# Aggregate Optimization Chart

Production Gradation Report

**PLANT #:** P-32

Sample Date: 10/11/21

Concrete Grade: **DM**

Contractor: _____

Dates Test Represents: 10/12/2021 through 10/18/2021

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft³ | Specific Gravity | % Contribution |
|---|---|---|---|---|---|---|
| 6AA | 71-47 | Presque Isle | 1200 | 7.34 | 2.62 | 41.3 |
| 26A | 71-47 | Presque Isle | 555 | 3.39 | 2.62 | 19.1 |
| 2NS | 95-013 | Smelter Bay | 1150 | 6.95 | 2.65 | 39.6 |
| | | **Total Wt** | **2905** | **17.69** | | 100.0 |

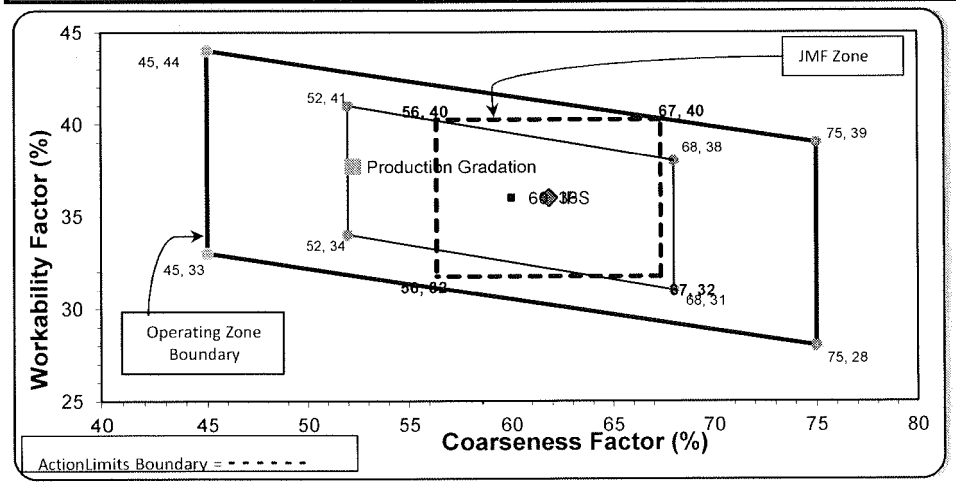
<----- Verify this number is 100%

| Sieve | 6AA | 26A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained |
|---|---|---|---|---|---|---|
| 2" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1" | 99.4 | 100.0 | 100.0 | 99.8 | 0.2 | 0.2 |
| 3/4" | 85.0 | 100.0 | 100.0 | 93.8 | 5.9 | 6.2 |
| 1/2" | 42.8 | 96.9 | 100.0 | 75.8 | 18.0 | 24.2 |
| 3/8" | 24.6 | 85.8 | 100.0 | 66.1 | 9.6 | 33.9 |
| #4 | 4.3 | 20.8 | 96.3 | 43.9 | 22.3 | 56.1 |
| #8 | 2.3 | 6.7 | 83.3 | 35.2 | 8.7 | 64.8 |
| #16 | 2.0 | 3.4 | 68.0 | 28.4 | 6.8 | 71.6 |
| #30 | 1.8 | 2.7 | 48.7 | 20.5 | 7.9 | 79.5 |
| #50 | 1.8 | 2.4 | 24.7 | 11.0 | 9.6 | 89.0 |
| #100 | 1.7 | 2.2 | 7.8 | 4.2 | 6.8 | 95.8 |
| LBW | 1.2 | 1.7 | 1.8 | 1.5 | 2.7 | 98.5 |

*Maximum % Retained must be above the 3/8" sieve.
*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

| Coarseness Factor: | 52 | Workability Factor: | 35 | Adjusted WF | 37.7 |
|---|---|---|---|---|---|




