**PLANT #:** P-101

Sample Date:

Concrete Grade: P1M, 3500HP 4/17/23

ates Test F	represents:	4/18/2023	tnrougn	4/24/2023		
gg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1070	6.54	2.62	34.9
IA	71-47	Presque Isle	800	4.89	2.62	26.1
2NS	75-051	Mid Michigan	1200	7.23	2.66	39.1
		Total Wt	3070	18.67		100.0

Contractor:

MDOT No.:



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

	Total Wt	3070	18.67		100.0	< Verify this n	umber is 100%
Sieve	CA	1/	4	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	97.2	10	0.0	100.0	99.0	1.0	1.0
1"	42.0	10	0.0	100.0	79.8	19.2	20.2
3/4"	13.0	98	3.5	100.0	69.3	10.5	30.7
1/2"	2.6	83	3.2	100.0	61.7	7.6	38.3
3/8"	2.1	63	3.7	100.0	56.4	5.3	43.6
#4	2.0	17	7.3	98.0	43.5	12.9	56.5
#8	1.9	4.	.5	83.5	34.5	9.0	65.5
#16	1.9	2	.7	68.7	28.2	6.3	71.8
#30	1.8	2	.3	52.5	21.7	6.5	78.3
#50	1.8	2	.1	26.8	11.7	10.1	88.3
#100	1.7	1.	.9	8.0	4.2	7.4	95.8
LBW	1.4	1.	.7	1.2	1.4	2.8	98.6

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

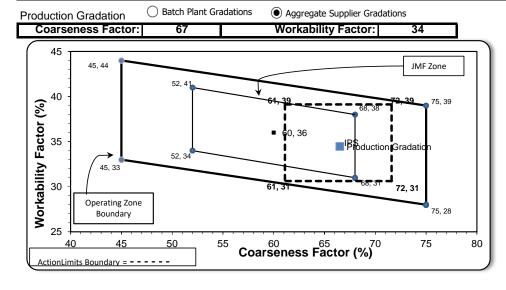
nom. max., #100 and #200 sieves.

\*% Retained must be at least 4% for each sieve except max.,

nom. max., #100 and #200 sieves.

\*% Retained must be at least 8% for the 1" sieve when

a 2" max. size (nom. Max. 1.5") aggregate is used.



Initial Production Sample (IPS)

Coars	eness Factor:	66	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	99.6	0.4	0.4
1"	84.3	15.3	15.7
3/4"	74.8	9.6	25.2
1/2"	64.3	10.4	35.7
3/8"	56.8	7.5	43.2
#4	43.0	13.8	57.0
#8	34.9	8.1	65.1
#16	26.4	8.5	73.6
#30	19.9	6.5	80.1
#50	10.4	9.5	89.6
#100	3.4	7.0	96.6
LBW	1.2	2.2	98.8

**PLANT #:** P-102

Sample Date:

Concrete Grade: P1M, 3500HP 4/17/23

Dates Test Represents:		4/18/2023	through	4/24/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
CA	58-003	Stoneco	1370	8.16	2.69	43.9
IA	58-003	Stoneco	550	3.28	2.69	17.6
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.5

Contractor:

MDOT No.:



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

	Total Wt	3120	18.70		100.0	< Verify this n	umber is 100%
Sieve	CA	1/	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100	0.0	100.0	100.0	0.0	0.0
1.5"	100.0	100	0.0	100.0	100.0	0.0	0.0
1"	66.1	100	0.0	100.0	85.1	14.9	14.9
3/4"	39.2	100	0.0	100.0	73.3	11.8	26.7
1/2"	17.6	93	.2	100.0	62.6	10.7	37.4
3/8"	10.0	78	.9	100.0	56.8	5.9	43.2
#4	2.6	21	.6	96.8	42.2	14.6	57.8
#8	1.6	5.	4	82.4	33.3	8.8	66.7
#16	1.4	2.	9	66.4	26.7	6.7	73.3
#30	1.1	1.	6	48.8	19.5	7.1	80.5
#50	1.1	1.	4	23.5	9.8	9.8	90.2
#100	1.0	1.	3	6.5	3.2	6.6	96.8
LBW	1.0	1.	1	1.3	1.1	2.0	98.9

