

MILL TEST REPORT

Cement Type: **CSA Type GUL**
Low Alkali Portland Limestone Cement

Plant: **Delta, BC**

Certificate No.: D1L-04 R

Production Period:	Apr 01 2011 Apr 30 2011	Test Result	CSA A3001 Specification
SiO2 (%)	CSA A3003	19.2	-
Al2O3 (%)	CSA A3003	4.44	-
Fe2O3 (%)	CSA A3003	3.49	-
CaO (%)	CSA A3003	65.0	-
MgO (%)	CSA A3003	0.79	-
SO3 (%)	CSA A3003	2.87	max. 3.0
Na2O (%)	CSA A3003	0.29	-
K2O (%)	CSA A3003	0.32	-
TiO2 (%)	CSA A3003	0.24	-
Equivalent Alkalies (%)	ASTM C150	0.50	max. 0.60
Loss on Ignition (%)	CSA A3003	4.87	max. 10.0
Free Calcium Oxide (%)	CSA A3003	0.36	
Vicat Setting Time			
Initial (minutes)	CSA A3004-B2	99	min. 45 max. 375
Final (minutes)	CSA A3004-B2	203	-
Blaine Fineness (m2/kg)	ASTM C204	486	-
+325 mesh	CSA A3004-A3	1.03	max. 28
Air Content (%)	CSA A3004-C4	7.12	-
Autoclave Expansion (%)	CSA A3004-B5	-0.04	max. 1.0
Compressive Strength		MPa / psi	
3 Day	CSA A3004-C2	35.8 / 5191	min. 14.5
7 Day	CSA A3004-C2	38.7 / 5612	min. 20.0
28 Day	CSA A3004-C2	43.3 / 6279	min. 26.5

This will certify that the above described cement meets the standard chemical and physical requirements of CSA Specification A3001-08 for Type GUL Portland Limestone Cement.

Eileen M. Jang
 Quality Control Manager / Mill Engineer



June 15, 2011

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