

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-32**

Sample Date: **8/16/21**

Dates Test Represents: **8/17/2021** through **8/23/2021**

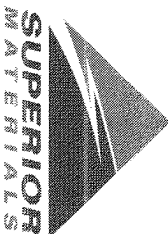
Concrete Grade: **S2M**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1600	9.79	2.62	52.5
26A	71-47	Presque Isle	220	1.35	2.62	7.2
ZNS	95-013	Smelter Bay	1230	7.44	2.65	40.3
Total Wt			3050	18.57		100.0

Sieve	6AA	26A	ZNS	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"	97.6	100.0	100.0	98.7	1.3	1.3
3/4"	82.1	100.0	100.0	90.6	8.1	9.4
1/2"	45.2	96.2	100.0	71.0	19.6	29.0
3/8"	25.8	85.8	100.0	60.1	10.9	39.9
#4	5.2	15.1	97.2	43.0	17.0	57.0
#8	2.4	6.6	82.3	34.9	8.1	65.1
#16	1.9	3.3	67.0	28.3	6.7	71.7
#30	1.7	2.5	48.4	20.6	7.7	79.4
#50	1.6	2.4	25.2	11.2	9.4	88.8
#100	1.5	2.2	5.2	3.0	8.1	97.0
LBW	1.1	1.6	0.9	1.1	2.0	98.9

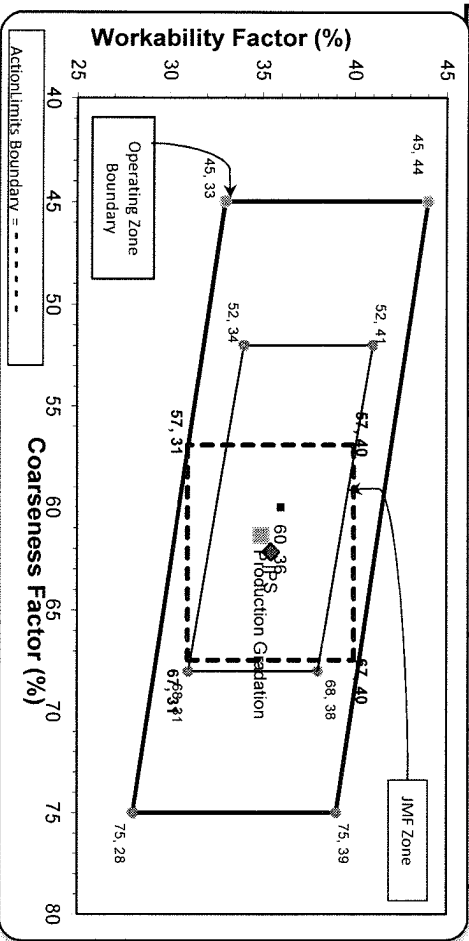


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*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max.
 nom. max.: #100 and #200 sieves.
 **Retained must be at least 4% for each sieve except max.
 nom. max.: #100 and #200 sieves.
 ***Retained must 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: **61** 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: 08/15/2021 - 08/21/2021

Report Date 08/21/2021

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	97.2	%	95-100
	#8 (2.36mm)	82.3	%	65-95
	#16 (1.18mm)	67.0	%	35-75
	#30 (.6mm)	48.4	%	20-55
	#50 (.3mm)	25.2	%	10-30
	#100 (.15mm)	5.2	%	0-10
	#200 (75µm)	1.2	%	
	FM	2.75		2.6-3
	Wash Loss (#200/75um)	0.9	%	0-3
	Total Moisture	4.0	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 08/15/2021 - 08/21/2021

Report Date 08/21/2021

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)	96.2	%	95-100
	3/8" (9.5mm)	85.8	%	60-95
	#4 (4.75mm)	15.1	%	5-30
	#8 (2.36mm)	6.6	%	0-12
	#16 (1.18mm)	3.3	%	
	#30 (.6mm)	2.5	%	
	#50 (.3mm)	2.4	%	
	#100 (.15mm)	2.2	%	
	#200 (75µm)	1.9	%	
	Wash Loss (#200/75um)	1.6	%	0-3
	Total Moisture	2.7	%	

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 08/15/2021 - 08/21/2021

Report Date 08/21/2021

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	97.6	%	95-100
	3/4" (19mm)	82.1	%	
	1/2" (12.5mm)	45.2	%	30-60
	3/8" (9.5mm)	25.8	%	
	#4 (4.75mm)	5.2	%	0-8
	#8 (2.36mm)	2.4	%	
	#16 (1.18mm)	1.9	%	
	#30 (.6mm)	1.7	%	
	#50 (.3mm)	1.6	%	
	#100 (.15mm)	1.5	%	
	#200 (75µm)	1.3	%	
	Wash Loss (#200/75um)	1.1	%	0-2
	Total Moisture	1.2	%	