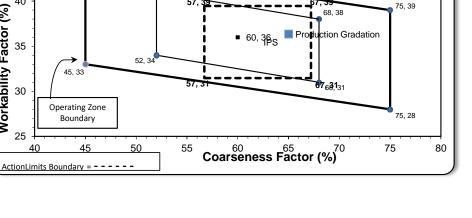
Production	Gradation	Report
------------	-----------	--------

PLANT :	#:	P-101					Contractor:			_
Sample Date	e:	8/7/23	-		Concrete Grade:	DM, 4500HP				-
Dates Test R	Represents:	8/8/2023	- through	8/14/2023			MDOT No.:			
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution				-
6AA	71-47	Presque Isle	1500	9.17	2.62	51.7				
26A	71-47	Presque Isle	250	1.53	2.62	8.6				
2NS	75-051	Mid Michigan	1150	6.93	2.66	39.7				S
		Total Wt	2900	17.63		100.0	< Verify this n	number is 100%	•	SM
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Sup</u> 307
2"	1	100.0	100	0.0	100.0	100.0	0.0	0.0	1	Suit
1.5"	1	100.0	100	0.0	100.0	100.0	0.0	0.0	1	Farr
1"		97.8	100		100.0	98.9	1.1	1.1]	
3/4"		79.7	100	0.0	100.0	89.5	9.4	10.5	1	
1/2"		35.3	96		100.0	66.2	23.3	33.8		
3/8"		18.8	88	.3	100.0	57.0	9.3	43.0	*Maximum %	Retained m
#4		2.8	24		96.9	42.0	15.0	58.0	*Any two adja	icent sieves
#8		1.6	4.		82.2	33.8	8.1	66.2	nom. max., #1	00 and #200
#16		1.4	2.		67.9	27.8	6.0	72.2	*% Retained	must be at le
#30		1.4	1.		52.0	21.5	6.3	78.5	nom. max., #1	
#50		1.3	1.		23.8	10.2	11.2	89.8	*% Retained	
#100 LBW		1.3 1.0	1.		6.3 0.9	3.3 1.0	6.9 2.3	96.7 99.0	a 1.5" max. siz	e (nom. Ma
Production G	Gradation	Batch Plant Gra		regate Supplier (ion Sample (IP:	∎ S)	
	ess Factor:	65	Work	ability Facto	or: 34	36.3		eness Factor:	,	1
				, ·				ability Factor:	35	
	45, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumula % Retai
-		52, 41					2"	100.0	0.0	0.0
2 ⁴⁰			57, 39	67, 3	75, 39		1.5"	100.0	0.0	0.0
ඒ			i		3, 38		1"	100.0	0.0	0.0
5			■ 60, 3	e Productio	on Gradation		3/4"	95.0	5.0	5.0
5 35 -			- 00, 0	IPS			1/2"	70.5	24.5	29.5
L T	\rightarrow	52, 34					3/8"	60.0	10.5	40.0
l 🗄	45, 33			i			#4	44.4	15.6	55.6
iq 30			57, 31	67 ₆	3 , 1 ₃₁		#8	35.5	9.0	64.5
¥ ∏	Operating Zone						#16	28.5	7.0	71.5
Workability Factor (%)	Boundary				75, 28		#30	21.5	7.0	78.5
≥ ₂₅		<u></u>	<u></u>				#50	10.2	11.3	89.8
1 <u>-</u> ~ · ·			and the second		the second se	· •	114.00			00.0



erior Materials, LLC 01 W. 10 Mile Rd. 500 nington Hills, MI 48336

ust be above the 3/8" sieve. must equal 10% except max., sieves. east 4% for each sieve except max., sieves. east 4% for the 3/4" sieve when x. 1.0") aggregate is used.



Coars	eness Factor:	62		
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"	95.0	5.0	5.0	
1/2"	70.5	24.5	29.5	
3/8"	60.0	10.5	40.0	
#4	44.4	15.6	55.6	
#8	35.5	9.0	64.5	
#16	28.5	7.0	71.5	
#30	21.5	7.0	78.5	
#50	10.2	11.3	89.8	
#100	3.1	7.1	96.9	
LBW	1.3	1.8	98.7	

PREPARED BY: SM, LLC Technical Service

40

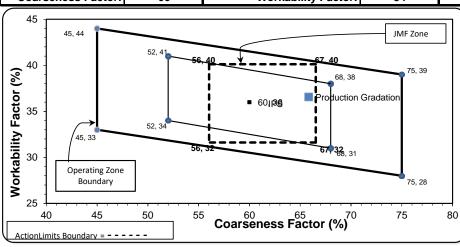
Approved By:

PLANT :	#:	P-102					Contractor:			_
Sample Date	:	8/7/23		C	oncrete Grade	: DM, 4500HP				-
Dates Test R	epresents:	8/8/2023	through	8/14/2023			MDOT No.:			
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution				
6AA	58-003	Stoneco	1575	9.38	2.69	53.4				
26A	58-003	Stoneco	225	1.34	2.69	7.6				
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				SUP
		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"		100.0	10	0.0	100.0	100.0	0.0	0.0	1	Suite 500
1.5"		100.0	100	0.0	100.0	100.0	0.0	0.0		Farmingto
1"	1	100.0	100	0.0	100.0	100.0	0.0	0.0		
3/4"		77.0	100		100.0	87.7	12.3	12.3		
1/2"		38.0	99).7	100.0	66.9	20.8	33.1		
3/8"		20.2	89	0.5	100.0	56.6	10.3	43.4	*Maximum %	Retained must be
#4		4.8	12	2.0	98.1	41.7	14.9	58.3	*Any two adja	cent sieves must
#8		2.6	3.	.7	83.1	34.1	7.7	65.9	nom. max., #1	00 and #200 sieve
#16		1.7	2.	.9	65.9	26.8	7.2	73.2	*% Retained	must be at least 4
#30		1.6	2.	.6	46.9	19.3	7.5	80.7	nom. max., #1	00 and #200 sieve
#50		1.4	2.	4	22.7	9.8	9.6	90.2	*% Retained	must be at least 49
#100		1.4	2.		5.9	3.2	6.5	96.8	a 1.5" max. siz	e (nom. Max. 1.0"
LBW		1.4	2.	2	0.7	1.2	2.0	98.8		
Production G	Fradation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Grad	dations	Adjusted WF	Intial Production	on Sample (IPS	S)	_
Coarsene	ess Factor:	66	Work	ability Factor:	34	36.6	Coars	eness Factor:	61	
45							Work	ability Factor:	36	
	45, 44				JMF Zone		Sieve	Cumulative	%	Cumulative
		50.44						% Passing	Retained	% Retained
40		52, 41 -56	40	67 40			2"	100.0	0.0	0.0
or (%)				68, 38	75, 39		1.5"	100.0	0.0	0.0
			!				1"	99.3	0.7	0.7
<u>9</u>			■ 60µ 3 6	Production	Gradation		3/4"	89.2	10.1	10.8



