Production	Gradation	Report
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	и	D 404								
PLANT #		P-101					Contractor:			
Sample Date		12/5/22			Concrete Grade	DM, 4500HP				
Dates Test R	epresents:	12/6/2022	through	12/12/2022	0		MDOT No.:			
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution				
6AA	71-47	Presque Isle	1360	8.32	2.62	46.7				
26A	71-47	Presque Isle	400	2.45	2.62	13.7				
2NS	75-051	Mid Michigan	1150	6.93	2.66	39.5				SUP
		Total Wt	2910	17.69		100.0	< Verify this n	umber is 100%		MATI
Sieve	(6AA	26	6A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior</u> 30701 W.
2"	1	00.0		0.0	100.0	100.0	0.0	0.0		Suite 500
1.5"		00.0		0.0	100.0	100.0	0.0	0.0		Farmingto
1"		00.0		0.0	100.0	100.0	0.0	0.0		
3/4"		83.5		0.0	100.0	92.3	7.7	7.7		
1/2"		35.2		4.0 9.7	100.0 100.0	68.9	23.4 11.4	31.1 42.5	*Maximum- 0/	Detained must be
3/8" #4		15.1 1.8		9.7 9.1	98.6	57.5 42.4	11.4	42.5 57.6		Retained must be
#4 #8		1.5		9.1 .6	84.0	34.8	7.6	65.2		cent sieves must e 00 and #200 sieves
#16		1.4		.0	68.6	28.3	6.5	71.7		nust be at least 4%
#30		1.4		.3	51.0	21.3	7.1	78.7		0 and #200 sieves
#50		1.4		.0	23.2	10.2	11.0	89.8		nust be at least 8%
#100		1.4		8	4.8	2.9	7.3	97.1	a 2" max. size	(nom. Max. 1.5") a
#100 LBW		1.4 1.3	2	.8 .5	4.8 0.8	2.9 1.3	7.3 1.7	97.1 98.7	a 2" max. size ((nom. Max. 1.5") a
LBW			2	-	0.8	1.3	1.7	-]	(nom. Max. 1.5") a
LBW Production G		1.3	2 2 dations () Agg	5	0.8 adations	1.3	1.7 Initial Producti	98.7]	(nom. Max. 1.5") a
LBW Production G Coarsene	radation	1.3) Batch Plant Gra	2 2 dations () Agg	.5 gregate Supplier Gra	0.8 adations	1.3 Adjusted WF	1.7 Initial Producti Coars	98.7 ion Sample (IPS	S)	(nom. Max. 1.5") a
LBW Production G	radation	1.3 Batch Plant Gra 65	2 2 dations () Agg	.5 gregate Supplier Gra	0.8 adations	1.3 Adjusted WF	1.7 Initial Producti Coars	98.7 ion Sample (IPs eness Factor:	S) 62	(nom. Max. 1.5") a Cumulative % Retained
LBW Production G Coarsene	radation ess Factor:	1.3) Batch Plant Gra	2 2 dations () Agg	.5 gregate Supplier Gra	0.8 adations : 35	1.3 Adjusted WF	1.7 Initial Producti Coars Work Sieve 2"	98.7 ion Sample (IPS eness Factor: ability Factor: Cumulative	S) 62 35 % Retained 0.0	Cumulative
LBW Production G Coarsene	radation ess Factor:	1.3 Batch Plant Gra 65	2 2 dations () Agg	5 gregate Supplier Gra kability Factor:	0.8 adations 35 JMF Zone	1.3 Adjusted WF	1.7 Initial Producti Coars Work Sieve 2" 1.5"	98.7 ion Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	S) 62 35 % Retained 0.0 0.0	Cumulative % Retained 0.0 0.0
LBW Production G Coarsene	radation ess Factor:	1.3 Batch Plant Gra 65	2 2 dations (•) Agg Worl	kability Factor:	0.8 adations 35 JMF Zone 38	1.3 Adjusted WF	1.7 Initial Producti Coars Work Sieve 2" 1.5" 1"	98.7 ion Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0	S) 62 35 % Retained 0.0 0.0 0.0	Cumulative % Retained 0.0 0.0 0.0
LBW Production G Coarsene	radation ess Factor:	1.3 Batch Plant Gra 65	2 2 dations (•) Agg Worl	kability Factor:	0.8 adations 35 JMF Zone 38	1.3 Adjusted WF	1.7 Initial Producti Coars Work Sieve 2" 1.5" 1" 3/4"	98.7 ion Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0	S) 62 35 % 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:	1.3 Batch Plant Gra 65 52, 41	2 2 dations () Agg	kability Factor:	0.8 adations 35 JMF Zone 38	1.3 Adjusted WF	1.7 Initial Producti Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	98.7 ion Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 70.5	S) 62 35 % Retained 0.0 0.0 0.0 0.0 5.0 24.5	Cumulative % Retained 0.0 0.0 0.0 5.0 29.5
LBW Production G Coarsene	radation ess Factor:	1.3 Batch Plant Gra 65	2 2 dations (•) Agg Worl	kability Factor:	0.8 adations 35 JMF Zone 38	1.3 Adjusted WF	1.7 Initial Producti Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	98.7 eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 70.5 60.0	S) 62 35 % Retained 0.0 0.0 0.0 0.0 0.0 0.0 24.5 10.5	Cumulative % Retained 0.0 0.0 0.0 5.0 29.5 40.0
LBW Production G Coarsene	radation ess Factor:	1.3 Batch Plant Gra 65 52, 41	2 2 dations (•) Agg Worl	:.5 gregate Supplier Gra kability Factor: 67, 39 68, 5 Protitiction 3BS	0.8 adations 35 JMF Zone 75, 39 o Gradation	1.3 Adjusted WF	1.7 Initial Producti Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	98.7 eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 70.5 60.0 44.4	S) 62 35 % Retained 0.0 0.0 0.0 0.0 0.0 24.5 10.5 15.6	Cumulative % Retained 0.0 0.0 0.0 5.0 29.5 40.0 55.6
LBW Production G Coarsene	radation ess Factor:	1.3) Batch Plant Gra 65 52, 41 52, 34	2 2 dations () Agg Worl	kability Factor:	0.8 adations 35 JMF Zone 75, 39 o Gradation	1.3 Adjusted WF	1.7 Initial Producti Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	98.7 eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 70.5 60.0 44.4 35.5	S) 62 35 % Retained 0.0 0.0 0.0 0.0 0.0 24.5 10.5 15.6 9.0	Cumulative % Retained 0.0 0.0 0.0 5.0 29.5 40.0 55.6 64.5
LBW Production G Coarsene	radation ess Factor: 45, 44 45, 33 Operating Zone	1.3) Batch Plant Gra 65 52, 41 52, 34	2 2 dations () Agg Worl	:.5 gregate Supplier Gra kability Factor: 67, 39 68, 5 Protitiction 3BS	0.8 adations 35 JMF Zone 75, 39 o Gradation	1.3 Adjusted WF	1.7 Initial Producti Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	98.7 eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 70.5 60.0 44.4 35.5 28.5	S) 62 35 % Retained 0.0 0.0 0.0 0.0 0.0 0.0 24.5 10.5 15.6 9.0 7.0	Cumulative % Retained 0.0 0.0 0.0 5.0 29.5 40.0 55.6 64.5 71.5
Norkability Factor (%)	radation ess Factor:	1.3) Batch Plant Gra 65 52, 41 52, 34	2 2 dations () Agg Worl	:.5 gregate Supplier Gra kability Factor: 67, 39 68, 5 Protitiction 3BS	0.8 adations 35 JMF Zone 75, 39 a Gradation	1.3 Adjusted WF	1.7 Initial Producti Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	98.7 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	S) 62 35 % Retained 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Cumulative % Retained 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 40 40 40 40 40 40	radation ess Factor: 45, 44 45, 33 Operating Zone	1.3) Batch Plant Gra 65 52, 41 52, 34 52, 34	2 2 dations () Age Worl	:.5 gregate Supplier Gra kability Factor: 67, 39 68, 5 Protitiction 3BS	0.8 adations 35 JMF Zone 75, 39 o Gradation 31 75, 28	1.3 Adjusted WF	1.7 Initial Producti Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	98.7 eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 70.5 60.0 44.4 35.5 28.5	S) 62 35 % Retained 0.0 0.0 0.0 0.0 0.0 0.0 24.5 10.5 15.6 9.0 7.0	Cumulative % Retained 0.0 0.0 0.0 5.0 29.5 40.0 55.6 64.5 71.5

