Production	Gradation	Report
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									11000	
#:	P-101					Contractor:				
:	5/22/23	•	(Concrete Grade:	DM, 4500HP					
epresents:	5/23/2023	through	5/29/2023		-	MDOT No.:				
Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
71-47	Presque Isle	1450	8.87	2.62	50.0					
71-47	Presque Isle	300	1.83	2.62	10.3					
75-051	Mid Michigan		6.93	2.66	39.7				SUP	ERIOR
	Total Wt	2900	17.63		100.0	< Verify this n	umber is 100%			RIALS
	6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, LLC 10 Mile Rd.
1	00.0	100).0	100.0	100.0	0.0	0.0		Suite 500	
				100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
						1.5	1.5			
								,		
		-					-			
								,		
	1.5			1.0	1.4	2.6	98.6		. , , ,	
radation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	adations	Adjusted WF	Initial Producti	on Sample (IPS	S)		
	60	Work	ability Factor	35	,		· · ·	,		
								-		
45 44 •									Cumulative	
45, 44				JMF Zone		Sieve				
	52, 41					2"	100.0	0.0	0.0	
		57, 39	67, 39	75, 39		1.5"	100.0	0.0	0.0	
		Prodi	uction Gradation			1"	100.0	0.0	0.0	
		■ 60, 3	₿s I							
45.33	52, 34-									
/ .0,00		57, 31	67 ₆ 31	31						
ļ	_									
				75. 28						
Douiludiy										
45	EO	5 60		70	80	#100	3.1	7.1	96.9	
40	50 5	JO DU	00 /	0 /5	80		-			
10						LBW	1.3	1.8	98.7	
	Pit # 71-47 71-47 75-051	5/22/23 epresents: 5/23/2023 Pit # Source 71-47 Presque Isle 71-47 Presque Isle 75-051 Mid Michigan Total Wt 6AA 100.0 100.0 97.1 80.9 41.6 24.2 4.6 2.4 2.0 1.9 1.8 1.7 1.5 radation Batch Plant Gra ss Factor: 60	5/22/23 epresents: $5/23/2023$ through Pit # Source Weight (ssp) 71-47 Presque Isle 1450 71-47 Presque Isle 300 75-051 Mid Michigan 1150 Total Wt 2900 6AA 26 100.0 100 100.0 100 97.1 100 80.9 100 41.6 96 24.2 87 4.6 23 2.4 6. 2.0 3. 1.9 2. 1.8 2. 1.7 2. 1.8 2. 1.7 2. 1.8 2. 1.7 2. 1.8 2. 1.7 2. 1.8 2. 1.9 2. 1.5 2. 1.6 96 2.4 90 90 45, 44 52, 44 60, 3	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	5/22/23 Concrete Grade: DM, 4500HP epresents: 5/23/2023 through 5/29/2023 Pit # Source Weight (ssb) ft ³ Specific Gravity % Contribution 71-47 Presque Isle 1450 8.87 2.62 10.3 75-051 Mid Michigan 1150 6.93 2.66 39.7 Total Wt 2900 17.63 100.0 100.0 6AA 26A 2NS % Passing 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 90.5 41.6 96.1 100.0 90.5 41.6 96.1 100.0 70.4 24.2 87.7 100.0 60.8 2.0 3.4 62.2 83.0 34.8 2.0 24.9 25.0 21.9 1.8 2.77 <td>5/22/23 Concrete Grade: DM, 4500HP MDOT No.: apresents: 5/23/2023 through 5/29/2023 MDOT No.: Pit # Source Weight (ssb) ft³ Specific Gravity Contribution Contribution 71-47 Presque Isle 1450 8.87 2.62 50.0 71-47 Presque Isle 300 1.83 2.62 10.3 75-051 Mid Michigan 1150 6.93 2.66 39.7 Total Wt 2900 17.63 100.0 </td> <td>5/22/23 Concrete Grade: DM, 4500HP ppresents: 5/23/2023 through 5/29/2023 Pit # Source Weight (sso) ft³ Gravity Contribution 71-47 Presque Isle 1450 8.87 2.62 50.0 7 75-051 Mid Michigan 1150 6.93 2.66 39.7 </td> <td>5/22/23 Concrete Grade: DM, 4500HP apresents: 5/23/2023 through 5/23/2023 MDOT No.: Pit # Source Weight (sso) ft³ Specific % 71-47 Presque Isle 1450 8.87 2.62 50.0 71-47 Presque Isle 300 1150 6.93 2.66 39.7 Total Wt 2900 17.63 100.0 c Verity this number is 100% 6AA 26A 2NS Cumulative % Passing % Retained 100.0 100.0 100.0 0.0 0.0 0.0 100.0 100.0 100.0 90.5 8.1 9.6 24.2 87.7 100.0 60.8 9.6 39.2 *Maximum % 4.6 23.2 97.5 43.4 17.5 56.6 non. max, 11 2.0 3.4 68.4 22.6 6.3 71.5 ms Retained 1.9 2.9 52.0 21.9 6.3 71.</td> <td>P-101 Contractor: gpresents: 5/22/23 through 5/29/2023 MODT No: Pit # Source Weight (sso) th'a Gravity Contribution 71-47 Presque Isla 300 1.83 2.62 10.3 75-051 Midhichigan 1150 6.33 2.66 39.7 Total Wt 2900 17.63 1000.0 Verity this number is 100% 6AA 26A 2NS Cumulative % Passing % Retained % Retained 100.0 100.0 100.0 0.0 0.0 0.0 100.0 100.0 100.0 0.0 0.0 0.0 116 96.1 100.0 100.0 100.0 0.0 0.0 100.0 100.0 100.0 100.0 100.0 0.0 0.0 0.0 24.2 67.7 100.0 60.8 9.6 39.2 'Maximum % Retained must be at 88.4% 1.6 2.0 1.26 0.0 max. #100 and #200 sevee 1.6 0.0 n.6.7 Nay two aligacent sievee must be at 88.4% 1.6</td>	5/22/23 Concrete Grade: DM, 4500HP MDOT No.: apresents: 5/23/2023 through 5/29/2023 MDOT No.: Pit # Source Weight (ssb) ft ³ Specific Gravity Contribution Contribution 71-47 Presque Isle 1450 8.87 2.62 50.0 71-47 Presque Isle 300 1.83 2.62 10.3 75-051 Mid Michigan 1150 6.93 2.66 39.7 Total Wt 2900 17.63 100.0	5/22/23 Concrete Grade: DM, 4500HP ppresents: 5/23/2023 through 5/29/2023 Pit # Source Weight (sso) ft ³ Gravity Contribution 71-47 Presque Isle 1450 8.87 2.62 50.0 7 75-051 Mid Michigan 1150 6.93 2.66 39.7	5/22/23 Concrete Grade: DM, 4500HP apresents: 5/23/2023 through 5/23/2023 MDOT No.: Pit # Source Weight (sso) ft ³ Specific % 71-47 Presque Isle 1450 8.87 2.62 50.0 71-47 Presque Isle 300 1150 6.93 2.66 39.7 Total Wt 2900 17.63 100.0 c Verity this number is 100% 6AA 26A 2NS Cumulative % Passing % Retained 100.0 100.0 100.0 0.0 0.0 0.0 100.0 100.0 100.0 90.5 8.1 9.6 24.2 87.7 100.0 60.8 9.6 39.2 *Maximum % 4.6 23.2 97.5 43.4 17.5 56.6 non. max, 11 2.0 3.4 68.4 22.6 6.3 71.5 ms Retained 1.9 2.9 52.0 21.9 6.3 71.	P-101 Contractor: gpresents: 5/22/23 through 5/29/2023 MODT No: Pit # Source Weight (sso) th'a Gravity Contribution 71-47 Presque Isla 300 1.83 2.62 10.3 75-051 Midhichigan 1150 6.33 2.66 39.7 Total Wt 2900 17.63 1000.0 Verity this number is 100% 6AA 26A 2NS Cumulative % Passing % Retained % Retained 100.0 100.0 100.0 0.0 0.0 0.0 100.0 100.0 100.0 0.0 0.0 0.0 116 96.1 100.0 100.0 100.0 0.0 0.0 100.0 100.0 100.0 100.0 100.0 0.0 0.0 0.0 24.2 67.7 100.0 60.8 9.6 39.2 'Maximum % Retained must be at 88.4% 1.6 2.0 1.26 0.0 max. #100 and #200 sevee 1.6 0.0 n.6.7 Nay two aligacent sievee must be at 88.4% 1.6

