### Production Gradation Report

									г	Toutellon	Glauation Rep
PLANT #	<b>#:</b>	P-101					Contractor:				
Sample Date	:	11/20/23	_	С	oncrete Grade	DM, 4500HP	_				
Dates Test R	epresents:	11/21/2023	through	11/27/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1450	8.87	2.62	50.0					
26A	71-47	Presque Isle	300	1.83	2.62	10.3					
2NS	75-051	Mid Michigan	1150	6.93	2.66	39.7				SUP	ERIOR
		Total Wt	2900	17.63		100.0	< Verify this n	umber is 100%	1	MATE	FIALS
Sieve		6 <b>AA</b>	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			<b>Materials, LLC</b> 10 Mile Rd.
2"	1	00.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	10		100.0	100.0	0.0	0.0	1	Farmingto	n Hills, MI 48336
1"		96.6	10	0.0	100.0	98.3	1.7	1.7	1		
3/4"		81.0	10		100.0	90.5	7.8	9.5			
1/2"		39.6	94		100.0	69.3	21.2	30.7			
3/8"		22.8	83		100.0	59.7	9.5	40.3	*Maximum % Retained must be above the 3/8" sieve.		
#4		3.6	20		96.3	42.1	17.6	57.9	*Any two adjacent sieves must equal 10% except m		
#8		1.8	5.	-	82.4	34.2	7.9	65.8	nom. max., #100 and #200 sieves.		
#16		1.6	3		67.4	27.9	6.3	72.1			for each sieve except
#30 #50		1.6 1.5	2		50.4 25.9	21.0 11.2	6.8 9.8	79.0 88.8	· · · · ·	0 and #200 sieves	
#50 #100		1.5	1	-	25.9 6.6	3.5	9.8	96.5		nust be at least 4% e (nom. Max. 1.0")	6 for the 3/4" sieve when
LBW		1.4	1		0.8	1.1	2.4	98.9	a 1.5 max. siz	e (nom. wax. 1.0)	aggregate is used.
roduction G	radation	Batch Plant Gra		regate Supplier Grad				on Sample (IPS	I S)		
Coarsene	ess Factor:	61	Work	ability Factor:	34	36.7		eness Factor:	62		
<u> </u>				· · · ·			Work	ability Factor:	35		
					1945 7			Cumulative	%	Cumulative	
	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
4.0		52, 41					2"	100.0	0.0	0.0	
् <sup>40</sup>			57,39	67, 39 68, 38	75, 39		1.5"	100.0	0.0	0.0	
<u>ຍ</u>							1"	100.0	0.0	0.0	
<u>ā</u>			■ 60, 3	oduction Gradation			3/4"	95.0	5.0	5.0	
<b>35</b> - 35			!				1/2"	70.5	24.5	29.5	
<u></u>	45, 33	52, 34		i			3/8"	60.0	10.5	40.0	
Workability Factor (%)	40, 33		57, 31	<b>67</b> 6 <b>8</b> ,13	1		#4	44.4	15.6	55.6	
		_		0,08,13	' I		#8	35.5 28.5	9.0	64.5	
Ϋ́	Operating Zone				75, 28		#16 #30	28.5	7.0 7.0	71.5 78.5	
iš iL	Boundary				75,20		#30	10.2	11.3	89.8	
25 +		50 5	55 60		) 75	80	#100	3.1	7.1	96.9	
1 1 1		50 4						0.1		00.0	
40	45		Coarsenes	s Factor (%)	) 15	00	LBW	1.3	1.8	98.7	

