# AGGREGATE SAMPLE WORKSHEET

North Dakota Department of Transportation, Materials & Research

SFN 9987 (Rev. 07-2007)

| |
|---|
| PCN |
| Laboratory No. |
| Field Sample No. |
| Pit Location |
| Owner |
| Project |
| County |
| Material/Specification |
| Date Received |
| Date Sampled |
| Sampled From |
| Submitted By |

| (mm) | Ret. | Wt. Ret. Non-Cum. | Wt. Ret. Cum. | % Ret. | % Pass | ND Spec. |
|---|---|---|---|---|---|---|
| 100 | 4" | | | | | |
| 90 | 3 1/2" | | | | | |
| 75 | 3" | | | | | |
| 63 | 2 1/2" | | | | | |
| 50 | 2" | | | | | |
| 37.5 | 1 1/2" | | | | | |
| 25.0 | 1" | | | | | |
| 19.0 | 3/4" | | | | | |
| 16.0 | 5/8" | | | | | |
| 12.5 | 1/2" | | | | | |
| 9.5 | 3/8" | | | | | |
| 4.75 | No. 4 | | | | | |
| Minus No. 4 | | | | | | |
| Wt.Check | | | | | | |
| Original Wt. | | | | | | |
| | | | | | | |

AASHTO T-27 Tested By: _____

## FRACTURED FACES

FF = Percentage of particles with fractured faces

WF = Weight of fractured particles

WQ = Wt. of questionable fract. particles

WA = Weight of total sample

FF = [WF + (WQ/2)]/WA X 100

FF =

ND Spec

| (mm) | Ret. | Wt. Ret. Non-Cum. | Wt. Ret. Cum. | % Ret. | % Pass | % Pass Tot. Smpl. | ND Spec. |
|---|---|---|---|---|---|---|---|
| 2.36 | No. 8 | | | | | | |
| 2.00 | No. 10 | | | | | | |
| 1.18 | No. 16 | | | | | | |
| 600µm | No. 30 | | | | | | |
| 425µm | No. 40 | | | | | | |
| 300µm | No. 50 | | | | | | |
| 150µm | No. 100 | | | | | | |
| 75µm | No. 200 | | | | | | |
| Minus No. 200 | | | | | | | |
| Original Wt. | | | | | | | |
| Wt. After Wash | | | | | | | |
| Wash Loss | | | | | | | |
| Wt.Check | | | | | | | |

Tested By: _____

AASHTO T-27 Tested By: _____

AASHTO T-11 Tested By: _____

## LIGHTWEIGHT PIECES

| + No. 4 Material | | | | – No. 4, + No. 30 Material | | | |
|---|---|---|---|---|---|---|---|
| (A) % Retained on No.4 Sieve | = | | % | (I) Weight of Lt Wt Pieces, -No. 4, + No. 30 Mtrl. | = | | g |
| (B) % Passing No. 30, Total Sample | = | | % | (J) Weight of – No. 4, + No. 30 Material | = | | g |
| (C) % Pass No. 4 – % Pass No. 30, [100–(A+B)] | = | | % | (K) Lt Wt Pieces, – No. 4, + No. 30 (I/J)x100 | = | | % |
| (D) Total Sample A+B+C | = | 100.0 | % | (L) Lt Wt Pieces, – No. 4, + No. 30 Material % of Total Sample (KxC)/100 | = | | % |
| (E) Weight of Lt Wt Pieces in + No. 4 Mtrl. | = | | g | | | | |
| (F) Weight of + No. 4 Material | = | | g | | | | |
| (G) Lt Wt Pieces, + No. 4 Mtrl (E/F)x100 | = | | % | | | | |
| (H) Lt Wt Pieces, + No. 4 Mtrl., % of Total Sample (GxA)/100 | | | | | | | % |
| | | | | (M) Lightweight Pieces in Total Sample (H+L) | = | | % |

AASHTO T-113 Tested By: _____

* Attention Advised

Distribution:

☐ _____ District

☐ Central Lab.

_____ Date

_____ Testing Lab Supervisor

| Laboratory Number |
|---|
| |

## Liquid Limit, Plastic Limit, and Plasticity Index

### Liquid Limit

| | |
|---|---|
| A. Can no. tare weight | |
| B. Can and wet soil | |
| C. Can and dry soil | |
| D. Moisture loss (B - C) | |
| E. Dry soil weight (C - A) | |
| F. Moisture at blows (D/E) x 100 | |
| Moisture corrected (F x K) | |
| G. Liquid Limit | |

AASHTO T 89 tested by: _____

**#Blows**

| |
|---|
| |

| Number of blows N | Factor for Liquid Limit K |
|---|---|
| 22 | 0.985 |
| 23 | 0.990 |
| 24 | 0.995 |
| 25 | 1.000 |
| 26 | 1.005 |
| 27 | 1.009 |
| 28 | 1.014 |

### Plastic Limit

| | |
|---|---|
| H. Can No. tare weight | |
| I. Can and wet soil | |
| J. Can and dry soil | |
| L. Moisture loss (I - J) | |
| M. Dry soil weight (J - H) | |
| Moisture content (L/M) x 100 | |
| O. Plastic Limit | |
| Plastic Index (G - O) | |

AASHTO T 89 tested by: _____

## LA Abrasion

| | | |
|---|---|---|
| Grading Used: ☐ A ☐ B ☐ C ☐ D | (indicate by circling) | |
| Weight of original sample | (A) = | grams |
| Weight of sample retained on No. 12 | (B) = | grams |
| Loss | (C) = | grams |
| LA Abrasion = C/A x 100 | = | % Loss |

AASHTO T-96 Tested By: _____

## Unit Weight

| | |
|---|---|
| Wt. Loose, lbs | lbs/cf |
| Wt. Rodded, lbs | lbs/cf |
| | |

AASHTO T-19 Tested By: _____