Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-32

Sample Date: 11/21/22

Dates Test Represents: 11/22/2022 through 11/28/2022

Concrete Grade: **DM, 4500HP**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	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
		Total Wt	**2905**	**17.69**		100.0

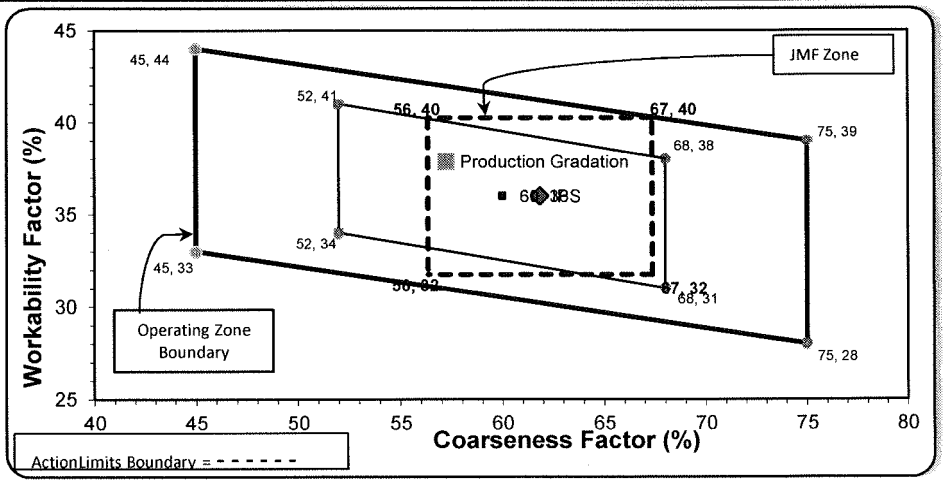
<----- Verify this number is 100%

Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.8	100.0	100.0	99.4	0.6	0.6
3/4"	88.1	100.0	100.0	94.2	5.2	5.8
1/2"	48.6	98.1	100.0	74.9	19.3	25.1
3/8"	26.6	87.7	100.0	63.0	11.9	37.0
#4	4.7	24.6	95.9	43.2	19.8	56.8
#8	2.6	7.2	84.0	35.4	7.8	64.6
#16	2.3	3.6	68.8	28.8	6.6	71.2
#30	2.2	2.9	49.9	21.2	7.6	78.8
#50	2.1	2.6	24.4	11.0	10.2	89.0
#100	2.0	2.4	6.7	3.9	7.1	96.1
LBW	1.8	2.2	1.4	1.7	2.2	98.3

*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:	57	Workability Factor:	35	Adjusted WF: 37.9



Intial Production Sample (IPS)

Coarseness Factor:	62
Workability Factor:	36

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

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Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Period: 11/20/2022 - 11/26/2022

Name/Title Doug Storey / QC Technician

Report Date 11/23/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	95.9	%	95-100
	#8 (2.36mm)	84.0	%	65-95
	#16 (1.18mm)	68.8	%	35-75
	#30 (.6mm)	49.9	%	20-55
	#50 (.3mm)	24.4	%	10-30
	#100 (.15mm)	6.7	%	0-10
	#200 (75µm)	1.7	%	
	FM	2.70		2.6-3
	Wash Loss (#200/75um)	1.4	%	0-3
	Total Moisture	4.9	%	

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Plant 958-JMT

Product 1067-26A Mod LS

Period: 11/20/2022 - 11/26/2022

Name/Title Doug Storey / QC Technician

Report Date 11/23/2022

Procedure	Sieve/Test	Result	Unit	26A Mod LS Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	100.0	%	100-100
	1/2" (12.5mm)	98.1	%	95-100
	3/8" (9.5mm)	87.7	%	60-95
	#4 (4.75mm)	24.6	%	5-30
	#8 (2.36mm)	7.2	%	0-12
	#16 (1.18mm)	3.6	%	
	#30 (.6mm)	2.9	%	
	#50 (.3mm)	2.6	%	
	#100 (.15mm)	2.4	%	
	#200 (75µm)	2.2	%	
	Wash Loss (#200/75um)	2.2	%	0-3
	Total Moisture	3.1	%	

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Plant 958-JMT

Product 1054-6AA LS PI

Period: 11/20/2022 - 11/26/2022

Name/Title Doug Storey / QC Technician

Report Date 11/23/2022

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	98.8	%	95-100
	3/4" (19mm)	88.1	%	
	1/2" (12.5mm)	48.6	%	30-60
	3/8" (9.5mm)	26.6	%	
	#4 (4.75mm)	4.7	%	0-8
	#8 (2.36mm)	2.6	%	
	#16 (1.18mm)	2.3	%	
	#30 (.6mm)	2.2	%	
	#50 (.3mm)	2.1	%	
	#100 (.15mm)	2.0	%	
	#200 (75µm)	1.9	%	
	Wash Loss (#200/75um)	1.8	%	0-2
	Total Moisture	3.0	%	