

# Aggregate Optimization Chart

# Production Gradation Report

**PLANT #:** P-32

Sample Date: 5/29/23

Dates Test Represents: 5/30/2023 through 6/5/2023

Concrete Grade: S2M, 3500HP

Contractor: \_\_\_\_\_

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1520	9.30	2.62	49.8
26A	71-47	Presque Isle	300	1.83	2.62	9.8
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3
<b>Total Wt</b>			<b>3050</b>	<b>18.57</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"	98.5	100.0	100.0	99.3	0.7	0.7
3/4"	84.6	100.0	100.0	92.3	6.9	7.7
1/2"	49.1	96.2	100.0	74.3	18.1	25.7
3/8"	30.3	85.8	100.0	63.9	10.4	36.1
#4	5.4	20.3	96.5	43.6	20.3	56.4
#8	2.8	5.3	84.4	36.0	7.7	64.0
#16	2.4	2.5	69.2	29.3	6.6	70.7
#30	2.3	1.9	49.3	21.2	8.1	78.8
#50	2.3	1.7	23.7	10.9	10.3	89.1
#100	2.1	1.6	7.0	4.0	6.8	96.0
LBW	1.8	1.4	1.4	1.6	2.4	98.4

\*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.



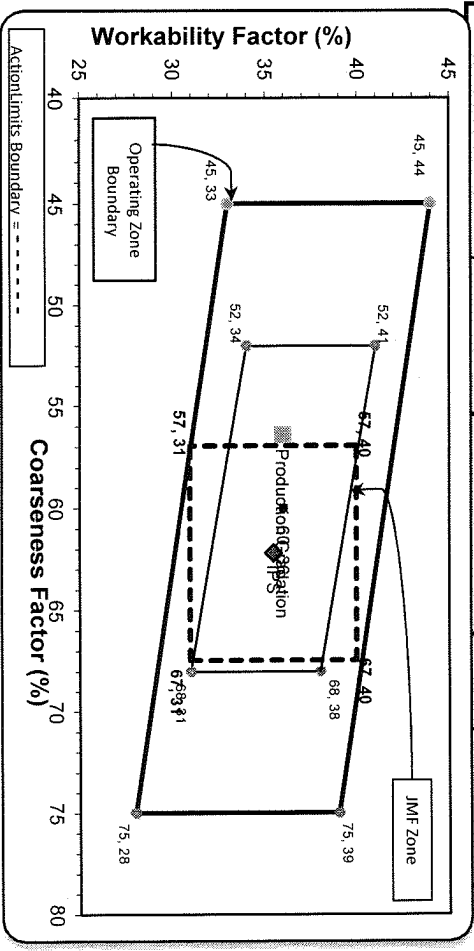
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Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Coarseness Factor: 56 Workability Factor: 36

Initial Production Sample (IPS)

Coarseness Factor: 62 Workability Factor: 35



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"	94.0	6.0	6.0
1/2"	70.2	23.7	29.8
3/8"	59.9	10.4	40.1
#4	42.7	17.2	57.3
#8	35.5	7.2	64.5
#16	28.4	7.0	71.6
#30	19.2	9.2	80.8
#50	8.9	10.3	91.1
#100	3.1	5.9	96.9
LBW	1.4	1.7	98.6

PREPARED BY:  
 SM, LLC Technical Service

Approved By: \_\_\_\_\_

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 05/28/2023 - 06/03/2023

Report Date 06/02/2023

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	98.5	%	95-100
	3/4" (19mm)	84.6	%	
	1/2" (12.5mm)	49.1	%	30-60
	3/8" (9.5mm)	30.3	%	
	#4 (4.75mm)	5.4	%	0-8
	#8 (2.36mm)	2.8	%	
	#16 (1.18mm)	2.4	%	
	#30 (.6mm)	2.3	%	
	#50 (.3mm)	2.3	%	
	#100 (.15mm)	2.1	%	
	#200 (75µm)	1.9	%	
	Wash Loss (#200/75um)	1.8	%	0-2
	Total Moisture	2.8	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 05/28/2023 - 06/03/2023

Report Date 06/02/2023

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)	96.2	%	95-100
	3/8" (9.5mm)	85.8	%	60-95
	#4 (4.75mm)	20.3	%	5-30
	#8 (2.36mm)	5.3	%	0-12
	#16 (1.18mm)	2.5	%	
	#30 (.6mm)	1.9	%	
	#50 (.3mm)	1.7	%	
	#100 (.15mm)	1.6	%	
	#200 (75µm)	1.5	%	
	Wash Loss (#200/75um)	1.4	%	0-3
	Total Moisture	2.1	%	

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 05/28/2023 - 06/03/2023

Report Date 06/02/2023

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.5	%	95-100
	#8 (2.36mm)	84.4	%	65-95
	#16 (1.18mm)	69.2	%	35-75
	#30 (.6mm)	49.3	%	20-55
	#50 (.3mm)	23.7	%	10-30
	#100 (.15mm)	7.0	%	0-10
	#200 (75µm)	1.7	%	
	FM	2.70		2.6-3
	Wash Loss (#200/75um)	1.4	%	0-3
	Total Moisture	3.9	%	