PLANT #: P-101

Sample Date:

10/23/23 Concrete Grade: P1M, 3500HP

Dates Test F	represents:	10/24/2023	tnrougn	10/30/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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
				40.0		4000

Contractor:

MDOT No.:

SUPER	

Superior Materials, LLC

30701 W. 10 Mile Rd. Suite 500

Farmington Hills, MI 48336

	Total Wt	3070 18.6	7	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"	94.8	100.0	100.0	98.2	1.8	1.8
1"	34.4	100.0	100.0	77.1	21.1	22.9
3/4"	10.8	98.5	100.0	68.5	8.6	31.5
1/2"	3.9	83.2	100.0	62.1	6.4	37.9
3/8"	3.4	63.7	100.0	56.9	5.3	43.1
#4	3.0	17.3	95.8	43.0	13.9	57.0
#8	2.8	4.5	79.4	33.2	9.8	66.8 r
#16	2.7	2.7	63.5	26.5	6.7	73.5
#30	2.6	2.3	48.1	20.3	6.2	79.7 r
#50	2.5	2.1	24.4	11.0	9.4	89.0
#100	2.2	1.9	6.5	3.8	7.2	96.2 a
LBW	1.8	1.7	0.8	1.4	2.4	98.6

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

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

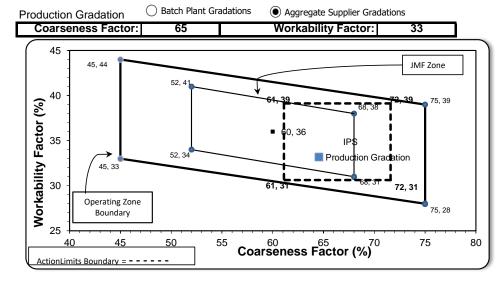
nom. max., #100 and #200 sieves.

*% 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

PREPARED BY: SM, LLC Technical Service

PLANT #: P-102

Sample Date:

10/23/23 Concrete Grade: **P1M, 3500HP**

Dates Test F	Represents:	10/24/2023	through	10/30/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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
7	Farmington Hills, MI 48336

	Total Wt	3120	18.70		100.0	< Verify this n	umber is 100%
Sieve	CA	I.	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	100.0	10	0.0	100.0	100.0	0.0	0.0
1"	59.3	10	0.0	100.0	82.1	17.9	17.9
3/4"	32.1	100.0		100.0	70.2	11.9	29.8
1/2"	13.1	90).2	100.0	60.1	10.1	39.9
3/8"	7.3	74	.2	100.0	54.7	5.4	45.3
#4	2.8	21	.2	98.3	42.8	12.0	57.2
#8	1.9	7.	.6	85.6	35.1	7.7	64.9
#16	1.7	4.	4	68.3	27.8	7.3	72.2
#30	1.5	3	4	48.1	19.8	8.0	80.2
#50	1.4	3	.0	23.5	10.2	9.6	89.8
#100	1.3	2	.8	4.9	2.9	7.2	97.1
LBW	1.1	2	5	0.5	1.1	1.8	98.9

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

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

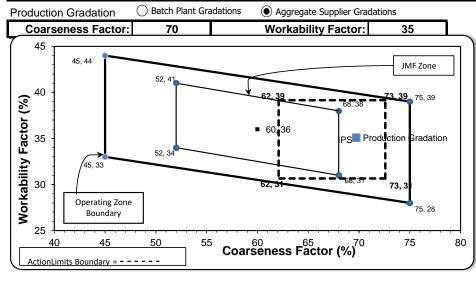
nom. max., #100 and #200 sieves.

 $^{*}\%$ 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

PLANT #: P-103

CA

100.0

100.0

59.3

32.1

13.1

7.3

2.8

1.9

1.7

1.5

Sample Date:

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

10/23/23 Concrete Grade: **P1M**, **3500HP**

Dates Test F	Represents:	10/24/2023	through	10/30/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft ³	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
		Total Wt	3120	18.70		100.0

IΑ

100.0

100.0

100.0

100.0

90.2

74.2

21.2

7.6

4.4

3.4

Coarseness Factor (%)⁷⁰

Contractor:

MDOT No.:

11.9

10.1

5.4

12.0

7.7

7.3

8.0

9.6

7.2

Cumulative

% Passing

100.0

100.0

82.1

70.2

60.1

54.7

42.8

35.1

27.8

19.8

2NS

100.0

100.0

100.0

100.0

100.0

100.0

98.3

85.6

68.3

48.1

75

80

<---- Verify this number is 100%

% Retained	Cumulative % Retained	<u>Superior Materials, LLC</u> 30701 W. 10 Mile Rd.
0.0	0.0	Suite 500
0.0	0.0	Farmington Hills, MI 48336
17.9	17.9	

29.8

39.9

45.3

57.2

64.9

72.2

80.2

89.8

97.1



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

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

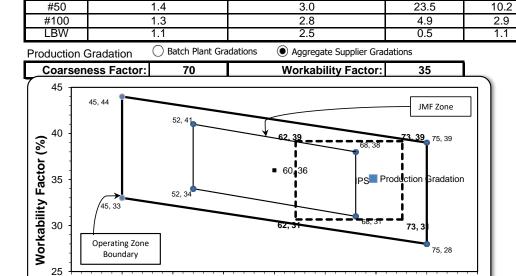
nom. max., #100 and #200 sieves.

 $^{\star}\%$ 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

50

45

ActionLimits Boundary = - - - - -

PLANT #: 12

Sample Date:

Dates Test Represents:

10/23/23 10/24/2023 Contractor:

Concrete Grade: P1M, 3500HP

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1020	6.24	2.62	33.2
IA	71-47	Presque Isle	850	5.20	2.62	27.7
2NS	63-115	Ray Rd	1200	7.26	2.65	39.1
	_	Total Wt	3070	18.70		100.0

through

MDOT No.:

SUPERIOR MATERIALS

Superior Materials, LLC 30701 W. 10 Mile Rd. Suite 500

Farmington Hills, MI 48336

	Total Wt	3070	18.70		100.0	< Verify this n	umber is 100%
Sieve	CA	1.4	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100	0.0	100.0	100.0	0.0	0.0
1.5"	94.2	100	0.0	100.0	98.1	1.9	1.9
1"	33.5	100	0.0	100.0	77.9	20.2	22.1
3/4"	5.4	98	.7	100.0	68.2	9.7	31.8
1/2"	2.5	77.4		100.0	61.3	6.9	38.7
3/8"	2.1	54	.9	100.0	55.0	6.4	45.0
#4	1.8	10	.3	96.4	41.1	13.9	58.9
#8	1.7	2.	8	80.5	32.8	8.3	67.2
#16	1.6	2.	1	64.4	26.3	6.5	73.7
#30	1.5	2.	0	48.4	20.0	6.3	80.0
#50	1.4	1.8		24.1	10.4	9.6	89.6
#100	1.3	1.	8	5.2	3.0	7.4	97.0
LBW	1.2	1.	5	0.8	1.1	1.8	98.9

10/30/2023

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

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

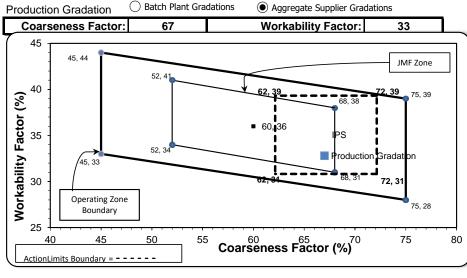
nom. max., #100 and #200 sieves.

*% 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"	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

PREPARED BY: SM, LLC Technical Service

through

Weight (SSD)

920

950

1200

PLANT #: 20

Pit#

71-47

71-47

63-92

Sample Date:

Agg. Class

CA

IΑ

2NS

Dates Test Represents:

10/23/23 10/24/2023

Source

Presque Isle

Presque Isle

Grange Hall

Contractor:

Concrete Grade: P1M, 3500HP

0/30/2023		
ft ³	Specific	%
III.		A
	Gravity	Contribution

2.62

2.65

	MDOT No.:
%	
ntribution	
30.0	
30.9	

39.1

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

	Total Wt	3070	18.70		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"	100.0	10	0.0	100.0	100.0	0.0	0.0
1"	34.7	10	0.0	100.0	80.4	19.6	19.6
3/4"	12.6	97.8		100.0	73.1	7.3	26.9
1/2"	5.1	72.1		100.0	62.9	10.2	37.1
3/8"	4.0	47	' .6	100.0	55.0	7.9	45.0
#4	2.9	10	0.6	96.9	42.0	13.0	58.0
#8	2.6	3	.8	83.6	34.6	7.4	65.4
#16	2.5	2	.7	69.2	28.6	6.0	71.4
#30	2.4	2.5		48.4	20.4	8.2	79.6
#50	2.2	2.3		21.6	9.8	10.6	90.2
#100	2.0	2.2		4.0	2.8	7.0	97.2
LBW	1.6	1	.8	1.2	1.5	1.3	98.5
	0						

