

SEE BACK ALSO

Specific Gravity and Absorption of Fine Aggregate (T-84)

Bulk Sp. Gr. (O.D. basis) = $\frac{A}{B + S - C}$ = $\frac{(\quad)}{(\quad) + (\quad) - (\quad)}$ = _____

where: A = mass of oven-dry sample in air, g.
B = mass of pycnometer filled with water, g.
C = mass of pycnometer with sample and water to calibration mark, g.
S = mass of saturated-surface-dry sample, g.

Bulk Sp. Gr. (SSD basis) = $\frac{S}{B + S - C}$ = $\frac{(\quad)}{(\quad) + (\quad) - (\quad)}$ = _____

Apparent Sp. Gr. = $\frac{A}{B + A - C}$ = $\frac{(\quad)}{(\quad) + (\quad) - (\quad)}$ = _____

Absorption, percent = $\frac{S - A}{A} \times 100$ = $\frac{(\quad) - (\quad)}{(\quad)} \times 100$ = _____%

Specific Gravity and Absorption of Coarse Aggregate (T-85)

Bulk Sp. Gr. (O.D. basis) = $\frac{A}{B - C}$ = $\frac{(\quad)}{(\quad) - (\quad)}$ = _____

where: A = mass of oven-dry sample in air, g.
B = mass of saturated-surface-dry sample in air, g.
C = mass of saturated sample in water, g.

Bulk Sp. Gr. (SSD basis) = $\frac{B}{B - C}$ = $\frac{(\quad)}{(\quad) - (\quad)}$ = _____

Apparent Sp. Gr.. = $\frac{A}{A - C}$ = $\frac{(\quad)}{(\quad) - (\quad)}$ = _____

Absorption, percent = $\frac{B - A}{A} \times 100$ = $\frac{(\quad) - (\quad)}{(\quad)} \times 100$ = _____%

TEST OPERATOR & DATE PERFORMED

Coarse Sieve _____
Fine Sieve _____
P.I _____
Abrasion _____
Fine Sp. Gr. _____
Course Sp. Gr. _____
Proctor _____
Sand Equiv. _____
Fractured Faces _____
Uncompacted Voids _____
Moisture _____
Flakiness Index _____
Carbonates _____
pH _____
Resistivity _____
Soluble Salts _____
Unit Weight/Voids _____
Org. Impurities _____
Clay Lumps _____
Chloride Content _____
Sulfate Content _____
Exchangeable Sodium _____
Calcium Carbonates _____

Flakiness Index (Ariz 233)

Sieve Size	1–1/2"	1"	3/4"	1/2"	3/8"	1/4"	#4	#8
% Pass from Sieve Analysis								
% Ret. From Sieve Analysis (F)								
Weight of Test Sample								
Weight Passing Slot								
*Percent Passing Slot (P)								

NOTE: Only the size fractions which have 10 or more percent retained are tested for passing the appropriate slot, and used to determine the Flakiness Index by the equation below.

*Percent Passing Slot (P) = $\frac{\text{Weight Passing Slot}}{\text{Weight of Test Sample}} \times 100$

FLAKINESS INDEX = $\frac{[F(1–1/2") \times P(1–1/2")] + \cdots + [F(\text{No. 8}) \times P(\text{No. 8})]}{[F(1–1/2") + \cdots + F(\text{No. 8})]}$

FLAKINESS INDEX = _____ = _____%

Fractured Particles (T-335)

At least one Fractured Face:
Wt. of Fract. Particles (F) = _____
Wt. of Non-Fract. particles (N) = _____
Wt. of Questionable particles (Q) = _____

$$P = \left(\frac{F + \frac{Q}{2}}{F + Q + N} \right) \times 100$$

At least two Fractured Faces:
Wt. of Fract. Particles (F) = _____
Wt. of Non-Fract. particles (N) = _____
Wt. of Questionable particles (Q) = _____
Fractured Particles = _____(%)

Moisture Content (T-255, T-265) = $\frac{\text{Wet Weight – Dry Weight}}{\text{Dry Weight}} \times 100 = \frac{(\quad) - (\quad)}{(\quad)} \times 100$ = _____%

SAND EQUIVALENT (AASHTO T-176)

SAND READING _____
CLAY READING _____
SAND EQUIV. _____

SAND READING _____
CLAY READING _____
SAND EQUIV. _____

SAND READING _____
CLAY READING _____
SAND EQUIV. _____

AVERAGE SAND EQUIV. = _____

ABRASION (AASHTO T-96)

% Abrasion = $\frac{A - B}{A} \times 100$

Where:
A = Original Mass (5000 ± 10 grams)
B = Plus #12 Material after Abrasion)

100 REV:

_____ x 100 = _____%

500 REV:

_____ x 100 = _____%

TYPE OF ABRASION: _____

UNCOMPACTED VOIDS (T-304 A, B, or C)

MASS OF MEASURE & AGG.
1. _____ g 2. _____ g

MASS OF MEASURE
1. _____ g 2. _____ g

MASS OF AGGREGATE
1. _____ g 2. _____ g

FINE O.D. SPECIFIC GRAVITY
_____

VOLUME OF MEASURE
_____ cm^3

UV =
_____ - (_____ / _____) x 100

UV = _____%

PLASTICITY INDEX (AASHTO T-89 & T-90)

LIQUID LIMIT (LL):
BOTTLE
BOTTLE # _____ TARE WT _____ # BLOWS _____
% MOISTURE =
(WET WT. WITH BOTTLE) – (DRY WT. WITH BOTTLE) x 100
(DR WT. WITH BOTTLE) – (TARE WT. OF BOTTLE)

= $\frac{(\quad) - (\quad)}{(\quad) - (\quad)} \times 100$ = _____%

LIQUID LIMIT = _____ (FOR 25 BLOWS)

PLASTIC LIMIT (PL):
BOTTLE
BOTTLE # _____ TARE WT _____

PLASTIC LIMIT: =
(WET WT. WITH BOTTLE) – (DRY WT. WITH BOTTLE) x 100
(DR WT. WITH BOTTLE) – (TARE WT. OF BOTTLE)

= $\frac{(\quad) - (\quad)}{(\quad) - (\quad)} \times 100$ = _____%

PLASTICITY INDEX (PI):
PI = LL – PL = (_____) – (_____) = _____