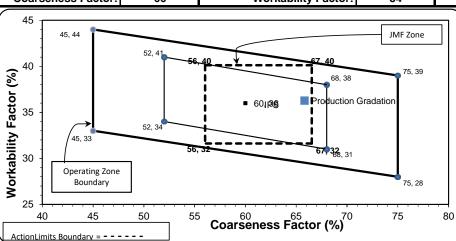


PLANT :	#:	P-102					Contractor:				
Sample Date	e:	5/22/23		(Concrete Grade	DM, 4500HP	_				
Dates Test R	Represents:	5/23/2023	through	5/29/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1600	9.53	2.69	54.2	1				
26A	58-003	Stoneco	200	1.19	2.69	6.8	1				
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0	1			SUP	ED
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%	_	MATI	
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior</u> 30701 W.	
2"	1	100.0	100).0	100.0	100.0	0.0	0.0		Suite 500	
1.5"	1	100.0	100).0	100.0	100.0	0.0	0.0		Farmingto	on Hills,
1"		99.7	100).0	100.0	99.8	0.2	0.2			
3/4"		81.6	100).0	100.0	90.0	9.8	10.0			
1/2"		46.4	99	.7	100.0	70.9	19.1	29.1			
3/8"		21.2	87	.6	100.0	56.4	14.5	43.6	*Maximum %	Retained must be	above
#4		2.2	16	.3	98.9	40.9	15.6	59.1	*Any two adja	cent sieves must e	equal 10
#8		1.1	4.	8	84.3	33.8	7.1	66.2	nom. max., #10	00 and #200 sieves	S.
#16		0.6	2.	7	66.0	26.2	7.5	73.8	*% Retained r	must be at least 4%	6 for ea
#30		0.6	2.	1	45.6	18.2	8.0	81.8	nom. max., #10	00 and #200 sieves	S.
#50		0.6	1.	9	20.3	8.4	9.9	91.6	*% Retained r	must be at least 8%	6 for the
#100		0.6	1.		5.0	2.4	6.0	97.6	a 2" max. size	(nom. Max. 1.5") a	ggregat
LBW		0.8	1.	7	1.2	1.0	1.4	99.0			
Production G	Gradation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	adations	Adjusted WF	Intial Production	on Sample (IPS	5)		
Coarsene	ess Factor:	66	Work	ability Factor:	34	36.3	Coars	eness Factor:	61		
45							Work	ability Factor:	36		
	45, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained	
		52, 41					2"	100.0	0.0	0.0	
4 0		56,	40	67 40	75, 39		1.5"	100.0	0.0	0.0	
Factor (%)			!	68, 38			1"	99.3	0.0	0.7	
					Cradation		3/4"	89.2	10.1	10.8	
5 35			■ 60 113§	Production	Gradation		1/2"	70.7	18.5	29.3	
Ľ Ľ	\rightarrow	52, 34					3/8"	60.7	10.0	39.3	
llity	45, 33	02, 04					#4	44.4	16.3	55.6	1
	1	56						05.0		04.4	1



erials, LLC ile Rd. s, MI 48336

the 3/8" sieve. 10% except max., ach sieve except max., he 1" sieve when ate is used.



Coars	eness Factor:	61	
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"	89.2	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

