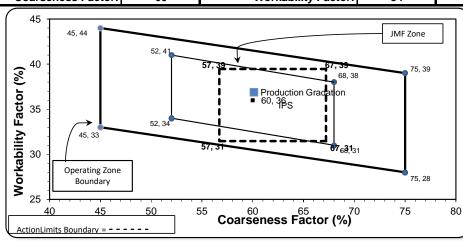
Production	Gradation	Report
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PLANT #	#:	P-101					Contractor:			
Sample Date	:	11/14/22			Concrete Grade:	DM, 4500HP				-
Dates Test R	epresents:	11/15/2022	through	11/21/2022			MDOT No.:			
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution				-
6AA	71-47	Presque Isle	1460	8.93	2.62	50.2				
26A	71-47	Presque Isle	300	1.83	2.62	10.3				
2NS	75-051	Mid Michigan	1150	6.93	2.66	39.5				
		Total Wt	2910	17.69		100.0	< Verify this n	number is 100%	_	
Sieve		6AA	26	6A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		
2"		100.0	10	0.0	100.0	100.0	0.0	0.0	1	
1.5"		100.0	10	0.0	100.0	100.0	0.0	0.0]	
1"		99.2	10	0.0	100.0	99.6	0.4	0.4		
3/4"		86.9		0.0	100.0	93.4	6.2	6.6		
1/2"		50.0		1.8	100.0	74.4	19.0	25.6		
3/8"		25.5	80).0	100.0	60.6	13.8	39.4	*Maximum %	Ret
#4		3.2	-	3.7	98.5	43.0	17.6	57.0	*Any two adja	acen
#8		1.2	-	.2	83.1	34.4	8.6	65.6	nom. max., #1	00 a
#16		1.1		.9	66.3	27.3	7.1	72.7	*% Retained	mus
#30		1.0	3		47.5	19.7	7.6	80.3	nom. max., #1	
#50		1.0	-	.2	20.7	9.0	10.6	91.0	*% Retained	
#100 LBW		1.0 0.9	3	.0	4.8	2.7	6.3 1.7	97.3 99.0	a 2" max. size	(nor
Production G	radation	Batch Plant Gra		regate Supplier G		1.0		ion Sample (IP:		
	ess Factor:	60	0.11	ability Facto		36.9		eness Factor:	<i>.</i>	1
	331 actor.	00		ability racto	. <u>5</u> 4	30.3		ability Factor:	35	-
	45, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	C %
		52, 41					2"	100.0	0.0	É
a ⁴⁰			57, 39	67, 3	75, 39		1.5"	100.0	0.0	1



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.



C	Coars	eness Factor:	62	
1	Worka	ability Factor:	35	
Siev	•	Cumulative	%	Cumulative
Slev	e	% 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	C	3.1	7.1	96.9
LBW	V	1.3	1.8	98.7

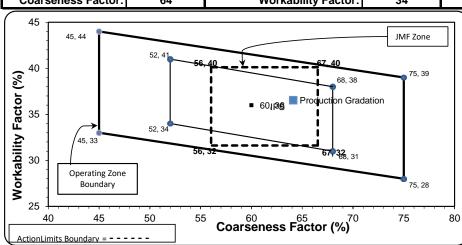
Approved By: Mart P. Ball

PLANT #	#:	P-102	_				Contractor:			_
Sample Date	:	11/14/22		C	Concrete Grade	DM, 4500HP	_			
Dates Test R	epresents:	11/15/2022	through	11/21/2022			MDOT No.:			
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution]			
6AA	58-003	Stoneco	1450	8.64	2.69	49.2				-
26A	58-003	Stoneco	350	2.09	2.69	11.9				
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				SU
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%	•	MAT
Sieve		6AA	26	6A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superio</u> 30701 W
2"		100.0	10	0.0	100.0	100.0	0.0	0.0	1	Suite 50
1.5"		100.0	10	0.0	100.0	100.0	0.0	0.0		Farming
1"		99.4	10	0.0	100.0	99.7	0.3	0.3		
3/4"		81.5	10	0.0	100.0	90.9	8.8	9.1		
1/2"		39.5	10	0.0	100.0	70.3	20.6	29.7		
3/8"		16.8	88	3.3	100.0	57.7	12.5	42.3	*Maximum %	Retained must b
#4		3.3	5	.6	98.1	40.5	17.2	59.5	*Any two adja	icent sieves mus
#8		1.9	1	.4	84.5	34.0	6.5	66.0	nom. max., #10	00 and #200 siev
#16		1.4	1	.1	68.0	27.3	6.7	72.7	*% Retained	must be at least
#30		1.9	1	.0	49.2	20.2	7.1	79.8	nom. max., #10	00 and #200 siev
#50		1.8	1	.0	25.7	11.0	9.2	89.0	*% Retained	must be at least
#100		1.7		.0	7.2	3.8	7.3	96.2	a 2" max. size	(nom. Max. 1.5")
LBW		1.2	-	.8	1.4	1.2	2.5	98.8		
Production G		Batch Plant Gra	0, 55	regate Supplier Gra		,	Intial Production		S)	
Coarsene	ess Factor:	64	Wor	cability Factor:	34	36.5		eness Factor:	61	
45						_)	Work	ability Factor:	36	-
4	15, 44				JMF Zone		Sieve	Cumulative	%	Cumulative
		52, 41			L			% Passing	Retained	% Retained
40		56	40 4	67_40			2"	100.0	0.0	0.0
tor (%)				68, 38	75, 39		1.5"	100.0	0.0	0.0
Ľ			!		-1-4'		1"	99.3	0.7	0.7
2			■ 601 3 €	Production Grad	dation		3/4"	89.2	10.1	10.8



aterials, LLC Mile Rd. ills, MI 48336

ve the 3/8" sieve. 1 10% except max., each sieve except max., the 1" sieve when egate is used.



