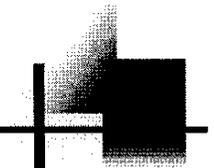


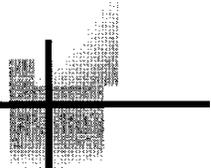
US EPA ARCHIVE DOCUMENT

**OFFICE OF SURFACE MINING  
COAL COMBUSTION BY-PRODUCT  
INITIATIVES**



**BY**

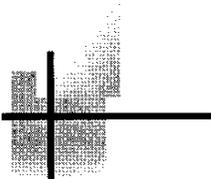
**KIMERY VORIES**



# HISTORY

## OSM CCB INITIATIVES

- 1994 – PUBLIC OUTREACH ON TECHNICAL ISSUES
- 1995 – INTEREST SURVEY ON HOLDING A CCB TECHNICAL FORUM
- 1996 – ESTABLISH A CCB MULTI-INTEREST GROUP STEERING COMMITTEE

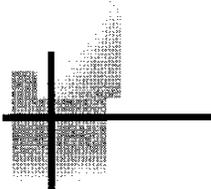


# HISTORY

## OSM CCB INITIATIVES

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- 1996 - 1<sup>ST</sup> TECHNICAL INTERACTIVE FORUM ON CCBS AND MINING/CARBONDALE
- 1997 - PUBLISH PROCEEDINGS OF 1<sup>ST</sup> FORUM
- 1997 - DEVELOP CCB INFORMATION NETWORK WEBSITE
- 1998 - COMBUSTION BY-PRODUCTS RECYCLING CONSORTIUM **NATIONAL STEERING COMMITTEE**



# HISTORY

## OSM CCB INITIATIVES

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- 1999 - COOPERATIVE AGREEMENT BETWEEN OSM AND NATIONAL ENERGY TECHNOLOGY LABORATORY
- 1999 & 2001 - INTERNATIONAL ASH UTILIZATION SYMPOSIUM/LEXINGTON **TECHNICAL STEERING COMMITTEE**
- 2000 – 2<sup>ND</sup> CCB & MINING TECHNICAL INTERACTIVE FORUM/MORGANTOWN

# HISTORY

## OSM CCB INITIATIVES

- 2000 - INTERAGENCY ADVISORY GROUP TO EPA CONCERNING "LISTING CCBS AS HAZARDOUS"
- 2000- JOINT EPA/OSM FACT FINDING EFFORT ON CCB USE AND DISPOSAL AT MINE SITES PRIOR TO EPA RULEMAKING IN 2003

# HISTORY

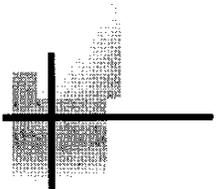
## OSM CCB INITIATIVES

- 2000 - TECHNICAL ASSISTANCE TO ASTM ON CCB USE AT MINE SITES
- 2001 - PUBLISH AND DISTRIBUTE MORGANTOWN FORUM PROCEEDINGS
- 2002 - 3<sup>RD</sup> CCB & MINING/WESTERN REGION TECHNICAL INTERACTIVE FORUM/GOLDEN



# QUESTIONS???

- DO WE NEED ADDITIONAL FEDERAL REGULATION OF THE USE OF CCBS AT COAL MINES?
- IF NOT, WHY NOT?
- IF SO, SHOULD THEY BE:
  - EPA REGULATIONS UNDER RCRA? OR
  - OSM REGULATIONS UNDER SMCRA?



