

# Aggregate Optimization Chart

# Production Gradation Report

**PLANT #:** **P-103**

Sample Date: 8/18/25

Concrete Grade: DM, 4500HP

Contractor: \_\_\_\_\_

Dates Test Represents: 8/19/2025 through 8/25/2025

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	52.5
26A	58-003	Stoneco	250	1.49	2.69	8.5
2NS	63-114	Highland	1150	6.95	2.65	39.0
<b>Total Wt</b>			<b>2950</b>	<b>17.68</b>		<b>100.0</b>

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



**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

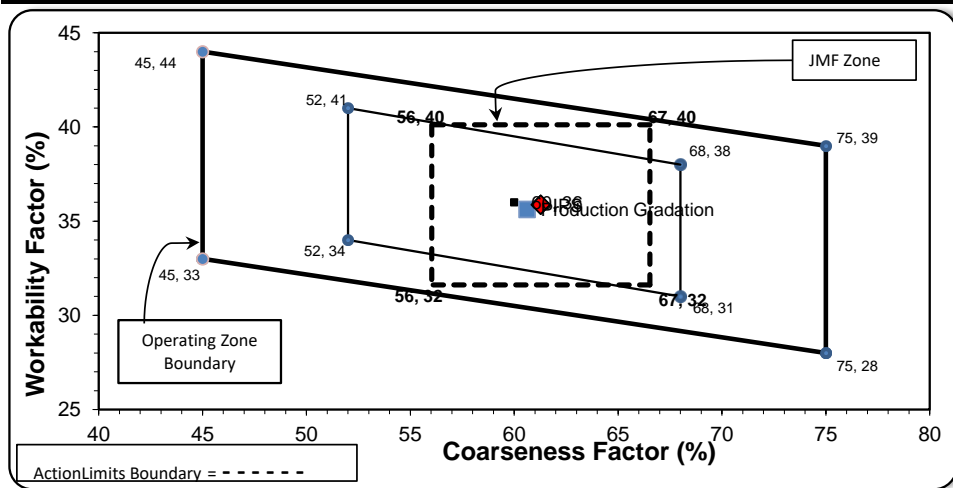
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	86.3	100.0	100.0	92.8	7.2	7.2
1/2"	45.1	97.6	100.0	71.0	21.9	29.0
3/8"	25.2	85.4	100.0	59.5	11.5	40.5
#4	2.6	13.0	98.7	40.9	18.5	59.1
#8	1.1	3.6	82.7	33.1	7.8	66.9
#16	0.9	2.3	65.7	26.3	6.8	73.7
#30	0.8	1.9	46.7	18.8	7.5	81.2
#50	0.7	1.7	22.4	9.2	9.5	90.8
#100	0.7	1.7	4.0	2.1	7.2	97.9
LBW	0.6	1.6	0.8	0.8	1.3	99.2

\*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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations  Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>61</b>	<b>Workability Factor:</b>	<b>33</b>	<b>35.6</b>
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<b>Coarseness Factor:</b>	<b>61</b>
<b>Workability Factor:</b>	<b>36</b>



Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

PREPARED BY:  
 SM, LLC Technical Service

Approved BY:



# Daily Summary Report

Date Wednesday, August 20, 2025

Sample Id	-674928200	-315824751	-315825098
Plant	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton
Product	1022 2NS GR	1051 6AA LS	1067 26A Mod LS
Specification	2NS GR Spec	6AA LS	26A Mod LS Spec
Sample Type	QA	QA	QA
2" (50mm)		100.0	100.0
1 1/2" (37.5mm)		100.0	100.0
1" (25mm)		100.0	100.0
3/4" (19mm)		86.3	100.0
1/2" (12.5mm)		45.1	97.6
3/8" (9.5mm)	100.0	25.2	85.4
#4 (4.75mm)	98.7	2.6	13.0
#8 (2.36mm)	82.7	1.1	3.6
#16 (1.18mm)	65.7	0.9	2.3
#30 (.6mm)	46.7	0.8	1.9
#50 (.3mm)	22.4	0.7	1.7
#100 (.15mm)	4.0	0.7	1.7
#200 (75µm)	1.0	0.68	1.6
Pan	0.0	0.00	0.0
FM	2.80		
Wash Loss (#200/75um)	0.8	0.6	1.6
Total Moisture	3.49	3.45	4.39