Approved By: Mary 1. Ball

PLANT a		P-102					Contractor:				
Sample Date		11/20/23			oncrete Grade:	DM, 4500HP					
Dates Test R	epresents:	11/21/2023	through	11/27/2023	_		MDOT No.:			. ,	
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific	%					
6AA	58-003	Stoneco	1375	8.19	<b>Gravity</b> 2.69	Contribution 46.6					
26A	58-003	Stoneco	425	2.53	2.69	14.4					
20/7 2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				0110	50100
2.10	01010	Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%	_		ERIOR
						Cumulative		Cumulative			
Sieve	(	6AA	26	A	2NS	% Passing	% Retained	% Retained			Materials, LLC
						5					10 Mile Rd.
2"		00.0	10		100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	100		100.0	100.0	0.0	0.0		raimingto	n Hills, MI 48336
1" 2/4"		100.0	100		100.0	100.0	0.0	0.0			
3/4" 1/2"		85.4 44.2	100		100.0 100.0	93.2 73.9	6.8 19.3	6.8 26.1			
3/8"		18.5	86		100.0	60.1	13.8	39.9	*Maximum % Retained must be above the 3/8" sie		above the 2/8" sieve
3/0 #4		3.6	19	-	98.4	42.8	17.3	57.2	*Any two adjacent sieves must equal 10% except		
#8		1.7	6.2		84.6	34.7	8.1	65.3		00 and #200 sieves	
#16		1.2	3.		66.9	27.1	7.5	72.9			for each sieve except
#30		1.2	2.		44.8	18.4	8.7	81.6		00 and #200 sieves	•
#50		1.2	2.	4	16.7	7.4	11.0	92.6	*% Retained	must be at least 4%	5 for the 3/4" sieve wher
#100		1.2	2.	2	2.7	1.9	5.5	98.1	a 1.5" max. siz	e (nom. Max. 1.0")	aggregate is used.
LBW		0.9	2.	0	0.5	0.9	1.0	99.1			
Production G	Gradation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations	Adjusted WF	Intial Production	on Sample (IPS	S)		
Coarsene	ess Factor:	61	Worl	ability Factor:	35	37.2	Coars	eness Factor:	61		
45							Work	ability Factor:	36		
_	45, 44				JMF Zone		0:	Cumulative	%	Cumulative	
1 1	+5, 44				JIVIF 2011e		Sieve	% Passing	Retained	% Retained	
4.0		52, 41 <b></b>	40	67 40			2"	100.0	0.0	0.0	
ত <sup>40</sup> া		,		68, 38	75, 39		1.5"	100.0	0.0	0.0	
<u>ی</u>			- Pro	duction Gradation			1"	99.3	0.7	0.7	
5			■ 601B8				3/4"	89.2	10.1	10.8	
Factor (%)							1/2"	70.7	18.5	29.3	
		52, 34	+	<b>i</b>			3/8"	60.7	10.0	39.3	
	45, 33		L				#4	44.4	16.3	55.6	
			32	<b>67, 32</b> 68, 31			#8	35.9	8.5	64.1	
	1						#16	27.3	8.6	72.7	
	Operating Zone			-			#30	19.1	8.2		
	Operating Zone Boundary				75, 28					80.9	
Workability					75, 28		#50	7.4	11.7	92.6	
		50 55		Factor (%)	75, 28	80					

Approved By:

PLANT a		12					Contractor:			-	
Sample Date	:	11/20/23		C	oncrete Grade:	DM, 4500HP	-				
Dates Test R	epresents:	11/21/2023	through	11/27/2023			MDOT No.:			_	
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1450	8.87	2.62	49.9	1				
26A	71-47	Presque Isle	305	1.87	2.62	10.5					
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6	1			CUD	ERIOR
		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"		00.0	100		100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	100		100.0	100.0	0.0	0.0		Farmington	n Hills, MI 48336
1"		97.6	100		100.0	98.8	1.2	1.2			
3/4"		77.0	100		100.0	88.5	10.3	11.5			
1/2"		34.4	93		100.0	66.6	21.9	33.4			
3/8"		18.6	82		100.0	57.5	9.1	42.5	*Maximum % Retained must be above the 3/8" si		
#4		3.5	17		96.7	41.9	15.6	58.1	*Any two adjacent sieves must equal 10% excep		
#8		1.9	3.		81.6	33.6	8.3	66.4	· ·	00 and #200 sieves	
#16		1.7	1.		65.7	27.0	6.6	73.0			6 for each sieve except
#30 #50		1.6 1.6	1. 1.		49.8 25.6	20.7 11.1	6.4 9.6	79.3 88.9	· ·	00 and #200 sieves	
#50 #100		1.4	1.		25.6 5.4	3.0	9.6	88.9 97.0			6 for the 3/4" sieve whe
LBW		1.4	1.		0.6	1.0	2.0	99.0	a 1.5 max. siz	e (nom. Max. 1.0")	aggregate is used.
		Batch Plant Grad		egate Supplier Gra					<b>]</b>		
Production G	ess Factor:	64		ability Factor:	<b>34</b>	36.1	Intial Productio	eness Factor:	63	1	
45	-35 1 40101.	04		ability ractor.	54			ability Factor:	36	1	
_	45, 44							Cumulative	%	Cumulative	
-		52, 41			JMF Zone		Sieve	% Passing	Retained	% Retained	
40		52, 4	57, 40	<u>68,</u> 40			2"	100.0	0.0	0.0	
<b>?</b> <sup>↓</sup>				68, 38	75, 39		1.5"	100.0	0.0	0.0	
, L			!				1"	99.3	0.7	0.7	
<b>9</b>			■ 60, 36	Production Grac	lation		3/4"	89.0	10.3	11.0	
<b>3</b> 5 -			Ĩ	i			1/2"	70.3	18.7	29.7	
	45, 33	52, 34		•			3/8"	59.9	10.4	40.1	
	1,000		57, 22	68, 32 68, 31			#4	41.9	18.0	58.1	
90 <u>1</u> <u>1</u>		_		68, 31			#8	35.9	6.0	64.1	
2	Operating Zone				75 00		#16	27.8	8.2	72.2	
Workability Factor (%)	Boundary				75, 28		#30	18.9	8.8	81.1	
25 +							#50	6.3	12.6	93.7	
40	45	<u> </u>	60 60	$E_{0}^{65}$	75	80	#100	1.7	4.6	98.3	

