

Resource Materials Testing, Inc.
"Specialists in Fly Ash Testing"

24 Fine Drive Murphy, NC 28906 828.506.7636

REPORT OF STABILIZER ANALYSIS

TO: Ash Grove Resources, LLC
Attn: Mr. Brady Pryor
5375 SW 7th Street, Suite 400
Topeka, KS 66606-2552

PROJECT NO. RMT-467
SAMPLE NO. 21608
DATE REC.: 01-08-16
DATE REP.: 02-24-16

PROJECT NAME: Cement Kiln Dust (CKD) Quality Assurance Program
SAMPLE ID: Chanute Cement Kiln Dust (CKD)

CHEMICAL ANALYSIS, ignited basis, wt%:	RESULTS:
Silicon Dioxide, SiO ₂	16.29
Aluminum Oxide, Al ₂ O ₃	4.60
Iron Oxide, Fe ₂ O ₃	2.56
Sum of SiO ₂ , Al ₂ O ₃ & Fe ₂ O ₃	23.45
Calcium Oxide, CaO	58.98
Magnesium Oxide, MgO	2.00
Sodium Oxide, Na ₂ O	0.72
Potassium Oxide, K ₂ O	4.73
Sulfur Trioxide, SO ₃	6.81
Moisture Content	0.02
Loss on Ignition	3.85
Available Lime Index, %CaO	32.00

PHYSICAL TESTING:

Amount Retained on A No. 325 Sieve, %	26.4
C 109 Cubes w/o cement, psi	
3-day	200
7-day	350
28-day	500
Water Requirement, ml	348
Density	2.84

By Robert L. Smith
Robert L. Smith, Ph.D.