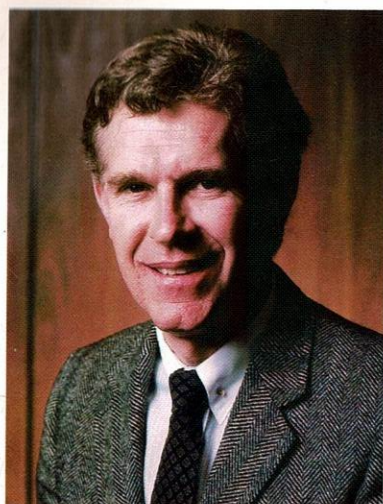


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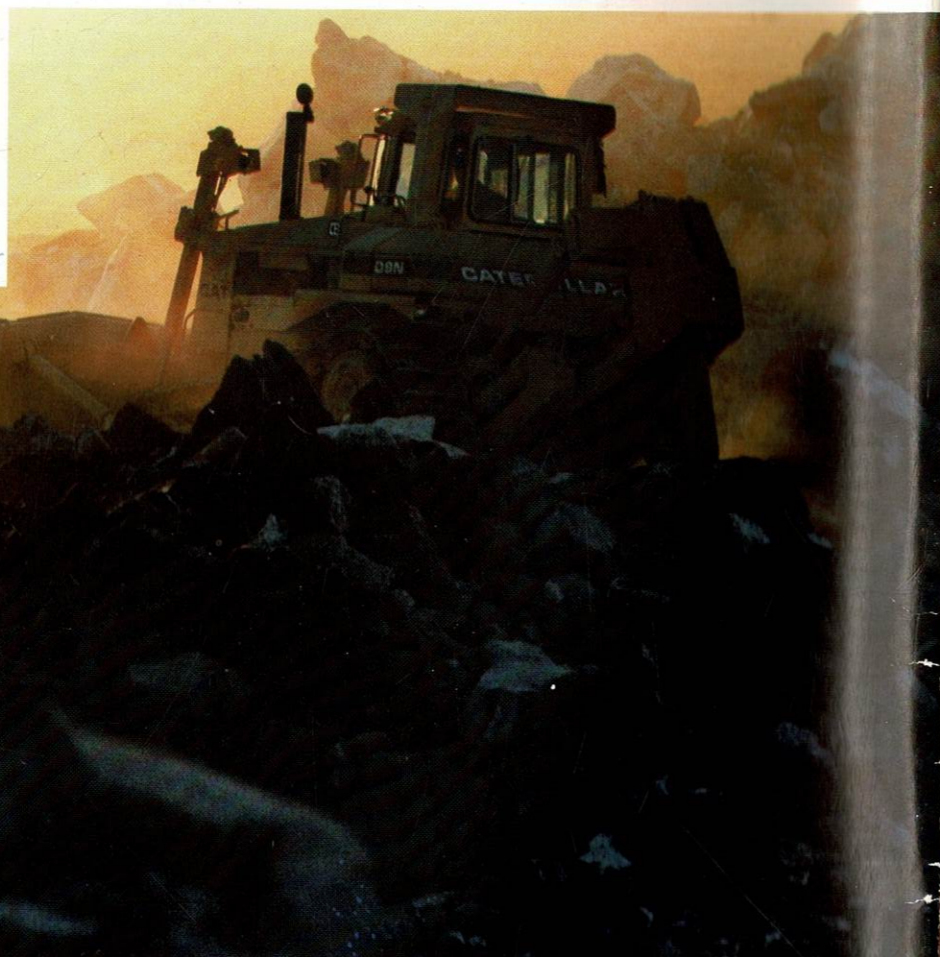
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# Green Lands

Winter 1988



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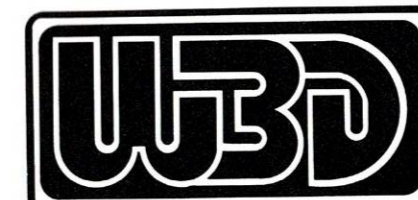
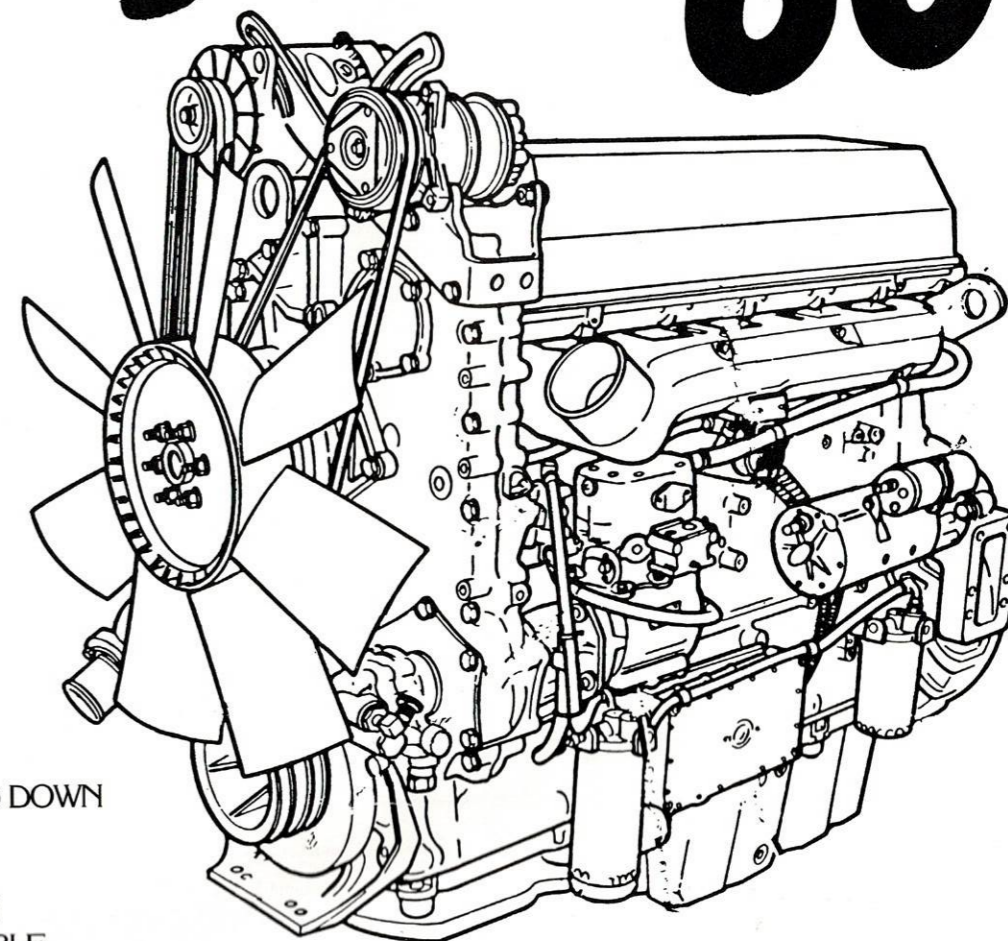
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Green Lands is a quarterly publication of the West Virginia Mining & Reclamation Association, with offices at 1624 Kanawha Boulevard, E. Charleston, West Virginia 25311 (304) 346-5318.



Our cover--The AML program, funded by coal taxes, has kicked into high gear under the direction of WV-DoE. The Canyon Residential Project, in Monongalia County is only one of many fruits of that labor. The cover story begins on page 18.

Cover photo by Danny Pritt

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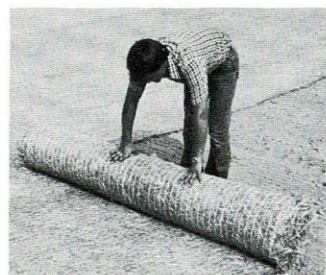


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# 1987 in Review

*Excerpted from the Chronicle section of the West Virginia Coal Bell*

## January

**Friday the 2nd**-Year end figures released by the Department of Energy reveal that non-fatal mining injuries in the State have declined for the eighth consecutive year. The rate of accidents per ton produced is one-fifth of what it was when the eight year period began. As for fatal injuries, while a freak stockpile cave in accident prevented 1986 from being the safest year on record, it remains that the six lowest fatality totals have come in the last six years.

**Tuesday the 6th**-Amid the legal web which entangles the UMWA with various affiliates of the A.T. Massey Coal Co., is a case in which Marrowbone Development Co., a non-union Massey subsidiary, filed suit against the Union for physical and fiscal damages arising from the 1981 contract dispute. With the 1984 contract come and almost gone, and the next negotiation looming ahead, it would seem to be high time to settle what happened six years ago. The trial has now been postponed nine times.

**Tuesday the 13th**-Delegate Lyle Sattes, (D-Kanawha) is quoted in a Charleston newspaper as saying that we should ignore right-to-work proposals because, if such a law passed, "many West Virginians (would) refuse to accept changing times and would grab their shotguns and go for the corporate front office." By "many West Virginians," Sattes means, of course, union members. And so his logic seems to be that we should not pass a law because union members

would react violently. This is democratic government?

**Wednesday the 14th**-In his State-of-the-State address to the 68th West Virginia Legislature, Governor Arch Moore announces the planned construction of four 300-megawatt electric power plants in the north central portion of the state. According to the governor, the plants will burn three million tons of high sulphur West Virginia coal annually, and export the power to other eastern states. Moore hopes to begin construction of the first plant by late 1988. More than 2000 construction workers will be needed. The first plant should come on line in 1992, with the others to follow every three years after that.

**Thursday the 15th**-Thirty-three West Virginia coal companies receive the prestigious Mountaineer Guardian Award for achieving specified tonnage goals without a fatal accident. The latest recipients represent more than 80 million tons of fatal-free coal production.

**Friday the 16th**-Fourteen West Virginia companies are recognized with the 1986 Reclamation Awards for performing outstanding reclamation work during the last calendar year. The winners were selected from more than 40 companies nominated for the honor by DoE field inspection personnel.

**Wednesday the 21st**-U.S. Steel Mining Co., Inc. announces that it will not reopen its Morton Mine to produce coal for USX Corp. Even if that strike-bound company resumes production.

The mine was idled in July when the steelworkers went out on strike. A tentative agreement in that dispute has been reached, but it is apparently too late for the 250 mine workers at the Morton Mine. Meanwhile, Ranger Fuel Corp. has announced the layoff of an additional 534 miners as the phase out continues at No. 2 Mine in Raleigh County.

**Friday the 23rd**-Senate Minority Leader C.N. "Bud" Harman (R-Taylor) announces the founding of the "West Virginia Right to Work Committee, Inc." Senator Harman, who has led a long, lonely fight for such a law, has some company this time around. Three newly elected senators have pledged their support, and the bill will be introduced in the House of Delegates this year for the first time. Though passage is not a realistic expectation for the 68th Legislature, things appear to be moving in a better direction.

**Tuesday the 27th**-West Virginia's new roof bolting rules take effect, resulting in the immediate layoff of 400 workers at Phoenix Resources, Inc., and related companies. At the 13th hour, an emergency rule is worked out by the Technical Review Committee of the State Coal Mine Health and Safety Board, then approved in quick succession by the full Board, and Governor Arch Moore. And what of the Supreme Court, whose uninformed July ruling brought about the current mess? Well, suffice to say that the UMW is satisfied, and so the High Court will be satisfied, with the new status quo.

## February

**Wednesday the 4th**-Peabody Coal Co., the nation's largest coal producer, but relatively new to West Virginia, announces plans to buy the coal properties of Eastern Associated Coal Corp. The purchase makes Peabody the state's second largest coal company, behind Consolidation Coal.

**Thursday the 12th**-Employees of T. & T. Coals, Inc., of Preston County, defeat a United Mine Workers representation proposal by a resounding margin of 74-15. With the latest defeat, the UMW continues to have no representation in Preston County's 130 mining operations.

**Tuesday the 17th**-Another "beleaguered" railroad company makes the news again with the announcement that Norfolk Southern Corp. proposed to buy Piedmont Aviation for \$1.5 billion. Norfolk Southern, which ekes out a mere half billion dollars of annual profit since rail deregulation, says it has no plans to mix its rail and air business, so don't look for coal to be flown out of West Virginia at any price.

**Wednesday the 18th**-West Virginia Labor Commissioner Jess Shumate briefly considers resigning his post. Shumate was indignant over a message from Governor Arch Moore's which directed not to testify at the State Senate's annual right to work hearing. The Commissioner took the occasion of the House hearing to characterize those who support right-to-work as "slime." Following a show of bravado for the assembled press and a packed UMW gallery, Shumate, unhappily, reconsidered his position and will remain at his appointed post.

**Friday the 20th**-Billy Eugene Green, of Boone County, dies in a roof fall, the state's first mining fatality of 1987.

**Saturday the 21st**-Circuit Judge Elliot Maynard has dismissed more than

600 charges from the United Mine Workers selective strike against subsidiaries of A.T. Massey Coal Co., more than two years ago. Judge Maynard's ruling, as well as his comments, are ominous as the next contract period approaches. In effect throwing up his hands at the extent of lawlessness surrounding the last strike, Maynard said, "when large numbers of people choose not to obey the law, no judicial system can be successful." While hundreds broke the law, Maynard commented that only a few instances actually involved violence or property damage. If the backlog of cases is unmanageable, perhaps the "few instances" of violence and property damage would be a good place to begin enforcing the law.

**Monday the 23rd**-West Virginia loses another hundred mining related jobs with the announcement that the Ingersoll-Rand mining machinery manufacturing plant in Beckley will close due to "poor market conditions." Those utopians who see skiing and tourism as the salvation for West Virginia ever declining coal and manufacturing industries are herewith invited to report to Beckley to begin the retraining process for the latest job candidates.

**Thursday the 26th**-Rare good news from the judicial world. A six person federal jury finds for the plaintiff in Marrowbone Development's suit against the United Mine Workers. It's a relief to know that there are disinterested parties who reject the notion that the opening of a non-union coal mine in southern West Virginia is not grounds for whatever action the Union deems appropriate.

## March

**Tuesday the 3rd**-Coal industry analyst Norman Kilpatrick offers a graphic example of the need for rail rate reform, and perhaps, for the wisdom of West Virginia's new trackage rights law. Kilpatrick contends that CSX

Corp. would ship coal from McDowell County to Chicago area steel mills or to east coast markets for up to \$5 per ton less than the rates that Norfolk Southern commands. But CSX shipping services are not available to McDowell coal producers, because Norfolk Southern owns all of the rail tracks in the county. A spokesman for Norfolk Southern denies that high rates rails are related to the depressed state of McDowell County's coal industry, and doubts that CSX would be willing to ship for any significantly lesser amount. There's really only one way to find out, and the successful implementation of the State's trackage rights law would provide that way.

**Wednesday the 4th**-A proposed settlement negotiated by the United Mine Workers and the general counsel of the National Labor Relations Board would resolve pending cases stemming from the selective strike of 1984-85 against the A.T. Massey Coal Co. and other firms, and may also head off future strike related violence. The UMW has agreed to pay more than \$225,000 in fines, and to "actively discourage violence among its membership." Under the settlement, the International Executive Board of the UMW would issue an order to all members to refrain from "coercive massive picketing, blocking entrances to mines being picketed, and threatening or carrying out violence to people and property." If these "tools" of historic organizing campaigns are truly put on the shelf, we may yet be headed for a period of peaceful co-existence between labor and management.

**Wednesday the 11th**-Four more coal companies sign pre-contract agreements with the United Mine Workers, following the lead of Island Creek Coal Co., in a move to avert a work stoppage during negotiations of the next national contract. As with the Island Creek agreement, the latest pre-contract provides for miners to stay on the job under the terms of the

1984 contract, in the event that successful negotiations are not completed by the current expiration date of January 31, 1988. The signators also agree to abide by whatever is contained in the eventual 1988 contract. All four companies were members of the Bituminous Coal Operators Association (BCOA), but recently resigned from that negotiating group.

**Friday the 13th-**Appalachian Power Co.'s Mountaineer Plant at New Haven voluntarily ends its world record run of 607 consecutive days on line. The plant is closed today for routine maintenance, after producing 14.5 billion kilowatts of electricity over the past 20 plus months of operation.

**Sunday the 15th-**Phoenix Resources recalls 200 workers laid off earlier this year. That's the good news. The bad news is that another 200 remain off the job, as a direct result of the Supreme Court's infamous roof bolt decision and subsequent directives, which have disrupted a substantial part of the state's coal industry for the past year.

**Tuesday the 17th-**Formal announcement comes of the merger of the National Coal Association with the Mining and Reclamation Council. This is a great tribute to the efforts of several West Virginians, who founded and nurtured MARC to the point of being a worthy partner with the nation's oldest and largest coal organization. Ben Lusk, former president of the West Virginia Surface Mining & Reclamation Association, founded MARC in 1977. Dan Gerkin, another WVMRA staff alumnus, is its current president. West Virginia coal men like Jim Compton, current MARC Chairman Dwight Keating, and the late Carl DeSignore played a tremendous role in the growth of the organization.

**Friday the 27th-**like Hager, of Logan County, is killed in a coal car accident, the state's second mining fatality of

1987.

**Monday the 30th-**Final figures released by the West Virginia Department of Energy put the state's 1986 coal production at 130.5 million tons, a slight improvement over the 127.9 million tons produced in 1985.

## April

**Friday the 3rd-**Representatives of the same states which are so concerned over the acid rain issue voice vehement opposition to the clean coal technology program, calling it a "budget buster." A federally funded program for reducing sulphur emissions which would, in effect be cost shared by all Americans, is not what these congressmen are after. They would prefer to bankrupt coal producing states of the off chance that their fishing might be improved.

**Tuesday the 7th-**An independent Boone County coal operator reveals that, in March, masked pickets with covered license plates harassed his four man crew, threatened violence, and effectively shut down the operation. The operator suspects the UMW, though he admits that he has no conclusive proof. The Union's district president says, no, they weren't involved. Perhaps it was some other group who doesn't condone non-union operations in Boone County. The PTA maybe. Curiously, when the operator filed a complaint with the National Labor Relations Board, the Union "acted to make sure any possible ties with the picketing were eliminated." The picket activity stopped immediately and the operation has reopened.

**Thursday the 9th-**The West Virginia Department of Energy has denied a mining permit on a tract of land adjacent to a cemetery in Monongalia County. Though some news accounts have conjured an image of bulldozers ripping up gravesites, the truth is, the prospecting and the proposed full scale operation affected acreage which had not yet been util-

ized as cemetery ground. Plot owners were upset anyway, on the grounds that the entire tract was an integral part of each burial plot. DoE denied the permit. So what does this do to charges that the State agency exists only for the convenience of the mining industry? Probably nothing. Even in victory, the lawyer for the plot owners group called the prospecting "illegal" and "a scam."

**Friday the 10th-**Delegates Jim Humphreys and Thomas Knight, both D-Kanawha, want to dramatically raise taxes on land held by corporations. Such land is held primarily because of its mineral value. But coal deposits are not revenue producing until they are mined, and only then at considerable operating expense, not to mention taxation. In the past, proposals to heavily tax large acreage have been cast aside as harmful to farmers. So the delegates would like to single out corporations and sock it to 'em.

**Sunday the 19th-**The **Charleston Gazette** makes public, sort of, the contents of a 146 page OSM evaluation of West Virginia's Department of Energy. The **Gazette** is so excited at having obtained such a hot item that it gets carried away in its headline, proclaiming in bold type that the federal report "blasts lax enforcement." It did no such thing. What OSM did was to waste a lot of manpower and money to compile a stack of claptrap. To appreciate the mentality that fostered these 146 pages, consider that it contains the fascinating tidbit that OSM has discovered "227 potential deficiencies" in state laws and regulations. OSM is concerned that the level of cited violations has dropped off. Is it the intent of the law for DoE to issue some minimum number of "tickets?" This is like criticizing a teacher for not failing enough students.

**Thursday the 23rd-**Ray Elmore of Grant County becomes the state's third mining fatality of the year.

**Friday the 24th-**West Virginia suffers its fourth mining fatality of 1987 with the death of Howard Field of McDowell County.

**Monday the 27th-**The U.S. Supreme Court has told the United Mine Workers that the various subsidiaries of A. T. Masey Coal Co. are not one company. Now that courts at every level have told this to the UMW, maybe the issue will go away. But don't count on it.

## May

**Sunday the 3rd-**A **Charleston Gazette** story contains some surprising revelations from UMW lawyer Larry Harless. For one thing, he contends that the long legal battle between his employer and A.T. Massey Coal Co. is over, and the company has won. That's unusual in itself for a lawyer. Harless also questioned the Union's strike strategy, contending that its leadership "never put any real pressure on Massey and all its subsidiaries." This is startling news, in light of several court decisions which cited various components of the UMW for illegal strike activity, and admonished Union officials against further violence and intimidation.

**Sunday the 10th-**Once again, the **Charleston Gazette** is wringing its editorial hands over the idea of using practical expertise in regulating the coal industry. John Sturm, in his capacity of a member of the Reclamation Board of Review participated in the decision to approve an acid runoff treatment plan similar to one he designed himself in private enterprise. Obviously, Sturm would look favorably on a plan which he already knew to be feasible. The propriety of the situation would seem to rest squarely on whether or not Sturm is qualified in this field. Had the **Gazette** checked on his qualifications, it would have found him to be one of the nation's leading experts. But that's not nearly as impressive a headline, is it?

**Tuesday the 11th-**WVU President Neil S. Bucklew calls a meeting with law professor Patrick McGinley, to explore complaints about McGinley's frequent and scathing remarks directed at coal companies and government agencies regulating the industry. While hardly batting an eye at McGinley's frontal assault on the integrity of anyone who doesn't share his views, various media outlets will be entirely upset at his being asked onto the carpet by his boss to respond to the complaints.

**Wednesday the 12th-**Chester Asbury of Boone County is killed in a processing plant accident, the state's fifth mining fatality of 1987.

**Monday the 18th-**Marvin Walker of McDowell County is killed in a roof fall, West Virginia's sixth mining fatality of 1987.

**Wednesday the 19th-**The BCOA receives another setback with the resignation of the Pittston Group.

**Saturday the 22nd-**Peabody Coal Co. lays off 133 workers at two Boone County facilities recently acquired from Eastern Associated Coal Corp.

**Wednesday the 27th-**The ranks of BCOA are further thinned with the announcement that U.S. Mining Co., Inc. and BethEnergy Mines, Inc. will leave the negotiating group.

**Thursday the 28th-**Consolidation Coal Co. closes its Osage No. 3 Mine, laying off 105 miners.

## June

**Tuesday the 2nd-**The **Charleston Gazette** continues to be upset over the existence of the surface mining industry in West Virginia. Using such journalistic niceties as "butchering West Virginia," "guttled mountains," "muck-and-acid-filled streams," and "scarred forever," the **Gazette** seeks to rekindle the fires of 1970's aboli-

tionism. Included in this diatribe, of course, is more scourging of the character of Energy Commissioner Ken Faerber. If these shotgun attacks had any real validity, other, more responsible media outlets in the state would have long since picked up the call, and driven Commissioner Faerber from office, and the industry he regulates would have been banned long ago. Ken Faerber is the latest in a line of State officials charged with regulating surface mining. Though he is the first to be victimized by a coordinated and continuing editorial campaign, the regulatory practices of his inspectors in the field haven't been altered significantly from the previous administration.

**Wednesday the 10th-**Law professors at West Virginia University are terribly concerned about academic freedom and First Amendment rights. While every American should rightly be concerned about these weighty matters, the interest of the good professors is a bit more specific. They believe that they have received "a chilling message," concerning their "public service endeavors," and "honest statements on public issues." This message came in the form of a meeting between WVU President Neil Bucklew and law Professor Patrick McGinley, in which Bucklew gave McGinley the opportunity to defend himself against criticism leveled by the coal industry and the WV Department of Energy. The whole controversy stems from McGinley's venomous attack on coal operators, DoE, and the federal Office of Surface Mining. The image which McGinley's supporters are trying to project is that of scholarly testimony on a public issue, which unscrupulous power brokers are seeking to stifle. In truth, Professor McGinley is an employee of the State who is using his position to promote his personal beliefs, and to further the aims of private groups of which he is a member.

**Monday the 15th-**An interim commit-

tee of the West Virginia Legislature will ask the Public Service Commission to investigate the purchase of out-of-state low sulphur coal by Monongahela Power for its Fort Martin Power Plant. Monongahela has been buying 0.9% sulphur coal from eastern Kentucky, and blending it with 2.2% sulphur tonnage purchased from Consolidation Coal in northern West Virginia. The blending was deemed necessary in order to comply with State air pollution control regulations. At issue is why low sulphur coal was not purchased from southern West Virginia. According to a Monongahela spokesman, low sulphur producers in the state were "not interested in negotiating with us." Without jumping to any rash conclusions, that is certainly the type of statement which bears investigating.

**Tuesday the 16th**-Johnny Bell of Boone County is killed in an electrical accident, West Virginia's seventh mining fatality of the year.

**Wednesday the 17th**-Teddy Franklin Shaffer of Greenbrier County dies in a mining accident, the state's eighth mining fatality of 1987.

**Friday the 19th**-The West Virginia Public Energy Authority announces plans to break ground in 1989 for electric generating plants capable of exporting power to east coast utilities. It is hoped that the first plant will be on line in late 1992.

**Saturday the 20th**-Federal Judge William Kidd approves an agreement which exonerates Harrison County coal operator Mike Fresa, and Fresa Construction. OSM negotiated the settlement after a finding by an Administrative Law Judge that Fresa's excess tonnage prospecting permit was indeed within the guidelines established to regulate prospecting. That Fresa was mining legitimately was not news to the WV-DoE which issued the permit. But it must have been a blow to the **Charleston Ga-**

**zette**, which headlined the problem on June 14, but offered no discernible coverage of the solution, less than a week later.

**Wednesday the 24th**-Consolidation Coal Co. announces it will reopen its McElroy Mine, recalling some 250 workers.

## July

**Wednesday the 1st**-The West Virginia Public Service Commission orders Monongahela Power Co. and Potomac Edison Co. to pay less for out-of-state coal, or to prove that it is the cheapest coal available. Testimony to the PSC revealed that Mon Power paid \$45.08 per ton for coal shipped from Martin County, Ky. to its Fort Martin power plant near Morgantown. That price includes \$12.51 per ton in shipping costs. Witnesses for the PSC's Consumer Advocate Division contend that small operators in northern West Virginia could deliver coal to Fort Martin for \$25-30 per ton. The PSC orders the power companies to renegotiate their contract with the Kentucky mine next January.

**Saturday the 4th**-CSX Corp. announces the closing of the Bonny Mine in Fayette County, which effectively takes the rail company out of the coal business. The Bonny Mine was the last vestige of the old New River Co., which, at its peak, employed 4000 people and produced 4.5 million tons annually.

**Tuesday the 7th**-The UMW continues to pay the price for violence related to its long and bitter struggle against subsidiaries of the A.T. Massey Coal Co. The National Labor Relations Board has initiated civil and criminal contempt proceedings against the Union, for picket line violence against Hatfield Dock & Transfer, of Marmet. The NLRB contends that Union members assaulted and threatened Hatfield employees in violation of a court order issued in July of

1985. Hatfield provided coal loading services for Elk Run Coal Co., a major non-union subsidiary of Massey.

**Monday the 13th**-Upshur Coal Co. closes after 23 years in business, idling some 113 workers. Upshur's parent company, Alco Standard, will attempt to sell the company, located near Buckhannon.

**Tuesday the 14th**-Borrowing a page from television evangelists, the West Virginia Citizens Action Group announces that it will shut down unless it raises \$35,000 by the end of the summer. Director David Grubb, who came out sharply against fund raising efforts by his former employer, the State Attorney General, expressed confidence that his group's solicitations will prove successful. All of which goes to show that the business of opposing coal and other industrial development is just that, a business.

**Thursday the 16th**-The National Labor Relations Board continues its belated crackdown on UMW related violence stemming from the Union's post-1984 strike strategy. The NLRB has now asked a federal appeals court to impose further fines on UMW District 17, and to detain its president until a previously imposed \$125,000 fine is paid. That fine was part of an April settlement of contempt charges relating to alleged Union misconduct during the last contract strike. A Union spokesman laid the blame to a "communications mixup," and contended that the fine has been paid. That is a plausible explanation, as "communications mixups" have been a consistent problem in the past with regard to Union obedience to court orders.

**Friday the 17th**-Union paranoia regarding the A.T. Massey Coal Co., has reached new heights of lunacy. The Boone County Board of Education has asked Sherman High School to end its partnership with Elk Run Coal Co., a Massey subsidiary, due to "harassment and threats by members

and officials of the UMW." Designed to promote a dropout prevention program, the partnership was begun last winter through the West Virginia Education Fund. It was one of about 230 partnerships statewide, linking individual schools with business enterprises. Elk Run provided "Sherman High—100%" T-shirts for students with perfect attendance over a four week period. The shirts made no mention of Elk Run. An upcoming program would have given Sherman High students access to modern computers at the company. Another involved company financed scholarships for college bound students. Union officials, as usual, deny any knowledge or sanction of threats, tire slashings, and other forms of harassment to which school officials have been subjected. But they don't deny their opposition to the program, based entirely on the source.

**Tuesday the 21st**-Labor Commissioner Jess Sumate is fired from the Moore administration. The letter of dismissal cited "noticable instances of a lack of coordinated efforts within your agency and in this interaction with other entities which adversely impacts our state." That was putting it kindly. Shumate, who claimed a priority of "bringing to West Virginia a unity between labor and management," testified before a legislative committee last winter, and referred to right to work advocates as "slime."

## August

**Sunday the 2nd**-UMW officials whine that they were the objects of unfair treatment after they scuttled an educational partnership program between Sherman High School and Elk Run Coal Co. Calling Elk Run a divisive force in the community, they say that the school principal used poor judgement in entering into the agreement. By narrow Union standards, of course, divisive means out of sync with UMW goals and policies. Once again, the vandalism and verbal in-

timidation was disavowed by Union officials who pride themselves on the discipline which they exert on the rank and file. This disclaimer is getting tiresome and carries no credibility at all. They also claim that the UMW is not against quality education. A laudable sentiment, but quality education is obviously not too high on the Union priority list. Finally, the spokesman admits that while the Union "took its lumps on this one" the next proposed partnership program will be "looked at more carefully." Sad, but true. Too often officials and individuals put four good tires ahead of principle in reaching a compromise with the UMW.

**Wednesday the 5th**-The U.S. Steel Mining Co. agrees to sign whatever national agreement is reached between the UMW and the BCOA.

**Friday the 7th**-Five men including a UMW local president, are arrested in connection with the assassination of non-union coal truck driver Hayes West in May of 1985.

**Wednesday the 19th**-U.S. Steel has leased its idle Gary Mine to two McDowell County companies. This agreement, coupled with the announcement of a state grant of \$172,800 to train 92 workers, gives hope that the up-and-down Gary operation will have a real chance for survival.

**Wednesday the 26th**-West Virginia University officials break ground in Morgantown for a \$9.6 million College of Mineral Energy Resources. The building is scheduled for completion in May, 1989.

**Thursday the 27th**-William Logan of Monongalia County is killed in an underground locomotive accident, the state's ninth mining fatality of 1987.

**Sunday the 30th**-Well, it looks like the West Virginia Citizens Action Group will survive. David Grubb, the driving force behind WV-CAG, an-

nounced last month that he must have \$35,000 right now or close his doors. He now reports a "positive cash flow" and \$25,000 in funds raised. We knew he'd make it, just like we knew Oral Roberts wouldn't die last March.

## September

**Tuesday the 1st**-Joseph Powell, State president of the AFL-CIO, thinks that reported grass roots support for a right to work law in West Virginia may be a "misunderstanding." He may be right. Mr. Powell and other union people may well misunderstand where the people of West Virginia stand on this controversial issue. Or maybe not. More likely, union leaders know what would happen if the question were put to a vote of the people. That's why they pack the galleries wherever it is publicly "discussed," and try to shout down the opposition.

**Friday the 4th**-West Virginia Governor Arch Moore is elected chairman of the Southern States Energy Board. Whether this will have a direct benefit to the industry in West Virginia remains to be seen, but it can't do any harm.

**Wednesday the 10th**-The town of Matewan, and its namesake movie, is much in the news of late. This historical fiction, based on mine wars in 1920's West Virginia is certainly of interest. But moviegoers should keep in perspective the fact that, whatever the level of accuracy the picture achieves, it is history that is on the screen, and has nothing whatever to do with the coal industry of 1987.

**Sunday the 27th**-In a full page article, the **Sunday Gazette-Mail**, which is to say the **Charleston Gazette**, reports that a "healthy detente," is developing between union mines and coal companies. That's the subhead. The story is a little more specific, laying the praise at the feet of the United Mines Workers and the West Virginia Coal Association, a major trade organiza-

tion which, by and large, represents the bigger, more unionized coal companies in the state. Naturally, small operators took a lot of grief, being as they are, to a significant extent, non-union. The **Gazette** reporter drew upon exhaustive quotes from the most prominent opponents of the coal industry, both in and out of the Legislature, in the course of investigating this "story," which attacked, in turn, small operators, non-union operators, and of course, Energy Commissioner Ken Faerber. The quotes of Faerber, West Virginia Mining & Reclamation President Ben Greene, and any pro-industry members of the Legislature, were all conspicuously absent.

## October

**Sunday the 11th**—Well, it's Sunday again, and the **Gazette-Mail**, as the **Charleston Gazette** euphemistically refers to itself on the day of rest, gives us the latest unsettling news from the West Virginia Department of Energy. This time we learn—try to remain calm—that Our State suffers a severe shortage of lawyers with which to pursue the ravaging strip miner! As an example of what we can hope and strive for, the **Gazette** points to that paragon of mining reclamation, the Commonwealth of Kentucky, which boasts, or soon will, "48 lawyers working to enforce strip-mining laws." Poor, backwards West Virginia has only 1 and-a-half lawyers to keep the mining peace. Sleep well, if you can.

**Wednesday the 14th**—The **Charleston Gazette** deems it worthy of a headline that West Virginia Public Service Commission has paid \$60,000 over a FIVE YEAR period for the services of coal consultant Norman Kilpatrick. Four days later, the same paper, under its Sunday pseudonym, doesn't blink an editorial eye in reporting that the Office of Surface Mining is paying a group of lawyers \$181,000 to force Kentucky to hire another group of lawyers. Just to compare apples to apples, Kilpa-

trick bills at \$32 per hour. If competent lawyers can be found for that price, then West Virginia should order up a dozen or two.

**Sunday the 18th**—Part of the settlement struck to end the lawsuit between the National Wildlife Federation and the Kentucky Department of Natural Resources and Environmental Protection mandates the hiring of 21 lawyers, bring to 48 the total of legal beagles doing God knows what in Kentucky's DNREP. The **Charleston Gazette**, which consistently and ERRONEOUSLY points out that AML expenditures in West Virginia's-DoE are taxpayer funded, apparently has no problem with this outrageous waste, which really does come from public coffers.

**Tuesday the 20th**—James Cooper of Boone County dies in a mine accident, the state's tenth mining fatality of 1987.

**Saturday the 24th**—The West Virginia Silver Haired Legislature, unencumbered as it is by the need to court special interest blocs of voters, endorses the concept of a right to work law for the state. For this, the group earned one of the **Gazette's** prized editorial scowls. Congratulations, ladies and gentlemen.

**Monday the 26th**—The Employment Opportunities and Economic Development Commission, a 20 member advisory group made up of legislators and business and labor leaders, has declined to study a proposal to impose "excess acreage" taxes on undeveloped tracts of land in the state. Delegate Thomas Knight, a big legislative backer of the idea, is annoyed. Knight holds the curious notion that acreage which is not producing revenue would be a wonderful source of new tax revenue. He would exempt, of course, farm acreage, which aims the proposal squarely at the coal and timber industries, and what else is new? Even a passing acquaintance

with the economics of these industries teaches that the acquisition of large reserves for future development is a necessary and harmless practice.

## November

**Monday the 2nd**—U.S. District Court Judge John T. Copenhaver reduces the punitive damages verdict against the United Mine Workers from \$3 million to \$1 million. The judgement was levied against the Union as the result of a suit brought by Marrowbone Development Co., following strike related violence in 1981. Copenhaver upheld the judgement of \$3.8 million in damages, but called the \$3 million punitive award "out of proportion" to the wealth of the defendants. Perhaps that's true, but wouldn't it be a great deterrent to future lawbreaking for the punitive award to be a sum that the lawbreaker simply can't afford?

**Tuesday the 3rd**—Legislative proposals to enact an excess acreage tax on corporate held West Virginia lands not in production, have been declared dead on arrival, following the overwhelming vote of the Commission on Employment Opportunities and Economic Development not to study the matter. Proponents of the legislation, principally Delegate Tom Knight of Kanawha County, react in the predictable fashion, charging undue influence of "special interest" groups.

**Thursday the 11th**—Union and management representatives begin contract negotiations, attempting to avert a strike when the current pact expires January 31. At least, it is assumed that both sides want to avoid a work stoppage. A recently revealed letter from District 17 to local presidents implies otherwise, outlining a pre-strike plan of slowdown and inefficiency. The attitude inherent in such communications is disheartening, to say the least. The Union is so far out of line in this instance, that it even draws a rare, albeit mild, rebuke from the **Charleston Gazette**.

**Monday the 16th**—Though UMW officials hotly denied any involvement with the sniper murder of independent truck driver Hayes West 30 months ago, a Union local vice president has entered a plea bargain of guilty to "aiding conspiracy," for transporting his armed co-defendants to the crime scene on the day of the murder.

**Thursday the 18th**—Beckley Coal Mining Co.'s Glen Daniel Mine shuts down, accompanied by the layoff of 230 workers in Raleigh County.

**Friday the 19th**—His head turned, perhaps, by the revelation that Congress will generously provide public money to hire any number of lawyers to regulate coal mining, West Virginia Attorney General Charlie Brown writes to the Office of Surface Mining, and says, in effect, "Hey, I'll have some of those." Actually, what the Attorney General said was that he believes "surface mining enforcement program of West Virginia could be enhanced were this funding made available, etc., etc." and on like that. The enhancement of a regulatory program through the hiring of additional lawyers has yet to be demonstrated.

**Wednesday the 24th**—Energy Commissioner Ken Faerber, never one to duck a fight, holds hearings on proposed rules to tighten restrictions on freedom of information requests. Included in the proposed rules are nominal charges for copying documents and search fees for the time of DoE employees. "This is an abuse of power," says Delegate Tom Knight. Knight was presumably referring to Faerber's proposed rules, though the phrase fits those who have used the Freedom of Information Act to keep DoE people busy and away from its legislatively mandated duties.

**Friday the 27th**—The aforementioned energy commissioner is a little upset at the aforementioned attorney general for his attempt to separate OSM from some of its apparently surplus funds. It must be frustrating, from Faerber's point of view, to be forced by shortsighted legislative budget cuts into laying off some of his best people, only to see unlimited funds make available to hire lawyers who wouldn't know a coal mine from a wishing well.

## December

**Wednesday the 2nd**—Arch of West Virginia, along with several of its sister companies, signs a letter of intent which will bind them to the next UMW negotiated contract in return for a pledge of no work stoppage should there be a strike when the current pact expires January 31.

**Thursday the 3rd**—Governor Arch Moore's proposal to construct power plants for exporting electricity gains credence with the announcement that a California firm will do just that. The plant will be built in Grant County, employing 300-350 during the construction phase and 50-60 on a permanent basis.

**Friday the 11th**—Bob Wise, who was elected to represent the people of West Virginia's third district in Congress, urges WV Energy Commissioner Ken Faerber to abandon his proposed regulations on the dissemination of DoE information. Wise cites "media outcry," as one reason to do this. What kind of a reason is that? Especially when "media" in this case pretty much means the **Charleston Gazette**. And why is a congressman trying to sic the federal regulators on the government back home? Bob Wise, the citizen may not agree with Faerber. That's fine. But what he is

doing is using his influence as a congressman to apply pressure to a state official. And that is a mild abuse of power.

**Monday the 14th**—Dennis Hatfield is killed in a roof fall in Wyoming County, the state's eleventh mining fatality of 1987.

**Thursday the 17th**—Four UMW members, including a local president, are convicted of crimes which resulted in the death of non-union truck driver Hayes West, in May of 1985. News accounts of the trial must be carefully worded because the four were convicted of "conspiracy to damage a vehicle used in interstate commerce," and other similarly wimpy charges. A fifth defendant, accused of being a more lethal marksman, is yet to be tried as the gunman who fired the fatal bullet.

**Friday the 18th**—Leckie Smokeless Coal announces an interim agreement with the UMW. At the current pace, the Union will find precious few companies which it can legally strike in the event of failed contract negotiations.

**Tuesday the 29th**—Another private utility company reveals plans to build a power plant in West Virginia, this one in Marion County. Those who ridiculed Governor Moore's proposal to build such plants have apparently gone into hiding.

**Thursday the 30th**—The year 1987 ends with 11 coal mining fatalities in West Virginia. Though zero is the only total that can truly be celebrated, the fact remains that this was the best year for preventing fatal accidents in the history of the industry. It deserves mention, and attention, but it gets none from any media outlet in the state.

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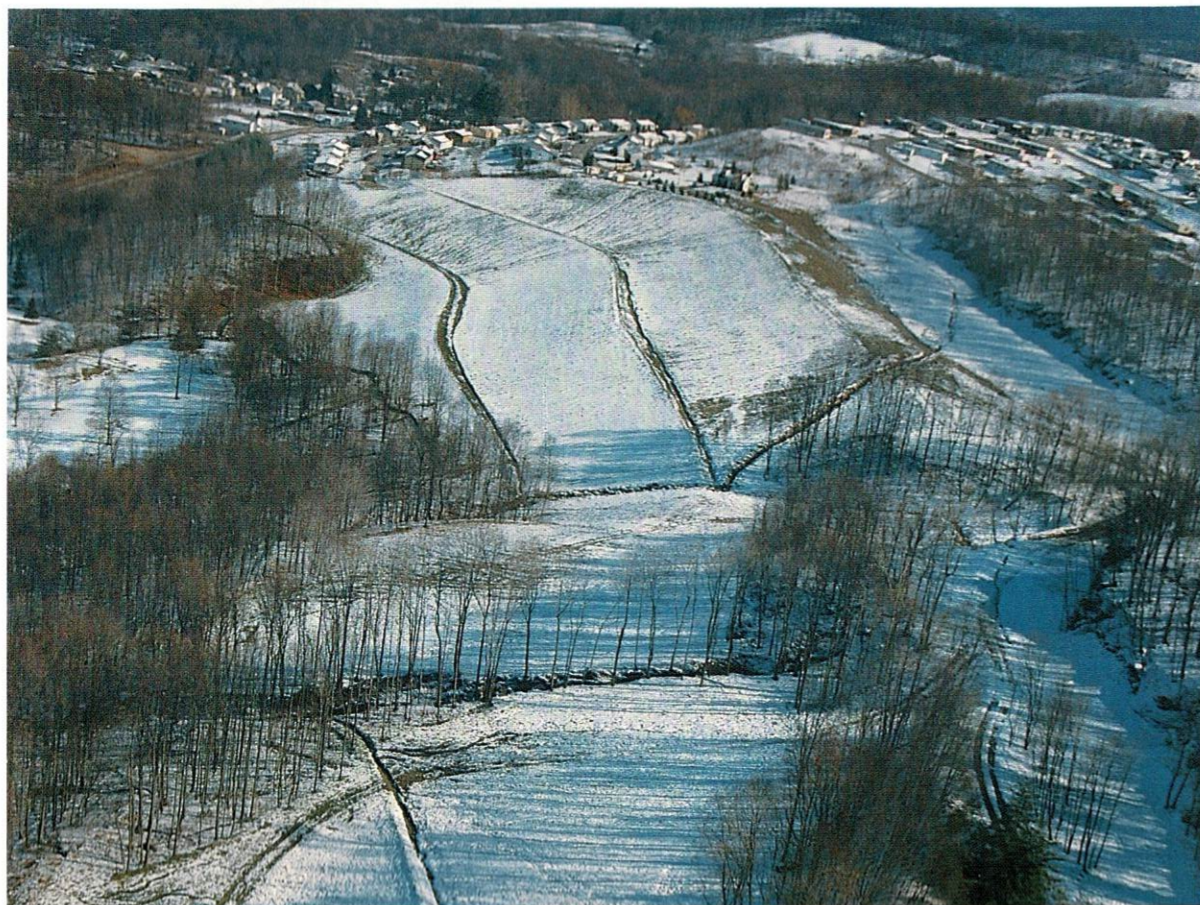


photo by Danny Pritt

Canyon Residential  
Monongalia County  
Pioneer Construction Co.

## West Virginia AML program kicks into high gear

The system appears to be working for West Virginia's Abandoned Mine Lands program.

The AML program, created by the Surface Mining Control & Reclamation Act of 1977, used to be a source of frustration for West Virginia's coal operators and for its regulatory agency.

Taxed at 35¢ and 15¢ a ton respectively, for surface and underground production, operators saw some \$100 million coal dollars flow into federal coffers before the first load of dirt was turned for the reclamation of abandoned mine lands.

The West Virginia Department of Natural Resources, experienced and able in administering such a program, was stymied by a federal requirement that the entire State program be blessed, in all its detail, before any money could be returned for the AML program.

Under a rather complicated formula, the federal people would keep a good chunk of the loot for administering a few of their own programs, but it was apparent that 50% of the tax revenues, a considerable sum of money, was readily available for reclamation under the guidance of WV-

DNR, and later the Department of Energy.

Down the road, there a discretionary fund which state agencies might be able to utilize. West Virginia, whose coal industry has been around longer than most, stood to gain from the disposition of these discretionary funds.

We are down the road now, and it appears that the West Virginia Department of Energy, which now regulates the industry, is on the verge of maximizing the potential of the program.

"It's mainly a matter of inventory,"



photo by Danny Pritt

Sand Run  
Upshur County  
Grafton Coal Co.

says Danny Pritt, Assistant Director/Construction in the AML section of WV-DoE.