laterials, LLC 0 Mile Rd. Hills, MI 48336

pove the 3/8" sieve. ual 10% except max., or each sieve except max., or the 3/4" sieve when ggregate is used.



Coars	seness Factor:	61		
Worl	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: Mary 1. Ball

PLANT #	#:	P-103					Contractor:				
Sample Date	:	8/7/23		C	Concrete Grade	: DM, 4500HP					
Dates Test R	epresents:	8/8/2023	through	8/14/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1575	9.38	2.69	53.4					
26A	58-003	Stoneco	225	1.34	2.69	7.6					
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%	1		RIALS
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, LLC 10 Mile Rd.
2"		100.0	100).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		Farmingto	n Hills, MI 48336
1"		100.0	100		100.0	100.0	0.0	0.0			
3/4"		77.0	100		100.0	87.7	12.3	12.3			
1/2"		38.0	99		100.0	66.9	20.8	33.1			
3/8"		20.2	89	-	100.0	56.6	10.3	43.4	*Maximum %	Retained must be	above the 3/8" sieve.
#4		4.8	12		98.1	41.7	14.9	58.3			qual 10% except max.,
#8		2.6	3.		83.1	34.1	7.7	65.9		00 and #200 sieves	
#16		1.7	2.		65.9	26.8	7.2	73.2			for each sieve except
#30 #50		1.6 1.4	2.		46.9 22.7	19.3 9.8	7.5	80.7 90.2	,	00 and #200 sieves	
#50 #100		1.4	2.		5.9	9.8 3.2	9.6 6.5	90.2 96.8			for the 3/4" sieve whe
LBW		1.4	2.		0.7	1.2	2.0	96.0 98.8	a 1.5° max. siz	e (nom. Max. 1.0")	aggregate is used.
roduction G	radation	Batch Plant Gra		∠ regate Supplier Gra	-	Adjusted WF		on Sample (IPS	5)		
	ess Factor:	66	Work	ability Factor:	34	36.6		eness Factor:	, 61		
					•••			ability Factor:	36		
45								Cumulative	%	Cumulative	
- '	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
1		52, 41 FC	40	67.40			2"	100.0	0.0	0.0	
		- 36	******		75, 39		1.5"	100.0	0.0	0.0	
වී				68, 38	T T		1"	99.3	0.7	0.7	
D I			■ 60 18 8	Production	Gradation		3/4"	89.2	10.1	10.8	
te 35 -			- 00169				1/2"	70.7	18.5	29.3	
Щ į		52, 34	+				3/8"	60.7	10.0	39.3	
lity	45, 33		L	i			#4	44.4	16.3	55.6	
ig 30 [56,	32	67, 32, 31			#8	35.9	8.5	64.1	
ž	Operating Zone	2					#16	27.3	8.6	72.7	
Workability Factor (%)	Boundary				75, 28		#30	19.1	8.2	80.9	
> ₂₅			<u> </u>				#50 #100	7.4	11.7	92.6 98.1	
		50 55		05 70	75	80		1.9	5.6		
40	45	50 55	00 _ 00	Factor (%)	75	00	LBW	0.7	1.2	99.3	

Approved BY: Mary P. Ball

PLANT	#:	14	_				Contractor:				
Sample Date	e:	8/7/23	_	C	oncrete Grade	DM, 4500HP					
Dates Test F	Represents:	8/8/2023	through	8/14/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution				5	
6AA	58-003	Stoneco	1600	9.53	2.69	54.1					
26A	58-003	Stoneco	260	1.55	2.69	8.8					
2NS	19-04	Schlegel	1100	6.60	2.67	37.2				BUI	Iders'
		Total Wt	2960	17.68		100.0	< Verify this n	umber is 100%	1		rst With Builders'
Sieve	6	SAA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Builders F</u> 30701 W. 1	
2"	1	00.0	100	2.0	100.0	100.0	0.0	0.0		Suite 500	to white Rd.
 1.5"		00.0	100		100.0	100.0	0.0	0.0			n Hills, MI 48336
1.0		00.0	10		100.0	100.0	0.0	0.0	1	5	
3/4"		77.0	10		100.0	87.6	12.4	12.4	1		
1/2"		38.0	99	.7	100.0	66.5	21.1	33.5			
3/8"	2	20.2	89	.5	100.0	55.9	10.5	44.1	*Maximum %	Retained must be	above the 3/8" sieve.
#4		4.8	12	-	99.9	40.8	15.2	59.2	*Any two adjacent sieves must equal 10% except m		qual 10% except max.,
#8		2.6	3.		90.1	35.2	5.6	64.8		nom. max., #100 and #200 sieves.	
#16		1.7	2.		69.4	27.0	8.2	73.0	*% Retained must be at least 4% for each sieve exception		for each sieve except
#30		1.6		6	44.5	17.6	9.3	82.4	nom. max., #100 and #200 sieves.		
#50		1.4	2.		14.3	6.3	11.3 4.3	93.7			for the 3/4" sieve when
#100 LBW		<u>1.4</u> 1.4	2.		2.7 0.2	2.0	4.3	98.0 99.0	a 1.5" max. siz	e (nom. Max. 1.0")	aggregate is used.
		Batch Plant Gra		regate Supplier Gra	÷.=	-					
Production C		0	0.22					on Sample (IPS	-	1	
Coarsen	ess Factor:	68	WOR	ability Factor:	35	37.7		eness Factor:	63		
45	-					_)	work	ability Factor:	36 %	Cumulative	
1	45, 44				JMF Zone		Sieve	Cumulative % Passing	Retained	% Retained	
		52, 41					2"	100.0	0.0	0.0	
→ ⁴⁰			57,40	68, 40	75, 39		1.5"	100.0	0.0	0.0	
లి				68, 38	iction Gradation		1"	99.3	0.7	0.7	
۲ ۵			6 0, 36	1	Clion Gradation		3/4"	89.0	10.3	11.0	
tig 35 -			- 00, 30	IFS I			1/2"	70.3	18.7	29.7	
ш́ į	\rightarrow	52, 34					3/8"	59.9	10.4	40.1	
E I	45, 33						#4	41.9	18.0	58.1	
ig 30		_	51,02	68, 32 68, 31			#8	35.9	6.0	64.1	
10	Operating Zone						#16	27.8	8.2	72.2	
손 !!	Boundary				75, 28		#30	18.9	8.8	81.1	
Vork							#50	6.3	12.6	93.7	
Workability Factor (%)							#100	17	16	08.2	
	45	50 55	5 6 0	Factor (%)	75	80	#100 LBW	1.7 1.0	4.6 0.7	98.3 99.0	

