CTL | THOMPSON MATERIALS ENGINEERS, INC.

Chemical and Physical Analysis of Natural Pozzolan

Developed For: *Geo Fortis Pozzolans*
1024 Country Club Drive
Suite 160
Moraga, CA 94556

CTL Ticket: *19184*	**Source:** *Faust, Utah*	**Sample Date Range:**
CTL Project: *16530*	**Sample ID:** *Faust, Pozz Oct*	**to:**
Report Date: *11/29/2019*	**Docket:** *Oct 2019 -*	**Date Received:** *09/19/2019*

Chemical Composition (%)

(by Wyoming Analytical Laboratories, Inc.)

			ASTM C618-19 Class N
Total Silica, Aluminum, Iron:	*86.1*		**70.0 Min**
Silicon Dioxide:		*72.5*	
Aluminum Oxide:		*11.4*	
Iron Oxide:		*2.3*	
Sulfur Trioxide:	*0.1*		**4.0 Max**
Calcium Oxide:	*0.7*		
Moisture Content:	*0.3*		**3.0 Max**
Loss on Ignition:	*4.3*		**10.0 Max**
			AASHTO M295-11 Specifications
Available Alkalies (as Na_2O):	*0.8*		**1.5 Max**
Sodium Oxide:		*0.40*	
Potassium Oxide:		*0.67*	

Physical Test Results

		ASTM C618-19 Class N
Fineness, Retained on #325 Sieve (%):	*2.8*	**34 Max**
Strength Activity Index (%)		
Ratio to Control @ 7 Days:	*95.3*	
Ratio to Control @ 28 Days:	*105.8*	**75 Min**
Water Requirement, % of Control:	*99.6*	**115 Max**
Soundness, Autoclave Expansion (%):	*-0.01*	**0.8 Max**
Drying Shrinkage, Increase @ 28 Days (%):	*0.02*	**0.03 Max**
Density Mg/m^3:	*2.38*	

Comments: *Meets ASTM C618-19 Class N and AASHTO M295-11 (15) Spec.*

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Orville R Werner II

Orville R. Werner II, P.E.

COLORADO REGISTERED PROFESSIONAL ENGINEER
ORVILLE R. WERNER II
14540
11/29/2019

22 Lipan Street | Denver, Colorado 80223 | Telephone: 303-825-0777 Fax: 303-893-1568