PLANT #: P-102

Concrete Grade: DM, 4500HP 11/4/24 Sample Date: 11/5/2024

Contractor:

Dates Test Represents:		11/5/2024	through	11/11/2024		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1450	8.64	2.69	49.2
26A	58-003	Stoneco	350	2.09	2.69	11.9
SINC	62-11/	Highland	1150	6.05	2.65	30.0

MDOT No.:



ative	
ined	30701 W. 10 Mile Rd.
	Suite 500
	Farmington Hills, MI 48336

	Total Wt	2950 17.68	3	100.0	< Verify this n	umber 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"	99.4	100.0	100.0	99.7	0.3	0.3
3/4"	81.9	100.0	100.0	91.1	8.6	8.9
1/2"	43.2	99.2	100.0	72.0	19.1	28.0
3/8"	19.1	86.0	100.0	58.6	13.4	41.4
#4	2.9	9.4	99.1	41.2	17.4	58.8
#8	1.7	3.2	85.8	34.7	6.5	65.3
#16	1.1	1.7	67.9	27.2	7.5	72.8
#30	1.0	1.5	47.8	19.3	7.9	80.7
#50	1.0	1.4	22.3	9.4	10.0	90.6
#100	1.0	1.4	4.8	2.5	6.8	97.5
LBW	0.9	1.4	0.5	0.8	1.7	99.2

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

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

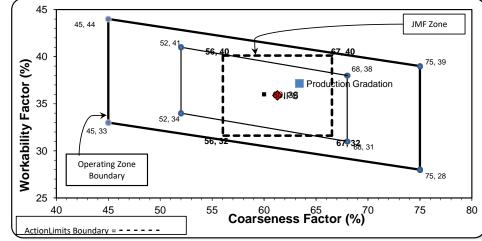
nom. max., #100 and #200 sieves.

*% 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	ion OBatch Plant Gradations Aggregate Supplier Gradations			Adjusted WF	Intial Production Sample (IPS	PS)	
Coarseness Factor:	63		Workability Factor:	35	37.2	Coarseness Factor:	61
45 -						Workability Factor:	36



	, , , , , , , , , , , , , , , , , , , ,		
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

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PLANT #: P-103

Sample Date: 11/4/24 through

Concrete Grade: DM, 4500HP

Dates Test F	Represents:	11/5/2024	through	11/11/2024		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1450	8.64	2.69	49.2
26A	58-003	Stoneco	350	2.09	2.69	11.9
2NS	63-114	Highland	1150	6.95	2.65	39.0
		Total Wt	2950	17.68		100.0

MDOT No.:

Verify this number is 100%

Contractor:

SUPERIOR	

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Suite 500
Farmington Hills, MI 48336

Total		11100		100.0	voiny this nambor is 10070		
Sieve	6AA	20	6A	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"	99.4	10	0.0	100.0	99.7	0.3	0.3
3/4"	81.9	10	0.0	100.0	91.1	8.6	8.9
1/2"	43.2	99	9.2	100.0	72.0	19.1	28.0
3/8"	19.1	80	6.0	100.0	58.6	13.4	41.4
#4	2.9	9	.4	99.1	41.2	17.4	58.8
#8	1.7	3	.2	85.8	34.7	6.5	65.3
#16	1.1	1	.7	67.9	27.2	7.5	72.8
#30	1.0	1	.5	47.8	19.3	7.9	80.7
#50	1.0	1	.4	22.3	9.4	10.0	90.6
#100	1.0	1	.4	4.8	2.5	6.8	97.5
LBW	0.9	1	.4	0.5	0.8	1.7	99.2

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

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

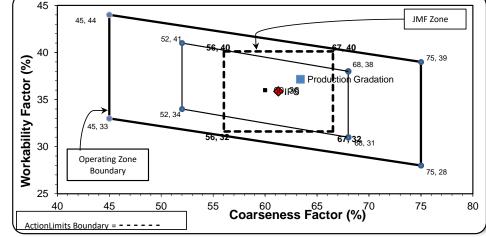
nom. max., #100 and #200 sieves.

*% 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 Grace	ant Gradations		Adjusted WF	Intial Production Sample (IPS))	
Coarseness Factor:	63	Worka	bility Factor:	35	37.2	Coarseness Factor:	61
45 -					J	Workability Factor:	36



Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

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Aggregate Optimization Chart

Ray Rd

Total Wt

Batch Plant Gradations

PLANT #:

63-115

Sample Date:

2NS

Production Gradation

Concrete Grade: DM, 4500HP 11/4/24

6.95

17.69

2.65

39.6

100.0

Dates Test Represents:		11/5/2024	through	11/11/2024		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1500	9.17	2.62	51.6
26A	71-47	Presque Isle	255	1.56	2.62	8.8

1150

2905

MDOT No.:

Adjusted WF Intial Production Sample (IPS)

Coarseness Factor:

Contractor:



-- 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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	81.0	100.0	100.0	90.2	9.8	9.8

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Farmington Hills, MI 48336

Sieve	6AA	26A	2NS	% Passing	% Retained	% 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"	81.0	100.0	100.0	90.2	9.8	9.8
1/2"	44.8	95.4	100.0	71.1	19.1	28.9
3/8"	26.9	83.4	100.0	60.8	10.3	39.2
#4	4.8	18.9	98.0	42.9	17.9	57.1
#8	2.1	5.0	81.2	33.7	9.3	66.3
#16	1.8	2.9	65.5	27.1	6.6	72.9
#30	1.6	2.5	50.1	20.9	6.2	79.1
#50	1.6	2.3	26.2	11.4	9.5	88.6
#100	1.5	2.2	5.9	3.3	8.1	96.7
LBW	1.3	2.1	1.3	1.4	1.9	98.6

Aggregate Supplier Gradations

*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.