Approved By:

PLANT :	#:	12	_				Contractor:			_	
Sample Date	e:	8/7/23	_		Concrete Grade:	DM, 4500HP				-	
Dates Test R	Represents:	8/8/2023	- through	8/14/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1550	9.48	2.62	53.4					
26A	71-47	Presque Isle	205	1.25	2.62	7.1					
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%	•		RIALS
Sieve		6AA	26	Α	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 1	Materials, LLC LO Mile Rd.
2"	1	00.0	100	0.0	100.0	100.0	0.0	0.0	1	Suite 500	
1.5"	1	00.0	100		100.0	100.0	0.0	0.0	1	Farmingtor	n Hills, MI 48336
1"		97.2	100		100.0	98.5	1.5	1.5		-	
3/4"		80.3	100		100.0	89.5	9.0	10.5			
1/2"		35.1	92		100.0	64.8	24.7	35.2			
3/8"		19.3	79		100.0 96.0	55.5	9.4	44.5	*Maximum %	Retained must be	above the 3/8" sieve.
#4		3.6		11.6		40.7	14.7	59.3	*Any two adjacent sieves must equal 10% except n		equal 10% except max.,
#8		2.8	2.		80.8	33.7	7.1	66.3	nom. max., #100 and #200 sieves.		
#16		2.4	1.		65.5	27.3	6.4	72.7	*% Retained must be at least 4% for each sieve ex		
#30		2.1	1.	-	49.2	20.7	6.6	79.3	· · ·	00 and #200 sieves	
#50		1.8	0.		24.6	10.8	9.9	89.2			6 for the 3/4" sieve whe
#100 LBW		1.6 1.3	0.		5.0 1.0	2.9 1.1	7.9 1.8	97.1 98.9	a 1.5" max. siz	e (nom. Max. 1.0")	aggregate is used.
Production G		Batch Plant Gra		, regate Supplier Gi				on Sample (IPS	. 3)		
	ess Factor:	67		ability Factor	r: 34	36.2		eness Factor:	63	1	
45		•		,				ability Factor:	36		
-	45, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained	
40		52, 41	57, 40	68, 40			2"	100.0	0.0	0.0	
				68, 38	8 75, 39		1.5"	100.0	0.0	0.0	
Č I			!				1"	99.3	0.7	0.7	
9			■ 60, 36	PS Produ	ction Gradation		3/4"	89.0	10.3	11.0	
2 ³⁵			Ì				1/2"	70.3	18.7	29.7	
2	45, 33	52, 34		9			3/8"	59.9	10.4	40.1	
Workability Factor (%)	10,00		57, 22	68, 3	2		#4	41.9	18.0	58.1	
		_		68, 3	,,		#8	35.9	6.0	64.1	
ž	Operating Zone				75, 28		#16	27.8	8.2	72.2	
š IL	Boundary				10,20		#30	18.9	8.8	81.1 93.7	
25			_ , , , , , , , , , , , , , , , , , , ,				#50 #100	6.3 1.7	12.6 4.6	93.7 98.3	
40	45	<u>50</u> 55	5 60	Easter (9/)	0 75	80	#100	1.7	4.0	30.3	

LBW

1.0

0.7

99.0

 $\operatorname{Coarseness}^{60}\operatorname{Factor}^{65}(\%)^{70}$

ActionLimits Boundary = - - - - -

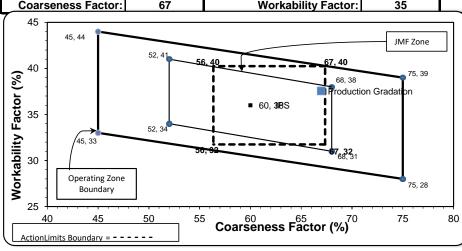
Approved By:

PLANT #	#:	p11					Contractor:			
Sample Date	:	8/7/23			Concrete Grade:	DM, 4500HP				
Dates Test R	epresents:	8/8/2023	through	8/14/2023			MDOT No.:			_
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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
		Total Wt	2905	17.69		100.0 < Verify this number is 100%			-	MATE
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 1
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
1"		96.4	10	0.0	100.0	98.2	1.8	1.8		
3/4"		75.9	-	0.0	100.0	87.9	10.3	12.1		
1/2"	:	33.8	92	2.2	100.0	66.0	21.9	34.0		
3/8"		17.5	79	9.0	100.0	56.5	9.5	43.5	*Maximum %	Retained must be a
#4		3.0	11	.6	97.0	41.1	15.4	58.9	*Any two adja	icent sieves must e
#8		1.4		.6	86.1	35.1	6.0	64.9	nom. max., #10	00 and #200 sieves
#16		1.2		.3	71.4	29.0	6.1	71.0	*% Retained	must be at least 4%
#30		1.1	1	-	51.2	20.9	8.1	79.1		00 and #200 sieves
#50		1.0	-	.9	23.9	10.1	10.9	89.9	*% Retained	must be at least 4%
#100 LBW		1.0	-	.9 .7	6.8	3.3	6.8	96.7	a 1.5" max. siz	e (nom. Max. 1.0") a
		0.7	_		1.0	0.8	2.5	99.2		
Production G	radation	Batch Plant Gra	033	regate Supplier G		-	Intial Production	on Sample (IPS	5)	
Coarsene	ess Factor:	67	Worl	ability Facto	r: 35	37.6	Coars	eness Factor:	62	
⁴⁵ T						_)	Work	ability Factor:	36	
1 4	15, 44				JMF Zone		Sieve	Cumulative	%	Cumulative
. 1		52, 41						% Passing	Retained	% Retained
40		5	â. 40 	67, 40	75 39		2"	100.0	0.0	0.0



laterials, LLC Mile Rd. Hills, MI 48336

pove the 3/8" sieve. ual 10% except max., or each sieve except max., or the 3/4" sieve when ggregate is used.



