PA - Fly ash B

# COMMERCIAL TESTING & ENGINEERING CO.

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May 30, 2002

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

SAMPLE No.: 257756
SAMPLE TYPE: UNIT 3 HOPPERS
REMARKS: FLY
Insufficient amount of sample to perform the Carbon, Hydrogen, Nitrogen

**Date Received** March 5, 2002
**Analysis report no.** 72-470153

**PROXIMATE ANALYSIS**

| | As Received | Dry Basis |
|---|---|---|
| % Moisture | 0.73 | xxxxxx |
| % Ash | 98.37 | 99.09 |
| % Volatile | < 0.01 | < 0.01 |
| % Fixed Carbon | 0.89 | 0.90 |
| | 100.00 | 100.00 |
| Btu/lb | < 99 | < 100 |
| % Sulfur | 3.72 | 3.75 |
| MAF Btu/lb | 10989 | |

**ULTIMATE ANALYSIS**

| | As Received | Dry Basis |
|---|---|---|
| % Moisture | 0.73 | xxxxxx |
| % Carbon | xxxxxx | xxxxxx |
| % Hydrogen | xxxxxx | xxxxxx |
| % Nitrogen | xxxxxx | xxxxxx |
| % Sulfur | 3.72 | 3.75 |
| % Ash | 98.37 | 99.09 |
| % Oxygen | xxxxxx | xxxxxx |
| | 100.00 | 100.00 |

| ANALYSIS OF ASH | % Weight Ignited Basis |
|---|---|
| Silica, $SiO_2$ | 29.52 |
| Alumina, $Al_2O_3$ | 17.43 |
| Titania, $TiO_2$ | 1.40 |
| Ferric Oxide, $Fe_2O_3$ | 16.24 |
| Lime, CaO | 19.17 |
| Magnesia, MgO | 3.97 |
| Potassium Oxide, $K_2O$ | 1.36 |
| Sodium Oxide, $Na_2O$ | 0.96 |
| Sulfur Trioxide, $SO_3$ | 7.20 |
| Phosphorous Pentoxide, $P_2O_5$ | 1.93 |
| Strontium Oxide, SrO | 0.17 |
| Barium Oxide, BaO | 0.58 |
| Manganese Oxide, $Mn_3O_4$ | 0.07 |
| Undetermined | 0.00 |
| Alks. as $Na_2O$, Dry Coal Basis | 1.84 |
| Base:Acid Ratio | 0.86 |
| T250 Temperature | 2032 |

| | |
|---|---|
| Silica Value | 42.84 |
| Type of Ash | LIGNITIC |
| Fouling Index | 0.96 |
| Slagging Index | 0.00 |
| % MAF Fixed Carbon | 98.90 |
| % MAF Volatile | 1.10 |
| lb $SO_2$/mm Btu | 751.52 |
| lb Sulfur/mm Btu | 375.76 |

NQA ISO9002 REGISTERED COMPANY
Certificate No. 7061/1

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Denver Laboratory

MEMBER ACIL

F-465

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