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

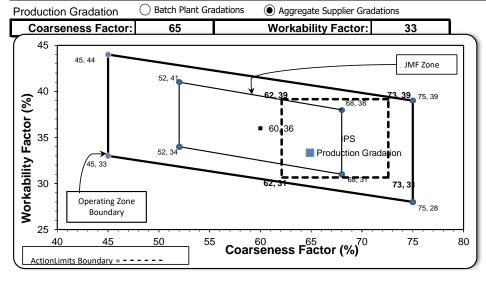
nom. max., #100 and #200 sieves.

\*% 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.



Intial Production Sample (IPS)

Coars	eness Factor:	67	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	85.5	14.5	14.5
3/4"	73.4	12.1	26.6
1/2"	61.0	12.4	39.0
3/8"	56.2	4.8	43.8
#4	43.1	13.1	56.9
#8	34.9	8.2	65.1
#16	29.4	5.5	70.6
#30	21.6	7.8	78.4
#50	8.1	13.4	91.9
#100	2.2	5.9	97.8
LBW	1.4	0.8	98.6

PREPARED BY: SM, LLC Technical Service Approved By:

**Total Wt** 

PLANT #: P-103

Sample Date: 4/17/23 Concrete Grade: P1M, 3500HP

Dates Test F	Represents:	4/18/2023	through	4/24/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
CA	58-003	Stoneco	1370	8.16	2.69	43.9
IA	58-003	Stoneco	550	3.28	2.69	17.6
2NS	81-019	Pleasant Lake	1200	7 26	2 65	38.5

3120

Contractor:

MDOT No.:

100.0



<---- Verify this number is 100%

ined Cumulative % Retained		<u>Superior Materials, LLC</u> 30701 W. 10 Mile Rd.
)	0.0	Suite 500
)	0.0	Farmington Hills, MI 48336

Sieve	CA	IA	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"	66.1	100.0	100.0	85.1	14.9	14.9
3/4"	39.2	100.0	100.0	73.3	11.8	26.7
1/2"	17.6	93.2	100.0	62.6	10.7	37.4
3/8"	10.0	78.9	100.0	56.8	5.9	43.2
#4	2.6	21.6	96.8	42.2	14.6	57.8
#8	1.6	5.4	82.4	33.3	8.8	66.7
#16	1.4	2.9	66.4	26.7	6.7	73.3
#30	1.1	1.6	48.8	19.5	7.1	80.5
#50	1.1	1.4	23.5	9.8	9.8	90.2
#100	1.0	1.3	6.5	3.2	6.6	96.8
LBW	1.0	1.1	1.3	1.1	2.0	98.9

18.70

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

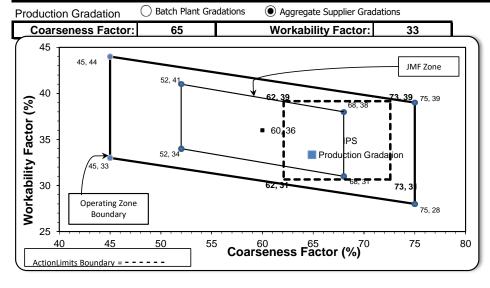
nom. max., #100 and #200 sieves.

 $^{*}\%$  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.



