

ENX Inc.  
Acheson Terminal  
10798 HWY 60  
Acheson, AB T7X 6N5

Report Date: December 15, 2021  
Project Number: 19-01608-002  
Test No.: 21ENX-12  
Revision: 0

Attention: Mr. Paul Johnson

<b>Test Report Number:</b>	<b>ENX G3-12-21_F_CSA</b>
<b>Year:</b>	<b>2021</b>
<b>Month of Analysis:</b>	<b>December</b>

FLY ASH SOURCE: Genesee Generating Station (G3)      SAMPLED BY: Client  
SAMPLE DATE: November 19, 2021      SAMPLES RECEIVED: November 25, 2021

CHEMICAL ANALYSIS					
TEST DESCRIPTION	TEST RESULTS	UNITS	SPECIFICATION LIMITS		
			TYPE F	TYPE CI	TYPE CH
Silicon Dioxide (SiO <sub>2</sub> )	58.0	%	-	-	-
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	22.2	%	-	-	-
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	4.3	%	-	-	-
Total (SiO <sub>2</sub> ) + (Al <sub>2</sub> O <sub>3</sub> ) + (Fe <sub>2</sub> O <sub>3</sub> )	84.5	%	-	-	-
Sulphur Trioxide (SO <sub>3</sub> )	0.42	%	5.0% (max)	5.0% (max)	5.0% (max)
Calcium Oxide (CaO)	8.0	%	≤ 15%	> 15% - ≤ 20%	> 20%
Magnesium Oxide (MgO)	1.37	%	-	-	-
Moisture Content <sup>(1)</sup>	0.21	%	3.0% (max)	3.0% (max)	3.0% (max)
Loss on Ignition (LOI)	1.70	%	8.0% (max)	6.0% (max)	6.0% (max)
Total Equivalent Alkali Content (Na <sub>2</sub> O <sub>eq</sub> )	3.58	%	-	-	-
Total Available Equivalent Alkali Content (Na <sub>2</sub> O <sub>eq</sub> )	-	%	-	-	-

(1) Optional requirement as per CSA A3001-18 - Table A.3

PHYSICAL ANALYSIS					
TEST DESCRIPTION	TEST RESULTS	UNITS	SPECIFICATION LIMITS		
			TYPE F	TYPE CI	TYPE CH
Fineness Retained on 45µm (No. 325 Sieve)	22.4	%	34% (max)	34% (max)	34% (max)
Quantity of Air Entrainment	1.2	%	-	-	-
Drying Shrinkage (Increase at 28-days)	0.30	%	-	-	-
Strength Activity Index with Portland Cement <sup>(2)</sup>					
% of Control at 7-Days	76	%	-	-	-
% of Control at 28-Days (previous month's result)	81	%	75% (min)	75% (min)	75% (min)
Water Requirement, Percent of Control	97	%	-	-	-
Soundness, Autoclave Expansion	0.01	%	0.8% (max)	0.8% (max)	0.8% (max)
Density	2.15	g/cm <sup>3</sup>	-	-	-

(2) Optional requirement as per CSA A3001-18 - Table A.3

COMMENTS
We hereby certify that the fly ash represented by the above chemical and physical analyses meets the requirements of CSA A3001-18 for Type F. Testing performed by accredited laboratory in accordance with CSA A283-19 and Canadian Council of Independent Laboratories (CCIL) certification requirements.

Report prepared by:

EXL Engineering Inc.



Gene Lecuyer, P. Eng.  
Senior Materials Engineer



Results pertain only to the sample(s) provided and constitutes a testing service only. Engineering interpretation or evaluation of the test results will be provided upon written request only.