

# Aggregate Optimization Chart

## Production Gradation Report

**PLANT #:** P-32

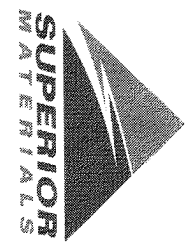
Sample Date: 11/13/23

Dates Test Represents: 11/14/2023 through 11/20/2023

Concrete Grade: S2M, 3500HP

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

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



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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1500	9.17	2.62	49.2
26A	71-47	Presque Isle	320	1.96	2.62	10.5
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3
		<b>Total Wt</b>	<b>3050</b>	<b>18.57</b>		<b>100.0</b>

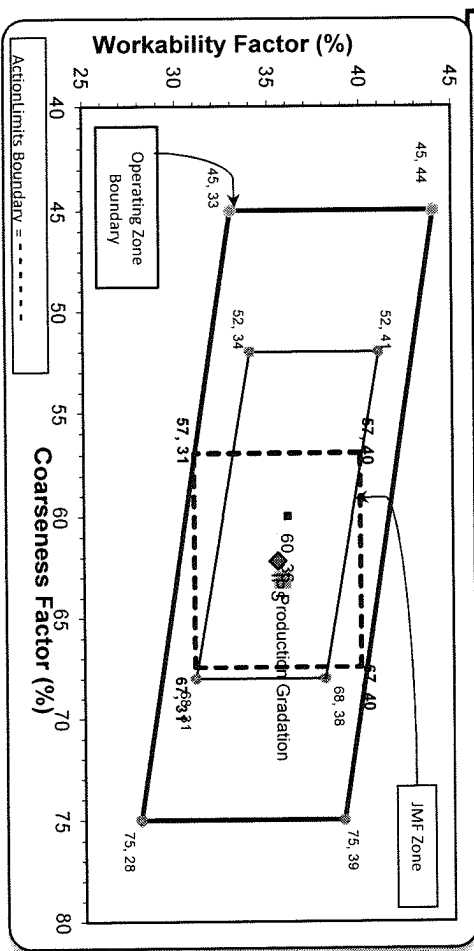
  

Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	96.5	100.0	100.0	98.3	1.7	1.7
3/4"	78.8	100.0	100.0	89.6	8.7	10.4
1/2"	33.1	96.1	100.0	66.7	22.9	33.3
3/8"	20.4	86.2	100.0	59.4	7.3	40.6
#4	4.4	20.4	95.7	42.9	16.5	57.1
#8	2.9	4.2	83.9	35.7	7.2	64.3
#16	2.6	2.4	68.9	29.3	6.4	70.7
#30	2.5	2.0	49.5	21.4	7.9	78.6
#50	2.4	1.8	24.0	11.0	10.4	89.0
#100	2.3	1.8	7.3	4.3	6.8	95.7
LBW	1.8	1.6	1.9	1.8	2.4	98.2

\*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. 1.0") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Coarseness Factor: 63 Workability Factor: 36



Initial Production Sample (IPS)

Sieve	Coarseness Factor:	Workability Factor:	Cumulative % Passing	% Retained	Cumulative % Retained
2"	62	35	100.0	0.0	0.0
1.5"			100.0	0.0	0.0
1"			100.0	0.0	0.0
3/4"			94.0	6.0	6.0
1/2"			70.2	23.7	29.8
3/8"			59.9	10.4	40.1
#4			42.7	17.2	57.3
#8			35.5	7.2	64.5
#16			28.4	7.0	71.6
#30			19.2	9.2	80.8
#50			8.9	10.3	91.1
#100			3.1	5.9	96.9
LBW			1.4	1.7	98.6

PREPARED BY:  
SM, LLC Technical Service

Approved By: \_\_\_\_\_

# Edw. C. Levy Co.

JMT  
 8911 W. Jefferson  
 Detroit, 48209  
 (313) 429-2429

**Plant** 958-JMT

**Product** 1054-6AA LS PI

**Period:** 11/12/2023 - 11/18/2023

**Name/Title** Doug Storey / QC Technician

**Report Date** 11/18/2023

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	96.5	%	95-100
	3/4" (19mm)	78.8	%	
	1/2" (12.5mm)	33.1	%	30-60
	3/8" (9.5mm)	20.4	%	
	#4 (4.75mm)	4.4	%	0-8
	#8 (2.36mm)	2.9	%	
	#16 (1.18mm)	2.6	%	
	#30 (.6mm)	2.5	%	
	#50 (.3mm)	2.4	%	
	#100 (.15mm)	2.3	%	
	#200 (75µm)	2.0	%	
	Wash Loss (#200/75um)	1.8	%	0-2
	Total Moisture	3.4	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 11/12/2023 - 11/18/2023

Report Date 11/18/2023

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)	96.1	%	95-100
	3/8" (9.5mm)	86.2	%	60-95
	#4 (4.75mm)	20.4	%	5-30
	#8 (2.36mm)	4.2	%	0-12
	#16 (1.18mm)	2.4	%	
	#30 (.6mm)	2.0	%	
	#50 (.3mm)	1.8	%	
	#100 (.15mm)	1.8	%	
	#200 (75µm)	1.6	%	
	Wash Loss (#200/75um)	1.6	%	0-3
	Total Moisture	3.5	%	

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 11/12/2023 - 11/18/2023

Report Date 11/18/2023

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	95.7	%	95-100
	#8 (2.36mm)	83.9	%	65-95
	#16 (1.18mm)	68.9	%	35-75
	#30 (.6mm)	49.5	%	20-55
	#50 (.3mm)	24.0	%	10-30
	#100 (.15mm)	7.3	%	0-10
	#200 (75µm)	2.1	%	
	FM	2.71		2.6-3
	Wash Loss (#200/75um)	1.9	%	0-3
	Total Moisture	3.9	%	