Coars	eness Factor:	61	
Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

Approved By: Mart P. Ball

PLANT i	#:	P-103					Contractor:				
Sample Date		11/14/22			Concrete Grade:	DM, 4500HP					
Dates Test R	epresents:	11/15/2022	through	11/21/2022			MDOT No.:				•
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1450	8.64	2.69	49.2					
26A	58-003	Stoneco	350	2.09	2.69	11.9					
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				SUP	ERIOR
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%			RIALS
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, LLC 10 Mile Rd.
2"	-	100.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		100.0	100	0.0	100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		99.4		0.0	100.0	99.7	0.3	0.3			
3/4"		81.5		0.0	100.0	90.9	8.8	9.1			
1/2"		39.5		0.0	100.0	70.3	20.6	29.7			
3/8"		16.8	88		100.0	57.7	12.5	42.3			above the 3/8" sieve.
#4		3.3	5.		98.1	40.5	17.2	59.5			qual 10% except max.,
#8		1.9	1.		84.5	34.0	6.5	66.0		00 and #200 sieves	
#16		1.4	1.		68.0	27.3	6.7	72.7			for each sieve except
#30 #50		1.9 1.8	<u> </u>	-	49.2 25.7	20.2 11.0	7.1 9.2	79.8 89.0		00 and #200 sieves	
#50 #100		1.7	1.	-	7.2	3.8	9.2 7.3	96.2			for the 1" sieve when
LBW		1.7	0.	-	1.4	1.2	2.5	98.8	a z max. size	(nom. Max. 1.5") ag	gregate is used.
Production G	radation	Batch Plant Gra		regate Supplier Gra		Adjusted WF		on Sample (IPS	5)		
	ess Factor:	64	Work	ability Factor:	34	36.5		eness Factor:	61		
		•••			•			ability Factor:	36		
⁴⁵								Cumulative	%	Cumulative	
- 4	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
1		52, 41	40	67 40			2"	100.0	0.0	0.0	
a ⁴⁰		-56,	F		75, 39		1.5"	100.0	0.0	0.0	
8 I				68, 38			1"	99.3	0.7	0.7	
Jo 1				Production Gra	dation		3/4"	89.2	10.1	10.8	
Workability Factor (%)							1/2"	70.7	18.5	29.3	
й I	\rightarrow	52, 34					3/8"	60.7	10.0	39.3	
İţ	45, 33		L				#4	44.4	16.3	55.6	
iq 30		56,	32	67, 32 , 31			#8	35.9	8.5	64.1	
ka ∏	Operating Zone	2					#16	27.3	8.6	72.7	
ō 11	Boundary				75, 28		#30	19.1	8.2	80.9	
							#50 #100	7.4	11.7 5.6	92.6 98.1	
							±1()()	1.9	56	48.1	
> 25 40	45	50 55	60 Coarseness	65 70	75	80	LBW	0.7	1.2	99.3	

