



100% AMERICAN™

Las Animas Concrete & Bldg Supply Inc.  
Attn: Larry Busch  
PO Box 507  
Santa Cruz, CA 95061-0507

Product: ASTM C618 Class F, Gallup Fly Ash  
AASHTO M295

**6-04-16** **POZZOLAN TEST REPORT** Ctl#: 118727

**Lot: 770646** **Results** **Specifications**


Chemical Analysis (C311 / C114 / D4326)

Silicon Dioxide, SiO <sub>2</sub>	58.90 %	---
Aluminum Oxide, Al <sub>2</sub> O <sub>3</sub>	24.62 %	---
Ferric Oxide, Fe <sub>2</sub> O <sub>3</sub>	4.08 %	---
SiO <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub> + Fe <sub>2</sub> O <sub>3</sub>	87.60 %	70.00 Min
Calcium Oxide, CaO	2.69 %	---
Magnesium Oxide, MgO	1.12 %	---
Sulfur Trioxide, SO <sub>3</sub>	0.34 %	5.00 Max
Moisture Content	0.06 %	3.00 Max
Loss on Ignition	0.64 %	6.00 Max
Sodium Oxide, Na <sub>2</sub> O	1.57 %	---
Potassium Oxide, K <sub>2</sub> O	1.29 %	---
Total Alkalis (%Na <sub>2</sub> O + 0.658% K <sub>2</sub> O)	2.42 %	---
Available Alkalis as Na <sub>2</sub> O Equivalent	0.59 %	---

Physical Analysis

Fineness, amount retained on #325 sieve, % (C430)	23.40	34.00 Max
variation, points from average	0.09	5.00 Max
Density, g/cm <sup>3</sup> (C188)	1.97	---
Variation from average, %	0.00	5.00 Max
Strength Activity Index with Portland Cement (C311 / C109)		
at 7 days, % of cement control	83.13	---
at 28 days, % of cement control	90.26	75.00 Min
Water Requirement (C311)		
% of cement control	96.28	105.00 Max
Soundness, autoclave expansion or contraction, % (C311 / C151)	-0.03	0.80 Max

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Lee Gorby, Quality Assurance Manager  
01 AUG 2016



**Clarkdale Cement Plant**  
601 N. Cement Plant Rd  
Clarkdale, AZ 86324

**19th Ave. Terminal**  
1802 W. Lower Buckeye Rd  
Phoenix, AZ 85007

**Lower Buckeye Terminal**  
1941 W. Lower Buckeye Rd  
Phoenix, AZ 85007

**21st Ave. Terminal**  
1325 N. 21st Ave.  
Phoenix, AZ 85009

**54th Ave. Terminal**  
5402 W Buchanan St.  
Phoenix, AZ 85043

**Dobson Storage**  
9595 E. McKellips Rd.  
Scottsdale, AZ 85250

**Cholla Fly Ash Plant**  
4801 Frontage Rd.  
Joseph City, AZ 86032

**Four Corners Fly Ash Plant**  
End of County Road 6675  
Fruitland, NM 87416

**San Juan Fly Ash Plant**  
End of County Road 6800  
Waterflow, NM 87421

**Escalante Fly Ash Plant**  
County Road 19  
Prewitt, NM 87405

**Gallup Transfer Terminal**  
900 N 9th St.  
Gallup, NM 87301

**San Diego Terminal**  
920 Bay Marina Dr.  
National City, CA 91950

**Fontana Budway Terminal**  
13600 Napa St.  
Fontana, Ca 92335

**Bakersfield Terminal**  
32535 7th Standard Rd.  
Bakersfield, CA 93314

**Stockton Terminal**  
1300 N. Gertrude Ave.  
Stockton, CA 95215

**Sacramento Terminal**  
4520 50th St.  
McClellan Park, CA 95652

**Panaca Pozzolan Plant**  
333 Hansen St.  
Panaca, NV 89042

**Denver Terminal**  
220 East 54th Avenue  
Denver, CO 80216



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**6-10-16** **POZZOLAN TEST REPORT** Ctl#: 118963

**Lot: 770648** **Results** **Specifications**


Chemical Analysis (C311 / C114 / D4326)

