

## **FLY ASH TEST REPORT**

CSA A3001-18

 ENX Inc.
 Report Date:
 November 2, 2021

 Acheson Terminal
 Project Number:
 19-01608-002

 10798 HWY 60
 Test No.:
 21ENX-11

 Acheson, AB T7X 6N5
 Revision:
 0

Attention: Mr. Paul Johnson

Test Report Number: ENX G3-11-21\_F\_CSA
Year: 2021
Month of Analysis: November

FLY ASH SOURCE: Genesee Generating Station (G3) SAMPLED BY: Client

SAMPLE DATE: October 13, 2021 SAMPLES RECEIVED: October 22, 2021

CHEMICAL ANALYSIS								
TEST DESCRIPTION	TEST RESULTS	UNITS	SPECIFICATION LIMITS					
			TYPE F	TYPE CI	TYPE CH			
Silicon Dioxide (SiO <sub>2</sub> )	59.4	%	-	-	-			
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	22.3	%	-	-	-			
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	4.2	%	-	-	-			
Total (SiO <sub>2</sub> ) + (Al <sub>2</sub> O <sub>3</sub> ) + (Fe <sub>2</sub> O <sub>3</sub> )	85.9	%	-	-	-			
Sulphur Trioxide (SO <sub>3</sub> )	0.21	%	5.0% (max)	5.0% (max)	5.0% (max)			
Calcium Oxide (CaO)	7.1	%	≤ 15%	> 15% - ≤ 20%	> 20%			
Magnesium Oxide (MgO)	1.34	%	-	-	-			
Moisture Content (1)	0.16	%	3.0% (max)	3.0% (max)	3.0% (max)			
Loss on Ignition (LOI)	1.73	%	8.0% (max)	6.0% (max)	6.0% (max)			
Total Equivalent Alkali Content (Na <sub>2</sub> Oeq)	3.65	%	-	-	-			
Total Available Equivalent Alkali Content (Na <sub>2</sub> Oeq)	-	%	-	-	-			

<sup>(1)</sup> 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)	29.3	%	34% (max)	34% (max)	34% (max)			
Quantity of Air Entrainment	1.0	%	-	-	-			
Drying Shrinkage (Increase at 28-days)	0.01	%	-	-	-			
Strength Activity Index with Portland Cement (2)								
% of Control at 7-Days	82	%	-	-	-			
% of Control at 28-Days (previous month's result)	77	%	75% (min)	75% (min)	75% (min)			
Water Requirement, Percent of Control	96	%	-	-	-			
Soundness, Autoclave Expansion	0.02	%	0.8% (max)	0.8% (max)	0.8% (max)			
Density	2.10	g/cm³	-	-	-			

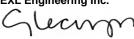
(2) Optional requirement as per CSA A3001-18 - Table A.3

## **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.