Approved By: Mart P. Ball

PLANT :	#:	P-103					Contractor:				
Sample Date		5/22/23			Concrete Grade	DM, 4500HP					
Dates Test R	Represents:	5/23/2023	through	5/29/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1600	9.53	2.69	54.2					
26A	58-003	Stoneco	200	1.19	2.69	6.8					
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				SUP	ERIOR
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%			FIALS
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, LLC 10 Mile Rd.
2"		100.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		100.0	100	0.0	100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		99.7	10		100.0	99.8	0.2	0.2			
3/4"		81.6	10		100.0	90.0	9.8	10.0			
1/2"		46.4	99		100.0	70.9	19.1	29.1			
3/8"		21.2	87		100.0	56.4	14.5	43.6			above the 3/8" sieve.
#4		2.2	16		98.9	40.9	15.6	59.1			qual 10% except max.,
#8		1.1	4.		84.3	33.8	7.1	66.2		00 and #200 sieves	
#16		0.6	2.		66.0	26.2	7.5 8.0	73.8			6 for each sieve except
#30 #50		0.6	2.		45.6 20.3	18.2 8.4	9.9	81.8 91.6		00 and #200 sieves	5. 6 for the 1" sieve when
#30		0.6	1.	-	5.0	2.4	6.0	97.6		(nom. Max. 1.5") a	
LBW		0.8	1.		1.2	1.0	1.4	99.0		(1011. Max. 1.5) a	ggregate is used.
roduction G	Gradation	Batch Plant Gra		regate Supplier Gra		Adjusted WF		on Sample (IPS	5)		
	ess Factor:	66	Work	ability Factor:	34	36.3		eness Factor:	61		
					•••			ability Factor:	36		
⁴⁵								Cumulative	%	Cumulative	
	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
1		52, 41	40	67 40			2"	100.0	0.0	0.0	
a ⁴⁰		-56			75, 39		1.5"	100.0	0.0	0.0	
Factor (%)				68, 38			1"	99.3	0.7	0.7	
ō			■ 601 8 9	Production	Gradation		3/4"	89.2	10.1	10.8	
te 35 -			- 00168				1/2"	70.7	18.5	29.3	
Ш́ і		52, 34	+				3/8"	60.7	10.0	39.3	
Ē	45, 33		L	i			#4	44.4	16.3	55.6	
ig 30]		56,	32	67, 32 68, 31			#8	35.9	8.5	64.1	
Workability	Operating Zone	2					#16	27.3	8.6	72.7	
§ ∣∟	Boundary				75, 28		#30	19.1	8.2	80.9	
							#50 #100	7.4 1.9	11.7 5.6	92.6 98.1	
> 25 40	45	50 55	5 60	Factor (%) ⁷⁰	75	80	LBW	0.7	1.2	99.3	

Approved BY: Mary P. Ball

PLANT #	#:	14					Contractor:				
Sample Date	:	5/22/23		C	concrete Grade	DM, 4500HP					
Dates Test R	epresents:	5/23/2023	through	5/29/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution				Γ	
6AA	58-003	Stoneco	1600	9.53	2.69	54.1					
26A	58-003	Stoneco	260	1.55	2.69	8.8				L	
2NS	19-04	Schlegel	1100	6.60	2.67	37.2				Bui	lders'
		Total Wt	2960	17.68		100.0	< Verify this n	umber is 100%	•		DI-MIX
Sieve	e	AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Redi-Mix 10 Mile Rd.
2"		0.00	100	-	100.0	100.0	0.0	0.0		Suite 500	
1.5"		0.00	100		100.0	100.0	0.0	0.0	1	Farmingto	n Hills, MI 48336
1"		99.7	100	-	100.0	99.8	0.2	0.2	1		
3/4"		31.6	100	-	100.0	90.1	9.8	9.9	1		
1/2"		16.4	99		100.0	71.0	19.1	29.0			
3/8"		21.2	87		100.0	56.3	14.7	43.7			above the 3/8" sieve.
#4		2.2	16		99.9	39.7	16.6	60.3			equal 10% except max.,
#8 #16		1.1 0.6	4.		90.1 69.4	34.5 26.4	5.2 8.1	65.5 73.6		00 and #200 sieves	
#16 #30		0.6	2.		44.5	17.0	9.3	83.0			6 for each sieve except
#30 #50		0.6	1.		14.3	5.8	11.2	94.2		00 and #200 sieves	6 for the 1" sieve when
#100		0.6	1.		2.7	1.5	4.3	98.5		(nom. Max. 1.5") a	
LBW		0.8	1.		0.2	0.7	0.8	99.3			gg. ogato 10 accal
Production G	radation	O Batch Plant Gra	idations 💿 Aggi	egate Supplier Gra	dations	Adjusted WF	Intial Production	on Sample (IPS	6)		
Coarsene	ess Factor:	67	Work	ability Factor:	34	37.0	Coars	eness Factor:	63		
45							Work	ability Factor:	36		
	15, 44				JMF Zone		Sieve	Cumulative	%	Cumulative	
					Juli Zone		Sieve	% Passing	Retained	% Retained	
40		52, 41	57, 40	68, 40			2"	100.0	0.0	0.0	
इ ⁴⁰				68, 38	75, 39		1.5"	100.0	0.0	0.0	
<u>ت</u>			ļ		on Gradation		1"	99.3	0.7	0.7	
			■ 60, 3 0	PS	on Gradation		3/4"	89.0	10.3	11.0	
Factor (%)			i	1			1/2"	70.3	18.7	29.7	
2	45, 33	52, 34		•			3/8"	59.9	10.4	40.1 58.1	
Workability	40,00		57, 22	68,32 68,31			#4 #8	41.9 35.9	18.0 6.0	58.1 64.1	
	ļ	-		- 68, 31			#8 #16	27.8	8.2	72.2	
ž	Operating Zone						#16	18.9	8.8	81.1	
š [L	Boundary				75, 28		#50	6.3	12.6	93.7	
- 25							#30	0.0	12.0	00.1	

75

80

#100

LBW

1.7

1.0

4.6

0.7

Approved By:

98.3

99.0

Mart P. Ball

PREPARED BY: SM, LLC Technical Service

45

ActionLimits Boundary = - - - - -

50

Coarseness Factor (%)⁷⁰

55

25

40

PLANT :	#:	12	_				Contractor:				
Sample Date	e:	5/22/23	-	(Concrete Grade:	DM, 4500HP				-	
Dates Test R	Represents:	5/23/2023	- through	5/29/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1655	10.12	2.62	57.0					
26A	71-47	Presque Isle	100	0.61	2.62	3.4					
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6				SUP	FRIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	•	MATE	RIALS
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior N</u> 30701 W. 1	<u>Materials, LLC</u> 0 Mile Rd
2"	1	00.0	100	0.0	100.0	100.0	0.0	0.0	1	Suite 500	
1.5"		00.0	100		100.0	100.0	0.0	0.0	1		n Hills, MI 48336
1"		98.2	100		100.0	99.0	1.0	1.0	1	0	· ·
3/4"		86.1	100	0.0	100.0	92.1	6.9	7.9	1		
1/2"		41.5	97	.0	100.0	66.6	25.5	33.4	1		
3/8"		22.1	87	.6	100.0	55.2	11.4	44.8	*Maximum %	Retained must be	above the 3/8" sieve.
#4		2.9	17	.6	96.5	40.5	14.7	59.5	*Any two adja	icent sieves must e	qual 10% except max.,
#8		1.3	4.	2	80.5	32.8	7.7	67.2	nom. max., #1	00 and #200 sieves	.
#16		1.1	2.	1	65.7	26.7	6.0	73.3	*% Retained	must be at least 4%	6 for each sieve except
#30		1.1	1.		49.9	20.4	6.3	79.6	nom. max., #1	00 and #200 sieves	5.
#50		1.1	1.		24.9	10.5	9.9	89.5	*% Retained	must be at least 8%	6 for the 1" sieve when
#100		1.0	1.		3.9	2.2	8.4	97.8	a 2" max. size	(nom. Max. 1.5") ag	ggregate is used.
LBW		0.8	1.		0.5	0.7	1.5	99.3			
Production G	Gradation	O Batch Plant Gra	adations 💿 Agg	regate Supplier Gra	adations	Adjusted WF	Intial Production	on Sample (IPS	6)		
Coarsene	ess Factor:	67	Work	ability Factor:	33	35.3	Coars	eness Factor:	63		
45							Work	ability Factor:	36		
	45, 44				JMF Zone		0.1	Cumulative	%	Cumulative	
		52, 41			JIVIF ZONE		Sieve	% Passing	Retained	% Retained	
40		52, 4	57, 40	68, 40	_		2"	100.0	0.0	0.0	
%				68, 38	75, 39		1.5"	100.0	0.0	0.0	
ž I			1				1"	99.3	0.7	0.7	
Factor (%)			■ 60, 36	PS	on Gradation		3/4"	89.0	10.3	11.0	
3 5 -			!				1/2"	70.3	18.7	29.7	
	45, 33	52, 34		1			3/8"	59.9	10.4	40.1	
Workability	/ .0,00		57, 22	68, 32			#4	41.9	18.0	58.1	
1 g ³⁰		_		68, 31			#8	35.9	6.0	64.1	
¥	Operating Zone				75, 28		#16	27.8	8.2	72.2	
IŽ IL	Boundary				10,20		#30	18.9	8.8	81.1	
25							#50 #100	6.3 1.7	12.6 4.6	93.7 98.3	
40	45	<u>50</u> 55	⁵ Coarseness	Factor (%)	75	80	#100 LBW	1.7	4.6 0.7	98.3 99.0	
ActionLimits	Boundary		00ai 3011855				LDVV	1.0	0.7	99.0	

Approved By:

PREPARED BY: SM, LLC Technical Service

ActionLimits Boundary = - - - - -

PLANT #		p11					Contractor:				
Sample Date	:	5/22/23		(Concrete Grade:	DM, 4500HP					
Dates Test R	epresents:	5/23/2023	through	5/29/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1655	10.12	2.62	57.0					
26A	71-47	Presque Isle	100	0.61	2.62	3.4					
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6				SUP	ERIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	-		RIALS
Sieve	(6AA	26	Α	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, LLC 10 Mile Rd.
2"		00.0	100).0	100.0	100.0	0.0	0.0	1	Suite 500	
1.5"		00.0	100).0	100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		99.3	100		100.0	99.6	0.4	0.4			
3/4"		86.9	100		100.0	92.5	7.1	7.5			
1/2"		53.2	97		100.0	73.2	19.3	26.8			
3/8"		30.7	87		100.0	60.1	13.1	39.9			above the 3/8" sieve.
#4		5.0	17	-	95.9	41.4	18.7	58.6	*Any two adja	cent sieves must e	qual 10% except max.,
#8		1.8	4.		84.3	34.5	6.9	65.5		00 and #200 sieves	
#16		1.4	2.		68.8	28.1	6.4	71.9			6 for each sieve except
#30		1.3	1.		48.4	20.0	8.1	80.0		00 and #200 sieves	
#50 #100		1.3 1.2	<u> </u>		22.7 6.5	9.8 3.3	10.2 6.5	90.2 96.7			6 for the 1" sieve when
LBW		1.2	1.		1.0	3.3 1.1	2.2	98.9	a 2° max. size	(nom. Max. 1.5") ag	ggregate is used.
		Batch Plant Gra	â	z gregate Supplier Gr				on Sample (IPS	5)		
Production G											
		61	Work	ability Factor	. 35	,	Coars	eness Factor	62		
Coarsene	ess Factor:	61	Work	ability Factor	: 35	37.0		eness Factor:	62 36		
Coarsene		61	Work	ability Factor	35 JMF Zone	,	Worka	ability Factor: Cumulative	36 %	Cumulative	
Coarsene	ess Factor:	52, 41			·	,	Work: Sieve	ability Factor: Cumulative % Passing	36 % Retained	% Retained	
Coarsene 45 40	ess Factor:		Work	ability Factor:	JMF Zone	,	Works Sieve 2"	ability Factor: Cumulative % Passing 100.0	36 % Retained 0.0	% Retained 0.0	
Coarsene 45 40	ess Factor:				JMF Zone	,	Worka Sieve 2" 1.5"	ability Factor: Cumulative % Passing 100.0 100.0	36 % Retained 0.0 0.0	% Retained 0.0 0.0	
45 40	ess Factor:		6. 40	67, 40 68, 38 Juction Gradation	JMF Zone	,	Works Sieve 2" 1.5" 1"	ability Factor: Cumulative % Passing 100.0 100.0 100.0	36 % Retained 0.0 0.0 0.0	% Retained 0.0 0.0 0.0	
Coarsene 45 40	ess Factor:		6, 40	67, 40 68, 38 Juction Gradation	JMF Zone	,	Worka Sieve 2" 1.5" 1" 3/4"	ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0	36 % Retained 0.0 0.0 0.0 5.0	% Retained 0.0 0.0 0.0 5.0	
Coarsene 45 40 40 35	ess Factor:		6. 40	67, 40 68, 38 Juction Gradation	JMF Zone	,	Worka 2" 1.5" 1" 3/4" 1/2"	ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3	36 % Retained 0.0 0.0 0.0 5.0 22.8	% Retained 0.0 0.0 0.0 5.0 27.7	
Coarsene 45 40 40 35 35	ess Factor:	52, 41 56	6. 40	67, 40 68, 38 Juction Gradation	JMF Zone	,	Worka 2" 1.5" 1" 3/4" 1/2" 3/8"	ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4	36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8	% Retained 0.0 0.0 0.0 5.0 27.7 39.6	
45 40 40 35 35	ess Factor:	52, 41 56	6. 40	67, 40 68, 38 Juction Gradation	JMF Zone	,	Worka 2" 1.5" 1" 3/4" 1/2" 3/8" #4	ability Factor: Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6	36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8	% Retained 0.0 0.0 5.0 27.7 39.6 57.4	
45 40 40 35 35	45, 33	52, 41 56 52, 34 50	6. 40	67, 40 68, 38 Juction Gradation S	JMF Zone	,	Worka 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	ability Factor: Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0	36 % Retained 0.0 0.0 5.0 22.8 11.8 17.8 6.6	% Retained 0.0 0.0 0.0 27.7 39.6 57.4 64.0	
45 40 40 35 35	ASS Factor:	52, 41 56 52, 34 50	6. 40	67, 40 68, 38 Juction Gradation S	JMF Zone	,	Worka 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	ability Factor: Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5	36 % Retained 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5	% Retained 0.0 0.0 0.0 27.7 39.6 57.4 64.0 70.5	
Workability Factor (%)	45, 33	52, 41 56 52, 34 50	6. 40	67, 40 68, 38 Juction Gradation S	JMF Zone	,	Worka 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	ability Factor: Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5 20.3	36 % Retained 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5 9.2	% Retained 0.0 0.0 0.0 27.7 39.6 57.4 64.0 70.5 79.7	
Coarsene 45 40 40 35 35	ASS Factor:	52, 41 56 52, 34 50	6. 40 Proc = 60, 38	67, 40 68, 38 Juction Gradation S	JMF Zone 75, 39 75, 28	,	Worka 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	ability Factor: Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5	36 % Retained 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5	% Retained 0.0 0.0 0.0 27.7 39.6 57.4 64.0 70.5	

