



FLY ASH TEST REPORT

Sample from : Sundance Harvested Fly Ash
Average Analysis: November 2025
Test Report Number Sundance_HA-12-25_F_CSA

Chemical Analysis

Silicon Dioxide (SiO_2)	59.4 %
Aluminum Oxide (Al_2O_3)	23.3 %
Iron Oxide (Fe_2O_3)	3.5 %
Total (SiO_2) + (Al_2O_3) + (Fe_2O_3)	86.2 %
Sulphur Trioxide (SO_3)	0.2 %
Calcium Oxide (CaO)	8.5 %
Magnesium Oxide	0.8 %
Moisture Content	0.17 %
Loss on Ignition	2.20 %
Total Alkalies as Equivalent Na_2O	2.40 %

Physical Analysis

Fineness Retained on 45 um (No. 325 Sieve)	15.7 %
Fineness Retained on 160 um	0.3
Quality of Air Entrainment	1.0 %
Strength Activity Index with Portland Cement	
% of Control at 28 Days (<i>previous month's result</i>)	80 %
Water Requirement, Percent of Control	90 %
Density	2.31 g/cm ³
Density, Variation from Average	3.80 %
Fineness 45um Sieve, Variation from Average	4.50 %

We hereby certify that the composite fly ash sample above meets the chemical, physical and testing frequency requirements of CAN/CSA A3001 for Type F Fly Ash.

* Tested at CCIL, ASTM C1077 and AASHTO R18 Accredited Laboratory

A handwritten signature in black ink, appearing to read 'Robt S. Shogren'.

Rob Shogren, P.Eng, Ph.D.
Technical Director
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