Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-32

Sample Date: 3/1/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 3/2/2021 through 3/8/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	780	4.77	2.62	25.4
IA	71-47	Presque Isle	1040	6.36	2.62	33.9
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
		Total Wt	**3070**	**18.69**		100.0

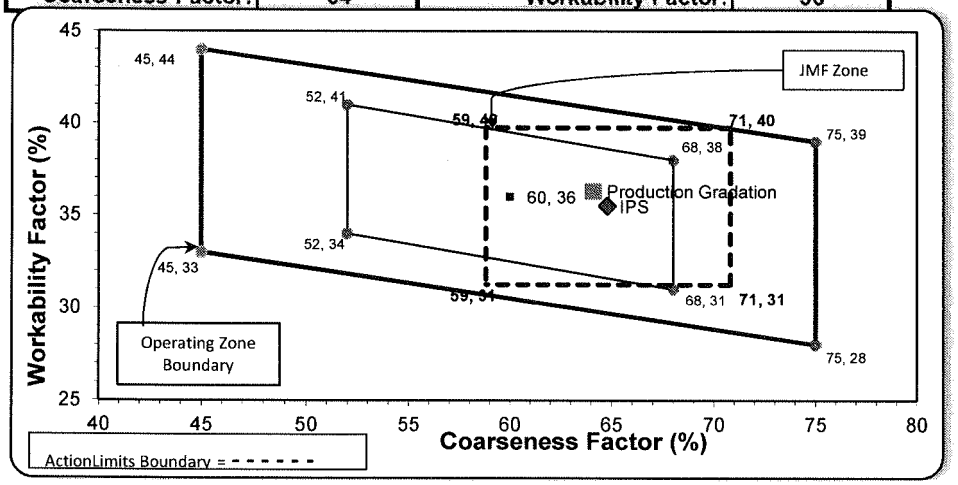
<---- Verify this number is 100%

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.3	100.0	100.0	99.6	0.4	0.4
1"	52.1	100.0	100.0	87.8	11.7	12.2
3/4"	16.2	97.3	100.0	77.8	10.0	22.2
1/2"	6.2	74.9	100.0	67.7	10.1	32.3
3/8"	4.9	50.8	100.0	59.2	8.5	40.8
#4	3.3	10.4	96.2	43.5	15.6	56.5
#8	2.8	4.6	83.6	36.3	7.2	63.7
#16	2.5	3.4	67.4	29.2	7.1	70.8
#30	2.2	3.0	45.2	20.0	9.3	80.0
#50	2.0	2.8	18.3	8.9	11.1	91.1
#100	1.8	2.5	4.4	3.1	5.8	96.9
LBW	1.4	2.0	0.9	1.4	1.7	98.6

*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.

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

Coarseness Factor:	64	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

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03/05/2021

1022-2NS GR - Smelter Bay

Procedure	Sieve/Test	Average	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.2	%	95-100
	#8 (2.36mm)	83.6	%	65-95
	#16 (1.18mm)	67.4	%	35-75
	#30 (.6mm)	45.2	%	20-55
	#50 (.3mm)	18.3	%	10-30
	#100 (.15mm)	4.4	%	0-10
	#200 (75µm)	0.9	%	
	FM	2.85		2.60-3.00
	Wash Loss (#200/75um)	0.9	%	0.0-3.0
	Total Moisture	4.5	%	

Name/Title Doug Storey / QC Technician

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7920-INTERMED AGG P1M LS PI

Procedure	Sieve/Test	Average	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)	97.3	%	
	1/2" (12.5mm)	74.9	%	
	3/8" (9.5mm)	50.8	%	
	#4 (4.75mm)	10.4	%	
	#8 (2.36mm)	4.6	%	
	#16 (1.18mm)	3.4	%	
	#30 (.6mm)	3.0	%	
	#50 (.3mm)	2.8	%	
	#100 (.15mm)	2.5	%	
	#200 (75µm)	2.1	%	
	Wash Loss (#200/75um)	2.0	%	0.0-3.0
	Total Moisture	3.6	%	

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03/05/2021

7919-COARSE AGG P1M LS PI

Procedure	Sieve/Test	Average	Unit	Coarse Agg P1M LS PI Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	98.3	%	
	1" (25mm)	52.1	%	
	3/4" (19mm)	16.2	%	
	1/2" (12.5mm)	6.2	%	
	3/8" (9.5mm)	4.9	%	
	#4 (4.75mm)	3.3	%	
	#8 (2.36mm)	2.8	%	
	#16 (1.18mm)	2.5	%	
	#30 (.6mm)	2.2	%	
	#50 (.3mm)	2.0	%	
	#100 (.15mm)	1.8	%	
	#200 (75µm)	1.5	%	
	Wash Loss (#200/75um)	1.4	%	0.0-2.0
	Total Moisture	2.0	%	

Name/Title Doug Storey / QC Technician