

# Cement Mill Test Report

Month of Issue: March 2024

Plant: **Richmond, British Columbia**  
 Product: **Portland Cement Type GUL / MSL**  
 Mill Test Report #: **R-GUL-24-03**  
 Manufactured: **February 2024**

## CSA A3000:23 Standard Requirements

CHEMICAL ANALYSIS			PHYSICAL ANALYSIS		
Item	Spec limit	Test Result	Item	Spec limit	Test Result
Rapid Method, X-Ray			Air content of mortar (%) (C 185)	---	5.7
SiO <sub>2</sub> (%)	---	18.5	Blaine Fineness (m <sup>2</sup> /kg)	---	462
Al <sub>2</sub> O <sub>3</sub> (%)	---	4.5	Passing 45 um (%)	72 min	99.0
Fe <sub>2</sub> O <sub>3</sub> (%)	---	3.0	Compressive strength (MPa)		
CaO (%)	---	62.8	3 days	14.5 min	30.8
MgO (%)	---	1.1	7 days	20.0 min	38.0
SO <sub>3</sub> (%)	3.0 max*	2.7	28 days (Reflects previous month's data)	26.5 min	45.5
Loss on ignition @ 950 (%)	10.0 max	6.8	Time of setting (minutes)		
Insoluble residue (%)	---	0.41	Vicat Initial	45-375	110
Free Lime (%)	---	0.7	Sulphate Resistance (C6)	0.05	0.04
Inorganic Process Addition (%)		3	Colour (L*)	---	65
Potential Phase Composition*			Cement Density		3.09
C3S (%)	---	73			
C2S (%)	---	21			
C3A (%)	---	7			
C4AF (%)	---	9			
CSA A3000:23 Optional Chemical Requirements:					
NaEq (Alkali) (%)		0.45			

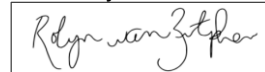
\*Corrected by using ASTM Calculation for Limestone Cement

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirements of applicable specifications for Type GUL / MSL  
 CSA A3000:23 STANDARD SPECIFICATIONS FOR TYPE GUL / MSL CEMENT;  
 Cement complies with NSF 61

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Certified By:



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 3/14/2024