LBW

1.0

0.7

 $\frac{60}{\text{Coarseness Factor (\%)}^{65}}$ 

PREPARED BY: SM, LLC Technical Service

ActionLimits Boundary = - - - - -

Approved By: Mart 1. Ball

99.0

Sample Date	#:	<b>p11</b> 11/20/23		<i>с</i>	Concrete Crede	DM, 4500HP	Contractor:			-		
Sample Date Dates Test R		11/21/2023	through	11/27/2023			MDOT No.:					
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution	WDOT NO					
6AA	71-47	Presque Isle	1455	8.90	2.62	50.1						
26A	71-47	Presque Isle	300	1.83	2.62	10.3						
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6				CUD	ERIOR	
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	_		ERIOR	
Sieve	(	6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			<u>Materials, LLC</u> 10 Mile Rd.	
2"	1	100.0	100	0.0	100.0	100.0	0.0	0.0		Suite 500		
1.5"		100.0	100		100.0	100.0	0.0	0.0	]	Farmingto	n Hills, MI 48336	
1"		96.5	100	0.0	100.0	98.2	1.8	1.8	]			
3/4"		78.8	100		100.0	89.4	8.9	10.6	l			
1/2"		33.1	93		100.0	65.9	23.5	34.1				
3/8"		20.4	82		100.0	58.3	7.5	41.7		imum % Retained must be above the 3/8" sieve.		
#4		4.4	17		95.7	41.9	16.4	58.1	*Any two adjacent sieves must equal 10% except ma			
#8		2.9	3.		83.9	35.0	6.9	65.0	nom. max., #100 and #200 sieves.			
#16		2.6	1.		68.9	28.8	6.3	71.2			6 for each sieve except	
#30 #50		2.5 2.4	1.		49.5 24.0	21.0 10.8	7.8 10.1	79.0 89.2		00 and #200 sieves		
#30 #100		2.4	1.		7.3	4.2	6.7	95.8		must be at least 4%	6 for the 3/4" sieve when	
LBW		1.8	1.		1.9	1.8	-		a 1.5 max. siz	e (1011. Max. 1.0)	aygregate is used.	
						0.1	2.4	98.2				
)raduation C	radation	Batch Plant Gra	dations 🕥 Agg				2.4	98.2				
		Batch Plant Gra	0.33	egate Supplier Gra	dations	Adjusted WF	Intial Production	on Sample (IPS	1	1		
Coarsene	Bradation Ess Factor:	0	0.33		dations		Intial Productio Coars	on Sample (IPS eness Factor:	62	]		
Coarsene	ess Factor:	9	0.33	egate Supplier Gra	dations	Adjusted WF	Intial Productio Coars	on Sample (IPS eness Factor: ability Factor:	62 36	Cumulativa		
Coarsene		9	0.33	egate Supplier Gra	dations	Adjusted WF	Intial Productio Coars	on Sample (IPS eness Factor: ability Factor: Cumulative	62 36 %	Cumulative		
45	ess Factor:	9	0.33	regate Supplier Gra ability Factor:	dations 35	Adjusted WF	Intial Productio Coars Work Sieve	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing	62 36 % Retained	% Retained		
Coarsene 45 40	ess Factor:	64	0.33	regate Supplier Gra ability Factor:	JMF Zone	Adjusted WF	Intial Productio Coars Work Sieve 2"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0	62 36 % Retained 0.0	% Retained 0.0		
Coarsene 45 40	ess Factor:	64	0.33	egate Supplier Gra ability Factor: 67, 40 68, 38	dations 35 JMF Zone 75, 39	Adjusted WF	Intial Productio Coars Work Sieve	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		
<b>Coarsene</b> 45 40	ess Factor:	64	0.33	67, 40	dations 35 JMF Zone 75, 39	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0	62 36 % Retained 0.0	% Retained 0.0		
<b>Coarsene</b> 45 40	ess Factor:	<b>64</b>	Work	67, 40	dations 35 JMF Zone 75, 39	Adjusted WF	Intial Production 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		
Lactor (%)	45, 44	64	Work	67, 40	dations 35 JMF Zone 75, 39	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 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           27.7           39.6		
Coarsene 45 40 40 35 35	ess Factor:	<b>64</b>	Work	67, 40 67, 40 68, 38 Production Gra	dations 35 JMF Zone 75, 39	Adjusted WF	Intial Productio 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		
45 40 40 35 35	45, 44	<b>64</b>	Work	67, 40	dations 35 JMF Zone 75, 39	Adjusted WF	Intial Production 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 (%)	45, 44	64 52, 41 52, 34 52, 34	Work	67, 40 67, 40 68, 38 Production Gra	dations 35 JMF Zone 75, 39 Idation	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		
Lactor (%)	45, 44 45, 33	64 52, 41 52, 34 52, 34	Work	67, 40 67, 40 68, 38 Production Gra	dations 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		
(%) 45 00 00 00 00 00 00 00 00 00 00 00 00 00	45, 44 45, 44 45, 33 Operating Zone	64 52, 41 52, 34 52, 34	Work	67, 40 67, 40 68, 38 Production Gra	dations 35 JMF Zone 75, 39 Idation	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: Mary 1. Ball

