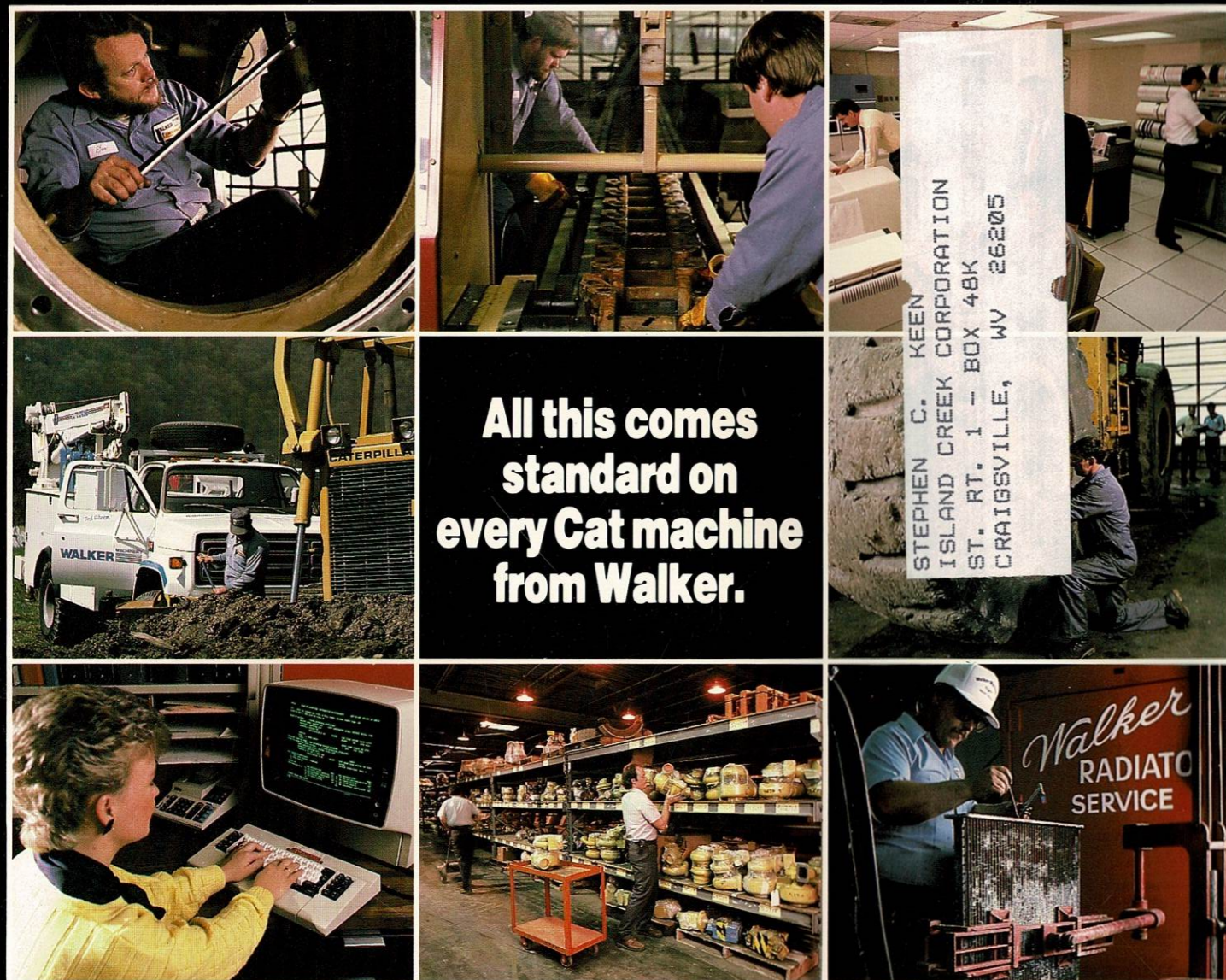


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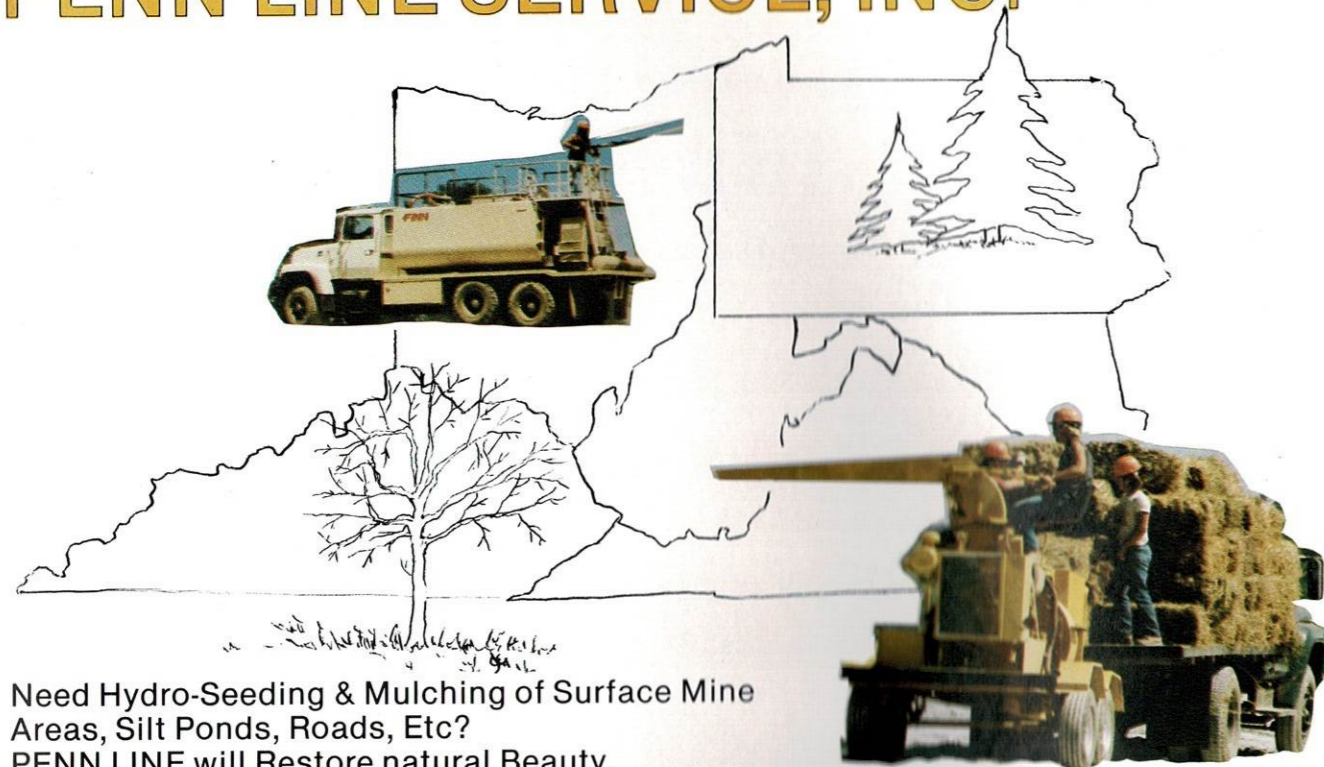
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# Green Lands

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### Green Lands

is a quarterly publication of the  
West Virginia Mining & Reclamation Association,  
with offices at 1624 Kanawha Boulevard East  
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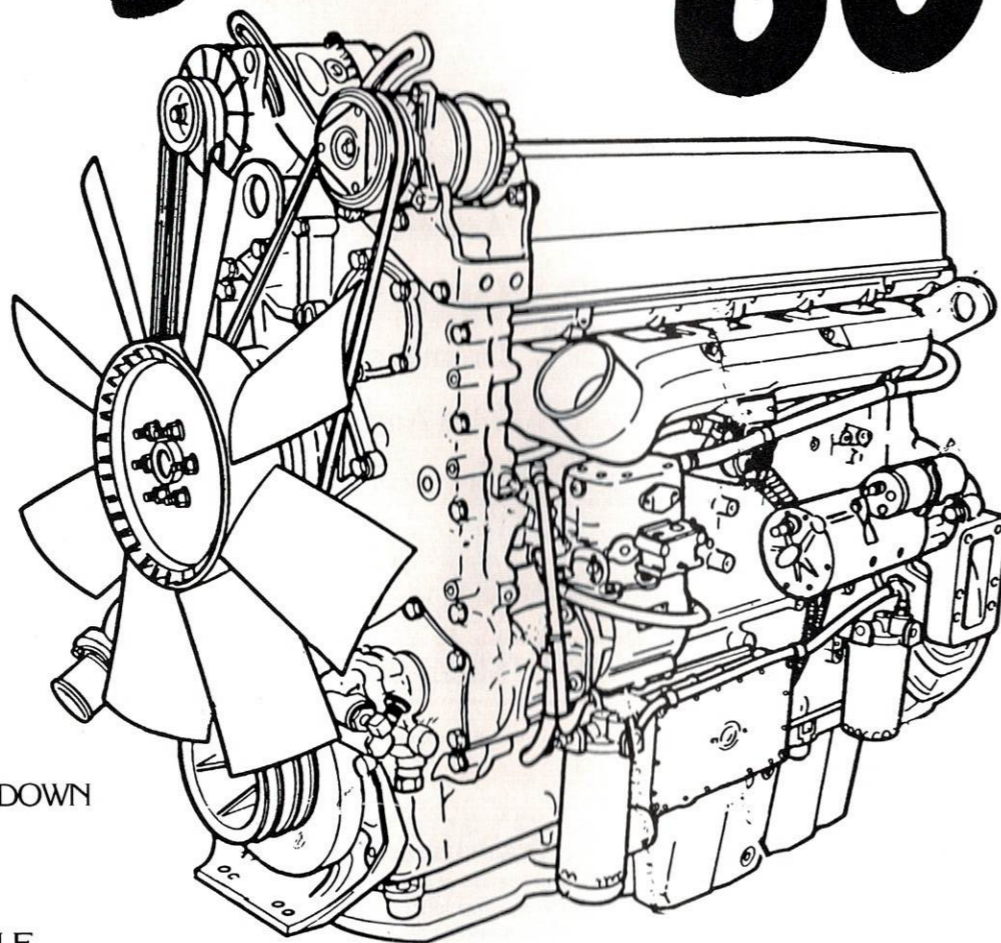
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# Association Notebook

**Jim Poindexter**, retired president of Mountaineer Euclid Inc., was the 1989 recipient of the "Spirit of the Valley" award presented by the YMCA of the Kanawha Valley.

The Spirit of the Valley "recognizes exemplary community service which benefits all people of the Kanawha Valley."

Jim was honored for his many years of volunteer service to the Boy Scouts of America, Goodwill Industries, and to his local church.

A native of Charleston, Jim was a long-time employee of Rish Equipment Co. before moving to Mountaineer Euclid. He served on WVMRA's Board of Directors from 1979-1981.

**Drummond Coal Co.**, a new member of the Association, has purchased the mining rights to more than 45,000 acres of coal reserves in Kanawha, Boone, Raleigh, Wyoming, and Lincoln Counties from Armco Inc.

The Alabama based company is the 30th largest coal producer in the U.S., mining 8.9 million tons in 1988. Drummond operates both underground and surface operations in Alabama, with a work force of some 3,300. Drummond's current operations are all unionized.

None of the reserves purchased from Armco are in an active mining stage, and the company made no announcements concerning immediate development of the reserves.

Drummond's representative in West Virginia is **Ben Lusk**, former president of the West Virginia Mining & Reclamation Association.

**Bill and Jack Anderson** of Anderson & Anderson Contractors in Princeton, were honored in August with a scholarship golf tournament and banquet at Concord College in Athens.

The Anderson brothers, both former WVMRA chairmen, have been long-time supporters of Concord, most recently with the establishment of the "John C. and Ruby Anderson Scholarship Fund" in 1988.

# Coal Calendar

## October

- 6-7** **Fall Board of Directors' Meeting - West Virginia Mining & Reclamation Association**, Lakeview Resort, Morgantown, contact Patty Bruce, WVMRA, 1624 Kanawha Blvd. E., Charleston 25311, (304) 346-5318.
- 16-18** **Workshop on Microcomputer Applications for Mining Engineering**, University Park, PA, contact Donna Ricketts, 409 Keller Conference Center, Penn State University, University Park, PA 16802, (814) 863-1743.
- 17-18** **Second Annual Mining Regulation Symposium**, Raddison Plaza Hotel, Lexington, KY, contact Hal Quinn, National Coal Association, 1130 17th St. NW, Washington, D. C. 20036, (202) 463-2625.
- 17-18** **Mine Fire Safety Seminar**, Beckley, contact Dennis Hartshog, National Mine Safety & Health Academy, P.O. Box 1166, Beckley 25802, (304) 256-3340.
- 19-21** **Annual Meeting - Kentucky Coal Association**, Marriott Griffin Gate Resort, Lexington, KY, contact KCA, 340 So. Broadway, Lexington, KY 40508, (606) 233-4743.
- 20-21** **Fourteenth Annual Mineral Law Seminar**, Hyatt Regency Hotel, Lexington, KY, contact Mineral Law Center, University of Kentucky, College of Law, Lexington, KY 40506, (606) 257-1161.
- 23-25** **Short Course - "Coal Mine Production Engineering,"** University Park, PA, contact Donna Ricketts, 409 Keller Conference Center, Penn State University, University Park, PA 16802, (814) 863-1743.
- 26-27** **Short Course - "Acid Mine Drainage/Quality,"** University of Kentucky, Lexington, KY, contact Geaunita H. Caylor, Institute for Mining & Minerals Research, 201 Porter Bldg., University of Kentucky, Lexington, KY 40506, (606) 257-2820.
- 30-31** **8th Annual International Coal Trade Conference**, Key Bridge Marriott Hotel, Washington, D.C., contact Fred Shear, Pasha Publications, 1401 Wilson Blvd., Suite 900, Arlington, VA 22209, 1-800-424-2908.





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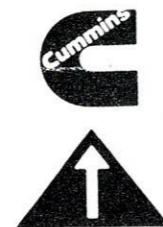
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Scenic Valley Falls on the Tygart.

photograph by Gerald Ratliff

## Dramatic rescue of a vital river

by  
Rosanna Romano  
Information Representative  
West Virginia DNR

Reprinted, with permission,  
from the May, 1989 edition of  
*Wonderful West Virginia*,  
a monthly publication of the  
West Virginia Department  
of Natural Resources

The Tygart Valley River is one of the most picturesque streams in West Virginia, and one of the most inaccessible. Steep slopes, rocky channels, and rugged narrow valleys see the Tygart flow north from its source on Cheat Mountain to join the West Fork River and form the Monongahela. Its waters — in some sections rough and white, in others quiet and peaceful — travel through some of the state's most beautiful scenery as they fall from an elevation of 4,000 feet at the source to 857 feet near its confluence with the West Fork at Fairmont.

The Tygart is also one of our sensitive rivers. Most of its river basin is threatened by untreated acid water that chronically drains from deep abandoned mines into many of the large and small streams which flow into the Tygart. Barren and sterile, these streams with their acid load seriously disrupt the fairly constant environmental conditions in which plants, animals and microorganisms have evolved. There is, in fact, no escape from acid waters.

A sudden drop in pH (which measures the strength of various acids) instantly harms living things by damaging their tissues and the chemical composition of their environment. Similarly, human beings are vulnerable to acidity. If the air around us were to become suddenly acid, we too would gasp for breath as acid corroded the lining of our lungs.

During years of normal precipitation, the acidity that enters the Tygart is diluted and the aquatic life in sections of the river, although affected, is not seriously threatened.



The Tygart, as it appeared during a period of normal precipitation in October, 1984.

photograph by Gerald Ratliff

But the summer of 1988 was far from normal. The never-ending heat wave and persisting drought combined to create unusual circumstances that, if left unchecked, would have turned the lower basin of the Tygart into an acid desert.

The threat posed by the lack of rain began to become evident in June. As hot parched days passed, the number of exposed rocks in the river and along its banks increased, while the water in the riverbed was diminishing to record lows. But the acid waters from Grassy Run, a small tributary of the Tygart, kept flowing.

Unaffected by the drought, water collected underground in a 2,000 acre deep mine. Now abandoned, this mine, which extends for more than five miles from Coalton to Norton and operated for many years beginning in the 1890's, continues to pour out acid water into Grassy Run.

The Department of Natural Resources' wildlife biologists and water resources inspectors were aware of the precarious situation of the Tygart. The Buckhannon River, the only major tributary with buffering potential, was also affected by the drought, and its ability to provide enough water for neutralization was dwindling.

"We measure stream flow in cubic feet per second (cfs)," said Mike Shingleton, fish biologist with the DNR's Division of Wildlife Resources in French Creek. "Low summer flows in the Tygart at the town of Belington are usually around 75 cfs; this summer we measured flows as low as 4 cfs. When such extreme circumstances occur, we see water levels decline while sources of pollution remain the same. There is no dilution, no buffering until . . . the worst occurs: we have a fish kill."

On July 5, four portentous words of the message received by the Department of Natural Resources sounded the alarm "fish kill below Norton." The pH of the river, which usually has a range between 6 and 7.5, had dropped downstream of Grassy Run to a pH as low as 3.3.

"Aquatic life is almost instantaneously killed in water with a pH less than 4.5," explained Shingleton. "We investigated the complaint at once and found the river was being acidified from the mouth of Grassy Run. The riverbed was coated with bright orange and red hues for a couple of miles downstream below the confluence with the tributary. This is the typical discoloration caused by sulfuric acid and iron compounds (commonly known as yellowboy in West Virginia) which settle out after being dissolved by water with a higher pH.

We looked farther downstream and, as expected, we saw the exceedingly clear waters typical of acidified streams. Clear, but already devoid of life."

The fish kill grew as the acid front advanced downstream, affecting the river for approximately 15 miles nearly to the mouth of the Middle Fork River, between the towns of Belington and Philippi. According to fish biologist Frank Jernejcic, an estimated 76,000 fish were killed in the 15-mile stretch. The acidification of 30 more miles of the Tygart Valley River from Grassy Run to Tygart Lake at Grafton loomed, not just as a possibility, but a certainty. And more than just life in the river was at risk. The towns of Junior, Belington, Philippi, and Grafton located along the path of the acid slug were in danger of losing their water supply. The water in the river was so acid, it could endanger the health of the public.

There was no time to waste, no effort to spare, no approach to leave unexplored. The action came, and it was prompt, innovative, and well orchestrated.

Sam Perris, Water Resources Division inspector in Fairmont, drew on his contacts, savoir-faire, and knowledge of the area, and started the rescue operation. Inspector Perris knew the location of a large pool of groundwater at the Century Limestone Quarry near Elkins. The water had a high pH and, with proper equipment and approval from the owners of the quarry, could be pumped into the Tygart to increase its flow and buffer the acidity. The approval was gladly granted. A pump was now needed. Perris also knew several officials at the Grafton and C & W coal companies. He turned to them for help. Generously, the coal companies agreed to provide the needed diesel-powered pump and related piping.

But the pumping of water alone was not enough to provide the necessary relief. Since the situation was an emergency, it was decided to treat the source of the problem — Grassy Run — and the advancing acid slug in the



photograph by Mike Shingleton



photograph by Tom Oldham

**Above** - In the hot and dry summer of 1988, acid waters from Grassy Run poured into the parched Tygart Valley River.

**Left** - The orange-brown substance on these rocks, commonly called yellowboy, was caused by acid mine drainage.

droseeder into the Tygart.

"The lime had a two-fold effect," said Shingleton. "It quickly neutralized the acid waters, and the amount that was inevitably sprayed on the exposed rocks in the river also provided a back-up treatment later on when it rained."

Only a few days after the fish kill was reported, DNR personnel were able to begin treating the acid waters.

"Cooperation among private firms and various agencies proved invaluable in getting the job done," said Lyle Bennett, administrator of DNR's state mining nonpoint source program.

Like pieces in a puzzle, all equally important to complete the picture, everyone carried out a vital part of the rescue project. Rocky Parsons, Mike Reese, and Dave Brochart of the West Virginia Department of Energy solicited donations of soda ash briquettes from coal companies, provided the barrels and pipes, and arranged ac-

Tygart before it entered the narrow gorge below Belington where the gradient of the river suddenly increases. Again, private firms provided the materials needed immediately.

The plan: soda ash briquettes would be placed in perforated drums on Grassy Run. At the same time, caustic soda (sodium hydroxide) contained in a 2,000-gallon storage tank would be directly drip-fed into the stream. The alkaline chemical contained in the briquettes and caustic soda would act as an acid neutralizer, causing the pH to go up. The same effect would be achieved by spraying agricultural lime slurry with a hy-

cess to the treatment location on Grassy Run. Bennett's request to obtain emergency funding to pay for the operation was also promptly reviewed by the Department of Energy, and forwarded to Carl Walker of the federal Office of Surface Mining (OSM). Under the provisions of the Federal Emergency program, Walker could obtain Abandoned Mine Land funding, and reach a cooperative agreement with the DNR, whereby OSM supplied the funding, and DNR the manpower to maintain and operate the caustic soda treatment and the quarry pumping for the duration of the low river flow.

The treatment worked, the acidity in the river decreased, the acid slug was neutralized before it entered the gorge, and finally, at the beginning of September, it rained.

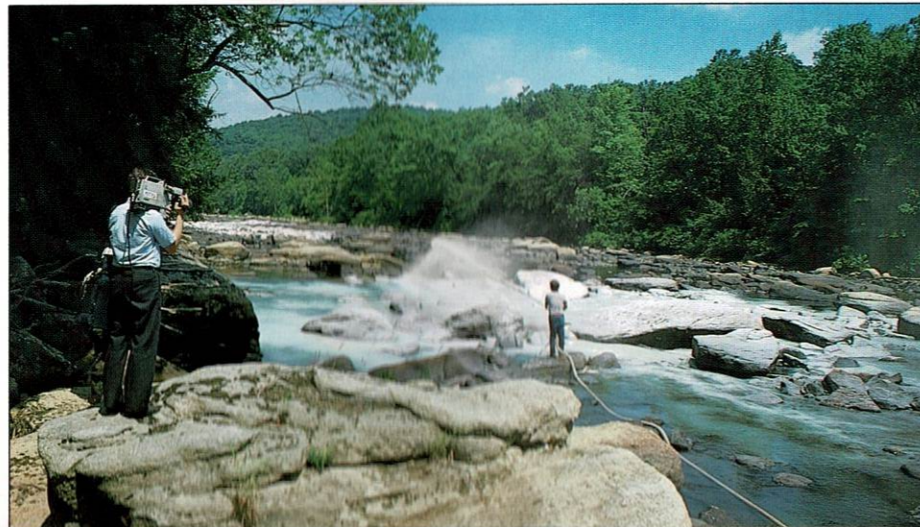
"When we measured a flow of 25 cfs," said Bennett, "we calculated that there was enough dilution and that the treatment could be suspended."

Now it is nature's turn to begin the healing process. Slowly, very slowly, the river will begin to recover.

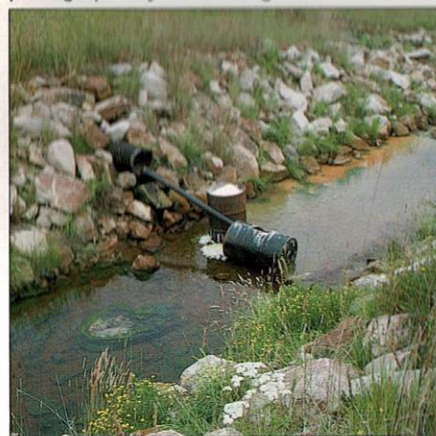
"It is going to take time," remarked Don Martin, DNR's Division of Water Resources District III supervisor. "We had problems with fish kills in the Tygart before — although not as extensive as this one. We know it's going to take three or four years for the river to get back to where it was."

Slowly, life will invade the 15-mile stretch of the affected waters. With the reestablishment of the aquatic flora and fauna, many species of land animals that rely upon the river for their food and habitat will return. The turtles, frogs, and snakes that prey on the larvae of the mayflies, dragonflies, and the fish; and the larger animals, too, like the kingfisher, beavers, muskrats, and raccoons will repopulate the area. The destruction of an aquatic habitat does not, in fact, stop there; it causes a ripple effect spreading to the ecosystem of which it is an integral part.

"We feel good about the way the



photographs by Mike Shingleton



Above - Agricultural lime slurry is sprayed with a hydroseeder into the Tygart, as a television cameraman records the scene.

Left - To neutralize acid, these perforated drums were placed in Grassy Run.

### In Appreciation

The Department of Natural Resources wishes to extend sincere thanks to all the individuals and companies that contributed to the Tygart Valley River rescue of 1988:

Grafton Coal Co., Century Limestone Co., Germany Valley Limestone (Greer Limestone), Westvaco, C & W Coal Co., Stanley Industries, Dave Miller, Black Diamond Energy, Island Creek Mining Co., Badger Coal Co., LaRosa Fuel, United Coals, Leo P. Ware & Son Corp., Erwin Supply Co., Ross-Wharton Gas Co., Nalco, Ashland Petroleum, Hess Oil Co., Barbour County Sportsmen Club, WV Department of Highways, WV Department of Energy, and the U.S. Department of Interior, Office of Surface Mining.

operation was carried out," said Bennett, "but we are not chanting victory. With the continued cooperation of the different agencies involved in the rescue operation, we hope to be able soon to find a long-term solution to the acid mine drainage problem that has chronically affected the Tygart Valley River. We must avoid similar situations from occurring in the future."

In the meantime, the Tygart Valley River continues to flow through West Virginia's steep slopes and rugged valleys, a challenge to canoeists who attempt to shoot its rapids, and a source of enjoyment to those who love to sit and fish near its banks. If you listened carefully to the chatting of its waters, you could probably hear the river murmur . . . "Thank you."



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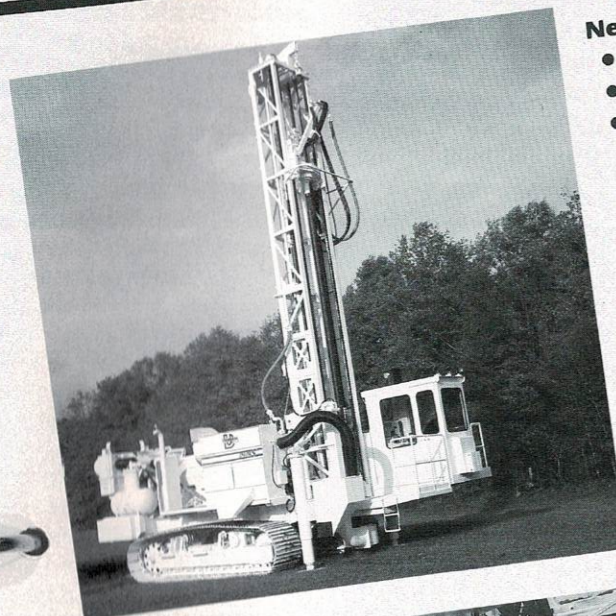
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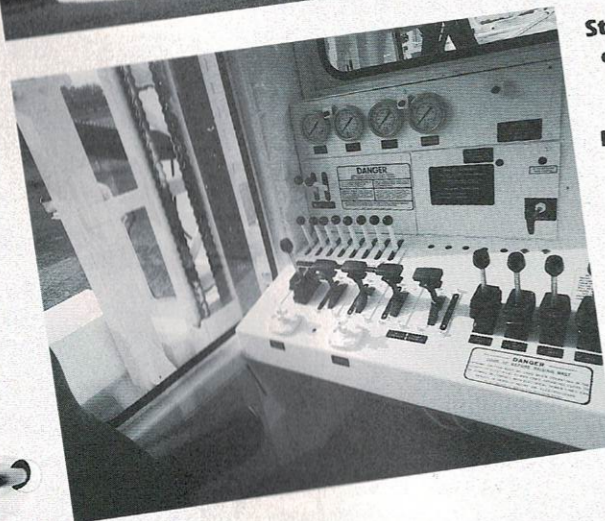
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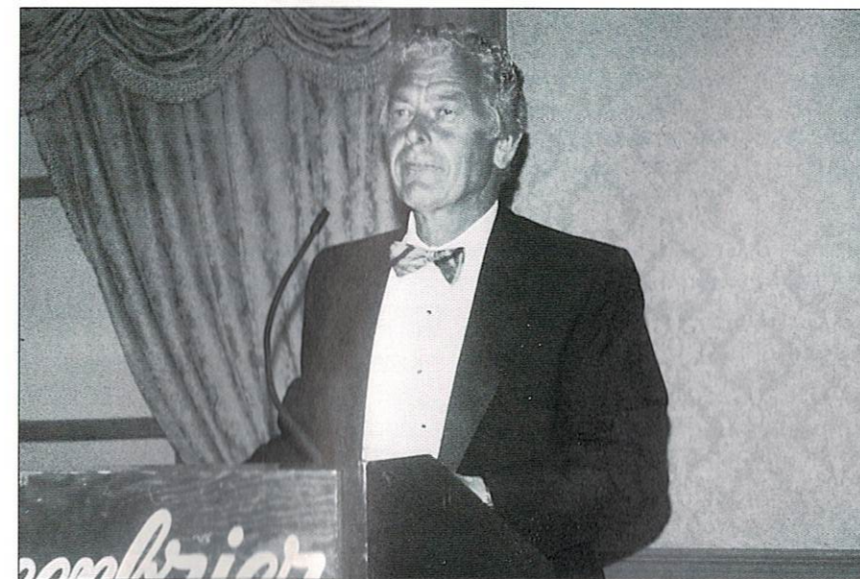
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Paul Hutchins steps in as chairman of WVMRA.

## Past WVMRA Chairmen

1966-67	Leo Vecellio, Sr.
1967-68	F. B. Nutter, Sr.
1968-69	Arch F. Sandy, Jr.
1969-70	John C. Anderson
1970-72	G. B. Frederick
1972-73	James L. Wilkerson
1973-74	Lawson W. Hamilton, Jr.
1974-75	James C. Justice, Sr.
1975-76	H. L. Kennedy
1976-77	Frank D. Jennings
1977-78	James H. Harless
1978-79	John J. Faltis
1979-80	Charles T. Jones
1980-81	Lawrence A. Streets
1981-82	William C. M. Butler, III
1982-83	Donald R. Donell
1983-84	Tracy W. Hylton
1984-85	Carl DelSignore
1985-86	Dwight Keating
1986-87	Theodore J. Brisky
1987-88	James W. Anderson
1988-89	Roy G. Lockard

## 23rd Annual Meeting—Our biggest ever

### Record Crowd

A turnout of over 600 members and guests made the 23rd Annual Meeting the best attended event in the history of the Association.

Record attendance marked nearly every event from August 6-9 at The Greenbrier Hotel in White Sulphur Springs, including more than 500 at the traditional "Coal Miners' Party" on Kate's Mountain.

A packed agenda of business meetings, social gatherings, and recreational activities made this meeting one of WVMRA's all time best, as well as its best attended.

In addition to electing a new slate of officers and several new Board members, the Association heard presentations on new mining technology, labor problems, and the settlement of the environmental lawsuit.

Ford Coal retained its General Division "Company Pride" championship, and Austin Powder took the honors in the Associate Division.

Champions were also crowned, and prizes bestowed, in golf, tennis, bowling, trap shooting, fishing, and "fun running." Other prize opportunities came at "Monte Carlo Night," and in special drawings at the New Chairman's Breakfast, and again at the closing banquet. The agenda also included special programs for spouses and children.

### New chairman

**Paul F. Hutchins** of Freeman Branch Mining is the new chairman of the Board of Directors.

Paul is the president of Freeman Branch, as well as Guepel Construction, based in Columbus, OH. He was elected to a one-year term, succeeding **Roy G. "Chick" Lockard** of Kelley Coal Co., Inc., Clarksburg, who served as chairman during 1988-89.

Paul Hutchins is a native of St. Louis, MO, and a civil engineering graduate of St. Louis University.

Following a year with the U. S. Army Corps of Engineers, and six years in the construction industry, he joined Guepel as a division engineer in Indiana, later moving to Columbus.

He was instrumental in Guepel's entry into the Appalachian coal market, with the formation of Freeman Branch Mining.

The company currently maintains West Virginia mining operations in McDowell, Logan, and Kanawha Counties, and is involved in a joint venture project in Nicholas County.

Freeman Branch Mining has been a member of WVMRA since 1975. Paul has been active in the Association for many years, previously serving as secretary, second vice chairman, and first vice chairman. He has also been involved with other industry and civic groups in the area.

#### Other officers

**Kenneth G. Woodring** of Hobet Mining, Inc., Huntington, was named first vice chairman. Ken was the second vice chairman in 1988-89.

The new second vice chairman is **R. Donald Cussins** of Buffalo Coal Co., Bayard, who served as secretary during the past year.

**James J. LaRosa** of LaRosa Fuel Co., Inc., Clarksburg, was elected secretary for 1989-90.

**Donald K. Cooper** of Princess Susan Coal Co., Charleston, was re-elected to the post of treasurer.

Also re-elected was **Bernie E. Dearth, Jr.** of Bridgeport Trucking Co., Clarksburg. Bernie begins his third term as chairman of the Associate Division.

#### Board members

Seven members of the Board were re-elected to three-year terms, including **Don Cussins**; **Chick Lockard**; **Donald R. Donell** of Starvaggi Industries, Inc., Weirton; **James H. "Buck" Harless**, Lynn Land Co., Gilbert; **John C. Hill**, Marrowbone Development Co., Naugatuck; **David E. Huffman**, Beckwith Machinery Co., Bridgeport; and **Lawrence A. Streets**, Allegheny Mining Corp., Mt. Storm.

Newly elected to three-year terms were **Sidney R. Young, III**, Hampden Coal Co., Inc., Gilbert; **Patrick C. Graney, III**, Petroleum Products, Inc., Beckley; and **Robert L. Raines**, Pocahontas Land Corp., Bluefield.

### Chairman's Challenge

Paul Hutchins, in his opening comments as the new chairman of the West Virginia Mining Association, challenged Association members to "get more involved with the organization," primarily through participation in its various committees.

While praising the commitment and dedication of members over the past two decades, Hutchins noted that the expanding membership of WVMRA provides the opportunity for "new ideas and innovative approaches as we move to meet the challenges of the 1990's."

WVMRA members interested in serving on committees should contact the Association office (304) 346-5318, at their earliest convenience.

WVMRA standing committees include: Dues Structure & Personnel, Finance, Legislative, Membership, Program, Public Relations, Tax, and Technical (includes sub committees on Rules & Regulations, Research, Safety & Training).

**Ben H. Daud** from Arch of West Virginia, Inc., Lundale, was named to fill an unexpired vacancy on the Board.

Ben succeeds **Lawson W. Hamilton, Jr.** of Ford Coal Co., Hansford, who retired from the Board. Lawson, one of the organization's founding fathers, was named an "honorary member for life."

The Board also selected **John Hull** of Peabody Coal Company and **Don Donell** of Starvaggi Industries, Inc. to serve on a panel, proposed by West Virginia Governor Gaston Caperton, to discuss possible solutions to the coal strike violence.

#### New Members

Six companies were accepted as new members during the meeting. **Drummond Co., Inc.**, of Birmingham, AL, joined the General Division, with former Association President **Ben Lusk** as its representative.

Five others were added to the Associate Division, including: **Benson Truck Bodies, Inc.**, Mineral Wells, **Thomas Jones** - representative; **Kenworth Truck Co.**, Mt. Laurel, NJ, **Carl Jesberg** - representative; **Midwest Steel Division/Midwest Corp.**, Charleston, **Joseph Guilfoile** - representative; **Sammons Surveying**, Baisden, **Terry Sammons** - representative; and **Thor Energy**, Morgantown, **Howard Parsons** - representative.

#### Next on the Agenda

The Board will reconvene at the Lakeview Resort in Morgantown, October 6-7, for its fall meeting. Association members are invited and encouraged to attend the fall gathering, which will include the West Virginia - Virginia Tech football game.



Second Vice Chairman Don Cussins (r) and his wife, Barbara.

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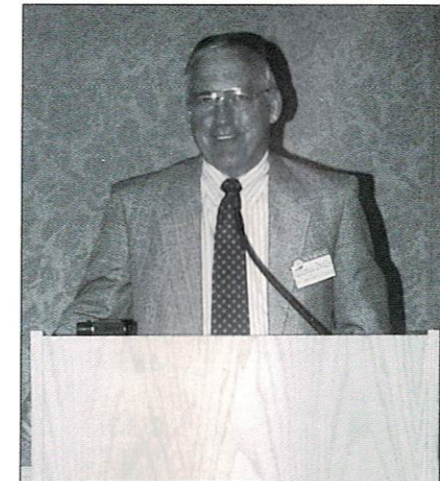
Ford Coal Co., always out in force, won the General Division "Company Pride" award for the second consecutive year.

# Company Pride

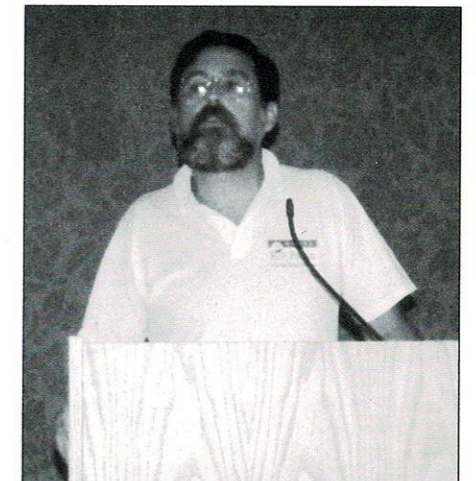
Austin Powder Co. was crowned champion of the Associate Division for its most prolific display of company pride.



Chuck Boen - Caterpillar, Inc.  
"Future Trends in Mining"



George Dials - WV Energy Commissioner  
"Save Our Mountains et. al v. WV DoE"



Ricklin Brown - Bowles, Rice,  
McDavid, Graff & Love  
"What to Do When the Pickets Show Up"

## Our Apologies

We regret that, due to the theft of our camera bag and five rolls of unprocessed film from Kate's Mountain, our pictorial coverage of the Annual Meeting, particularly that of the "Coal Miners' Party," is limited.

## 23rd Annual Meeting



Cricket Woodward - the "Queen of Monte Carlo Night."



Ann Hutchins, wife of new Chairman Paul Hutchins, presents the name tag drawing grand prize to Rick Hertz of Freeman Branch Mining.



Paul Laskody (r) of Mt. State Bit Service, presents a beautiful hand made blaster's lamp, crafted by Jim Calain and donated by Mt. State Bit, to golf winner Sid Young, of Hampden Coal.

## Thanks to the prize contributors

### BOWLING TOURNAMENT

ANKER ENERGY CORP. (Bruce Sparks) - \$100  
FAIRFAX FUEL, INC. (Dave Maynard) - \$50  
FLAT TOP INSURANCE AGENCY (Jack Lee) - \$50  
LILLY EXPLOSIVES CO. (Tim Warden) - Children's Prizes

### FISHING TOURNAMENT

PENN LINE SERVICE (Larry Roberts) - Knife  
WV EXPLOSIVES CO., INC. (Bruce Wood) Rods & Reels

### FUN RUN

ATLAS POWDER CO. (Waller Caldwell) - Running Shoes  
FLAT TOP INSURANCE AGENCY (Lee Jordan) - \$50  
STURM ENVIRONMENTAL SERVICES (John Sturm) - \$50

### GOLF TOURNAMENT

ANDERSON OF WEST VIRGINIA (Tom Meehan) - \$10,000 Hole-in-One  
BALSINGER, INC. (Jeff Senules) - (Closest to Pin) - Rifle  
BECKWITH MACHINERY CO. (Dave Huffman) - \$100  
CECIL I. WALKER MACHINERY CO. (John Williamson) - \$100  
DOMINION BANK (Brian Spencer) - \$100  
FLAT TOP INSURANCE AGENCY (Ardie McMillion) - \$100  
HEAVY MACHINES, INC. (Dan Blizzard) - \$100  
IRECO INC. (Don Adkins) - Golf Balls  
LILLY EXPLOSIVES CO. (Bob Gibson) - \$100  
MARATHON LETOURNEAU CO. (Earl Beckman) - \$100  
MCDONOUGH CAPERTON INSURANCE (Charlie Morton) - \$100  
MT. STATE BIT SERVICE, INC. (Skeeter Laskody) - Blaster's Lamp  
PENN LINE SERVICE, INC. (Larry Roberts) - Shirts  
RISH EQUIPMENT CO. (Jay Mullen) - \$100  
ROBBINS MANUFACTURING, INC. (Mike Richardson) - \$100  
RUDD EQUIPMENT CO. (Roger Fitch) - \$150  
TAMROCK DRILTECH (Jim Chrivia) - \$150  
UNION CARBIDE CORP. - (John Rader) Trophy & Linde Star Necklace  
GOLF TOURNAMENT BEVERAGE CART  
Compliments of MT. STATE BIT SERVICE (Paul Laskody)

### NEW CHAIRMAN'S BREAKFAST DRAWING

O & K TROJAN (Benny Foy) - VCR

Much of the success of the activities portion of the Annual Meeting is due to the generosity of the companies and individuals who donate prizes for the competition. Because of them, everyone who participates has a chance to come away a winner. Thanks so much to those who contributed in this way to the enjoyment of all.

### MONTE CARLO PARTY

AUSTIN POWDER CO. (Herman DeProspero) - \$100  
BALSINGER, INC. (Jeff Senules) - \$75  
CUMMINS CUMBERLAND, INC. (Ed Surgeon) - \$100  
FLAT TOP INSURANCE AGENCY (Lee Jordan) - \$100  
GOULD ENERGY (Jim Ashby) - \$75  
HEAVY MACHINES, INC. (Dan Blizzard) - \$100  
INGERSOLL-RAND (Jim Green) - Ice chest and air compressors  
JOHNSON RAILWAY SERVICE (Barbara Johnson) - Collector's doll  
LILLY EXPLOSIVES CO. (Tim Warden) - CD player  
MT. STATE BIT SERVICE, INC. (Skeeter Laskody) - \$50  
O & K TROJAN (Benny Foy) - \$50  
REPUBLIC INDUSTRIES (George Sotsky) - Gold Coin  
RUDD EQUIPMENT CO. (Roger Fitch) - \$50

### NAME TAG DRAWING

DOMINION BANK (Brian Spencer) - Sony camcorder & player  
EXPLOSIVES, INC. (Bernard Folio) - \$100

### TENNIS TOURNAMENT

ANDERSON OF WEST VIRGINIA (Tom Meehan) - \$50  
FREEMAN BRANCH MINING (Paul Hutchins) - \$50  
FULLEN FERTILIZER CO., INC. (John Fullen) - \$100  
INGERSOLL-RAND CO. - (Jim Green) - Trophy  
IRECO INC. (Don Adkins) - \$50  
LAND USE CORP. (Bill Bright) - \$50  
LILLY EXPLOSIVES CO. (Tim Warden) - \$100  
MCDONOUGH CAPERTON INSURANCE (Andy Teeter) - \$50  
PENN LINE SERVICE, INC. (Larry Roberts) - \$50

### TRAP TOURNAMENT

ANDERSON OF WEST VIRGINIA (Martin Dotson) - \$50  
COAL FIELD MACHINERY, INC. (Joe Ison) - Shooting vests  
MARTIN DOTSON - \$50  
NELL JEAN ENTERPRISES, INC. (Warren Hylton) - Shooting vests  
PENN LINE SERVICE (Larry Roberts) - Knife  
ROBBINS MANUFACTURING, INC. (Mike Richardson) - \$100  
ROBINSON & MCELWEE (Joe Price) - \$200

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# Lawson is leaving, but he won't go far



Lawson W. Hamilton, Jr.

On a beautiful Sunday morning in August of 1986, a helicopter beat a path over The Greenbrier Hotel in White Sulphur Springs.

Below, on the patio of the Presidential Suite, it caught the attention of Lawson Hamilton, Jr., who looked skyward and said loudly, "I used to have one of those." Then he threw back his head and laughed, as only he can do.

A few dozen of Lawson's friends and associates laughed with him. Coming from anyone else it might have been a wistful comment, reflecting on the better times of the past. But they were, after all, having breakfast at The Greenbrier.

And besides, Lawson Hamilton, Jr. has never been one to dwell on the negative. He saw the opportunity for a quick one-liner, and took it. That's part of his style.

Lawson started in the coal business, with his father, right after World War II. He wasn't on anybody's board

of directors back then. He was laying track, driving mules, blasting rock, and loading coal. He was also laying the foundation for a great American success story.

By 1966, when the need for a surface mining association was apparent, Lawson was a giant in West Virginia coal. His Ford Coal Co. was a charter member of WVMRA, and Lawson himself was a founding father in the truest sense. He has served on the Board of Directors for 21 years, including a term as chairman in 1973-74.

In addition to Ford Coal, he has brought his other companies into the membership, including Pratt Mining Co. (1967), Hansford Coal Co. (1974), and King Powellton Mining, Inc. (1986).

Now these four stalwart members are a part of Arch Mineral Corp., and Lawson moves toward, but not into, retirement. He doesn't want the final exclamation point put on his career just yet.

As part of a sentimental tribute at the Annual Meeting, Bunny Fitch, the Association's resident female vocalist, sang to him. Her selection was the Frank Sinatra classic, "I Did It My Way." Very appropriate, for Lawson Hamilton, Jr. does everything with a flair that is uniquely his own.

Lawson appreciated the sentiment, but took some exception to the line which says, "And now I face the final curtain." Ready with a quip, as always, he maintained that he wasn't ready for any "final curtains" just yet.

It's true, he's got some wrapup work to attend to in this transition phase of his business life. As he told the *Charleston Gazette*, "I'm not a free man, but I'm a lot freer than I was."

He's not free of the Association yet either, and hopefully, he never will be. After all, he's an honorary member for life. And he promised at the closing banquet that "I'll still be around."

That's a promise that we'll hold him to. It wouldn't be the same WVMRA otherwise.



Buck Harless (l) congratulates Lawson Hamilton following the announcement of the "Lawson and Jeanne Hamilton Family Scholarship Fund."



Lawson sings a touching tribute to his partner in all things, Jeanne Hamilton.



"Momma Jeanne's" birthday celebration was part of a memorable evening for the Hamilton family.

## The Lawson & Jeanne Hamilton Family Scholarship Fund

The 23rd Annual Meeting of the West Virginia Mining & Reclamation Association marked the official retirement of Lawson W. Hamilton, Jr. from "active duty" in the coal industry.

Lawson's coal companies, Ford Coal Co., Hansford Coal Co., Pratt Mining Co., and King Powellton Mining, Inc., have been sold to Arch Mineral Corp.

Lawson Hamilton has been a major force since the early days of WVMRA, and served on its Board of Directors for more than 20 years, including a term as chairman in 1973-74.

Aside from official duties, he is a pioneer in the West Virginia mining industry, and has been actively involved in virtually every important aspect of the Association and the industry over that period.

As part of the Annual Meeting ceremonies honoring Lawson and his wife, Jeanne, WVMRA Board member, and longtime friend and associate, Buck Harless announced the establishment of the "Lawson & Jeanne Hamilton Family Scholarship Fund."

Among their countless civic, educational, and charitable contributions over the years, the welfare of West Virginia University and its students has held a high priority for Lawson and Jeanne.

The Lawson & Jeanne Hamilton Family Scholarship Fund, initially established by a \$10,000 contribution from WVMRA, will provide educational opportunities for WVU students. The extent of scholarships provided by the Fund will be limited only by the support it receives from Lawson's friends and associates in the industry.

Those who wish to participate in this worthy project should contact:

West Virginia University Foundation  
3168 Collins Ferry Road  
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Checks should be made payable to the WVU Foundation and designated to the **Lawson & Jeanne Hamilton Family Scholarship Fund.**

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# Creating productive forests on surface mined land

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Pocahontas Land Corporation, a subsidiary of Norfolk Southern Corporation, owns and manages coal bearing properties in West Virginia, Virginia, and Kentucky. Several thousand acres of these lands have been surface mined or are scheduled to be surface mined.

With an eye towards the future, Pocahontas is concerned about the long-term use of this land once the coal has been extracted. Much of the land previously reclaimed as hayland or pasture is too steep or remote to realistically be used for this purpose and would be better used for timber production and wildlife habitat.

After a careful assessment of their long-term objectives, management and economic constraints, and current resources, Pocahontas favors productive forest land as the post mining use of the majority of their surface mined land resources.

Forest land is a natural and logical post mining land use for much of the surface mined land in the Appalachian Mountains of West Virginia, Virginia, and Kentucky. Most of this land was forested before mining and will eventually become forested after mining. Even land reclaimed as hayland or pasture will revert to forest through natural succession if it is not intensively managed for its intended use with periodic liming, reseeding, fertilization and mowing.

On the other hand, forest land does not require intensive management during or after the bond period. Planted crop trees will grow into valuable products while protecting the soil and providing food and shelter for wildlife.

Tree crops are very productive on properly reclaimed sites, and in many cases can surpass the growth of trees on native adjacent soils. An example of this is the growth performance of 30-year old white oaks on an ungraded mine soil in Illinois. Ashby and co-workers (1984) claim that it is the best white oak growth ever recorded in the State. Similarly, yellow-poplar and black walnut reportedly grew very well on mine soils.

Unfortunately, some coal companies view tree planting as an undesirable, additional reclamation expense that must be incurred after the site has already been reclaimed. They are especially frustrated when seedlings die and must be replanted. For the most part, reclamation and revegetation practices in the Appalachians were developed for the purpose of immediate erosion control and aesthetic appeal, and these practices can be detrimental to tree survival and long-term growth. If the final stages of reclamation (overburden selection, topsoiling, and grading) and revegetation are modified to recognize establishment and long-term growth requirements of trees, reforestation will be more successful and less expensive in the long run.

Practices that commonly result in poor tree survival and growth are:

- 1) construction of topsoil materials that are too alkaline, salty, and finely textured (good for grass, but not for trees);
- 2) compaction caused by grading and "tracking in" with bulldozers;
- 3) use of ground cover species that are incompatible with trees, and;
- 4) negligent handling and planting of trees.

Coal companies often spend more money to reclaim a site than they should, and often produce a lower quality land use than they could.

Foresters and reclamation personnel from Pocahontas Land Corporation and researchers from Virginia Tech's Department of Forestry began a "White Pine Establishment Study" in 1986, to develop better forest land reclamation techniques. The purpose of this study is to demonstrate that reclamation practices need to be land use specific.

If forest land is the designated post mining land use, the mined site needs to be reclaimed differently than it would be if hayland or pasture were the designated land use. Procedures for overburden selection, final grading, and selection of ground cover species must be modified to obtain the necessary tree survival and growth needed for timely bond release and the development of a productive forest. These modifications can be made within the constraints of current regulations and at lower cost than previously suggested by some reclamation specialists (Richards and Graves, 1984).

## Overburden Selection, Final Grading

The study was established during March, 1986 in Wyoming

County, West Virginia, with the cooperation of Perry & Hylton, Inc. the site selected for the study was a steep slope (40-50%) that was topsoiled with a mixture of brown sandstone overburden and native soil. When forest land is the designated land use, trees will obviously be the permanent ground cover; therefore, overburden and topsoil materials should be selected to maximize tree survival and growth.

Brown, partially oxidized sandstone, mixed with topsoil or used alone, has been found to be the best material for tree growth in many parts of West Virginia and Virginia. On our demonstration site, the brown sandstone topsoil mate-

rial had a pH of 4.8, which is too acidic for many grasses and legumes, but good for all conifers and most hardwood trees. White pine prefers a low pH, and at levels greater than 6.5, trees become chlorotic and growth is stunted.

Trees are more easily planted and grow better on mine soils that have not been compacted by final grading or tracking in with bulldozer cleats. In order to create uncompacted mine soil, the demonstration site was returned to its approximate original contour, with a minimal amount of grading, and left in a semi-rough form without being tracked in.

Richards and Graves (1984) noted that the cost of planting trees could be offset if the amount of grading was commensurate with the needs of forest land. Although many reclamation inspectors expect reclaimed sites to be perfectly smooth, most state regulations only require that a site be graded enough to ensure stability, control erosion, and serve the intended land use. Hayland and pasture needs to be smooth, whereas the terrain of natural forests is often quite rough.

There is no management justification for smoothly graded forest land. Land reclaimed with trees should be spared the surface compaction resulting from excessive tracking, and be left in a semi-rough condition. Rocks and boulders, and shallow ditches should be tolerated in order to ensure deep rooting, good drainage, and rapid soil develop-

ment, which are essential for good tree survival and growth.

As a result of selecting the right overburden and avoiding competition, it was easy to plant tree seedlings on the Pocahontas demonstration site. Survival was good (78%), and the white pines grew rapidly, despite three very dry summers. Excluding the trees that were heavily browsed by deer, the average height after the third year was 32 inches. The largest trees were more than five feet tall, and many of these trees will be more than 10 feet tall after five years, greatly exceeding the one foot height requirement that most states have for bond release.



White pine during the fourth growing season.

## Ground Cover Establishment

An erosion control ground cover is typically established on reclaimed sites by hydroseeding high rates of seed and fertilizer to obtain lush stands of grasses and legumes. Unfortunately, excessive competition from tall grasses and legumes can kill tree seedlings.

Tree survival can be improved by spot applications of herbicides; however, spraying is expensive and impractical. This competition dilemma is easily and inexpensively overcome by selecting ground cover species that are short, and seeding and fertilizing them at low to moderate rates, so the resulting ground cover is complete without being excessively tall. Torbert and co-workers (1986 a, b) have developed ground cover seed mixes that produce a ground cover that can exceed 90% the first year, but still allow trees to emerge though it. With time, the ground cover becomes increasingly dense and vigorous as trees successfully grow above it.

**Table 1.**

Species and seeding rates used to establish ground cover on reclaimed mined land planted with trees.

Ground cover species	Rate (lbs./acre)
Foxtail millet	5.0
Perennial ryegrass	5.0
Redtop	3.0
Birdsfoot trefoil	5.0
Appalow lespedeza	10.0
<b>Fertilizer</b>	
Nitrogen	36.4
Phosphorus	92.8
Potassium	55.1
<b>Trees</b>	
White pine	302 trees/acre
Black locust seed	1 lb./acre

Within the Pocahontas demonstration plots, a "reforestation ground cover" was established. The mixture of grasses and legumes used (Table 1) contained less than 1/3 as much seed, and was fertilized with only half as much nitrogen, than the seeding mixture used by a local hydroseeding contractor on adjacent areas.

Kentucky-31 fescue was not included in the reforestation mixture, because it grows too tall, too dense, and is suspected of releasing compounds into the soil that suppress other plants. Perennial ryegrass or orchard grass are good substitutes when trees are to be planted.

Ground cover averaged 79% after the first year, and increased to 94% after the third year. During the first year, most erosion control was provided by the foxtail millet, and perennial ryegrass. During the second and third seasons, after the trees were in less danger of being overtopped, birdsfoot trefoil and Appalow lespedeza (a relatively new variety of lespedeza that grows along the ground instead of upright) developed into a dense cover beneath the trees. Birdsfoot trefoil and Appalow lespedeza are short legumes that are tolerant of the low mine soil pH's that are best for trees. They grew slowly during the first season, which allowed tree seedlings the space, light, and moisture needed for survival.

## Tree Establishment

The primary cause of tree seedling mortality on reclaimed mined land is improper handling and planting of seedlings. If tree seedlings are dead and brown within two months of the time they are planted, it is almost certain that they died as a result of improper care before or during planting. Common abuses include:

- 1) allowing seedlings to break dormancy by storing in a warm place or carrying them in the back of a truck for several days (or weeks) before planting;
- 2) allowing roots to dry;
- 3) excessive root pruning;
- 4) an insufficiently deep planting hole, and ;
- 5) not closing the planting hole.

Seedlings must be planted while they are still dormant. They should be kept in cold storage or a cool, damp place until the day they are planted. The roots should never be allowed to dry, and planters should carry trees in a wet planting bag, and only hold as many seedlings in their hand as they can plant in a few minutes.

A deep hole should be dug to accommodate the entire root system, and roots should not be pruned any shorter than six to eight inches. Problems often arise when the soil has been so compacted by grading that planters cannot open a deep enough hole and, therefore, resort to heavy root pruning to fit the root system into the shallow hole.

A tree species combination that has been used successfully includes white pine (the crop tree) and several leguminous nurse tree species. The white pine can develop into high-value sawtimber, while the nurse trees fix nitrogen, improve soil tilth, and provide food and cover for wildlife. White pine also has a lower nutrient demand and grows more rapidly than many hardwood species, generating revenue for the landowner in a shorter period of time.

Commonly available nurse trees and shrubs include black locust, bristley locust, black alder, redbud, bicolor lespedeza, and autumn olive. The most cost effective way to establish trees is to plant the pines and direct seed the nurse trees.

White pine produces the most marketable timber when planted on a relatively wide spacing. A 10 x 10 foot spacing (450 trees per acre) is desirable. Inclusion of nurse trees will satisfy the regulatory requirement for 400 to 600 trees per acre. All of the nitrogen fixing species mentioned above can be established by including the seed in the ground cover mix. The seed for most of these species is inexpensive and only a small amount is needed.

For example, black locust costs approximately \$5.00 a pound; one pound of seed on the Pocahontas demonstration site resulted in an average of more than 1,000 locust trees per acre which were at least one foot tall after the second season. Since it is desirable to have only 200 to 300 nurse trees per acre, it is recommended that black locust be seeded with the reforestation ground cover mix at a rate of only four ounces per acre.

## Costs

An advantage to these forest land reclamation procedures is that they cost less than the practices commonly used today. In many newly mined areas, the layer of moderately acid (pH 4.5-5.5) brown sandstone is the thickest overburden layer above the coal, and since it is near or at the surface, it can easily be mixed with the native topsoil and moved to a reclaimed area awaiting topsoiling.

Less final grading and elimination of tracking in practices can save companies \$100 an acre or more. Less nitrogen fertilization and seed in the reforestation ground cover mix can save another \$30 to \$50 an acre. Companies can reduce their tree planting expenses by creating an uncompacted mine soil (easier to plant, encourages root development, and increases survival), devoting more attention to tree planting techniques, and direct seeding the nitrogen fixing trees and shrubs.

The combination of these recommended procedures can reduce the cost of reclaiming land with trees. In the process, a more productive land use will be created, and fewer follow-up expenses associated with reseeding, replanting, and delayed release, will result.

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RAMP restoration created a park like environment, and a *Green Lands* cover, at the Upper Buffalo - 16 site in Harrison County.



The completed Eldora site, in Marion County, brings to mind a well done haulback mining operation.

## RAMP quietly does the job

RAMP, as defined by the West Virginia State Soil Conservation Committee and Soil Conservation Districts, does not mean the same thing as it does to most people. RAMP is not the smelly plant which is tasty to many in the spring; it is an acronym for the Rural Abandoned Mine Program. RAMP the program is administered by the U. S. Department of Agriculture, Soil Conservation Service (SCS), through state soil conservation agencies.

Similar to the Abandoned Mine Lands (AML) program administered by the West Virginia Division of Energy, RAMP was authorized under Title IV of the Surface Mining Control & Reclamation Act (SMRCA) of 1977.

This section imposes a tax on the extraction of surface mined coal (35¢ - ton) and underground coal (14¢ - ton).

According to provisions of the Act, up to 20% of the revenue generated by the AML tax may be devoted to the RAMP program.

The AML and RAMP programs have much in common. Revenue is derived from a common source (coal production), and both administer the reclamation of abandoned mine sites.

As the application of SMRCA has evolved, RAMP and AML are funded from the same grant, as requested by the West Virginia Division of Energy and approved by the Secretary of Interior through OSM.

But there are important differences. RAMP, through the resources of SCS and the Soil Conservation Districts, has an in-house design and engineering capability.

Another distinction between RAMP and AML is the provision which allows landowners to apply for RAMP assistance. In other words, if a citizen owns land which has been mined and abandoned by another party, then RAMP funds may be made available to reclaim the land.

This is done on the same priority basis as AML — imminent hazards first, then potential hazards, then environmental degradation, and so on. Under RAMP, however, landowners take part in the process of determining



The Jacob's Fork Project in McDowell County.

how reclamation will be carried out and the use of the reclaimed site.

Under this system, the landowner enters into a long-term contract with SCS regarding future land use. The contract runs 5-10 years, covering the period of reclamation, plus at least three years of maintenance. After the contract period, the owner can do with the land as he desires.

Over the last ten years, the RAMP program in West Virginia has received about \$18 million, only 5% of the fees collected from West Virginia operators. With these funds, SCS and Districts have reclaimed 44 sites involving 350 acres.

One of the early RAMP operations involved a refuse pile and dangerous pond located at Bethany College,

which was reclaimed for use as a soccer field. Another typical project was the large, unstable, burning refuse pile at Columbia, in Fayette County. RAMP's reclamation work on this site prevented severe damage to five homes as well as the main highway. Other projects have involved highwall elimination and sealing mine openings, some of which date back to the turn of the century.

With a similarity of funding and mission, care must be taken to coordinate the West Virginia AML and RAMP programs. This is accomplished primarily through a joint committee, composed of representatives from the Division of Energy, West Virginia SCS, OSM, the West Virginia Mining & Reclamation Association, and the USDA-SCS.

The committee meets twice a year, and conducts an annual evaluation review of completed work. The RAMP program is intended, and functions, as an integral part of the total State effort of completing AML work in West Virginia.

RAMP has been an effective vehicle for landowners to become involved with the reclamation process. The concept is apparently popular with landowners. According to Lance Tabor, executive secretary of the West Virginia SCS Committee, more than 280 applications for assistance have been received for RAMP projects in West Virginia.

"However," Tabor points out, "insufficient appropriations have prevented both the State's AML and RAMP programs from reaching their full potential. If we had greater funding, we could handle more projects. It's as simple as that."

"Hopefully, this will be addressed in the Congressional reauthorization of the SMRCA. We have no need or desire to compete with AML. It's through adequate funding of both funds that we will maximize total returns to West Virginia from the federal AML Fund," Tabor concluded.



At Bethany College, Brooke County, a refuse pile was transformed by RAMP into a soccer field.



This RAMP project, near Shinnston in Harrison County, will be converted to valuable recreational facilities by the local Parks Commission.



At the Upper Buffalo Creek project, still under construction, a refuse pile is transformed into a contoured hillside, which blends in with the surrounding countryside.



The Herndon site in Wyoming County.



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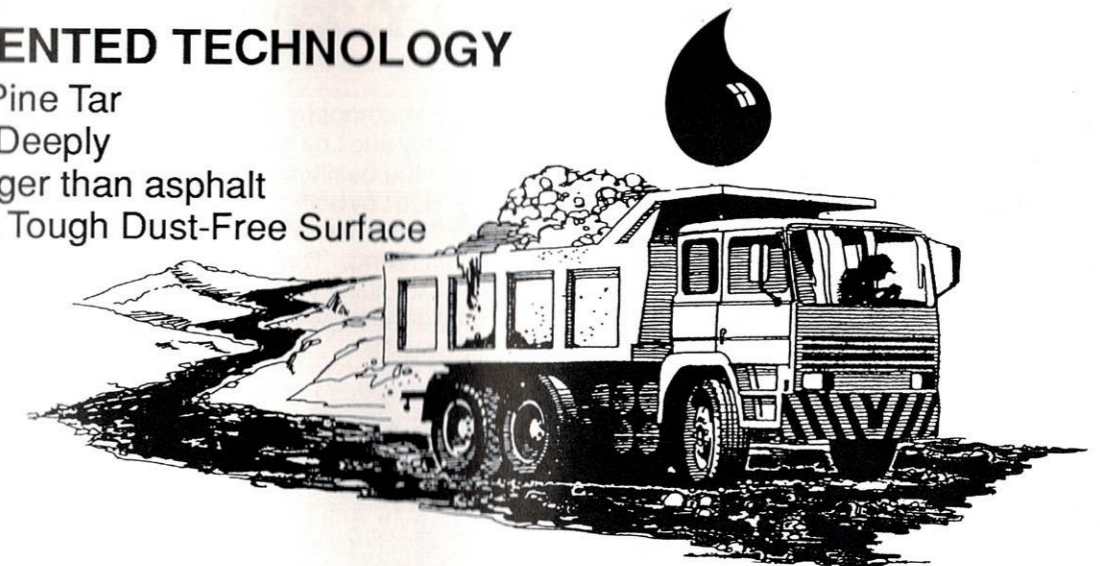
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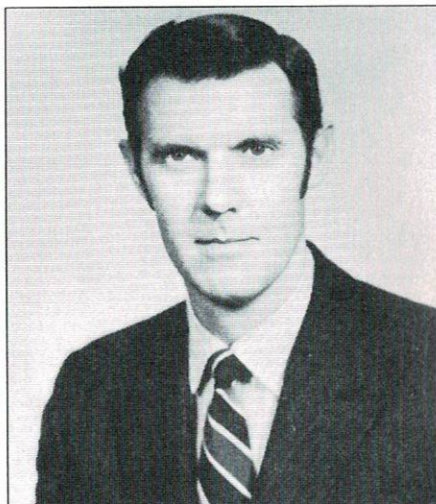
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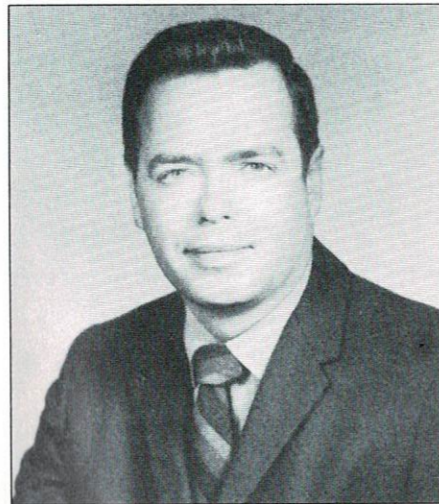
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## SKELLY AND LOY celebrates 20 years

Back in 1969, two engineers employed by the Commonwealth of Pennsylvania pondered the idea of a private engineering firm, with their own names on the letterhead.

"Everybody said we were crazy," recalls LeRoy "Bud" Loy, "and maybe we were. Not much happened for us in the first few months."

Crazy or not, the company flourished, and now Skelly and Loy is celebrating 20 years in the business.

Bob Skelly and Bud Loy both graduated from Penn State, three years apart, in civil engineering. They met while working as engineers for the Pennsylvania Department of Properties.

Both gained considerable experience there, with Skelly concentrating on architectural projects, while Loy was primarily involved with highway construction and design.

The decision to plunge into the private sector was based purely on confidence.

With no contracts in hand, the two of them hired a part-time secretary and moved into a one room office in a building across from the capitol building in Harrisburg. When the office doors opened, there were no clients in the waiting room.



Left to right  
Co-founder LeRoy "Bud" Loy,  
partner John Gunnett,  
co-founder Bob Skelly,  
partner Mike Loy.

In the first months, they made do with some architectural work on small dam projects. The first sign of expansion came with the addition of a geologist late in 1969.

Their first break came in the form of a mine drainage abatement project under Operation Scarlift, Pennsylvania's abandoned mine lands program of that time.

"We were very fortunate to get that opportunity," recalls Bud Loy. "To be honest, they probably thought we had a lot more people than we really had." The partners made the most of that first opportunity.

More work followed with government agencies in Pennsylvania, Ohio, and West Virginia, as well as the Environmental Protection Agency and the U.S. Bureau of Mines.

Expansion spread the company over the entire second floor of the Harrisburg office building, and into the

private sector with services in mine, mined lands reclamation, land use planning, engineering economic studies, geologic interpretations, structural analyses, feasibility reports, pollution abatement, solid waste management, and other related areas.

By 1972, the company had outgrown its available space, and purchased an old mansion on the Susquehanna riverfront. Three years later, the partners built a two-story addition, and in 1977, took over a building across the street.

Skelly and Loy was growing in other phases, as well. The firm acquired a pair of junior partners, as well, in the form of Penn State graduates John Gunnett and Mike Loy, Bud's son.

By 1981, Skelly and Loy was a multi-state operation, with seven branch offices and 120 employees.

Bob Skelly left the business that year, just before recession brought a

downturn in business prospects, which in turn forced severe cutbacks. "By 1984, we were down to 55 employees," says Bud Loy.

Today a more diversified and streamlined company employs 65 people in Harrisburg and the branch office in Monroeville, near Pittsburgh. Though company facilities are confined to Pennsylvania, Skelly and Loy is involved with coal projects in 22 states and 12 foreign nations.

John Gunnett heads the mining division, and Mike Loy is in charge of the environmental phase, including the full service laboratory.

Senior partner Bud Loy oversees the entire operation and summarizes his 20 years of expansion, contraction, and stability with a very simple statement. "We're billing more business now than ever before." That's a pretty good bottom line.

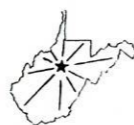


Skelly and Loy headquarters on the Susquehanna River in Harrisburg, PA.



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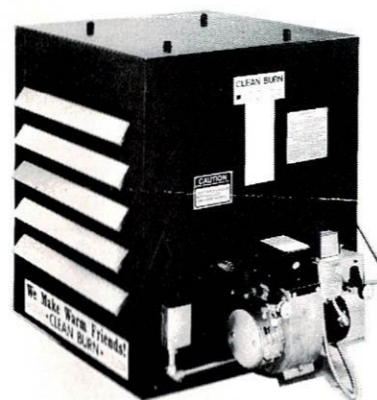
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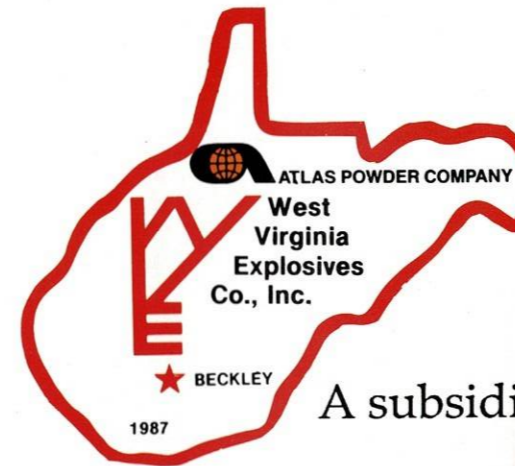
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