		/	
Coars	seness Factor:	62	
Worl	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"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

Approved By: Mart P. Ball

#:	P-32					Contractor:			_	
:	8/7/23		(Concrete Grade	DM, 4500HP				-	
epresents:	8/8/2023	through	8/14/2023			MDOT No.:			_	
Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
71-47	Presque Isle	1455		2.62	50.1					
71-47	Presque Isle				10.3					
95-013				2.65					SUP	ERIOR
	Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%			RIALS
	6AA	26	Α	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 2	Materials, LLC 10 Mile Rd.
1	00.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
		-		100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
		100).0	100.0	98.2	1.8	1.8			
				100.0	87.9	10.3	12.1			
:	33.8			100.0	66.0	21.9	34.0			
	-		-	100.0	56.5	9.5		*Maximum %	Retained must be a	above the 3/8" sieve.
								-		
			-				-			
							-			
		-	-		-					
	0.7		-	1.0	0.8	2.5	99.2	a 1.5 max. siz		ayyreyale is used.
		-				-				
radation	Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	adations	Adjusted WF	Intial Production	on Sample (IPS	5)		
radation ess Factor:	-		regate Supplier Gra ability Factor:		Adjusted WF 37.6		on Sample (IPS eness Factor:	5) 62	1	
	Batch Plant Gra		•			Coars	eness Factor:	<i>.</i>]	
ess Factor:	Batch Plant Gra		•	35		Coars Work	· · ·	62	Cumulative	l
	Batch Plant Gra		•			Coars	eness Factor: ability Factor:	62 36	Cumulative % Retained	
ess Factor:	Batch Plant Gra	Work	•	35		Coars Work Sieve 2"	eness Factor: ability Factor: Cumulative % Passing 100.0	62 36 % Retained 0.0	% Retained 0.0	
ess Factor:	Batch Plant Gra	Work	67, 40	35 JMF Zone		Coars Work Sieve 2" 1.5"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	62 36 % Retained 0.0 0.0	% Retained 0.0 0.0	
ess Factor:	Batch Plant Gra	Work	67, 40	35 JMF Zone		Coars Work Sieve 2" 1.5" 1"	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	
ess Factor:	Batch Plant Gra	Work	67, 40	35 JMF Zone 75, 39		Coars Work Sieve 2" 1.5" 1" 3/4"	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	
ess Factor:	Batch Plant Gra	Work	67, 40	35 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 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	
45, 44	Batch Plant Gra	Work	67, 40	35 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 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 5.0 27.7 39.6	
ess Factor:	Batch Plant Gra	Work	67, 40 68, 38 Froducts	JMF Zone 75, 39 tion Gradation		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 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, 33	Batch Plant Gra	Work	67, 40	JMF Zone 75, 39 tion 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 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	
45, 44 45, 33 Operating Zone	Batch Plant Gra	Work	67, 40 68, 38 Froducts	JMF Zone 75, 39 tion Gradaton		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 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 27.7 39.6 57.4 64.0 70.5	
45, 33	Batch Plant Gra	Work	67, 40 68, 38 Froducts	JMF Zone 75, 39 tion 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 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	% Retained 0.0 0.0 0.0 27.7 39.6 57.4 64.0	
45, 44 45, 33 Operating Zone	Batch Plant Gra	Work	67, 40 68, 38 Froducts	JMF Zone 75, 39 tion Gradation 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 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 9.2	% Retained 0.0 0.0 0.0 0.0 5.0 27.7 39.6 57.4 64.0 70.5 79.7	
;	: epresents: 71-47 71-47 95-013	8/7/23 epresents: 8/7/23 Pit # Source 71-47 Presque Isle 71-47 Presque Isle 95-013 Smelter Bay Total Wt 6AA 100.0 100.0 96.4 75.9 33.8 17.5 3.0 1.4 1.2 1.1 1.0 1.0	8/7/23 epresents: 8/7/23 Pit # Source Weight (ssp) 71-47 Presque Isle 1455 71-47 Presque Isle 300 95-013 Smelter Bay 1150 Total Wt 2905 6AA 26 100.0 100 100.0 100 100.0 100 96.4 100 33.8 92 17.5 79 3.0 11 1.4 2. 1.2 1. 1.1 1. 1.0 0.	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	8/7/23 Concrete Grade: epresents: $8/7/23$ through $8/14/2023$ Pit # Source Weight (ssp) ft ³ Specific Gravity 71-47 Presque Isle 1455 8.90 2.62 71-47 Presque Isle 300 1.83 2.62 95-013 Smelter Bay 1150 6.95 2.65 Total Wt 2905 17.69 2000 6AA 26A 2NS 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 33.8 92.2 100.0 17.5 79.0 100.0 1.4 2.6 86.1 1.2 1.3 71.4 1.1 1.0 51.2 1.0 0.9 6.8	8/7/23 Concrete Grade: DM, 4500HP epresents: 8/8/2023 through 8/14/2023 Pit # Source Weight (ssb) ft ³ Specific Gravity % Contribution 71-47 Presque Isle 1455 8.90 2.62 50.1 71-47 Presque Isle 300 1.83 2.62 10.3 95-013 Smelter Bay 1150 6.95 2.65 39.6 Total Wt 2905 17.69 100.0 100.0 6AA 26A 2NS Cumulative % Passing 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 96.4 100.0 100.0 87.9 33.8 92.2 100.0 66.0 17.5 79.0 100.0 56.5 3.0 11.6 97.0 41.1 1.4 2.6 86.1 35.1	$\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 $	B/7/23 Concrete Grade: DM, 4500HP epresents: 8/8/2023 through 8/14/2023 MDOT No.: Pit # Source Weight (ssp) ft ³ Specific Gravity Contribution 71-47 Presque Isle 1455 8.90 2.62 50.1 71-47 Presque Isle 300 1.83 2.62 10.3 95-013 Smelter Bay 1150 6.95 2.65 39.6 Total Wt 2905 17.69 100.0 c Verify this number is 100% 6AA 26A 2NS Cumulative % Passing % Retained 100.0 100.0 100.0 0.0 0.0 96.4 100.0 100.0 88.2 1.8 1.8 75.9 100.0 100.0 87.9 10.3 12.1 33.8 92.2 100.0 66.0 21.9 34.0 1.4 2.6 86.1 35.1 6.0 64.9 -/wn two adja 1.4 2.6 <td>8/7/23 Concrete Grade: DM, 4500HP epresents: 8/8/2023 through 8/14/2023 MDOT No.: Pit # Source Weight (ssp) ft³ Specific Gravity % Contribution 71-47 Presque Isle 1455 8.90 2.62 50.1 95-013 Smelter Bay 1150 6.95 2.65 39.6 Total Wt 2905 17.69 100.0 Verify this number is 100% 6AA 26A 2NS Cumulative % Passing % Retained Superior 100.0 100.0 100.0 100.0 0.0 0.0 96.4 100.0 100.0 87.9 10.3 12.1 33.8 92.2 100.0 66.0 21.9 34.0 17.5 79.0 100.0 66.1 35.1 6.0 64.9 1.4 2.6 86.1 35.1 6.0 64.9 </td>	8/7/23 Concrete Grade: DM, 4500HP epresents: 8/8/2023 through 8/14/2023 MDOT No.: Pit # Source Weight (ssp) ft ³ Specific Gravity % Contribution 71-47 Presque Isle 1455 8.90 2.62 50.1 95-013 Smelter Bay 1150 6.95 2.65 39.6 Total Wt 2905 17.69 100.0 Verify this number is 100% 6AA 26A 2NS Cumulative % Passing % Retained Superior 100.0 100.0 100.0 100.0 0.0 0.0 96.4 100.0 100.0 87.9 10.3 12.1 33.8 92.2 100.0 66.0 21.9 34.0 17.5 79.0 100.0 66.1 35.1 6.0 64.9 1.4 2.6 86.1 35.1 6.0 64.9

