PAF fly ash A

# COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 630-953-9300 FAX: 630-953-9306

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May 30, 2002

TENNESSEE VALLEY AUTHORITY
1101 Market Street PSC 1A
Chattanooga TN 37402
RENEE B. MERRELL

SAMPLE No.: 257755
SAMPLE TYPE: UNIT 3-HOPPERS
REMARKS: FLY

**Date Received** March 5, 2002
**Analysis report no.** 72-470152

**PROXIMATE ANALYSIS**

| | As Received | Dry Basis |
|---|---|---|
| % Moisture | 0.62 | xxxxxx |
| % Ash | 94.60 | 95.19 |
| % Volatile | < 0.01 | < 0.01 |
| % Fixed Carbon | 4.77 | 4.80 |
| | 100.00 | 100.00 |
| Btu/lb | < 99 | < 100 |
| % Sulfur | 3.60 | 3.62 |
| MAF Btu/lb | 2079 | |

**ULTIMATE ANALYSIS**

| | As Received | Dry Basis |
|---|---|---|
| % Moisture | 0.62 | xxxxxx |
| % Carbon | 0.54 | 0.54 |
| % Hydrogen | 0.29 | 0.29 |
| % Nitrogen | 0.35 | 0.35 |
| % Sulfur | 3.60 | 3.62 |
| % Ash | 94.60 | 95.19 |
| % Oxygen | 0.00 | 0.01 |
| | 100.00 | 100.00 |

**ANALYSIS OF ASH** — % Weight Ignited Basis

| | |
|---|---|
| Silica, $SiO_2$ | 30.80 |
| Alumina, $Al_2O_3$ | 18.21 |
| Titania, $TiO_2$ | 1.38 |
| Ferric Oxide, $Fe_2O_3$ | 15.80 |
| Lime, CaO | 17.80 |
| Magnesia, MgO | 3.69 |
| Potassium Oxide, $K_2O$ | 1.43 |
| Sodium Oxide, $Na_2O$ | 0.94 |
| Sulfur Trioxide, $SO_3$ | 7.41 |
| Phosphorous Pentoxide, $P_2O_5$ | 1.75 |
| Strontium Oxide, SrO | 0.16 |
| Barium Oxide, BaO | 0.56 |
| Manganese Oxide, $Mn_3O_4$ | 0.07 |
| Undetermined | 0.00 |
| Alks. as $Na_2O$, Dry Coal Basis | 1.79 |
| Base:Acid Ratio | 0.79 |
| T250 Temperature | 2001 |

| | |
|---|---|
| Silica Value | 45.23 |
| Type of Ash | LIGNITIC |
| Fouling Index | 0.94 |
| Slagging Index | 0.00 |
| % MAF Fixed Carbon | 99.79 |
| % MAF Volatile | 0.21 |
| lb $SO_2$/mm Btu | 727.27 |
| lb Sulfur/mm Btu | 363.64 |

NQA ISO9002 REGISTERED COMPANY
Certificate No. 7061/1

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Denver Laboratory

MEMBER ACIL

F-465

Original Watermarked For Your Protection

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