Coarseness Factor:	59	Workability Factor:	34	36.2
45 45, 44 45, 44 45, 33 Operating Zone Boundary	52, 41	57, 40 68, 40 68, 38 68, 38 68, 31	75, 39 75, 28	
40 45 ActionLimits Boundary =	50 55	Coarseness Factor (%)	75	80

Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

63

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Aggregate Optimization Chart

Total Wt

PLANT #: p11 Contractor:

17.69

Sample Date: 11/4/24 Concrete Grade: DM, 4500HP 11/5/2024 11/11/2024 Dates Test Represents: through

Dates Test Nepresents.		11/3/2024	unougn	11/11/2024		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1500	9.17	2.62	51.6
26A	71-47	Presque Isle	255	1.56	2.62	8.8
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6

2905

MDOT No.:

9.5

8.1

1.9

100.0

11.4

3.3

1.4



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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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	81.0	100.0	100.0	90.2	9.8	9.8
1/2"	44.8	95.4	100.0	71.1	19.1	28.9
3/8"	26.9	83.4	100.0	60.8	10.3	39.2
#4	4.8	18.9	98.0	42.9	17.9	57.1
#8	2.1	5.0	81.2	33.7	9.3	66.3
#16	1.8	2.9	65.5	27.1	6.6	72.9
#30	1.6	2.5	50.1	20.9	6.2	79.1

26.2

5.9

1.3

2.3

2.2

2.1

*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 4% for the 3/4" sieve when

a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation	Batch Plant Gr	adations	ons	Adjusted WF	Intial Product	ion Sample (IPS)
Coarseness Fact	tor: 59	Workability Factor:	34	36.2	Coars	seness Factor:
45				$\neg \overline{}$	Worl	kability Factor:
45, 44			JMF Zone	7	Sieve	Cumulative
-	52, 41		33311 20110	J	Sieve	% Passing
40	02, 1	67, 40		- 11	2"	100.0
(%)		68, 38	75, 39	- 11	1.5"	100.0
				- 11	1"	100.0
Factor 35		🔲 🗗 rogujugos Gradation		- 11	3/4"	95.0
35 -		i il		- 11	1/2"	72.3
	52, 34	<u> </u>		- 11	3/8"	60.4
Operating Bounda		0.32		- 11	#4	42.6
= 30		67, 32 68, 31		- 11	#8	36.0
Operating	7one		\longrightarrow	- 11	#16	29.5
Bounda			75, 28	- 11	#30	20.3
S 25 L L					#50	9.5
40 45	50 5	5 60 65 70	75	80	#100	3.4
		5 Coarseness Factor (%)	. 0	33	LBW	1.3
ActionLimits Boundary	=					•

Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Oleve	% Passing	Retained	% 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

88.6

96.7

98.6

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1.6

1.5

1.3

#50

#100

LBW

PLANT #: **P-02**

Sample Date: 11/4/24 Concrete Grade: DM, 4500HP

MDOT No.:

Contractor:

Dates Test Represents:		11/5/2024	through	11/11/2024			
	Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
	6AA	71-47	Presque Isle	1500	9.17	2.62	51.6
	26A	71-47	Presque Isle	255	1.56	2.62	8.8
	2NS	63-115	Ray Rd	1150	6.95	2.65	39.6

SUPERIOR	

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	l otal Wt	2905	17.69		100.0	< Verify this n	umber is 100%
Sieve	6AA	26	26A		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"	100.0	10	0.0	100.0	100.0	0.0	0.0
3/4"	81.0	10	0.0	100.0	90.2	9.8	9.8
1/2"	44.8	95	5.4	100.0	71.1	19.1	28.9
3/8"	26.9	83	3.4	100.0	60.8	10.3	39.2
#4	4.8	18	3.9	98.0	42.9	17.9	57.1
#8	2.1	5	.0	81.2	33.7	9.3	66.3
#16	1.8	2	.9	65.5	27.1	6.6	72.9
#30	1.6	2	.5	50.1	20.9	6.2	79.1
#50	1.6	2.3		26.2	11.4	9.5	88.6
#100	1.5	2	.2	5.9	3.3	8.1	96.7
LBW	1.3	2	.1	1.3	1.4	1.9	98.6

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

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

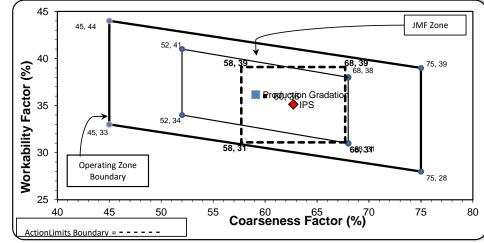
nom. max., #100 and #200 sieves.

*% 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 SupplierGradations		Adjusted WF	NF Intial Production Sample (IPS)	
Coarseness Factor:	59		Workability Factor:	34	36.2	Coarseness Factor:	63
45	-		-	-		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"	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	

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