5.81

7.26

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

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

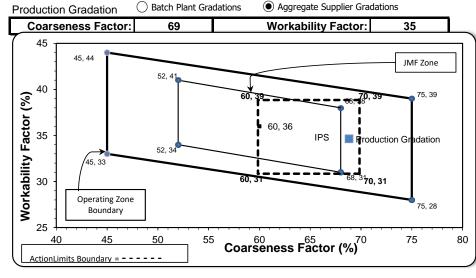
nom. max., #100 and #200 sieves.

*% 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:	65	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	99.1	0.9	0.9
1"	80.8	18.2	19.2
3/4"	71.3	9.6	28.7
1/2"	64.0	7.3	36.0
3/8"	57.7	6.2	42.3
#4	42.8	15.0	57.2
#8	34.8	7.9	65.2
#16	28.4	6.4	71.6
#30	20.2	8.2	79.8
#50	7.6	12.6	92.4
#100	1.6	6.0	98.4
LBW	1.0	0.6	99.0

PREPARED BY: SM, LLC Technical Service

PLANT #: P11

Sample Date:

Concrete Grade: P1M, 3500HP 10/23/23

Dates Test F	represents:	10/24/2023	tnrougn	10/30/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	920	5.63	2.62	30.0
2NS	95-013	Smelter Bay	1200	7.26	2.65	39.1

Contractor:

MDOT No.:

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

	l otal Wt	3070	18.70		100.0	< Verify this n	umber is 100%
Sieve	CA	1/	4	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100	0.0	100.0	100.0	0.0	0.0
1.5"	94.2	100	0.0	100.0	98.2	1.8	1.8
1"	33.5	100	0.0	100.0	79.4	18.8	20.6
3/4"	5.4	98	3.7	100.0	70.3	9.1	29.7
1/2"	2.5	77	'.4	100.0	63.1	7.3	36.9
3/8"	2.1	54	9	100.0	56.2	6.9	43.8
#4	1.8	10).3	96.7	41.4	14.7	58.6
#8	1.7	2.	8	85.4	34.7	6.7	65.3
#16	1.6	2.	.1	70.6	28.7	6.0	71.3
#30	1.5	2.	.0	52.2	21.5	7.3	78.5
#50	1.4	1.	.8	24.8	10.7	10.8	89.3
#100	1.3	1.	8	7.6	3.9	6.8	96.1
LBW	1.2	1.	5	1.7	1.5	2.4	98.5

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

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

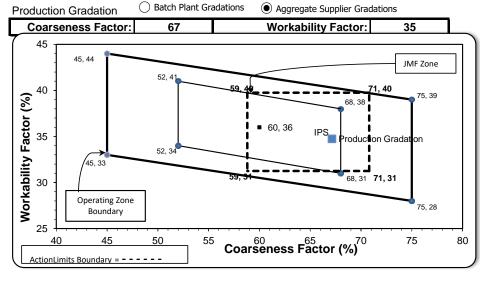
nom. max., #100 and #200 sieves.

*% 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.



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

PLANT #: P-32

Sample Date:

10/23/23 Concrete Grade: P1M, 3500HP

Dates Test I	Represents:	10/24/2023	through	10/30/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	920	5.63	2.62	30.0
2NS	95-013	Smelter Bay	1200	7.26	2.65	39.1

Contractor:

MDOT No.:



---- Verify this number is 100%

ained	Cumulative % Retained	<u>Superior Materials, LLC</u> 30701 W. 10 Mile Rd.
0	0.0	Suite 500

Farmington Hills, MI 48336

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

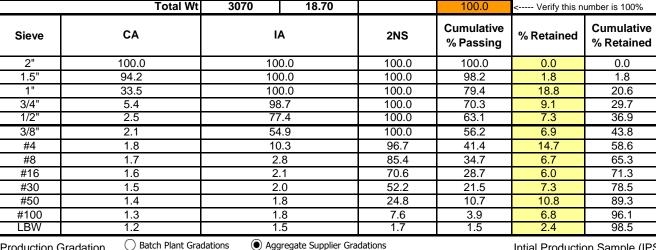
*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.

