

**MILL TEST REPORT**

Cement Type: **CSA Type GU**  
**Low Alkali Portland Cement**

Plant: **Delta, BC**

<b>Certificate #:</b>	<b>D1-371</b>
-----------------------	---------------

Production Period:	Mar 01 2009 Mar 31 2009	Test Result	CSA A3001 Specification
SiO2 (%)	CSA A3003	20.0	-
Al2O3 (%)	CSA A3003	5.14	-
Fe2O3 (%)	CSA A3003	3.73	-
CaO (%)	CSA A3003	64.8	-
MgO (%)	CSA A3003	0.91	max. 5.0
SO3 (%)	CSA A3003	2.82	max. 3.0
Na2O (%)	CSA A3003	0.30	-
K2O (%)	CSA A3003	0.35	-
TiO2 (%)	CSA A3003	0.26	-
C3S (%)	ASTM C150	63	-
C2S (%)	ASTM C150	10	-
C3A (%)	CSA A3003	7.3	-
C4AF (%)	ASTM C150	11.4	-
Equivalent Alkalies (%)	ASTM C150	0.53	-
Loss on Ignition (%)	CSA A3003	2.4	max. 3.0
Insoluble Residue (%)	CSA A3003	0.25	max. 1.5
Free Calcium Oxide (%)	CSA A3003	0.32	-
Vicat Setting Time			
Initial (minutes)	CSA A3004-B2	120	min. 45 max. 360
Final (minutes)	CSA A3004-B2	227	-
Blaine Fineness (m2/kg)	ASTM C204	387	-
+325 mesh	CSA A3004-A3	1.3	max. 28
Air Content (%)	CSA A3004-C4	6.57	-
Autoclave Expansion (%)	CSA A3004-B5	0.00	max. 1.0
Compressive Strength		MPa / psi	
3 Day	CSA A3004-C2	28.0 / 4056	min. 14.5
7 Day	CSA A3004-C2	35.9 / 5207	min. 20.0
28 Day (previous month)	CSA A3004-C2	44.4 / 6443	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 GU Portland Cement.

