Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-32

Sample Date: 4/5/21

Concrete Grade: P1M

Dates Test Represents: 4/6/2021 through 4/12/2021

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1070	6.54	2.62	34.9
IA	71-47	Presque Isle	750	4.59	2.62	24.4
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
		Total Wt	**3070**	**18.69**		100.0

<----- Verify this number is 100%

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	94.2	100.0	100.0	98.0	2.0	2.0
1"	39.7	100.0	100.0	79.0	19.0	21.0
3/4"	11.5	98.2	100.0	68.7	10.3	31.3
1/2"	4.5	81.7	100.0	62.2	6.5	37.8
3/8"	3.3	58.2	100.0	56.1	6.2	43.9
#4	2.6	12.5	96.6	43.3	12.8	56.7
#8	2.4	4.4	84.6	36.4	6.9	63.6
#16	2.3	3.2	69.7	30.0	6.4	70.0
#30	2.1	2.9	48.5	21.2	8.8	78.8
#50	2.0	2.4	22.7	10.5	10.7	89.5
#100	1.9	2.2	5.2	3.3	7.2	96.7
LBW	1.6	1.7	1.4	1.5	1.8	98.5

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

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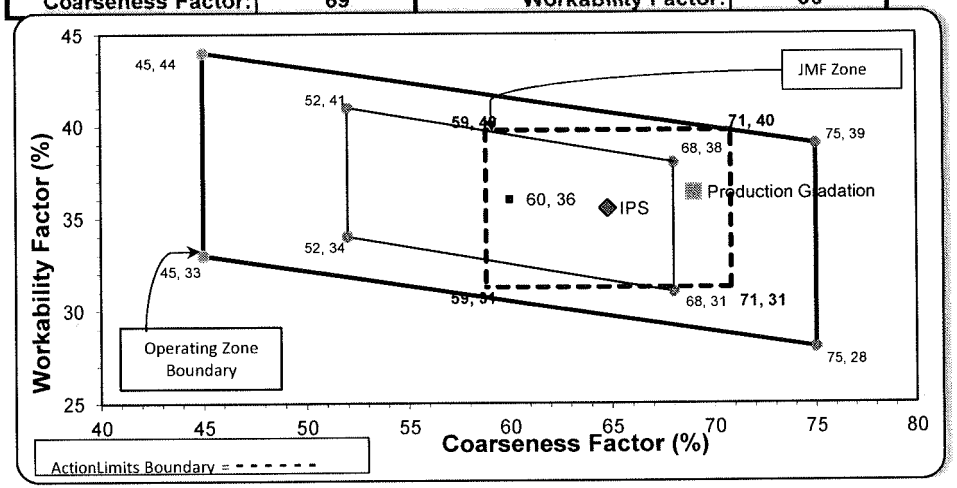
Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

Coarseness Factor:	69	Workability Factor:	36



Intial Production Sample (IPS)

Coarseness Factor:	65
Workability Factor:	36

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0

PREPARED BY:
SM, LLC Technical Service

Approved By:

Edw. C. Levy Co.

JMT
8911 W. Jefferson
Detroit, 48209
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Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Period: 04/04/2021 - 04/10/2021

Name/Title Doug Storey / QC Technician

Report Date 04/09/2021

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.6	%	95-100
	#8 (2.36mm)	84.6	%	65-95
	#16 (1.18mm)	69.7	%	35-75
	#30 (.6mm)	48.5	%	20-55
	#50 (.3mm)	22.7	%	10-30
	#100 (.15mm)	5.2	%	0-10
	#200 (75µm)	1.8	%	
	FM	2.73		2.6-3
	Wash Loss (#200/75um)	1.4	%	0-3
	Total Moisture	3.4	%	

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Plant 958-JMT

Product 7920-INTERMED AGG P1M LS PI

Period: 04/04/2021 - 04/10/2021

Name/Title Doug Storey / QC Technician

Report Date 04/09/2021

Procedure	Sieve/Test	Result	Unit	Intermed Agg P1M LS PI Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	98.2	%	
	1/2" (12.5mm)	81.7	%	
	3/8" (9.5mm)	58.2	%	
	#4 (4.75mm)	12.5	%	
	#8 (2.36mm)	4.4	%	
	#16 (1.18mm)	3.2	%	
	#30 (.6mm)	2.9	%	
	#50 (.3mm)	2.4	%	
	#100 (.15mm)	2.2	%	
	#200 (75µm)	1.9	%	
	Wash Loss (#200/75um)	1.7	%	0-3
	Total Moisture	2.0	%	

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Plant 958-JMT

Product 7919-COARSE AGG P1M LS PI

Period: 04/04/2021 - 04/10/2021

Name/Title Doug Storey / QC Technician

Report Date 04/09/2021

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS PI Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	94.2	%	
	1" (25mm)	39.7	%	
	3/4" (19mm)	11.5	%	
	1/2" (12.5mm)	4.5	%	
	3/8" (9.5mm)	3.3	%	
	#4 (4.75mm)	2.6	%	
	#8 (2.36mm)	2.4	%	
	#16 (1.18mm)	2.3	%	
	#30 (.6mm)	2.1	%	
	#50 (.3mm)	2.0	%	
	#100 (.15mm)	1.9	%	
	#200 (75µm)	1.6	%	
	Wash Loss (#200/75um)	1.6	%	0-2
	Total Moisture	0.7	%	