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

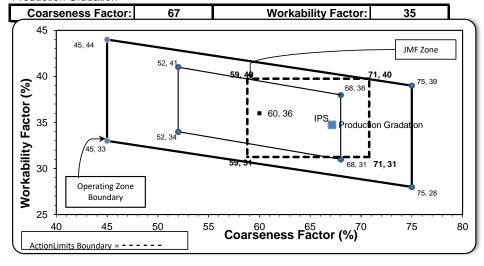
nom. max., #100 and #200 sieves.

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

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



 Batch Plant Gradations **Production Gradation**



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

PLANT #: P-35

Sample Date:

10/23/23 Concrete Grade: **P1M**, **3500HP**

Dates Test F	Represents:	10/24/2023	through	10/30/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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
		Total Wt	2120	19 70		100.0

Contractor:

MDOT No.:

<---- Verify this number 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"	59.3	100.0	100.0	82.1	17.9	17.9
3/4"	32.1	100.0	100.0	70.2	11.9	29.8
1/2"	13.1	90.2	100.0	60.1	10.1	39.9
3/8"	7.3	74.2	100.0	54.7	5.4	45.3
#4	2.8	21.2	98.3	42.8	12.0	57.2
#8	1.9	7.6	85.6	35.1	7.7	64.9
#16	1.7	4.4	68.3	27.8	7.3	72.2
#30	1.5	3.4	48.1	19.8	8.0	80.2
#50	1.4	3.0	23.5	10.2	9.6	89.8
#100	1.3	2.8	49	29	7.2	97 1

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

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

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

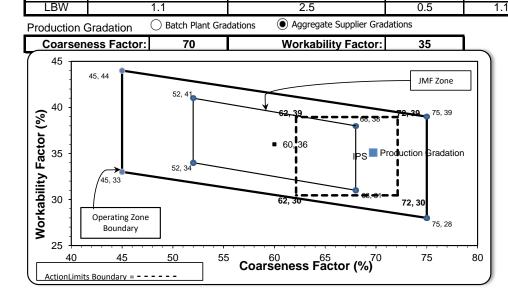
nom. max., #100 and #200 sieves.

 $\ensuremath{^{*}\%}$ 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:	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"	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

PREPARED BY:
SM, LLC Technical Service

Grange Hall

Total Wt

PLANT #: P-36

Pit#

71-47

71-47

Sample Date:

Agg. Class

CA

IΑ

2NS

10/23/23 Concrete Grade: P1M, 3500HP

Dates Test Represents: 10/24/2023 10/30/2023 through Specific % ft³ Source Weight (SSD) Gravity Contribution Presque Isle 1000 6.12 2.62 32.6 Presque Isle 870 5.32 2.62 28.3 63-92 1200 7.26 2.65 39.1

18.70

3070

Contractor:

MDOT No.:

100.0



<---- Verify this number is 100%

mulative Retained	
Retained	30701 W. 10 Mile Rd.
0.0	Suite 500
	F

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"	94.2	100.0	100.0	98.1	1.9	1.9
1"	33.5	100.0	100.0	78.3	19.8	21.7
3/4"	5.4	98.7	100.0	68.8	9.5	31.2
1/2"	2.5	77.4	100.0	61.8	7.0	38.2
3/8"	2.1	54.9	100.0	55.3	6.5	44.7
#4	1.8	10.3	96.9	41.4	13.9	58.6
#8	1.7	2.8	83.6	34.0	7.4	66.0
#16	1.6	2.1	69.2	28.2	5.9	71.8
#30	1.5	2.0	48.4	20.0	8.2	0.08
#50	1.4	1.8	21.6	9.4	10.6	90.6
#100	1.3	1.8	4.0	2.5	6.9	97.5

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

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

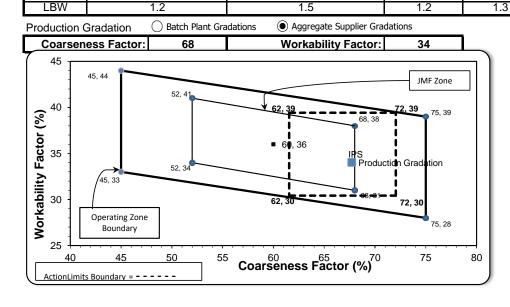
nom. max., #100 and #200 sieves.

