



## 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 <sub>2</sub> )	<b>59.4</b> %
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	<b>23.3</b> %
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	<b>3.5</b> %
Total (SiO <sub>2</sub> ) + (Al <sub>2</sub> O <sub>3</sub> ) + (Fe <sub>2</sub> O <sub>3</sub> )	<b>86.2</b> %
Sulphur Trioxide (SO <sub>3</sub> )	<b>0.2</b> %
Calcium Oxide (CaO)	<b>8.5</b> %
Magnesium Oxide	<b>0.8</b> %
Moisture Content	<b>0.17</b> %
Loss on Ignition	<b>2.20</b> %
Total Alkalies as Equivalent Na <sub>2</sub> O	<b>2.40</b> %

### Physical Analysis

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

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 that reads "Rob Shogren".

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