

MILL TEST REPORT

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

Plant: **Delta, BC**

Certificate #: D1-377

Production Period:	Sep 01 2009 Sep 30 2009	Test Result	CSA A3001 Specification
SiO2 (%)	CSA A3003	19.9	-
Al2O3 (%)	CSA A3003	5.07	-
Fe2O3 (%)	CSA A3003	3.63	-
CaO (%)	CSA A3003	64.9	-
MgO (%)	CSA A3003	0.90	max. 5.0
SO3 (%)	CSA A3003	2.80	max. 3.0
Na2O (%)	CSA A3003	0.31	-
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	11.1	-
Equivalent Alkalies (%)	ASTM C150	0.57	-
Loss on Ignition (%)	CSA A3003	2.6	max. 3.0
Insoluble Residue (%)	CSA A3003	0.21	max. 1.5
Free Calcium Oxide (%)	CSA A3003	0.38	-
Vicat Setting Time			
Initial (minutes)	CSA A3004-B2	101	min. 45 max. 375
Final (minutes)	CSA A3004-B2	205	-
Blaine Fineness (m2/kg)	ASTM C204	394	-
+325 mesh	CSA A3004-A3	1.5	max. 28
Air Content (%)	CSA A3004-C4	6.82	-
Autoclave Expansion (%)	CSA A3004-B5	-0.01	max. 1.0
Compressive Strength		MPa / psi	
3 Day	CSA A3004-C2	29.0 / 4206	min. 14.5
7 Day	CSA A3004-C2	35.1 / 5092	min. 20.0
28 Day (previous month)	CSA A3004-C2	39.5 / 5729	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.