

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

CTL Ticket: 25243	Plant of Origin: Ogden Terminal	Sample Date Range: 10/01/2025
CTL Project: CT17328	Sample Type: Fly Ash,	to:
Report Date: 01/09/2026	Sample ID: Ogden Terminal	Date Received: 10/31/2025
	Supplier: Bridgesource	

Chemical Composition (%) (by Wyoming Analytical Laboratories, Inc.)		ASTM C618-25a		
		Class N	Class F	Class C
Silicon Dioxide:	61.4			
Aluminum Oxide:	16.2			
Iron Oxide:	5.4			
Total Silica, Aluminum, Iron:	83.0	≥70.0%	≥50.0%	≥50.0
Sulfur Trioxide:	1.3	≤4.0%	≤5.0%	≤5.0%
Calcium Oxide:	6.4	N/A	≤18.0%	>18.0%
Magnesium Oxide:	2.32	N/A	N/A	N/A
Total Alkalis, as Na ₂ O:	4.13			
Sodium:	3.29	Product Class: Class F		
Potassium:	1.28	Conforms to Class: Yes		

Volatile Composition (Mass%)				
Moisture Content:	0.1	≤3.0%	≤3.0%	≤3.0%
Loss on Ignition:	0.6	≤10.0%	≤6.0%	≤6.0%

Physical Test Results				
Fineness, Retained on #325 Sieve (%):	20.5	≤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:	102	≥75%	≥75%	≥75%
Percent of Control @ 28 Days:	104	≥75%	≥75%	≥75%
Water Requirement, % of Control:	91	≤115%	≤105%	≤105%
Soundness, Autoclave Expansion (%):	-0.01	≤0.8%	≤0.8%	≤0.8%
Density (g/cm ³) :	2.39	N/A	N/A	N/A

Uniformity Established from 10 previous tests				
Average Fineness:	23.2	Difference 2.6(%)	±5(%)	±5(%)
Average Density:	2.41	Difference -0.84%	±5%	±5%

Supplementary Requirements				
Available Alkalis, as Na ₂ O	1.6%			
Sodium Oxide:	1.34%	Drying Shrinkage %: 0.00	≤0.03	≤0.03
Potassium Oxide:	0.39%			

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

CTL | Thompson, Inc.

Zachariah J. Ballard, MCE, P.E.



November 10, 2025

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

Request #: 45702 Date Received: 11/3/2025
WAL Sample #: U3442 Sample Matrix: fly ash
Customer Sample ID: Bridgesource 10/31/25 11:00 CT 17328.000 CTL 25243

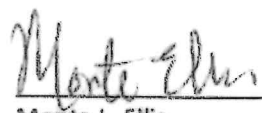
PO#:
Project#:

CHEMICAL ANALYSIS
WT%, DRY BASIS

Silicon Dioxide, SiO ₂	61.38
Aluminum Oxide, Al ₂ O ₃	16.17
Iron Oxide, Fe ₂ O ₃	5.40
Total (SiO ₂ + Al ₂ O ₃ + Fe ₂ O ₃)	82.95
Calcium Oxide, CaO	6.43
Magnesium Oxide, MgO	2.32
Sodium Oxide, Na ₂ O	3.29
Potassium Oxide, K ₂ O	1.28
Total Alkalies as Na ₂ O	4.13
Titanium Dioxide, TiO ₂	0.89
Manganese Dioxide, MnO ₂	0.06
Phosphorus Pentoxide, P ₂ O ₅	0.17
Strontium Oxide, SrO	0.17
Barium Oxide, BaO	0.49
Sulfur Trioxide, SO ₃	1.34
Loss on Ignition (750°C)	0.61
Total	100.00
Moisture (105°C), as Received	0.14

Analysis per ASTM C 311/XRF
Analyst NHG/ 11/10/2025

Charles R. Wilson
Mineral Manager


Monte L. Ellis
Laboratory Director



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