Intial Production Sample (IPS)

Coars	eness Factor:	67	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	85.5	14.5	14.5
3/4"	73.4	12.1	26.6
1/2"	61.0	12.4	39.0
3/8"	56.2	4.8	43.8
#4	43.1	13.1	56.9
#8	34.9	8.2	65.1
#16	29.4	5.5	70.6
#30	21.6	7.8	78.4
#50	8.1	13.4	91.9
#100	2.2	5.9	97.8
LBW	1.4	0.8	98.6

PREPARED BY: SM, LLC Technical Service Approved BY:

July Ball

**PLANT #:** 

Sample Date:

4/17/23 Concrete Grade: P1M, 3500HP

Dates Test Represents:		4/18/2023	through	4/24/2023		
Agg. Class	Pit#	Source	ce Weight (SSD)	ft <sup>3</sup>	Specific	%
Ayy. Class	FIL#	Source		π	Gravity	Contribution
CA	58-003	Stoneco	1400	8.34	2.69	44.9
IA	58-003	Stoneco	520	3.10	2.69	16.7
2NS	19-04	Schlegel	1200	7.20	2.67	38.5
		Total Wt	3120	18.64		100.0

Contractor:

MDOT No.:



Verify this number is 100%

## **Builders Redi-Mix** 30701 W. 10 Mile Rd. Suite 500

Farmington Hills, MI 48336

	10tal Wt 3120 10.04			100.0	< verity this n	umber is 100%
Sieve	CA	IA	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"	66.1	100.0	100.0	84.8	15.2	15.2
3/4"	39.2	100.0	100.0	72.7	12.1	27.3
1/2"	17.6	93.2	100.0	61.9	10.8	38.1
3/8"	10.0	78.9	100.0	56.1	5.8	43.9
#4	2.6	21.6	99.9	43.2	12.9	56.8
#8	1.6	5.4	90.1	36.3	6.9	63.7
#16	1.4	2.9	69.4	27.8	8.5	72.2
#30	1.1	1.6	44.5	17.9	9.9	82.1
#50	1.1	1.4	14.3	6.2	11.6	93.8
#100	1.0	1.3	2.7	1.7	4.5	98.3
LBW	1.0	1.1	0.2	0.7	1.0	99.3

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

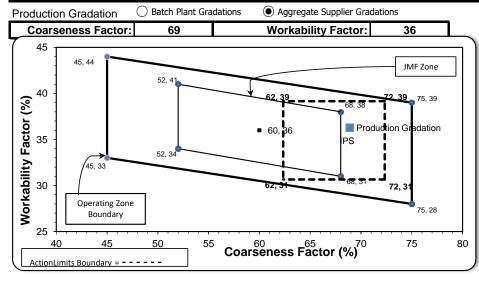
nom. max., #100 and #200 sieves.

\*% 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.



Intial Production Sample (IPS)

Coars	eness Factor:	67	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	85.5	14.5	14.5
3/4"	73.4	12.1	26.6
1/2"	61.0	12.4	39.0
3/8"	56.2	4.8	43.8
#4	43.1	13.1	56.9
#8	34.9	8.2	65.1
#16	29.4	5.5	70.6
#30	21.6	7.8	78.4
#50	8.1	13.4	91.9
#100	2.2	5.9	97.8
LBW	1.4	0.8	98.6

PREPARED BY: SM, LLC Technical Service Approved By:

PLANT #:

Sample Date:

Concrete Grade: P1M, 3500HP 4/17/23

es rest F	Represents:	4/18/2023	tnrougn	4/24/2023		
g. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1070	6.54	2.62	34.9
1.0	74 47	Draggue Iala	750	4.50	2.02	24.4

Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1070	6.54	2.62	34.9
IA	71-47	Presque Isle	750	4.59	2.62	24.4
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
		Total Wt	3070	18.69		100.0

MDOT No.:

Contractor:

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

Total Wt		3070	18.69		100.0	< Verify this n	umber is 100%
Sieve	CA	IA		2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	96.5	10	0.0	100.0	98.8	1.2	1.2
1"	42.3	10	0.0	100.0	79.9	18.9	20.1
3/4"	11.6	97	<b>'</b> .0	100.0	68.5	11.4	31.5
1/2"	3.9	71	.3	100.0	59.5	9.0	40.5
3/8"	2.3	46	6.0	100.0	52.8	6.7	47.2
#4	1.9	8	.0	97.0	42.1	10.6	57.9
#8	1.8	3	.1	81.1	34.4	7.7	65.6
#16	1.7	2	.5	65.8	28.0	6.4	72.0
#30	1.7	2.4		49.8	21.5	6.5	78.5
#50	1.6	2.3		25.8	11.6	9.8	88.4
#100	1.5	2.2		3.2	2.4	9.3	97.6
LBW	1.3	1	.9	0.5	1.1	1.2	98.9

\*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.