Approved By: Mart P. Ball

PLANT #	#:	P-32					Contractor:			-	
Sample Date:	:	5/22/23	_	(Concrete Grade	DM, 4500HP				-	
Dates Test R	epresents:	5/23/2023	through	5/29/2023			MDOT No.:			_	
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1655	10.12	2.62	57.0					
26A	71-47	Presque Isle	100	0.61	2.62	3.4					
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6				SUP	ERIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	1		RIALS
Sieve	(5AA	26	Α	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 2	<u>Materials, LLC</u> 10 Mile Rd.
2"	1	00.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	100		100.0	100.0	0.0	0.0	1	Farmingto	n Hills, MI 48336
1"	9	99.3	10	0.0	100.0	99.6	0.4	0.4	1		
3/4"		36.9	100		100.0	92.5	7.1	7.5]		
1/2"		53.2	97		100.0	73.2	19.3	26.8			
3/8"		30.7	87		100.0	60.1	13.1	39.9	*Maximum %	Retained must be a	above the 3/8" sieve.
#4		5.0	17		95.9	41.4	18.7	58.6	*Any two adja	icent sieves must e	qual 10% except max.,
#8		1.8	4.		84.3	34.5	6.9	65.5	· · ·	00 and #200 sieves	
#16		1.4	2.		68.8	28.1	6.4	71.9			6 for each sieve except r
#30 #50		1.3 1.3	1.		48.4 22.7	20.0 9.8	8.1 10.2	80.0 90.2		00 and #200 sieves	
#30		1.2	1.		6.5	3.3	6.5	90.2 96.7		(nom. Max. 1.5") ac	6 for the 1" sieve when
		1.1		2	1.0	1.1	2.2	98.9		(110111. IVIAX. 1.5) au	jgregale is used.
LBW		1.1									
		Batch Plant Gra	-	z regate Supplier Gra				on Sample (IPS	5)		
Production G		-	idations 💿 Agg		adations		Intial Production		62	1	
Production G	radation	O Batch Plant Gra	idations 💿 Agg	regate Supplier Gra	adations	Adjusted WF	Intial Productio	on Sample (IPS	,		
Production G Coarsene	radation ess Factor:	O Batch Plant Gra	idations 💿 Agg	regate Supplier Gra	adations 35	Adjusted WF	Intial Productio Coars Work	on Sample (IPS eness Factor:	62	Cumulative	
Production G Coarsene	radation	O Batch Plant Gra	idations 💿 Agg	regate Supplier Gra	adations	Adjusted WF	Intial Productio	on Sample (IPS eness Factor: ability Factor:	62 36	Cumulative % Retained	
Production G Coarsene	radation ess Factor:	O Batch Plant Gra	idations 💿 Agg	regate Supplier Gra	adations 35	Adjusted WF	Intial Production Coars Work Sieve 2"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0	62 36 % Retained 0.0	% Retained 0.0	Ι
45 40	radation ess Factor:	Batch Plant Gra 61	idations 💿 Agg	regate Supplier Gra ability Factor:	adations 35	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	62 36 % Retained 0.0 0.0	% Retained 0.0 0.0	
45 40	radation ess Factor:	Batch Plant Gra 61	Agg Work	67, 40	35 JMF Zone	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0	62 36 % Retained 0.0 0.0 0.0	% Retained 0.0 0.0 0.0	
45 40	radation ess Factor:	Batch Plant Gra 61	Agg Work	regate Supplier Gra ability Factor: 67, 40 68, 38 Juction Gradation	35 JMF Zone	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0	62 36 % Retained 0.0 0.0 0.0 5.0	% Retained 0.0 0.0 0.0 5.0	
45 40	radation ess Factor:	Batch Plant Gra	Agg Work	regate Supplier Gra ability Factor: 67, 40 68, 38 Juction Gradation	35 JMF Zone	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3	62 36 % Retained 0.0 0.0 0.0 5.0 22.8	% Retained 0.0 0.0 0.0 5.0 27.7	
Lactor (%)	IS, 44	Batch Plant Gra 61	Agg Work	regate Supplier Gra ability Factor: 67, 40 68, 38 Juction Gradation	35 JMF Zone	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8	% Retained 0.0 0.0 0.0 20.0 27.7 39.6	
Lactor (%)	radation ess Factor:	Batch Plant Gra	Agg Work	67, 40	35 JMF Zone 75, 39	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8	% Retained 0.0 0.0 0.0 27.7 39.6 57.4	
Eactor (%)	IS, 44 45, 33	Batch Plant Gra	Agg Work	regate Supplier Gra ability Factor: 67, 40 68, 38 Juction Gradation	35 JMF Zone 75, 39	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6 36.0	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8 6.6	% Retained 0.0 0.0 0.0 27.7 39.6 57.4 64.0	
Lactor (%)	Its, 44 45, 33 Operating Zone	Batch Plant Gra	Agg Work	67, 40	Adations 35 JMF Zone 75, 39	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8	% Retained 0.0 0.0 0.0 27.7 39.6 57.4	
Lactor G Coarsene 45 40 40 40 35 35	IS, 44 45, 33	Batch Plant Gra	Agg Work	67, 40	35 JMF Zone 75, 39	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5 20.3	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5 9.2	% Retained 0.0 0.0 0.0 5.0 27.7 39.6 57.4 64.0 70.5 79.7	
Application G Coarsene 45 40 40 40 40 40 40 40 40 40 40	Its, 44 45, 33 Operating Zone	Batch Plant Gra	Agg Work	67, 40	adations 35 JMF Zone 75, 39 75, 28	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5	% Retained 0.0 0.0 0.0 5.0 27.7 39.6 57.4 64.0 70.5	

Approved By:

PLANT #	#:	P-35	_				Contractor:			_	
Sample Date	:	5/22/23		C	Concrete Grade	: DM, 4500HP				-	
Dates Test R	epresents:	5/23/2023	through	5/29/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1600	9.53	2.69	54.2					
26A	58-003	Stoneco	200	1.19	2.69	6.8					
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				SUP	ERIOR
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%	•		RIALS
Sieve		6 AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 1	<u>Materials, LLC</u> 10 Mile Rd.
2"	1	00.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"	1	00.0	10	0.0	100.0	100.0	0.0	0.0]	Farmingtor	n Hills, MI 48336
1"		99.7	10		100.0	99.8	0.2	0.2			
3/4"		81.6	10		100.0	90.0	9.8	10.0			
1/2"		46.4	99		100.0	70.9	19.1	29.1			
3/8"		21.2	87	-	100.0	56.4	14.5	43.6			above the 3/8" sieve.
#4		2.2	16		98.9	40.9	15.6	59.1			qual 10% except max.,
#8 #16		1.1	4		84.3	33.8	7.1 7.5	66.2	· · · · ·	00 and #200 sieves.	
#16 #30		0.6	2		66.0 45.6	26.2 18.2	7.5 8.0	73.8 81.8			for each sieve except n
#30 #50		0.6	1		20.3	8.4	9.9	91.6	· · · · ·	00 and #200 sieves.	for the 1" sieve when
#100		0.6	1.	-	5.0	2.4	6.0	97.6		(nom. Max. 1.5") ag	
LBW		0.8	1.		1.2	1.0	1.4	99.0		(1011. Max. 1.5) ag	gregate is used.
				rogata Cumplian Cra	dations						
Production G	Fradation	O Batch Plant Gra	dations 💽 Agg	regate Supplier Gra	luations	Adjusted WF	Intial Production	on Sample (IPS	8)	_	
	Fradation	Batch Plant Gra	0.00	ability Factor:		Adjusted WF 36.3		on Sample (IPS eness Factor:	61	1	
Coarsene		-	0.00	5 11			Coars		ī		
Coarsene	ess Factor:	-	0.00	5 11	34		Coars Work	eness Factor:	61	Cumulative	
Coarsene		66	0.00	5 11			Coars	eness Factor: ability Factor:	61 36	Cumulative % Retained	
45	ess Factor:	-	0.00	5 11	34		Coars Work Sieve 2"	eness Factor: ability Factor: Cumulative % Passing 100.0	61 36 % Retained 0.0	% Retained 0.0	
45 40 40	ess Factor:	66	0.00	sability Factor:	34		Coars Work Sieve 2" 1.5"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	61 36 % Retained 0.0 0.0	% Retained 0.0 0.0	
45 40	ess Factor:	66	0.00	5 11	34 JMF Zone		Coars Work Sieve 2" 1.5" 1"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3	61 36 % Retained 0.0 0.0 0.7	% Retained 0.0 0.0 0.7	
45 40 40	ess Factor:	66	0.00	sability Factor:	34 JMF Zone 75, 39		Coars Work Sieve 2" 1.5" 1" 3/4"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1	61 36 % Retained 0.0 0.0 0.7 10.2	% Retained 0.0 0.0 0.7 10.9	
45 40 40	ess Factor:	52, 41 56;	Work	sability Factor:	34 JMF Zone 75, 39		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5	61 36 % Retained 0.0 0.0 0.7 10.2 18.6	% Retained 0.0 0.0 0.7 10.9 29.5	
Eactor (%)	45, 44	66	Work	sability Factor:	34 JMF Zone 75, 39		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5 60.5	61 36 % Retained 0.0 0.0 0.7 10.2 18.6 10.0	% Retained 0.0 0.7 10.9 29.5 39.5	
Eactor (%)	ess Factor:	66	Work	68, 38	JMF Zone 75, 39 Gradation		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5 60.5 44.1	61 36 % Retained 0.0 0.0 0.7 10.2 18.6 10.0 16.4	% Retained 0.0 0.7 10.9 29.5 39.5 55.9	
Eactor (%)	45, 44 45, 33	66 52, 41 52, 34 52, 34 56,	Work	sability Factor:	JMF Zone 75, 39 Gradation		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5 60.5	61 36 % Retained 0.0 0.0 0.7 10.2 18.6 10.0 16.4 8.5	% Retained 0.0 0.7 10.9 29.5 39.5 55.9 64.4	
Eactor (%)	45, 44 45, 33 Operating Zone	66 52, 41 52, 34 52, 34 56,	Work	68, 38	JMF Zone 75, 39 Gradation		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5 60.5 44.1 35.6	61 36 % Retained 0.0 0.0 0.7 10.2 18.6 10.0 16.4	% Retained 0.0 0.7 10.9 29.5 39.5 55.9	
Coarsene 40 40 40 5 40 40 40 40 40 40 40 40 40 40	45, 44 45, 33	66 52, 41 52, 34 52, 34 56,	Work	68, 38	JMF Zone 75, 39 Gradation		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5 60.5 44.1 35.6 27.7	61 36 % <u>Retained</u> 0.0 0.0 0.7 10.2 18.6 10.0 16.4 8.5 7.9	% Retained 0.0 0.7 10.9 29.5 39.5 55.9 64.4 72.3	
Factor (%)	45, 44 45, 33 Operating Zone	66 52, 41 52, 34 52, 34 56,	Work	68, 38	34 JMF Zone Gradation 75, 39 75, 28		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5 60.5 44.1 35.6 27.7 20.6	61 36 % Retained 0.0 0.0 0.7 10.2 18.6 10.0 16.4 8.5 7.9 7.1	% Retained 0.0 0.7 10.9 29.5 39.5 55.9 64.4 72.3 79.4	

Approved By:

PLANT #	#:	P-36					Contractor:				
Sample Date	:	5/22/23		C	Concrete Grade	: DM, 4500HP					
Dates Test R	epresents:	5/23/2023	through	5/29/2023			MDOT No.:				•
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1605	9.82	2.62	55.2					
26A	71-47	Presque Isle	150	0.92	2.62	5.2					
2NS	63-92	Grange Hall	1150	6.95	2.65	39.6				SUP	ERIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	1		RIALS
Sieve	(6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			<u>Materials, LLC</u> 10 Mile Rd.
2"	1	00.0	100).0	100.0	100.0	0.0	0.0		Suite 500	
1.5"	1	00.0	100	0.0	100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"	9	98.2	100).0	100.0	99.0	1.0	1.0			
3/4"		86.1	100	-	100.0	92.3	6.7	7.7			
1/2"		41.5	97	-	100.0	67.5	24.8	32.5			
3/8"		22.1	87		100.0	56.3	11.2	43.7	*Maximum %	Retained must be	above the 3/8" sieve.
#4		2.9	17		97.3	41.0	15.3	59.0			qual 10% except max.,
#8		1.3	4.		83.8	34.1	6.9	65.9		00 and #200 sieves	
#16		1.1	2.		69.2	28.1	6.0	71.9			for each sieve except
#30 #50		1.1	1.		50.8	20.8	7.3	79.2		00 and #200 sieves	
#50 #100		1.1	1.	-	21.6	9.2 2.1	11.6 7.1	90.8 97.9			6 for the 1" sieve when
LBW		<u>1.0</u> 0.8	1.		3.8 0.4	0.7	1.5	97.9 99.3	a 2" max. size	(nom. Max. 1.5") a	ggregate is used.
Production G	radation	Batch Plant Gra		egate Supplier Gra	.	÷		on Sample (IPS	5)		
	ss Factor:	66	Work	ability Factor:	34	36.6		eness Factor:	63		
	331 40101.	00		ability ractor.	34			ability Factor:	35		
45 T)	WORK	Cumulative	%	Cumulative	
4	5, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
1		52, 41		_			2"	100.0	0.0	0.0	
~ ⁴⁰			58, 39	68, 99	75, 39		1.5"	100.0	0.0	0.0	
8				68, 38	10,00		1"	99.1	0.9	0.9	
ъ I				Production	n Gradation		3/4"	90.3	8.8	9.7	
5 35			∎ 60, 36	IPS			1/2"	69.2	21.1	30.8	
Ë j		52, 34	i				3/8"	59.1	10.1	40.9	
Ē	45, 33						#4	41.8	17.3	58.2	
		_	58, 31	68 ,31	1 I		#8	35.1	6.6	64.9	
ğ (Operating Zone			55,0			#16	28.5	6.6	71.5	
Workability Factor (%)	Boundary				75, 28		#30	21.2	7.3	78.8	
							#50	8.7	12.5	91.3	
95 L							#100	1.8	7.0	98.2	
25 40	45	50 55	5 60	Factor (%) ⁷⁰	75	80	LBW	0.7	1.0	99.3	

Approved By:

PLANT #	#:	P-38					Contractor:				
Sample Date		5/22/23	•	C	Concrete Grade	DM, 4500HP				-	
Dates Test R	Represents:	5/23/2023	through	5/29/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1600	9.53	2.69	54.2					
26A	58-003	Stoneco	200	1.19	2.69	6.8					
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				SUP	ERIOR
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%		MATE	RIALS
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 3	Materials, LLC LO Mile Rd.
2"		100.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		100.0	10		100.0	100.0	0.0	0.0		Farmingtor	n Hills, MI 48336
1"		99.7	10	0.0	100.0	99.8	0.2	0.2			
3/4"		81.6	10		100.0	90.0	9.8	10.0			
1/2"		46.4	99).7	100.0	70.9	19.1	29.1			
3/8"		21.2	87		100.0	56.4	14.5	43.6	*Maximum %	Retained must be a	above the 3/8" sieve.
#4		2.2	16		98.9	40.9	15.6	59.1	*Any two adja	cent sieves must e	qual 10% except max.,
#8		1.1	4		84.3	33.8	7.1	66.2	nom. max., #10	00 and #200 sieves	
#16		0.6	2		66.0	26.2	7.5	73.8	*% Retained I	must be at least 4%	for each sieve except
#30		0.6	2		45.6	18.2	8.0	81.8		00 and #200 sieves	
#50		0.6	1.		20.3	8.4	9.9	91.6			for the 1" sieve when
#100 LBW		0.6	1.	-	5.0 1.2	2.4	<u>6.0</u> 1.4	97.6 99.0	a 2" max. size	(nom. Max. 1.5") ag	gregate is used.
		Batch Plant Gra	<u></u>	regate Supplier Gra		_					
Production G		0	-		1			on Sample (IPS		I	
Coarsene	ess Factor:	66	Work	ability Factor:	34	36.3		eness Factor:	61		
45							Work	ability Factor:	36		
_	45, 44				JMF Zone		Sieve	Cumulative	%	Cumulative	
		52, 41						% Passing	Retained	% Retained	
40		52, 4 56,	40	67,40			<u>2"</u> 1.5"	100.0 100.0	0.0	0.0	
%				68, 38	75, 39		1.5 1"	99.3	0.0	0.0	
ž			Ì				3/4"	99.3 89.1	10.2	10.9	
Factor (%)			■ 60, ₁ 36	Froduction	Gradation		1/2"	70.5	18.6	29.5	
= ∖ ວ 1	\rightarrow	52, 34	i				3/8"	60.5	10.0	39.5	
E I		52, 34					#4	44.1	16.4	55.9	
	45, 33						#8	35.6	8.5	64.4	
	45, 33	56,	31	67. 84 31							
		^	31	67, 8 8, 31			#16	27.7	7.9	72.3	
	45, 33 Operating Zone Boundary	^	31	67, 89, 31	75, 28		#30	20.6	7.1	79.4	
Workability	Operating Zone	^	31	67, Øđ, 31	75, 28		#30 #50	20.6 8.7	7.1 11.8	79.4 91.3	
	Operating Zone	^		67, et 31	75, 28	80	#30	20.6	7.1	79.4	

Approved By:

PLANT #	#:	P-39					Contractor:			-		
Sample Date:		5/22/23	Concrete Grade: DM, 4500HP									
Dates Test R	epresents:	5/23/2023	through	5/29/2023			MDOT No.:					
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution						
6AA	71-47	Presque Isle	1555	9.51	2.62	53.5						
26A	71-47	Presque Isle	250	1.53	2.62	8.6						
2NS	44-051 Krake Willis Rd				2.65	37.9			SUPERIOR MATERIALS			
		Total Wt	2905 17.69			100.0	< Verify this number is 100%					
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained	Superior Materials, LLC 30701 W. 10 Mile Rd.			
2"		100.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500		
1.5"	100.0		100.0		100.0	100.0	0.0	0.0	Farmington Hills, MI 48336			
1"	97.1		100.0		100.0	98.4	1.6	1.6]			
3/4"	80.9		100.0		100.0	89.8	8.7	10.2				
1/2"		41.6	96		100.0	68.4	21.4	31.6				
3/8"	24.2		87.7		100.0	58.4	10.0	41.6	*Maximum % Retained must be above the 3/8" sieve *Any two adjacent sieves must equal 10% except ma			
	#4 4.6		23.2		97.0	41.2	17.2	58.8				
	#8 2.4		6.2		83.8	33.5	7.6	66.5	nom. max., #100 and #200 sieves.			
#16 2.0			3.4		68.6	27.3	6.2	72.7	*% Retained must be at least 4% for each sieve exce			
#30 #50			2.9 2.7		50.2 22.4	20.3 9.7	7.1 10.6	79.7 90.3	nom. max., #100 and #200 sieves.			
#50 #100	1.8		2.7		5.4	3.2	6.5	90.3 96.8	*% Retained must be at least 8% for the 1" sieve whe a 2" max. size (nom. Max. 1.5") aggregate is used.			
LBW		1.7 1.5		3	1.0	1.4	1.8	90.0 a 2° max. s		(nom. max. 1.5) a	ggregate is used.	
Production G	radation	Batch Plant Gra		regate Supplier Gra	_	Adjusted WF		on Sample (IPS	5)			
	Coarseness Factor: 63			ability Factor:	34	36.0	Coarseness Factor: Workability Factor:		63			
									36	1		
⁴⁵					JMF Zone		Sieve	Cumulative	%	Cumulative		
- 4	15, 44							% Passing	Retained	% Retained		
1		52, 41					2"	100.0	0.0	0.0		
a ⁴⁰			58,40		75, 39		1.5"	100.0	0.0	0.0		
2				68, 38	T		1"	100.0	0.0	0.0		
D I			■ 60 36	Preduction Pradatio	on		3/4"	89.7	10.3	10.3		
Factor (%)			, _ 00, 0	IPS I			1/2"	70.3	19.4	29.7		
Щ		52, 34					3/8"	59.1	11.2	40.9		
E I	45, 33						#4	42.8	16.3	57.2		
ig 30 -		_	50, 22	688832	<u> </u>		#8	35.5	7.3	64.5		
ž	Operating Zone	e					#16 #30	29.0 21.2	6.5 7.7	71.0 78.8		
Workability	Boundary				75, 28		#30 #50	9.8	11.5	90.2		
> ₂₅							#100	9.0 3.7	6.1	90.2		
	45	50 55	60	Factor (%) ⁷⁰	75	80	LBW	1.2	2.5	98.8		
40	+0											

Approved By: Mart P. Ball

PLANT #	#:	P-02					Contractor:			-	
Sample Date: 5/22/23		Concrete Grade: DM, 4500H									
Dates Test R	epresents:	5/23/2023	through	5/29/2023	0	0/	MDOT No.:				•
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1655	10.12	2.62	57.0					
26A	71-47	Presque Isle	100	0.61	2.62	3.4					
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6				SUP	ERIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	•		ERIALS
Sieve		6AA 20		A 2NS		Cumulative % Passing	% Retained	Cumulative % Retained	/ Peteined		Materials, LLC 10 Mile Rd.
2"	100.0		100.0		100.0	100.0	0.0	0.0	Suite 500		
1.5"	1	00.0	100.0		100.0	100.0	0.0	0.0]	Farmingto	n Hills, MI 48336
1" 98.2		98.2	100).0	100.0	99.0	1.0	1.0			
3/4"		36.1	100	-	100.0	92.1	6.9	7.9			
1/2"		11.5	97		100.0	66.6	25.5	33.4			
3/8"	22.1		87.6		100.0	55.2	11.4	44.8	*Maximum % Retained must be above the 3/8" side		
#4			17.6		96.5	40.5	14.7	59.5	*Any two adjacent sieves must equal 10% except		
#8			4.2		80.5	32.8	7.7	67.2	nom. max., #100 and #200 sieves.		
#16			2.1		65.7	26.7	6.0	73.3	*% Retained must be at least 4% for each sieve		
#30		1.1	1.6		49.9	20.4	6.3	79.6	nom. max., #10		
#50			1.5 1.4		24.9	10.5	9.9	89.5	*% Retained must be at least 8% for the 1" sieve		
		1.0 0.8	1.		3.9 0.5	2.2	8.4 1.5	97.8 99.3	a 2" max. size (nom. Max. 1.5") aggregate is use		
		O.O Batch Plant Gra				-					
Production G	nauation	0	0 33	egate SupplierGra				on Sample (IPS	,		
Coarseness Factor: 67		67	WORK	ability Factor:	33	35.3	Coarseness Factor:		63		
45 						_)	WOrk	ability Factor:	35		
4	15, 44				JMF Zone		Sieve	Cumulative	%	Cumulative	
-		52. 41					2"	% Passing	Retained	% Retained 0.0	
_ 40			¥	CO O			<u>2"</u> 1.5"	100.0 100.0	0.0	0.0	
Factor (%)			58, 39	68, 39 68, 38	75, 39		1.5	100.0	0.0	0.0	
) j				ĩ			3/4"	95.1	4.9	4.9	
5 35			■ 60, 36	IPS Eroducti	on Gradation		1/2"	74.6	20.5	25.4	
Ë S	\rightarrow	52, 34					3/8"	59.3	15.3	40.7	
_ ≳	45, 33	02, 04	1				#4	42.1	17.2	57.9	
			58, 31				#8	35.1	7.1	64.9	
g ³⁰ [Operating Zone						#16	29.2	5.9	70.8	
Workability	Boundary				75, 28		#30	21.9	7.3	78.1	
					_,		#50	9.6	12.4	90.4	
25 +							#100	2.4	7.2	97.6	
10	15	50 59	60	65 70	75	80					

75

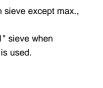
80

LBW

0.9

1.5

99.1



PREPARED BY: SM, LLC Technical Service

45

ActionLimits Boundary = - - - -

40

50

55

Coarseness Factor (%)⁷⁰

Approved By: Mart P. Ball