

# Aggregate Optimization Chart

# Production Gradation Report

PLANT #: **P-32**

Sample Date: 10/18/21

Dates Test Represents: 10/19/2021 through 10/25/2021

Concrete Grade: **S2M**

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

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1500	9.17	2.62	49.2
26A	71-47	Presque Isle	320	1.96	2.62	10.5
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>

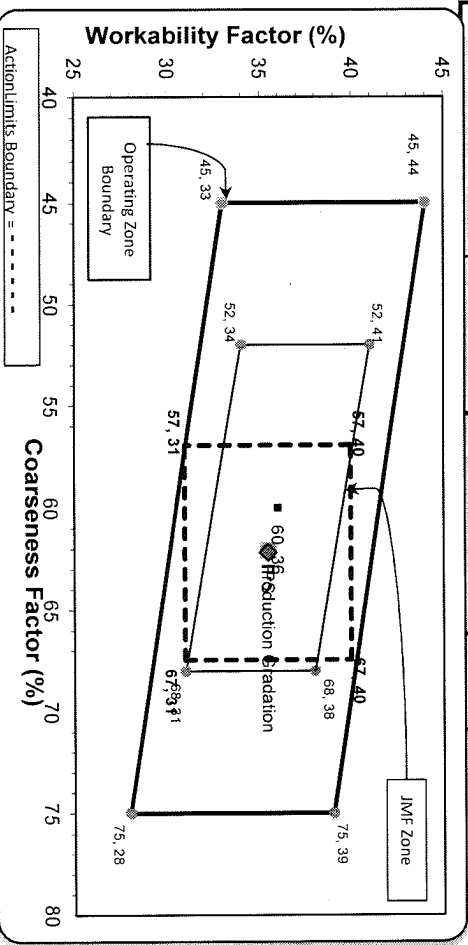
Verify this number is 100%

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"	79.2	100.0	100.0	89.8	9.5	10.2
1/2"	36.1	97.1	100.0	68.3	21.5	31.7
3/8"	21.9	84.5	100.0	60.0	8.3	40.0
#4	4.5	14.9	96.3	42.6	17.4	57.4
#8	2.5	3.6	84.0	35.5	7.1	64.5
#16	2.2	2.1	67.7	28.6	6.9	71.4
#30	2.1	1.8	47.1	20.2	8.4	79.8
#50	2.0	1.7	21.5	9.8	10.4	90.2
#100	1.8	1.5	6.6	3.7	6.1	96.3
LBW	1.3	1.4	1.4	1.4	2.4	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: **62** Workability Factor: **35**



Initial Production Sample (IPS)

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 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 10/17/2021 - 10/23/2021

Report Date 10/22/2021

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.3	%	95-100
	#8 (2.36mm)	84.0	%	65-95
	#16 (1.18mm)	67.7	%	35-75
	#30 (.6mm)	47.1	%	20-55
	#50 (.3mm)	21.5	%	10-30
	#100 (.15mm)	6.6	%	0-10
	#200 (75µm)	1.7	%	
	FM	2.77		2.6-3
	Wash Loss (#200/75um)	1.4	%	0-3
	Total Moisture	4.4	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 10/17/2021 - 10/23/2021

Report Date 10/22/2021

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)	97.1	%	95-100
	3/8" (9.5mm)	84.5	%	60-95
	#4 (4.75mm)	14.9	%	5-30
	#8 (2.36mm)	3.6	%	0-12
	#16 (1.18mm)	2.1	%	
	#30 (.6mm)	1.8	%	
	#50 (.3mm)	1.7	%	
	#100 (.15mm)	1.5	%	
	#200 (75µm)	1.4	%	
	Wash Loss (#200/75µm)	1.4	%	0-3
	Total Moisture	3.8	%	

Plant 958-JMT

Product 1054-6AA LS PI

Period: 10/17/2021 - 10/23/2021

Name/Title Doug Storey / QC Technician

Report Date 10/22/2021

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	98.5	%	95-100
	3/4" (19mm)	79.2	%	
	1/2" (12.5mm)	36.1	%	30-60
	3/8" (9.5mm)	21.9	%	
	#4 (4.75mm)	4.5	%	0-8
	#8 (2.36mm)	2.5	%	
	#16 (1.18mm)	2.2	%	
	#30 (.6mm)	2.1	%	
	#50 (.3mm)	2.0	%	
	#100 (.15mm)	1.8	%	
	#200 (75µm)	1.5	%	
	Wash Loss (#200/75um)	1.3	%	0-2
	Total Moisture	2.9	%	