Pro	duction Gradation	O Batch Plant Gra	dations    Aggregate Supplier Grad	dations
	Coarseness Facto	or: 72	Workability Factor:	34
7	45, 44	52, 41		JMF Zone
or (%)	40	52, 4	62, 39	<b>72, 39</b> 75, 39
ity Facto	35 -	52, 34	■ 60,¶36	Production Gradation
Workability Factor (%)	Operating Zo		<b>68</b> , 31	<b>72, 31</b> 75, 28
-	25 40 45  ActionLimits Boundary =	50 55	Coarseness Factor (%)	75 80

Intial Production Sample (IPS)

Coars	eness Factor:	67	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	99.6	0.4	0.4
1"	83.9	15.7	16.1
3/4"	74.0	9.8	26.0
1/2"	63.7	10.3	36.3
3/8"	56.4	7.3	43.6
#4	43.0	13.4	57.0
#8	35.1	7.9	64.9
#16	29.0	6.1	71.0
#30	20.9	8.0	79.1
#50	8.1	12.8	91.9
#100	1.6	6.5	98.4
LBW	0.9	0.8	99.1

PLANT #: P11

Sample Date:

4/17/23 Concrete Grade: **P1M**, **3500HP** 

Dates Test Represents:		4/18/2023	through	4/24/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
CA	71-47	Presque Isle	870	5.32	2.62	28.3
IA	71-47	Presque Isle	950	5.81	2.62	30.9
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
	T - 1 -		2	4		4000

Contractor:

MDOT No.:



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

Total Wt		3070	18.69		100.0	< Verify this n	umber is 100%
Sieve	CA	IA		2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	96.5	10	0.0	100.0	99.0	1.0	1.0
1"	42.3	10	0.0	100.0	83.6	15.4	16.4
3/4"	11.6	97	7.0	100.0	74.0	9.6	26.0
1/2"	3.9	71	.3	100.0	63.9	10.1	36.1
3/8"	2.3	46	6.0	100.0	55.6	8.3	44.4
#4	1.9	8	.0	96.2	42.2	13.4	57.8
#8	1.8	3	.1	84.5	35.9	6.3	64.1
#16	1.7	2	.5	69.2	29.4	6.4	70.6
#30	1.7	2.4		50.4	21.7	7.7	78.3
#50	1.6	2.3		24.8	11.3	10.5	88.7
#100	1.5	2.2		6.8	3.9	7.4	96.1
LBW	1.3	1	.9	1.1	1.4	2.5	98.6

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

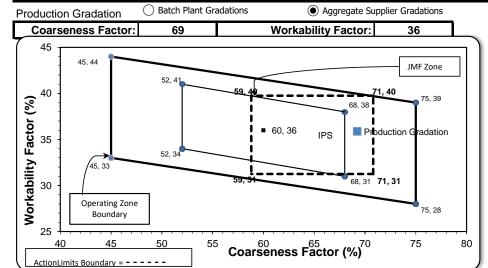
nom. max., #100 and #200 sieves.

 $\ensuremath{^{*}\%}$  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.



Intial Production Sample (IPS)

Coars	eness Factor:	65	
Workability Factor:		36	
Siovo	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0

PREPARED BY: SM, LLC Technical Service Approved By

PLANT #: P-32

Sample Date:

4/17/23 Concrete Grade: **P1M**, **3500HP** 

Dates Test Represents:		4/18/2023	through	4/24/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
CA	71-47	Presque Isle	870	5.32	2.62	28.3
IA	71-47	Presque Isle	950	5.81	2.62	30.9
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7

Contractor:

MDOT No.:



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

	Total Wt	3070	18.69		100.0	< Verify this n	umber is 100%
Sieve	CA	1/	4	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	96.5	10	0.0	100.0	99.0	1.0	1.0
1"	42.3	10	0.0	100.0	83.6	15.4	16.4
3/4"	11.6	97	<b>'</b> .0	100.0	74.0	9.6	26.0
1/2"	3.9	71	.3	100.0	63.9	10.1	36.1
3/8"	2.3	46	6.0	100.0	55.6	8.3	44.4
#4	1.9	8	.0	96.2	42.2	13.4	57.8
#8	1.8	3	.1	84.5	35.9	6.3	64.1
#16	1.7	2	.5	69.2	29.4	6.4	70.6
#30	1.7	2	.4	50.4	21.7	7.7	78.3
#50	1.6	2.	.3	24.8	11.3	10.5	88.7
#100	1.5	2	.2	6.8	3.9	7.4	96.1
LBW	1.3	1.	.9	1.1	1.4	2.5	98.6

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

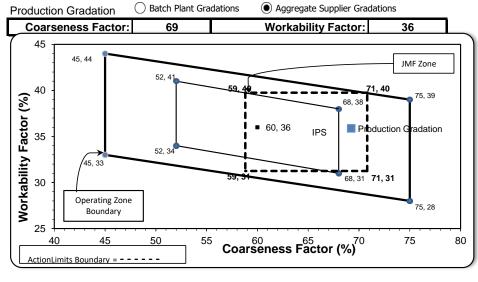
nom. max., #100 and #200 sieves.

 $\ensuremath{^{*}\%}$  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.



Intial Production Sample (IPS)

Coars	eness Factor:	65	
Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0

PREPARED BY:
SM, LLC Technical Service

Approved By:

PLANT #: P-35

Sample Date:

4/17/23 Concrete Grade: P1M, 3500HP

Dates Test F	Represents:	4/10/2023	through	4/24/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
CA	58-003	Stoneco	1370	8.16	2.69	43.9
IA	58-003	Stoneco	550	3.28	2.69	17.6
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.5

Contractor:

MDOT No.:



<---- Verify this number is 100%

e d	
	Suite 500
	Farmington Hills, MI 48336

**Total Wt** 3120 18.70 100.0 Cumulative Cumulative CA IΑ % Retained Sieve 2NS % Passing % 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 66.1 100.0 100.0 85.1 14.9 14.9 3/4" 39.2 100.0 100.0 73.3 11.8 26.7 1/2' 17.6 93.2 100.0 62.6 10.7 37.4 3/8' 10.0 78.9 100.0 43.2 56.8 5.9 42.2 #4 2.6 21.6 96.8 14.6 57.8 #8 1.6 5.4 82.4 33.3 8.8 66.7 #16 1.4 2.9 66.4 26.7 6.7 73.3 #30 80.5 1.1 1.6 48.8 19.5 7.1 #50 1.1 1.4 23.5 9.8 9.8 90.2 #100 1.0 1.3 6.5 3.2 6.6 96.8 LBW 2.0

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

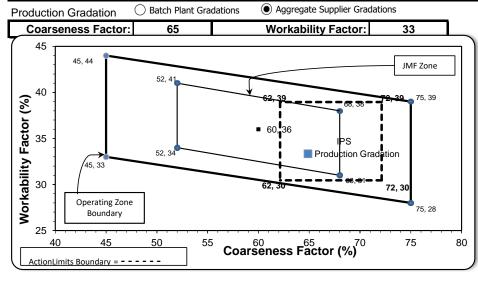
nom. max., #100 and #200 sieves.

