Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-32

Sample Date: 12/5/22

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 12/6/2022 through 12/12/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1470	8.99	2.62	48.2
26A	71-47	Presque Isle	350	2.14	2.62	11.5
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3
		Total Wt	**3050**	**18.57**		100.0

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

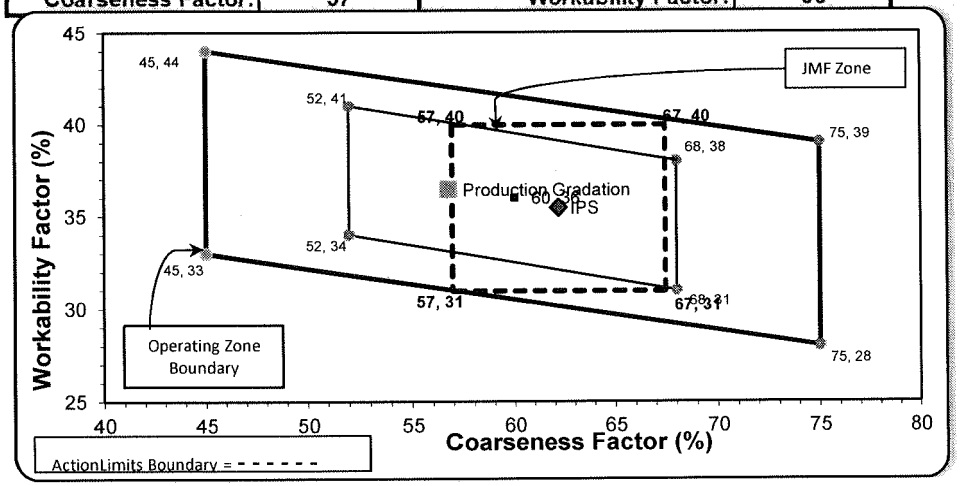
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	97.6	100.0	100.0	98.8	1.2	1.2
3/4"	82.6	100.0	100.0	91.6	7.2	8.4
1/2"	43.4	97.1	100.0	72.4	19.2	27.6
3/8"	27.6	89.7	100.0	63.9	8.5	36.1
#4	6.8	29.7	98.4	46.4	17.6	53.6
#8	3.0	9.1	84.2	36.4	9.9	63.6
#16	2.6	4.0	67.9	29.1	7.4	70.9
#30	2.5	3.0	49.9	21.7	7.4	78.3
#50	2.4	2.6	24.6	11.4	10.3	88.6
#100	2.2	2.4	7.3	4.3	7.1	95.7
LBW	1.9	2.1	1.8	1.9	2.4	98.1

*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.

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

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

Coarseness Factor:	57	Workability Factor:	36



Intial Production Sample (IPS)

Coarseness Factor:	62
Workability Factor:	35

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"	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.

Basic Quality Statistical Summary Report

Plant 958-JMT
Product 1022-2NS GR - Smelter Bay
Specification 2NS GR Spec
Period 12/04/2022 - 12/10/2022

Sieve/Test	Tests	Average	St Dev	Target	Specification
3/8" (9.5mm)	1	100.0			100-100
#4 (4.75mm)	1	98.4			95-100
#8 (2.36mm)	1	84.2			65-95
#16 (1.18mm)	1	67.9			35-75
#30 (.6mm)	1	49.9			20-55
#50 (.3mm)	1	24.6		18-28	10-30
#100 (.15mm)	1	7.3			0-10
#200 (75µm)	1	2.0			
Pan	1	0.0			
FM	1	2.68		2.7-2.9	2.6-3
Wash Loss (#200/75um)	1	1.8			0-3
Total Moisture	1	4.1			

Edw. C. Levy Co.

Basic Quality Statistical Summary Report

Plant 958-JMT
Product 1067-26A Mod LS
Specification 26A Mod LS Spec
Period 12/04/2022 - 12/10/2022

Sieve/Test	Tests	Average	St Dev	Target	Specification
2" (50mm)	1	100.0			
1 1/2" (37.5mm)	1	100.0			
1" (25mm)	1	100.0			
3/4" (19mm)	1	100.0			100-100
1/2" (12.5mm)	1	97.1			95-100
3/8" (9.5mm)	1	89.7			60-95
#4 (4.75mm)	1	29.7			5-30
#8 (2.36mm)	1	9.1			0-12
#16 (1.18mm)	1	4.0			
#30 (.6mm)	1	3.0			
#50 (.3mm)	1	2.6			
#100 (.15mm)	1	2.4			
#200 (75µm)	1	2.1			
Pan	1	0.0			
Wash Loss (#200/75um)	1	2.1			0-3
Total Moisture	1	2.6			

Edw. C. Levy Co.

Basic Quality Statistical Summary Report

Plant 958-JMT
Product 1054-6AA LS PI
Specification 6AA LS PI Spec
Period 12/04/2022 - 12/10/2022

Sieve/Test	Tests	Average	St Dev	Target	Specification
2" (50mm)	1	100.0			
1 1/2" (37.5mm)	1	100.0			100-100
1" (25mm)	1	97.6			95-100
3/4" (19mm)	1	82.6			
1/2" (12.5mm)	1	43.4			30-60
3/8" (9.5mm)	1	27.6			
#4 (4.75mm)	1	6.8			0-8
#8 (2.36mm)	1	3.0			
#16 (1.18mm)	1	2.6			
#30 (.6mm)	1	2.5			
#50 (.3mm)	1	2.4			
#100 (.15mm)	1	2.2			
#200 (75µm)	1	1.9			
Pan	1	0.0			
Wash Loss (#200/75um)	1	1.8			0-2
Total Moisture	1	2.6			