RIALS

aterials, LLC Mile Rd. Hills, MI 48336

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

Approved By:

		P-102 12/5/22			Concrete Grade		Contractor:			
Sample Date Dates Test R		12/6/2022	through	12/12/2022	Joncrete Grade	DN, 430011	MDOT No.:			
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution	MDOT NO			
6AA	58-003	Stoneco	1500	8.94	2.69	50.8				
26A	58-003	Stoneco	300	1.79	2.69	10.2				
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%	-	MAT
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior</u> 30701 W.
2"	1	100.0	10	0.0	100.0	100.0	0.0	0.0	1	Suite 500
1.5"		100.0		0.0	100.0	100.0	0.0	0.0	1	Farmingto
1"	1	100.0	10	0.0	100.0	100.0	0.0	0.0	1	
3/4"		83.2	10	0.0	100.0	91.5	8.5	8.5	1	
1/2"		44.2	99	9.8	100.0	71.6	19.9	28.4		
3/8"		19.0	88	3.2	100.0	57.6	14.0	42.4	*Maximum %	Retained must be
#4		3.0	10		97.5	40.6	17.0	59.4	*Any two adja	cent sieves must e
#8		2.0		.9	83.1	33.8	6.8	66.2	nom. max., #10	00 and #200 sieve
#16		2.2	3		67.2	27.7	6.1	72.3	*% Retained r	must be at least 49
#30		2.1		.2	49.8	20.8	6.9	79.2	nom. max., #10	00 and #200 sieve
#50		1.9	3		25.0	11.0	9.8	89.0		nust be at least 89
#100		1.8		.9	7.1	4.0	7.0	96.0	a 2" max. size	(nom. Max. 1.5") a
LBW		1.3		.6	1.7	1.6	2.4	98.4]	
Production G	Gradation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	idations	Adjusted WF	Intial Production	on Sample (IPS	S)	
Coarsene	ess Factor:	64	Worl	ability Factor:	34	36.3	Coars	eness Factor:	61	
45							Work	ability Factor:	36	
	45, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
40		52, 41 	40	67 40			2"	100.0	0.0	0.0
२ ⁴⁰				68, 38	75, 39		1.5"	100.0	0.0	0.0
<u>ຍ</u>			i				1"	99.3	0.7	0.7
<u>to</u>			■ 60, p3 €	📕 Production Gra	dation		3/4"	89.2	10.1	10.8
e 35			i				1/2"	70.7	18.5	29.3
<u>ь</u>		52, 34	+	i			3/8"	60.7	10.0	39.3
	45, 33	56.					#4	44.4	16.3	55.6
Workability Factor (%)				67, 32 68, 31			#8	35.9	8.5	64.1
ž	Operating Zone	2					#16	27.3	8.6	72.7
\$ L	Boundary				75, 28		#30	19.1	8.2	80.9 92.6
> ₂₅							#50 #100	7.4 1.9	11.7 5.6	92.6 98.1
40	45	50 55	60	65 70	75	80	#100	1.9	0.0	90.1

75

80

LBW

0.7

1.2



rials, LLC e Rd. MI 48336

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

99.3

PREPARED BY: SM, LLC Technical Service

50

45

ActionLimits Boundary = - - - - -

40

Coarseness Factor (%)⁷⁰

55

Approved By:

PLANT	#:	P-103					Contractor:				
Sample Date		12/5/22			Concrete Grade	DM, 4500HP					
Dates Test F	Represents:	12/6/2022	through	12/12/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1500	8.94	2.69	50.8					
26A	58-003	Stoneco	300	1.79	2.69	10.2					
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"		00.0	100	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		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"		83.2	100		100.0	91.5	8.5	8.5			
1/2"		44.2	99		100.0	71.6	19.9	28.4			
3/8"		19.0	88		100.0	57.6	14.0	42.4			above the 3/8" sieve.
#4		3.0	10		97.5	40.6	17.0	59.4			qual 10% except max.,
#8		2.0	3.		83.1	33.8	6.8	66.2	-	00 and #200 sieves	
#16		2.2	3.		67.2	27.7	6.1	72.3			for each sieve except
#30 #50		<u>2.1</u> 1.9	3.		49.8 25.0	20.8 11.0	6.9 9.8	79.2 89.0		00 and #200 sieves	
#30 #100		1.8	2.	-	7.1	4.0	9.8 7.0	96.0		(nom. Max. 1.5") a	for the 1" sieve when
LBW		1.3	2.		1.7	1.6	2.4	98.4		(1011. Max. 1.5) a	ggregate is used.
Production G	Gradation	Batch Plant Gra		regate Supplier Gra				on Sample (IPS	5)		
Coarsen	ess Factor:	64	Work	ability Factor:	34	36.3		eness Factor:	61		
		••			•			ability Factor:	36		
⁴⁵								Cumulative	%	Cumulative	
	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
1		52, 41	40	67.40			2"	100.0	0.0	0.0	
		-36			75, 39		1.5"	100.0	0.0	0.0	
گ [68, 38	T I		1"	99.3	0.7	0.7	
D I			. 60urae	Production Grad	dation		3/4"	89.2	10.1	10.8	
te 35 -			- 00169				1/2"	70.7	18.5	29.3	
Щ́ į		52, 34	+				3/8"	60.7	10.0	39.3	
Ē	45, 33		L	i			#4	44.4	16.3	55.6	
ig 30 1		56,	32	67, 32 , 31			#8	35.9	8.5	64.1	
Workability Factor (%)	Operating Zone						#16	27.3	8.6	72.7	
§ ∣L	Boundary				75, 28		#30	19.1	8.2	80.9	
> + -			<u> </u>	<u> </u>			#50 #100	7.4	11.7 5.6	92.6 98.1	
25							#100	1.9	0.C	98.1	
25 40	45	50 55	5 60	Factor (%)	75	80	LBW	0.7	1.2	99.3	