Silicon Dioxide, SiO <sub>2</sub>	60.20 %	---
Aluminum Oxide, Al <sub>2</sub> O <sub>3</sub>	24.24 %	---
Ferric Oxide, Fe <sub>2</sub> O <sub>3</sub>	4.31 %	---
SiO <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub> + Fe <sub>2</sub> O <sub>3</sub>	88.75 %	70.00 Min
Calcium Oxide, CaO	2.05 %	---
Magnesium Oxide, MgO	1.10 %	---
Sulfur Trioxide, SO <sub>3</sub>	0.28 %	5.00 Max
Moisture Content	0.03 %	3.00 Max
Loss on Ignition	0.46 %	6.00 Max
Sodium Oxide, Na <sub>2</sub> O	1.43 %	---
Potassium Oxide, K <sub>2</sub> O	1.24 %	---
Total Alkalis (%Na <sub>2</sub> O + 0.658% K <sub>2</sub> O)	2.25 %	---
Available Alkalis as Na <sub>2</sub> O Equivalent	0.57 %	---

Physical Analysis

Fineness, amount retained on #325 sieve, % (C430)	26.80	34.00 Max
variation, points from average	2.82	5.00 Max
Density, g/cm <sup>3</sup> (C188)	2.02	---
Variation from average, %	0.05	5.00 Max
Strength Activity Index with Portland Cement (C311 / C109)		
at 7 days, % of cement control	83.74	---
at 28 days, % of cement control	84.45	75.00 Min
Water Requirement (C311)		
% of cement control	96.69	105.00 Max
Soundness, autoclave expansion or contraction, % (C311 / C151)	0.03	0.80 Max

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 01 AUG 2016



**PHOENIX CEMENT**

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 Clarkdale, AZ 86324

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 1802 W. Lower Buckeye Rd  
 Phoenix, AZ 85007

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 Phoenix, AZ 85007

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 1325 N. 21st Ave.  
 Phoenix, AZ 85009

**54th Ave. Terminal**  
 5402 W Buchanan St.  
 Phoenix, AZ 85043

**Dobson Storage**  
 9595 E. McKellips Rd.  
 Scottsdale, AZ 85250

**Cholla Fly Ash Plant**  
 4801 Frontage Rd.  
 Joseph City, AZ 86032

**Four Corners Fly Ash Plant**  
 End of County Road 6675  
 Fruitland, NM 87416

**San Juan Fly Ash Plant**  
 End of County Road 6800  
 Waterflow, NM 87421

**Escalante Fly Ash Plant**  
 County Road 19  
 Prewitt, NM 87405

**Gallup Transfer Terminal**  
 900 N 9th St.  
 Gallup, NM 87301

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 920 Bay Marina Dr.  
 National City, CA 91950

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 4520 50th St.  
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 220 East 54th Avenue  
 Denver, CO 80216


**6-15-16 POZZOLAN TEST REPORT** Ctl#: 119055

**Lot: 770650** Results Specifications

Chemical Analysis (C311 / C114 / D4326)			
Silicon Dioxide, SiO <sub>2</sub>	58.32 %	---	
Aluminum Oxide, Al <sub>2</sub> O <sub>3</sub>	24.42 %	---	
Ferric Oxide, Fe <sub>2</sub> O <sub>3</sub>	4.23 %	---	
SiO <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub> + Fe <sub>2</sub> O <sub>3</sub>	86.97 %	70.00	Min
Calcium Oxide, CaO	2.22 %	---	
Magnesium Oxide, MgO	1.11 %	---	
Sulfur Trioxide, SO <sub>3</sub>	0.35 %	5.00	Max
Moisture Content	0.04 %	3.00	Max
Loss on Ignition	0.59 %	6.00	Max
Sodium Oxide, Na <sub>2</sub> O	1.53 %	---	
Potassium Oxide, K <sub>2</sub> O	1.27 %	---	
Total Alkalis (%Na <sub>2</sub> O + 0.658% K <sub>2</sub> O)	2.37 %	---	
Available Alkalis as Na <sub>2</sub> O Equivalent	0.56 %	---	

Physical Analysis			
Fineness, amount retained on			
#325 sieve, % (C430)	23.70	34.00	Max
variation, points from average	0.60	5.00	Max
Density, g/cm <sup>3</sup> (C188)			
	2.00	---	
Variation from average, %	0.02	5.00	Max
Strength Activity Index			
with Portland Cement (C311 / C109)			
at 7 days, % of cement control	81.50	---	
at 28 days, % of cement control	80.95	75.00	Min
Water Requirement (C311)			
% of cement control	96.69	105.00	Max
Soundness, autoclave expansion (C311 / C151)			
or contraction, %	0.02	0.80	Max

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 01 AUG 2016





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AASHTO M295

**6-12-16 POZZOLAN TEST REPORT**

Ctl#: 119141

**Lot: 770649 Results Specifications**


Chemical Analysis (C311 / C114 / D4326)

