



TYPE II

Premium Portland Cement

Customer: Export Manager
Vessel: Southern Lily 2
Voyage Number: 283
Code Number: 111012-498-ASTM Type II

	Test Result		Requirements	
			Type GP NZS 3122:2009	Type II ASTM C150/C 150M - 09
<u>Compressive Strengths</u>				
ISO-CEN Prism	3 Days	30.3 MPa		-
	7 Days	41.8 MPa	35 MPa (min)	-
	28 Days	62.8 MPa	45 MPa (min)	-
<u>Physical Properties</u>				
Setting Time Initial		120 minutes	45 minutes (min)	45 minutes (min)
Setting Time Final		3:30 hours	6 hours (max)	06:15 hours (max)
Specific Surface		325 m2/Kg		260 m2/kg (min)
<u>Chemical Properties</u>				
Insoluble Residue (IR) (Typical)		0.30 %	-	0.75 (max)
SiO2		21.04 %	-	20.0 (min)
Al2O3		3.72 %	-	6.0 (max)
Fe2O3		2.26 %	-	6.0 (max)
CaO		64.33 %		
Magnesia (MgO)		1.00 %	-	6.0 (max)
Sulphur Trioxide (SO3)		1.98 %	3.5 (max)	3.0 (max)
Ignition Loss (LOI)		3.09 %	-	3.0 (max)
Na2O (Sodium)		0.24 %	-	-
K2O (Potassium)		0.47 %	-	-
Soda Equivalent (Na2O + 0.658 K2O)		0.55 %	-	-
Freelime CaO (Typical)		1.50 %	-	-
<u>Potential Compounds</u>				
Tricalcium Silicate (C3S)		68.1 %	-	-
Dicalcium Silicate (C2S)		8.9 %	-	-
Tricalcium Aluminate (C3A)		6.0 %	-	8.0 (max)
Tetracalcium Alumino Ferrite (C4AF)		6.9 %	-	-

Note: this product contains 5% limestone

Note: No adjustment has been made to the Potential Compounds for the presence of mineral additions.

The above sample was tested as received in accordance with the current terms of registration and methods stated in NZS 3122:2009 with the exception of;

- Chemical Analysis to ASTM C114-10

THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL

Jim White
 Quality System Co-ordinator

1/11/2011