BRF bottom ash

# COMMERCIAL TESTING & ENGINEERING CO.

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

SINCE 1908®

SGS Member of the SGS Group (Société Générale de Surveillance)

ADDRESS ALL CORRESPONDENCE TO:
4665 PARIS STREET
SUITE B-200
DENVER, CO 80239
TEL: (303) 373-4772
FAX: (303) 373-4791
www.comteco.com

May 30, 2002

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

SAMPLE No.: 257740
SAMPLE TYPE: BOTTOM ASH
REMARKS: BOT

**Date Received** March 5, 2002
**Analysis report no.** 72-470137

**PROXIMATE ANALYSIS**

| | As Received | Dry Basis |
|---|---|---|
| % Moisture | 0.56 | xxxxxx |
| % Ash | 96.86 | 97.41 |
| % Volatile | < 0.01 | < 0.01 |
| % Fixed Carbon | 2.57 | 2.58 |
| | 100.00 | 100.00 |
| Btu/lb | 359 | 361 |
| % Sulfur | < 0.01 | < 0.01 |
| MAF Btu/lb | 13938 | |

**ULTIMATE ANALYSIS**

| | As Received | Dry Basis |
|---|---|---|
| % Moisture | 0.56 | xxxxxx |
| % Carbon | 2.16 | 2.17 |
| % Hydrogen | 0.11 | 0.11 |
| % Nitrogen | 0.33 | 0.33 |
| % Sulfur | 0.01 | 0.01 |
| % Ash | 96.86 | 97.41 |
| % Oxygen | xxxxxx | xxxxxx |
| | 100.00 | 100.00 |

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

| | |
|---|---|
| Silica, $SiO_2$ | 56.34 |
| Alumina, $Al_2O_3$ | 27.53 |
| Titania, $TiO_2$ | 1.33 |
| Ferric Oxide, $Fe_2O_3$ | 8.55 |
| Lime, CaO | 1.62 |
| Magnesia, MgO | 0.96 |
| Potassium Oxide, $K_2O$ | 2.51 |
| Sodium Oxide, $Na_2O$ | 0.32 |
| Sulfur Trioxide, $SO_3$ | 0.10 |
| Phosphorous Pentoxide, $P_2O_5$ | 0.35 |
| Strontium Oxide, SrO | 0.11 |
| Barium Oxide, BaO | 0.22 |
| Manganese Oxide, $Mn_3O_4$ | 0.06 |
| Undetermined | 0.00 |
| Alks. as $Na_2O$, Dry Coal Basis | 1.92 |
| Base:Acid Ratio | 0.16 |
| T250 Temperature | 2834 |

| | |
|---|---|
| Silica Value | 83.50 |
| Type of Ash | BITUMINOUS |
| Fouling Index | 0.05 |
| Slagging Index | 0.00 |
| % MAF Fixed Carbon | 99.61 |
| % MAF Volatile | 0.39 |
| lb $SO_2$/mm Btu | 0.56 |
| lb Sulfur/mm Btu | 0.28 |

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

TERMS AND CONDITIONS ON REVERSE