Silicon Dioxide, SiO <sub>2</sub>	57.81 %	---
Aluminum Oxide, Al <sub>2</sub> O <sub>3</sub>	23.32 %	---
Ferric Oxide, Fe <sub>2</sub> O <sub>3</sub>	4.22 %	---
SiO <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub> + Fe <sub>2</sub> O <sub>3</sub>	85.35 %	70.00 Min
Calcium Oxide, CaO	1.90 %	---
Magnesium Oxide, MgO	1.03 %	---
Sulfur Trioxide, SO <sub>3</sub>	0.32 %	5.00 Max
Moisture Content	0.04 %	3.00 Max
Loss on Ignition	0.52 %	6.00 Max
Sodium Oxide, Na <sub>2</sub> O	1.43 %	---
Potassium Oxide, K <sub>2</sub> O	1.23 %	---
Total Alkalis (%Na <sub>2</sub> O + 0.658% K <sub>2</sub> O)	2.24 %	---
Available Alkalis as Na <sub>2</sub> O Equivalent	0.58 %	---

Physical Analysis

Fineness, amount retained on #325 sieve, % (C430)	27.60	34.00 Max
variation, points from average	3.45	5.00 Max
Density, g/cm <sup>3</sup> (C188)	2.02	---
Variation from average, %	0.05	5.00 Max
Strength Activity Index with Portland Cement (C311 / C109)		
at 7 days, % of cement control	78.88	---
at 28 days, % of cement control	81.40	75.00 Min
Water Requirement (C311)		
% of cement control	96.69	105.00 Max
Soundness, autoclave expansion or contraction, % (C311 / C151)	-0.02	0.80 Max

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**Lower Buckeye Terminal**

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Phoenix, AZ 85007

**21st Ave. Terminal**

1325 N. 21st Ave.  
Phoenix, AZ 85009

**54th Ave. Terminal**

5402 W Buchanan St.  
Phoenix, AZ 85043

**Dobson Storage**

9595 E. McKellips Rd.  
Scottsdale, AZ 85250

**Cholla Fly Ash Plant**

4801 Frontage Rd.  
Joseph City, AZ 86032

**Four Corners Fly Ash Plant**

End of County Road 6675  
Fruitland, NM 87416

**San Juan Fly Ash Plant**

End of County Road 6800  
Waterflow, NM 87421

**Escalante Fly Ash Plant**

County Road 19  
Prewitt, NM 87405

**Gallup Transfer Terminal**

900 N 9th St.  
Gallup, NM 87301

**San Diego Terminal**

920 Bay Marina Dr.  
National City, CA 91950

**Fontana Budway Terminal**

13600 Napa St.  
Fontana, Ca 92335

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Product: ASTM C618 Class F, Gallup Fly Ash  
 AASHTO M295

**6-17-16** **POZZOLAN TEST REPORT** Ctl#: 119243

**Lot: 770651** **Results** **Specifications**


Chemical Analysis (C311 / C114 / D4326)

Silicon Dioxide, SiO <sub>2</sub>	58.45 %	---
Aluminum Oxide, Al <sub>2</sub> O <sub>3</sub>	24.39 %	---
Ferric Oxide, Fe <sub>2</sub> O <sub>3</sub>	4.28 %	---
SiO <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub> + Fe <sub>2</sub> O <sub>3</sub>	87.12 %	70.00 Min
Calcium Oxide, CaO	5.00 %	---
Magnesium Oxide, MgO	0.99 %	---
Sulfur Trioxide, SO <sub>3</sub>	0.31 %	5.00 Max
Moisture Content	0.02 %	3.00 Max
Loss on Ignition	0.46 %	6.00 Max
Sodium Oxide, Na <sub>2</sub> O	1.41 %	---
Potassium Oxide, K <sub>2</sub> O	1.35 %	---
Total Alkalis (%Na <sub>2</sub> O + 0.658% K <sub>2</sub> O)	2.30 %	---
Available Alkalis as Na <sub>2</sub> O Equivalent	0.48 %	---

Physical Analysis

Fineness, amount retained on #325 sieve, % (C430)	22.70	34.00 Max
variation, points from average	1.51	5.00 Max
Density, g/cm <sup>3</sup> (C188)	1.98	---
Variation from average, %	0.00	5.00 Max
Strength Activity Index with Portland Cement (C311 / C109)		
at 7 days, % of cement control	78.15	---
at 28 days, % of cement control	84.98	75.00 Min
Water Requirement (C311)		
% of cement control	96.69	105.00 Max
Soundness, autoclave expansion or contraction, % (C311 / C151)	-0.01	0.80 Max

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 01 AUG 2016



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 Phoenix, AZ 85007

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 Phoenix, AZ 85007

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 1325 N. 21st Ave.  
 Phoenix, AZ 85009