PLANT :		P-32					Contractor:				
Sample Date		11/20/23			concrete Grade	DM, 4500HP					
Dates Test R	Represents:	11/21/2023	through	11/27/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1455	8.90	2.62	50.1					
26A	71-47	Presque Isle	300	1.83	2.62	10.3					
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%	MATERIALS		
Sieve	(	6AA	26	5A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			<b>Materials, LLC</b> 10 Mile Rd.
2"	1	00.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0		0.0	100.0	100.0	0.0	0.0			n Hills, MI 48336
1"		96.5	: <del>.</del>	0.0	100.0	98.2	1.8	1.8		2	
3/4"		78.8	10	0.0	100.0	89.4	8.9	10.6			
1/2"		33.1	93	3.9	100.0	65.9	23.5	34.1			
3/8"	2	20.4	82	2.4	100.0	58.3	7.5	41.7	*Maximum % Retained must be above the 3/8" siev		above the 3/8" sieve.
#4		4.4	17	<b>'</b> .7	95.7	41.9	16.4	58.1	*Any two adjacent sieves must equal 10% except r		
#8		2.9	3	-	83.9	35.0	6.9	65.0	nom. max., #1	00 and #200 sieves	
#16		2.6		.8	68.9	28.8	6.3	71.2	*% Retained	must be at least 4%	for each sieve except r
#30		2.5		.4	49.5	21.0	7.8	79.0	,	00 and #200 sieves	
#50		2.4		.4	24.0	10.8	10.1	89.2			5 for the 3/4" sieve when
#100 LBW		2.3 1.8	1	.2	7.3	4.2 1.8	6.7 2.4	95.8 98.2	a 1.5" max. siz	e (nom. Max. 1.0")	aggregate is used.
Production G		Batch Plant Gra		regate Supplier Gra				on Sample (IPS	<b>.</b>		
	ess Factor:	64	Work	ability Factor:	35	37.5		eness Factor:	-/ 62		
		0-1			00	01.0		ability Factor:	36		
45	•							Cumulative	%	Cumulative	
	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
		52, 41		07.40			2"	100.0	0.0	0.0	
<b>a</b> <sup>40</sup>		-21		67, 40	75, 39		1.5"	100.0	0.0	0.0	
8				68, 38			1"	100.0	0.0	0.0	
<u>ה</u>			<b>6</b> 0, <b>3</b> E	i	dation		3/4"	95.0	5.0	5.0	
<b>5</b> 35							1/2"	72.3	22.8	27.7	
й I	$\rightarrow$	52, 34	-				3/8"	60.4	11.8	39.6	
it.	45, 33		!				#4	42.6	17.8	57.4	
<b>iq</b> 30   _			,	<b>67, 32</b> 68, 31			#8	36.0	6.6	64.0	
	Operating Zone						#16	29.5	6.5	70.5	
<b>j</b> [ <sup>30</sup>	Boundary				75, 28		#30	20.3	9.2	79.7	
Vorkal							#50	9.5	10.8	90.5	
Worka	,	<u> </u>	<u> </u>	· · · · · · · ·			#100	2.4	61	06.6	
Aorkal 25 40	45	50 55	5 _ 60	65 <b>Factor (%)</b>	75	80	#100 LBW	3.4 1.3	6.1 2.1	96.6 98.7	

