KIF Ponded fly ash Cell I

# COMMERCIAL TESTING & ENGINEERING CO.

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May 30, 2002

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RENEE B. MERRELL

SAMPLE No.: 257752
SAMPLE TYPE: FLY ASH
REMARKS: FLY

Date Received March 5, 2002
Analysis report no. 72-470149

**PROXIMATE ANALYSIS**

| | As Received | Dry Basis |
|---|---|---|
| % Moisture | 0.88 | xxxxxx |
| % Ash | 97.14 | 98.00 |
| % Volatile | < 0.01 | < 0.01 |
| % Fixed Carbon | 1.97 | 1.99 |
| | 100.00 | 100.00 |
| Btu/lb | 183 | 185 |
| % Sulfur | 0.88 | 0.89 |
| MAF Btu/lb | 9250 | |

**ULTIMATE ANALYSIS**

| | As Received | Dry Basis |
|---|---|---|
| % Moisture | 0.88 | xxxxxx |
| % Carbon | 0.26 | 0.26 |
| % Hydrogen | 0.03 | 0.03 |
| % Nitrogen | 0.30 | 0.30 |
| % Sulfur | 0.88 | 0.89 |
| % Ash | 97.14 | 98.00 |
| % Oxygen | 0.51 | 0.52 |
| | 100.00 | 100.00 |

| ANALYSIS OF ASH | % Weight Ignited Basis |
|---|---|
| Silica, $SiO_2$ | 56.79 |
| Alumina, $Al_2O_3$ | 26.96 |
| Titania, $TiO_2$ | 1.21 |
| Ferric Oxide, $Fe_2O_3$ | 8.48 |
| Lime, CaO | 1.46 |
| Magnesia, MgO | 0.96 |
| Potassium Oxide, $K_2O$ | 2.79 |
| Sodium Oxide, $Na_2O$ | 0.28 |
| Sulfur Trioxide, $SO_3$ | 0.27 |
| Phosphorous Pentoxide, $P_2O_5$ | 0.43 |
| Strontium Oxide, SrO | 0.10 |
| Barium Oxide, BaO | 0.22 |
| Manganese Oxide, $Mn_3O_4$ | 0.05 |
| Undetermined | 0.00 |
| Alks. as $Na_2O$, Dry Coal Basis | 2.07 |
| Base:Acid Ratio | 0.16 |
| T250 Temperature | 2839 |

| | |
|---|---|
| Silica Value | 83.90 |
| Type of Ash | BITUMINOUS |
| Fouling Index | 0.04 |
| Slagging Index | 0.14 |
| % MAF Fixed Carbon | 99.50 |
| % MAF Volatile | 0.50 |
| lb $SO_2$/mm Btu | 96.17 |
| lb Sulfur/mm Btu | 48.09 |

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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