



Department of Health
and Environment

Environmental Remediation

Surface Mining Section

Three Programs

- Administration and Enforcement (A & E)
- Abandoned Mined Land (AML)
- Emergency Program



A&E Program



Permit Application

- Legal and financial Interest
- Vegetation, landuse, wildlife accounting
- Hydrologic study of the permit and surrounding area
- NEPA compliance
 - Corp of Engineers (404 Permit)
 - Archeological and Historical
 - Threatened and Endangered Species
- Detailed Operation Plan
- Detailed Reclamation Plan
- Revegetation Plan, including how bond release will be done



Pre Law

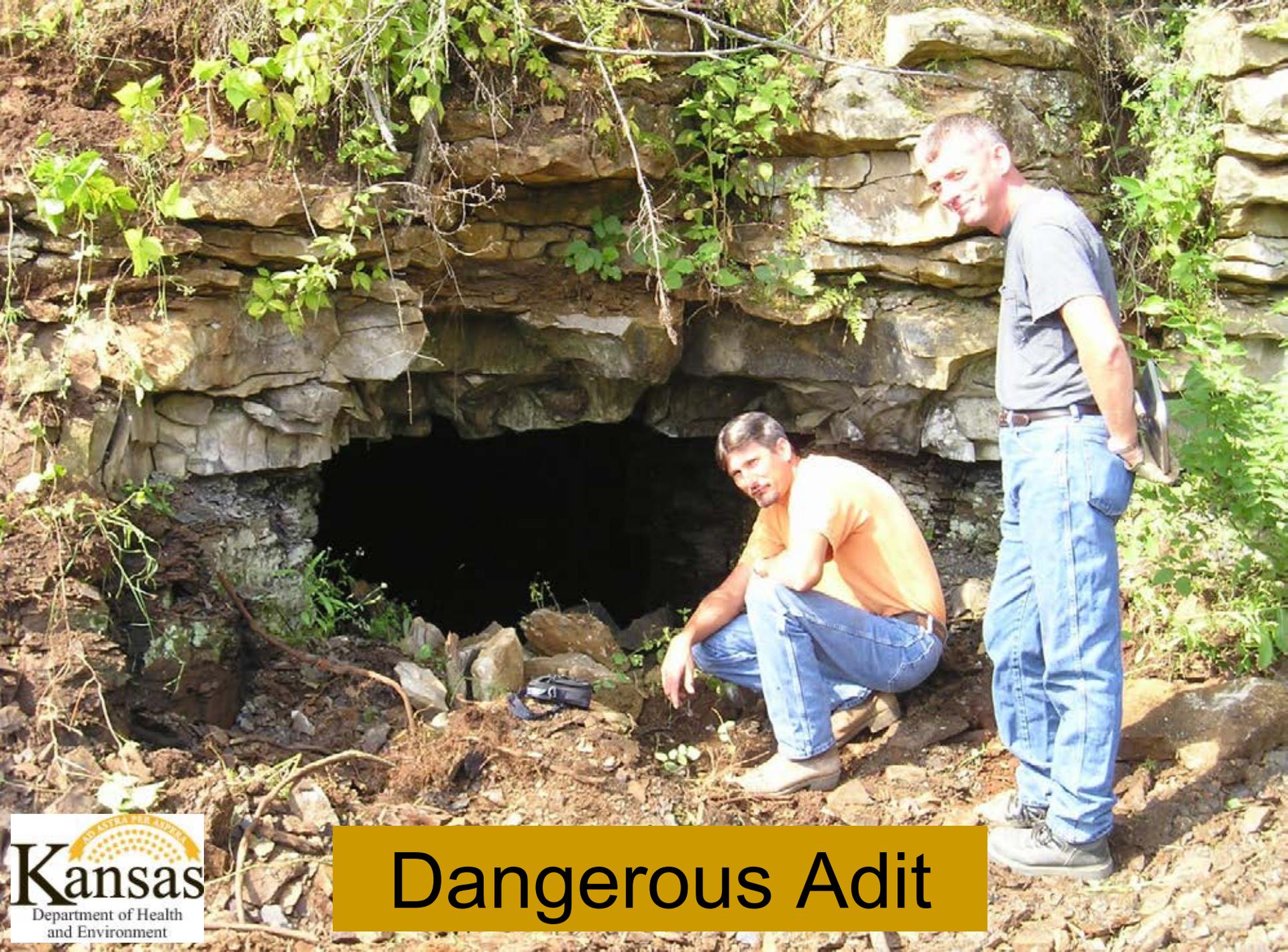
Abandoned Mine Land Program (AML)