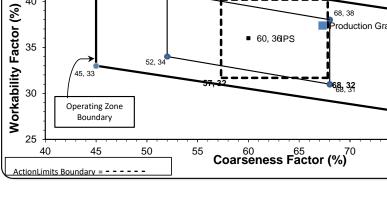
Approved BY: Mary 1. Ball

PLANT #	#:	P-14					Contractor:				
Sample Date	:	11/14/22		C	oncrete Grade	DM, 4500HP					
Dates Test R	epresents:	11/15/2022	through	11/21/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution				5	
6AA	58-003	Stoneco	1510	9.00	2.69	51.0					
26A	58-003	Stoneco	350	2.09	2.69	11.8				<u>U</u>	
2NS	19-55	Schlegel	1100	6.60	2.67	37.2				Bui	Iders'
		Total Wt	2960	17.68		100.0	< Verify this n	umber is 100%			irst With Builders'
Sieve	e	AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Builders </u> 30701 W.	Redi-Mix 10 Mile Rd.
2"	1	00.0	100).0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	100		100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"	ç	99.4	100	0.0	100.0	99.7	0.3	0.3			
3/4"	3	31.5	100).0	100.0	90.6	9.1	9.4			
1/2"	3	39.5	100	0.0	100.0	69.1	21.4	30.9			
3/8"		16.8	88		100.0	56.2	13.0	43.8	*Maximum %	Retained must be	above the 3/8" sieve.
#4		3.3	5.	-	100.0	39.5	16.7	60.5	*Any two adja	cent sieves must e	equal 10% except max.,
#8		1.9	1.4	4	90.8	34.9	4.6	65.1	nom. max., #10	00 and #200 sieves	S.
#16		1.4	1.		71.2	27.3	7.6	72.7	*% Retained	must be at least 4%	6 for each sieve except
#30		1.9	1.		48.1	19.0	8.3	81.0	nom. max., #10	00 and #200 sieves	3.
#50		1.8	1.0		16.9	7.3	11.6	92.7	*% Retained	must be at least 8%	6 for the 1" sieve when
#100		1.7	1.		3.2	2.2	5.1		a 2" max. size	(nom. Max. 1.5") a	ggregate is used.
LBW		1.2	0.	-	0.3	0.8	1.4	99.2			
Production G	radation	O Batch Plant Gra	dations 💿 Aggr	egate Supplier Gra	dations	Adjusted WF	Intial Production	on Sample (IPS	5)		
Coarsene	ss Factor:	67	Work	ability Factor:	35	37.4	Coars	eness Factor:	63		
45							Work	ability Factor:	36		_
	5, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained	
		52, 41	57.40	68, 40			2"	100.0	0.0	0.0	
्न ⁴⁰]					75, 39		1.5"	100.0	0.0	0.0	
ک ا				68, 38	tion Gradation		1"	99.3	0.7	0.7	
o			6 0, 36		lion Grauaion		3/4"	89.0	10.3	11.0	
5 35		l	- 00,00				1/2"	70.3	18.7	29.7	
Щ́ I		52, 34	-i_	1			3/8"	59.9	10.4	40.1	
Ē	45, 33			68, 32 68, 31			#4	41.9	18.0	58.1	
ig 30 [_	51,52	688, 32			#8	35.9	6.0	64.1	
Workability Factor (%)	Operating Zone						#16	27.8	8.2	72.2	
<u>ē</u>]	Boundary				75, 28		#30	18.9	8.8	81.1	
S -							#50	6.3	12.6	93.7	

75

80

٠, ot max.,



Coar	seness Factor:	63	
Wor	kability 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"	89.0	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: Mary 1. Ball

PLANT #		P-12					Contractor:			
Sample Date Dates Test R		11/14/22 11/15/2022	through	11/21/2022	Concrete Grade:	DM, 4500HP	MDOT No.:			
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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				SUP
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%		MATE
Sieve		6AA	26	6A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior N</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		Farmington
1"		98.2	10	0.0	100.0	99.1	0.9	0.9		-
3/4"		81.3	10	0.0	100.0	90.3	8.8	9.7		
1/2"		43.0	98		100.0	70.3	20.0	29.7		
3/8"	-	22.6	89).7	100.0	59.0	11.3	41.0	*Maximum %	Retained must be
#4		3.2	24		96.9	42.2	16.9	57.8	*Any two adja	icent sieves must e
#8		1.6	6.		80.0	33.1	9.1	66.9	nom. max., #10	00 and #200 sieves
#16		1.4	2.		64.7	26.6	6.5	73.4	*% Retained r	must be at least 4%
#30		1.4	2.		50.0	20.7	5.9	79.3	nom. max., #10	00 and #200 sieves
#50		1.3	2.		27.1	11.6	9.1	88.4	*% Retained r	must be at least 8%
#100		1.3	1.		6.0	3.2	8.4		a 2" max. size	(nom. Max. 1.5") ag
LBW		1.1	1.	.7	0.8	1.0	2.2	99.0		
Production G	radation	O Batch Plant Gra		regate Supplier Gr		Adjusted WF	Intial Production	on Sample (IPS	5)	
Coarsene	ss Factor:	61	Work	ability Factor	: 33	35.6	Coars	eness Factor:	63	
45 T							Work	ability Factor:	36	
4	5, 44	52, 41			JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
40			57,40	68, 40	75.00		2"	100.0	0.0	0.0
8				68, 38	75, 39		1.5"	100.0	0.0	0.0
)				7			1"	99.3	0.7	0.7
0 35			■ <mark>60</mark> p38	Ruction Gradation			3/4"	89.0	10.3	11.0
		52, 34		Ī			1/2"	70.3	18.7	29.7
2	45, 33	02, 34					3/8"	59.9	10.4	40.1
	/		57, 22	68, 3 68, 3	2		#4	41.9	18.0	58.1
11 00 1	1			08, 3			#8	35.9	6.0	64.1
	Operating Zone				75.29		#16	27.8	8.2	72.2
\$ 1	Dperating Zone Boundary				75, 28		#16 #30 #50	27.8 18.9 6.3	8.2 8.8 12.6	72.2 81.1 93.7

75

80

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

#100

LBW

1.7

1.0

4.6

0.7



ials, LLC Rd. MI 48336

he 3/8" sieve. % except max., ch sieve except max., 1" sieve when e is used.