Approved By:

PLANT #		P-35					Contractor:				
Sample Date		11/20/23			oncrete Grade	: DM, 4500HP					
Dates Test R	Represents:	11/21/2023	through	11/27/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1375	8.19	2.69	46.6					
26A	58-003	Stoneco	425	2.53	2.69	14.4					
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				CUD	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>Materials, LLC</u> 10 Mile Rd.
2"		00.0	100	).0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	100	-	100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		100.0	100		100.0	100.0	0.0	0.0			
3/4"		85.4	100		100.0	93.2	6.8	6.8			
1/2"		44.2	99		100.0	73.9	19.3	26.1			
3/8"		18.5	86		100.0	60.1	13.8	39.9	*Maximum % Retained must be above the 3/8" s		
#4		3.6	19		98.4	42.8	17.3	57.2			qual 10% except max.,
#8 #16		1.7 1.2	6. 3.		84.6 66.9	34.7 27.1	8.1 7.5	65.3 72.9		00 and #200 sieves	
#16 #30		1.2	3.	-	44.8	18.4	8.7	81.6			for each sieve except
#50		1.2	2.		16.7	7.4	11.0	92.6		00 and #200 sieves	5 5 for the 3/4" sieve whe
#100		1.2	2.		2.7	1.9	5.5	98.1		e (nom. Max. 1.0")	
LBW		0.9	2.		0.5	0.9	1.0	99.1		o (nom: max: 1.0 )	aggrogato lo acoa.
Production G	Gradation	O Batch Plant Gra	dations 💿 Aggr	egate Supplier Grad	dations	Adjusted WF	Intial Production	on Sample (IPS	<b>.</b> 5)		
	ess Factor:	61		ability Factor:	35	37.2		eness Factor:	-) 61		
				<b>,</b>				ability Factor:	36		
45								Cumulative	%	Cumulative	
- 4	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
1		52, 41					2"	100.0	0.0	0.0	
<b>a</b> <sup>40</sup>		56,			75, 39		1.5"	100.0	0.0	0.0	
2				68, 38	T		1"	99.3	0.7	0.7	
5			■ Proc ■ 60,136	luction Gradation			3/4"	89.1	10.2	10.9	
<b>5</b> 35			- 00,198	i			1/2"	70.5	18.6	29.5	
й į	$\rightarrow$	52, 34		!			3/8"	60.5	10.0	39.5	
ity	45, 33						#4	44.1	16.4	55.9	
<b>iq</b> 30		56,	31	<b>67, 88</b> , 31			#8	35.6	8.5	64.4	
	Operating Zone	2					#16	27.7	7.9	72.3	
	Boundary				75, 28		#30	20.6	7.1	79.4	
/orkal	,						#50	8.7	11.8	91.3	
Worka	,										
25 40	45	50 55	5 60	<sup>65</sup> 70 <b>Factor (%)</b>	75	80	#100 LBW	1.6 1.1	7.1 0.6	98.4 98.9	

