

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-32

Sample Date: 6/20/22

Dates Test Represents: 6/21/2022 through 6/27/2022

Concrete Grade: P1M, 3500HP

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	850	5.20	2.62	27.7
IA	71-47	Presque Isle	970	5.93	2.62	31.6
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
		Total Wt	3070			100.0

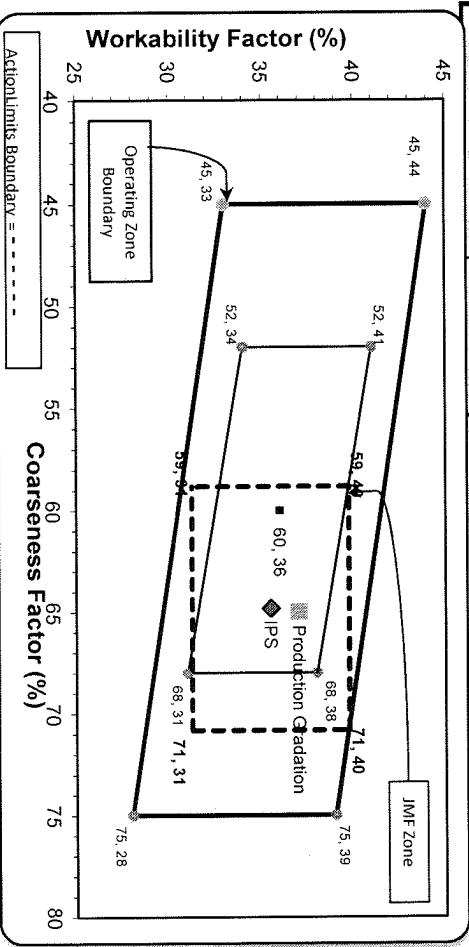
<----- Verify this number is 100%

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.3	100.0	100.0	99.5	0.5	0.5
1"	47.3	100.0	100.0	85.4	14.1	14.6
3/4"	15.5	98.2	100.0	76.0	9.4	24.0
1/2"	5.2	77.8	100.0	66.7	9.3	33.3
3/8"	3.9	54.7	100.0	59.1	7.7	40.9
#4	2.8	14.2	96.7	44.6	14.4	55.4
#8	2.5	6.1	84.5	37.0	7.6	63.0
#16	2.3	4.1	69.5	30.2	6.8	69.8
#30	2.2	3.5	49.8	22.0	8.2	78.0
#50	2.1	3.1	24.3	11.5	10.5	88.5
#100	2.0	2.8	6.7	4.2	7.3	95.8
LBW	1.5	2.3	1.1	1.6	2.6	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.

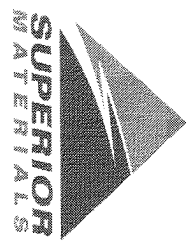
Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 65 Workability Factor: 37



Initial Production Sample (IPS)

Sieve	% Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0



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PREPARED BY:
 SM, LLC Technical Service

Approved By: _____

Plant 958-JMT
 Product 1022-2NS GR - Smelter Bay
 Period: 06/19/2022 - 06/25/2022

Name/Title Doug Storey / QC Technician
 Report Date 06/24/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.7	%	95-100
	#8 (2.36mm)	84.5	%	65-95
	#16 (1.18mm)	69.5	%	35-75
	#30 (.6mm)	49.8	%	20-55
	#50 (.3mm)	24.3	%	10-30
	#100 (.15mm)	6.7	%	0-10
	#200 (75µm)	1.5	%	
	FM	2.69		2.6-3
	Wash Loss (#200/75um)	1.1	%	0-3
	Total Moisture	4.7	%	

Plant 958-JMT
 Product 7920-INTERMED AGG P1M LS PI Name/Title Doug Storey / QC Technician
 Period: 06/19/2022 - 06/25/2022 Report Date 06/24/2022

Procedure	Sieve/Test	Result	Unit	Intermed Agg P1M LS PI Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	98.2	%	
	1/2" (12.5mm)	77.8	%	
	3/8" (9.5mm)	54.7	%	
	#4 (4.75mm)	14.2	%	
	#8 (2.36mm)	6.1	%	
	#16 (1.18mm)	4.1	%	
	#30 (.6mm)	3.5	%	
	#50 (.3mm)	3.1	%	
	#100 (.15mm)	2.8	%	
	#200 (75µm)	2.5	%	
	Wash Loss (#200/75um)	2.3	%	0-3
	Total Moisture	3.5	%	

Plant 958-JMT
Product 7919-COARSE AGG P1M LS PI
Period: 06/19/2022 - 06/25/2022

Name/Title Doug Storey / QC Technician
Report Date 06/24/2022

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS PI Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	98.3	%	
	1" (25mm)	47.3	%	
	3/4" (19mm)	15.5	%	
	1/2" (12.5mm)	5.2	%	
	3/8" (9.5mm)	3.9	%	
	#4 (4.75mm)	2.8	%	
	#8 (2.36mm)	2.5	%	
	#16 (1.18mm)	2.3	%	
	#30 (.6mm)	2.2	%	
	#50 (.3mm)	2.1	%	
	#100 (.15mm)	2.0	%	
	#200 (75µm)	1.7	%	
	Wash Loss (#200/75um)	1.5	%	0-2
	Total Moisture	1.5	%	