Approved BY: Mary P. Ball

PLANT #	#:	P-14					Contractor:				
Sample Date	-	12/5/22	-	C	Concrete Grade:	DM, 4500HP					
Dates Test R	epresents:	12/6/2022	- through	12/12/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution				Γ	
6AA	58-003	Stoneco	1460	8.70	2.69	49.3					
26A	58-003	Stoneco	400	2.38	2.69	13.5				2	
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	6	AA	26	Α	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Builders I</u> 30701 W.	Redi-Mix 10 Mile Rd.
2"	1	0.00	10	0.0	100.0	100.0	0.0	0.0	1	Suite 500	
1.5"	1	0.0	10		100.0	100.0	0.0	0.0	1	Farmingto	n Hills, MI 48336
1"		0.00	10		100.0	100.0	0.0	0.0			
3/4"		3.2	100		100.0	91.7	8.3	8.3			
1/2"		4.2	99		100.0	72.5	19.3	27.6			
3/8"		9.0	88		100.0	58.5	14.0	41.5			above the 3/8" sieve.
#4		3.0	10	-	100.0	40.0	18.4	60.0	· · ·		qual 10% except max.,
#8		2.0	3.		90.8	35.3	4.8	64.7		00 and #200 sieves	
#16		2.2	3.		71.2	28.0	7.2	72.0			6 for each sieve except i
#30 #50		2.1	3.		48.1 16.9	19.3 7.6	8.7 11.7	80.7 92.4	· ·	00 and #200 sieves	
#50 #100		1.9 1.8	3.		3.2	2.5	5.2	92.4			6 for the 1" sieve when
LBW		1.3	2.		0.3	1.1	1.4	98.9		(nom. Max. 1.5") a	ggregate is used.
Production G		Batch Plant Gra	-	regate Supplier Gra				on Sample (IPS	1 6)		
	ess Factor:	64	Work	ability Factor:	35	37.8		eness Factor:	63		
		•						ability Factor:	36		
45	45, 44				JMF Zone		Sieve	Cumulative	%		
		52, 41					2"	% Passing 100.0	Retained 0.0	% Retained 0.0	
4 0			57,40	68, 40	75, 39		1.5"	100.0	0.0	0.0	
8				68, 38 Production Gra			1"	99.3	0.0	0.7	
2				1	ualion		3/4"	89.0	10.3	11.0	
ž 35			■ 60, 36	P5			1/2"	70.3	18.7	29.7	
й I	\rightarrow	52, 34		1			3/8"	59.9	10.4	40.1	
it	45, 33		L	╾╾╾╴┙			#4	41.9	18.0	58.1	
			51, 62	68, 32 68, 31			#8	35.9	6.0	64.1	
9 30	Operating Zone						#16	27.8	8.2	72.2	
	operating Lone	1			75, 28		#30	18.9	8.8	81.1	
/orkat	Boundary				10,20						
Worka							#50	6.3	12.6	93.7	
25 40		50 55	5 60	65 70 Factor (%)	75	80	#50 #100 LBW	6.3 1.7 1.0	12.6 4.6 0.7	93.7 98.3 99.0	