# Aggregate Optimization Chart

**PLANT #:** 12

Contractor: \_\_\_\_\_

Sample Date: 8/18/25

Concrete Grade: DM, 4500HP

Dates Test Represents: 8/19/2025 through 8/25/2025

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1355	8.29	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.8
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
<b>Total Wt</b>			<b>2905</b>	<b>17.69</b>		<b>100.0</b>

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



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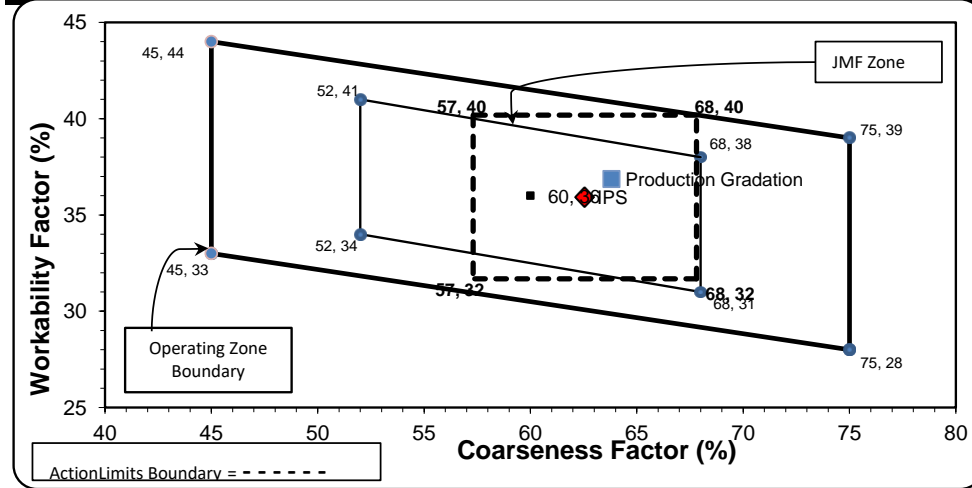
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.7	100.0	100.0	99.4	0.6	0.6
3/4"	85.2	100.0	100.0	93.1	6.3	6.9
1/2"	37.4	98.0	100.0	70.5	22.6	29.5
3/8"	14.3	86.1	100.0	58.1	12.4	41.9
#4	3.1	20.6	98.2	43.2	15.0	56.8
#8	2.0	7.3	81.9	34.4	8.8	65.6
#16	1.8	4.0	62.9	26.3	8.1	73.7
#30	1.8	3.3	44.2	18.8	7.5	81.2
#50	1.7	3.0	20.4	9.3	9.5	90.7
#100	1.6	2.8	4.3	2.8	6.4	97.2
LBW	1.3	2.6	0.8	1.3	1.6	98.7

\*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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>64</b>	<b>Workability Factor:</b>	<b>34</b>	<b>Adjusted WF</b>	<b>36.9</b>	<b>Coarseness Factor:</b>	<b>63</b>
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Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.0	10.3	11.0
1/2"	70.3	18.7	29.7
3/8"	59.9	10.4	40.1
#4	41.9	18.0	58.1
#8	35.9	6.0	64.1
#16	27.8	8.2	72.2
#30	18.9	8.8	81.1
#50	6.3	12.6	93.7
#100	1.7	4.6	98.3
LBW	1.0	0.7	99.0

PREPARED BY:  
 SM, LLC Technical Service

Approved By:

## Daily Summary Report

Date Tuesday, August 19, 2025

Sample Id	-579723035	-1989649439	-199041794
Plant	S000 Onsite Southfield	S000 Onsite Southfield	S000 Onsite Southfield
Product	1022 2NS GR	1051 6AA LS	1067 26A Mod LS
Specification	2NS GR Spec		26A Mod LS Spec
Sample Type	QA	QA	QA

2" (50mm)		100.0	100.0
1 1/2" (37.5mm)		100.0	100.0
1" (25mm)		98.7	100.0
3/4" (19mm)		85.2	100.0
1/2" (12.5mm)		37.4	98.0
3/8" (9.5mm)	100.0	14.3	86.1
#4 (4.75mm)	98.2	3.1	20.6
#8 (2.36mm)	81.9	2.0	7.3
#16 (1.18mm)	62.9	1.8	4.0
#30 (.6mm)	44.2	1.8	3.3
#50 (.3mm)	20.4	1.7	3.0
#100 (.15mm)	4.3	1.6	2.8
#200 (75µm)	0.9	1.47	2.6
Pan	0.0	0.00	0.0
FM	2.88		
-#200 (75um)	0.9		
Wash Loss (#200/75um)	0.8	1.3	2.6
Total Moisture	3.8	2.9	2.9

# Aggregate Optimization Chart

**PLANT #:** p11

Contractor: \_\_\_\_\_

Sample Date: 8/18/25

Concrete Grade: DM, 4500HP

Dates Test Represents: 8/19/2025 through 8/25/2025

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1355	8.29	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.8
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
<b>Total Wt</b>			<b>2905</b>	<b>17.69</b>		<b>100.0</b>

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



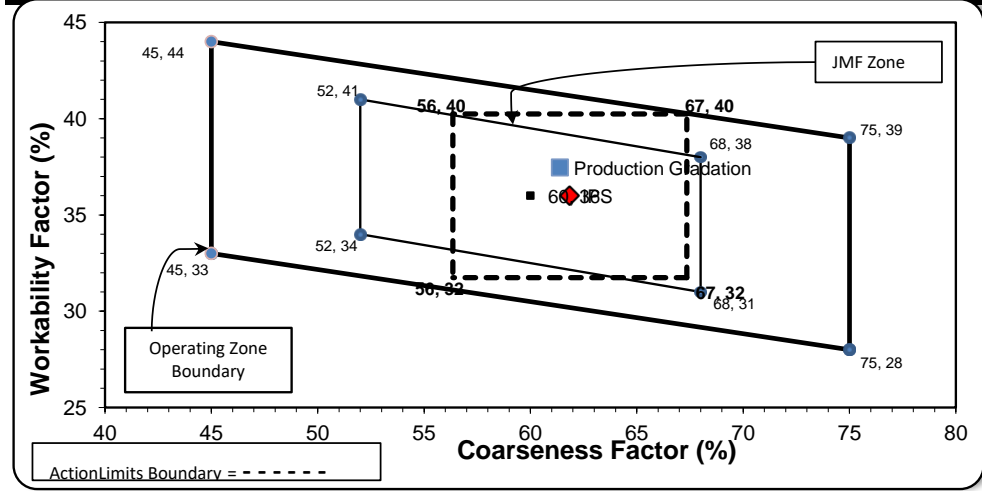
**Superior Materials, LLC**  
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 Farmington Hills, MI 48336

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"	98.4	100.0	100.0	99.3	0.7	0.7
3/4"	76.3	100.0	100.0	88.9	10.3	11.1
1/2"	32.7	98.2	100.0	68.4	20.6	31.6
3/8"	18.7	85.5	100.0	60.1	8.3	39.9
#4	4.3	20.8	98.1	43.7	16.4	56.3
#8	2.8	6.7	82.7	35.0	8.7	65.0
#16	2.5	3.9	63.9	27.0	8.0	73.0
#30	2.4	3.3	44.8	19.3	7.7	80.7
#50	2.3	3.0	20.9	9.8	9.5	90.2
#100	2.1	2.9	4.3	3.1	6.7	96.9
LBW	1.8	2.8	0.3	1.3	1.7	98.7