Approved By:

PLANT #	#:	P-35					Contractor:							
Sample Date):	8/7/23	•		Concrete Grade	: DM, 4500HP				•				
Dates Test R		8/8/2023	through	8/14/2023			MDOT No.:							
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution								
6AA	58-003	Stoneco	1575	9.38	2.69	53.4								
26A	58-003	Stoneco	225	1.34	2.69	7.6								
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%	•		ERIALS			
Sieve	e	AA	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	1	Suite 500				
1.5"	1	00.0	100	0.0	100.0	100.0	0.0	0.0]	Farmingto	n Hills, MI 48336			
1"		00.0	100		100.0	100.0	0.0	0.0						
3/4"		7.0	100		100.0	87.7	12.3	12.3						
1/2"		38.0	99		100.0	66.9	20.8	33.1						
3/8"		20.2	89		100.0	56.6	10.3	43.4			above the 3/8" sieve.			
#4		4.8	12.0		98.1 83.1	41.7	14.9	58.3	*Any two adjacent sieves must equal 10% except ma					
#8		2.6		3.7 2.9		34.1	7.7	65.9	nom. max., #100 and #200 sieves.					
#16		1.7			65.9	26.8	7.2	73.2	*% Retained must be at least 4% for each sieve exce					
#30		1.6	2.	-	46.9	19.3	7.5	80.7 90.2	,	00 and #200 sieves				
#50 #100		1.4 1.4	2.		5.9	9.8 3.2	9.6 6.5	90.2 96.8			6 for the 3/4" sieve wher			
LBW		1.4 1.4	2.		0.7	1.2	2.0	98.8	a 1.5 max. siz	e (nom. max. 1.0)	aggregate is used.			
Production G		Batch Plant Gra		regate Supplier Gra			-	on Sample (IPS	3)					
	ess Factor:	66	Work	ability Factor	: 34	36.6		eness Factor:	61					
45			•		•		Work	ability Factor:	36					
45	45, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained				
		52, 41					2"	100.0	0.0	0.0				
a ⁴⁰		56			75, 39		1.5"	100.0	0.0	0.0				
ల్					' T		1"	99.3	0.7	0.7				
D I			■ 60, 36	Production	n Gradation		3/4"	89.1	10.2	10.9				
5 35			Jest Participation of the second seco				1/2"	70.5	18.6	29.5				
Щ́ (\rightarrow	52, 34	+	!			3/8"	60.5	10.0	39.5				
lity	45, 33						#4	44.1	16.4	55.9				
		56,	31	67, 88 , 31	1		#8	35.6	8.5	64.4				
¥	Operating Zone						#16	27.7	7.9	72.3				
Workability Factor (%)	Boundary				75, 28		#30	20.6	7.1	79.4				
							#50 #100	8.7 1.6	11.8 7.1	91.3 98.4				
25														
25 40	45	50 55	5 60	Factor (%)) 75	80	LBW	1.0	0.6	98.9				

Approved By:

ActionLimits Boundary = - - - - -

PLANT #	#:	P-36					Contractor:					
Sample Date:	:	8/7/23		C	Concrete Grade	: DM, 4500HP						
Dates Test Re	epresents:	8/8/2023	through	8/14/2023			MDOT No.:					
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution						
6AA	71-47	Presque Isle	1500	9.17	2.62	51.6						
26A	71-47	Presque Isle	255	1.56	2.62	8.8						
2NS 63-92		Grange Hall	1150	6.95	2.65	39.6					ERIOR	
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	1	MATE	RIALS	
Sieve	(6AA	26	Α	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 2	Materials, LLC 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	1	Farmingtor	n Hills, MI 48336	
1"		97.2	100		100.0	98.6	1.4	1.4]			
3/4"		80.3	100		100.0	89.8	8.7	10.2				
1/2"		35.1	92		100.0	65.8	24.0	34.2				
3/8"		19.3	79	-	100.0	56.5	9.3	43.5	*Maximum % Retained must be above the 3/8" sieve			
#4		3.6	11.6		97.4	41.4	15.1	58.6	*Any two adjacent sieves must equal 10% except ma:			
#8		2.8	2.	-	83.8	34.8	6.6	65.2	nom. max., #100 and #200 sieves.			
#16 #30		2.4 2.1	1.		70.2 51.6	29.1 21.6	5.7 7.5	70.9 78.4	*% Retained must be at least 4% for each sid nom. max., #100 and #200 sieves. *% Retained must be at least 4% for the 3/4" a 1.5" max. size (nom. Max. 1.0") aggregate is			
#30 #50		1.8	0.		21.3	9.4	12.2	90.6				
#100		1.6	0.	-	3.3	2.2	7.2	97.8				
		1.0			1.0	1.1	1.1	98.9			aggrogato to aboa.	
LBW		1.3	0.	1	1.0	1.1	1.1	98.9				
LBW		1.3 Batch Plant Gra		7 regate Supplier Gra				98.9 on Sample (IPS	5)	_		
LBW Production G		_	dations 💿 Agg		dations		Intial Production		5) 63	1		
LBW Production Gr Coarsene	radation	Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations	Adjusted WF	Intial Productio	on Sample (IPS	<i>.</i>			
LBW Production G Coarsene	radation ss Factor:	Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations 35	Adjusted WF	Intial Productio Coars Work	on Sample (IPS eness Factor:	63	Cumulative	1	
LBW Production G Coarsene	radation	Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations	Adjusted WF	Intial Productio	on Sample (IPS eness Factor: ability Factor:	63 35	Cumulative % Retained		
LBW Production Gi Coarsene	radation ss Factor:	Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations 35	Adjusted WF	Intial Productio Coars Work Sieve 2"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0	63 35 % Retained 0.0	% Retained 0.0		
LBW Production Gi Coarsene	radation ss Factor:	Batch Plant Gra 67	dations 💿 Agg	regate Supplier Gra ability Factor:	dations 35	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	63 35 % Retained 0.0 0.0	% Retained 0.0 0.0		
LBW Production Gi Coarsene 45 40	radation ss Factor:	Batch Plant Gra 67	dations 💿 Agg	ability Factor:	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 99.1	63 35 % Retained 0.0 0.0 0.0 0.9	% Retained 0.0 0.0 0.9		
LBW Production Gi Coarsene	radation ss Factor:	Batch Plant Gra 67	dations 💿 Agg	po, 99 68, 38 Poducti	dations 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 99.1 90.3	63 35 % Retained 0.0 0.0 0.0 0.9 8.8	% Retained 0.0 0.0 0.9 9.7		
LBW Production Gi Coarsene	radation ss Factor:	Batch Plant Gra	dations Agg Work 58, 39	ability Factor:	dations 35 JMF Zone 75, 39	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 99.1 90.3 69.2	63 35 % Retained 0.0 0.0 0.9 8.8 21.1	% Retained 0.0 0.0 0.9 9.7 30.8		
LBW Production Gi Coarsene 45 40 40 40 35	radation ess Factor:	Batch Plant Gra 67	dations Agg Work 58, 39	po, 99 68, 38 Poducti	dations 35 JMF Zone 75, 39	Adjusted WF	Intial Production 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 99.1 90.3 69.2 59.1	63 35 % Retained 0.0 0.0 0.9 8.8 21.1 10.1	% Retained 0.0 0.0 0.9 9.7 30.8 40.9		
LBW Production Gi Coarsene 45 40 40 40 35	radation ss Factor:	Batch Plant Gra	dations	ability Factor:	dations 35 JMF Zone 75, 39 on Gradation	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 99.1 90.3 69.2 59.1 41.8	63 35 % Retained 0.0 0.0 0.9 8.8 21.1 10.1 17.3	% Retained 0.0 0.9 9.7 30.8 40.9 58.2		
LBW Production Gi Coarsene 45 40 40 40 35	ss Factor:	Batch Plant Gra	dations Agg Work 58, 39	po, 99 68, 38 Poducti	dations 35 JMF Zone 75, 39 on Gradation	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 99.1 90.3 69.2 59.1 41.8 35.1	63 35 % Retained 0.0 0.0 0.9 8.8 21.1 10.1 17.3 6.6	% Retained 0.0 0.0 0.9 9.7 30.8 40.9 58.2 64.9		
LBW Production Gi Coarsene 45 40 40 40 40 40 40 40 40 40 40 40 55	ss Factor:	Batch Plant Gra	dations	ability Factor:	dations 35 JMF Zone 75, 39 on Gradation	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 99.1 90.3 69.2 59.1 41.8	63 35 % Retained 0.0 0.0 0.9 8.8 21.1 10.1 17.3	% Retained 0.0 0.9 9.7 30.8 40.9 58.2		
LBW Production Gi anesraco 40 40 40 40 40 40 40 40 40 40	ss Factor:	Batch Plant Gra	dations	ability Factor:	dations 35 JMF Zone 75, 39 on Gradation	Adjusted WF	Intial Production Coarse 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 99.1 90.3 69.2 59.1 41.8 35.1 28.5	63 35 % Retained 0.0 0.0 0.9 8.8 21.1 10.1 17.3 6.6 6.6	% Retained 0.0 0.9 9.7 30.8 40.9 58.2 64.9 71.5		
LBW Production Gi Coarsene 45 45 40 40 40 40 40 40 40 40 40 40 40 40 40	ss Factor:	Batch Plant Gra	dations	ability Factor:	dations 35 JMF Zone on Gradation 1 75, 28	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 99.1 90.3 69.2 59.1 41.8 35.1 28.5 21.2	63 35 % Retained 0.0 0.0 0.9 8.8 21.1 10.1 17.3 6.6 6.6 7.3	% Retained 0.0 0.0 0.9 9.7 30.8 40.9 58.2 64.9 71.5 78.8		

Approved By:

PLANT :	#:	P-38					Contractor:					
Sample Date		8/7/23			Concrete Grade	DM, 4500HP	-					
Dates Test R	Represents:	8/8/2023	through	8/14/2023	Specific	%	MDOT No.:			-		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Gravity	Contribution						
6AA	58-003	Stoneco	1575	9.38	2.69	53.4						
26A	58-003	Stoneco	225	1.34	2.69	7.6						
2NS 81-019		Pleasant Lake	1150	6.95	2.65	39.0				SUPE	RI	
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%		MATE	RIA	
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative		Superior N	lateria	
CICTC			204					% Retained		30701 W. 10) Mile I	
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		Farmington	Hills, N	
1"		100.0	100		100.0	100.0	0.0	0.0				
3/4"		77.0	100		100.0	87.7	12.3	12.3	1			
1/2"		38.0	99		100.0	66.9	20.8	33.1				
3/8"		20.2	89	0.5	100.0	56.6	10.3	43.4	*Maximum % Retained must b		ove the	
#4		4.8	12		98.1	41.7	14.9	58.3	*Any two adja	icent sieves must equ	ual 10%	
#8		2.6	3.		83.1	34.1	7.7	65.9	nom. max., #10			
#16		1.7	2.		65.9	26.8	7.2	73.2	*% Retained I	or each		
#30		1.6	2.		46.9	19.3	7.5	80.7		00 and #200 sieves.		
#50		1.4	2.		22.7	9.8		90.2	*% Retained must be at least 4% for the 3/			
#100 1.4			2.4		5.9	3.2 1.2	6.5 2.0	96.8	a 1.5" max. siz	1.5" max. size (nom. Max. 1.0") aggregate		
		4 4										
LBW		1.4			0.7		-	98.8				
Production G		O Batch Plant Gra	dations 💿 Agg	gregate Supplier Gra	adations	Adjusted WF	Intial Production	on Sample (IPS		1		
Production G	Gradation	_	dations 💿 Agg		adations		Intial Production	on Sample (IPS eness Factor:	61]		
Production G		O Batch Plant Gra	dations 💿 Agg	gregate Supplier Gra	adations	Adjusted WF	Intial Production	on Sample (IPS eness Factor: ability Factor:	61 36	Quantitation		
Production G Coarsene		O Batch Plant Gra	dations 💿 Agg	gregate Supplier Gra	adations	Adjusted WF	Intial Production	on Sample (IPS eness Factor: ability Factor: Cumulative	61 36 %	Cumulative		
Production G Coarsene	ess Factor:	Batch Plant Gra 66	dations 💿 Agg	gregate Supplier Gra	adations 34	Adjusted WF	Intial Productio Coars Work Sieve	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing	61 36 % Retained	% Retained		
Production G Coarsene	ess Factor:	O Batch Plant Gra	dations 💿 Agg	gregate Supplier Gra	34	Adjusted WF	Intial Productio Coars Work Sieve 2"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0	61 36 % Retained 0.0	% Retained 0.0		
Coarsene	ess Factor:	Batch Plant Gra 66	dations 💿 Agg	gregate Supplier Gra	adations 34	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	61 36 % Retained 0.0 0.0	% Retained 0.0 0.0		
Production G Coarsene	ess Factor:	Batch Plant Gra 66	dations Agg Work	ability Factor:	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 99.3	61 36 % Retained 0.0 0.0 0.7	% Retained 0.0 0.0 0.7		
Coarsene	ess Factor:	Batch Plant Gra 66	dations 💿 Agg	ability Factor:	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 99.3 89.1	61 36 % Retained 0.0 0.0 0.7 10.2	% Retained 0.0 0.0 0.7 10.9		
Production G Coarsene	ess Factor:	Batch Plant Gra 66 52, 41 56,	dations Agg Work	ability Factor:	JMF Zone 75, 39	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 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		
Coarsene	45, 44	Batch Plant Gra 66	dations Agg Work	ability Factor:	JMF Zone 75, 39	Adjusted WF	Intial Production 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 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 0.0 0.7 10.9 29.5 39.5		
Coarsene	ess Factor:	Batch Plant Gra 66 52, 41 56,	dations Agg Work	pregate Supplier Gra ability Factor: 68, 38 Froduction	JMF Zone 75, 39 Gradation	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 99.3 89.1 70.5 60.5 44.1	61 36 % Retained 0.0 0.0 0.7 10.2 18.6	% Retained 0.0 0.0 0.7 10.9 29.5 39.5 55.9		
Coarsene	45, 44 45, 33	Batch Plant Gra	dations Agg Work	ability Factor:	JMF Zone 75, 39 Gradation	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 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	% Retained 0.0 0.0 0.7 10.9 29.5 39.5		
Coarsene	45, 44	Batch Plant Gra	dations Agg Work	pregate Supplier Gra ability Factor: 68, 38 Froduction	adations 34 JMF Zone 75, 39 o Gradation	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: % 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 8.5	% Retained 0.0 0.0 0.7 10.9 29.5 39.5 55.9 64.4		
Production G Coarseng 45 40 40 40 40 40 40 40 40 40 40 40 40 40	45, 44 45, 33 Operating Zone	Batch Plant Gra	dations Agg Work	pregate Supplier Gra ability Factor: 68, 38 Froduction	JMF Zone 75, 39 Gradation	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 99.3 89.1 70.5 60.5 44.1 35.6 27.7	61 36 % Retained 0.0 0.0 0.7 10.2 18.6 10.0 16.4 8.5 7.9	% Retained 0.0 0.0 0.7 10.9 29.5 39.5 55.9 64.4 72.3		
Coarsene	45, 44 45, 33 Operating Zone	Batch Plant Gra	dations Agg Work	pregate Supplier Gra cability Factor: 68, 38 Froduction	adations 34 JMF Zone Gradation 75, 39 75, 28	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 99.3 89.1 70.5 60.5 44.1 35.6 27.7 20.6	61 36 % <u>Retained</u> 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		



ls, LLC d. 48336

3/8" sieve. except max., sieve except max., I" sieve when is used.