PREPARED BY: SM, LLC Technical Service

ActionLimits Boundary = - - - - -

Approved By: Mary P. Ball

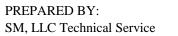
	#:	P-12	_				Contractor:			_	
Sample Date):	12/5/22		(Concrete Grade	DM, 4500HP					
Dates Test R	epresents:	12/6/2022	through	12/12/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1455	8.90	2.62	50.1					
26A	71-47	Presque Isle	300	1.83	2.62	10.3					
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6				GUD	ERIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%			ERIOR TRIALS
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Aaterials, LLC
2"	1	00.0	100	0	100.0	100.0	0.0	0.0		30701 W. 1 Suite 500	U MIIE Ra.
1.5"		00.0	100		100.0	100.0	0.0	0.0			Hills, MI 48336
1"		95.1	100		100.0	97.5	2.5	2.5	1		
3/4"		71.4	100		100.0	85.7	11.9	14.3	1		
1/2"		32.0	97	.2	100.0	65.7	20.0	34.3	1		
3/8"		13.5	82	.0	100.0	54.8	10.8	45.2	*Maximum %	Retained must be a	above the 3/8" sieve.
#4		2.7	10	.3	96.8	40.7	14.1	59.3	*Any two adja	icent sieves must e	qual 10% except max.,
#8		1.8	2.	7	79.5	32.7	8.1	67.3	nom. max., #10	00 and #200 sieves	
#16		1.4	1.	4	63.7	26.1	6.6	73.9	*% Retained r	must be at least 4%	for each sieve except
#30		1.3	1.	1	48.4	19.9	6.1	80.1	nom may #1(00 and #200 alours	
									110111. 111ax., #10	00 and #200 sieves	•
#50		1.2	1.	0	25.8	10.9	9.0	89.1			for the 1" sieve when
#50 #100		1.2 1.2	<u> </u>	0 9	25.8 4.3	10.9 2.4	9.0 8.5	89.1 97.6	*% Retained r		for the 1" sieve when
#50		1.2 1.2 0.9	1. 0. 0.	0 9 7	25.8 4.3 0.6	10.9 2.4 0.8	9.0 8.5 1.6	89.1 97.6 99.2	*% Retained r a 2" max. size	must be at least 8%	for the 1" sieve when
#50 #100 LBW		1.2 1.2 0.9 O Batch Plant Gra	1. 0. 0.	0 9	25.8 4.3 0.6	10.9 2.4 0.8	9.0 8.5 1.6	89.1 97.6	*% Retained r a 2" max. size	must be at least 8%	for the 1" sieve when
#50 #100 LBW Production G		1.2 1.2 0.9	1. 0. 0. dations () Agg	0 9 7	25.8 4.3 0.6 adations	10.9 2.4 0.8	9.0 8.5 1.6 Intial Productio	89.1 97.6 99.2	*% Retained r a 2" max. size 6) 63	must be at least 8%	for the 1" sieve when
#50 #100 LBW Production G	Gradation	1.2 1.2 0.9 O Batch Plant Gra	1. 0. 0. dations () Agg	0 9 7 regate Supplier Gra	25.8 4.3 0.6 adations	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars	89.1 97.6 99.2 on Sample (IPS	*% Retained r a 2" max. size	must be at least 8%	for the 1" sieve when
#50 #100 LBW Production G Coarsene	Gradation	1.2 1.2 0.9 O Batch Plant Gra	1. 0. 0. dations () Agg	0 9 7 regate Supplier Gra	25.8 4.3 0.6 adations 33	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work	89.1 97.6 99.2 on Sample (IPS eness Factor:	*% Retained r a 2" max. size 6) 63	must be at least 8%	for the 1" sieve when
#50 #100 LBW Production G Coarsene	Fradation	1.2 1.2 0.9 O Batch Plant Gra	1. 0. 0. dations () Agg	0 9 7 regate Supplier Gra	25.8 4.3 0.6 adations	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing	*% Retained r a 2" max. size 6) 63 36	must be at least 8% (nom. Max. 1.5*) aç	for the 1" sieve when
#50 #100 LBW Production G Coarsene 45 45 40	Fradation	1.2 1.2 0.9 () Batch Plant Gra 67	1. 0. 0. dations () Agg	0 9 7 regate Supplier Gra	25.8 4.3 0.6 adations 33	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work Sieve 2"	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0	*% Retained r a 2" max. size 63 63 63 86 86 86 86 86 86 86 86 80 80 80 80 80 80 80 80 80 80 80 80 80	must be at least 8% (nom. Max. 1.5") a <u>c</u> Cumulative <u>% Retained</u> 0.0	for the 1" sieve when
#50 #100 LBW Production G Coarsene 45 45 40	Fradation	1.2 1.2 0.9 () Batch Plant Gra 67	1. 0. 0. dations () Agg	0 9 7 regate Supplier Gra ability Factor:	25.8 4.3 0.6 adations 33	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work Sieve 2" 1.5"	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	*% Retained r a 2" max. size 63 63 63 63 86 86 86 86 86 86 86 86 86 86 86 86 86	must be at least 8% (nom. Max. 1.5") ag Cumulative % Retained 0.0 0.0	for the 1" sieve when
#50 #100 LBW Production G Coarsene 45 45 40	Fradation	1.2 1.2 0.9 () Batch Plant Gra 67	1. 0. 0. dations • Agg	0 9 7 regate Supplier Gra ability Factor: 68, 40	25.8 4.3 0.6 adations 33	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work Sieve 2" 1.5" 1"	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3	*% Retained r a 2" max. size 63 63 63 63 8 8 8 8 8 8 8 8 8 8 8 8 8 8	must be at least 8% (nom. Max. 1.5") ag Cumulative % Retained 0.0 0.0 0.7	for the 1" sieve when
#50 #100 LBW Production G Coarsene 45 45 40	Fradation	1.2 1.2 0.9 O Batch Plant Gra 67	1. 0. 0. dations () Agg	0 9 7 regate Supplier Gra ability Factor: 68, 40 68, 38	25.8 4.3 0.6 adations 33 JMF Zone 75, 39	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4"	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0	*% Retained r a 2" max. size 63 63 63 63 64 86 86 86 86 86 86 86 86 86 86 86 86 86	must be at least 8% (nom. Max. 1.5") ag Cumulative % Retained 0.0 0.0 0.7 11.0	for the 1" sieve when
#50 #100 LBW Production G Coarsene 45 45 40	Fradation	1.2 1.2 0.9 O Batch Plant Gra 67 52, 41	1. 0. 0. dations • Agg	0 9 7 regate Supplier Gra ability Factor: 68, 40 68, 38	25.8 4.3 0.6 adations 33	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3	*% Retained r a 2" max. size 63 63 63 63 86 % Retained 0.0 0.0 0.0 0.7 10.3 18.7	must be at least 8% (nom. Max. 1.5") ag Cumulative % Retained 0.0 0.0 0.7 11.0 29.7	for the 1" sieve when
#50 #100 LBW Production G Coarsene 45 45 40	Fradation	1.2 1.2 0.9 O Batch Plant Gra 67	1. 0. 0. dations • Agg	0 9 7 regate Supplier Gra ability Factor: 68, 40 68, 38	25.8 4.3 0.6 adations 33 JMF Zone 75, 39	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9	*% Retained r a 2" max. size 63 63 63 63 64 86 86 86 86 86 86 86 86 86 86 86 96 86 96 86 96 86 96 86 96 96 96 96 96 96 96 96 96 96 96 96 96	must be at least 8% (nom. Max. 1.5") ag Cumulative % Retained 0.0 0.0 0.7 11.0 29.7 40.1	for the 1" sieve when
#50 #100 LBW Production G Coarsene 45 45 40	Bradation Ess Factor:	1.2 1.2 0.9 O Batch Plant Gra 67 52, 41	1. 0. 0. dations • Agg	0 9 7 regate Supplier Gra ability Factor: 68, 40 68, 38	25.8 4.3 0.6 adations 33 JMF Zone 75, 39 tion Gradation	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9	*% Retained r a 2" max. size 63 63 63 63 64 86 86 86 86 86 86 86 86 86 86 96 86 96 86 96 86 96 86 96 86 96 96 96 96 96 96 96 96 96 96 96 96 96	must be at least 8% (nom. Max. 1.5") ag Cumulative % Retained 0.0 0.0 0.7 11.0 29.7 40.1 58.1	for the 1" sieve when
#50 #100 LBW Production G Coarsene 45 45 40	Bradation Ess Factor:	1.2 1.2 0.9 O Batch Plant Gra 67 52, 41	1. 0. 0. dations • Agg	0 9 7 regate Supplier Gra ability Factor: 68, 40 68, 38 PS	25.8 4.3 0.6 adations 33 JMF Zone 75, 39 tion Gradation	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 35.9	*% Retained r a 2" max. size 63 63 63 63 64 86 86 86 86 86 86 86 96 86 96 86 96 86 96 96 96 96 96 96 96 96 96 96 96 96 96	Cumulative % Retained 0.0 0.7 11.0 29.7 40.1 58.1 64.1	for the 1" sieve when
#50 #100 LBW Production G Coarsene 45 45 40	Ats, 44 (45, 33) Operating Zone	1.2 1.2 0.9 O Batch Plant Gra 67 52, 41 52, 34	1. 0. 0. dations • Agg	0 9 7 regate Supplier Gra ability Factor: 68, 40 68, 38 PS	25.8 4.3 0.6 adations 33 JMF Zone 75, 39 tion Gradation	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 35.9 27.8	*% Retained r a 2" max. size 63 63 63 64 86 86 86 86 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Cumulative % Retained 0.0 0.7 11.0 29.7 40.1 58.1 64.1 72.2	for the 1" sieve when
#50 #100 LBW Production G 45 40 40 40 40 40 40 40 40 40 40 40 40 40	Bradation Ess Factor: 45, 44	1.2 1.2 0.9 O Batch Plant Gra 67 52, 41 52, 34	1. 0. 0. dations • Agg	0 9 7 regate Supplier Gra ability Factor: 68, 40 68, 38 PS	25.8 4.3 0.6 adations 33 JMF Zone 75, 39 tion Gradation	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 35.9 27.8 18.9	*% Retained r a 2" max. size 63 63 63 64 86 86 86 86 0.0 0.0 0.0 0.7 10.3 18.7 10.4 18.0 6.0 8.2 8.8	Cumulative % Retained 0.0 0.7 11.0 29.7 40.1 58.1 64.1 72.2 81.1	for the 1" sieve when
#50 #100 LBW Production G Coarsene 45 45 40	Ats, 44 (45, 33) Operating Zone	1.2 1.2 0.9 O Batch Plant Gra 67 52, 41 52, 34	1. 0. 0. dations • Agg	0 9 7 regate Supplier Gra ability Factor: 68, 40 68, 38 PS	25.8 4.3 0.6 adations JMF Zone 75, 39 tion Gradation 75, 28	10.9 2.4 0.8 Adjusted WF	9.0 8.5 1.6 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	89.1 97.6 99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 35.9 27.8	*% Retained r a 2" max. size 63 63 63 64 86 86 86 86 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Cumulative % Retained 0.0 0.7 11.0 29.7 40.1 58.1 64.1 72.2	for the 1" sieve when

Approved By:

PREPARED BY: SM, LLC Technical Service

ActionLimits Boundary = - - - - -

PLANT #	#1	11					Contractor:			-	
Sample Date	*:	12/5/22		(Concrete Grade:	DM, 4500HP					
Dates Test R	epresents:	12/6/2022	through	12/12/2022			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%			FIALS
Sieve	(6AA	26	5A	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"		96.7		0.0	100.0	98.4	1.6	1.6]		
3/4"		74.4	-	0.0	100.0	87.6	10.8	12.4			
1/2"		31.9		7.2	100.0	66.7	20.9	33.3			
3/8"		14.7		2.0	100.0	56.6	10.2	43.4			above the 3/8" sieve.
#4		2.5).3	96.0	40.5	16.1	59.5			qual 10% except max.
#8		1.9	2		83.6	34.3	6.1	65.7		00 and #200 sieves	
#16		1.7		.4	67.9	27.9	6.5	72.1			6 for each sieve except
#30		1.5	1		49.2	20.3	7.5	79.7	,	00 and #200 sieves	
#50 #100		1.4 1.3		.0 .9	24.0	10.3 3.3	10.0 6.9	89.7 96.7			6 for the 1" sieve when
LBW		0.9		.9 .7	6.6	3.3 1.0	2.4	96.7	a 2° max. size	(nom. Max. 1.5") ag	ggregate is used.
		-	-			1.0	2.7	00.0			
Production G	radation	Batch Plant Gra	dations 🛛 💌 Ag	gregate Supplier Gr	radations	Adjusted WF	Intial Production	on Sample (IPS	5)		
	Fradation	Batch Plant Gra 66		gregate Supplier Gr kability Factor		Adjusted WF 36.8		on Sample (IPS eness Factor:	62]	
		<u> </u>					Coars		Í		
Coarsene		66	Worl				Coars	eness Factor:	62	Cumulative % Retained	
Coarsene 45 40	ess Factor:	66			. 34 JMF Zone		Coars Work Sieve 2"	eness Factor: ability Factor: Cumulative % Passing 100.0	62 36 % Retained 0.0	% Retained 0.0	
Coarsene 45 40	ess Factor:	66	Worl	kability Factor:	: 34 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	
Coarsene 45 40	ess Factor:	66	Worl	67, 40	34 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	
Coarsene 45 40	ess Factor:	66	Worl	67, 40	34 JMF Zone		Coars Work Sieve 2" 1.5" 1" 3/4"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0	62 36 % Retained 0.0 0.0 0.0 0.0 5.0	% Retained 0.0 0.0 0.0 5.0	
Coarsene 45 40	ess Factor:	66 52, 41 5f	Worl	67, 40	34 JMF Zone		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	
Coarsene 45 40	ess Factor:	66	Worl	67, 40	34 JMF Zone		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 27.7 39.6	
Coarsene 45 40	45, 44	66 52, 41 5f	Worl	67, 40	JMF Zone		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	
Coarsene 45 40	45, 44	66 52, 41 52, 34 52, 34	Worl	67, 40	JMF Zone		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	
Coarsene 45 40	45, 44 45, 33 Operating Zone	66 52, 41 52, 34 52, 34	Worl	67, 40	JMF Zone		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	
Vorkability Factor (%)	45, 44	66 52, 41 52, 34 52, 34	Worl	67, 40	JMF Zone		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 20.3	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5 9.2	% Retained 0.0 0.0 0.0 27.7 39.6 57.4 64.0 70.5 79.7	
	45, 44 45, 33 Operating Zone	66 52, 41 52, 34 52, 34	Worl	67, 40	34 JMF Zone 3 on Gradation 1 75, 39 75, 28		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 95.0 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	



Approved By: Mart P. Ball

#:	P-32					Contractor:				
:	12/5/22		C	Concrete Grade	: DM, 4500HP				-	
epresents:	12/6/2022	through	12/12/2022			MDOT No.:			_	
Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
71-47	Presque Isle	1405	8.59	2.62	48.4					
71-47	Presque Isle									
95-013				2.65					SUP	ERIOR
	I otal Wt	2905	17.69		100.0	< Verify this n	umber is 100%	1		RIALS
(5AA	26	Α	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 1	<u>Materials, LLC</u> 10 Mile Rd.
1	00.0	10().0	100.0	100.0	0.0	0.0		Suite 500	
				100.0	100.0	0.0	0.0	1	Farmingtor	n Hills, MI 48336
		10().0	100.0	98.4	1.6	1.6	1		
				100.0	87.6	10.8	12.4]		
				100.0	66.7					
							-	*Maximum %	Retained must be a	above the 3/8" sieve.
								*Any two adja	icent sieves must e	qual 10% except max.,
	-									
							-	· · · · ·		
			-	-						
									(1011. 10182. 1.5) ag	gregate is used.
radation	Batch Plant Gra	dations () Agg	regate Supplier Gra	dations	Adjusted WF	Intial Production	on Sample (IPS	S)		
ss Factor:	66	Work	ability Factor:	34				62		
							ability Factor:	36		
•				• 		Worka		36 %	Cumulative	
15, 44				JMF Zone			ability Factor:		Cumulative % Retained	
15, 44	52, 41 56			• 		Worka	ability Factor: Cumulative	%		
15, 44	52, 41 56		67, 40	• 		Worka Sieve 2" 1.5"	ability Factor: Cumulative % Passing 100.0 100.0	% Retained 0.0 0.0	% Retained 0.0 0.0	
15, 44	52, 41 56		67, 40 68, 38	JMF Zone		Worka Sieve 2" 1.5" 1"	ability Factor: Cumulative % Passing 100.0 100.0 100.0	% Retained 0.0 0.0 0.0	% Retained 0.0 0.0 0.0	
15, 44	52, 41 56	6.40	67, 40	JMF Zone		Worka Sieve 2" 1.5" 1" 3/4"	ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0	% Retained 0.0 0.0 0.0 5.0	% Retained 0.0 0.0 0.0 5.0	
15, 44	52, 41 56		67, 40	JMF Zone		Worka Sieve 2" 1.5" 1" 3/4" 1/2"	ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3	% Retained 0.0 0.0 0.0 5.0 22.8	% Retained 0.0 0.0 0.0 5.0 27.7	
	52, 41 56	6.40	67, 40	JMF Zone		Worka Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4	% Retained 0.0 0.0 0.0 5.0 22.8 11.8	% Retained 0.0 0.0 0.0 20.0 27.7 39.6	
45, 33	56	6.40	67, 40 68, 38 S Froduction	JMF Zone		Worka Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	ability Factor: Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6	% Retained 0.0 0.0 0.0 20.0 5.0 22.8 11.8 17.8	% Retained 0.0 0.0 0.0 27.7 39.6 57.4	
45, 33	52, 34	6.40	67, 40	JMF Zone		Worka Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	ability Factor: Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0	% Retained 0.0 0.0 0.0 22.8 11.8 17.8 6.6	% Retained 0.0 0.0 5.0 27.7 39.6 57.4 64.0	
45, 33 Operating Zone	52, 34	6.40	67, 40 68, 38 S Froduction	JMF Zone 75, 39		Worka Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	ability Factor: Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5	% Retained 0.0 0.0 0.0 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	52, 34	6.40	67, 40 68, 38 S Froduction	JMF Zone		Worka Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	ability Factor: Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5 20.3	% Retained 0.0 0.0 0.0 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	
45, 33 Operating Zone	52, 34	6.40 • 60, 38	67, 40 68, 38 S Froduction	JMF Zone 75, 39 n Gradation 75, 28		Worka Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	ability Factor: Cumulative % Passing 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5	% Retained 0.0 0.0 0.0 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	
	epresents: Pit # 71-47 71-47 95-013 (1 1 () ())) () () () () () () ()) () () () ()) () ()) ()) ()) ()) ())) ())) ())) () ()))))))))))))	I2/5/22 epresents: 12/6/2022 Pit # Source 71-47 Presque Isle 71-47 Presque Isle 95-013 Smelter Bay Total Wt 6AA 100.0 100.0 100.0 96.7 74.4 31.9 14.7 2.5 1.9 1.7 1.5 1.4 1.3 0.9 radation Batch Plant Gra	I2/5/22 epresents: 12/6/2022 through Pit # Source Weight (ssp) 71-47 Presque Isle 1405 71-47 Presque Isle 350 95-013 Smelter Bay 1150 Total Wt 2905 6AA 26 100.0 100 1.7 1.7	12/5/22 C epresents: 12/6/2022 through 12/12/2022 Pit # Source Weight (ssp) ft ³ 71-47 Presque Isle 1405 8.59 71-47 Presque Isle 350 2.14 95-013 Smelter Bay 1150 6.95 Total Wt 2905 17.69 6AA 26A 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 14.7 82.0 2.5 10.3 1.9 2.7 1.7 1.4 1.5 1.1 1.4 1.0 1.3 0.9 0.9 0.7 radation Batch Plant Gradations	12/5/22 Concrete Grade epresents: 12/6/2022 through 12/12/2022 Pit # Source Weight (ssp) ft ³ Specific Gravity 71-47 Presque Isle 1405 8.59 2.62 71-47 Presque Isle 350 2.14 2.62 95-013 Smelter Bay 1150 6.95 2.65 Total Wt 2905 17.69 Preseque 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 14.7 82.0 100.0 100.0 100.0 1.4 10.3 96.0 1.9 2.7 83.6 1.7 1.4 67.9 1.5 1.1 49.2 1.4 1.0 24.0 1.4 6.6 0.9 0.7 1.2	Image: 12/5/22 Concrete Grade: DM, 4500HP epresents: 12/6/2022 through 12/12/2022 Pit # Source Weight (ssp) ft ³ Specific Gravity % Contribution 71-47 Presque Isle 1405 8.59 2.62 48.4 71-47 Presque Isle 350 2.14 2.62 12.0 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 96.7 100.0 100.0 88.4 100.0 31.9 97.2 100.0 66.7 14.7 1.9 2.7 83.6 34.3 1.7 1.4 1.0 24.0 10.3 1.4 1.9 2.7 83.6 34.3	Image: 12/5/22 Concrete Grade: DM, 4500HP epresents: 12/6/2022 through 12/12/2022 MDOT No.: Pit # Source Weight (sso) ft ³ Specific % 71-47 Presque Isle 1405 8.59 2.62 48.4 71-47 Presque Isle 350 2.14 2.62 12.0 95-013 Smelter Bay 1150 6.95 2.65 39.6 c Verify this no 6AA 26A 2NS Cumulative % Passing % Retained 100.0 100.0 100.0 100.0 0.0 0.0 100.0 100.0 100.0 100.0 0.0 0.0 96.7 100.0 100.0 87.6 10.8 16.1 74.4 100.0 100.0 87.6 10.8 16.1 1.4.7 82.0 100.0 56.6 10.2 2.5 1.4.7 82.0 100.0 56.6 10.2 7.5 1.5 1.1 <td>Image: Image: Image:</td> <td>Image: 12/5/22 Concrete Grade: DM, 4500HP DM, 4500HP epresents: 12/6/2022 through 12/12/2022 MDOT No.: Pit # Source Weight (ssp) ft³ Specific Gravity % 71-47 Presque Isle 1405 8.59 2.62 48.4 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 % Retained 100.0 100.0 100.0 100.0 0.0 0.0 96.7 100.0 100.0 87.6 10.8 12.4 31.9 97.2 100.0 66.7 20.9 33.3 14.7 82.0 100.0 66.6 10.2 43.4 *Any two adja 1.9 2.7 83.6 34.3 6.1 65.7 nor. max, #1 *% Retained 1.1 4.2 0.9 6.6 3.3 6.9 96.7 *Any two adja *Any two adja *Any t</td> <td>I2/5/22 Concrete Grade: DM, 4500HP epresents: 12/6/2022 through 12/12/2022 MOOT No.: Pit # Source Weight (ssp) ft 3 Specific Grade: Omegan Model 71-47 Presque Isle 1405 8.59 2.65 39.6 </td>	Image:	Image: 12/5/22 Concrete Grade: DM, 4500HP DM, 4500HP epresents: 12/6/2022 through 12/12/2022 MDOT No.: Pit # Source Weight (ssp) ft ³ Specific Gravity % 71-47 Presque Isle 1405 8.59 2.62 48.4 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 % Retained 100.0 100.0 100.0 100.0 0.0 0.0 96.7 100.0 100.0 87.6 10.8 12.4 31.9 97.2 100.0 66.7 20.9 33.3 14.7 82.0 100.0 66.6 10.2 43.4 *Any two adja 1.9 2.7 83.6 34.3 6.1 65.7 nor. max, #1 *% Retained 1.1 4.2 0.9 6.6 3.3 6.9 96.7 *Any two adja *Any two adja *Any t	I2/5/22 Concrete Grade: DM, 4500HP epresents: 12/6/2022 through 12/12/2022 MOOT No.: Pit # Source Weight (ssp) ft 3 Specific Grade: Omegan Model 71-47 Presque Isle 1405 8.59 2.65 39.6

Approved By:

PLANT :	#:	P-35					Contractor:				
Sample Date	e:	12/5/22	-	C	concrete Grade	DM, 4500HP					
Dates Test R		12/6/2022	through	12/12/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1500	8.94	2.69	50.8					
26A	58-003	Stoneco	300	1.79	2.69	10.2					
2NS	81-019	Pleasant Lake	1150 2950	6.95	2.65	39.0				SUP	ERIOR
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%	1	MATE	FRIALS
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	10	0.0	100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		100.0	10	0.0	100.0	100.0	0.0	0.0			
3/4"		83.2	10		100.0	91.5	8.5	8.5			
1/2"		44.2	99		100.0	71.6	19.9	28.4			
3/8"		19.0	88		100.0	57.6	14.0	42.4	*Maximum %	Retained must be	above the 3/8" sieve.
#4		3.0	10		97.5	40.6	17.0	59.4			qual 10% except max.,
#8		2.0	3.		83.1	33.8	6.8	66.2	,	00 and #200 sieves	
#16		2.2	3.		67.2	27.7	6.1	72.3			6 for each sieve except n
#30 #50		2.1 1.9	3.		49.8 25.0	20.8 11.0	6.9 9.8	79.2 89.0		00 and #200 sieves	
#50 #100		1.9	2.		7.1	4.0	9.8 7.0	96.0			6 for the 1" sieve when
LBW		1.3	2.		1.7	4.0	2.4	98.4	a z max. size	(nom. Max. 1.5") ag	ggregate is used.
roduction G	Gradation	Batch Plant Gra		regate Supplier Gra				on Sample (IPS	5)		
Coarsene	ess Factor:	64	Work	ability Factor:	34	36.3	Coars	eness Factor:	61		
				•			Work	ability Factor:	36		
45		_			JMF Zone			Cumulative	%	Cumulative	
1	45, 44				JIVIF ZONE		Sieve	% Passing	Retained	% Retained	
		52, 41					2"	100.0	0.0	0.0	
ू ⁴⁰		50,		68, 38	75, 39		1.5"	100.0	0.0	0.0	
٢					I		1"	99.3	0.7	0.7	
Factor (%)			■ 60.136	Production Grad	dation		3/4"	89.1	10.2	10.9	
b 35				' !			1/2"	70.5	18.6	29.5	
		52, 34	i	i			3/8"	60.5	10.0	39.5	
ii ii	45, 33	56,		===i↓			#4 #8	44.1 35.6	16.4 8.5	55.9 64.4	
	1		51	67, 88 , 31			#8 #16	35.6 27.7	8.5 7.9	72.3	
¥ 1	Operating Zone Boundary	2					#10	20.6	7.9	79.4	
Workability	boundary				75, 28		#50	8.7	11.8	91.3	
25							#100	1.6	7.1	98.4	
40	45	50 55		Factor (%)	75	80	LBW	1.1	0.6	98.9	
		1	500ai 5011055	a a ciul (70)							1

Approved By:

PLANT #	#:	P-36					Contractor:				
Sample Date:	:	12/5/22		C	Concrete Grade	: DM, 4500HP				-	
Dates Test Re	epresents:	12/6/2022	through	12/12/2022			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		6 AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 1	<u>Materials, LLC</u> 10 Mile Rd.
2"	1	00.0	10	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	1	Farmingtor	n Hills, MI 48336
1"		95.1	10		100.0	97.5	2.5	2.5	1		
3/4"		71.4	10	0.0	100.0	85.2	12.2	14.8	1		
1/2"		32.0	97	.2	100.0	64.6	20.6	35.4			
3/8"		13.5	82	0	100.0	53.4	11.1	46.6	*Maximum %	Retained must be a	above the 3/8" sieve.
#4		2.7	10	.3	96.8	39.1	14.3	60.9	*Any two adja	icent sieves must e	qual 10% except max.,
#8		1.8	2.		81.3	32.0	7.1	68.0	nom. max., #10	00 and #200 sieves.	
#16		1.4	1.		65.5	25.7	6.3	74.3	*% Retained r	must be at least 4%	for each sieve except i
#30		1.3	1.		45.3	17.9	7.7	82.1	· ·	00 and #200 sieves	
#50		1.2	1.	-	18.1	7.6	10.4	92.4	*% Retained i	must be at least 8%	for the 1" sieve when
#100		1.2		9	2.7	1.7	5.8	98.3	a 2" max. size	(nom. Max. 1.5") ag	gregate is used.
LBW		0.9	0.	7	0.7	0.8	0.9	99.2		(nom. Max. 1.5") ag	jgregate is used.
LBW			0.	-	0.7	0.8	0.9			(nom. Max. 1.5") aç	igregate is used.
LBW	radation	0.9	0. dations	7	0.7 dations	0.8	0.9 Intial Productio	99.2	5) 63	(nom. Max. 1.5") ag	ggregate is used.
LBW Production Gr Coarsene	radation	0.9 O Batch Plant Gra	0. dations	7 regate Supplier Gra	0.7 dations	0.8 Adjusted WF	0.9 Intial Productio Coars	99.2 on Sample (IPS	5)	(nom. Max. 1.5") a <u>c</u>	igregate is used.
LBW Production Gr Coarsene	radation ss Factor:	0.9 O Batch Plant Gra	0. dations	7 regate Supplier Gra	0.7 dations 32	0.8 Adjusted WF	0.9 Intial Productio Coars Work	99.2 on Sample (IPS eness Factor:	5) 63	(nom. Max. 1.5") aç Cumulative	igregate is used.
LBW Production Gr Coarsene	radation	0.9 Batch Plant Gra 68	0. dations	7 regate Supplier Gra	0.7 dations	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve	99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing	63 63 35 % Retained	Cumulative % Retained	igregare is used.
LBW Production Gr Coarsener	radation ss Factor:	0.9 O Batch Plant Gra	0. dations	7 regate Supplier Gra	0.7 dations 32	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve 2"	99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0	63 35 % Retained 0.0	Cumulative % Retained 0.0	igregare is used.
LBW Production Gr Coarsene	radation ss Factor:	0.9 Batch Plant Gra 68	0. dations	7 regate Supplier Gra ability Factor:	0.7 dations 32	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve 2" 1.5"	99.2 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	63 35 % Retained 0.0 0.0	Cumulative % Retained 0.0 0.0	igregare is used.
LBW Production Gr Coarsene	radation ss Factor:	0.9 Batch Plant Gra 68	0. dations	7 regate Supplier Gra	0.7 dations 32	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve 2" 1.5" 1"	99.2 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	Cumulative % Retained 0.0 0.0 0.9	ignegale is used.
LBW Production Gr Coarsenee	radation ss Factor:	0.9 Batch Plant Gra 68	0. dations () Agg Work	7 regate Supplier Gra- tability Factor:	0.7 dations 32	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4"	99.2 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	Cumulative % Retained 0.0 0.0 0.9 9.7	ignegale is used.
LBW Production Gr Coarsenee	radation ss Factor:	0.9 Batch Plant Gra 68	0. dations	7 regate Supplier Gra cability Factor:	0.7 dations 32	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	99.2 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 0.0 0.9 8.8 21.1	Cumulative % Retained 0.0 0.0 0.9 9.7 30.8	igregate is used.
LBW Production Gr Coarsene	ss Factor:	0.9 Batch Plant Gra 68	0. dations () Agg Work	7 regate Supplier Gra cability Factor:	0.7 dations 32 JMF Zone 75, 39	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	99.2 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	Cumulative % Retained 0.0 0.0 0.9 9.7 30.8 40.9	igregate is used.
LBW Production Gr Coarsenee	radation ss Factor:	0.9 Batch Plant Gra 68 52, 41 52, 41	0. dations () Agg Work	7 regate Supplier Gra tability Factor:	0.7 dations 32 JMF Zone 75, 39 duction Gradation	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	99.2 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	Cumulative % Retained 0.0 0.9 9.7 30.8 40.9 58.2	igregale is used.
LBW Production Gr Coarsenee	radation ss Factor: ^{5, 44} (45, 33)	0.9 Batch Plant Gra 68 52, 41 52, 34	0. dations () Agg Work	7 regate Supplier Gra cability Factor:	0.7 dations 32 JMF Zone 75, 39 duction Gradation	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	99.2 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	Cumulative % Retained 0.0 0.9 9.7 30.8 40.9 58.2 64.9	igregate is used.
LBW Production Gr Coarsenee	radation ss Factor:	0.9 Batch Plant Gra 68 52, 41 52, 34	0. dations () Agg Work 58, 32 60, 36	7 regate Supplier Gra tability Factor:	0.7 dations 32 JMF Zone 75, 39 duction Gradation	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	99.2 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	Cumulative % Retained 0.0 0.9 9.7 30.8 40.9 58.2 64.9 71.5	igregale is used.
LBW Production Gr Coarsenee	radation ss Factor: ^{5, 44} (45, 33)	0.9 Batch Plant Gra 68 52, 41 52, 34	0. dations () Agg Work 58, 32 60, 36	7 regate Supplier Gra tability Factor:	0.7 dations 32 JMF Zone 75, 39 duction Gradation	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	99.2 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	Cumulative % Retained 0.0 0.9 9.7 30.8 40.9 58.2 64.9 71.5 78.8	igregale is used.
LBW Production Gr tenesreco 40 45 45 45 45 45 45 45 45 45 45	radation ss Factor:	0.9 Batch Plant Gra 68 52, 41 52, 34	0. dations () Agg Work 58, 32 60, 36	7 regate Supplier Gra tability Factor:	0.7 dations 32 JMF Zone 75, 39 duction Gradation	0.8 Adjusted WF	0.9 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	99.2 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	Cumulative % Retained 0.0 0.9 9.7 30.8 40.9 58.2 64.9 71.5	igregale is used.