*% 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.



Intial Production Sample (IPS)

98.7

Coars	Coarseness Factor:		
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

PREPARED BY: SM, LLC Technical Service

10/24/2023

PLANT #: P-39

Sample Date:

Dates Test Represents:

Concrete Grade: P1M, 3500HP 10/23/23

	10/30/2023		
, C	ft ³	Specific	%
SD)	π	Gravity	Contribution
	6 24	2.62	33.3

Contractor:

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1020	6.24	2.62	33.2
IA	71-47	Presque Isle	800	4.89	2.62	26.1
2NS	44-051	Krake Willis Rd	1250	7.56	2.65	40.7
		Total Wt	3070	18.69		100.0

through

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"	94.8	10	0.0	100.0	98.3	1.7	1.7
1"	34.4	10	0.0	100.0	78.2	20.1	21.8
3/4"	10.8	98	3.5	100.0	70.0	8.2	30.0
1/2"	3.9	83.2		100.0	63.7	6.3	36.3
3/8"	3.4	63.7		100.0	58.4	5.2	41.6
#4	3.0	17.3		98.8	45.7	12.7	54.3
#8	2.8	4.5		84.6	36.5	9.2	63.5
#16	2.7	2.7		68.9	29.7	6.9	70.3
#30	2.6	2.3		50.2	21.9	7.8	78.1
#50	2.5	2.1		21.6	10.2	11.7	89.8
#100	2.2	1.9		4.5	3.1	7.1	96.9
LBW	1.8	1.7		0.7	1.3	1.7	98.7

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

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

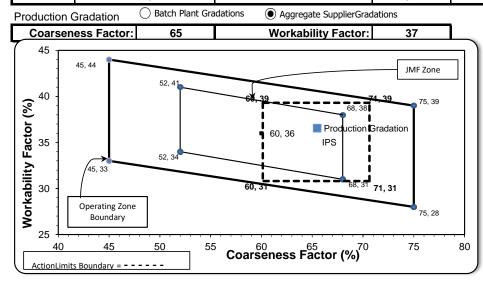
nom. max., #100 and #200 sieves.

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

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

*% Retained must be at least 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:		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

PREPARED BY: SM, LLC Technical Service

PLANT #: P-02

Sample Date:

Concrete Grade: P1M, 3500HP 10/23/23

Dates Test Represents:		10/24/2023	tnrougn	10/30/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1020	6.24	2.62	33.2
IA	71-47	Presque Isle	850	5.20	2.62	27.7
2NS	63-115	Ray Rd	1200	7.26	2.65	39.1
			00=0	-		4000

Contractor:

MDOT No.:



llative ained	<u>Superior Materials, LLC</u> 30701 W. 10 Mile Rd.
.0	Suite 500
.9	Farmington Hills, MI 48336

	Total Wt	3070	18.70		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"	94.2	10	0.0	100.0	98.1	1.9	1.9
1"	33.5	10	0.0	100.0	77.9	20.2	22.1
3/4"	5.4	98	3.7	100.0	68.2	9.7	31.8
1/2"	2.5	77.4		100.0	61.3	6.9	38.7
3/8"	2.1	54.9		100.0	55.0	6.4	45.0
#4	1.8	10.3		96.4	41.1	13.9	58.9
#8	1.7	2.8		80.5	32.8	8.3	67.2
#16	1.6	2.1		64.4	26.3	6.5	73.7
#30	1.5	2.0		48.4	20.0	6.3	80.0
#50	1.4	1.8		24.1	10.4	9.6	89.6
#100	1.3	1.8		5.2	3.0	7.4	97.0
LBW	1.2	1.	.5	0.8	1.1	1.8	98.9

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

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

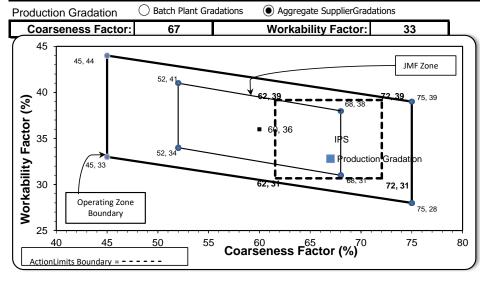
nom. max., #100 and #200 sieves.

*% 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"	85.0	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

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