Approved By: Mart P. Ball

PLANT #	#:	P-39					Contractor:				
Sample Date:		8/7/23		(Concrete Grade	DM, 4500HP					
Dates Test R	Represents:	8/8/2023	through	8/14/2023			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	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 number is 100%		SUPERIOR MATERIALS		
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior</u> 30701 W.	Materials, LLC 10 Mile Rd.
2"		100.0	100	0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		100.0	100		100.0	100.0	0.0	0.0	1	Farmingto	n Hills, MI 48336
1"		97.8	100	0.0	100.0	98.8	1.2	1.2	1		
3/4"		79.7	100		100.0	88.8	10.0	11.2			
1/2"		35.3	96	5.6	100.0	64.0	24.8	36.0			
3/8"		18.8	88		100.0	54.3	9.7	45.7	*Maximum %	Retained must be	above the 3/8" sieve.
#4		2.8	24		97.7	40.2	14.1	59.8	*Any two adja	icent sieves must e	qual 10% except max.,
#8		1.6	4.		83.2	32.7	7.5	67.3		00 and #200 sieves	
#16		1.4	2.		67.2	26.4	6.4	73.6	*% Retained must be at least 4% for each		
#30		1.4	1.		49.3	19.6	6.8	80.4	nom. max., #100 and #200 sieves.		
#50		1.3	1.		22.5	9.3	10.2	90.7			o for the 3/4" sieve wher
#100 LBW		1.3 1.0	1.		6.3 1.3	3.2 1.1	6.1 2.1	96.8 98.9	a 1.5" max. sız	e (nom. Max. 1.0")	aggregate is used.
		Batch Plant Gra		s regate Supplier Gra	_			_			
Production G		0		•	1			on Sample (IPS	,	1	
Coarsene	ess Factor:	68	Work	ability Factor:	33	35.2	Coarseness Factor: Workability Factor:		63		
45									36		
_	45, 44				JMF Zone		Sieve	Cumulative	%	Cumulative	
		52, 41						% Passing	Retained	% Retained	
- 40		32, 4	-58-40		_		2"	100.0	0.0	0.0	
%				68, 38	75, 39		1.5" 1"	100.0 100.0	0.0	0.0	
ž			i	Ĩ			3/4"	89.7	10.3	10.3	
0 35			■ 60, 36	IPS	uction Gradation		1/2"	70.3	10.3	29.7	
Factor (%)	\rightarrow	52, 34		T			3/8"	59.1	11.2	40.9	
5	45, 33	JZ, 34					#4	42.8	16.3	57.2	
	1		58, 22	688.83	2		#8	35.5	7.3	64.5	
Workability	I Operating Zone	<u>`</u>		50,01			#16	29.0	6.5	71.0	
<u>P</u>	Boundary	·			75, 28		#30	21.2	7.7	78.8	
		1			-,		#50	9.8	11.5	90.2	
-							#100	3.7	6.1	96.3	
≥ <u>25</u> <u>40</u>	45	50 55		Factor (%)	75	80	LBW	1.2	2.5	98.8	

Approved By:

PLANT a	#:	P-O2					Contractor:					
Sample Date	:	8/7/23	-		Concrete Grade:	DM, 4500HP				-		
Dates Test R	epresents:	8/8/2023	through	8/14/2023			MDOT No.:					
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution				_		
6AA	71-47	Presque Isle	1550	9.48	2.62	53.4						
26A	71-47	Presque Isle	205	1.25	2.62	7.1						
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6				SUD	ERIOR	
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	-		ERIALS	
Sieve 6AA		26A		2NS	Cumulative % Passing	/ 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"		00.0	100		100.0	100.0	0.0	0.0]	Farmingto	n Hills, MI 48336	
1"		97.2	100	0.0	100.0	98.5	1.5	1.5]			
3/4"		80.3	100		100.0	89.5	9.0	10.5				
1/2"		35.1	92		100.0	64.8	24.7	35.2				
3/8"		19.3	79	-	100.0	55.5	9.4	44.5	*Maximum % Retained must be above the 3/8" sieve *Any two adjacent sieves must equal 10% except ma nom. max., #100 and #200 sieves. *% Retained must be at least 4% for each sieve exce			
#4		3.6	11	-	96.0	40.7	14.7	59.3				
#8		2.8	2.		80.8	33.7	7.1	66.3				
#16		2.4	1.		65.5	27.3	6.4	72.7				
#30		2.1	1.		49.2	20.7	6.6	79.3		00 and #200 sieves		
#50		1.8	0.		24.6	10.8	9.9	89.2			6 for the 3/4" sieve whe	
#100 LBW		1.6 1.3	0.	-	5.0	2.9 1.1	7.9 1.8	97.1 98.9	a 1.5" max. siz	e (nom. Max. 1.0")	aggregate is used.	
		-		-	_				J			
Production G	Gradation	O Batch Plant Gra	dations 💿 Aggi	regate SupplierGra	adations	Adjusted WF	Intial Production	on Sample (IPS	6)	-		
Coarsene	ess Factor:	67	Work	ability Factor	: 34	36.2	Coars	eness Factor:	63			
45							Work	ability Factor:	35			
_	45, 44				JMF Zone		Sieve	Cumulative	%	Cumulative		
1	-5,				Juli Zone		Sleve	% Passing	Retained	% Retained		
1.1		52, 41					2"	100.0	0.0	0.0		
् ⁴⁰			58, 39	68, 39	75, 39		1.5"	100.0	0.0	0.0		
<u>ව</u>			i		Í		1"	100.0	0.0	0.0		
<u>ā</u>			■ 60, 36	Produc	ction Gradat on		3/4"	95.1	4.9	4.9		
Factor (%)				IPS i			1/2"	74.6	20.5	25.4		
		52, 34		!			3/8"	59.3	15.3	40.7		
E I	45, 33			i			#4	42.1	17.2	57.9		
ig 30		_	58, 31	6 8 8.33	n		#8	35.1	7.1	64.9		
Workability	Operating Zone						#16	29.2	5.9	70.8 78.1		
§ L	Boundary				75, 28		#30 #50	21.9 9.6	7.3 12.4	78.1 90.4		
> _ [_]							#50	9.6	12.4	90.4		

75

80

#100

LBW

2.4

0.9

7.2

1.5

97.6

99.1



PREPARED BY: SM, LLC Technical Service

50

55

45

ActionLimits Boundary = - - - -

Coarseness Factor (%)⁷⁰

25

40

