

FLY ASH TEST REPORT

CSA A3001-18

ENX Inc. Acheson Terminal 10798 HWY 60 Acheson, AB T7X 6N5 Report Date: **Project Number:** Test No.: Revision:

April

April 8, 2022 22-01608-002 ENX-04-2022 0

Attention: Mr. Paul Johnson

Test Report Number: ENX G3-04-2022_F_CSA Year: 2022 Month of Analysis:

FLY ASH SOURCE: Genesee Generating Station (G3) SAMPLED BY: Client SAMPLE DATE: March 28, 2022 SAMPLES RECEIVED: April 5, 2022

| CHEMICAL ANALYSIS | | | | | | | | |
|---|--------------|-------|----------------------|---------------|------------|--|--|--|
| TEST DESCRIPTION | TEST RESULTS | UNITS | SPECIFICATION LIMITS | | | | | |
| | | | TYPE F | TYPE CI | TYPE CH | | | |
| Silicon Dioxide (SiO ₂) | 59.9 | % | - | - | - | | | |
| Aluminum Oxide (Al ₂ O ₃) | 22.3 | % | - | - | - | | | |
| Iron Oxide (Fe ₂ O ₃) | 3.9 | % | = | - | - | | | |
| Total (SiO ₂) + (Al ₂ O ₃) + (Fe ₂ O ₃) | 86.1 | % | = | - | - | | | |
| Sulphur Trioxide (SO ₃) | 0.15 | % | 5.0% (max) | 5.0% (max) | 5.0% (max) | | | |
| Calcium Oxide (CaO) | 6.2 | % | ≤ 15% | > 15% - ≤ 20% | > 20% | | | |
| Magnesium Oxide (MgO) | 1.30 | % | = | - | - | | | |
| Moisture Content (1) | 0.04 | % | 3.0% (max) | 3.0% (max) | 3.0% (max) | | | |
| Loss on Ignition (LOI) | 1.16 | % | 8.0% (max) | 6.0% (max) | 6.0% (max) | | | |
| Total Equivalent Alkali Content (Na ₂ Oeq) | 3.50 | % | - | - | - | | | |
| Total Available Equivalent Alkali Content (Na ₂ O <i>eq</i>) | - | % | - | - | - | | | |

⁽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) | 25.5 | % | 34% (max) | 34% (max) | 34% (max) | | | |
| Quantity of Air Entrainment | 1.1 | % | - | - | - | | | |
| Drying Shrinkage (Increase at 28-days) | 0.10 | % | - | - | - | | | |
| Strength Activity Index with Portland Cement (2) | | | | | | | | |
| % of Control at 7-Days | 76 | % | - | - | - | | | |
| % of Control at 28-Days (previous month's result) | 85 | % | 75% (min) | 75% (min) | 75% (min) | | | |
| Water Requirement, Percent of Control | 97 | % | - | - | - | | | |
| Soundness, Autoclave Expansion | 0.03 | % | 0.8% (max) | 0.8% (max) | 0.8% (max) | | | |
| Density | 2.09 | 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.