

MILL TEST REPORT

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

Plant: **Delta, BC**

Certificate #:	D1-378
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Production Period:	Oct 01 2009 Oct 31 2009	Test Result	CSA A3001 Specification
SiO2 (%)	CSA A3003	19.8	-
Al2O3 (%)	CSA A3003	5.10	-
Fe2O3 (%)	CSA A3003	3.67	-
CaO (%)	CSA A3003	64.9	-
MgO (%)	CSA A3003	0.88	max. 5.0
SO3 (%)	CSA A3003	2.78	max. 3.0
Na2O (%)	CSA A3003	0.35	-
K2O (%)	CSA A3003	0.38	-
TiO2 (%)	CSA A3003	0.24	-
C3S (%)	ASTM C150	66	-
C2S (%)	ASTM C150	7	-
C3A (%)	CSA A3003	7.3	-
C4AF (%)	ASTM C150	11.2	-
Equivalent Alkalies (%)	ASTM C150	0.60	-
Loss on Ignition (%)	CSA A3003	2.6	max. 3.0
Insoluble Residue (%)	CSA A3003	0.20	max. 1.5
Free Calcium Oxide (%)	CSA A3003	0.62	-
Vicat Setting Time			
Initial (minutes)	CSA A3004-B2	99	min. 45 max. 375
Final (minutes)	CSA A3004-B2	202	-
Blaine Fineness (m2/kg)	ASTM C204	400	-
+325 mesh	CSA A3004-A3	1.3	max. 28
Air Content (%)	CSA A3004-C4	6.70	-
Autoclave Expansion (%)	CSA A3004-B5	0.00	max. 1.0
Compressive Strength		MPa / psi	
3 Day	CSA A3004-C2	31.6 / 4575	min. 14.5
7 Day	CSA A3004-C2	38.4 / 5572	min. 20.0
28 Day (previous month)	CSA A3004-C2	42.4 / 6155	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.