98.3

99.0

PREPARED BY: SM, LLC Technical Service

45

ActionLimits Boundary = - - - - -

50

55

40



PLANT #	#:	11					Contractor:				
Sample Date	:	11/14/22		C	Concrete Grade:	DM, 4500HP					
Dates Test R	epresents:	11/15/2022	through	11/21/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1405	8.59	2.62	48.4					
26A	71-47	Presque Isle	350	2.14	2.62	12.0					
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	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, LLC 10 Mile Rd.
2"	1	00.0	100		100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	100		100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		00.0	100	-	100.0	100.0	0.0	0.0			
3/4"		85.6	100		100.0	93.0	7.0	7.0			
1/2"		42.8	98		100.0	72.1	20.9	27.9		B (1 1 1 1	
3/8"		19.9	89		100.0	60.0	12.1	40.0			above the 3/8" sieve.
#4 #9		2.4	24 6.		95.5	42.0	18.1 7.7	58.0 65.7	*Any two adjacent sieves must equal 10% except ma:		
#8 #16		1.6 1.4	2.	-	82.6 66.9	34.3 27.5	6.8	72.5	,	00 and #200 sieves	
#10		1.3	2.	-	47.7	19.8	7.7	80.2		0 and #200 sieves	6 for each sieve except
#30		1.3	2.		23.2	19.8	9.7	89.9			6. 6 for the 1" sieve when
#100		1.2	1.		6.6	3.4	6.6	96.6		(nom. Max. 1.5") a	
LBW		1.0	1.		1.4	1.2	2.2	98.8			ggrogato to uood.
Production G	radation	O Batch Plant Gra	dations 💿 Ago	regate Supplier Gra	adations	Adjusted WF	Intial Production	on Sample (IPS	5)		
Coarsene	ess Factor:	61	Work	ability Factor:	34	36.8	Coars	eness Factor:	62		
45							Work	ability Factor:	36		
	15, 44					$\neg \mid \downarrow$		Cumulative	%	Cumulative	
-		52, 41			JMF Zone		Sieve	% Passing	Retained	% Retained	
40		52, 4	i. 40	67, 40			2"	100.0	0.0	0.0	
? ``				68, 38	75, 39		1.5"	100.0	0.0	0.0	
			Prod				1"	100.0	0.0	0.0	
8 ~ 1			■ 60, 3 18	uction Gradation S			3/4"	95.0	5.0	5.0	
Factor (%)		52, 34	1	i			1/2"	72.3	22.8	27.7	
	45, 33	52, 34					3/8"	60.4	11.8	39.6	
	-,	50	,92	67, 32 68, 31			#4	42.6	17.8	57.4	
g ³⁰ [–	ļ			56, 51			#8	36.0	6.6	64.0	
Workability	Operating Zone				75, 28		#16 #30	29.5 20.3	6.5 9.2	70.5 79.7	
	Boundary				, 20		#30 #50	9.5	9.2 10.8	90.5	
25							#50	9.5 3.4	6.1	90.5	
40	45	<u>50</u> 55	Coarseness	Factor (%) ⁷⁰	75	80		-	-		
	HOUNDARY =		Coarseness	Factor (%)	15		LBW	1.3	2.1	98.7	

Approved By:

PLANT #	#:	P-32	_				Contractor:			-	
Sample Date	e:	11/14/22		(Concrete Grade:	DM, 4500HP					
Dates Test R	epresents:	11/15/2022	through	11/21/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1405	8.59	2.62	48.4					
26A	71-47	Presque Isle	350	2.14	2.62	12.0					
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	βA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		Superior I 30701 W. 2	<u>Materials, LLC</u> 10 Mile Rd.
2"	1	00.0	10'	0.0	100.0	100.0	0.0	0.0	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"	1	00.0		0.0	100.0	100.0	0.0	0.0]		
3/4"		85.6	-	0.0	100.0	93.0	7.0	7.0			
1/2"		42.8		3.0	100.0	72.1	20.9	27.9			
3/8"		19.9	89		100.0	60.0	12.1	40.0			above the 3/8" sieve.
#4		2.4		1.9	95.5	42.0	18.1	58.0			qual 10% except max.,
#8		1.6	6.		82.6	34.3	7.7	65.7 72.5		00 and #200 sieves	
#16 #30		1.4	2.		66.9 47.7	27.5	6.8 7.7	72.5			for each sieve except
#30 #50		1.3 1.3	2.		23.2	19.8 10.1	9.7	80.2 89.9		00 and #200 sieves	
#30		1.2	1.		6.6	3.4	6.6	96.6		(nom. Max. 1.5") ac	for the 1" sieve when
LBW		1.0		.9	1.4	1.2	2.2	98.8		(1011. 1018. 1.5) ag	geregate is used.
Production G	radation	Batch Plant Gra	idations 💿 Agg	regate Supplier Gra		Adjusted WF	Intial Production	on Sample (IPS	a S)		
Coarsene	ess Factor:	61	Worl	ability Factor:	34	36.8	Coars	eness Factor:	62		
									36		
45							Work	ability Factor: Cumulative	-	Cumulative	
45]	45, 44				JMF Zone			ability Factor:	36	Cumulative % Retained	
45	45, 44	52, 41					Work	ability Factor: Cumulative	36 %		
45	45, 44	52, 41	6. 40	67, 40	JMF Zone		Work Sieve 2" 1.5"	Cumulative % Passing 100.0 100.0	36 % Retained 0.0 0.0	% Retained 0.0 0.0	
45	45, 44	52, 41	6.40	67, 40 68, 38	JMF Zone		Worka Sieve 2" 1.5" 1"	Cumulative % Passing 100.0 100.0 100.0	36 % Retained 0.0 0.0 0.0	% Retained 0.0 0.0 0.0	
45	45, 44	52, 41	6.40	67, 40	JMF Zone		Worka Sieve 2" 1.5" 1" 3/4"	Cumulative % Passing 100.0 100.0 100.0 95.0	36 % Retained 0.0 0.0 0.0 5.0	% Retained 0.0 0.0 0.0 5.0	
45	45, 44	52, 41	6.40	67, 40 68, 38	JMF Zone		Worka Sieve 2" 1.5" 1" 3/4" 1/2"	Cumulative % Passing 100.0 100.0 100.0 100.0 72.3	36 % Retained 0.0 0.0 0.0 5.0 22.8	% Retained 0.0 0.0 0.0 5.0 27.7	
45		52, 41	6.40	67, 40 68, 38	JMF Zone		Worka Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	Cumulative % Passing 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 60.4	36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8	% Retained 0.0 0.0 0.0 5.0 27.7 39.6	
45	45, 33	52, 41 56	6.40	67, 40 68, 38 Juction Gradation	75, 39		Worka Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	Cumulative % Passing 100.0 100.0 100.0 100.0 100.0 100.0 100.0 400.0 100.0 100.0 400.0 95.0 72.3 60.4 42.6	36 % Retained 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	45, 33	52, 41 56 52, 34 50	6.40	67, 40 68, 38	75, 39		Worka Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	Cumulative % Passing 100.0 100.0 100.0 72.3 60.4 42.6 36.0	36 % Retained 0.0 0.0 5.0 22.8 11.8 17.8 6.6	% Retained 0.0 0.0 0.0 27.7 39.6 57.4 64.0	
45	45, 33 Operating Zone	52, 41 56 52, 34 50	6.40	67, 40 68, 38 Juction Gradation	75, 39		Works 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	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 95.0 72.3 60.4 42.6 36.0 29.5	36 % Retained 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5	% Retained 0.0 0.0 0.0 20.0 5.0 27.7 39.6 57.4 64.0 70.5	
	45, 33	52, 41 56 52, 34 50	6.40	67, 40 68, 38 Juction Gradation	75, 39		Works 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	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 95.0 72.3 60.4 42.6 36.0 29.5 20.3	36 % Retained 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5 9.2	% Retained 0.0 0.0 0.0 0.0 5.0 27.7 39.6 57.4 64.0 70.5 79.7	
ability Factor (%)	45, 33 Operating Zone	52, 41 56 52, 34 50	6.40	67, 40 68, 38 Juction Gradation	75, 39		Works 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	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 95.0 72.3 60.4 42.6 36.0 29.5	36 % Retained 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5	% Retained 0.0 0.0 0.0 20.0 5.0 27.7 39.6 57.4 64.0 70.5	

Approved By:

PLANT #	#:	P-35					Contractor:					
Sample Date):	11/14/22		C	Concrete Grade	: DM, 4500HP						
Dates Test R	epresents:	11/15/2022	through	11/21/2022			MDOT No.:					
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution						
6AA	58-003	Stoneco	1450	8.64	2.69	49.2						
26A	58-003	Stoneco	350	2.09	2.69	11.9						
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	MATE	RIALS	
Sieve		5AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior</u> 30701 W. 3	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"		00.0	10		100.0	100.0	0.0	0.0	1	Farmingto	n Hills, MI 48336	
1"		99.4	10		100.0	99.7	0.3	0.3				
3/4"		31.5	10		100.0	90.9	8.8	9.1				
1/2"		39.5	-	0.0	100.0	70.3	20.6	29.7				
3/8"		16.8		.3	100.0	57.7	12.5	42.3			above the 3/8" sieve.	
#4		3.3		6	98.1	40.5	17.2	59.5		*Any two adjacent sieves must equal 10% except max		
#8 #16		1.9 1.4	1	4	84.5 68.0	34.0 27.3	6.5 6.7	66.0 72.7		00 and #200 sieves		
#10		1.9	1		49.2	20.2	7.1	79.8		00 and #200 sieves	for each sieve except	
#50		1.8		0	25.7	11.0	9.2	89.0	· · · ·		for the 1" sieve when	
#100		1.7	1	-	7.2	3.8	7.3	96.2		(nom. Max. 1.5") ag		
LBW		1.2		.8	1.4	1.2	2.5	98.8		(59 9	
roduction G	Gradation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations	Adjusted WF	Intial Production	on Sample (IPS	5)	_		
Coarsene	ess Factor:	64	Worl	ability Factor:	34	36.5	Coars	eness Factor:	61			
45							Work	ability Factor:	36			
	45, 44				JMF Zone		Sieve	Cumulative	%	Cumulative		
-								% Passing	Retained	% Retained		
		52, 41					2"	100.0	0.0	0.0		
40		56.	40	67.40				100.0				
چ ⁴⁰ ا		56,		68, 38	75, 39		1.5"	100.0	0.0	0.0		
		56,	10 	68, 38	T T		1.5" 1"	99.3	0.7	0.7		
		56,	- 60, ₁ ≩€	68, 38 Production Grad	T T		1.5" 1" 3/4"	99.3 89.1	0.7 10.2	0.7 10.9		
	\rightarrow	50, 2	• 60, ₁ 3€		T T		1.5" 1" 3/4" 1/2"	99.3 89.1 70.5	0.7 10.2 18.6	0.7 10.9 29.5		
Factor (%)	45, 33	52, 34	но 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		T T		1.5" 1" 3/4" 1/2" 3/8"	99.3 89.1 70.5 60.5	0.7 10.2 18.6 10.0	0.7 10.9 29.5 39.5		
Factor (%)	45, 33	52, 34 56,		Production Grad	T T		1.5" 1" 3/4" 1/2"	99.3 89.1 70.5	0.7 10.2 18.6	0.7 10.9 29.5		
Factor (%)		56,			T T		1.5" 1" 3/4" 1/2" 3/8" #4	99.3 89.1 70.5 60.5 44.1	0.7 10.2 18.6 10.0 16.4	0.7 10.9 29.5 39.5 55.9		
Factor (%)	45, 33 Operating Zone Boundary	56,		Production Grad	dation		1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	99.3 89.1 70.5 60.5 44.1 35.6 27.7 20.6	0.7 10.2 18.6 10.0 16.4 8.5	0.7 10.9 29.5 39.5 55.9 64.4 72.3 79.4		
Workability Factor (%)	Operating Zone	56,		Production Grad	T T		1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	99.3 89.1 70.5 60.5 44.1 35.6 27.7	0.7 10.2 18.6 10.0 16.4 8.5 7.9	0.7 10.9 29.5 39.5 55.9 64.4 72.3		
Factor (%)	Operating Zone	56,	31	Production Grad	dation		1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	99.3 89.1 70.5 60.5 44.1 35.6 27.7 20.6	0.7 10.2 18.6 10.0 16.4 8.5 7.9 7.1	0.7 10.9 29.5 39.5 55.9 64.4 72.3 79.4		

PREPARED BY: SM, LLC Technical Service

Approved By:

PLANT #	#:	P-36	_				Contractor:			_			
		11/14/22		(Concrete Grade	: DM, 4500HP				-			
Dates Test Re	epresents:	11/15/2022	through	11/21/2022			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	305	1.87	2.62	10.5							
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%	1		RIALS		
Sieve	(6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 2	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"	1.5" 100.0 1" 98.2 3/4" 81.3		100.0 100.0		100.0	100.0	0.0	0.0	1	Farmingto	Farmington Hills, MI 48336		
-					100.0 100.0			0.9					
3/4"	3/4" 81.3			100.0		90.3	8.7	9.7]				
1/2"		43.0	98		100.0	70.4	20.0	29.6					
	3/8" 22.6		89.7 24.9 6.5		100.0	59.0	11.4	41.0	*Maximum % Retained must be above the 3/8" sieve.				
3/8" 22.6 #4 3.2 #8 1.6 #16 1.4 #30 1.4					96.8	40.9	18.0 59.1 *Any two adjacent sieves m						
					79.6	31.6	9.3	68.4	nom. max., #100 and #200 sieves.				
		2.8 2.2						*% Retained must be at least 4% for each sieve except m nom. max., #100 and #200 sieves.					
#30 #50		1.4			22.3	9.3	11.3	79.4 90.7	· · ·				
#30 1.3 #100 1.3			2.0 1.9		3.4	2.2	7.2	97.8					
			1.	-	0.3	0.9	1.3	99.1	a 2 max. 5120	(1011. 102. 1.5) ag	ggregate is used.		
LBW		1.1						33.1					
		Batch Plant Gra		regate Supplier Gra	dations			on Sample (IPS	3)				
Production G		-	dations 💿 Agg				Intial Production		63	1			
Production G	radation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra		Adjusted WF	Intial Productio	on Sample (IPS eness Factor:	Í.				
Production G Coarsene	radation ss Factor:	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	32	Adjusted WF	Intial Productio Coars Work	on Sample (IPS	63	Cumulative			
Production G Coarsene	radation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra		Adjusted WF	Intial Productio	on Sample (IPS eness Factor: ability Factor:	63 35	Cumulative % Retained			
Production G Coarsene	radation ss Factor:	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	32	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			
45 40	radation ss Factor:	Batch Plant Gra 60	dations 💿 Agg	regate Supplier Gra ability Factor:	32	Adjusted WF	Intial Productio 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			
45 40	radation ss Factor:	Batch Plant Gra 60	dations Agg	regate Supplier Gra	32	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			
45 40	radation ss Factor:	Batch Plant Gra 60	dations Agg	regate Supplier Gra ability Factor:	32	Adjusted WF	Intial Productio 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			
45 40	radation ss Factor:	Batch Plant Gra 60	dations	regate Supplier Gra tability Factor: 68, 38 IPS	32	Adjusted WF	Intial Productio 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			
Lactor G enserseo 40 40 40 40 40 40 40 40 40 40 40 40 40	radation ess Factor:	Batch Plant Gra 60	dations	regate Supplier Gra ability Factor:	32	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 9.7 30.8 40.9			
Lactor G enserseo 40 40 40 40 40 40 40 40 40 40 40 40 40	radation ss Factor:	Batch Plant Gra	dations	IPS stion Gradation	32 JMF Zone 75, 39	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 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 0.0 0.9 9.7 30.8 40.9 58.2			
Lactor G enserseo 40 40 40 40 40 40 40 40 40 40 40 40 40	ss Factor:	Batch Plant Gra 60 52, 41 52, 34	dations	regate Supplier Gra tability Factor: 68, 38 IPS	32 JMF Zone 75, 39	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 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			
Lactor G Coarsene 45 40 40 40 40 40 40 40 40 40 40 40 40 40	ss Factor:	Batch Plant Gra 60 52, 41 52, 34	dations	IPS stion Gradation	32 JMF Zone 75, 39	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 99.1 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 6.6 6.6	% Retained 0.0 0.9 9.7 30.8 40.9 58.2 64.9 71.5			
Lactor G Coarsene 45 40 40 40 40 40 40 40 40 40 40 40 40 40	ss Factor:	Batch Plant Gra 60 52, 41 52, 34	dations	IPS stion Gradation	32 JMF Zone 75, 39	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 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	% Retained 0.0 0.0 0.9 9.7 30.8 40.9 58.2 64.9			
Applitity Factor (%)	ss Factor:	Batch Plant Gra 60 52, 41 52, 34	dations	IPS stion Gradation	32 JMF Zone 75, 39 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 # Sample Date		P-39	1	(Concrete Grade:	DM 4500HP	Contractor:			-			
Dates Test R		11/15/2022	through	11/21/2022	Junciele Glade.	<u>Din, 4000111</u>	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				SUD	ERIOR		
		Total Wt	2905	17.69		100.0	< Verify this number is 100%		MATERIALS				
Sieve 64		6AA	26A		2NS	Cumulative % Passing	% Retained	Cumulative % RetainedSuperior Materials, 30701 W. 10 Mile Rd.					
2"		100.0	100		100.0	100.0	0.0	0.0		Suite 500			
1.5"	.5" 100.0		100.0		100.0	100.0	0.0	0.0		Farmingto	on Hills, MI 48336		
1" <u>99.2</u>		100.0		100.0	99.6	0.4	0.4						
3/4"		86.9	100		100.0	92.8	6.8	7.2					
1/2"		50.0	94		100.0	72.0	20.7	28.0					
3/8" 25.5 #4 3.2 #8 1.2 #16 1.1 #30 1.0 #50 1.0 #100 1.0		80.0 23.7 9.2 4.9 3.7 3.2 3.0		100.0	57.5 39.9	14.6	42.5		n % Retained must be above the 3/8" sieve.				
				96.4		17.6	60.1 68.2	*Any two adjacent sieves must equal 10% except mai					
				80.6 65.7	31.8 25.8	<u>8.1</u> 6.0	68.2 74.2	nom. max., #100 and #200 sieves. *% Retained must be at least 4% for each sieve exca nom. max., #100 and #200 sieves. *% Retained must be at least 8% for the 1" sieve wh a 2" max. size (nom. Max. 1.5") aggregate is used.					
				48.1	19.0	6.8	81.0						
				23.7	9.7	9.3	90.3						
				7.2	3.5	6.3	96.5						
LBW		0.9	2.		0.9	1.0	2.5	99.0			ggrogato to accal		
Production G	radation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	adations	Adjusted WF	Intial Production	on Sample (IPS	3)				
							Intial Production Sample (IPS Coarseness Factor:		,	1			
Coarconc				ability Factor	30	3/1 3		onose Factor	63				
Coarsene	ess racion.	62		ability Factor:	32	34.3			63 36				
45 T	ess racior:	62	vvori	ability Factor:		34.3		ability Factor:	36	Cumulativo	I		
45	45, 44	62	vvori	ability Factor:	JMF Zone	34.3		ability Factor: Cumulative	36 %	Cumulative % Potainod			
45		52, 41		ability Factor:		34.3	Work Sieve	ability Factor: Cumulative % Passing	36 % Retained	% Retained			
			56, 40	ability Factor:	JMF Zone	34.3	Work Sieve 2"	ability Factor: Cumulative % Passing 100.0	36 % Retained 0.0	% Retained 0.0			
			58, 40	ability Factor:			Work Sieve	ability Factor: Cumulative % Passing	36 % Retained	% Retained			
			58, 49	68, 38	JMF Zone		Work Sieve 2" 1.5"	ability Factor: Cumulative % Passing 100.0 100.0	36 % Retained 0.0 0.0	% Retained 0.0 0.0			
			58, 10 60, 36	P8, 40	75, 39		Work Sieve 2" 1.5" 1"	ability Factor: Cumulative % Passing 100.0 100.0 100.0 89.7 70.3	36 % Retained 0.0 0.0 0.0	% Retained 0.0 0.0 0.0			
Factor (%)			58, 10 60, 36	68, 38	75, 39		Work Sieve 2" 1.5" 1" 3/4"	ability Factor: Cumulative % Passing 100.0 100.0 100.0 89.7	36 % Retained 0.0 0.0 0.0 10.3	% Retained 0.0 0.0 0.0 10.3			
Factor (%)		52, 41	58, 10 60, 36	IPS Production Gradatic	75, 39		Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	ability Factor: Cumulative % Passing 100.0 100.0 89.7 70.3 59.1 42.8	36 % Retained 0.0 0.0 0.0 10.3 19.4	% Retained 0.0 0.0 10.3 29.7			
Factor (%)	15, 44	52, 41	58, 10 60, 36	P8, 40	75, 39		Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	ability Factor: Cumulative % Passing 100.0 100.0 89.7 70.3 59.1 42.8 35.5	36 % Retained 0.0 0.0 10.3 19.4 11.2 16.3 7.3	% Retained 0.0 0.0 10.3 29.7 40.9 57.2 64.5			
Factor (%)	15, 44	52, 41	58, 10 60, 36	IPS Production Gradatic	75, 39		Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	ability Factor: Cumulative % Passing 100.0 100.0 89.7 70.3 59.1 42.8 35.5 29.0	36 % Retained 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			
Factor (%)	45, 33	52, 41	58, 10 60, 36	IPS Production Gradatic	75, 39		Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	ability Factor: Cumulative % Passing 100.0 100.0 89.7 70.3 59.1 42.8 35.5 29.0 21.2	36 % Retained 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			
ability Factor (%)	15, 44 45, 33 Operating Zone	52, 41	58, 10 60, 36	IPS Production Gradatic	JMF Zone 75, 39 on 2		Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	ability Factor: Cumulative % Passing 100.0 100.0 89.7 70.3 59.1 42.8 35.5 29.0	36 % Retained 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			