\*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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations  Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>61</b>	<b>Workability Factor:</b>	<b>35</b>	<b>Adjusted WF</b>	<b>37.5</b>	<b>Coarseness Factor:</b>	<b>62</b>
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<b>Workability Factor:</b>		<b>36</b>	
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

PREPARED BY:  
 SM, LLC Technical Service

Approved By:

## Daily Summary Report

Date Monday, August 18, 2025

Sample Id	-674893908	-674910006	-674978911	-1989649451	-1989649452
Plant	S000 Onsite Jefferson	S000 Onsite Jefferson	S000 Onsite Jefferson	S000 Onsite Jefferson	S000 Onsite Jefferson
Product	1051 6AA LS	7919 COARSE AGG P1M LS	1022 2NS GR	1067 26A Mod LS	7920 INTERMED AGG P1M LS
Specification		Coarse Agg P1M LS Target	2NS GR Spec	26A Mod LS Spec	Intermed Agg P1M LS Target
Sample Type	QA	QA	QA	QA	QA
2" (50mm)	100.0	100.0		100.0	100.0
1 1/2" (37.5mm)	100.0	95.3		100.0	100.0
1" (25mm)	98.4	34.3		100.0	100.0
3/4" (19mm)	76.3	7.4		100.0	99.1
1/2" (12.5mm)	32.7	3.3		98.2	77.7
3/8" (9.5mm)	18.7	2.7	100.0	85.5	53.9
#4 (4.75mm)	4.3	2.3	98.1	20.8	13.8
#8 (2.36mm)	2.8	2.1	82.7	6.7	5.5
#16 (1.18mm)	2.5	2.0	63.9	3.9	4.0
#30 (.6mm)	2.4	1.9	44.8	3.3	3.6
#50 (.3mm)	2.3	1.8	20.9	3.0	3.4
#100 (.15mm)	2.1	1.6	4.3	2.9	3.2
#200 (75µm)	1.88	1.4	0.7	2.8	3.0
Pan	0.00	0.0	0.0	0.0	0.0
FM			2.85		
-#200 (75um)			0.7		
Wash Loss (#200/75um)	1.8	1.3	0.3	2.8	2.9
Total Moisture	2.2	1.9	3.6	3.0	1.7

# Aggregate Optimization Chart

**PLANT #:** **P-02**

Sample Date: 8/18/25

Concrete Grade: DM, 4500HP

Contractor: \_\_\_\_\_

Dates Test Represents: 8/19/2025 through 8/25/2025

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1355	8.29	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.8
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
<b>Total Wt</b>			<b>2905</b>	<b>17.69</b>		<b>100.0</b>

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



**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

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"	99.2	100.0	100.0	99.6	0.4	0.4
3/4"	83.9	100.0	100.0	92.5	7.1	7.5
1/2"	39.2	99.4	100.0	71.6	20.9	28.4
3/8"	20.0	84.2	100.0	60.5	11.0	39.5
#4	3.7	17.6	98.1	43.0	17.5	57.0
#8	2.7	6.5	82.6	34.9	8.1	65.1
#16	2.4	4.2	63.7	26.9	7.9	73.1
#30	2.3	3.5	44.8	19.3	7.6	80.7
#50	2.2	3.0	20.8	9.7	9.6	90.3
#100	2.1	2.6	4.5	3.1	6.6	96.9
LBW	1.8	2.3	0.5	1.4	1.8	98.6