\*% 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



Intial Production Sample (IPS)

Coars	eness Factor:	67	
Work	ability Factor:	35	
Siovo	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	86.9	13.1	13.1
3/4"	76.1	10.8	23.9
1/2"	63.7	12.4	36.3
3/8"	56.2	7.5	43.8
#4	43.2	13.0	56.8
#8	34.7	8.5	65.3
#16	27.5	7.2	72.5
#30	20.6	7.0	79.4
#50	9.0	11.6	91.0
#100	2.1	6.9	97.9
LBW	1.0	1.1	99.0

Grange Hall

CA

100.0

96.5

42.3

11.6

3.9

2.3

1.9

1.8

1.7

1.7

1.6

1.5

Total Wt

PLANT #: P-36

Pit#

71-47

71-47

63-92

Agg. Class CA

IΑ

2NS

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

#50

#100

2.65

19.5

3.0

4/17/23 Concrete Grade: P1M, 3500HP Sample Date: Dates Test Represents:

1200

3070

2.3

2.2

:	4/18/2023	through	4/24/2023		
	Source	Weight (SSD)	ft <sup>3</sup>	Specific	%
	Source	weight (SSD)	It	Gravity	Contribution
	Presque Isle	920	5.63	2.62	30.0
	Presque Isle	950	5.81	2.62	30.9

7.26

18.70

MDOT No.:

Contractor:



----- Verify this number is 100%

Cumulative % Retained	Superior Materials, LLC
0.0	Suite 500
1.0	Farmington Hills, MI 48336

IΑ % Retained 2NS % Passing 100.0 100.0 100.0 0.0 100.0 100.0 99.0 1.0 1.0 17.3 100.0 100.0 82.7 16.2 97.0 100.0 72.6 10.1 27.4 71.3 100.0 62.3 10.3 37.7 46.0 100.0 54.0 46.0 8.3 8.0 97.2 41.0 13.0 59.0 3.1 84.6 34.6 6.5 65.4 2.5 69.9 28.6 6.0 71.4 50.2 20.9 79.1 2.4 7.7

8.8

2.3

39.1

Cumulative

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

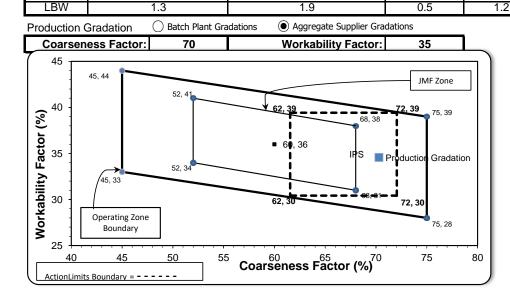
nom. max., #100 and #200 sieves.

\*% 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



Intial Production Sample (IPS)

91.2

97.7

12.1

6.5

Coars	eness Factor:	67	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	85.0	15.0	15.0
3/4"	72.1	12.9	27.9
1/2"	64.5	7.6	35.5
3/8"	56.5	8.0	43.5
#4	42.7	13.8	57.3
#8	34.9	7.8	65.1
#16	29.0	5.9	71.0
#30	21.0	8.0	79.0
#50	8.2	12.8	91.8
#100	1.6	6.5	98.4
LBW	0.7	0.9	99.3

Krake Willis Rd

PLANT #:

44-051

Sample Date:

Agg. Class CA IΑ 2NS

Concrete Grade: P1M, 3500HP 4/17/23

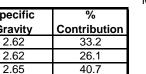
7.56

Dates Test F	Represents:	4/18/2023	through	4/24/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1020	6.24	2.62	33.2
ΙA	71-47	Presque Isle	800	4.89	2.62	26.1

1250

Contractor:

MDOT No.:



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

•	Total Wt	3070	18.69		100.0	< Verify this n	umber is 100%
Sieve	CA	L	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	97.2	10	0.0	100.0	99.1	0.9	0.9
1"	42.0	10	0.0	100.0	80.7	18.3	19.3
3/4"	13.0	98	3.5	100.0	70.7	10.0	29.3
1/2"	2.6	83	3.2	100.0	63.3	7.4	36.7
3/8"	2.1	63	3.7	100.0	58.0	5.2	42.0
#4	2.0	17	7.3	95.3	44.0	14.0	56.0
#8	1.9	4	.5	80.8	34.7	9.3	65.3
#16	1.9	2	.7	64.9	27.8	6.9	72.2
#30	1.8	2	.3	49.7	21.4	6.3	78.6
#50	1.8	2	.1	24.1	11.0	10.5	89.0
#100	1.7	1	.9	7.2	4.0	7.0	96.0
LBW	1.4	1	.7	0.7	1.2	2.8	98.8