**54th Ave. Terminal**  
 5402 W Buchanan St.  
 Phoenix, AZ 85043

**Dobson Storage**  
 9595 E. McKellips Rd.  
 Scottsdale, AZ 85250

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 4801 Frontage Rd.  
 Joseph City, AZ 86032

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 End of County Road 6675  
 Fruitland, NM 87416

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 End of County Road 6800  
 Waterflow, NM 87421

**Escalante Fly Ash Plant**  
 County Road 19  
 Prewitt, NM 87405

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 900 N 9th St.  
 Gallup, NM 87301

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 National City, CA 91950

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Product: ASTM C618 Class F, Cholla Fly Ash  
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 Panaca, NV 89042

**Denver Terminal**  
 220 East 54th Avenue  
 Denver, CO 80216


**6-13-16 POZZOLAN TEST REPORT** Ctl#: 119288

**Lot: 2553** **Results** **Specifications**

Chemical Analysis (C311 / C114 / D4326)		
Silicon Dioxide, SiO <sub>2</sub>	58.51 %	---
Aluminum Oxide, Al <sub>2</sub> O <sub>3</sub>	23.56 %	---
Ferric Oxide, Fe <sub>2</sub> O <sub>3</sub>	6.23 %	---
SiO <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub> + Fe <sub>2</sub> O <sub>3</sub>	88.30 %	70.00 Min
Calcium Oxide, CaO	2.54 %	---
Magnesium Oxide, MgO	1.11 %	---
Sulfur Trioxide, SO <sub>3</sub>	0.41 %	5.00 Max
Moisture Content	0.08 %	3.00 Max
Loss on Ignition	0.59 %	6.00 Max
Sodium Oxide, Na <sub>2</sub> O	1.15 %	---
Potassium Oxide, K <sub>2</sub> O	1.07 %	---
Total Alkalis (%Na <sub>2</sub> O + 0.658% K <sub>2</sub> O)	1.85 %	---
Available Alkalis as Na <sub>2</sub> O Equivalent	0.48 %	---

Physical Analysis		
Fineness, amount retained on		
#325 sieve, % (C430)	22.20	34.00 Max
variation, points from average	1.86	5.00 Max
Density, g/cm <sup>3</sup> (C188)		
	2.17	---
Variation from average, %	0.02	5.00 Max
Strength Activity Index		
with Portland Cement (C311 / C109)		
at 7 days, % of cement control	79.11	---
at 28 days, % of cement control	87.85	75.00 Min
Water Requirement (C311)		
% of cement control	95.87	105.00 Max
Soundness, autoclave expansion (C311 / C151)		
or contraction, %	-0.03	0.80 Max

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 220 East 54th Avenue  
 Denver, CO 80216


**6-23-16 POZZOLAN TEST REPORT** Ctl#: 119883

**Lot: 770653** **Results** **Specifications**

Chemical Analysis (C311 / C114 / D4326)		
Silicon Dioxide, SiO <sub>2</sub>	60.56 %	---
Aluminum Oxide, Al <sub>2</sub> O <sub>3</sub>	24.42 %	---
Ferric Oxide, Fe <sub>2</sub> O <sub>3</sub>	4.28 %	---
SiO <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub> + Fe <sub>2</sub> O <sub>3</sub>	89.26 %	70.00 Min
Calcium Oxide, CaO	2.40 %	---
Magnesium Oxide, MgO	0.93 %	---
Sulfur Trioxide, SO <sub>3</sub>	0.28 %	5.00 Max
Moisture Content	0.05 %	3.00 Max
Loss on Ignition	0.34 %	6.00 Max
Sodium Oxide, Na <sub>2</sub> O	1.48 %	---
Potassium Oxide, K <sub>2</sub> O	1.25 %	---
Total Alkalis (%Na <sub>2</sub> O + 0.658% K <sub>2</sub> O)	2.30 %	---
Available Alkalis as Na <sub>2</sub> O Equivalent	0.57 %	---

Physical Analysis		
Fineness, amount retained on		
#325 sieve, % (C430)	23.00	34.00 Max
variation, points from average	1.13	5.00 Max
Density, g/cm <sup>3</sup> (C188)		
Variation from average, %	0.01	5.00 Max
Strength Activity Index		
with Portland Cement (C311 / C109)		
at 7 days, % of cement control	78.24	---
at 28 days, % of cement control	86.61	75.00 Min
Water Requirement (C311)		
% of cement control	96.69	105.00 Max
Soundness, autoclave expansion (C311 / C151)		
or contraction, %	-0.01	0.80 Max

All tests have been made in strict accordance with the current standards of the American Society for Testing and Materials covering the type of material specified.

  
 Lee Gorby, Quality Assurance Manager  
 01 AUG 2016

