### **Production Gradation Report**

#:	P-101					Contractor:			
¢	12/27/21			Concrete Grade:	DM				
epresents:	12/28/2021	through	1/3/2022			MDOT No.:			
Pit #	Source	Weight (SSD)	ft <sup>3</sup>	-	% Contribution				
71-47	Presque Isle	1560	9.54						
71-47					6.9				
75-051	Mid-Michigan	1150	6.93	2.66	39.5				GUI
	Total Wt	2910	17.69		100.0	< Verify this n	umber is 100%	_	MAT
(	δAA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superio</u> 30701 W
1	00.0	100	0.0	100.0	100.0	0.0	0.0		Suite 50
1	00.0	100	).0	100.0	100.0	0.0	0.0		Farming
Ģ	98.7	100	).0	100.0	99.3	0.7	0.7		
				100.0	91.5	7.8	8.5		
									Retained must I
									cent sieves mus
									must be at least
							-		
								a 2" max. size	(nom. Max. 1.5")
	-	_							
		0.11	•			Initial Producti	on Sample (IPS	5)	
ess Factor:	64	Work	ability Factor:	34	36.6		on Sample (IPS eness Factor:	S) 62	
ess Factor:	64	Work	ability Factor:	34		Coars			
45, 44		Work	ability Factor:	JMF Zone		Coars	eness Factor:	62	
	<b>64</b>	Work	ability Factor:			Coars Work Sieve 2"	eness Factor: ability Factor: Cumulative % Passing 100.0	62 35 % Retained 0.0	% Retained
		Work	67, 39	JMF Zone		Coars Work Sieve 2" 1.5"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	62 35 % Retained 0.0 0.0	% Retained 0.0 0.0
		57, 39	67, <del>39</del>	JMF Zone 75, 39		Coars Work Sieve 2" 1.5" 1"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0	62 35 % Retained 0.0 0.0 0.0	% Retained 0.0 0.0 0.0
		57, 39	67, <del>39</del>	JMF Zone		Coars Work Sieve 2" 1.5" 1" 3/4"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0	62 35 % Retained 0.0 0.0 0.0 0.0 5.0	% Retained 0.0 0.0 0.0 5.0
	52, 41	57, 39	67, <del>39</del>	JMF Zone 75, 39		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 70.5	62 35 % Retained 0.0 0.0 0.0 5.0 24.5	% Retained 0.0 0.0 0.0 5.0 29.5
45, 44		57, 39	67, <del>39</del>	JMF Zone 75, 39		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 70.5 60.0	62 35 % Retained 0.0 0.0 0.0 5.0 24.5 10.5	% Retained 0.0 0.0 5.0 29.5 40.0
	52, 41	57, 39	67, <del>39</del> 68, 3 β Production G β S	JMF Zone 75, 39 radation		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 70.5 60.0 44.4	62 35 % Retained 0.0 0.0 0.0 5.0 24.5 10.5 15.6	% Retained 0.0 0.0 5.0 29.5 40.0 55.6
45, 44	52, 41	<b>57</b> , 39 <b>6</b> 0, 3	67, <del>39</del>	JMF Zone 75, 39 radation		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 95.0 70.5 60.0 44.4 35.5	62 35 % Retained 0.0 0.0 0.0 5.0 24.5 10.5 15.6 9.0	% Retained 0.0 0.0 5.0 29.5 40.0 55.6 64.5
45, 44 45, 33 Operating Zone	52, 41	<b>57</b> , 39 <b>6</b> 0, 3	67, <del>39</del> 68, 3 β Production G β S	JMF Zone 75, 39 radation		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 95.0 70.5 60.0 44.4 35.5 28.5	62 35 % Retained 0.0 0.0 0.0 5.0 24.5 10.5 15.6 9.0 7.0	% Retained       0.0       0.0       0.0       29.5       40.0       55.6       64.5       71.5
45, 44	52, 41	<b>57</b> , 39 <b>6</b> 0, 3	67, <del>39</del> 68, 3 β Production G β S	JMF Zone 75, 39 radation		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 95.0 70.5 60.0 44.4 35.5 28.5 21.5	62 35 % Retained 0.0 0.0 0.0 5.0 24.5 10.5 15.6 9.0 7.0 7.0	% Retained       0.0       0.0       0.0       29.5       40.0       55.6       64.5       71.5       78.5
45, 44 45, 33 Operating Zone	52, 41	<b>57</b> , <b>39 •</b> 60, 3	67, <del>39</del> 68, 3 β Production G β S	JMF Zone 18 radation 31 75, 28		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 95.0 70.5 60.0 44.4 35.5 28.5	62 35 % Retained 0.0 0.0 0.0 5.0 24.5 10.5 15.6 9.0 7.0	0.0 0.0 5.0 29.5 40.0 55.6 64.5 71.5
	e: Represents: Pit # 71-47 71-47 75-051 ( 1 1 5 5 6 1 1 5 6 1 1 5 6 1 1 5 6 1 1 5 6 1 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1	12/27/21       Represents:     12/28/2021       Pit #     Source       71-47     Presque Isle       71-47     Presque Isle       75-051     Mid-Michigan       Total Wt     6AA       100.0     100.0       100.0     98.7       84.2     39.1       23.1     2.8       1.8     1.6       1.4     1.3       1.3     1.1	12/27/21       Represents:     12/28/2021     through       Pit #     Source     Weight (ssb)       71-47     Presque Isle     1560       71-47     Presque Isle     200       75-051     Mid-Michigan     1150       Total Wt     2910     6AA     26       100.0     100     100       100.0     100     100       98.7     100     100       39.1     96     23.1     84       2.8     14     1.8     3.       1.6     1.     1.4     1.       1.3     1.     1.3     1.	12/27/21     ()       Represents:     12/28/2021     through     1/3/2022       Pit #     Source     Weight (ssp)     ft <sup>3</sup> 71-47     Presque Isle     1560     9.54       71-47     Presque Isle     200     1.22       75-051     Mid-Michigan     1150     6.93       Total Wt     2910     17.69       6AA     26A       100.0     100.0       100.0     100.0       98.7     100.0       39.1     96.5       23.1     84.8       2.8     14.4       1.8     3.5       1.6     1.7       1.4     1.4       1.3     1.4       1.3     1.3       1.1     1.2	Image: 12/27/21     Concrete Grade:       Represents:     12/28/2021     through     1/3/2022       Pit #     Source     Weight (ssp)     ft <sup>3</sup> Specific Gravity       71-47     Presque Isle     1560     9.54     2.62       71-47     Presque Isle     200     1.22     2.62       75-051     Mid-Michigan     1150     6.93     2.66       Total Wt     2910     17.69     Image: 100.0     100.0       6AA     26A     2NS     2NS       100.0     100.0     100.0     100.0       100.0     100.0     100.0     100.0       98.7     100.0     100.0     100.0       39.1     96.5     100.0       23.1     84.8     100.0       2.8     14.4     98.5       1.8     3.5     83.3       1.6     1.7     68.3       1.4     1.4     29.2       1.3     1.3     7.3       1.1     1.2     0.6	Image: 12/27/21     Concrete Grade: $DM$ Represents:     12/28/2021     through     1/3/2022       Pit #     Source     Weight (ssp)     ft <sup>3</sup> Specific Gravity     % Contribution       71-47     Presque Isle     1560     9.54     2.62     53.6       71-47     Presque Isle     200     1.22     2.62     6.9       75-051     Mid-Michigan     1150     6.93     2.66     39.5       Total Wt     2910     17.69     100.0     100.0       6AA     26A     2NS     Cumulative % Passing       100.0     100.0     100.0     100.0     100.0       100.0     100.0     100.0     100.0     99.3       38.7     100.0     100.0     91.5       39.1     96.5     100.0     67.1       23.1     84.8     100.0     57.7       2.8     14.4     98.5     41.4       1.8     3.5     83.3     34.1       1.6     1.7     68.3     28.0 <td>Image: 12/27/21   Concrete Grade: <math>DM</math>   MOT No.:     Represents:   12/28/2021   through   1/3/2022   MOT No.:     Pit #   Source   Weight (ssp)   ft<sup>3</sup>   Specific Gravity   Contribution     71-47   Presque Isle   1560   9.54   2.62   53.6   53.6     71-47   Presque Isle   200   1.22   2.62   6.9   55.5     Total Wt   2910   17.69   100.0   Cumulative % Passing   % Retained     6AA   26A   2NS   Cumulative % Passing   % Retained     100.0   100.0   100.0   100.0   0.0   0.0     98.7   100.0   100.0   99.3   0.7     84.2   100.0   100.0   99.3   0.7     84.2   100.0   100.0   67.1   24.4     23.1   84.8   100.0   57.7   9.4     2.8   14.4   98.5   41.4   16.3     1.8   3.5   83.3   34.1   7.3     1.6   1.7   68.3   28.0   6.2</td> <td><math display="block">\begin{array}{c c c c c c c c c c c c c c c c c c c </math></td> <td>12/27/21   Concrete Grade:   DM     tepresents:   12/28/2021   through   1/3/2022   MDOT No.:     Pit #   Source   Weight (ssp)   ft<sup>3</sup>   Specific Gravity   % Contribution     71-47   Presque Isle   1560   9.54   2.62   6.9     75-051   Mid-Michigan   1150   6.93   2.66   39.5     Total Wt   2910   17.69   100.0   c Verify this number is 100%     6AA   26A   2NS   Cumulative % Passing   % Retained     100.0   100.0   100.0   100.0   0.0   0.0     100.0   100.0   100.0   100.0   0.0   0.0     98.7   100.0   100.0   99.3   0.7   0.7     84.2   100.0   100.0   67.1   24.4   32.9     23.1   84.8   100.0   57.7   9.4   42.3     1.8   3.5   83.3   34.1   7.3   65.9     1.8   3.5   83.3   21.9   6.1   78.1     1.4   29.2   12.3<!--</td--></td>	Image: 12/27/21   Concrete Grade: $DM$ MOT No.:     Represents:   12/28/2021   through   1/3/2022   MOT No.:     Pit #   Source   Weight (ssp)   ft <sup>3</sup> Specific Gravity   Contribution     71-47   Presque Isle   1560   9.54   2.62   53.6   53.6     71-47   Presque Isle   200   1.22   2.62   6.9   55.5     Total Wt   2910   17.69   100.0   Cumulative % Passing   % Retained     6AA   26A   2NS   Cumulative % Passing   % Retained     100.0   100.0   100.0   100.0   0.0   0.0     98.7   100.0   100.0   99.3   0.7     84.2   100.0   100.0   99.3   0.7     84.2   100.0   100.0   67.1   24.4     23.1   84.8   100.0   57.7   9.4     2.8   14.4   98.5   41.4   16.3     1.8   3.5   83.3   34.1   7.3     1.6   1.7   68.3   28.0   6.2	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	12/27/21   Concrete Grade:   DM     tepresents:   12/28/2021   through   1/3/2022   MDOT No.:     Pit #   Source   Weight (ssp)   ft <sup>3</sup> Specific Gravity   % Contribution     71-47   Presque Isle   1560   9.54   2.62   6.9     75-051   Mid-Michigan   1150   6.93   2.66   39.5     Total Wt   2910   17.69   100.0   c Verify this number is 100%     6AA   26A   2NS   Cumulative % Passing   % Retained     100.0   100.0   100.0   100.0   0.0   0.0     100.0   100.0   100.0   100.0   0.0   0.0     98.7   100.0   100.0   99.3   0.7   0.7     84.2   100.0   100.0   67.1   24.4   32.9     23.1   84.8   100.0   57.7   9.4   42.3     1.8   3.5   83.3   34.1   7.3   65.9     1.8   3.5   83.3   21.9   6.1   78.1     1.4   29.2   12.3 </td



Materials, LLC 10 Mile Rd. n Hills, MI 48336

above the 3/8" sieve. qual 10% except max., for each sieve except max., 6 for the 1" sieve when ggregate is used.

Approved By:

PLANT #	<b>#:</b>	P-102					Contractor:				
Sample Date	:	12/27/21			Concrete Grade	DM				-	
Dates Test R	epresents:	12/28/2021	through	1/3/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1350	8.04	2.69	45.7					
26A	58-003	Stoneco	455	2.71	2.69	15.4					
2NS	63-114	Highland	1150	6.95	2.65	38.9				SUP	ERIOR
		Total Wt	2955	17.71		100.0	< Verify this n	umber is 100%	-		ERIALS
Sieve	(	6 <b>AA</b>	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			<u>Materials, LLC</u> 10 Mile Rd.
2"	1	00.0	100	10	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		on Hills, MI 48336
1"		00.0	100		100.0	100.0	0.0	0.0	1	0	
3/4"		84.1	100		100.0	92.7	7.3	7.3	1		
1/2"	:	35.0	99	.3	100.0	70.2	22.5	29.8	1		
3/8"		15.3	73	.6	100.0	57.2	13.0	42.8	*Maximum %	Retained must be	above the 3/8" sieve.
#4		2.1	8.	3	99.7	41.0	16.2	59.0	*Any two adjacent sieves must equal 10% except		
#8		1.1	3.	5	87.5	35.1	5.9	64.9	nom. max., #1	00 and #200 sieves	6.
#16		0.8	2.		68.2	27.3	7.8	72.7	*% Retained	must be at least 4%	6 for each sieve except i
#30		0.7	1.		46.1	18.5	8.7	81.5		00 and #200 sieves	
#50		0.6	1.		18.3	7.7	10.9	92.3			6 for the 1" sieve when
#100		0.5	1.	-	2.9	1.6	6.1	98.4	a 2" max. size	(nom. Max. 1.5") a	ggregate is used.
LBW		0.5	1.		0.4	0.6	1.0	99.4	1		
Production G	radation	O Batch Plant Gra	dations (•) Agg	regate Supplier Gr	radations	Adjusted WF	Intial Production	on Sample (IPS	6)	_	
Coarsene	ess Factor:	66	Work	ability Factor	: 35	37.6	Coars	eness Factor:	61		
45							Work	ability Factor:	36		
	15, 44				JMF Zone		Sieve	Cumulative	%	Cumulative	
	13, 14				JIVII ZOIIE		Sieve	% Passing	Retained	% Retained	
10		52, 41 <b></b>	40	67 40			2"	100.0	0.0	0.0	
<b>२</b> <sup>40</sup>				68, 38	75, 39		1.5"	100.0	0.0	0.0	
ల			i	Propuctio			1"	99.3	0.7	0.7	
i to			■ 60µ <b>β§</b>	i			3/4"	89.2	10.1	10.8	
Workability Factor (%)							1/2"	70.7	18.5	29.3	
ш ] >		52, 34	+	i			3/8"	60.7	10.0	39.3	
i i	45, 33	56	32				#4	44.4	16.3	55.6	
ig 30				67, 32 68, 3	1		#8	35.9	8.5	64.1	
ž	Operating Zone						#16	27.3	8.6	72.7	
₽ IL	Boundary				75, 28		#30	19.1	8.2	80.9	
> 25							#50	7.4	11.7	92.6	1

80

75

3/8" 10.0 39.3 60.7 55.6 #4 44.4 16.3 35.9 8.5 #8 64.1 #16 27.3 8.6 72.7 #30 19.1 8.2 80.9 92.6 #50 7.4 11.7 #100 1.9 5.6 98.1 LBW 0.7 99.3 1.2

25  $\operatorname{Coarseness}^{60}\operatorname{Factor}^{65}(\%)^{70}$ 55 40 45 50 ActionLimits Boundary = - - - - -PREPARED BY:

Approved By: Marthe Ball

SM, LLC Technical Service

PLANT :	#:	P-32					Contractor:				
Sample Date	:	12/27/21			Concrete Grade:	DM					
Dates Test R	epresents:	12/28/2021	through	1/3/2022			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	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%		MATE	ERIALS
Sieve	(	6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, LLC 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"		98.9	10		100.0	99.4	0.6	0.6		-	
3/4"		32.7	10		100.0	91.3	8.1	8.7			
1/2"	4	45.0	97	.9	100.0	72.2	19.1	27.8			
3/8"		26.8	91	.5	100.0	62.5	9.8	37.5	*Maximum %	Retained must be	above the 3/8" sieve
#4		6.9	29	.8	96.4	44.7	17.8	55.3	*Any two adja	cent sieves must e	equal 10% except ma
#8		3.5	7.	.3	83.3	35.5	9.2	64.5	nom. max., #10	00 and #200 sieves	3.
#16		2.9	2		67.6	28.5	7.0	71.5	*% Retained r	must be at least 4%	6 for each sieve exce
#30		2.7	2		48.7	20.9	7.6	79.1	nom. max., #10	00 and #200 sieves	÷.
#50		2.6	2	.1	23.0	10.6	10.2	89.4	*% Retained r	must be at least 8%	6 for the 1" sieve whe
#100		2.4	2		6.6	4.0	6.6	96.0	a 2" max. size	(nom. Max. 1.5") ag	ggregate is used.
LBW		1.8	1.	.9	0.8	1.4	2.6	98.6			
oduction G	ladation	Batch Plant Gra	0 55	regate Supplier Gr				on Sample (IPS		1	
Coarsene	ess Factor:	58	Work	ability Factor	: 35	38.0	Coarseness Factor		62		
45							Work	ability Factor:	36		1
45	45, 44				JMF Zone		Work Sieve	ability Factor: Cumulative % Passing	36 % Retained	Cumulative % Retained	
	45, 44	52.41		67 40	JMF Zone			Cumulative	%	Cumulative % Retained 0.0	
- 40	45, 44	52.41		67, 40	75.39		Sieve	Cumulative % Passing	% Retained	% Retained 0.0 0.0	
- 40	45, 44	52.41	Production	68, 38	75.39		Sieve 2" 1.5" 1"	Cumulative % Passing 100.0	% Retained 0.0	% Retained 0.0 0.0 0.0	
- 40	45, 44	52.41	Production	Gradation 68, 38	75.39		Sieve 2" 1.5" 1" 3/4"	Cumulative % Passing 100.0 100.0 100.0 95.0	% Retained 0.0 0.0 0.0 5.0	% Retained 0.0 0.0 0.0 5.0	
- 40	45, 44	52.41		Gradation 68, 38	75.39		Sieve 2" 1.5" 1" 3/4" 1/2"	Cumulative % Passing 100.0 100.0 100.0 95.0 72.3	%       Retained       0.0       0.0       0.0       0.0       22.8	% Retained 0.0 0.0 0.0 5.0 27.7	
Factor (%)	45, 44	52.41	Production	Gradation 68, 38	75.39		Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4	%       Retained       0.0       0.0       0.0       0.0       22.8       11.8	% Retained 0.0 0.0 0.0 5.0 27.7 39.6	
Factor (%)	45, 44	52, 41 56	Production	Gradation 68, 38	75, 39		Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6	%       Retained       0.0       0.0       0.0       0.0       22.8       11.8       17.8	% Retained 0.0 0.0 5.0 27.7 39.6 57.4	
Factor (%)		52, 41 56	Production	Gradation 68, 38	75, 39		Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0	%       Retained       0.0       0.0       0.0       0.0       22.8       11.8       17.8       6.6	% Retained       0.0       0.0       0.0       27.7       39.6       57.4       64.0	
Factor (%)	45, 33 Operating Zone	52, 41 <b>56</b> 52, 34 <b>30</b>	Production	Gradation 68, 38	75, 39		Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5	%       Retained       0.0       0.0       0.0       0.0       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	
Factor (%)	45, 33	52, 41 <b>56</b> 52, 34 <b>30</b>	Production	Gradation 68, 38	75, 39		Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5 20.3	%       Retained       0.0       0.0       0.0       0.0       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	
Workability Factor (%) 00 00 00 00 00 00 00 00 00 00 00 00 00	45, 33 Operating Zone	52, 41 <b>56</b> 52, 34 <b>30</b>	Production	Gradation 68, 38	75, 39		Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50	Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5 20.3 9.5	%       Retained       0.0       22.8       11.8       17.8       6.6       6.5       9.2       10.8	% Retained       0.0       0.0       0.0       0.0       5.0       27.7       39.6       57.4       64.0       70.5       79.7       90.5	
Factor (%)	45, 33 Operating Zone	52, 41 <b>56</b> 52, 34 <b>30</b>	Production • 60, 38 ,92	Gradation 68, 38	75, 39		Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5 20.3	%       Retained       0.0       0.0       0.0       0.0       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	

ve. nax., cept max., hen

Approved By: Mart P. Ball

PLANT	#:	P-35					Contractor:				
Sample Date	e:	12/27/21	-	C	Concrete Grade	DM					
Dates Test F	Represents:	12/28/2021	- through	1/3/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1400	8.34	2.69	47.4					
26A	58-003	Stoneco	455	2.71	2.69	15.4					
2NS	81-093	Burmeister	1100	6.65	2.65	37.2				SUP	ERIOR
		Total Wt	2955	17.70		100.0	< Verify this n	umber is 100%	1	MATE	RIALS
Sieve		6AA	26	Α	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior</u> 30701 W. 1	<b>Materials, LLC</b> 10 Mile Rd.
2"		100.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		100.0	10	0.0	100.0	100.0	0.0	0.0	1	Farmingto	n Hills, MI 48336
1"		100.0	100		100.0	100.0	0.0	0.0			
3/4"		84.1	10		100.0	92.5	7.5	7.5			
1/2"		35.0	99		100.0	69.1	23.4	30.9			
3/8"		15.3	73		100.0	55.8	13.3	44.2			above the 3/8" sieve.
#4		2.1	8.		98.6	39.0	16.8	61.0			qual 10% except max.,
#8 #16		1.1 0.8	3.	-	85.3 69.0	32.8 26.4	6.2 6.4	67.2 73.6	· · ·	00 and #200 sieves	
#10		0.8	1.		51.0	19.6	6.8	80.4		nust be at least 4%	for each sieve except r
#50		0.6	1.		20.2	8.1	11.5	91.9	· · ·		for the 1" sieve when
#100		0.5	1.		3.8	1.9	6.2	98.1		(nom. Max. 1.5") ag	
LBW		0.5	1.		1.4	0.9	0.9	99.1		(	59 9
Production G	Gradation	O Batch Plant Gra	adations 💿 Agg	regate Supplier Gra	idations	Adjusted WF	Intial Production	on Sample (IPS	3)	_	
Coarsen	ess Factor:	66	Work	ability Factor:	33	35.3	Coars	eness Factor:	61		
45							Work	ability Factor:	36		
1	45, 44				JMF Zone		Sieve	Cumulative	%	Cumulative	
1								% Passing	Retained	% Retained	
40		52, 41	40	67.40			2"	100.0	0.0	0.0	
ຂີ ໄ				68, 38	75, 39		1.5" 1"	100.0	0.0	0.0	
			i				3/4"	99.3 89.1	0.7 10.2	0.7 10.9	
Factor (%)			■ 60, <sub> </sub> 36	Froduction	Gradation		3/4 1/2"	70.5	10.2	29.5	
	$\rightarrow$	52. 34	j				3/8"	60.5	10.0	39.5	
	45, 33	52, 54		_ !			#4	44.1	16.4	55.9	
<b>≔</b> ]		56	, 31	<b>67, 88</b> , 31			#8	35.6	8.5	64.4	
<b>6</b> 20	1						#16	27.7	7.9	72.3	
	Operating Zone						#30	20.6	7.1	79.4	
orkabi	Operating Zone Boundary				75, 28						
Worka		2			75, 28		#50	8.7	11.8	91.3	
<sup>30</sup> 25 40		50 55	5 60	65 70 Factor (%)		80					

Approved By:

PLANT #	<b>#:</b>	P-39					Contractor:			_	
Sample Date	:	12/27/21		С	oncrete Grade:	DM				-	
Dates Test R	epresents:	12/28/2021	through	1/3/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1605	9.82	2.62	55.2					
26A	71-47	Presque Isle	200	1.22	2.62	6.9					
2NS	63-92	Grange Hall	1100	6.65	2.65	37.9				SUP	ERIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	-		RIALS
Sieve	e	5AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		30701 W. 1	<u>Materials, LLC</u> 10 Mile Rd.
2"	1	00.0	100	).0	100.0	100.0	0.0	0.0	1	Suite 500	
1.5"	1	00.0	100	).0	100.0	100.0	0.0	0.0	]	Farmingto	n Hills, MI 48336
1"	ç	98.7	100	).0	100.0	99.3	0.7	0.7	]		
3/4"		34.2	100	-	100.0	91.3	8.0	8.7			
1/2"		39.1	96	.5	100.0	66.1	25.2	33.9	]		
3/8"	4	23.1	84	.8	100.0	56.5	9.6	43.5	*Maximum %	Retained must be a	above the 3/8" sieve.
#4		2.8	14	.4	97.4	39.4	17.0	60.6	*Any two adja	acent sieves must e	qual 10% except max.,
#8		1.8	3.		82.9	32.6	6.8	67.4	nom. max., #10	00 and #200 sieves	
#16		1.6	1.	7	68.0	26.7	5.9	73.3	*% Retained	must be at least 4%	for each sieve except
#30		1.4	1.4	4	49.9	19.8	7.0	80.2	nom. max., #10	00 and #200 sieves	
#50		1.3	1	4	24.9	10.2	9.5	89.8	*% Retained	must be at least 8%	for the 1" sieve when
#100		1.3	1.3		3.4	2.1	8.1	97.9	a 2" max. size	(nom. Max. 1.5") ag	ggregate is used.
LBW		1.1	1.:	2	0.3	0.8	1.3	99.2			
roduction G	radation	O Batch Plant Grad	dations 💿 Aggr	regate Supplier Grad	dations	Adjusted WF	Intial Production	an Comple (IDC	3)		
roadodon O						Aujusteu WI	Intial Production Sample (IPS		<b>)</b>		
	ess Factor:	65	Work	ability Factor:	33	35.1		eness Factor:	<i>′</i>		
Coarsene	ess Factor:	65	Work	ability Factor:	33	,	Coars		63	]	
Coarsene		65	Work	ability Factor:		,	Coars Work	eness Factor:	63	Cumulative	
Coarsene	ess Factor:	65	Work	ability Factor:	33 JMF Zone	,	Coars	eness Factor: ability Factor:	63 36	Cumulative % Retained	
45 4		<b>65</b>	Work	ability Factor:		,	Coars Work	eness Factor: ability Factor: Cumulative	63 36 %		
<b>Coarsene</b>			Work	<del> </del>		,	Coars Work Sieve	eness Factor: ability Factor: Cumulative % Passing	63 36 % Retained	% Retained	
<b>Coarsene</b>			58, 10	ability Factor:	JMF Zone	,	Coars Work Sieve 2"	eness Factor: ability Factor: Cumulative % Passing 100.0	63 36 % Retained 0.0 0.0 0.0	% Retained 0.0	
<b>Coarsene</b>			58,40	68, 38	75, 39	,	Coars Work Sieve 2" 1.5" 1" 3/4"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 89.7	63 36 % Retained 0.0 0.0 0.0 10.3	% Retained 0.0 0.0 0.0 10.3	
<b>Coarsene</b>			<b>Work</b>	68, 38	75, 39	,	Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 89.7 70.3	63 36 % Retained 0.0 0.0 0.0 10.3 19.4	% Retained 0.0 0.0 0.0 10.3 29.7	
<b>Coarsene</b>			58,40	<del> </del>	75, 39	,	Coars Work Sieve 2" 1.5" 1" 3/4"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 89.7	63 36 % Retained 0.0 0.0 0.0 10.3 19.4 11.2	% Retained 0.0 0.0 0.0 10.3	
<b>Coarsene</b>		52, 41	58,40	68, 38	75, 39	,	Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 89.7 70.3 59.1 42.8	63 36 % Retained 0.0 0.0 0.0 10.3 19.4 11.2 16.3	% Retained 0.0 0.0 0.0 10.3 29.7	
<b>Coarsene</b>	5, 44	52, 41	58,40	68, 38	JMF Zone 75, 39 adation	,	Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 89.7 70.3 59.1 42.8 35.5	63 36 % Retained 0.0 0.0 0.0 10.3 19.4 11.2	% Retained       0.0       0.0       0.0       0.0       0.0       10.3       29.7       40.9       57.2       64.5	
<b>Coarsene</b>	5, 44	52, 41	58,40	P6, 40 68, 38 PSProduction Gra	JMF Zone 75, 39 adation	,	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 89.7 70.3 59.1 42.8 35.5 29.0	63 36 % Retained 0.0 0.0 0.0 10.3 19.4 11.2 16.3 7.3 6.5	% Retained       0.0       0.0       0.0       10.3       29.7       40.9       57.2       64.5       71.0	
<b>Coarsene</b>	5, 44	52, 41	58,40	P6, 40 68, 38 PSProduction Gra	JMF Zone 75, 39 adation	,	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 89.7 70.3 59.1 42.8 35.5 29.0 21.2	63 36 % Retained 0.0 0.0 0.0 10.3 19.4 11.2 16.3 7.3 6.5 7.7	% Retained       0.0       0.0       0.0       10.3       29.7       40.9       57.2       64.5       71.0       78.8	
Morkability Factor (%)	5, 44 45, 33 Operating Zone	52, 41	58,40	P6, 40 68, 38 PSProduction Gra	JMF Zone 75, 39 adation	,	Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 89.7 70.3 59.1 42.8 35.5 29.0 21.2 9.8	63 36 % Retained 0.0 0.0 0.0 10.3 19.4 11.2 16.3 7.3 6.5 7.7 11.5	% Retained       0.0       0.0       0.0       10.3       29.7       40.9       57.2       64.5       71.0       78.8       90.2	
45 40 40 40 40 40 40 40 40 40 40 40 40 40	5, 44 45, 33 Operating Zone	52, 41	<b>58, 40</b> <b>6</b> 0, 36 <b>56, 22</b>	P6, 40 68, 38 PSProduction Gra	JMF Zone 75, 39 adation	,	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 89.7 70.3 59.1 42.8 35.5 29.0 21.2	63 36 % Retained 0.0 0.0 0.0 10.3 19.4 11.2 16.3 7.3 6.5 7.7	% Retained       0.0       0.0       0.0       10.3       29.7       40.9       57.2       64.5       71.0       78.8	

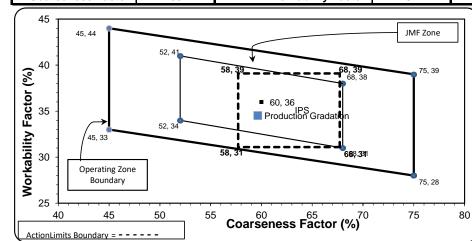
Approved By: Mart 1. Ball

PLANT #	<b>#:</b>	P-02					Contractor:				
Sample Date	:	12/27/21		(	Concrete Grade:	DM				-	
Dates Test R	epresents:	12/28/2021	through	1/3/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution				_	
6AA	71-47	Presque Isle	1605	9.82	2.62	55.2					
26A	71-47	Presque Isle	200	1.22	2.62	6.9					
2NS	63-115	Ray Rd	1100	6.65	2.65	37.9				CUID	EDIO
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	-	MATI	ERIO
Sieve		6AA	26	6A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, 10 Mile Rd.
2"	1	00.0	10	0.0	100.0	100.0	0.0	0.0	1	Suite 500	
1.5"	1	00.0	10	0.0	100.0	100.0	0.0	0.0	1	Farmingto	n Hills, MI 4
1"		99.3	10	0.0	100.0	99.6	0.4	0.4			
3/4"		87.6	10	0.0	100.0	93.1	6.5	6.9			
1/2"		48.7	97	7.9	100.0	71.5	21.6	28.5			
3/8"		27.7	91	.5	100.0	59.5	12.0	40.5	*Maximum %	Retained must be	above the 3/8
#4		5.8	29	9.8	96.4	41.8	17.7	58.2	*Any two adja	acent sieves must e	equal 10% ex
#8		3.2	7	.3	78.6	32.0	9.7	68.0	nom. max., #1	00 and #200 sieves	6.
#16		2.7		.8	62.1	25.2	6.8	74.8	*% Retained	must be at least 4%	6 for each sie
#30		2.5		.3	45.5	18.8	6.4	81.2	nom. max., #1	00 and #200 sieves	8.
#50		2.4		.1	24.3	10.7	8.1	89.3	*% Retained	must be at least 8%	6 for the 1" si
#100		2.3		.1	4.9	3.3	7.4	96.7	a 2" max. size	(nom. Max. 1.5") a	ggregate is u
LBW		1.7	1	.9	0.9	1.4	1.9	98.6			
Production G	radation	Batch Plant Gra	dations 💿 Agg	regate SupplierGrad	dations	Adjusted WF	Intial Production	on Sample (IPS	8)	_	
Coarsene	ess Factor:	60	Worl	ability Factor:	32	34.5	Coars	eness Factor:	63	1	
45							Work	ability Factor:	35	<b></b>	_
	15, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained	
1		52, 41					2"	100.0	0.0	0.0	



s, LLC 48336

/8" sieve. xcept max., eve except max., sieve when used.



Coars	eness Factor:	63	
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"	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

Approved By: Mary P. Ball