Approved By: Mary 1. Ball

PLANT #		P-36					Contractor:				
Sample Date	:	11/20/23		C	Concrete Grade	: DM, 4500HP					
Dates Test R	epresents:	11/21/2023	through	11/27/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1450	8.87	2.62	49.9					
26A	71-47	Presque Isle	305	1.87	2.62	10.5					
2NS	63-92	Grange Hall	1150	6.95	2.65	39.6				SIIP	ERIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	1	MATERIALS	
Sieve	(	6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			<b>Materials, LLC</b> 10 Mile Rd.
2"	1	00.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	10		100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		97.6		0.0	100.0	98.8	1.2	1.2			
3/4"		77.0	10	0.0	100.0	88.5	10.3	11.5	1		
1/2"	(	34.4	93	8.9	100.0	66.6	21.9	33.4			
3/8"		18.6	82		100.0	57.5	9.1	42.5	*Maximum % Retained must be above the 3/8" siev		above the 3/8" sieve.
#4		3.5	17		97.3	42.1	15.4	57.9	*Any two adja	*Any two adjacent sieves must equal 10% except ma	
#8		1.9	3		82.8	34.1	8.0	65.9	nom. max., #100 and #200 sieves.		
#16		1.7		.8	67.4	27.7	6.4	72.3			for each sieve except
#30 #50		<u>1.6</u> 1.6	1.		49.2 20.9	20.4 9.2	7.3 11.2	79.6 90.8	,	00 and #200 sieves	
#30 #100		1.4		.2	20.9	9.2	7.3	90.8		nust be at least 4% e (nom. Max. 1.0")	5 for the 3/4" sieve when
LBW		1.2	1		0.4	0.9	1.1	99.1	a 1.5 max. siz		ayyreyale is used.
Production G		Batch Plant Gra		regate Supplier Gra				on Sample (IPS	5)		
Coarsene	ess Factor:	64	Work	ability Factor:	34	36.6		eness Factor:	63		
				,,				ability Factor:	35		
45								Cumulative	%	Cumulative	
- 4	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
-		52, 41	$ \longrightarrow $				2"	100.0	0.0	0.0	
<b>a</b> <sup>40</sup>			58, 39	b8, <del>39</del>	75, 39		1.5"	100.0	0.0	0.0	
త				68, 38			1"	99.1	0.9	0.9	
o l			∎ ∎ ■ 60.36	Production Gra	adation		3/4"	90.3	8.8	9.7	
<b>5</b> 35			- 00, 30	IPS			1/2"	69.2	21.1	30.8	
Щ́ і		52, 34		i			3/8"	59.1	10.1	40.9	
li (	45, 33						#4	41.8	17.3	58.2	
Workability Factor (%)			58, 31	68,33	1		#8	35.1	6.6	64.9	
8	Operating Zone						#16 #30	28.5 21.2	6.6 7.3	71.5 78.8	
<u>s</u>  L	Boundary				75, 28		#30 #50	8.7	12.5	78.8 91.3	
>							#50	0.7 1.8	7.0	91.3	
25							<i>T</i> 100	1.0	1.0	JU.Z	
25 <del> </del> 40	45	50 55	5 60	<b>Factor (%)</b>	75	80	LBW	0.7	1.0	99.3	