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

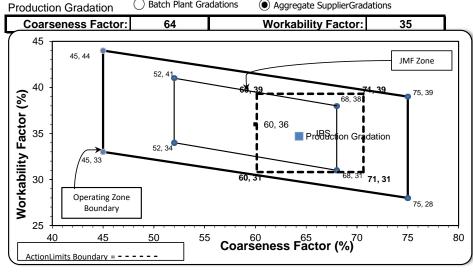
nom. max., #100 and #200 sieves.

\*% 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.



Intial Production Sample (IPS)

Coarseness Factor:		65	
Workability Factor:		35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	99.6	0.4	0.4
1"	83.9	15.7	16.1
3/4"	74.1	9.8	25.9
1/2"	64.3	9.7	35.7
3/8"	57.5	6.8	42.5
#4	44.5	13.1	55.5
#8	35.1	9.4	64.9
#16	27.9	7.2	72.1
#30	21.7	6.2	78.3
#50	12.6	9.1	87.4
#100	3.5	9.1	96.5
LBW	1.2	2.4	98.8

PLANT #: P-O2

PREPARED BY:

SM, LLC Technical Service

Sample Date:

4/17/23 Concrete Grade: **P1M**, **3500HP** 

Dates Test F	Represents:	4/18/2023	through	4/24/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
CA	71-47	Presque Isle	970	5.93	2.62	31.6
IA	71-47	Presque Isle	850	5.20	2.62	27.7
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
		T 1	2	400		4000

MDOT No.:

Contractor:

-

SUPERIOR MATERIALS

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

	I otal Wt	3070 18.69		100.0	< Verify this n	umber is 100%
Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.5	100.0	100.0	98.9	1.1	1.1
1"	42.3	100.0	100.0	81.8	17.1	18.2
3/4"	11.6	97.0	100.0	71.2	10.5	28.8
1/2"	3.9	71.3	100.0	61.7	9.5	38.3
3/8"	2.3	46.0	100.0	54.2	7.5	45.8
#4	1.9	8.0	97.0	42.3	11.9	57.7
#8	1.8	3.1	81.1	34.4	7.9	65.6 r
#16	1.7	2.5	65.8	28.0	6.4	72.0
#30	1.7	2.4	49.8	21.5	6.5	78.5 r
#50	1.6	2.3	25.8	11.6	9.8	88.4
#100	1.5	2.2	3.2	2.4	9.3	97.6

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

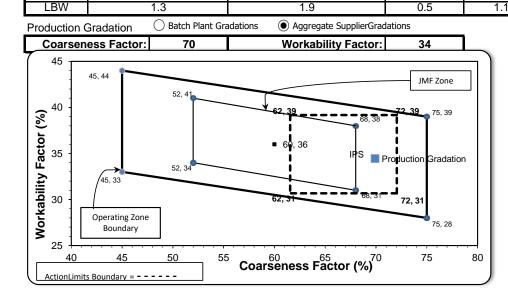
nom. max., #100 and #200 sieves.

 $^{*}\%$  Retained must be at least 4% for each sieve except max.,

nom. max., #100 and #200 sieves.

\*% Retained must be at least 8% for the 1" sieve when

a 2" max. size (nom. Max. 1.5") aggregate is used.



Intial Production Sample (IPS)

98.9

Coarseness Factor:		67	
Workability Factor:		35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	85.0	15.0	15.0
3/4"	72.3	12.7	27.7
1/2"	64.5	7.8	35.5
3/8"	56.5	8.0	43.5
#4	42.7	13.8	57.3
#8	34.9	7.8	65.1
#16	29.0	5.9	71.0
#30	21.0	8.0	79.0
#50	8.2	12.8	91.8
#100	1.6	6.5	98.4
LBW	0.7	0.9	99.3

Approved by: