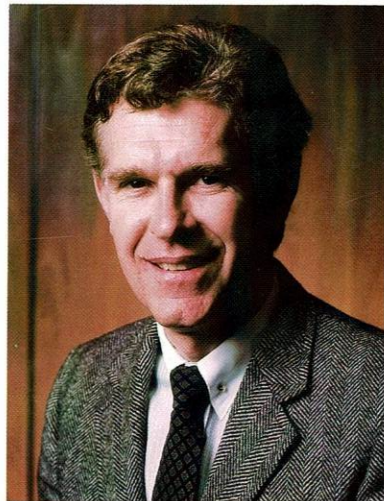


Green Lands
West Virginia Mining
and Reclamation Association
1624 Kanawha Blvd., East
Charleston, WV 25311

Address Correction Requested

ISLAND CREEK CORPORATION
ST. RT. 1 - BOX 48K
CRAIGSVILLE, WV 26205

Bulk Rate
U. S. Postage
PAID
Permit No. 1
Ravenswood, WV




"Sized up from the K series . . . and sized down from the L series. The new Cat N Series tractor is the size more operators ask for."


Bob Fredrickson
Sales Manager, Walker Machinery



WALKER Machinery

CHARLESTON 304-949-6400
PARKERSBURG 304-424-0200
BECKLEY 304-253-2706
SUMMERSVILLE 304-872-4303
LOGAN 304-752-0300
HUNTINGTON 304-526-4800
JACKSON, OHIO 614-286-7566

 **YOUR CATERPILLAR DEALER**

CATERPILLAR, CAT and  are trademarks of Caterpillar Inc.

The N Series from Caterpillar offers you the reliability, durability and power found in all our track-type tractors. Yet it adds the flexibility you need when you're looking for equipment.

The N Series features the elevated sprocket design for firm support and superior ground clearance. Traction, balance and flotation have all been improved to increase stability. And the

operator's compartment has been designed for comfort and easy operation.

The N Series is fully backed by Walker Machinery, providing the service and parts assistance you expect, whether it's in the field or in our shop.

Call Walker today to find out more about this powerful, versatile new series of tractors. The N Series — the shape of the future.

Walker and Caterpillar. For **On the Job** Security.

Green Lands

Spring 1988



AMERICA'S ENERGY AGENCY

SPECIALIZING IN INSURANCE FOR THE COAL INDUSTRY



**Flat Top
Insurance**

GENERAL OFFICES: 320 FEDERAL STREET • BLUEFIELD, WV 24701
PHONE (304) 327-3421

ALABAMA • KENTUCKY • OHIO • PENNSYLVANIA • TENNESSEE • VIRGINIA • WEST VIRGINIA

Worldwide Brings The World To You!



WORLDWIDE EQUIPMENT



**WORLDWIDE EQUIPMENT
PRESTONSBURG DIVISION**
Rt. 1428 East, P.O. Box 71
Prestonsburg, KY 41653
(606) 874-2172

**WORLDWIDE EQUIPMENT
MIDDLESBORO DIVISION**
Mack Avenue, Industrial Park
P.O. Box 1467
Middlesboro, KY 40965
(606) 248-5100

**WORLDWIDE EQUIPMENT
LEXINGTON DIVISION**
945 Nandino Blvd.
Melbourne Industrial Park
Lexington, KY 40511
(606) 281-5152

**WORLDWIDE EQUIPMENT
HUNTINGTON DIVISION**
5650 U.S. Rt. 60 East
P.O. Box 5407
Huntington, WV 25703
(304) 736-3401

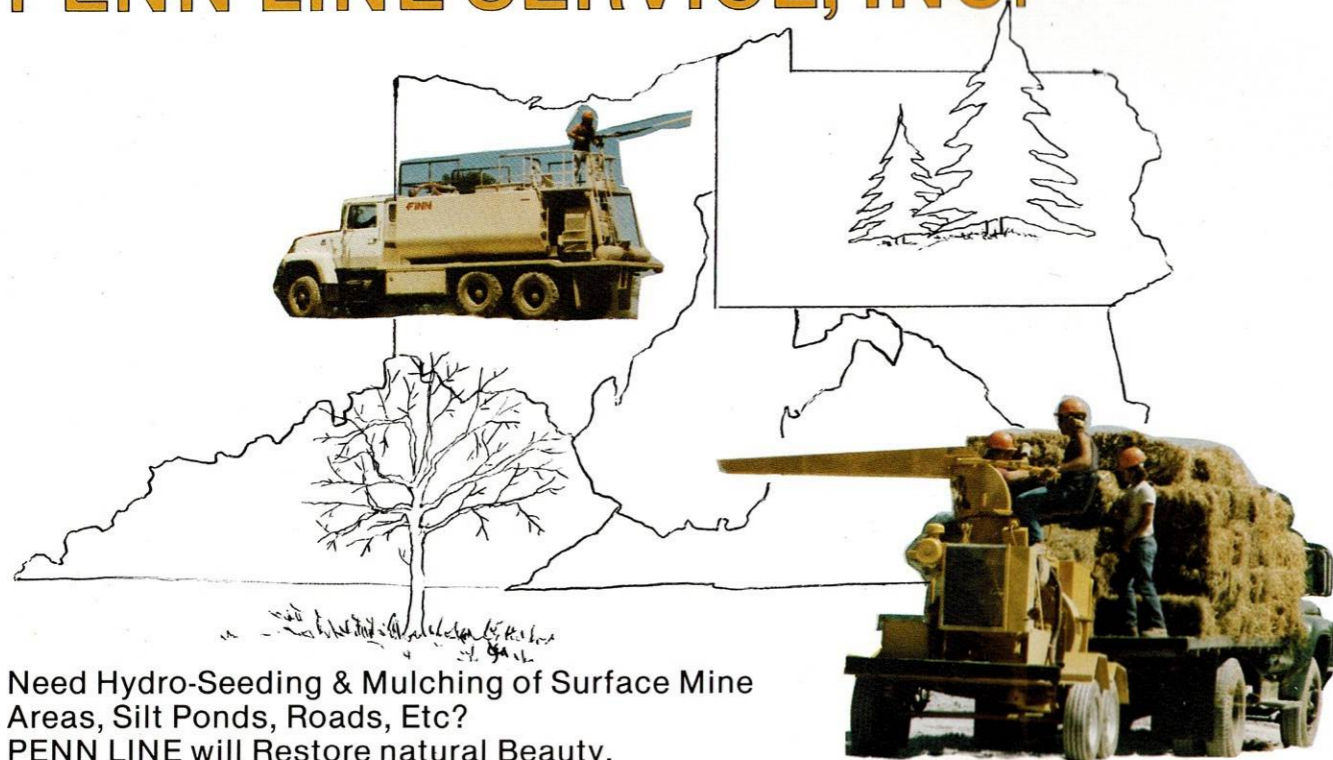
**WORLDWIDE EQUIPMENT
HAZARD DIVISION**
Highway 15 North
P.O. Box 777
Hazard, KY 41701
(606) 439-3022

**WORLDWIDE EQUIPMENT
NORTHERN DIVISION**
Lewis County Industrial Park
P.O. Box 171
Jane Lew, WV 26378
(304) 884-7815

**WORLDWIDE EQUIPMENT
PRINCETON DIVISION**
Intersection I-77 & U.S. 460
Princeton, WV 24740
(304) 425-7511

Green Lands 1

PENN LINE SERVICE, INC.



Need Hydro-Seeding & Mulching of Surface Mine Areas, Silt Ponds, Roads, Etc?
PENN LINE will Restore natural Beauty.

CALL TOLL FREE 800-245-6800. Ask for Ron Hill

Index to Advertisers

Anderson of West Virginia.....	15	Lilly Explosives.....	8
Austin Powder.....	32	Massie Brothers Reclamation.....	40
Beckwith Machinery.....	5	Mt. State Bit Service.....	39
Bell Farms Reclamation Service.....	33	Norwood.....	38
Chamberlaine & Flowers.....	33	Ohio Seed.....	40
C. I. Walker Machinery Co.....	back cover	Penn Line Service.....	2
Cummins Cumberland.....	9	Petroleum Products.....	39
Flat Top Insurance.....	inside front cover	Rish Equipment.....	inside back cover
Fullen Fertilizer.....	39	Rudd Equipment.....	17
Green Acres Contracting.....	38	Western Branch Diesel.....	16
Kanawha Steel & Equipment.....	14	Willco Reclamation.....	32
Kimberly Industries.....	7	Worldwide Equipment.....	1

Green Lands

Volume 18 Number 1

- 4 Ken Faerber Responds to Ongoing Attack
- 6 Tracy Hylton -- Working for West Virginia
- 10 Fifteenth Symposium
- 18 1987 Reclamation Awards
- 34 Eighteen Member Companies Win Safety Awards
- 41 Species for Revegetation -- Grasses
- 45 A Sunny Semi-Annual

Green Lands is a quarterly publication of the West Virginia Mining & Reclamation Association, with offices at 1624 Kanawha Boulevard, E. Charleston, West Virginia 25311 (304) 346-5318.



Cover - Top reclamation awards at this year's Symposium went to Oneida Coal Co. (top on cover) and to Island Creek Coal Co. - Gauley Division (shown under construction). Oneida won the "Callaghan," and Island Creek took the "Governor's Award." See page 18 for details on all of the winners.

WVMRA Staff and Board of Directors

President
Benjamin C. Greene

Vice President
William B. Raney

Assistant to the President
Patty Bruce

Business Manager
Mary Ann Steele

Editor
Daniel Miller

Chairman
James W. Anderson-Princeton
First Vice Chairman
Roy G. Lockard-Clarksburg
Second Vice Chairman
Paul F. Hutchins-Columbus, OH
Secretary
R. Donald Cussins-Bayard
Treasurer
Kenneth G. Woodring-Madison
Associate Division Chairman
Bernie E. Dearth, Jr.-Bridgeport

DIRECTORS
T. J. Brisky-Eighty-Four, PA
J. R. Bryan-Lebanon, VA
J. M. Compton-Clarksburg
D. K. Cooper-Charleston
R. Delatore-Wintersville, OH
D. R. Donell-Weirton
T. L. Dotson-Prestonsburg, KY
J. J. Faltis-Morgantown
L. W. Hamilton, Jr.-Hansford
J. H. Harless-Gilbert
T. W. Hylton-Beckley
C. T. Jones-Charleston
J. C. Justice-Beckley

J. J. LaRosa-Clarksburg
P. A. Laskody, Sr.-Morgantown
M. A. Messenger-Terra Alta
D. T. Pochick-Bluefield
G. W. Ramsburg-Clarksburg
L. A. Streets-Mt. Storm
E. F. Surgeon-Louisville, KY
R. B. Urda-Clarksburg
R. N. Welch-Bridgeport
J. C. Williamson-Charleston
J. F. Yanik, Jr.-Naugatuck
Honorary Member
F.B. Nutter-Pompano Beach, FL

Ken Faerber Responds to Ongoing Attack

The following letter, by West Virginia Energy Commissioner Ken Faerber, was published in the Saturday, April 16 edition of the Charleston Gazette.

Editor the Gazette:

It's clear that the Moore administration and the Department of Energy are winning in their efforts to help turn around the West Virginia coal industry when it becomes necessary for the Charleston Gazette to twist and distort information in an attempt to propagandize and mislead its readership as it relates to the conditions in the state's coal mining industry. I can think of no better example than your latest jewel titled "Dump the DOE."

To touch on a few of the more outlandish assertions in your latest installment of the bash DOE series, you state that investigative reporter Paul Nyden had "unearthed" certain facts in the federal OSM oversight report. How ridiculous. Nyden has obtained a public document which is released at this time every year and is available to anyone, including an investigative reporter, who requests to be placed on OSM's mailing list.

The report of which you spoke both constructively criticized and correctly praised the DOE for the way in which it was conducting the program. However, your editorializing on only the negatives intentionally distorts the truth. The truth is that Mr. Haught and the editorial staff of the Gazette, including Paul Nyden, are opposed to mining, period. Jim Haught has told me himself, and Don Marsh is on the record, as supporting nuclear power and the abolishing of coal mining.

I ask whose interests the Gazette is representing? Certainly not those of the vast majority of West Virginians; perhaps those of out-of-state special interest groups such as the Environmental Policy Institute's Jim Lyon and Washington attorney Tom Galloway.

Now to some specifics: In your article you stated that federal inspectors found five times more violations at surface mines than did DOE's inspectors. I believe it is safe to say that the Gazette does not understand that, in any situation where a federal regulatory agency whose sole responsibility and justification for existence is oversight of a state-administered program, such occurrences are bound to be the norm and should be expected. So what?

In your editorial, you have again intentionally misstated that DOE assessed \$12.5 million in fines last year. This is wrong. This figure is a cumulative total

over the past seven years since the state first began assessing fines for reclamation violations. We have gone on record countless times telling you that most of this debt is in the hands of the bankruptcy courts or is owed by companies that are defunct and have been so for many years. These facts have been documented by collection agencies which we employ, so why can't you get it right?

Civil penalty collections for the four years preceding the creation of the DOE totaled \$327,384. In the two and a half years since the creation of DOE, civil penalty collections have amounted to \$781,015, or two and a half times that prior to its creation. The truth is that civil penalty collections are at their highest level in history and enforcement and collecting efforts are being more aggressively pursued now under DOE than at any time in the past.

Your paper keeps railing about the fact that DOE did not obtain any court injunctions against the coal operators. We have attempted on several occasions within the past few months to obtain enforcement or injunctive relief and have met with opposition in state court on the basis that mining jobs would be lost. We have, however, obtained two injunctions since July 1, 1987. Our normal policy, and the policy which has worked in the past, is that if an operator violates any order of the commissioner, a criminal warrant is obtained which results in either criminal fines or imprisonment. So, your statement that we do not file criminal charges against coal operators is simply wrong. We believe that criminal enforcement is faster and results in less difficulty than does the filing of civil injunction actions.

As to the matter of DOE allowing strip mines to become inactive so that they will not have to begin reclamation, you obviously have no understanding of the state mining regulations. Before an operation can be considered for inactive status, the reclamation must be current; water treatment must be maintained throughout the inactive status period; and complete DOE quarterly inspections are continued. Also during this period, the reclamation bond remains in effect and in the possession of the department. This criteria is the same now as it was in 1978 when the previous administration provided for such a provision in the mining regulations. Again, the facts do not back up your sensational editorializing.

Your allegation concerning what you believe is a DOE contract with OSM requiring us to have 88 surface mine inspec-

tors is also wrong. The figure of 88 inspectors only appeared once back in 1981 when the state first obtained primacy at a time when the number of operating coal mines far exceeded today's level. It was never a requirement that the state employ 88 or any specific number of inspectors. Your remarks and statistics are out-of-date and misleading and certainly are not in the realm of possibility for an agency operating under a 36 percent budget cut.

Your paper's reporting and editorials are simply a last-ditch effort of shoddy journalism to discredit myself and the DOE. The material you choose to print is neither factually accurate nor beneficial to the citizens of West Virginia.

The simple truth is, the Department of Energy has been successful. The results of our energy program have received favorable nationwide attention, and we need not use outdated and misleading figures to demonstrate the true facts. The true facts are:

In 1987, West Virginia coal production totaled over 137 million tons, which represents a 7 million ton increase over the previous year and the highest production level in 17 years; in 1987, the state had the lowest number of fatal mining injuries in history; federal funding for West Virginia Abandoned Mine Lands program leads the nation for the first time ever and totals over \$28 million for the current fiscal year; civil penalty collections are at an all time high; and the Department of Energy reclamation inspectors conducted a total of 31,276 inspections during the most recent oversight period, an increase of 7 percent or 4,000 inspections over the previous period.

These are the true and relevant facts which should be made available to the citizens of this state in order that they may formulate their own opinion regarding the performance of DOE, not the one-sided chop job for which the Gazette has become infamous. It is this type of reckless reporting and slanted editorializing that has made it difficult for the Department of Energy to obtain adequate funding from the Legislature.

I will continue to stand my ground and support the energy producing industry's contribution to the prosperity of our state. Mr. Haught, in your own words, "It takes balls." I take that as a compliment.

I apologize for the length of this letter; however, it always takes longer to correct a lie than to tell one.

Kenneth R. Faerber
Commissioner, DOE

DID THE LOWER PRICE TURN OUT TO BE JUST THE DOWN PAYMENT?

Face it. A machine costing less to buy can wind up costing more to own. Cost studies indicate that initial purchase price accounts for only 25% of total owning and operating costs throughout the life of your machine.

At Beckwith, we offer 23 complete product lines from Caterpillar to give you the right machine for the job. It's today's quality with tomorrow's highest resale value*. And you can protect your investment with our \$12 million new parts inventory.

Beckwith helps cut downtime with over 130 factory-trained mechanics at seven strategically located service centers and over 100 radio-dispatched field trucks for on-site service.

Talk to us.

We have flexible financial terms including rentals, rental-purchase plans, leases, and a variety of installment sales contracts.

*Based on recent worldwide auctions.



BECKWITH AND CATERPILLAR.
AN INVESTMENT IN
YOUR FUTURE.

BECKWITH
Machinery Company

YOUR CATERPILLAR DEALER
CATERPILLAR, CAT and  are trademarks of Caterpillar Inc.

Tracy Hylton - Working for West Virginia

Editor's Note: WVMRA member and State Senator Tracy Hylton was chiefly responsible for the most innovative and sensible piece of legislation passed by the 1988 session of the West Virginia Legislature.

In a session described as ineffective by nearly all media commentators, Tracy Hylton's plan to utilize excess black lung funds to alleviate the crises in medicaid funding stood out like a candle in the darkness. Backed by the industry, Senator Hylton proposed that \$30 million in surplus funds from the

State Black Lung program be loaned to the medicaid program, enabling the State to secure \$90 million in federal matching funds.

Initially passed by the Senate, the proposal was tied to a controversial 1¢ state sales tax increase in the House of Delegates. The combined measure then failed in the Senate. During the Legislature's extended session, the bill passed both houses in its original form. It was signed into law by Governor Arch Moore late last month.

Tracy Hylton stands out in the Leg-

islature in another way. Legislators are constantly beset by accusations that self-interest claims their highest priority in legislative matters.

Yet here is a man who supported an increase in DoE permitting fees, and introduced, for the second time, a bill to increase fuel taxes. Both of these measures would have cost him considerable funds in his private enterprises. Tracy Hylton has put the good of West Virginia ahead of personal interest. The Legislature would benefit greatly from a further influx of such individuals.

"Success does that."

But Gov. Arch A. Moore, Jr. said Hylton's experience puts him light years ahead of many of his fellow lawmakers.

"His individual success as a West Virginia businessman provides him with a perspective sorely needed in the Legislature," said the Governor.

But the junior senator from Raleigh County also says nothing will get done in the state until lawmakers start pulling in the same direction.

"There was no leadership in the past session."

Bruce Williams, senior senator from the 9th District, said Hylton isn't alone in that assessment.

Hylton's first project as a senator in 1986 was to introduce a gasoline tax bill, defeated before it had a chance. Hylton said one highly respected lawmaker said he would not pass a gas tax while he was running for re-election.

This session Hylton will try again, with legislation to implement both gas and food taxes.

Hylton is in his second year as a Republican state senator. He broke

'Hylton's experience puts him light years ahead of many of his fellow lawmakers'

into the Legislature as a Democrat in 1964, serving two terms. He switched to the GOP in 1972, and back again after he lost his senate seat.

But he won the office as a Republican in 1986 in what he calls an impossible situation. His name was removed from the Democratic ballot after a post-marking error caused his filing papers to be declared late.

The senator/coal operator is no stranger to impossible situations. He began by pulling the coal out of the ground himself. His oldest son, Warren, remembers being five years old and spraying down the walls in one of his father's first mines.

In those days, Tracy was working for Itmann Coal Co., and had begun his own coal operation. He had lost his shirt twice in coal ventures, so he kept working for Itmann. He spent free hours doing painting, roofing, and carpentry work.

Today, he is principal owner of Perry & Hylton Coal, Nell Jean Enterprises, the Ramada Hotel, Pic & Go, the property on which Heck's and Beckley Pancake House are built, and he, together with his sons, have a dozen other businesses.

In his personal life, Hylton is not as proud of his record. He regrets having spent so much time away from his wife and three sons. And he worked so hard in the early years that he wasn't much company.

"At one time, they probably hated to see me come home."

Warren is not as hard on his father. "His bark is much worse than his bite."

Warren has worked with his father in nearly all the businesses, and was his campaign manager in the last election. He calls his dad Mr. Hylton.

The eldest son remembers living in an apartment above his grandmother's garage. Warren says things were not

always as easy as they are now.

He is proud of what Tracy has given to the community in terms of dollars and hours of work.

"There are very few people who can say they put it back."

He says his father has given away literally millions to charities and civic projects, but that Tracy has never taken credit for it.

"He would rather be thought of as a person, not for what he gives away."

Schools, churches, fire departments, needy college students, those who had no one to turn to, all have Tracy Hylton to thank for making things better.

But Warren says thanks are few and far between. "It leaves an emptiness in you that shouldn't be there."

Mack, Tracy's youngest son, knows about all his father has given to the area, but doesn't discuss it.

"I know from experience it's nothing we talk about," he said.

"He's a hardworking person that puts his heart and soul into his life. Everything he has he's worked for and he deserves it."

"He's like black or white," said Mack. "It's either right or wrong."

Hylton's middle son, Bob, brain-damaged by a childhood disease, lives at the Ramada and serves as hotel host.

Bob is the chief reason Hylton keeps running the Ramada. He says it hasn't made a nickle in five years.

Hylton is not one to take losses when they will not eventually be worth it.

**Increase
Production &
Maximize Reserves with a
Conventional Coal Recovery System**

Kimberly Industries, Inc.

P.O. Box 10088 - Station C

Charleston, WV 25357

304/346-3775

**John Wellford - President
Steve Cvechko - VP of Mining Services**

The following article was written by Teresa Swartz Roberts of the Beckley Register-Herald, and is reprinted here as it appeared in the West Virginia Hillbilly.

Party-hopping (Democrat/Republican-Ed.), aggressive, outspoken businessman and lawmaker Tracy Hylton has strong ideas about the way the state should be run.

"If we don't run a business in the State of West Virginia, there's never going to be enough money.

"In order to survive in today's economy, you can't carry excess baggage.

"I'm not against education, but I'm against stupid people being employed in education.

"Is it better to have an insurance policy or the State go broke? We've got a monster we can't control.

"Your tax base is people There's opportunity still here It's not going to happen overnight."

Hylton seems to gain either enthusiastic acceptance or violent rejection by those he has contact with politically.

He weathered charges that he bought his senate seat, spending nearly \$100,000 more than local attorney Bill Wooton. Hylton says now that money spent on his campaign was for an "educational purpose," and that he is still paying for that purpose from his own pocket.

Hylton, called a poor winner by Wooton after the votes were counted, responds by saying, "No, I'm a proud winner."

Wooton refused to comment on Sen. Hylton.

Warren McGraw, who defeated Hylton in the 1972 race for the senate, is historically at odds with Hylton. He had nothing to say about the senator, except, "His record speaks for itself."

Art Sanda, former public relations man for Eastern Associated Coal Corp., characterized Hylton as someone who's not afraid to get dirty.

"I think he attracts strong friends and strong enemies," said Sanda.



LILLY EXPLOSIVES CO.

(PART OF GIBSON EXPLOSIVES COMPANIES)
A BLASTING SERVICES COMPANY

WHEN YOU NEED RESULTS



CALL US!

COMPUTER AIDED BLAST DESIGN
IN THE FIELD WHERE YOU NEED IT!

SPECIALISTS IN NON-ELECTRIC
INITIATION SYSTEMS!

TRAINING CLASSES

* MANUFACTURERS OF **600-PLUS[®]** HIGH ENERGY WATER GELS

OUR ON-SITE BLAST EVALUATION TECHNIQUES ARE EFFECTIVE
AT INCREASING PRODUCTIVITY AND LOWERING DRILLING AND
BLASTING COSTS. CALL US FOR AN ON-SITE EVALUATION!

TIM W. WARDEN
MANAGER

BECKLEY, WV
(304) 683-4301

CUMMINS NATIONAL OVERHAUL WARRANTY

NOW

Cummins
National
Overhaul
Warranty

N.O.W. — Warranty On Nation-
wide Standardized Flat-Rate
Inframe Overhaul Packages.

N.O.W. — Warranty Coverage
Up To 200,000 Miles, 100% Parts
& Labor.

N.O.W. — Warranty Covers
Overhaul, Plus Flat-Rate Options
For Uprate Or Performance, Plus
17 Major Inspected Components,
Including Block, Crank, Camshaft,
And Connecting Rods.

N.O.W. — Available At
Cummins Distributors And Par-
ticipating Warranty Dealers Coast
To Coast.

Plan 1

1 Year/100,000 Mile Warranty

Includes Genuine Cummins Premium PLUS Rings,
Rod Bearings, Gaskets, Filters, Labor

Plan 2

1 Year/100,000 Mile Warranty

Includes Genuine Cummins Cylinder Kits, Rod And
Main Bearings, ReCon Heads, Gaskets, Filters, Labor

Plan 3

2 Year/200,000 Mile Warranty

Includes Genuine Cummins Cylinder Kits, Rod And
Main Bearings, ReCon Heads, Gaskets, Filters,
Labor, Free Future Compuchek[®] Test



NOBODY KNOWS DIESELS BETTER



**Cummins
Cumberland
Inc.**

Louisville, KY
(502) 491-4263

Hazard, KY
(606) 436-5718

Evansville, IN
(812) 425-2464

South Charleston, WV
(304) 744-6373

Nashville, TN
(615) 366-4341

Knoxville, TN
(615) 523-0446

Bristol, VA
(703) 669-4200

Fairmont, WV
(304) 367-0196



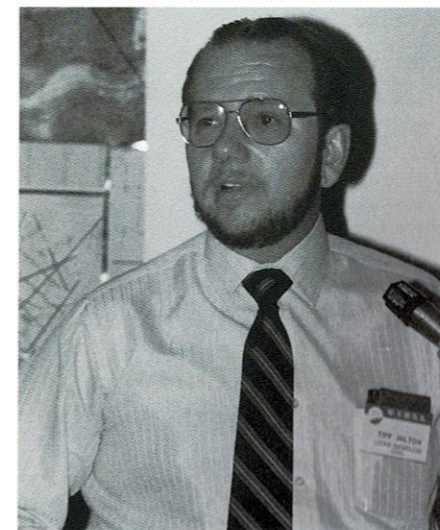
James W. "Bill" Anderson
WVMRA Board Chairman



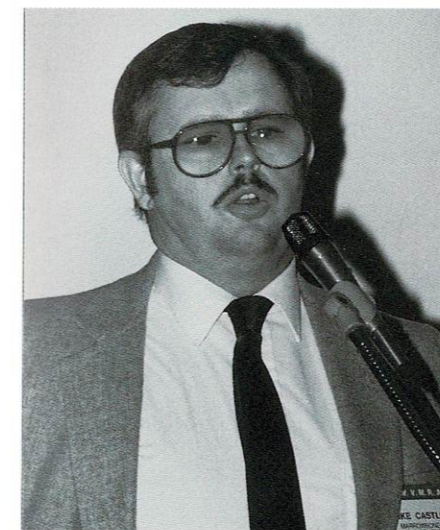
Ken Faerber
WV Energy Commissioner



Ronald L. Lewis
John T. Boyd Co.



Tiff Hilton
Leckie Smokeless Coal Co.



Mike Castle - Marrowbone
Development / Shell Mining

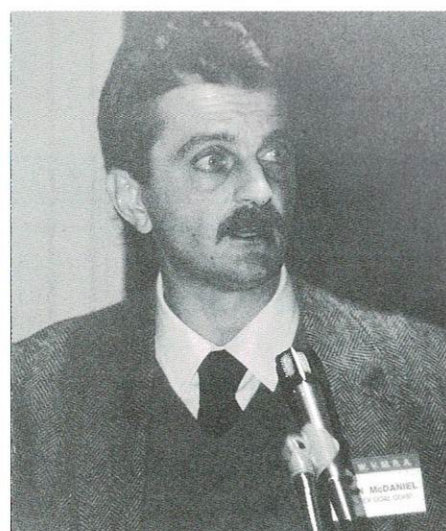


Steve Cvechko
Kimberly Industries, Inc.

15TH SYMPOSIUM

The 15th Annual West Virginia Mining Symposium was a success as expected, with over 500 individuals taking part in some phase of the 48 hours at the Holiday Inn Charleston House, which included six technical sessions, two awards luncheons and the customary legislative reception.

A special half day seminar dealing with NPDES, and its implementation



John McDaniel
Sharples Coal Co.

on the State level, got things under way on Wednesday, January 13.

The main program kicked off Thursday morning with a welcome from Association Chairman Bill Anderson, followed by presentations on reserve evaluation and site-specific mining methods.

At noon, the group moved to the ballroom for the Mountaineer Guardian award luncheon, which recognized 26 companies for more than 60 million tons of fatal free coal production. The afternoon session branched off, with the main group hearing presentations on equipment utilization, and a second session dealing with taxes, and workers' compensation.

The afternoon concluded with a combined session which heard from WVMRA member/State Senators Tracy Hylton and J.D. Brackenrich, who analyzed the current legislative session and the upcoming election.

That evening, the Association hosted its annual Legislative Reception, which was well attended.

Friday morning saw another split session, dealing with taxes and un-

employment compensation in one room, and environmental matters in the other. The environmental session was culminated by an update from DoE Commissioner Ken Faerber and two of his top assistants.

The 15th Symposium concluded with the Reclamation Awards Luncheon, at which WVMRA members garnered eleven of the fifteen awards.



Rick Corder
De'Lyn, Ltd.



The Association again extends its thanks to the excellent panel of speakers which kept the 15th West Virginia Mining Symposium on the same high level as preceding years. The 29 men pictured here all gave of their time and talents for the benefit of our industry. All members of WVMRA, including those who weren't able to attend, owe them a debt of gratitude.



Otto Crenwelge
Shell Development Co.



Rick Given
Geupel Construction Co.



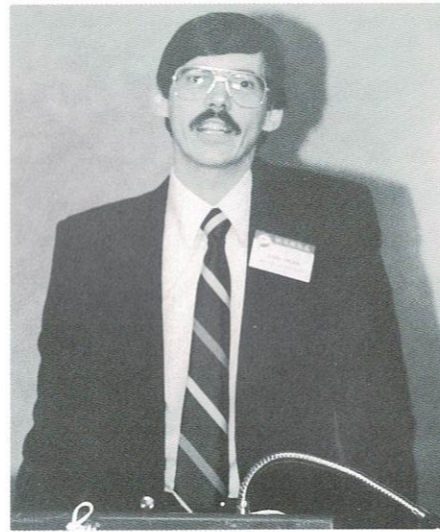
Meredith Kirk
Old Hickory Coal Co.



Ralph Ballard
Peabody Coal Co.



Lawrence Streets
Allegheny Mining Corp.



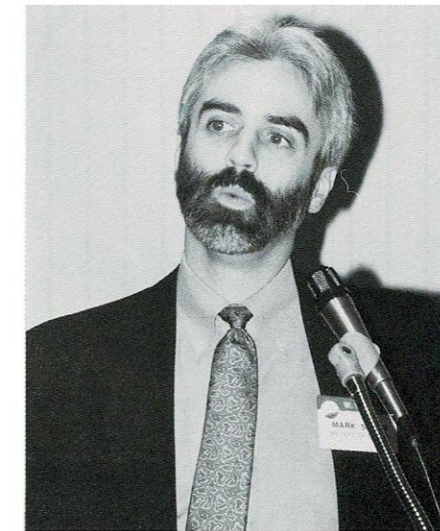
Don Hebb
WV Tax Department



Bruce Leavitt
Consolidation Coal Co.



Robert G. McLuskey
Jackson & Kelly



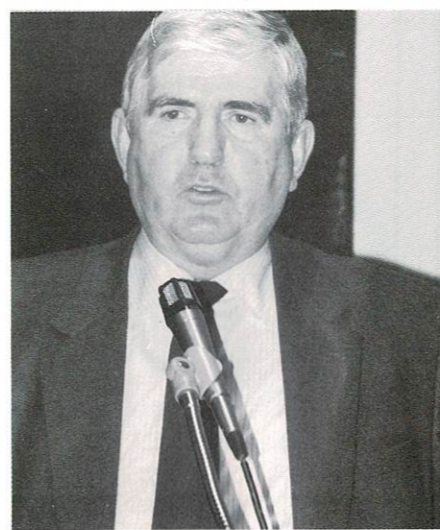
Mark Scott
WV Department of Energy



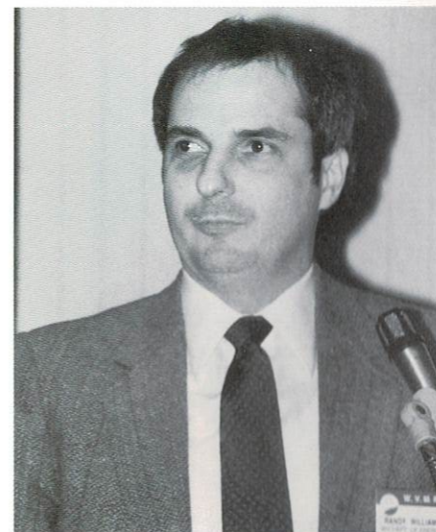
Nelson Robinson
WV Workers' Compensation Fund



Walter "Lefty" Rollins
WV House of Delegates



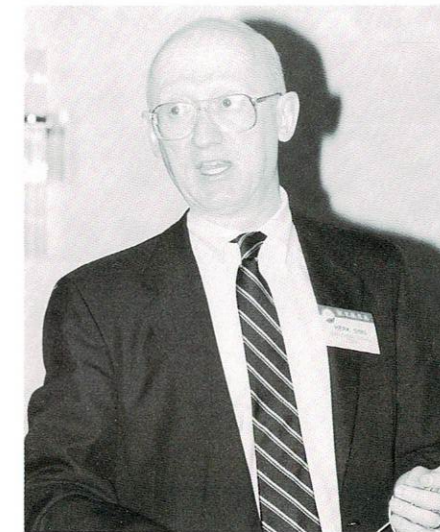
Tracy Hylton
WV State Senate



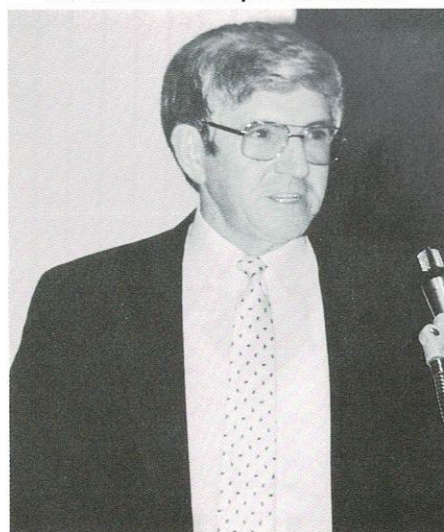
Randy Williams
WV Department of Energy



Dale Steager
WV Tax Department



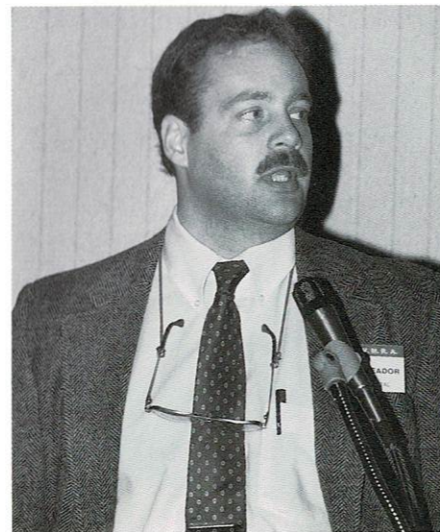
Herk Sims
Employers Service Corp.



J.D. Brackenrich
WV State Senate



Dr. Jeff Skousen
West Virginia University



Steve Meador
Lambda Group, Inc.



John Kinzer
Ashland Coal Co.



Mike Wehr
Starvaggi Industries



Byrd White
Bluestone Coal Corp.

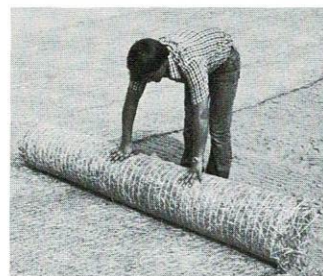


Shown
Actual Size

Control Erosion In Heavy Rains. Conserve Moisture When There Is No Rain.

North American Green offers a variety of Erosion Control Blankets to suit a variety of situations:

Just Roll It On



Starting at the top of the slope to be covered just unroll the Blanket. The Blanket should never be stretched so that contact with the soil can be maintained. Follow the simple instructions included with each roll.

Staple It Down



As you unroll the Blanket, staple it firmly to the ground using North American Green Surelock. Generally one staple per square yard will be sufficient. Under adverse conditions more staples might be required. Staple patterns are illustrated in the installation instructions.

Let Nature Do The Rest



North American Green Erosion Control Blankets create an ideal environment for seed to germinate. Because the Blankets are so well constructed, they help prevent the loss of moisture through evaporation, yet because the Blankets are porous, the ground will accept additional moisture through rainfall.

North American Green Products

\$75

Straw Blanket for moderate runoffs 4:1

\$150

Straw Blanket for heavy runoffs 3:1

SC150

Straw/Coconut Fiber Blanket for heavy runoff 2:1

SCC225

Straw/Coconut Fiber Blanket with seed for heavy runoff 2:1

C125

100% Coconut Fiber Blanket for extreme conditions and ditches.

P-300

100% Nylon Permanent Ditch Liner

Write or call North American Green for more information on the complete selection of Erosion Control/Revegetation Blankets.

Take the guess work out of erosion control.

CONTACT DISTRIBUTOR'S NEAREST BRANCH

KANAWHA STEEL & EQUIPMENT COMPANY

GENERAL OFFICES
3000 Sissonville Drive
Charleston, W.Va. 25332
P.O. Box 3203 Area Code 304 343-8801

BRANCH
Highway 70 East
Madisonville, Ky. 42431
P.O. Box 144 Area Code 502-821-2634

BRANCH
Old Route U.S. 23 North
Wise, Virginia 24293
P.O. Box 1437 Area Code 703 328-8096

BRANCH
Route U.S. 25 East
Middlesboro, Ky. 40965
P.O. Box 8 Area Code 606 248-2054

**NORTH
AMERICAN
GREEN**
14649 Highway 41 North
Evansville, IN 47711

BRANCH
106 North Bridge Street
New Martinsville, W.Va. 26155
P.O. Box 288 Area Code 304 455-3430

BRANCH
1517 Mellwood Avenue
Louisville, Ky. 40201
P.O. Box 32 Area Code 502 589-6278

BRANCH
Route U.S. 23 North
Prestonsburg, Ky. 41653
P.O. Box 126 Area Code 606 886-8123

Anderson has moved south

to new facilities nine miles south of Charleston.

We've put down roots. We've made us a permanent home in the Mountain State. Anderson of West Virginia has moved into 25,000 square feet of specially built facilities nine miles south of Charleston on Corridor "G". Everything is new from the ground up. The entire complex is designed to provide better, more efficient equipment sales, rental, and service for the surface mining, road building, construction, drilling and quarry operations. We have a new expansive parts warehouse, a larger field service fleet, massive service bays with the latest, most sophisticated equipment for testing, rebuilding and repairing. We've even expanded our line to make it broader and more versatile. Drop by, we think you'll like what we have to show you. We're here to stay!

NEW

Charleston, WV
(304) 756-2800

Beckley, WV
(304) 469-2537

Jane Lew, WV
(304) 884-7821

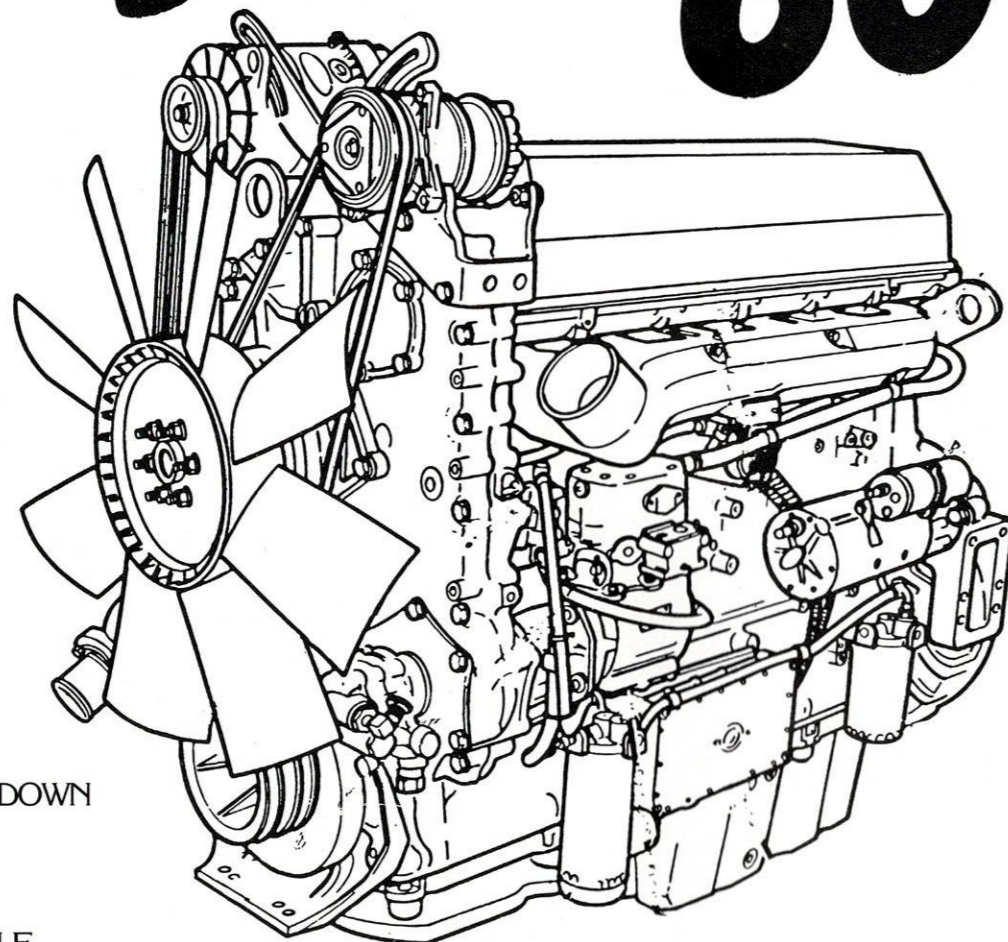




DETROIT DIESEL ALLISON



SERIES 60



Western Branch Diesel, Inc.

FEATURES

- HIGH TORQUE WITH TORQUE RISE UP TO 60% FOR EASY DRIVEABILITY AND MORE GRADEABILITY.
- BROAD RANGE OF HORSEPOWER RATINGS (12)
- IMPROVED FUEL ECONOMY WITH ELECTRONIC INJECTORS AND AIR TO AIR CHARGE COOLING
- COMPLETELY INTEGRAL ELECTRONIC CONTROLS PROVIDING:
 - COLD STARTING UNAIDED DOWN TO 10° F
 - SMOKE CONTROL
 - ROAD SPEED GOVERNING
 - CRUISE CONTROL AVAILABLE
 - ENGINE SHUT DOWN SYSTEMS AVAILABLE
 - ENGINE PROTECTION SYSTEM
 - EASY DIAGNOSTICS

Wintersville, OH
286 Luray Drive
614-264-7121

Strasburg, OH
301 South Wooster Avenue
216-878-5516

Cambridge, OH
State Route 209
614-439-7701

South Charleston, WV
3100 MacCorkle Avenue, SW
304-744-1511

Ned, KY 41355
Highway 15
606-666-4981

Portsmouth, Va.
3504 Shipwright Street
804-484-6230

Richmond, Va.
Rt. 95 & Atlee
804-798-6016

Roanoke, Va.
4546 Thirlane Rd.
703-362-1608

Springfield, Va.
8102 Alban Rd.
703-569-5650

RUDD

At Rudd, we can help you pair a powerful Euclid hauler with one of our versatile Michigan loaders. Both are fast cycling machines, productive and reliable.

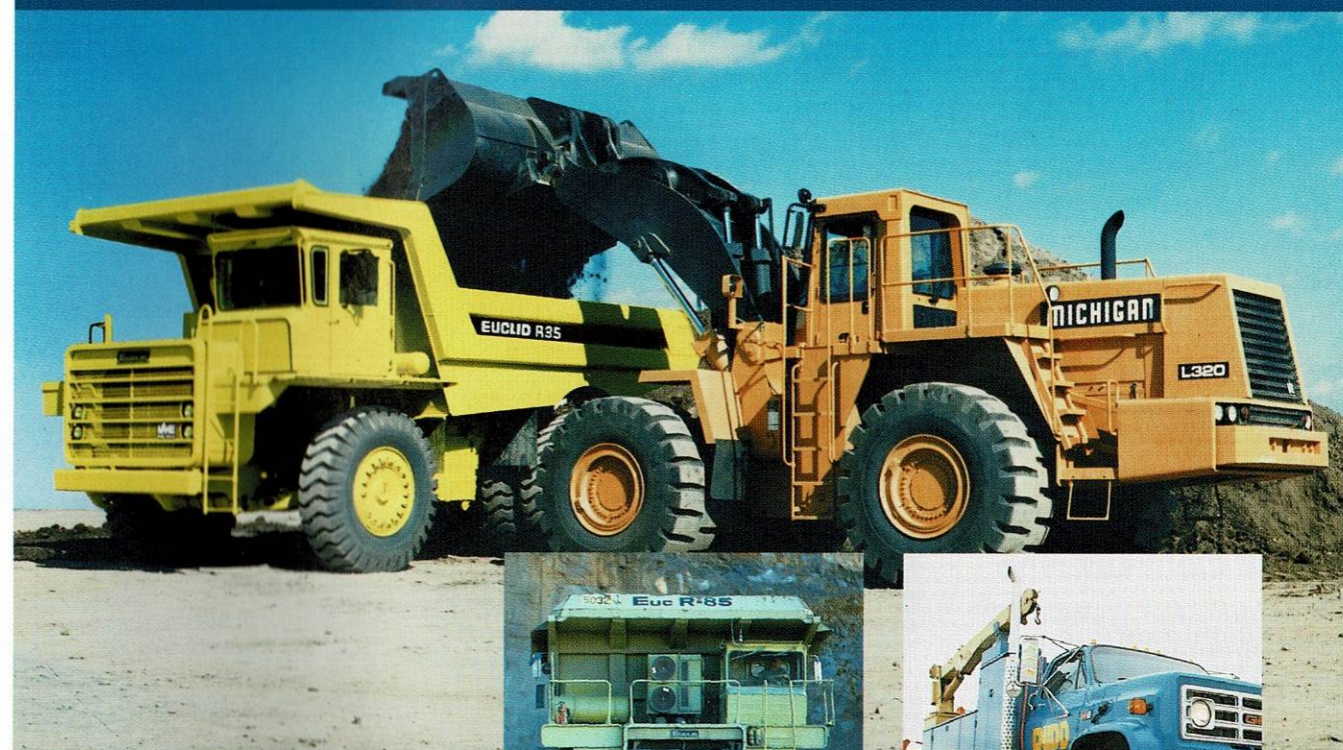
And you can choose from a wide selection; Euclid haulers as big as 170 tons, and Michigan loaders up to 12 yards.

But our selection of fine Michigan products is only part of The Rudd Difference.

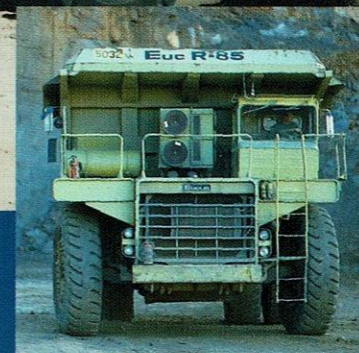
Most of all, The Rudd Difference is the unique way we serve our customers. At Rudd, the sales representative who *listens* to your needs also has the authority to *act*, swiftly and decisively. There's no waiting for instructions from a home office hundreds of miles away.

The Rudd location near you operates the same way, as a *complete* sales and support facility. Parts inventories are matched to the local equipment population, and Service and Parts Department hours will vary according to local needs.

To find out more about The Rudd Difference, and what it can mean to you, call your Rudd representative today.



VME Americas Inc.
A Subsidiary of VME Group N.V.



The Rudd Difference.
Experience it for yourself.

Leetsdale, PA
(412) 322-1112

Nitro, WV
(304) 755-7788

Clearfield, PA
(814) 765-8500

Shinnston, WV
(304) 592-1050



1987 Reclamation Awards

Oneida Coal Wins the 'Callaghan'

Oneida Coal Co., Inc. was the top winner, as fifteen West Virginia companies claimed 1987 Reclamation Awards at the closing luncheon of the Annual West Virginia Mining Symposium. Oneida was recognized for "overall excellence in a multiple permit complex . . .," at its Braxton County operations.

Oneida received the "David C. Callaghan Award," which annually goes to the outstanding overall operation. The award is named for former WV-DNR Director David Callaghan.

The Reclamation Awards are sponsored by WVMRA, in conjunction with the West Virginia Department of Energy. Association President Ben Greene characterized the awards as symbolic of the pride which its member companies take in the mining and reclamation process.

"We have always found that there is a tremendous amount of pride attached to being a Reclamation Award winner. I don't think most people realize how many companies go far beyond legal requirements in completing reclamation. That kind of work

is reflected by the companies who won these awards this year."

Presentations were made by WV-DoE Commissioner Ken Faerber.

The award winners were selected from among some three dozen companies nominated for the honor by local DoE field inspection personnel.

The occasion was also marked by the presentation of The "Governor's Award," which goes to the State nominee for national reclamation honors.

This year's winner was Island Creek Coal Corp.'s Gauley Division.

Oneida Coal Co., Inc.

In Braxton County, for overall excellence in a multiple permit complex of underground mines, surface mines, preparation plants, refuse areas, and tipples. Oneida has consistently displayed the highest regard for the best traditions of mining and reclamation, going beyond the requirements of the law, in the planning, construction, maintenance and operation of sediment control structures, haulage roads, refuse disposal areas, and all other facets of the mining complex. By its standard of excellence, Oneida continues to reflect great pride on the coal industry, and upon the State of West Virginia.



Accepting the "Callaghan" from DoE Commissioner Ken Faerber (far left) and former DNR Director Dave Callaghan (far right) are DoE Inspector John Given (2nd from left) and Oneida representatives (l-r) Bob McGregor, Dwight Given and Tom Dooley.



Governor's Award to Island Creek



The Governor's Award, presented for the first time last year, honors the State's official nominee for entry into national competition for mining and reclamation excellence. This year's winner is Island Creek's Gauley Division. Shown at the presentation ceremony are (l-r) Inspector Virgil Groves, Energy Commissioner Ken Faerber, and Larry Marshall, Steve Keen and Lonnie Spencer, all of Island Creek.



In
Recognition
of
West Virginia's
outstanding
AML
Program



General Paving Co.

In Monongalia County, for the timely, efficient and successful restoration of 70 acres known collectively as the *Goshen Road Refuse Area*, under the Abandoned Mine Lands Program. The company's outstanding effort stabilized slopes, improved water quality, revegetated barren areas, stopped sedimentation, dramatically improved the aesthetics of the area, and created conditions favorable to wildlife. This completed operation is the outstanding Abandoned Mine Lands project for northern West Virginia in 1987.



Left to right - Inspector Claud Straight, Northern AML Supervisor Dave Brochard, the Commissioner, and Fenton Eddy of General Paving Co.

**Pioneer
Construction Co., Inc.**

In Logan County, for the timely, efficient and successful restoration of the 30 acre *Toney Fork Refuse Pile*. The company's outstanding efforts included extinguishing burning areas, controlling surface water runoff, stabilizing slopes, and revegetation. This completed operation is the outstanding Abandoned Mine Lands project for southern West Virginia in 1987.



Left to right - Southern AML Supervisor Jim Lagos, the Commissioner, Don Pike of Pioneer Construction Co., and Inspector Tracy Browning.



LaRosa Fuel Co., Inc.

In Upshur County, for outstanding performance in regrading and revegetation, which transformed the mine site into productive pasture land, indistinguishable from surrounding acreage.



Left to right - Inspector Frank Shreve, Commissioner Faerber, and George Duffer of LaRosa Fuel.



Joe Turley (r), accepts for Leckie Smokeless Coal Co., while inspector Larry Golden (l) looks on.

Leckie Smokeless Coal Co.

In Greenbrier County, for exceptional workmanship in haulroad construction, advanced drainage control measures, and outstanding revegetation in the development and operation of an underground mining complex which blends into the surrounding countryside.



Peabody Coal Co.

In Boone County, for outstanding environmental control over 23 permit areas of a major underground mining operation, where the environmental maintenance crew has sustained consistently high standards of haulroad repair, dust control, and water quality.



Left to right - Inspector Joe Hager, Commissioner Faerber, Vernon Smith and Bruce Tilley, both of Peabody Coal Co.



Big Fork Coal Co.

In Nicholas County, for the long-term, outstanding record of effective drainage control, and timely reclamation which transformed a pre-existing mine site into an environmentally stable wildlife refuge, aesthetically consistent with surrounding acreage.



Inspector Russ Keaton (r) accepts on behalf of Big Fork Coal Co.



Juliana Mining Co., Inc.

In Webster County, for the successful implementation of a well thought out mining and reclamation plan involving multiple seam mining and durable rockfill construction, with consistent achievement of high environmental performance standards.



Ed Roach of Juliana Mining Co. accepts the award from Ken Faerber.



Left to right - Inspector Charley Carico, Exil Light, Jesse Anderson, Commissioner Ken Faerber, Brownie Stuart and Don Groves.

King Knob Coal Co., Inc.

In Monongalia County, for the permanent improvement of its mine site through superior design and construction of drainage structures, for an overall consistent record of compliance with reclamation standards, and for a willingness to go beyond the requirements of the law in order to achieve excellence in reclamation.



Rostosky Mining

In Mineral County, for an outstanding record of concurrent reclamation, and overall maintenance of the environmental integrity of the permit area, with a three person work force, and for providing an outstanding example of the compatibility of small mining operations with successful reclamation.



Left to right - Inspector Craig See, Commissioner Faerber, and Mike Rostosky of Rostosky Mining.



Left to right - Inspector Bill Critchley, the Commissioner, Lewis Crawford, Sr. and L.C. Crawford, Jr. of Rupert Feed and Supply.

Rupert Feed & Supply Co., Inc.

In Greenbrier County, for achieving consistently high environmental standards in difficult mining conditions, which resulted not only in the successful reclamation of the mine site, but also in the permanent improvement of a county road which crosses the operation.



Inspector Gary Meade (l), Commissioner Faerber, and Jerry Kittle of McCoy Brothers.

McCoy Brothers, Inc.

In Barbour County, for careful attention to the reclamation plan, including timely revegetation, which has made the permit area more productive, yet visually indistinguishable from surrounding undisturbed pasture lands.



Inspector Jim Belcher (l) accepts for Lillybrook Coal Co.

Lillybrook Coal Co.

In Mercer County, for careful attention to concurrent reclamation, and the elimination of previously existing highwall, during the successful completion of a surface project in an aesthetically sensitive area visible from Pipestem State Park and the West Virginia Turnpike.

B&B Coal Co., Inc.

In Upshur County, for extraordinary measures in regrading and revegetation which offset extremely poor climate conditions, and resulted in a completed reclamation effort which effectively blended the mining site with adjacent acreage.



George Duffer, (r) accepts for B & B Coal Co., as Inspector Brad Moore (l) looks on.

Award nominees

The following companies were also nominated for 1987 Reclamation Awards.

Company	County	Inspector
Baker Coal Co.	Monongalia	James Maurin
Coalmac, Inc.	Fayette	John Lambdin
Consolidation Coal Co.	McDowell	James A. Rose
Consolidation Coal Co.	McDowell	Jackie Taylor
Consolidation Coal Co.	McDowell	Allen Vest
Dal-Tex Coal	Logan	Brad Duffield
Fresa Construction Co.	Harrison	Terry Fleming
G & W Equipment	Nicholas	Virgil Groves
Hobet Mining	Boone	Mike Mace
Island Creek Coal Co.	Nicholas	Larry Golden
Island Creek Coal Co.	Grant	David Idleman
Island Creek Coal Co.	Nicholas	John Tuttle
J & R Coal Co.	Monongalia	James Maurin
K.I.M. Coal Corp.	Mingo	Jerry Bias
Maple Meadow Mining	Raleigh	Grant Connard
Marrowbone Development	Mingo	Darcy White
North Page Coal Corp.	Fayette	John Vernon
Pavex, Inc.	Raleigh	Grant Connard
Pavex, Inc.	Raleigh	Grant Connard
Ranger Fuel Corp.	Wyoming	Grant Connard
Stanley Industries, Inc.	Barbour	Larry Guthrie
Sterling Smokeless Coal	Raleigh	Michael Furey
Tridell Realty Co.	Ohio	Ron Sturm

If you want it **green**

Call Willco

Reclamation and Hydroseeding
Landscape Seeding • Erosion Control

Willco Reclamation, Inc.

Ed Williams -- President
619 Open Rocks Road -- Summersville WV - (304) 872-2287

Let us add a farming dimension to your seeding needs

Bell Farms Reclamation Service

Specializing in

- Land Reclamation
- Landscape Seeding
- Erosion Control

Robert Gene Bell
Rt. 1 Box 373A
Summersville, WV 26651
Phone (304) 872-3749

Professional Technical Service

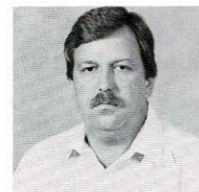
Computer Aided Blast Design
High Speed Photography
Cost Analysis
Blast Casting
On Job Blast Analysis



State-Of-The-Art Products

Latest Emulsion Technology
Gelatins & Dynamites
Detonating Cord
Cast Boosters
Blasting Agents
Non-Electric Initiation
World's Most Accurate Blasting Caps

Explosives of Tomorrow...Today!
IN SOUTHERN AND CENTRAL WEST VIRGINIA CONTACT...



Tom Ables
112 Village Green
Princeton, WV 24740
(304) 425-4512



Ernie Blair
P.O. Box 424
Mt. Hope, WV 25880
Office: (304) 877-2301
Home: (304) 465-0196



Robert Runyon
P.O. Box 98
Chapmanville, WV 25508
Office: (304) 855-4521
Home: (304) 855-9106

Serving the Coal Industry for over 50 years



Chamberlaine
& Flowers ^{INC}



128 South Second Street
Clarksburg, West Virginia 26301
304/623-3721

114 High Street
Morgantown, West Virginia 26505
304/292-8454

18 West Main Street
Buckhannon, West Virginia 26201
304/472-2402



"TOTAL SERVICE is what we're all about"



DoE Deputy Director Bart Lay, Jr., (r) presents the Mountaineer Guardian Award to Stan Black of **BethEnergy Mines, Inc.** - #81 Mine - Nicholas County.



Eighteen Member

The West Virginia Mining Symposium also included the presentation of Mountaineer Guardian Awards, which represented over 60 million tons of coal mined in West Virginia without a fatality.

Bart Lay, Jr., deputy director of WV-DoE, made the presentations at a special luncheon during the Symposium. This year's award ceremony had an extra flair of celebration in that 1987 was concluded as the safest year in the state's coal industry.



East Gulf Fuel Corp. - East Gulf No. 4 Mine - Raleigh County - Don Wise accepting



Dal-Tex Corp./Sharples Coal Corp. - Bend Branch No. 3 Mine and Coalburg No. 1 Mine - both in Logan County - John McDaniel accepting.



Davis Trucking Co. - Grant & Tucker Operation - Grant & Tucker Counties - (l-r) Melvin Judy, John Geroski, and Don Cussins accepting.

Companies Win Safety Awards

In 1987, the Mountaineer Guardian program recognized 45 separate mining operations, which had accumulated over 200 million fatal free tons.

Jointly sponsored by the Association and the West Virginia Department of Energy, the Mountaineer Guardian Awards program was started in 1983 to recognize those mining operations which achieve specified tonnage goals, based on the level of employment, without suffering a fatal accident.

Since its inception, the program has recognized some 275 operations, representing nearly half a billion fatal free tons.

Mining companies can become eligible for the program simply by enrolling with the Department of Energy. For further information, contact Bart Lay at WV-DoE (304) 348-3500, or Bill Raney at the Association office (304) 346-5318.

Pictured on these pages are the WVMRA members who were recognized at the Symposium luncheon.



Elk Run Coal Co. - Bishop Mine - Boone County - (l-r) Larry McKinney and Rick Stewart accepting.



Elk Run Coal Co. - Black Knight Mine - Boone County - (l-r) Jeff Johnson and Jim Adkins accepting.



Elk Run Coal Co. - Queen Mine - Boone County - (l-r) Jim Adkins and Ralph Miller accepting.



Elkay Mining Co./Pittston - No. 3 Mine - Logan County & Ranger Fuel Corp. - Beckley No. 1 Mine -Wyoming - John Bryan accepting.



Hansford Coal Co. - No. 2 Surface Mine - Raleigh County & King Powellton Mining, Inc. - No. 8 Mine - Raleigh County - Terry Tolley accepting.



Hobet Mining, Inc. - No. 7 Surface Mine - Logan & Mingo Counties - Ruth Sullivan accepting.



Kanawha Coal Co. - Madison #2 Mine - Boone County - Terry Adkins accepting.



Patriot Mining Co., Inc. - Patriot Surface Mine - Preston & Monongalia Counties - John Reckart accepting.



Peabody Coal Co./Eastern Assoc. - Colony Bay Mine - Boone County - (l-r) Kirby Bragg, Steve Chapman and Wendell Wilson accepting.



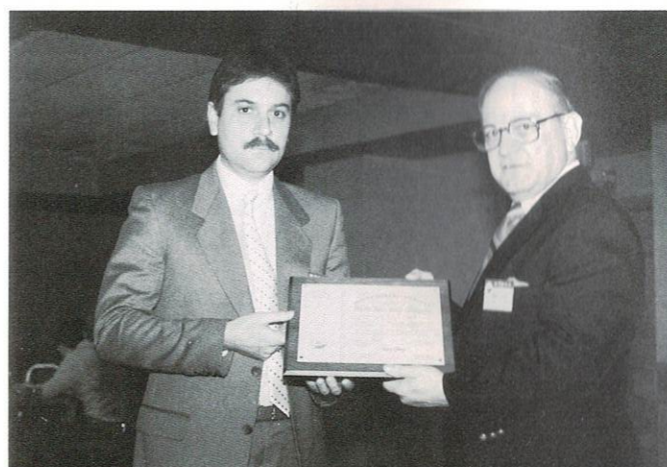
Peerless Eagle Coal Co. - Freedom & Liberty Mine - Nicholas County - Richard Scaggs accepting.



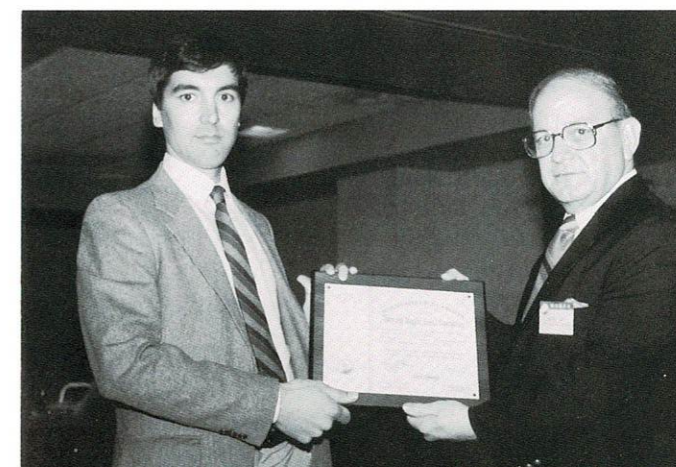
Phoenix Resources/Craft Coal Co. - Stone Run No. 6 Mine - Randolph County - Kenneth Kreps accepting.



Rockville Mining Co., Inc. - Jobs #1,#2,#3 - Preston County - Joe Elliott accepting.



Rush Run Coal Co. - No. 3 Mine - Boone County - Burge Spellman accepting.



Terry Eagle Coal Co. - Cross Lanes Eagle No. 1 Mine - Nicholas County - Monty Hieb accepting.

Green Acres

- Seeding & Mulching
- Tree Plantings
- Guard Rail
- Pipe Cleaning

Green Acres Contracting, Inc.

Al Pisula
(412) 887-9517

Jim Chernitsky
(412) 437-3084

Robin Jackson
(412) 329-8192

NORWOOD INC.

222 GEORGE STREET
BECKLEY, W.VA. 25801
(304) 252-6517

MINE CONSTRUCTION & SUPPLIES

- CORRUGATED PIPE & FITTINGS
6" TO 96" IN STOCK
- FIBER BONDED PIPE
- ALUMINIZED PIPE
- OVERCASTS IN STOCK
- CANOPIES IN STOCK
- CONVEYOR COVERS
- CONTECH A-2000
- CONTECH A.B.S. & P.V.C.
TRUSS
- P.V.C. SEWER & PRESSURE
- SCH. 40 & SCH. 80
- COMPLETE EXHAUST SYSTEMS
- SCLAIRE POLYETHYLENE PIPE

TURN-KEY CONSTRUCTION

- WAFFLE-CRETE WALLS
- SUPER SPANS
- STREAM ENCLOSURES
- BIN RETAINING WALLS
- TRUCK RAMPS
- RECLAIM TUNNELS
- SLOPE ENTRIES
- GUARDRAIL INSTALLED
- CONVEYOR GALLERIES
- STORAGE SILOS

ENVIRONMENTAL PRODUCTS

- NOR-BLOC SLOPE CONTROL
- FILTER FABRICS
- ENKAMAT
- HOLD GRO EROSION NETTING
- POLYETHYLENE LINERS
- MULCH
- TENSOR

AUTHORIZED DEALER FOR CONTECH INC. CONSTRUCTION PRODUCTS



MT. STATE BIT
SERVICE, INC.

P.O. BOX 4300, MORGANTOWN, WV 26505
(304) 296-1783

- COMPLETE LINE OF EXPOSIVES
- COMPLETE LINE OF ACCESSORIES
- CONTRACT DRILLING SERVICES
- CONTRACT BLASTING SERVICES
- MIX PLANT FACILITIES FOR
PACKAGING OF BAGGED ANFO
AND WET HOLE STICKS WITH
VARIOUS DENSITY AND ENERGY

MORGANTOWN, WV
HUNTINGTON, WV

GRANTSVILLE, MD
FAIRBANKS, PA

PROMPT & DEPENDABLE

FULLEN

FERTILIZER COMPANY, INC.

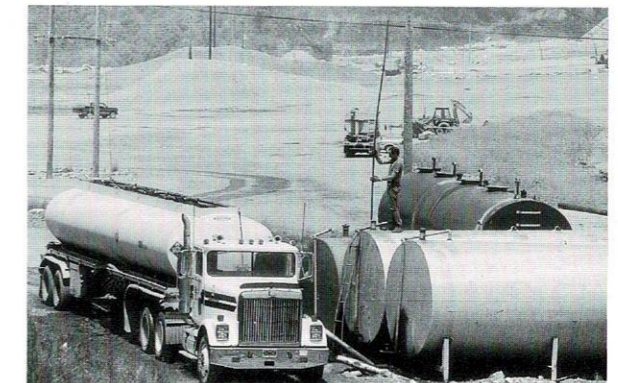
Fertilizer Hydromulch Seeds

Custom Fertilizer Formation
Soil Testing & Quality Delivery Service

Contact
Harry Walker, Jr.

P.O. Box 172
Union, WV 24983
(304) 772-3088

Petroleum Products, Inc.



*"Oil Is Our Product--
Service Is Our Business"*

Distributor of Quality CHEVRON Products

Fuels, Lubricants, Greases,
Motor Oils, Hydraulic Oils,
Technical Consulting

Beckley Location
(304) 253-7386
David A. Sizemore
General Manager

Logan Location
(304) 752-3900
John M. Ford, II
General Manager



Sales Manager/
Technical Consultant
Thomas P. Taylor

Stand Back and
Watch **Us Grow!**

Massie Brothers Trucking & Reclamation

We specialize in hydroseeding, tree planting & straw blowing

P.O. Box 396,
Shady Spring WV 25918
(304) 787-3933

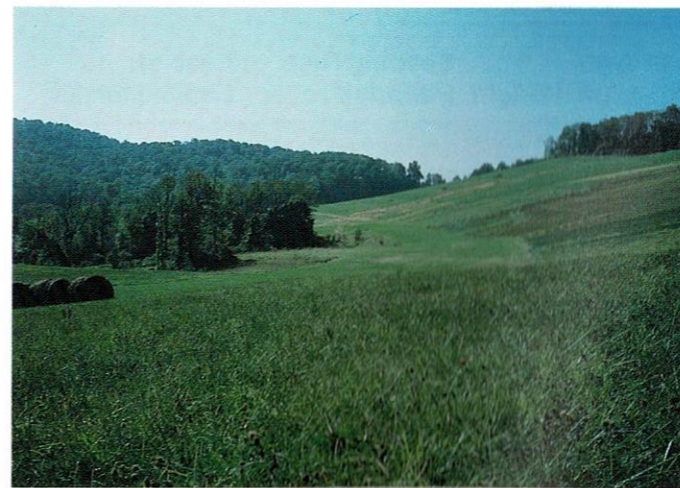
Charles Massie,
Owner

Depend upon
The Ohio Seed Company
for all reclamation seed
high quality and prompt delivery

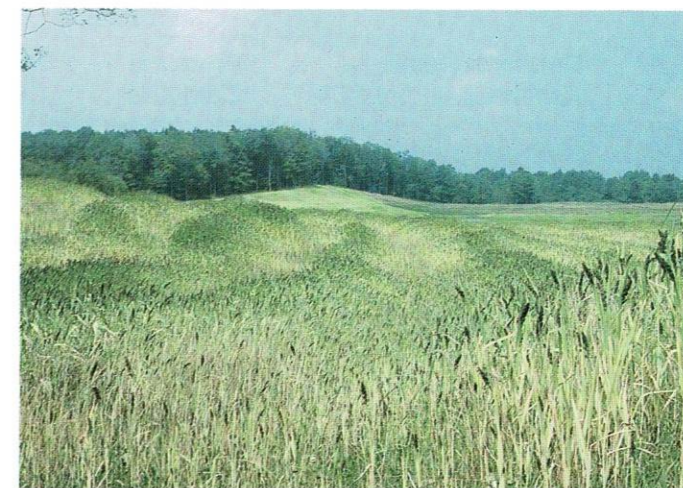


TOLL FREE
1-800-336-7333

The Ohio Seed Company
P.O. Box 87
West Jefferson, Ohio 43162
(614) 879-8366



Revegetation with tall fescue and clovers on a Dippel & Dippel Coal Co. contour mine in Monongalia County. This site has produced approximately 1.5 tons of forage per acre during the past five years with little management.



Japanese millet (a summer annual) growing on a Davis Trucking Co. reclaimed surface mine in Tucker County.

Species for Revegetation: Grasses

by **Dr. Jeff Skousen**
Extension Specialist - Land Reclamation
West Virginia University

Revegetating surface mined lands is important to control runoff, erosion, and sedimentation. Research has shown that streams in mined and revegetated watersheds have lower peak flows than streams in adjacent, unmined, forested watersheds.

Aside from reducing surface runoff and erosion, revegetation also enhances the aesthetic quality of the landscape and encourages minesoil development through the addition of organic matter. Ultimately, revegetation promotes establishment of productive land uses such as hayland, pasture, and wildlife habitat on the disturbed area.

Grasses are the most commonly seeded plants in revegetation programs for several reasons. First,

numerous grass species are available for seeding. Second, seed of grass species adapted to disturbed areas is readily available at a reasonable cost. Third, the grass family (when taken as a whole) is tolerant of a wide variety of environmental and soil conditions, and several grasses are adapted to germinate, establish, and grow on harsh sites. There are certain grass species that have proven their suitability in providing cover and forage for specific postmining land uses. Many species are capable of producing large amounts of biomass in just a few weeks and respond quickly to fertilizer and management, while other species may be slower growing and persist on the site for long periods without management.

For these reasons, a good revegetation program will always contain one or more grasses as a major component of the seed mix that will meet the postmining land use objective. Most West Virginia revegetation programs include two or three grasses and two legumes in the seed mix (see *Species for Revegetation: Legumes, Green Lands*, 17 (4): 35-39, Winter 1988).

Temporary Cover

After regrading and topsoiling, all disturbed areas must be revegetated as quickly as possible. Species that germinate, establish, and grow rapidly must be selected to stabilize the site. Annual grasses (such as foxtail millet, Japanese millet, pearl millet, oats, rye, annual ryegrass, or wheat)

Table 1. Grasses available for seeding in revegetation programs of the eastern U.S.

Common Name (Scientific Name)	Principal Cultivars	Life Cycle	Growth Season	Origin	Seeding Rate Pounds PLS/ac	Ease of Establishment
Kentucky Bluegrass (<i>Poa pratensis</i>)	Numerous turf varieties	P	C	I	15-20	Fair
Smooth Brome (<i>Bromus inermis</i>)	Saratoga Lincoln, others	P	C	I	10-15	Fair
Deertongue (<i>Panicum clandestinum</i>)	Tioga	P	W	N	10-15	Fair
Tall Fescue (<i>Festuca arundinacea</i>)	Kentucky 31, Johnstone, Alta Forager, Kenhy	P	C	I	10-20	Good
Weeping Lovegrass (<i>Eragrostis curvula</i>)	Morpa	P	W	I	2-5	Good
Foxtail Millet (<i>Setaria italica</i>)	German	A	W	I	20-30	Good
Japanese Millet (<i>Echinochloa crusgalli</i>)		A	W	I	20-30	Good
Pearl Millet (<i>Pennisetum americanum</i>)	Gahi - 1, Starr	A	W	I	15-20	Good
Oats (<i>Avena sativa</i>)	Noble, Otee Ogle, others	A	C	I	30-50	Good
Orchardgrass (<i>Dactylis glomerata</i>)	Pennlate, Potomac, Hallmark, others	P	C	I	10-20	Good
Redtop (<i>Agrostis gigantea</i>)	Common	P	C	I	5-10	Fair
Winter Rye (<i>Secale cereale</i>)	Balbo, Abruzzi Arostook	A	C	I	30-50	Good
Annual Ryegrass (<i>Lolium multiflorum</i>)	Numerous cultivars	A	C	I	5-10	Good
Perennial Ryegrass (<i>Lolium perenne</i>)	Numerous cultivars	P	C	I	10-15	Good
Sudangrass (<i>Sorghum sudanense</i>)	Piper, Common	A	W	I	20-30	Good
Switchgrass (<i>Penicum virgatu</i>)	Cave-in-Rock Blackwell, Kanlow	P	W	N	2-5	Fair
Winter Wheat (<i>Triticum aestivum</i>)	Feland, Severn, Tyler, Wheeler, others	A	C	I	30-60	Good

P - Perennial C - Cool Season I - Introduced
A - Annual W - Warm Season N - Native

Persistence	Tolerance					High Water	Lower pH limit
	Drought	Cold	Acid	Salt			
Fair Shallow rooted sod-former. Good palatability.	Poor	Good	Fair	Fair		Fair	5.5
Fair Forms dense sod. Good erosion control.	Good	Good	Poor	Good		Fair	5.0
Good Acid tolerant, drought resistant.	Good	Poor	Good	Fair		Fair	4.0
Good Most commonly seed grass on mined areas. Drought resistant. Endophyte free seed.	Good	Good	Good	Good		Fair	4.5
Fair Tolerant of acid minesoils and dry conditions. Short lived perennial.	Good	Fair	Good	Fair		Fair	4.0
Poor Rapid establishing, temporary crop. Seed in summer.	Fair	Poor	Fair	Fair		Good	4.5
Poor Quick, temporary cover. Wildlife food.	Poor	Poor	Fair	Fair		Good	4.5
Poor Fast growing, tall, annual. Food for wildlife.	Poor	Poor	Good	Fair		Good	4.0
Poor Quick, temporary crop.	Fair	Fair	Fair	Fair		Poor	4.5
Good Develops rapidly and long lived. Used in wildlife plantings.	Good	Good	Fair	Fair		Good	4.5
Good Sod former. Adapted to a wide variety of soils. Short lived if not managed.	Good	Good	Good	Good		Good	4.0
Poor Suitable for cover crop. Provides quick temporary cover.	Fair	Fair	Fair	Fair		Poor	4.5
Poor Good winter annual. Outcompetes perennial grasses.	Poor	Good	Poor	Fair		Fair	4.5
Fair Short lived perennial. Dominates stands for 2 years.	Poor	Good	Poor	Fair		Fair	4.5
Poor Temporary, quick cover. Seed during summer.	Good	Poor	Fair	Fair		Poor	4.5
Good Rhizomatous, acid tolerant, tall. Slower establishing.	Good	Good	Good	Fair		Good	4.0
Poor Similar to rye.	Fair	Fair	Fair	Fair		Poor	4.5

are often seeded to provide quick, temporary cover (Table 1). The millets and sudangrass are often selected when seeding disturbed areas during summer months (June-August), while cool season annuals are best seeded during early spring and late fall. Some perennial grasses are known to establish quickly on disturbed sites (i.e., redtop, perennial ryegrass, weeping lovegrass, and tall fescue).

Competition among species for moisture, light, nutrients, and space is an inherent problem when seeding more than three species in a mixture. Usually one or two of the species in the mixture (especially the annuals) will germinate and establish quicker than the other species. A common practice is to seed permanent species (perennial grasses and legumes) into the mulch created by the temporary annual species either in the fall or spring following senescence of the annual crop.

Time of Seeding

Regardless of the season or month in which a regraded area is prepared for seeding, grass species can be found that are adapted to the particular soil and environmental conditions of the site. Cool season grasses are best suited for seeding in March-April and September-October. Some cool season grasses, especially the winter annuals, can be seeded through November. December seedings have generally not been successful because the tiny seedlings are unable to withstand the January and February cold weather.

Many reclamationists feel that seeding in summer is a waste of time and material. However, experience and research provide examples of successful establishment of both temporary and permanent vegetation during the summer months. Warm season grasses (especially the summer annuals) can germinate and establish under drier and hotter condi-

tions than cool season grasses, but the summer grasses still require some moisture to be present in the soil. The rainfall amount and distribution during June, July, and August can be highly variable from year to year, and are the two primary limiting factors for successful summer vegetation establishment.

Revegetation is a key in a successful reclamation program, and great strides have been made during the past 20 years in reclamation techniques to produce fertile minesoils and selection of plant species for use on disturbed lands. While each revegetation specialist has his/her own favorite seeding technique and seed mix, it is important to select plant species which will quickly provide cover on a site and reduce the potential for erosion. Successful establishment of the right kind of vegetation for creation of a productive land use is our reclamation objective.

References

Armiger, W. H., J. N. Jones, O. L. Bennett. 1976. **Revegetation of Land Disturbed by Strip Mining of Coal in Appalachia.** ARS-NE-71. Northeastern Region. Beltsville, MD.

Bennett, O. L., E. L. Mathias, W. H. Armiger, and J. N. Jones, Jr. 1978. *Plant Materials and Their Requirements for Growth in Humid Regions.* pp-285-306. In: F. W. Schaller and P. Sutton (eds.), **Reclamation of Drastically Disturbed Lands.** American Society of Agronomy. Madison, WI.

Evangelou, V. P. and R. I. Barnhisel. 1982. **Revegetation Guide for Surface-Mined Land in Kentucky.** AGR-95. University of Kentucky, Lexington, KY.

Heath, M. E., R. F. Barnes, D. S. Metcalfe. 1985. **Forages.** 4th Ed. Iowa State University Press, Ames, IO.

Lyle, E. S. 1987. **Surface Mine Reclamation Manual.** Elsevier, NY.

Skousen, J. G. 1988. *Species for Revegetation: Legumes.* **Green Lands**, 17 (4): 35-39.

Vogel, W. G. 1981. **A Guide for Revegetating Coal Minesoils in the Eastern United States.** Gen Techn. Rep. NE-68. Northeastern Forest Experiment Station, Broomall, PA.

Vogel, W. G., and W. A. Berg. 1968. *Grasses and Legumes for Cover on Acid Strip-Mine Spoils.* **Journal of Soil and Water Conservation.** 23: 89-91.

A Sunny Semi-Annual

Plans already underway for a sunny 1989

Blue skies and sunshine greeted some 200 Association members and guests at the Registry Resort in Naples, FL, for the WVMRA Semi-Annual Meeting in February.

A three-day program mixing business and pleasure kept everybody busy, and able to forget the West Virginia winter for a while.

Plans are underway for more sunshine next winter, when the Association travels to Maui, Hawaii for the 1989 Semi-Annual Meeting.

One major change occurred on the Board of Directors, as long-time and valued member Dwight Keating resigned. The Board unanimously approved Gerald Ramsburg of C & W Coal Co., Clarksburg, to serve out the unexpired term.

New Members

Twenty-six new members were approved by the Board, as the membership drive continues successfully.

The Association extends a hearty welcome to the following companies:

General

Black Gold of West Virginia, Inc., Sandy Perry, Branchland; **Old Hickory Coal Co.,** Meredith Kirk, Sharples; and **Preston County Coal & Coke Corp.,** Duane Walls, Mason-town.



Chairman Bill Anderson conducts the Semi-Annual Meeting.



The banquet speaker was Bobby Joe Smith, former WVU assistant basketball coach, now living in Florida.

Associate

Adams Machine & Electric Shop, Anthony Adams, Logan; **American Hydraulics,** Jim Winkler, Logan; **Baker Equipment Engineering Co.,** Charlie Flowers, Charleston; **Blount Construction and Engineering,** Ted Hillman, Montgomery, AL; **Bowles, McDavid, Graff & Love,** Ricklin Brown, Charleston; **D & S Machine & Hydraulics,** Daryl Loggins, Mount Gay;

Ferrell Excavating Co., Inc., Vernon Ferrell, Pecks Mill; **Forke Brothers,** Ronald McClain, Buckhannon; **Holden Machine & Fabrication,** Aaron Rice, Holden; **Hydroplate & Machine Service, Inc.,** Walter Dunn, Princeton; **Jim Hamm Splice & Repair Service, Inc.,** James Hamm, Bluefield;

Leslie Brothers Equipment Co., Inc., John Leslie, Cowen; **McNeer, Highland & McMunn,** James Varner, Clarksburg; **Motor Car Supply Co.,** John Cornett, Gallipolis, OH; **Mountaineer Park, Inc.,** Hayes Taylor, Chester; **National Ammonia Co.,** James Hajec, Philadelphia, PA; **Rag Pickers, Inc.,** James Lester, Richlands, VA;

Thomas Brothers Insurance Agency, Inc., Paul Thomas, Bruce-ton Mills; **Tramco,** Bob Sammons, Williamson; **Wesco Corp.,** L. L. Tracy, Poca; **Wescott Steel, Inc.,** Dixie Dugan, Newburgh, IN; **West Virginia Pump,** William Smythe, Huntington; **Westinghouse Credit Corp.,** Ed Stack, Pittsburgh, PA.

Mini-Meetings - A major benefit to WVMRA's regular meeting schedule is the opportunity for key members to get together and exchange thoughts, ideas and solutions to problems. Here Second Vice Chairman Paul Hutchins (l) of Freeman Branch Mining confers with former Chairman Charlie Jones of Amherst Industries..



Former Chairman John Faltis (l) of Anker Energy, with Bob Jeran of Jeran Mining.



Former Chairmen Buck Harless (l) of Lynn Land and Don Donell of Starvaggi Industries.

Four part harmony - The Association always packs its own talent to meetings. In Florida, our three primary stars joined with the band singer for a stirring rendition of "Almost Heaven," which brought the audience to its feet singing. That's Bunny Fitch of Rudd Equipment on the far left, with Steve Walker of Walker Machinery on the right, and Lawson Hamilton of Ford Coal bringing up the middle.



Paul and Bill Anderson, of Anderson & Anderson Contractors, relax together at the "Swamp Party."



Kelly Faltis of Anker Energy, with an unidentified friend at the "Swamp Party." The bird is reportedly now making his home in Morgantown, WV.



The "Swamp Party" included an invitation to "dress the part." Dr. Tom Dotson of Ford Coal, and Evelyn DelSignore of Buffalo Coal, took it seriously



.and so did Chris and Fred Shewey of Lynn Land.

Men's Golf Winners - These men took home trophies from a windy, but otherwise successful golf outing. I-r are Steve George, Ford Coal; Jim McNeil, Robbins Manufacturing; Jim LaRosa, LaRosa Fuel; and John Rader, Union Carbide.



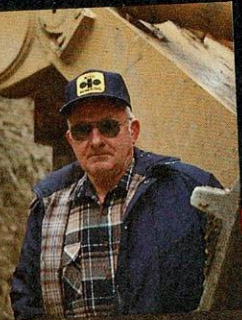
Tennis Winners - The man in the middle is Bob Kamm of Peerless Fuels. He is being recognized for a tennis achievement which kindness forbids us to reveal. Otherwise the tennis winners were (l-r) Tom Meehan, Anderson Equipment, and Carolyn Broverman, Kessler Coals, who teamed for second place. To the right of the bag man are Larry Roberts, Penn Line Service, and Teresa Kamm, Peerless Fuels, our reigning tennis champions.



Some other golfers - These gentlemen were not winners in the golf tournament. But they looked good doing it. Left to right Steve Walker, Walker Machinery; Marty Burke, Ford Coal; John Williamson, Walker Machinery; and Bob George, Ford Coal.



"...good visibility, increased production,"
Lawrence Streets, Allegheny Mining Corporation



"We feel good about our Komatsu equipment with Rish standing behind it," said Lawrence Streets, President, Allegheny Mining Co., Mt. Storm, West Virginia. Allegheny Mining operates a surface mining project which provides coal for VEPO's Mt. Storm Power Plant.

A Komatsu D475A-1 Crawler Dozer is used on the project for both the mining and reclamation, according to Streets. "Visibility from the cab is excellent which allows us to see both corners of the blade when pushing a load. . . and to the rear when ripping. Good visibility means increased production," Streets added.

Availability on the dozer has been over 95 percent since it was introduced to the surface mining project. "We have had above average availability on the D475A," Streets said. "We have purchased a lot of machines from

Rish and feel good about Komatsu with Rish having it. Rish is very attentive to their customers," Streets added. The D475A has a blade capacity of 42 cyd, 740 flywheel hp and weighs approximately 205,000 lbs.

Rish and Komatsu are the choice for a growing number of coal surface mining contractors throughout the area. Join the switch to Komatsu. Contact a Rish sales representative near you for more details.

KOMATSU

The new
Rish
EQUIPMENT COMPANY

BECKLEY, WV • 127 Pikeview Drive • 304/255-4111 • BLUEFIELD, WV • Airport Road near U.S. 52 • 304/327-5124
BRIDGEPORT, WV • 515 West Main Street • 304/842-3511 • PARKERSBURG, WV • State Route 14 • 304/422-8441
ST. ALBANS, WV • Route 35 • 304/755-3311 • FROSTBURG, MD • 101 Frostburg Industrial Park • 301/689-2211
COEBURN, VA • Rt. 72, Wise Mountain Road • 703/395-6901