Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-32

Sample Date: 11/15/21

Concrete Grade: **DM**

Contractor: _____

Dates Test Represents: 11/16/2021 through 11/22/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	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	95-013	Smelter Bay	1150	6.95	2.65	39.6
		Total Wt	**2905**	**17.69**		100.0

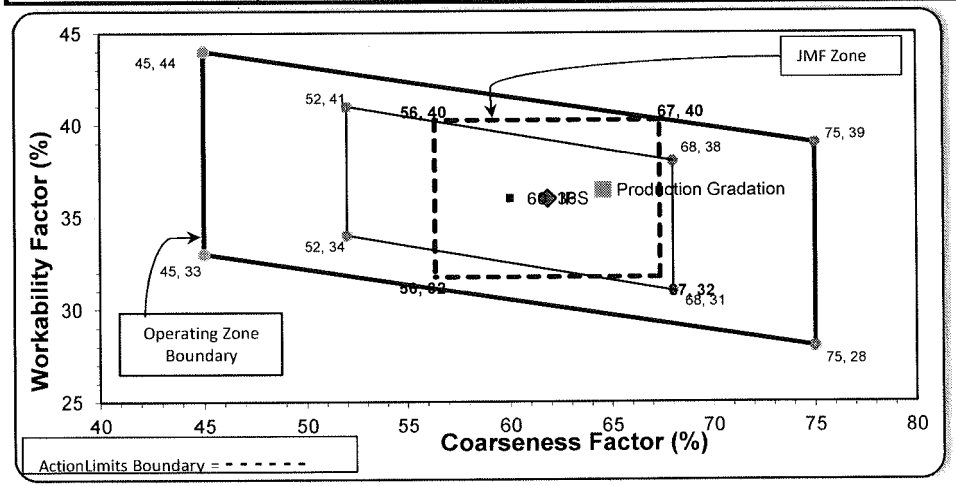
<----- Verify this number is 100%

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"	95.0	100.0	100.0	97.5	2.5	2.5
3/4"	76.2	100.0	100.0	88.1	9.4	11.9
1/2"	33.3	95.4	100.0	66.1	22.0	33.9
3/8"	19.5	77.5	100.0	57.4	8.8	42.6
#4	3.7	16.2	95.7	41.4	15.9	58.6
#8	1.8	4.6	82.3	34.0	7.5	66.0
#16	1.5	2.7	67.3	27.7	6.3	72.3
#30	1.4	2.3	48.8	20.3	7.4	79.7
#50	1.4	2.1	25.5	11.0	9.2	89.0
#100	1.3	1.9	8.1	4.1	7.0	95.9
LBW	0.9	1.5	1.4	1.2	2.9	98.8

*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:	65	Workability Factor:	34	Adjusted WF 36.5



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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PREPARED BY:
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Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Period: 11/14/2021 - 11/20/2021

Name/Title Doug Storey / QC Technician

Report Date 11/19/2021

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	95.7	%	95-100
	#8 (2.36mm)	82.3	%	65-95
	#16 (1.18mm)	67.3	%	35-75
	#30 (.6mm)	48.8	%	20-55
	#50 (.3mm)	25.5	%	10-30
	#100 (.15mm)	8.1	%	0-10
	#200 (75µm)	1.9	%	
	FM	2.72		2.6-3
	Wash Loss (#200/75um)	1.4	%	0-3
	Total Moisture	5.0	%	

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Plant 958-JMT

Product 1067-26A Mod LS

Period: 11/14/2021 - 11/20/2021

Name/Title Doug Storey / QC Technician

Report Date 11/17/2021

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)	95.4	%	95-100
	3/8" (9.5mm)	77.5	%	60-95
	#4 (4.75mm)	16.2	%	5-30
	#8 (2.36mm)	4.6	%	0-12
	#16 (1.18mm)	2.7	%	
	#30 (.6mm)	2.3	%	
	#50 (.3mm)	2.1	%	
	#100 (.15mm)	1.9	%	
	#200 (75µm)	1.7	%	
	Wash Loss (#200/75um)	1.5	%	0-3
	Total Moisture	4.5	%	

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Plant 958-JMT

Product 1054-6AA LS PI

Period: 11/14/2021 - 11/20/2021

Name/Title Doug Storey / QC Technician

Report Date 11/19/2021

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	95.0	%	95-100
	3/4" (19mm)	76.2	%	
	1/2" (12.5mm)	33.3	%	30-60
	3/8" (9.5mm)	19.5	%	
	#4 (4.75mm)	3.7	%	0-8
	#8 (2.36mm)	1.8	%	
	#16 (1.18mm)	1.5	%	
	#30 (.6mm)	1.4	%	
	#50 (.3mm)	1.4	%	
	#100 (.15mm)	1.3	%	
	#200 (75µm)	1.1	%	
	Wash Loss (#200/75um)	0.9	%	0-2
	Total Moisture	3.0	%	