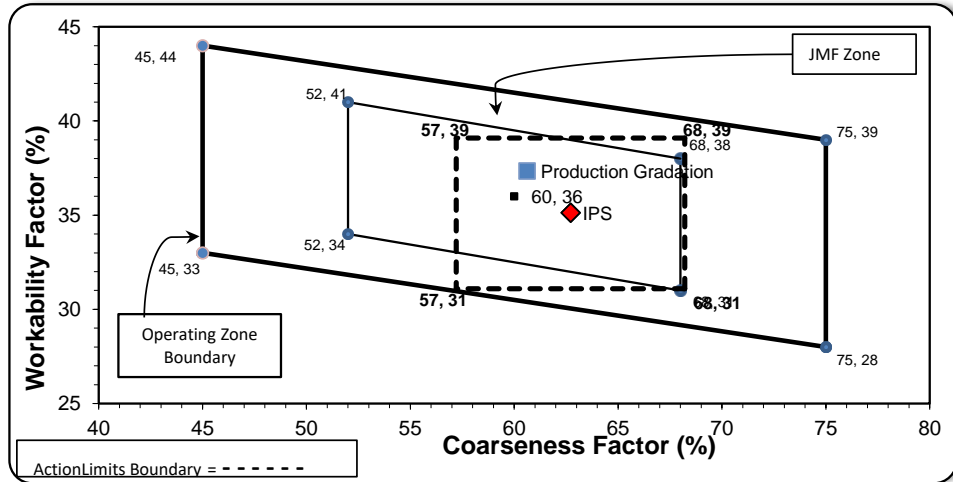
\*Maximum % Retained must be above the 3/8" sieve.  
 \*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations  Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>61</b>	<b>Workability Factor:</b>	<b>35</b>	<b>37.4</b>
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<b>Coarseness Factor:</b>	<b>63</b>
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<b>Workability Factor:</b>	<b>35</b>
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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"	95.1	4.9	4.9
1/2"	74.6	20.5	25.4
3/8"	59.3	15.3	40.7
#4	42.1	17.2	57.9
#8	35.1	7.1	64.9
#16	29.2	5.9	70.8
#30	21.9	7.3	78.1
#50	9.6	12.4	90.4
#100	2.4	7.2	97.6
LBW	0.9	1.5	99.1

PREPARED BY:  
 SM, LLC Technical Service

Approved By:



# Daily Summary Report

Date Tuesday, August 19, 2025

Sample Id	-1989642801	-1989649441	-674913779	-674891524	-1989649450
Plant	Superior Hoover	Superior Hoover	Superior Hoover	Superior Hoover	Superior Hoover
Product	1022 2NS GR	1051 6AA LS	1067 26A Mod LS	7919 COARSE AGG P1M LS	7920 INTERMED AGG P1M LS
Specification	2NS GR Spec	6AA LS	26A Mod LS Spec	Coarse Agg P1M LS Target	Intermed Agg P1M LS Target
Sample Type	QA	QA	QA	QA	QA
2" (50mm)		100.0	100.0	100.0	100.0
1 1/2" (37.5mm)		100.0	100.0	96.7	100.0
1" (25mm)		99.2	100.0	45.7	100.0
3/4" (19mm)		83.9	100.0	12.3	98.6
1/2" (12.5mm)		39.2	99.4	4.7	73.2
3/8" (9.5mm)	100.0	20.0	84.2	3.4	47.7
#4 (4.75mm)	98.1	3.7	17.6	2.6	8.2
#8 (2.36mm)	82.6	2.7	6.5	2.4	3.8
#16 (1.18mm)	63.7	2.4	4.2	2.3	2.7
#30 (.6mm)	44.8	2.3	3.5	2.1	2.4
#50 (.3mm)	20.8	2.2	3.0	2.0	2.2
#100 (.15mm)	4.5	2.1	2.6	1.8	2.0
#200 (75µm)	0.7	1.91	2.4	1.6	1.8
Pan	0.0	0.00	0.0	0.0	0.0
FM	2.86				
Wash Loss (#200/75um)	0.5	1.8	2.3	1.5	1.7
Total Moisture	3.10	2.08	3.17	0.11	0.47