Highwall Hazards



Vertical Opening Hazard



Dangerous Adit

Dangerous Drift Mine

Surface Burn

SMCRA

In an effort to protect the general public from the adverse impacts of past coal mining, the United States Congress passed the Surface Mining Control and Reclamation Act (P.L. 95-87)(SMCRA) on August 3, 1977. This act authorized the collection of fees from active coal companies, for every ton of coal mined in the US, to remediate the hazards associated with past coal mining. These fees are placed in the Abandoned Mine Reclamation Fund. With the 2006 amendment to SMCRA these fees were set at the following:

Surface Mining: 28 cents per ton or 10% of the value of the coal at the mine, whichever is less.

Underground Mining: 12 cents per ton or 10% of the value of the coal at the mine, whichever is less.

Lignite Coal: 8 cents per ton or 2% of the value of the coal at the mine, whichever is less.

Presently, these fees are distributed to the State of Kansas in three ways, these are:

State Share: 50% of the fees collected in the State are returned to that State.

Historic Share: These fees are given to the State through a complex formula based on historic coal production within the State.

Federal Share: In accordance with the 2006 Amendment to SMCRA every state or tribe is to receive a minimum funding level of \$3,000,000. Since we have diminished coal mining within the State, we are considered a minimum program state. Therefore, federal share are those funds given to the State that will bring us up to the minimum level of \$3,000,000.

To obtain reclamation funds the State had to create an inventory of hazards associated with past coal mining and these hazards had to be prioritized and ranked based on severity. The inventory of hazards associated with past coal mining in Kansas was placed in the Federal Governments Abandoned Mine Land Inventory System (AMLIS)

KANSAS

Abandoned Mine Land Inventory System (AMLIS)

<u>AML Type</u>	<u>Unfunded Units</u>
Clogged Stream Lands	34 acres
Clogged Streams	2.2 miles
Dangerous Highwalls	142,468 linear feet
Dangerous Piles & Embankments	256.7 acres
Gases: Hazardous/Explosive	1 count
Hazardous Equipment & Facilities	32 count
Industrial/Residential Waste	12 acres
Polluted Water: Agricultural & Industrial	10 count
Polluted Water: Human Consumption	1 count
Subsidence	1,419.8 acres
Surface Burning	0.10 acres
Vertical Openings	220 count

NEPA Compliance

To obtain Authorization to Proceed on a project we have to obtain approval from the Federal Government's, Office of Surface Mining. This includes complying with the National Environmental Policy Act. To do this we must obtain clearance from the following federal and State Agencies:

- ❖ Kansas Dept. of Wildlife, Parks & Tourism
- ❖ Action Permit for T&E Species may be required.
- ❖ U.S. Fish and Wildlife Service
- ❖ Corp of Engineers – 404 Permit
- ❖ Kansas Historical Society
- ❖ Division of Water Resources
- ❖ Floodplain Permits
- ❖ KDHE-Bureau of Water – SWPPP or NPDES Permit, if necessary

Foxtown South AML Project

 Northside of Project

 Southside of Project

E 610th Ave



Gray Bat Protection

- Construction cannot begin between April 1 and October 1
- Preconstruction surface area of water has to be returned
- Linear feet of preconstruction shoreline has to be replaced
- Trees have to be planted in a 100 ft. buffer zone around the replaced water

Handling Mud Spoil Cofferdam



Southside of Project



Handling Mud Rock Cofferdam





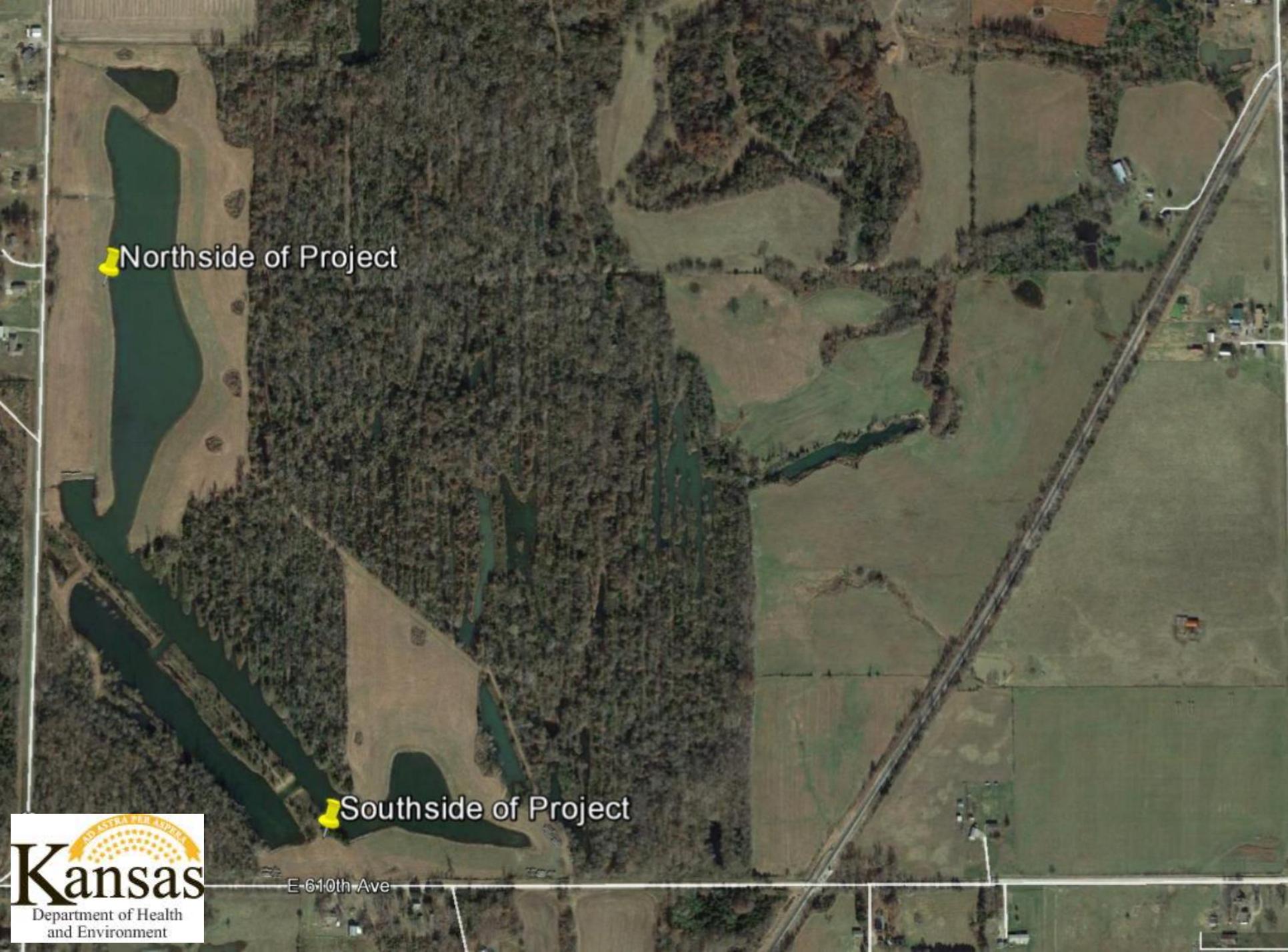
Lime – Mulch Application





6,000 trees planted





Northside of Project

Southside of Project

E-610th Ave

Highwall Accomplishments

- 197,030 feet or 37.32 miles
- Cost of \$15,447,183



Vertical opening (VO) Abatement Programs

- Coal Vertical Opening Project
- Emergency Backfilling Project
- Emergency Drilling & Grouting Project
- Lead & Zinc Vertical Opening Project

VO Accomplishments:

Project	VO's Filled	Cost
Coal VO	1,145	\$2,099,326
Pb & Zn VO	245	\$1,424,224
Emergency Backfilling	970	\$2,013,671
Emergency Drilling & Grouting	281	\$6,472,638

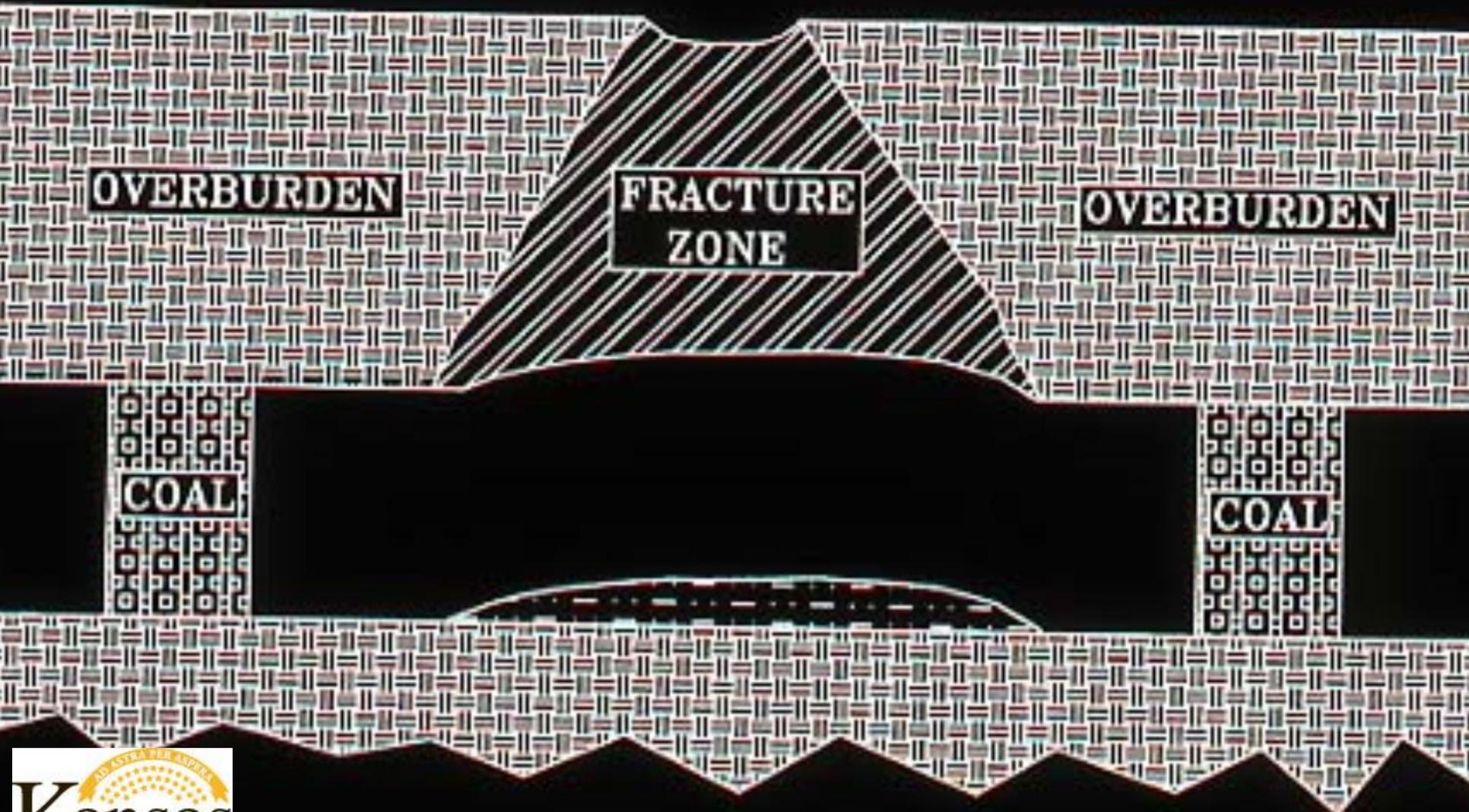
Coal VO Project

- Subsidence usually occurs in areas where mining was less than 40 feet from surface with unconsolidated geology for overburden.
- Subsidence generally no larger than a few feet to 25 feet in diameter and less than 15 to 20 feet in depth.
- Most subsidences are relatively small with minor deflection at the surface.

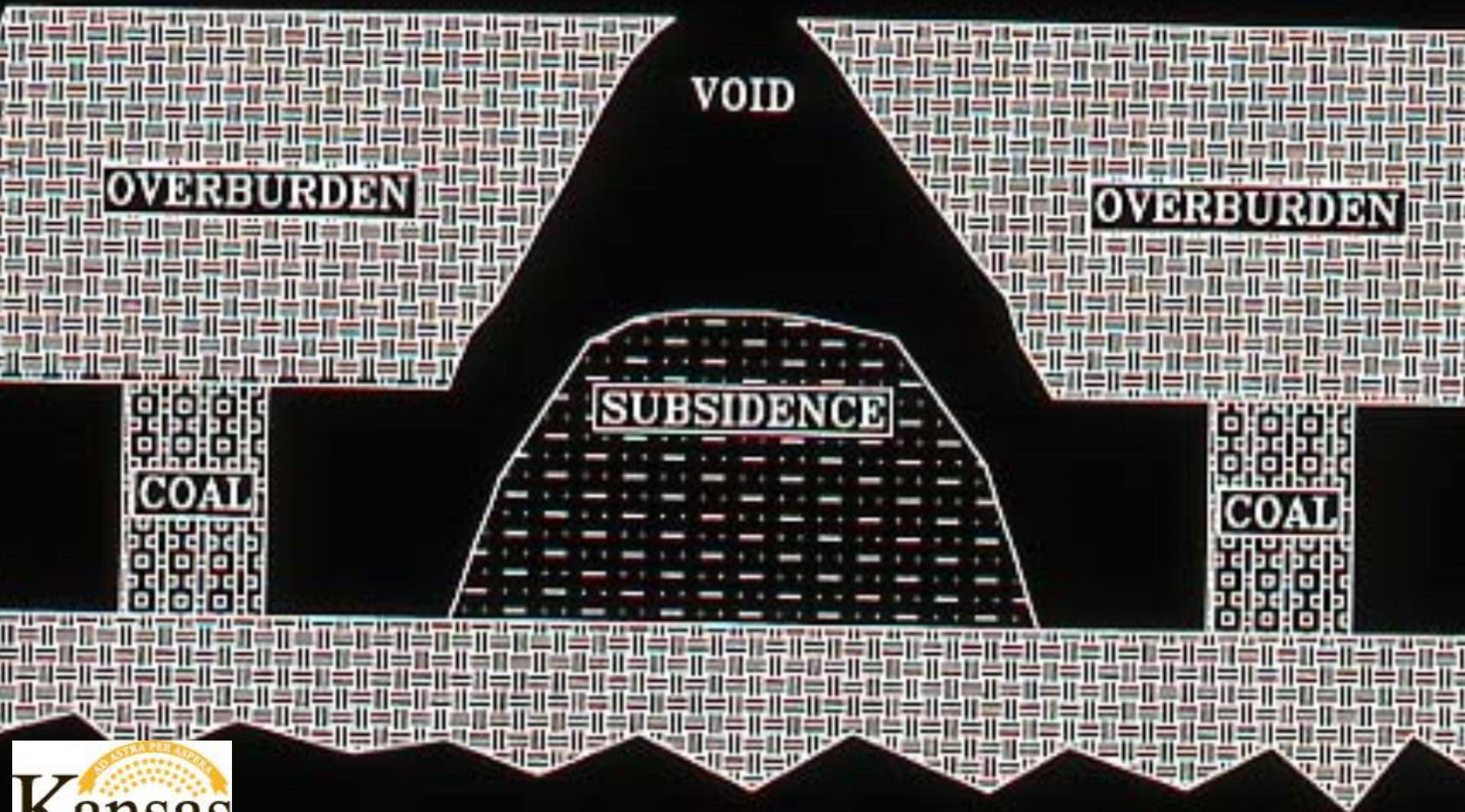
COAL MINE SUBSIDENCE

- These subsidences can occur anywhere within the boundary of the Weir-Pittsburg Coal Seam.
- Many of which affect city streets, county roads and state and federal highways.
- Emergency Hazards are remediated with two different methods: Backfilling, and Drilling and Grouting.
- Non Emergencies are handled under the Vertical Opening AML Project. About \$150,000 spent a year to remediate hazards associated with non-emergency subsidence from past coal mining.

TYPICAL SLUMPED AREA



TYPICAL SUBSIDENCE VOID



Emergency & VO Project

Backfilling

Projects remediated under the Emergency Program Backfilling Contract and the Coal Vertical Opening Project are remediate in the same way. The subsidence material is removed with a backhoe and the void is filled with rock to within two feet of the surface. Then clay or topsoil is placed to the ground surface and the disturbed area is seeded.

Emergency & VO Project

Backfilling with Grout

If the void is clear to the mine opening the hazard is abated by backfilling with grout. Then clay or topsoil is placed to the ground surface and the disturbed area is seeded.

Drilling & Grouting

Projects remediated by drilling and grouting are first drilled. Then cement is pumped into the drill holes.



Lead and Zinc VO Project

- Shafts and Subsidence vary from 30 to 200+ feet in depth with multiple levels
- Room height varies from 30 to 100 feet
- Room Lengths take up city blocks
- Approximately \$150,000 a year is spent abating hazards associated with lead and zinc shafts and subsidence.

- Methods for sealing Lead and Zinc VO's:
 - Completely fill shaft (Shallow shafts and subsidences are fill with large Rock or foundation materials to within 2-3 feet of ground surface then grout. Then they are capped with soils).
 - Capping (Deep Shafts are capped with Steel reinforced concrete)
 - Puff (Polyurethane Foam)
 - Bat Gates (If necessary)

Lead and Zinc Shafts



**SUBSIDENCE USED FOR
ILLEGAL DUMPING**



Lead & Zinc Subsidence

- Code of Federal Regulations 30, Mineral Resources, Part 700 to End.
- 1993 Cumulative Supplement to the Kansas Statutes Annotated, Volume 4 Chapters 48 to 59, Volume 4A Chapters 60 to 64.
- Kansas Surface Mining Section, <http://www.kdheks.gov/mining/>



204 S. Olive

Pittsburg, Kansas

A Very Unique Case











216-05-9003

STAKELOCHER







MOTOR
HARLEY-DAVIDSON
CYCLES



To much structural damage not to repair foundation.



















2011/09/14 15:53



2011/09/15 08:49



2011/09/26 09:30



- Code of Federal Regulations 30, Mineral Resources, Part 700 to End.
- 1993 Cumulative Supplement to the Kansas Statutes Annotated, Volume 4 Chapters 48 to 59, Volume 4A Chapters 60 to 64.
- Kansas Surface Mining Section, <http://www.kdheks.gov/mining/>