

**Analytical Testing Service Laboratories, Inc.**  
P.O. Box 1118, Joplin, Missouri 64802  
(417) 782-6573

Headwaters Resources  
4319 S. # 127  
Springfield, MO 65810-2607  
(417)882-0965

September 03, 2013

Attn: Kristy Rotramel

Re: 06975 - Louisa Fly Ash Sample Monthly Composite - July 2013

	ASTM C-618 Class C <u>Requirements</u>	<u>Actual</u>
Fineness (+325 Mesh)	34% Max	15.30%
Moisture Content	3% Max	0.10%
Specific Gravity	****	2.67
Loss on Ignition	6% Max	0.30%
Soundness	0.8% Max	0.02%
S.A.I., 7 Days	75% Min	100.10%
S.A.I., 28 Days	75% Min	106.90%
Water Req. % Control	105% Max	94.20%
Silica SiO <sub>2</sub>	****	35.24%
Aluminum Oxide Al <sub>2</sub> O <sub>3</sub>	****	20.37%
Ferric Oxide Fe <sub>2</sub> O <sub>3</sub>	****	5.43%
Total	50% Min	61.04%
Sulfur Trioxide SO <sub>3</sub>	5% Max	2.16%
Calcium Oxide CaO	****	27.89%
Magnesium Oxide MgO	****	4.81%
Sodium Oxide Na <sub>2</sub> O	****	1.82%
Potassium Oxide K <sub>2</sub> O	****	0.53%
Available Alkalies as Na <sub>2</sub> O	****	1.27%

Analytical Testing Service Laboratories, Inc.



John K. Cupp, Manager