**IT HAS BEEN SAID THAT NEW SOLID WASTE REGULATIONS MAY BE NECESSARY BECAUSE:**

- **APX 2 % OF UTILITY DISPOSAL SITES HAVE TOXIC LEACHATE**
- **MINES SITES ARE JUST AS LIKELY TO PRODUCE TOXIC LEACHATE AS UTILITY DISPOSAL SITES**
- **SMCRA WATER MONITORING MAY BE INADEQUATE TO DETECT TOXICITY**
- **SMCRA PERFORMANCE BONDS MAY BE OF INSUFFICIENT DURATION**

**THE EXISTING SCIENTIFIC DATA  
DOES NOT SUPPORT NEW REGULATIONS  
UNDER RCRA OR SMCRA**

- UNAWARE OF ANY SCIENTIFIC DATA WHERE CCB FILLS AT ANY SMCRA MINE SITE HAVE RESULTED IN TOXICITY
- 15+ YEARS OF SCIENTIFIC RESEARCH INDICATES THAT MOST CCB USE AT MINE SITES IS ENVIRONMENTALLY BENEFICIAL
- SMCRA PERMITTING, BONDING, & WATER QUALITY PROTECTION REQUIREMENTS ARE ADEQUATE TO PROTECT THE PUBLIC AND THE ENVIRONMENT

# DIFFERENCES BETWEEN SMCRA SITES AND UTILITY SITES

- THERE IS NO SCIENTIFIC BASIS FOR  
EQUATING LEACHATE POTENTIAL  
FROM UTILITY DISPOSAL SITES WITH  
SMCRA MINE SITES

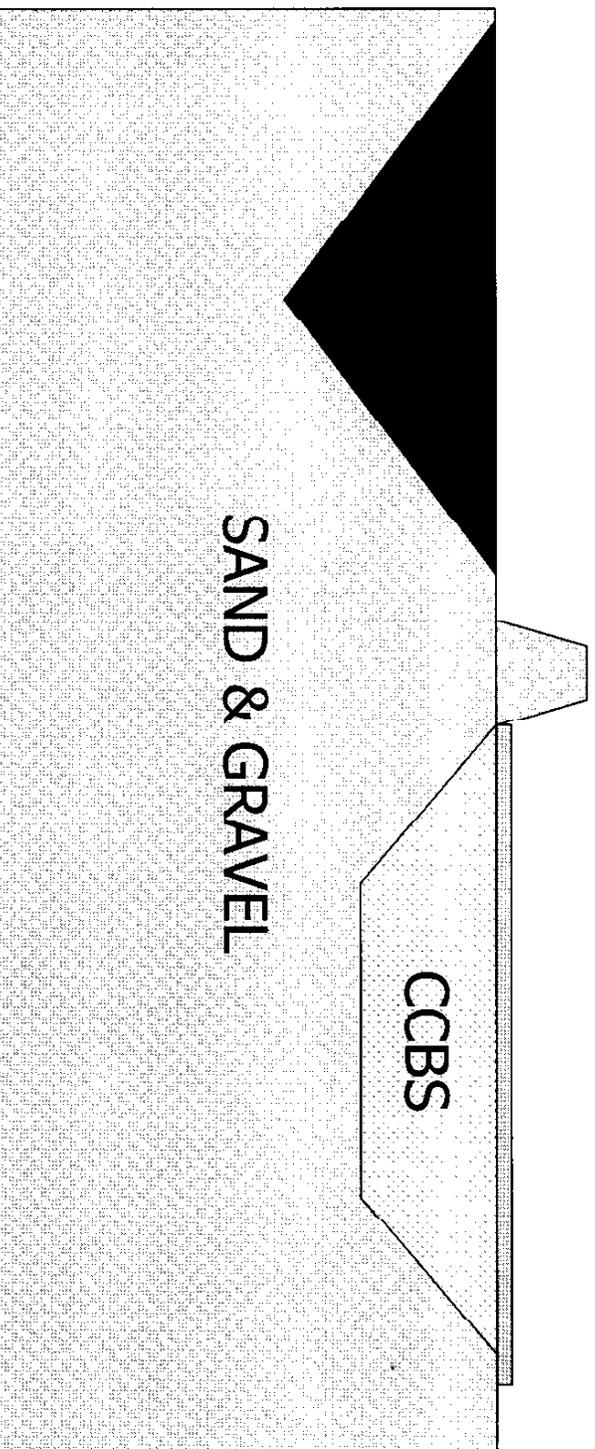
# DIFFERENCES BETWEEN UTILITIES & MINES

<b>FEATURE</b>	<b>UTILITY</b>	<b>MINE</b>
GEOGRAPY	FLOODPLAIN	UPLAND
GEOLOGY	ALLUVIAL SAND & GRAVEL	BEDROCK SANDSTONE, SHALE & LIMESTONE
GROUND WATER	LARGE VOLUME HIGH QUALITY	SMALL VOLUME POOR QUALITY

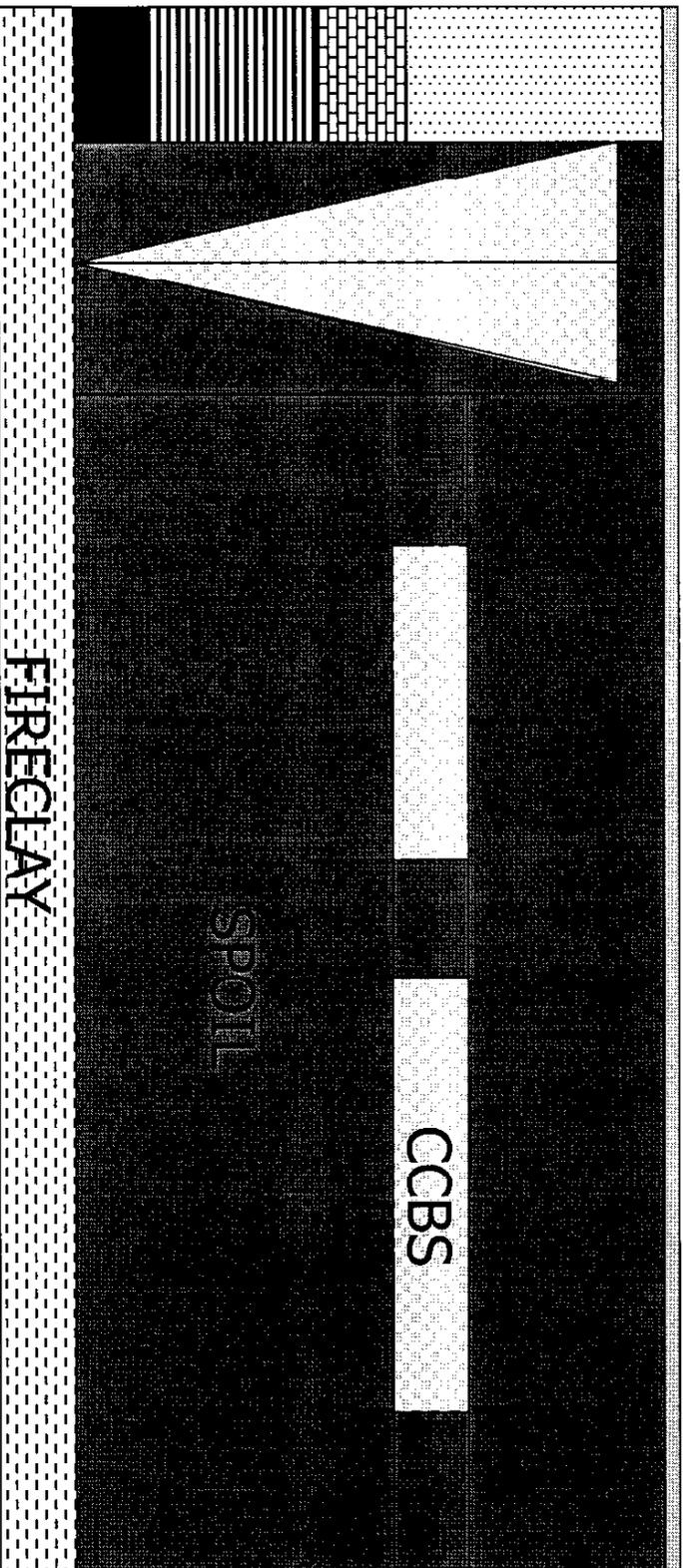
# DIFFERENCES BETWEEN UTILITIES & MINES

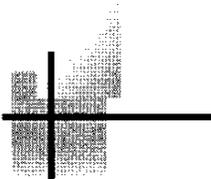
<b>FEATURE</b>	<b>UTILITY</b>	<b>MINE</b>
CCB TYPE	WET SLURRY ALL TYPES	DRY - ONLY PERMIT APPROVED
RECLAMATION	SMALL AMOUNT OF COVER OVER POND	DEEP COVER OVER MONOFILL OR SPOIL LAYER
REGULATION	CLEAN WATER AT OPERATION SOLID WASTE AT DISPOSAL	SMCRA & CLEAN WATER & SOLID WASTE ALL PHASES

# TYPICAL UTILITY CCB STORAGE/DISPOSAL AREA



# TYPICAL CCB FILL AT MINE

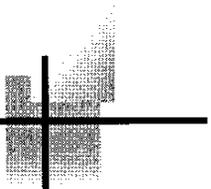




# CCB USE AT MINE SITES

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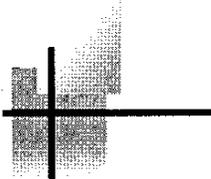
- **ARIPPA STATISTICS**
  - 1999 – 5.1 MILLIONS TONS OF FBC USED TO RECLAIM ABANDONED MINES AND CONTROL ACID MINE DRAINAGE
- **ACAA STATISTICS**
  - 1999 – 1.9 MILLION TONS (1.8% of total non FBC materials) USED AT MINE SITES



# IMPACTS ON BENEFICIAL USE

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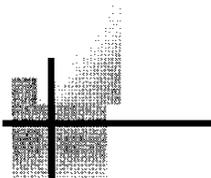
- ADDITIONAL FEDERAL REGULATION OF CCBS ON MINE SITES COULD REDUCE THEIR BENEFICIAL USE



# CCB USE AT MINE SITES

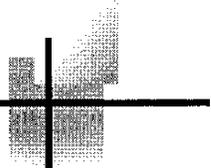
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- NON TOXIC FILL
- CONTROL OF ACID MINE DRAINAGE
- CONSTRUCTION MATERIAL
- INJECTION INTO UNDERGROUND MINES FOR SUBSIDENCE AND AMD CONTROL
- SOIL AMENDMENTS FOR AML PROJECTS



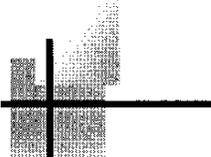
# SMCRA PERFORMANCE BOND

- 30 CFR 800.13 (a)(1) Performance bond liability shall be for the duration of the surface coal mining and reclamation operation and (the extended revegetation liability period) or until achievement of the reclamation requirements of the Act, regulatory programs, and permit, whichever is later.



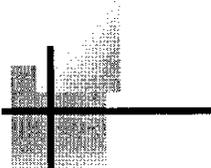
## DURATION OF PERFORMANCE BOND

- BOND RELEASE IS NOT DETERMINED BY TIME BUT BY ACHIEVING THE PERFORMANCE REQUIREMENTS.
  - In the case of Acid Mine Drainage, the bond can not be released until the conditions that produce the AMD have been corrected.



## SMCRA PERFORMANCE STANDARDS

- 30 CFR 816.41 Minimize disturbance of hydrologic balance by protecting ground & surface water from pollutants.
  - Includes requirement for replacement of water supply impacted by contamination.
  - Requires monitoring based on probable impacts.



# SMCRA PERMIT REQUIREMENTS

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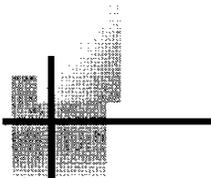
- 30 CFR 780.21 Probable hydrologic consequences determination
  - Detailed information on potential for pollution of ground or surface water
  - Detailed hydrologic reclamation plan
  - Ground & Surface water monitoring plan



# CONCLUSION

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- DO WE KNOW EVERYTHING WE NEED TO ON POTENTIAL ENVIRONMENTAL EFFECTS? NO
- DO WE NEED MORE RESEARCH? YES



# FINAL QUESTIONS

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- IF ADDITIONAL FEDERAL REGULATIONS ARE TO BE PROPOSED,
  - WHAT IS THE PROBLEM?
  - WHERE IS THE SCIENCE?