Approved By: Mary 1. Ball

PLANT i Sample Date		<b>P-39</b>		~	Concrete Grade		Contractor:			-	
•					oncrete Grade	DIN, 450011					
Dates Test F		11/21/2023	through	11/27/2023	Specific	%	MDOT No.:			-	
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Gravity	Contribution					
6AA	71-47	Presque Isle	1505	9.21	2.62	51.8					
26A	71-47	Presque Isle	300	1.83	2.62	10.3					
2NS	44-051	Krake Willis Rd	1100	6.65	2.65	37.9				CUD	ERIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	MATERIALS		
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<b>Superior I</b> 30701 W. 1	<b>Materials, LLC</b> L0 Mile Rd.
2"		100.0	10	0.0	100.0	100.0	0.0	0.0	1	Suite 500	
1.5"		100.0	10	0.0	100.0	100.0	0.0	0.0	]	Farmingtor	n Hills, MI 48336
1"		96.6		0.0	100.0	98.2	1.8	1.8			
3/4"		81.0		0.0	100.0	90.2	8.1	9.8			
1/2"		39.6	94		100.0	68.2	22.0	31.8			
3/8"		22.8	83		100.0	58.3	9.8	41.7	*Maximum % Retained must be above the 3/8"		
#4		3.6		0.4	98.8	41.4	17.0	58.6	· ·		qual 10% except max.,
#8		1.8	-	.8	84.6	33.6	7.8	66.4	· · · · ·	00 and #200 sieves.	
#16 #30		1.6 1.6		2	67.0 48.4	26.5 19.4	7.0 7.1	73.5 80.6			for each sieve except i
#30 #50		1.5	2	.4	21.6	9.2	10.2	90.8		00 and #200 sieves.	o for the 3/4" sieve wher
#100		1.4		.8	5.2	2.9	6.3	97.1		e (nom. Max. 1.0") a	
LBW		1.2		.6	1.0	1.2	1.7	98.8	a 1.5 max. 312		aggregate is used.
Production G	radation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations	Adjusted WF	Intial Production	on Sample (IPS	<b>.</b> 2)		
	ess Factor:	-		ability Factor:	34	36.1		eness Factor:	63	1	
		05	WOIP	ability racior.	54	30.1		ability Factor:	36	•	
45 T						)	WORK	Cumulative	30 %	Cumulative	
1 4	45, 44				JMF Zone		Sieve	% Passing	70 Retained	% Retained	
-		52, 41					2"	100.0	0.0	0.0	
-				68, 40	75, 39		1.5"	100.0	0.0	0.0	
<b>4</b> 0				68, 38			1"	100.0	0.0	0.0	
<b>(%)</b> <sup>40</sup>			1	Į			3/4"	89.7	10.3	10.3	
40 (%) <b>Jo</b>				Droduction Hradat					19.4		
<sup>40</sup> 35			■ 60, <mark>36</mark>	Production Gradation			1/2"	70.3	13.4	29.7	
<b>Factor (%)</b>		52, 34	■ 60, <b>36</b>	Production <b>Pradation</b>			3/8"	59.1	11.2	40.9	
ity Factor (%)	45, 33	52, 34	• 60, <b>36</b>				3/8" #4	59.1 42.8	11.2 16.3	40.9 57.2	
bility Factor (%)	45, 33	52, 34	• 60, <b>36</b>	Production Gradatio			3/8" #4 #8	59.1 42.8 35.5	11.2 16.3 7.3	40.9 57.2 64.5	
kability Factor (%) 00 01 02 02 02 04 04 04 04 04 04 04 04 04 04	45, 33 Operating Zone		60, <b>36</b>				3/8" #4 #8 #16	59.1 42.8 35.5 29.0	11.2 16.3 7.3 6.5	40.9 57.2 64.5 71.0	
<b>/orkability Factor (%)</b> 00 25 00 01 01			• 60, <b>36</b>				3/8" #4 #8 #16 #30	59.1 42.8 35.5 29.0 21.2	11.2 16.3 7.3 6.5 7.7	40.9 57.2 64.5 71.0 78.8	
Workability Factor (%)	Operating Zone		• 60, <b>36</b>		2		3/8" #4 #8 #16 #30 #50	59.1 42.8 35.5 29.0 21.2 9.8	11.2 16.3 7.3 6.5 7.7 11.5	40.9 57.2 64.5 71.0 78.8 90.2	
Morkability Factor (%)	Operating Zone		30, 22		2	80	3/8" #4 #8 #16 #30	59.1 42.8 35.5 29.0 21.2	11.2 16.3 7.3 6.5 7.7	40.9 57.2 64.5 71.0 78.8	

