

# Aggregate Optimization Chart

# Production Gradation Report

PLANT #: **P11**

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

Sample Date: **4/22/24**

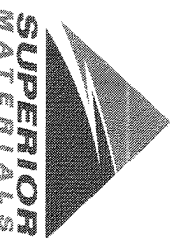
Concrete Grade: **P1M, 3500HP**

Dates Test Represents: **4/23/2024** through **4/29/2024**

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	Contribution %
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	920	5.63	2.62	30.0
N2S	95-013	Smelter Bay	1200	7.26	2.65	39.1
<b>Total Wt</b>			<b>3070</b>	<b>18.70</b>		<b>100.0</b>

Sieve	% Retained	Cumulative % Retained
2"	0.0	0.0
1.5"	0.5	0.5
1"	18.9	19.4
3/4"	9.0	28.3
1/2"	10.1	38.5
3/8"	7.6	46.1
#4	12.0	58.1
#8	6.8	64.9
#16	6.1	71.0
#30	7.8	78.8
#50	10.4	89.3
#100	6.5	95.8
LBW	2.4	98.1



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Sieve	CA	IA	N2S	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.5	100.0	100.0	99.5	0.5	0.5
1"	37.4	100.0	100.0	80.6	18.9	19.4
3/4"	11.4	96.9	100.0	71.7	9.0	28.3
1/2"	3.7	71.0	100.0	61.5	10.1	38.5
3/8"	3.0	46.3	100.0	53.9	7.6	46.1
#4	2.8	11.1	96.5	41.9	12.0	58.1
#8	2.7	4.9	83.9	35.1	6.8	64.9
#16	2.6	3.7	69.3	29.0	6.1	71.0
#30	2.5	3.4	49.6	21.2	7.8	78.8
#50	2.4	3.2	23.1	10.7	10.4	89.3
#100	2.2	3.0	6.8	4.2	6.5	95.8
LBW	1.8	2.6	1.4	1.9	2.4	98.1

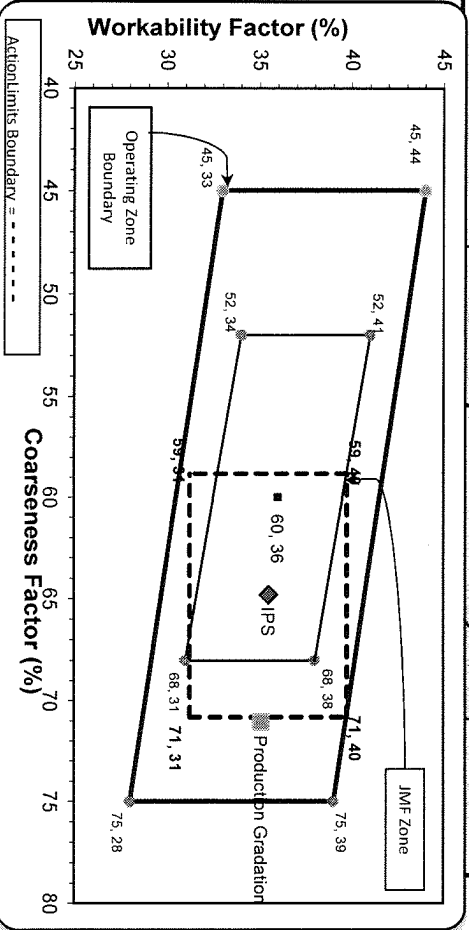
\*Maximum % Retained must be above the 3/8" sieve.  
\*Any two adjacent sieves must equal 10% except max.  
nom. max., #100 and #200 sieves.  
\*% Retained must be at least 4% for each sieve except max.  
nom. max., #100 and #200 sieves.  
\*% Retained must be at least 6% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Initial Production Sample (IPS)

Coarseness Factor: **71** Workability Factor: **35**

Coarseness Factor: **65** Workability Factor: **36**



Sieve	Cumulative % 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

PREPARED BY:  
SM, LLC Technical Service

Approved By:



# Product Quality Summary Report

Period 04/21/2024 - 04/27/2024

	Plant	S11	S11	S11	S11	S11
	On. Jefferson	On. Jefferson	On. Jefferson	On. Jefferson	On. Jefferson	On. Jefferson
Product	1022 2NS GR	1054 6AA LS PI	1067 26A Mod LS	7919 COARSE AGG P1M LS	7920 INTERMED AGG P1M LS	
Specification	2NS GR Spec	6AA LS	26A Mod LS Spec	Coarse Agg P1M LS Target	Intermed Agg P1M LS Target	
2" (50mm)		100.0	100.0	100.0	100.0	
1 1/2" (37.5mm)		100.0	100.0	98.5	100.0	
1" (25mm)		97.6	100.0	37.4	100.0	
3/4" (19mm)		80.8	100.0	11.4	96.9	
1/2" (12.5mm)		43.1	95.2	3.7	71.0	
3/8" (9.5mm)	100.0	28.1	84.6	3.0	46.3	
#4 (4.75mm)	96.5	6.5	20.4	2.8	11.1	
#8 (2.36mm)	83.9	3.3	5.4	2.7	4.9	
#16 (1.18mm)	69.3	2.8	3.2	2.6	3.7	
#30 (.6mm)	49.6	2.7	2.7	2.5	3.4	
#50 (.3mm)	23.1	2.6	2.4	2.4	3.2	
#100 (.15mm)	6.8	2.4	2.3	2.2	3.0	
#200 (75µm)	1.7	2.21	2.1	2.0	2.7	
Pan	0.0	0.00	0.0	0.0	0.0	
FM	2.71					
Wash Loss (#200/75um)	1.4	2.0	2.1	1.8	2.6	
Total Moisture	4.40	2.37	2.35	1.21	2.81	