

ASTM C618-25a - Chemical and Physical Analyses - Coal Ash/Pozzolans

CTL Ticket: 26144	Plant of Origin: Bridger	Sample Date Range: 06/15/2026
CTL Project: CT17328	Sample Type: Fly Ash	to: 07/15/2026
Report Date: 09/22/2026	Sample ID: BSL-007-26	Date Received: 07/21/2026
	Supplier: Bridgesource	

Chemical Composition (%) (by Wyoming Analytical Laboratories, Inc.)		ASTM C618-25a		
		<u>Class N</u>	<u>Class F</u>	<u>Class C</u>
Silicon Dioxide:	61.8			
Aluminum Oxide:	14.8			
Iron Oxide:	5.5			
Total Silica, Aluminum, Iron:	82.1	≥70.0%	≥50.0%	≥50.0
Sulfur Trioxide:	1.4	≤4.0%	≤5.0%	≤5.0%
Calcium Oxide:	6.5	N/A	≤18.0%	>18.0%
Magnesium Oxide:	2.46	N/A	N/A	N/A
Total Alkalis, as Na ₂ O:	4.99			
Sodium:	4.00	Product Class:	Class F	
Potassium:	1.50	Conforms to Class:	Yes	

Volatile Composition (Mass%)				
Moisture Content:	0.1	≤3.0%	≤3.0%	≤3.0%
Loss on Ignition:	0.4	≤10.0%	≤6.0%	≤6.0%

Physical Test Results				
Fineness, Retained on #325 Sieve (%):	22.4	≤34%	≤34%	≤34%
Fineness, Retained on #100 Sieve (%)*:			≤10%	≤10%
*(Harvested ash bottom ash blends only)				
Strength Activity Index (%) *		* No 7-day limit if 28-day meets		
Percent of Control @ 7 Days:	70	≥75%	≥75%	≥75%
Percent of Control @ 28 Days:	90	≥75%	≥75%	≥75%
Water Requirement, % of Control:	95	≤115%	≤105%	≤105%
Soundness, Autoclave Expansion (%):	0.01	≤0.8%	≤0.8%	≤0.8%
Density (g/cm ³) :	2.40	N/A	N/A	N/A

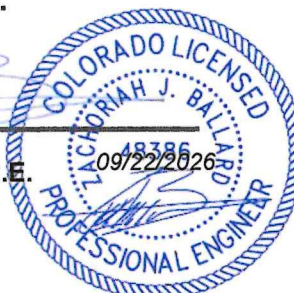
Uniformity Established from 10 previous tests				
Average Fineness:	21.8	Difference 0.6(%)	±5(%)	±5(%)
Average Density:	2.37	Difference 1.25%	±5%	±5%

Supplementary Requirements				
Available Alkalis, as Na ₂ O	2.15%			
Sodium Oxide:	1.84%	Drying Shrinkage %: 0.01	≤0.03	≤0.03
Potassium Oxide:	0.47%			

Comments: Meets ASTM C618-25 and AASHTO M295-25.

CTL | Thompson, Inc.

Zachariah J. Ballard, MCE, P.E.



August 05, 2026

Dennis Jonsrud
CTL Thompson, Materials Engineers, Inc.
22 Lipan St.
Denver, CO 80223

Request #: 46372

Date Received: 7/27/2026

WAL Sample #: U4950

Sample Matrix: fly ash

Customer Sample ID: Bridgesource- BSL 6/15-7/15/26 CT 17328.000 CTL 26144

PO#:

Project#:

CHEMICAL ANALYSIS

WT%, DRY BASIS

Silicon Dioxide, SiO ₂	61.76
Aluminum Oxide, Al ₂ O ₃	14.78
Iron Oxide, Fe ₂ O ₃	5.53
Total (SiO ₂ + Al ₂ O ₃ + Fe ₂ O ₃)	82.07
Calcium Oxide, CaO	6.52
Magnesium Oxide, MgO	2.46
Sodium Oxide, Na ₂ O	4.00
Potassium Oxide, K ₂ O	1.50
Total Alkalies as Na ₂ O	4.99
Titanium Dioxide, TiO ₂	0.81
Manganese Dioxide, MnO ₂	0.07
Phosphorus Pentoxide, P ₂ O ₅	0.11
Strontium Oxide, SrO	0.19
Barium Oxide, BaO	0.51
Sulfur Trioxide, SO ₃	1.37
Loss on Ignition (750°C)	0.38
Total	100.00
Moisture (105°C), as Received	0.07

Analysis per ASTM C 311/XRF
Analyst NHG/ 7/28/2026 11:15


Charles R. Wilson
Mineral Manager

Monte L. Ellis
Laboratory Director



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