

# Aggregate Optimization Chart

## Production Gradation Report

**PLANT #:** P-32

**Sample Date:** 1/30/23

**Dates Test Represents:** 1/31/2023 through 2/6/2023

**Concrete Grade:** DM, 4500HP

**Contractor:**

**MDOT No.:**

Agg. Class	Pit #	Source	Weight (ssd)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1555	9.51	2.62	53.5
26A	71-47	Presque Isle	200	1.22	2.62	6.9
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6
<b>Total Wt</b>			<b>2905</b>	<b>17.69</b>		<b>100.0</b>

Verify this number is 100%

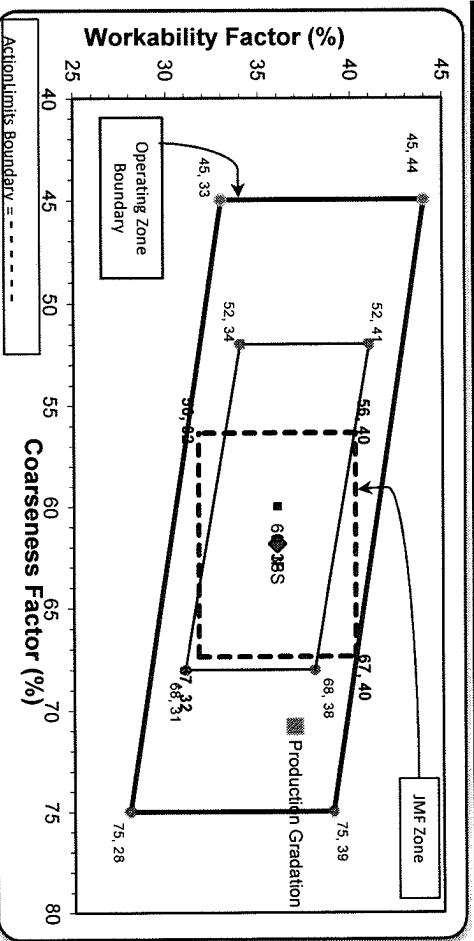
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	97.1	100.0	100.0	98.4	1.6	1.6
3/4"	74.0	100.0	100.0	86.1	12.4	13.9
1/2"	32.8	97.4	100.0	63.8	22.2	36.2
3/8"	15.2	85.0	100.0	53.6	10.3	46.4
#4	2.6	20.0	96.1	40.8	12.8	59.2
#8	1.9	5.5	83.4	34.4	6.4	65.6
#16	1.7	3.0	68.1	28.1	6.3	71.9
#30	1.6	2.6	49.4	20.6	7.5	79.4
#50	1.5	2.3	24.2	10.5	10.1	89.5
#100	1.4	2.2	6.5	3.5	7.1	96.5
LBW	1.1	1.9	1.1	1.2	2.3	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:** 71 **Workability Factor:** 34 **Adjusted WF:** 36.9

**Initial 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** 1054-6AA LS PI  
**Period:** 01/29/2023 - 02/04/2023

**Name/Title** Doug Storey / QC Technician  
**Report Date** 02/03/2023

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	97.1	%	95-100
	3/4" (19mm)	74.0	%	
	1/2" (12.5mm)	32.8	%	30-60
	3/8" (9.5mm)	15.2	%	
	#4 (4.75mm)	2.6	%	0-8
	#8 (2.36mm)	1.9	%	
	#16 (1.18mm)	1.7	%	
	#30 (.6mm)	1.6	%	
	#50 (.3mm)	1.5	%	
	#100 (.15mm)	1.4	%	
	#200 (75µm)	1.2	%	
	Wash Loss (#200/75um)	1.1	%	0-2
	Total Moisture	2.7	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 01/29/2023 - 02/04/2023

Report Date 02/03/2023

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)	97.4	%	95-100
	3/8" (9.5mm)	85.0	%	60-95
	#4 (4.75mm)	20.0	%	5-30
	#8 (2.36mm)	5.5	%	0-12
	#16 (1.18mm)	3.0	%	
	#30 (.6mm)	2.6	%	
	#50 (.3mm)	2.3	%	
	#100 (.15mm)	2.2	%	
	#200 (75µm)	2.0	%	
	Wash Loss (#200/75um)	1.9	%	0-3
	Total Moisture	3.9	%	

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 01/29/2023 - 02/04/2023

Report Date 02/03/2023

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.1	%	95-100
	#8 (2.36mm)	83.4	%	65-95
	#16 (1.18mm)	68.1	%	35-75
	#30 (.6mm)	49.4	%	20-55
	#50 (.3mm)	24.2	%	10-30
	#100 (.15mm)	6.5	%	0-10
	#200 (75µm)	1.3	%	
	FM	2.72		2.6-3
	Wash Loss (#200/75um)	1.1	%	0-3
	Total Moisture	5.2	%	