Intial Production Sample (IPS)

| Coarseness Factor: | 62 |
|---|---|
| Workability Factor: | 36 |

| Sieve | Cumulative % Passing | % Retained | Cumulative % Retained |
|---|---|---|---|
| 2" | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 0.0 | 0.0 |
| 1" | 100.0 | 0.0 | 0.0 |
| 3/4" | 95.0 | 5.0 | 5.0 |
| 1/2" | 72.3 | 22.8 | 27.7 |
| 3/8" | 60.4 | 11.8 | 39.6 |
| #4 | 42.6 | 17.8 | 57.4 |
| #8 | 36.0 | 6.6 | 64.0 |
| #16 | 29.5 | 6.5 | 70.5 |
| #30 | 20.3 | 9.2 | 79.7 |
| #50 | 9.5 | 10.8 | 90.5 |
| #100 | 3.4 | 6.1 | 96.6 |
| LBW | 1.3 | 2.1 | 98.7 |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PREPARED BY:
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Approved By:

# Edw. C. Levy Co.

JMT
8911 W. Jefferson
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(313) 429-2429

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Period: 10/10/2021 - 10/16/2021

Name/Title Doug Storey / QC Technician

Report Date 10/14/2021

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|---|---|---|---|---|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 96.3 | % | 95-100 |
| | #8 (2.36mm) | 83.3 | % | 65-95 |
| | #16 (1.18mm) | 68.0 | % | 35-75 |
| | #30 (.6mm) | 48.7 | % | 20-55 |
| | #50 (.3mm) | 24.7 | % | 10-30 |
| | #100 (.15mm) | 7.8 | % | 0-10 |
| | #200 (75µm) | 2.0 | % | |
| | FM | 2.71 | | 2.6-3 |
| | Wash Loss (#200/75um) | 1.8 | % | 0-3 |
| | Total Moisture | 4.3 | % | |

# Edw. C. Levy Co.

JMT
8911 W. Jefferson
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Plant 958-JMT

Product 1067-26A Mod LS

Period: 10/10/2021 - 10/16/2021

Name/Title Doug Storey / QC Technician

Report Date 10/14/2021

| Procedure | Sieve/Test | Result | Unit | 26A Mod LS Spec |
|---|---|---|---|---|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | |
| | 1" (25mm) | 100.0 | % | |
| | 3/4" (19mm) | 100.0 | % | 100-100 |
| | 1/2" (12.5mm) | 96.9 | % | 95-100 |
| | 3/8" (9.5mm) | 85.8 | % | 60-95 |
| | #4 (4.75mm) | 20.8 | % | 5-30 |
| | #8 (2.36mm) | 6.7 | % | 0-12 |
| | #16 (1.18mm) | 3.4 | % | |
| | #30 (.6mm) | 2.7 | % | |
| | #50 (.3mm) | 2.4 | % | |
| | #100 (.15mm) | 2.2 | % | |
| | #200 (75µm) | 1.9 | % | |
| | Wash Loss (#200/75um) | 1.7 | % | 0-3 |
| | Total Moisture | 2.9 | % | |

# Edw. C. Levy Co.

JMT
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Plant 958-JMT

Product 1054-6AA LS PI

Period: 10/10/2021 - 10/16/2021

Name/Title Doug Storey / QC Technician

Report Date 10/14/2021

| Procedure | Sieve/Test | Result | Unit | 6AA LS PI Spec |
|---|---|---|---|---|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | 100-100 |
| | 1" (25mm) | 99.4 | % | 95-100 |
| | 3/4" (19mm) | 85.0 | % | |
| | 1/2" (12.5mm) | 42.8 | % | 30-60 |
| | 3/8" (9.5mm) | 24.6 | % | |
| | #4 (4.75mm) | 4.3 | % | 0-8 |
| | #8 (2.36mm) | 2.3 | % | |
| | #16 (1.18mm) | 2.0 | % | |
| | #30 (.6mm) | 1.8 | % | |
| | #50 (.3mm) | 1.8 | % | |
| | #100 (.15mm) | 1.7 | % | |
| | #200 (75µm) | 1.4 | % | |
| | Wash Loss (#200/75um) | 1.2 | % | 0-2 |
| | Total Moisture | 2.9 | % | |