Inhibiting the Self-heating of Subbituminous Coals

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Challenges

Hot Spots and Smokers

Visible emissions

Handling problems

Coal Fires

Stops production operations

Potential for catastrophic losses
Spontaneous Combustion

Spontaneous combustion, or self-heating, of coal is a naturally occurring process resulting from the oxidation of coal.
Factors that influence coal oxidation

Coal Quality

Calorific Value, FC, VC, Moisture, Rank

Storage Conditions

Temperature, Compaction, Exposure
### Subbituminous Coals

<table>
<thead>
<tr>
<th>COAL</th>
<th>PRB-1</th>
<th>PRB-2</th>
<th>SUB-1</th>
<th>SUB-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINE</td>
<td>Black Thunder</td>
<td>Spring Creek</td>
<td>KPC-Kandui</td>
<td>Tutupan</td>
</tr>
<tr>
<td>LOCATION</td>
<td>Wyoming</td>
<td>Montana</td>
<td>Kalimantan</td>
<td>Kalimantan</td>
</tr>
<tr>
<td>BTU/LB</td>
<td>8800</td>
<td>9350</td>
<td>8300</td>
<td>9000</td>
</tr>
<tr>
<td>KCAL/KG</td>
<td>4900</td>
<td>5200</td>
<td>4610</td>
<td>5000</td>
</tr>
<tr>
<td>% Sulf</td>
<td>0.35</td>
<td>0.34</td>
<td>1</td>
<td>0.1</td>
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<tr>
<td>% Ash</td>
<td>5.31</td>
<td>4.25</td>
<td>5.38</td>
<td>2.5</td>
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<tr>
<td>% Moist</td>
<td>27</td>
<td>25</td>
<td>26.5</td>
<td>26</td>
</tr>
</tbody>
</table>
Coal - is the fuel and product, so it can’t be eliminated.
Air - is difficult to keep from entire coal surface
Heat - from oxidation can be eliminated
GE CoalPlus treated coal is safer, more marketable coal

Dustreat DC9144 and Dustreat DC9148
Inhibits oxidation of subbituminous coals
Prevents hot spots and coal fires
Extends storage and transit time
Reduces fugitive emissions

http://www.gewater.com/mining
GE CoalPlus treated coal is safer, more marketable coal
Nova Coal Solutions

Regional GE Channel partner
Provides CoalPlus Products and Services
Turn-key installation at Mines and Terminals