Approved By: Mary 1. Ball

PLANT #	#:	P-39					Contractor:				
Sample Date	:	12/5/22	•	(Concrete Grade	DM, 4500HP					
Dates Test R	epresents:	12/6/2022	through	12/12/2022			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	300	1.83	2.62	10.3					
2NS	44-051	Krake Willis Rd		6.65	2.65	37.9				SIIP	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		Superior 30701 W. 1	Materials, LLC 10 Mile Rd.
2"	-	00.0	10	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"	1	00.0	10	0.0	100.0	100.0	0.0	0.0			
3/4"		83.5	10		100.0	91.5	8.5	8.5			
1/2"		35.2	94	.0	100.0	65.8	25.6	34.2			
3/8"		15.1	79	.7	100.0	53.9	11.9	46.1	*Maximum %	Retained must be	above the 3/8" sieve.
#4		1.8	19	.1	96.2	39.3	14.6	60.7	*Any two adja	icent sieves must e	qual 10% except max.,
#8		1.5	6.		80.4	31.9	7.4	68.1	nom. max., #10	00 and #200 sieves	
#16		1.4	4.	-	65.2	25.8	6.1	74.2	*% Retained I	must be at least 4%	o for each sieve except
#30		1.4	3.		49.4	19.8	6.1	80.2	-	00 and #200 sieves	
#50		1.4	3.		24.3	10.2	9.5	89.8			for the 1" sieve when
#100 LBW		1.4	2.		9.0 0.8	4.4	5.8	95.6	a 2" max. size	(nom. Max. 1.5") aç	ggregate is used.
LBW		1.3	2.			1.2	3.2	98.8			
Production G	iradation	O Batch Plant Gra	idations 💽 Agg	regate Supplier Gra	idations	Adjusted WF	Intial Production	on Sample (IPS	5)	-	
Coarsene	ess Factor:	68	Work	ability Factor:	32	34.4	Coars	eness Factor:	63		
45							Work	ability Factor:	36		
	15, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained	
1		52, 41					2"	100.0	0.0	0.0	
a ⁴⁰				68, 40	75, 39		1.5"	100.0	0.0	0.0	
ల్ 1				68, 38			1"	100.0	0.0	0.0	
D			6 0, 36				3/4"	89.7	10.3	10.3	
ž 35			∎ ∎ 60,36		ction Gradation		1/2"	70.3	19.4	29.7	
й I		52, 34			cuon Gradation		3/8"	59.1	11.2	40.9	
İ	45, 33						#4	42.8	16.3	57.2	
Workability Factor (%)		_	58, 22	688,8 ³	2		#8	35.5	7.3	64.5	
ka ∏	Operating Zone						#16	29.0	6.5	71.0	
o 11	Boundary				75, 28		#30	21.2	7.7	78.8	
\$ _25							#50	9.8	11.5	90.2	
25 40	45	50 55	60	Factor (%)	75	80	#100 LBW	3.7	6.1	96.3 98.8	
		00	• •••••••••••••••••••••••••••••••••••					1.2	2.5	98.8	

Approved By: Mart P. Ball

PLANT #	#:	P-O2	_				Contractor:			_	
Sample Date	:	12/5/22	-	C	Concrete Grade:	DM, 4500HP				-	
Dates Test R	epresents:	12/6/2022	- through	12/12/2022			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	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%	•		ERIALS
Sieve		6AA	26	Α	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"		00.0	100).0	100.0	100.0	0.0	0.0]	Farmingto	n Hills, MI 48336
1"		95.1	100		100.0	97.5	2.5	2.5]		
3/4"		71.4	100		100.0	85.7	11.9	14.3			
1/2"		32.0	97		100.0	65.7	20.0	34.3			
3/8"		13.5	82		100.0	54.8	10.8	45.2	*Maximum %	Retained must be	above the 3/8" sieve.
#4		2.7	10	-	96.8	40.7	14.1	59.3			qual 10% except max.
#8		1.8	2.		79.5	32.7	8.1	67.3		00 and #200 sieves	
#16		1.4	1.		63.7	26.1	6.6	73.9			6 for each sieve except
#30		1.3	1.		48.4	19.9	6.1	80.1		00 and #200 sieves	
#50		1.2	1.		25.8	10.9 2.4	9.0	89.1			6 for the 1" sieve when
#100 LBW		<u>1.2</u> 0.9	0. 0.		4.3 0.6	2.4	8.5 1.6	97.6 99.2	a 2" max. size	(nom. Max. 1.5") a	ggregate is used.
Production G		Batch Plant Gra		regate SupplierGrad				on Sample (IPS	3)		
	ess Factor:	67	0.22	ability Factor:		35.2		eness Factor:	ŕ	1	
		-	-					ability Factor:		1	
45	45, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained	
		52, 41					2"	100.0	0.0	0.0	
्र ⁴⁰			58, 39	68, 39 68, 38	75, 39		1.5"	100.0	0.0	0.0	
<u>ک</u>			i		Ĭ		1"	100.0	0.0	0.0	
Ď			■ 60, 36	!			3/4"	95.1	4.9	4.9	
Factor (%)				IPS	tion Gradation		1/2"	74.6	20.5	25.4	
Ľ 1		52, 34	- <u>i</u>	!			3/8"	59.3	15.3	40.7	
lit)	45, 33			i			#4	42.1	17.2	57.9	
ig 30 -		-	58, 31	6 8 8,331			#8	35.1 29.2	7.1 5.9	64.9 70.8	
ž	Operating Zone						#16 #30	29.2	5.9	70.8	
Workability	Boundary				75, 28		#30 #50	21.9 9.6	12.4	78.1 90.4	
> ₂₅							#30 #100	9.6	7.2	90.4 97.6	
40	45	50 54	5 60	65 70	75	80	# 100	2.4	1.2	37.0	

75

80

LBW

0.9

1.5

99.1

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45

40

ActionLimits Boundary = - - -

50

55

Coarseness Factor (%)⁷⁰