Approved By: Mary 1. Ball

PLANT		P-02		-			Contractor:				
Sample Date	-	11/20/23			oncrete Grade	DIVI, 4500HP	MOOTN				
Dates Test R	(epresents:	11/21/2023	through	11/27/2023	0	0/	MDOT No.:				•
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific	%					
6AA	71-47	Presque Isle	1450	8.87	Gravity 2.62	Contribution 49.9					
26A	71-47	Presque Isle	305	1.87	2.62	10.5					
20/1 2NS	63-115	Ray Rd	1150	6.95	2.65	39.6					
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	SUPERIOR MATERIALS		
Sieve	e	6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		30701 W. 1	<b>Materials, LLC</b> 10 Mile Rd.
2"	1	00.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	10		100.0	100.0	0.0	0.0		Farmingtor	n Hills, MI 48336
1"		97.6	10		100.0	98.8	1.2	1.2			
3/4"		77.0	-	0.0	100.0	88.5	10.3	11.5			
1/2"		34.4	93		100.0	66.6	21.9	33.4			
3/8"		18.6	82		100.0	57.5	9.1	42.5	*Maximum % Retained must be above the 3/8" sie		
#4 #8		3.5 1.9	17		96.7 81.6	41.9 33.6	15.6 8.3	58.1 66.4	*Any two adjacent sieves must equal 10% exce		
#8 #16		1.9	1		65.7	27.0	6.6	73.0	,	00 and #200 sieves.	for each sieve except
#10		1.6	1		49.8	20.7	6.4	79.3		100 and #200 sieves.	•
#50		1.6	1.		25.6	11.1	9.6	88.9	,		for the 3/4" sieve wher
#100		1.4	1		5.4	3.0	8.1			e (nom. Max. 1.0") a	
LBW		1.2	1.	1	0.6	1.0	2.0	99.0		,	
Production G	adation	O Batch Plant Gra	dations 💿 Agg	regate SupplierGrad	ations	Adjusted WF	Intial Production	on Sample (IPS	3)		
	ess Factor:	64	Work	ability Factor:	34	36.1		eness Factor:	63		
				<b>,</b>	•			ability Factor:	35		
<sup>45</sup> ]		_			JMF Zone			Cumulative	%	Cumulative	
1	45, 44				JIVIF ZONE		Sieve	% Passing	Retained	% Retained	
] '		52, 41					2"	100.0	0.0	0.0	
-							4 5 1	100.0	0.0	0.0	
40			58, 39	68, 39	75, 39		1.5"				
40			58, 39	<b>68, 39</b> 68, 38	75, 39		1"	100.0	0.0	0.0	
40							1" 3/4"	100.0 95.1	0.0 4.9	0.0 4.9	
40				68, 39 68, 38 Product on Grac			1" 3/4" 1/2"	100.0 95.1 74.6	0.0 4.9 20.5	0.0 4.9 25.4	
<b>Factor (%)</b>		52, 34					1" 3/4" 1/2" 3/8"	100.0 95.1 74.6 59.3	0.0 4.9 20.5 15.3	0.0 4.9 25.4 40.7	
<b>Factor (%)</b>	45, 33	52, 34	■ 60, 36	Production Grad			1" 3/4" 1/2" 3/8" #4	100.0 95.1 74.6 59.3 42.1	0.0 4.9 20.5 15.3 17.2	0.0 4.9 25.4 40.7 57.9	
<b>Factor (%)</b>		52, 34					1" 3/4" 1/2" 3/8" #4 #8	100.0 95.1 74.6 59.3 42.1 35.1	0.0 4.9 20.5 15.3 17.2 7.1	0.0 4.9 25.4 40.7 57.9 64.9	
<b>Factor (%)</b>	Operating Zone	52, 34	■ 60, 36	Production Grad	dation		1" 3/4" 1/2" 3/8" #4 #8 #16	100.0 95.1 74.6 59.3 42.1 35.1 29.2	0.0 4.9 20.5 15.3 17.2 7.1 5.9	0.0 4.9 25.4 40.7 57.9 64.9 70.8	
<b>Factor (%)</b>		52, 34	■ 60, 36	Production Grad			1" 3/4" 1/2" 3/8" #4 #8 #16 #30	100.0 95.1 74.6 59.3 42.1 35.1 29.2 21.9	0.0 4.9 20.5 15.3 17.2 7.1 5.9 7.3	0.0 4.9 25.4 40.7 57.9 64.9 70.8 78.1	
ility Factor (%)	Operating Zone	52, 34	• 60, 36	Production Grad	dation		1" 3/4" 1/2" 3/8" #4 #8 #16	100.0 95.1 74.6 59.3 42.1 35.1 29.2	0.0 4.9 20.5 15.3 17.2 7.1 5.9	0.0 4.9 25.4 40.7 57.9 64.9 70.8	

Approved By: