### **Production Gradation Report**

PLANT #	#:	P-101					Contractor:					
Sample Date	):	6/1/20		C	Concrete Grade:	DM				-		
Dates Test R		6/2/2020	through	6/8/2020			MDOT No.:					
	•				Specific	%				-		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Gravity	Contribution						
6AA	71-47	Presque Isle	1660	10.15	2.62	57.0						
26A	71-47	Presque Isle	100	0.61	2.62	3.4						
2NS	75-051	Mid-Michigan	1150	6.93	2.66	39.5				SUP	ERIOR	
		Total Wt	2910	17.69		100.0	< Verify this n	umber is 100%	-	MATE	RIALS	
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			<b>Materials, LLC</b> 10 Mile Rd.	
2"	1	100.0	100	).0	100.0	100.0	0.0	0.0	1	Suite 500		
1.5"		100.0	100	).0	100.0	100.0	0.0	0.0	]	Farmingto	n Hills, MI 48336	
1"		98.8	100	).0	100.0	99.3	0.7	0.7				
3/4"		85.5	100		100.0	91.7	7.6	8.3	l			
1/2"		47.8	96		100.0	70.1	21.6	29.9				
3/8"		28.6	83		100.0	58.7	11.4	41.3	*Maximum % Retained must be above the 3/8'			
#4		5.4	20		97.8	42.4	16.3	57.6	*Any two adjacent sieves must equal 10% except max.,			
#8		2.4	4.		81.2	33.6		8.8 66.4 nom. max., #100				
#16		1.9	2.		65.8	27.2	6.5	72.8			for each sieve except	
#30 #50		<u>1.7</u> 1.7	<u> </u>	-	50.2 27.8	20.9 12.0	6.3 8.9	79.1 88.0	· · ·	00 and #200 sieves		
#30 #100		1.7	1.	-	6.6	3.6	8.4	96.4			for the 1" sieve when	
				/	0.0			90.4	a z max. size	(nom. Max. 1.5") ag	ggregate is used.	
						1.3	23	98.7				
LBW	radation	1.5	1.	5	1.0	1.3	2.3	98.7	2)			
LBW Production G		1.5 Batch Plant Grad	1. dations () Aggr	5 egate Supplier Grad	1.0 dations	Adjusted WF	Initial Producti	on Sample (IPS		1		
LBW Production G	Bradation Ess Factor:	1.5	1. dations () Aggr	5	1.0 dations		Initial Producti Coars	on Sample (IPS eness Factor:	62	1		
LBW Production G		1.5 Batch Plant Grad	1. dations () Aggr	5 egate Supplier Grad	1.0 dations	Adjusted WF	Initial Producti Coars	on Sample (IPS eness Factor: ability Factor:	62 35			
LBW Production G Coarsene		1.5 Batch Plant Grad	1. dations () Aggr	5 egate Supplier Grad	1.0 dations	Adjusted WF	Initial Producti Coars	on Sample (IPS eness Factor: ability Factor: Cumulative	62 35 %	Cumulative	l	
LBW Production G Coarsene	ess Factor:	1.5 Batch Plant Grad	1. dations () Aggr	5 egate Supplier Grad	1.0 dations 34	Adjusted WF	Initial Producti Coars Work Sieve	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing	62 35 % Retained	% Retained		
LBW Production G Coarsene	ess Factor:	1.5 O Batch Plant Grad 62	1. dations () Aggr	5 egate Supplier Grad	1.0 dations 34 JMF Zone	Adjusted WF	Initial Producti Coars Work Sieve 2"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0	62 35 % Retained 0.0	% Retained 0.0		
LBW Production G Coarsene	ess Factor:	1.5 O Batch Plant Grad 62	1. dations () Aggr	5 egate Supplier Grad	1.0 dations 34 JMF Zone	Adjusted WF	Initial Producti Coars Work Sieve 2" 1.5"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	62 35 % Retained 0.0 0.0	% Retained 0.0 0.0		
LBW Production G Coarsene	ess Factor:	1.5 O Batch Plant Grad 62	1. Jations () Aggr. Work	5 egate Supplier Grad ability Factor:	1.0 dations 34 JMF Zone 8 75, 39	Adjusted WF	Initial Producti Coars Work Sieve 2" 1.5" 1"	on Sample (IPS 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		
LBW Production G Coarsene	ess Factor:	1.5 O Batch Plant Grad 62	1. Jations () Aggr. Work	5 egate Supplier Grad ability Factor:	1.0 dations 34 JMF Zone 8 75, 39	Adjusted WF	Initial Producti Coars Work Sieve 2" 1.5"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	62 35 % Retained 0.0 0.0 0.0 5.0	% Retained           0.0           0.0           0.0           5.0		
LBW Production G Coarsene 45 40 40 40 40 40 40 40 40 40	ess Factor:	1.5 O Batch Plant Grad 62	1. Jations () Aggr. Work	5 egate Supplier Grad ability Factor:	1.0 dations 34 JMF Zone 8 75, 39	Adjusted WF	Initial Producti 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 35 % Retained 0.0 0.0 0.0	% Retained 0.0 0.0 0.0		
LBW Production G Coarsene 45 40 40 40 40 40 40	ess Factor:	1.5 ) Batch Plant Grad 62 52, 41	1. lations (a) Aggr Work	5 egate Supplier Grad ability Factor:	1.0 dations 34 JMF Zone 8 75, 39	Adjusted WF	Initial Producti 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 70.5	62 35 % Retained 0.0 0.0 0.0 5.0 24.5	% Retained           0.0           0.0           0.0           0.0           29.5		
LBW Production G Coarsene 45 40 40 40 40 40 40 40 40 40	45, 44	1.5 ) Batch Plant Grad 62 52, 41	1. Jations () Aggr. Work	5 egate Supplier Grad ability Factor:	1.0 dations 34 JMF Zone 8 ion	Adjusted WF	Initial Producti 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 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           0.0           29.5           40.0           55.6           64.5		
LBW Production G Coarsene 45 40 40 40 40 40 40 40	45, 44 45, 33	1.5 ) Batch Plant Grad 62 52, 41 52, 34	1. lations (a) Aggr Work	5 egate Supplier Grad ability Factor:	1.0 dations 34 JMF Zone 8 ion	Adjusted WF	Initial Producti 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 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		
LBW Production G Coarsene 45 40 40 40 40 40 40	45, 44	1.5 ) Batch Plant Grad 62 52, 41 52, 34	1. lations (a) Aggr Work	5 egate Supplier Grad ability Factor:	1.0 dations 34 JMF Zone 8 ion	Adjusted WF	Initial Producti 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 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           5.0           29.5           40.0           55.6           64.5           71.5           78.5		
LBW Production G Coarsene 45 40 40 40 40 40 40 40	45, 44 45, 33 Operating Zone	1.5 ) Batch Plant Grad 62 52, 41 52, 34	1. lations (a) Aggr Work	5 egate Supplier Grad ability Factor:	1.0 dations 34 JMF Zone 8 ion 31	Adjusted WF	Initial Producti Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 70.5 60.0 44.4 35.5 28.5 28.5 21.5 10.2	62 35 % Retained 0.0 0.0 0.0 5.0 24.5 10.5 15.6 9.0 7.0 7.0 7.0 11.3	% Retained           0.0           0.0           0.0           5.0           29.5           40.0           55.6           64.5           71.5           78.5           89.8		
Norkability Factor (%)	45, 44 45, 33 Operating Zone	1.5 O Batch Plant Grad 62 52, 41 52, 34	1. lations  Aggr Work	5 egate Supplier Grad ability Factor:	1.0 dations 34 JMF Zone 8 ion 31 75, 39 ion 31	Adjusted WF	Initial Producti 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 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           5.0           29.5           40.0           55.6           64.5           71.5           78.5		

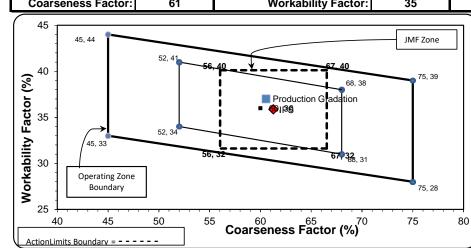
Approved By:

PLANT #	#:	P-102					Contractor:			
Sample Date		6/1/20			Concrete Grade:	DM				
Dates Test R	epresents:	6/2/2020	through	6/8/2020			MDOT No.:			
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution				
6AA	58-003	Stoneco	1500	8.94	2.69	50.8				
26A	58-003	Stoneco	305	1.82	2.69	10.3				
2NS	63-114	Highland	1150	6.95	2.65	38.9				SU
		Total Wt	2955	17.71		100.0	< Verify this n	umber is 100%		MAT
Sieve	e	6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superio</u> 30701 W
2"	1	00.0	100	0.0	100.0	100.0	0.0	0.0		Suite 50
1.5"	1	00.0	100	0.0	100.0	100.0	0.0	0.0		Farming
1"	1	00.0	10	0.0	100.0	100.0	0.0	0.0		
3/4"	8	33.5	10	0.0	100.0	91.6	8.4	8.4		
1/2"	4	43.3	99	0.5	100.0	71.2	20.5	28.8		
3/8"	2	24.5	87	.1	100.0	60.3	10.8	39.7	*Maximum %	Retained must
#4		6.0	16	5.7	99.4	43.5	16.9	56.5	*Any two adja	cent sieves mus
#8		2.5	3.	.1	84.6	34.5	8.9	65.5	nom. max., #10	0 and #200 siev
#16		2.3	1.	.5	67.8	27.7	6.8	72.3	*% Retained r	nust be at least
#30		1.8	1.	.3	50.5	20.7	7.0	79.3	nom. max., #10	00 and #200 siev
#50		1.5	1.	.2	21.6	9.3	11.4	90.7	*% Retained r	nust be at least
#100		1.3	1.	.1	4.2	2.4	6.9	97.6	a 2" max. size	(nom. Max. 1.5")
LBW		1.1	0.	.8	0.4	0.8	1.6	99.2		
Production G	Fradation	O Batch Plant Grad	lations <ul> <li>Aggr</li> </ul>	egate Supplier (	Gradations	Adjusted WF	Intial Production	on Sample (IPS	)	
Coarsene	ess Factor:	61	Work	ability Facto	or: 35	37.0	Coars	eness Factor:	61	
					•		Warls	ability Easter	26	



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

Maximum % Retained must be above the 3/8" sieve. Any two adjacent sieves must equal 10% except max., m. max., #100 and #200 sieves. % Retained must be at least 4% for each sieve except max., m. max., #100 and #200 sieves. % Retained must be at least 8% for the 1" sieve when 2" max. size (nom. Max. 1.5") aggregate is used.



Coars	eness Factor:	61	
Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sleve	% 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

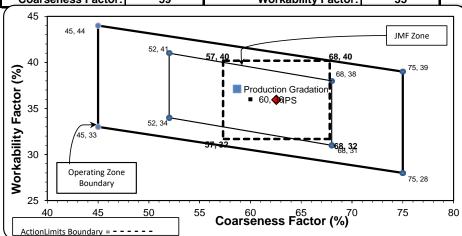
Approved By: Mary P. Ball

<b>PLANT</b>	#:	P-12					Contractor:			_	
Sample Date	e:	6/1/20		C	Concrete Grade:	DM				-	
Dates Test F	Represents:	6/2/2020	through	6/8/2020			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution				_	
6AA	71-47	Presque Isle	1505	9.21	2.62	51.8					
26A	71-47	Presque Isle	250	1.53	2.62	8.6					
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6				SUD	ERIO
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%		MATE	RIAL
Sieve		6AA	26	6A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 1	Materials, L
2"	1	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		Farmingtor	n Hills, MI 483
1"		98.9	10	0.0	100.0	99.4	0.6	0.6		Ū	
3/4"		82.2	10	0.0	100.0	90.8	8.7	9.2			
1/2"		48.6	96	6.9	100.0	73.1	17.7	26.9			
3/8"	:	28.3	85	5.8	100.0	61.6	11.5	38.4	*Maximum %	Retained must be	above the 3/8'
#4		8.0	28	3.4	98.6	45.6	16.0	54.4	*Any two adja	icent sieves must e	equal 10% exce
#8		3.7	10	).1	80.4	34.6	11.0	65.4	nom. max., #1	00 and #200 sieves	3.
#16		2.8	5	.6	62.5	26.7	7.9	73.3	*% Retained	must be at least 4%	6 for each siev
#30		2.6	4	.6	46.5	20.2	6.5	79.8	nom. max., #1	00 and #200 sieves	6.
#50		2.4	4	.2	24.2	11.2	9.0	88.8	*% Retained	must be at least 8%	6 for the 1" sie
#100		2.1		.5	5.5	3.6	7.6	96.4	a 2" max. size	(nom. Max. 1.5") a	ggregate is us
LBW		1.6	2	.8	0.5	1.3	2.3	98.7			
Production G	Gradation	O Batch Plant Grad	lations 💿 Aggi	regate Supplier Grad	dations	Adjusted WF	Intial Production	on Sample (IPS	5)		
Coarsen	ess Factor:	59	Worl	kability Factor:	35	37.1	Coars	eness Factor:	63		
45							Work	ability Factor:	36		
1	45, 44				JMF Zone		Ciava	Cumulative	%	Cumulative	
-		52, 41			JIVII ZOITE		Sieve	% Passing	Retained	% Retained	
40		J2, 4	57, 40	68, 40			2"	100.0	0.0	0.0	
? ``				68, 38	75, 39		1.5"	100.0	0.0	0.0	
L .			Productio	n Gradation			1"	99.3	0.7	0.7	
8			■ 1 10000010 ■ 60, <b></b> ◆€				3/4"	89.0	10.3	11.0	
Factor (%)			i	1			1/2"	70.3	18.7	29.7	
	45.33	52, 34		i i			3/8"	59.9	10.4	40.1	
ا أسف ا	745.33										



LLC 8336

8" sieve. cept max., eve except max., eve when sed.



Coars	eness Factor:	63			
Work	ability Factor:	36			
Sieve	Cumulative	%	Cumulative		
Sieve	% Passing	Retained	% Retained		
2"	100.0	0.0	0.0		
1.5"	100.0	0.0	0.0		
1"	99.3	0.7	0.7		
3/4"	89.0	10.3	11.0		
1/2"	70.3	18.7	29.7		
3/8"	59.9	10.4	40.1		
#4	41.9	18.0	58.1		
#8	35.9	6.0	64.1		
#16	27.8	8.2	72.2		
#30	18.9	8.8	81.1		
#50	6.3	12.6	93.7		
#100	1.7	4.6	98.3		
LBW	1.0	0.7	99.0		

Approved By: Marthe Ball

PLANT #	<b>#:</b>	P-32					Contractor:				
Sample Date:	:	6/1/20		C	concrete Grade	DM					
Dates Test R	epresents:	6/2/2020	through	6/8/2020			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%			RIALS
Sieve		6AA	26	Α	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 1	<b>Materials, LLC</b> 10 Mile Rd.
2"	1	00.0	100	0.0	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	99.4	100	0.0	100.0	99.7	0.3	0.3			
3/4"		86.1	100		100.0	93.0	6.7	7.0			
1/2"		49.0	96		100.0	74.1	18.9	25.9			
3/8"		24.0	85		100.0	60.5	13.7	39.5	*Maximum %	Retained must be a	above the 3/8" sieve.
#4		4.5	28		96.3	43.3	17.2	56.7	*Any two adjacent sieves must equal 10% except r		
#8		2.4	10.1 5.6		85.5	36.1	7.2	63.9	nom. max., #100 and #200 sieves.		
#16		2.0	-	-	71.7	30.0	6.1	70.0			for each sieve except n
#30 #50		1.9 1.7	4.		51.3 20.9	21.7 9.6	8.2 12.2	78.3 90.4	-	00 and #200 sieves	
#30		1.5	3.		5.2	3.2	6.4	90.4 96.8			for the 1" sieve when
											Jyreyale is used.
LBW		1.1	2.		1.3	1.4	1.8	98.6	a 2 111ax. 512e	(nom. Max. 1.5") ag	
LBW			2.		1.3	1.4	1.8			(nom. max. 1.5 ) aç	
LBW Production G		1.1	2. Jations	8	1.3	1.4	1.8 Intial Productio	98.6		(nom. Max. 1.5 ) aç	
LBW Production G Coarsene	radation	1.1 O Batch Plant Grad	2. Jations	8 egate Supplier Grac	1.3 lations	1.4 Adjusted WF	1.8 Intial Productio <b>Coars</b>	98.6 on Sample (IPS	3)	(nom. max. 1.5 ) aç	
LBW Production G Coarsene	radation ess Factor:	1.1 O Batch Plant Grad	2. Jations	8 egate Supplier Grac	1.3 lations 36	1.4 Adjusted WF	1.8 Intial Productio Coars Work	98.6 on Sample (IPS eness Factor:	5) 62	Cumulative	l
LBW Production G Coarsene	radation	1.1 O Batch Plant Grad 62	2. Jations	8 egate Supplier Grac	1.3 lations	1.4 Adjusted WF	1.8 Intial Productio <b>Coars</b>	98.6 on Sample (IPS eness Factor: ability Factor:	5) 62 36		
LBW Production G Coarsene	radation ess Factor:	1.1 ) Batch Plant Grad 62 52.41	2. Jations	8 egate Supplier Grac	1.3 lations 36	1.4 Adjusted WF	1.8 Intial Productio Coars Work Sieve 2"	98.6 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0	5) 62 36 % Retained 0.0	Cumulative % Retained 0.0	
LBW Production G Coarsene	radation ess Factor:	1.1 ) Batch Plant Grad 62 52.41	2. dations	8 egate Supplier Grac ability Factor: 67, 40	1.3 lations 36 JMF Zone	1.4 Adjusted WF	1.8 Intial Productio Coars Work Sieve 2" 1.5"	98.6 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	5) 62 36 % Retained 0.0 0.0	Cumulative % Retained 0.0 0.0	
LBW Production G Coarsene	radation ess Factor:	1.1 ) Batch Plant Grad 62 52.41	2. dations	8 egate Supplier Grac ability Factor:	1.3 lations 36 JMF Zone	1.4 Adjusted WF	1.8 Intial Productio Coars Work Sieve 2" 1.5" 1"	98.6 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0	5) 62 36 % Retained 0.0 0.0 0.0	Cumulative % Retained 0.0 0.0 0.0	
LBW Production G Coarsene	radation ess Factor:	1.1 ) Batch Plant Grad 62 52.41	2. dations	8 egate Supplier Grac ability Factor: 67, 40 oduction Grae®ation	1.3 lations 36 JMF Zone	1.4 Adjusted WF	1.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4"	98.6 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0	5) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0	Cumulative % Retained 0.0 0.0 0.0 5.0	
LBW Production G Coarsene	radation ess Factor:	1.1 ) Batch Plant Grad 62 52, 41 55	2. dations • Aggr Work	8 egate Supplier Grac ability Factor: 67, 40 oduction Grae®ation	1.3 lations 36 JMF Zone	1.4 Adjusted WF	1.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	98.6 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3	5) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0 22.8	Cumulative % Retained 0.0 0.0 0.0 5.0 27.7	
LBW Production G Coarsene	radation ess Factor:	1.1 ) Batch Plant Grad 62 52.41	2. dations • Aggr Work	8 egate Supplier Grac ability Factor: 67, 40 oduction Grae®ation	1.3 lations 36 JMF Zone	1.4 Adjusted WF	1.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	98.6 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4	5) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0 22.8 11.8	Cumulative % Retained 0.0 0.0 0.0 5.0 27.7 39.6	
LBW Production G Coarsene	radation ess Factor:	1.1 ) Batch Plant Grad 62 52, 41 55	2. dations • Aggr Work	8 egate Supplier Grac ability Factor: 67, 40 oduction ପ୍ରାସମ୍ପର୍ଶ୍ୱାମ୍ପ S	1.3 lations 36 JMF Zone	1.4 Adjusted WF	1.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	98.6 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6	5) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0 22.8 11.8 17.8	Cumulative % Retained 0.0 0.0 5.0 27.7 39.6 57.4	
LBW Production G Coarsene	radation ess Factor: <sup>15, 44</sup>	1.1 Batch Plant Grad 62 52, 41 52, 34 52, 34 52, 34 52, 34 52, 34 52, 34	2. dations • Aggr Work	8 egate Supplier Grac ability Factor: 67, 40 oduction Grae®ation	1.3 lations 36 JMF Zone	1.4 Adjusted WF	1.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	98.6 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 0.0 5.0 22.8 11.8 17.8 6.6	Cumulative % Retained 0.0 0.0 5.0 27.7 39.6 57.4 64.0	
LBW Production G Coarsene	radation ess Factor: 15, 44 45, 33 Operating Zone	1.1 Batch Plant Grad 62 52, 41 52, 34 52, 34 52, 34 52, 34 52, 34 52, 34	2. dations • Aggr Work	8 egate Supplier Grac ability Factor: 67, 40 oduction ପ୍ରାସମ୍ପର୍ଶ୍ୱାମ୍ପ S	1.3 lations 36 JMF Zone 75, 39	1.4 Adjusted WF	1.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	98.6 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6	5) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0 22.8 11.8 17.8	Cumulative % Retained 0.0 0.0 5.0 27.7 39.6 57.4	
LBW Production G Coarsene 45 40 40 40 40 40 40 40 40 40 40 40 40 40	radation ess Factor: <sup>15, 44</sup>	1.1 Batch Plant Grad 62 52, 41 52, 34 52, 34 52, 34 52, 34 52, 34 52, 34	2. dations • Aggr Work	8 egate Supplier Grac ability Factor: 67, 40 oduction ପ୍ରାସମ୍ପର୍ଶ୍ୱାମ୍ପ S	1.3 lations 36 JMF Zone	1.4 Adjusted WF	1.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	98.6 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         22.8         11.8         17.8         6.6         6.5	Cumulative % Retained 0.0 0.0 5.0 27.7 39.6 57.4 64.0 70.5	
LBW Production G Coarsene	radation ess Factor: 15, 44 45, 33 Operating Zone	1.1 Batch Plant Grad 62 52, 41 52, 34 52, 34 52, 34 52, 34 52, 34 52, 34	2. dations      Aggr     Work	8 egate Supplier Grac ability Factor: 67, 40 oduction ପ୍ରାସମ୍ପର୍ଶ୍ୱାମ୍ପ S	1.3 lations 36 JMF Zone 75, 39	1.4 Adjusted WF	1.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	98.6 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         22.8         11.8         17.8         6.6         6.5         9.2	Cumulative % Retained 0.0 0.0 5.0 27.7 39.6 57.4 64.0 70.5 79.7	

Approved By: Mart P. Ball

PLANT :	#:	P-35	_				Contractor:			_	
Sample Date	):	6/1/20	-		Concrete Grade	DM					
Dates Test R	epresents:	6/2/2020	through	6/8/2020			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1505	8.97	2.69	50.9					
26A	58-003	Stoneco	350	2.09	2.69	11.8					
2NS	81-093	Burmeister	1100	6.65	2.65	37.2				SUD	ERIOR
		Total Wt	2955	17.70		100.0	< Verify this n	umber is 100%	-	MATI	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	1	Suite 500	
1.5"	1	00.0	10	0.0	100.0	100.0	0.0	0.0	]	Farmingto	n Hills, MI 48336
1"		00.0		0.0	100.0	100.0	0.0	0.0	]		
3/4"		33.5	-	0.0	100.0	91.6	8.4	8.4			
1/2"		43.3	99		100.0	71.1	20.5	28.9			
3/8"		24.5	87		100.0	60.0	11.0	40.0			above the 3/8" sieve.
#4		6.0	16		98.4	41.7	18.4	58.3	*Any two adja	icent sieves must e	equal 10% except max.,
#8		2.5	3.1 1.5		89.8	35.1	6.6	64.9	nom. max., #100 and #200 sieves.		
#16		2.3			66.6	26.1	8.9	73.9			6 for each sieve except
#30		1.8	1		48.2	19.0	7.1	81.0	,	00 and #200 sieves	
#50		1.5	1		20.8	8.6	10.4	91.4			6 for the 1" sieve when
#100 LBW		1.3 1.1	1	.8	3.8 0.8	2.2 1.0	6.4 1.3	97.8 99.0	a 2" max. size	(nom. Max. 1.5") a	ggregate is used.
Production G		Batch Plant Gra	_	egate Supplier Gra			-	on Sample (IPS			
	ess Factor:	62		ability Factor	1	37.6		eness Factor:	61		
		-						ability Factor:	36		
45	45, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained	
1		52, 41					2"	100.0	0.0	0.0	
<b>a</b> <sup>40</sup>		56		67,40	75, 39		1.5"	100.0	0.0	0.0	
8				68, 38			1"	99.3	0.7	0.7	
<b>_</b>			· · · · ·	oduction Gradatior	1		3/4"	89.1	10.2	10.9	
<b>o</b>							1/2"	70.5	18.6	29.5	
<b>5</b> 35				•			3/8"	60.5	10.0	39.5	
Eacto	$\rightarrow$	52, 34					#4	44.1	16.4	55.9	
ity Facto	45, 33	52, 34									
bility Facto	45, 33	52, 34	31	<b>67, 88</b> , 3 <sup>,</sup>	1		#8	35.6	8.5	64.4	
kability Facto	45, 33 Operating Zone	56,	31	67, 88, 3 <sup>.</sup>	1		#8 #16	35.6 27.7	8.5 7.9	64.4 72.3	
orkability Facto		56,	31	<b>67</b> , 89, 3	175, 28		#8 #16 #30	35.6 27.7 20.6	8.5 7.9 7.1	64.4 72.3 79.4	
Workability Fa	Operating Zone	56,	31	<b>67, 6</b> 4, 3			#8 #16 #30 #50	35.6 27.7 20.6 8.7	8.5 7.9 7.1 11.8	64.4 72.3 79.4 91.3	
Morkability Facto	Operating Zone	56,		67, 81 3	75, 28		#8 #16 #30	35.6 27.7 20.6	8.5 7.9 7.1	64.4 72.3 79.4	

PREPARED BY: SM, LLC Technical Service

ActionLimits Boundary = - - - -

Approved By:

PLANT #	<b>#:</b>	P-36					Contractor:				
Sample Date	:	6/1/20		C	Concrete Grade:	DM					
Dates Test R		6/2/2020	through	6/8/2020			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	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	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%		MATE	ERIALS
Sieve	(	5AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, LLC 10 Mile Rd.
2"	1	00.0	100	0.0	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"		98.9	100	).0	100.0	99.4	0.6	0.6			
3/4"		32.2	100	-	100.0	90.5	8.9	9.5			
1/2"		48.6	96		100.0	72.2	18.3	27.8			
3/8"		28.3	85		100.0	60.4	11.8	39.6	*Maximum % Retained must be above the 3/8" sie		
#4		8.0	28		97.5	43.6	16.8	56.4	*Any two adja	cent sieves must e	equal 10% except max.,
#8		3.7	10.1		85.3	35.1	8.5	64.9	nom. max., #100 and #200 sieves.		
#16		2.8	5.		71.3	29.0	6.2	71.0	*% Retained must be at least 4% for each sieve ex		
#30		2.6	4.		51.4	21.3	7.7	78.7	,	00 and #200 sieves	
#50 #100		2.4 2.1	4.		22.7 2.8	10.2 2.5	11.0 7.8	89.8 97.5			6 for the 1" sieve when
LBW		<u>2.1</u> 1.6	3.	-	0.7	2.5	1.1	97.5 98.6	a 2° max. size	(nom. Max. 1.5") a	ggregate is used.
Production G		Batch Plant Grad		egate Supplier Grac				on Sample (IPS	5)		
Coarsene	ss Factor:	61	Work	ability Factor:	35	37.6	Coars	eness Factor:	63		
		-	-					ability Factor:	35		
<sup>45</sup> ]								Cumulative	%	Cumulative	
- 4	5, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
1		52, 41					2"	100.0	0.0	0.0	
a <sup>40</sup>			58, 39		75, 39		1.5"	100.0	0.0	0.0	
8			Proc	68, 38	T I		1"	99.1	0.9	0.9	
o l			<b>6</b> 0, 36				3/4"	90.3	8.8	9.7	
Factor <sup>32</sup>			- 00, 30	IPS			1/2"	69.2	21.1	30.8	
Щ į		52, 34		i			3/8"	59.1	10.1	40.9	
li j	45, 33						#4	41.8	17.3	58.2	
<b>ig</b> 30		_	58, 31	68,33	ı		#8	35.1	6.6 6.6	64.9	
<u>x</u>	Operating Zone						#16 #30	28.5 21.2	6.6 7.3	71.5 78.8	
Workability	Boundary				75, 28		#30	8.7	12.5	91.3	
> <sub>25</sub>							#100	1.8	7.0	98.2	
	45	50 55	60 Coarseness	65 70	75	80	LBW	0.7	1.0	99.3	
40	40				10			0.7	1.0	33.3	

Approved By: Mary 1. Ball

PLANT	#:	P-39					Contractor:					
Sample Date	e:	6/1/20		C	Concrete Grade	DM						
Dates Test F	Represents:	6/2/2020	through	6/8/2020			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	44-051	Krake Willis Rd		6.65	2.65	37.9				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		<b>Superior</b> 30701 W. :	<b>Materials, LLC</b> 10 Mile Rd.	
2"	1	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		Farmingto	n Hills, MI 48336	
1"		98.8	10		100.0	99.3	0.7	0.7				
3/4"		85.5	-	0.0	100.0	92.0	7.3	8.0				
1/2"		47.8	96		100.0	70.9	21.0	29.1				
3/8"		28.6	83		100.0	59.4	11.5	40.6	*Maximum % Retained must be above the 3/			
#4		5.4	20		95.4	40.5	18.9	59.5	*Any two adjacent sieves must equal 10% except max.			
#8		2.4	4		81.2	32.4	8.1	67.6		00 and #200 sieves		
#16 #30		1.9 1.7	2		66.3 50.6	26.3	<u>6.1</u> 6.1	73.7 79.8	*% Retained must be at least 4% for each sieve except m nom. max., #100 and #200 sieves.			
#30 #50		1.7	1.	-	25.1	20.2 10.6	9.7	79.8 89.4			for the 1" sieve when	
#30		1.6	1	-	7.5	3.8	6.7	96.2		(nom. Max. 1.5") ag		
LBW		1.5	1.		0.8	1.2	2.6	98.8		(1011. Wax. 1.5 ) ag	gyregale is used.	
Production G	Gradation	O Batch Plant Grad		egate Supplier Grad	dations			on Sample (IPS	5)			
Coarsen	ess Factor:	60	Work	ability Factor:	32	34.9	Coars	eness Factor:	63			
				,,				ability Factor:	36			
<sup>45</sup> ]								Cumulative	%	Cumulative		
	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained		
1		52, 41					2"	100.0	0.0	0.0		
<b>a</b> <sup>40</sup>			58,40		75, 39		1.5"	100.0	0.0	0.0		
<u>ම</u>			i	68, 38	T I		1"	100.0	0.0	0.0		
Factor (%)			∎ 60 36				3/4"	89.7	10.3	10.3		
<b>5</b> 35 -			Produc	IPS tion Gradation			1/2"	70.3	19.4	29.7		
		52, 34					3/8"	59.1	11.2	40.9		
E E	45, 33			·			#4	42.8	16.3	57.2		
ig 30 -		_	50, 54	68,83	2		#8	35.5	7.3	64.5		
ž	Operating Zone	2					#16	29.0	6.5	71.0		
Workability	Boundary				75, 28		#30 #50	21.2 9.8	7.7 11.5	78.8 90.2		
> <sub>25</sub>							#50 #100	9.8 3.7	6.1	90.2 96.3		
	45	50 55	60 Coarseness	65 70	75	80	LBW	3.7 1.2	2.5	96.3		
40	45	00 00			10	00			/ 2			

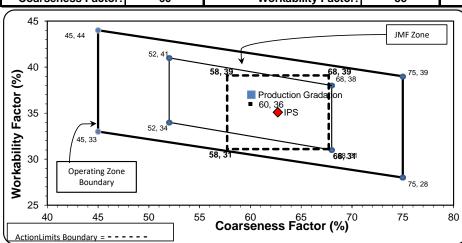
Approved By: Mart P. Ball

PLANT #	<b>#:</b>	P-02	_				Contractor:			_	
Sample Date	:	6/1/20			Concrete Grade:	DM				-	
Dates Test R	epresents:	6/2/2020	through	6/8/2020			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution				_	
6AA	71-47	Presque Isle	1555	9.51	2.62	53.5					
26A	71-47	Presque Isle	200	1.22	2.62	6.9					
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6				GUD	ERIO
		Total Wt	2905	17.69		100.0	< Verify this number is 100%		-		ERIAL
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, 10 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	1	Farmingto	n Hills, MI 4
1"		98.9	10	0.0	100.0	99.4	0.6	0.6			
3/4"		82.2		0.0	100.0	90.5	8.9	9.5			
1/2"		48.6	96	5.9	100.0	72.3	18.2	27.7			
3/8"		28.3		5.8	100.0	60.6	11.6	39.4	*Maximum %	Retained must be	above the 3/8
#4		8.0		3.4	98.6	45.3	15.4	54.7	*Any two adja	acent sieves must e	qual 10% exc
#8		3.7	10		80.4	34.5	10.8	65.5	nom. max., #1	00 and #200 sieves	s.
#16		2.8	-	.6	62.5	26.6	7.9	73.4	*% Retained	must be at least 4%	6 for each siev
#30		2.6		.6	46.5	20.1	6.5	79.9	· · ·	00 and #200 sieves	
#50		2.4		.2	24.2	11.2	9.0	88.8	*% Retained	must be at least 8%	6 for the 1" sie
#100		2.1		.5	5.5	3.5	7.6		a 2" max. size	(nom. Max. 1.5") a	ggregate is us
LBW		1.6	2	.8	0.5	1.2	2.3	98.8	J		
Production G	radation	O Batch Plant Grad	lations 💿 Aggr	egate SupplierGra	adations	Adjusted WF	Intial Production	on Sample (IPS	8)	_	
Coarsene	ss Factor:	60	Worl	ability Facto	r: 35	37.0	Coars	eness Factor:	63		
45							Work	ability Factor:	35		
	5, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained	
1		52, 41					2"	100.0	0.0	0.0	
<b>~</b> <sup>40</sup>			58, 39	68, 39	75, 39		1.5"	100.0	0.0	0.0	
(%) (%)				68, 3	18 10,00		1"	100.0	0.0	0.0	



<u>, LLC</u> 48336

/8" sieve. kcept max., eve except max., ieve when used.



Coars	seness Factor:	63	
Worl	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sleve	% 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: Mart P. Ball