Approved By: Mart P. Ball

PLANT #:		P-O2					Contractor:			_	
Sample Date	e:	11/14/22		C	Concrete Grade	DM, 4500HP	_				
Dates Test R	Represents:	11/15/2022	through	11/21/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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				SUP	F
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%		MATE	F
Sieve	Sieve 6AA		26A		2NS	Cumulative % Passing	% Retained	Cumulative % Retained		Superior I 30701 W. 2	
2"	1	00.0	-	100.0		100.0 100.0	0.0 0.0	0.0		Suite 500	
1.5"		00.0	100.0 100.0		100.0			0.0		Farmingto	۱H
1"		98.2			100.0	99.1	0.9	0.9			
3/4"		81.3	100		100.0	90.3	8.8	9.7			
1/2"		43.0	98		100.0 100.0	70.3	20.0	29.7			
	3/8" 22.6 #4 3.2 #8 1.6 #16 1.4			89.7		59.0	11.3	41.0	*Maximum %	um % Retained must be ab	
			24		96.9	42.2	16.9	57.8	*Any two adjacent sieves must		կսն
			6.5 2.8		80.0 64.7	33.1 26.6	9.1 6.5	66.9	nom. max., #100 and #200 sieves. *% Retained must be at least 4% for		
								73.4			
#30		1.4	2.		50.0	20.7	5.9	79.3	-	00 and #200 sieves	
#50		1.3	2.0 1.9		27.1	11.6	9.1	88.4 96.8	*% Retained must be at least 8%		
#100 LBW		1.3 1.1	1.		6.0 0.8	3.2 1.0	8.4 2.2	96.8 99.0	a 2" max. size	(nom. Max. 1.5") ag	gr
		-	-								
Production G		Batch Plant Gra		regate SupplierGrad				on Sample (IPS	,	1	
Coarsene	ess Factor:	61	Work	ability Factor:	33	35.6		eness Factor:	63		
45					<u>_</u>]	Work	ability Factor:	35			
1.	45, 44				JMF Zone		Sieve	Cumulative	%	Cumulative	
-		52, 41			L		2"	% Passing 100.0	Retained	% Retained 0.0	
_ 40			¥ -	<u> </u>			<u>2"</u> 1.5"	100.0	0.0	0.0	
8			58,39	68, 39 68, 38	75, 39		1.5 1"	100.0	0.0	0.0	
							3/4"	95.1	4.9	4.9	
58, 39 68, 39 69, 39 68, 39 75, 2 75, 							1/2"	74.6	20.5	25.4	
Ľ.	\rightarrow	52, 34					3/8"	59.3	15.3	40.7	
2	45, 33	02, 34		i			#4	42.1	17.2	57.9	
			58. 31	6 8 8,331			#8	35.1	7.1	64.9	
	Operating Zong		,	000,50			#16	29.2	5.9	70.8	
5	Operating Zone Boundary				75, 28		#30	21.9	7.3	78.1	
					75,20		#50	9.6	12.4	90.4	
25							#400	0.4	7.0	07.0	

75

80



als, LLC ٦d. 11 48336

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

55

Coarseness Factor (%)⁷⁰

0.9 1.5

7.2

97.6

99.1

2.4

#100

LBW

PREPARED BY: SM, LLC Technical Service

50

45

ActionLimits Boundary = - - - -

25

40

Approved By: Mart P. Ball