

# Chemical and Physical Analysis of Fly Ash

Developed For: *Diversified Minerals, Inc*  
 1135 East Wooley Rd  
 Oxnard, CA 93030

|   |  |   |
|---|--|---|
| Ticket: 9228<br>Job: 14043<br>Report Date: 11/03/2009 | Plant of Origin: <i>Trona</i><br>Sample ID:<br>Docket: - | Sample Date Range: 07/13/2009<br>to:<br>Date Received: 09/08/2009 |
|---|--|---|

| <u>Chemical Composition (%)</u><br><small>(by Wyoming Analytical Laboratories, Inc.)</small> | ASTM C 618-08 Specifications  |                |
|--|-------------------------------|----------------|
|  | <u>Class F</u>                | <u>Class C</u> |
| Total Silica, Aluminum, Iron: 83.3   | 70.0 Min                      | 50.0 Min       |
| Silicon Dioxide: 63.8  |                               |                |
| Aluminum Oxide: 15.1   |                               |                |
| Iron Oxide: 4.4  |                               |                |
| Sulfur Trioxide: 0.8   | 5.0 Max                       | 5.0 Max        |
| Calcium Oxide: 8.1   |                               |                |
| Moisture Content: 0.1  | 3.0 Max                       | 3.0 Max        |
| Loss on Ignition: 1.8  | 6.0 Max                       | 6.0 Max        |
|  | AASHTO M295-06 Specifications |                |
| Available Alkalies (as Na <sub>2</sub> O): 0.8   | 1.5 Max                       | 1.5 Max        |
| Sodium Oxide: 0.48   |                               |                |
| Potassium Oxide: 0.45  |                               |                |

| <u>Physical Test Results</u>                   | ASTM C 618-08 Specifications |                |
|--|------------------------------|----------------|
|  | <u>Class F</u>               | <u>Class C</u> |
| Fineness, Retained on #325 Sieve (%): 29.0     | 34 Max                       | 34 Max         |
| Strength Activity Index (%)                    |                              |                |
| Ratio to Control @ 7 Days: 85.2                |                              |                |
| Ratio to Control @ 28 Days: 95.0               | 75 Min                       | 75 Min         |
| Water Requirement, % of Control: 99.2          | 105 Max                      | 105 Max        |
| Soundness, Autoclave Expansion (%): 0.01       | 0.8 Max                      | 0.8 Max        |
| Drying Shrinkage, Increase @ 28 Days (%): 0.00 | 0.03 Max                     | 0.03 Max       |
| Density Mg/m <sup>3</sup> : 2.39               |                              |                |

Comments:

CTL | Thompson Materials Engineers, Inc.

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