



Certificate of Test

Portland Cement
A.S.T.M. C 150 Designation: Type I/II

Lot # 336-365
Date 1/19/12

Chemical Analysis(%)-A.S.T.M. C 114 Physical Tests

SiO ₂	21.7
Al ₂ O ₃	4.0
Fe ₂ O ₃	3.3
MgO	1.0
*SO ₃	3.2
L.O.I.	2.0
Insol. Residue	0.59

Blaine Specific Surface - A.S.T.M. C 204	3980	cm ² /g
Air Content - A.S.T.M. C 185	7.0	vol. %
Autoclave Expansion - A.S.T.M. C 151	-.020	%
Vicat Time of Set - A.S.T.M. C 191		
Initial Set	120	minutes
Final Set	230	minutes
Compressive Strength - A.S.T.M. C 109		
3 Day	4210	psi
7 Day	5010	psi

Compound Composition - A.S.T.M. C 150

C ₃ A	4.5
Alkalies (Na ₂ O + 0.658*K ₂ O)	0.49

This cement has been sampled and tested in accordance with A.S.T.M. standard methods and procedures. Cement analysis are reported as oxides, in accordance with ASTM Test Method C114. Silicon dioxide (SiO₂) is present in the combined state as the compounds tricalcium silicate and dicalcium silicate, and not as crystalline silica. This cement contains processing additions which meet the requirements of ASTM C465. Compliance documents for these processing additions are available upon request. This cement is manufactured at our Laramie, Wyoming facility. All test results are certified to comply with the type specification designated. We are not responsible for improper use or workmanship.

Randall K Bock

Chief Chemist

* In compliance with footnote D, Table 1, A.S.T.M. Standard Specification C 150 and A.A.S.H.T.O. Standard Specification M 85.

** In compliance with footnote H, Table 1, A.S.T.M. Standard Specification C 150