"We had to develop an accurate inventory of what problems existed, according to the priority criteria, in order to justify our funding applications to the Office of Surface Mining."

Most AML efforts have centered on Priorities 1 & 2, those situations which pose a clear danger, and those with potential danger. In the first five years of the active program, the inventory amounted to some \$78 million.

In 1987 the DoE-AML team began working on the inventory in earnest, a

fact reflected in the new numbers.

"We have identified \$2.3 billion worth of Priority 1 & 2 projects," says Pritt. "At current funding levels, that's 115 years worth. And funding for AML was set for 15 years, which means the program will expire in 1992 unless it is extended."

Once the flow of funding started five years ago, WV-DoE has done quite well in securing West Virginia's fair share of AML dollars. Mountain State operators are putting \$25-30 million into the fund each year, and the agency has been getting \$12-15 million back.

But the increased emphasis on

inventory identification changes things. In its new grant application, WV-DoE will ask for, and expects to receive, \$18-24 million for the coming year.

That's money provided by West Virginia coal producers, that will be spent in West Virginia, reclaiming Abandoned Mine Lands projects, mainly underground mine refuse piles.

It may be true that the federal government taketh more than it giveth, but at least in the near future, we will getteth back a little more than usual.



photo by Danny Pritt



Chief Logan State Park  
Logan County  
G.E. Ray Construction Co., Inc.

photo by Carl Walker



Green Lands 21

Toney Fork  
Logan County  
Pioneer Construction Co.



photo by Carl Walker

20 Green Lands



**Dawmont**  
**Harrison County**  
**Grafton Coal Co.**

*Photos courtesy of  
 BFGoodrich  
 Promac Systems  
 Brecksville, OH*



*photo by Danny Pritt*

**Itmann**  
**Wyoming County**  
**Vecellio & Grogan, Inc.**

*The largest excavated refuse pile yet reclaimed under the OSM/AML program.*

*photo by Danny Pritt*





**Romesburg**  
Lewis County  
Breckenridge Corp.

photo by Danny Pritt



**Dola**  
Harrison County  
Green Mountain Co.

photo by Danny Pritt

**Mud Lick**  
Upshur County  
J.F. Allen Co.



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Australia's two huge off-shore loading docks, Dalrymple Bay (developed by the Queensland government) on the left, and Hay Point (privately developed) on the right, in Queensland, Australia.

## How 'down under' got to the top

By Norman Kilpatrick

Since 1984 Australia has exported more coal than America. The United States had been the world's leading exporter of coal since the end of World War II, and so this sudden rise has been of interest to a number of U.S. coal producers, including Preston County Coal & Coke's John Raese. The more so since the Aussies have out-exported us again in 1987, it is clear.

To get a clear picture of what the producers "down under" are doing right, Raese visited Australia's two coal export-

ing states, Queensland and New South Wales. He took his photographer/wife along, and myself. I helped plan the trip, consulted with Raese during it, and wrote a series of four feature articles about it for the *Morgantown (WV) Dominion Post*.

We were assisted greatly by John Hannan, an Australian Coal Association official who visited WVMRA, as well as officials of Utah Development Co. and Coal & Allied Operations Ltd., in October of 1986.

We visited five loading docks, all of

which can load larger vessels at dockside than any current U.S. docks. There are two others of that size. Port Kembla, run by the New South Wales government, reports it can load up to 154,000 short tons (2,000) of coal on a single ship. This major export facility can take loads of coal from trucks, as well as rail, unlike American east coast ports. This port is nearer to the older coal producing areas, so some truck delivery is economic.

We also saw the huge coal loading facilities of Port Waratah (132,000 tons)

and Kooragang Island (198,000 tons) in Newcastle, New South Wales. Finally, we viewed the offshore (1 to 2 1/2 miles loading operation at Hay Point (privately owned) and Dalrymple Bay (government operated) in Queensland. Hay Point claims to have loaded a ship with more than its rated 176,000 ton maximum; Dalrymple Bay reports it can load up to 220,000 tons.

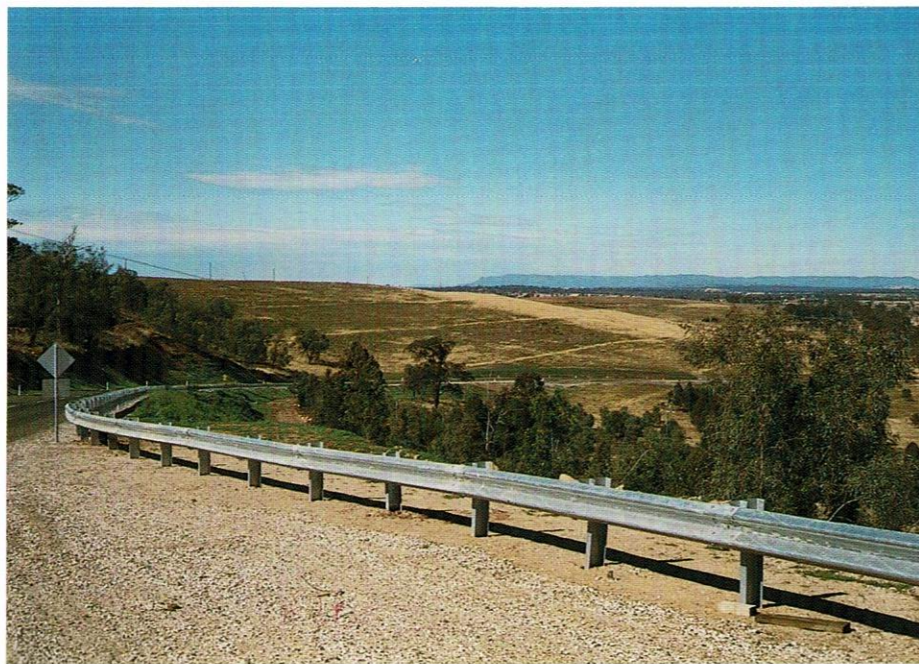
Of considerable interest was the publicity given coal affairs by the daily press in both areas. Articles about coal exports, its competition, and management and labor views on the pending crisis in Australian coal were widely reported during our eight days in that nation.

Utah Development Co. and the Hunter Valley Coal Chain Council, for example, have developed effective booklets aimed at the general public, explaining the major benefits even to non-coal citizens of coal exports and mining. All this makes it fair to say the Australian public has a better understanding of coal exports and its competition than say the West Virginia and Kentucky publics. This allows for more rational decision-making at the government level, as well.

Australian coal has some clear advantages over American coal. One is that they do have better public understanding of their problems. Another is that reclamation requirements are not as tough as America's, in two areas. One is that most mined lands only need to be returned to their former (pre-mining) use, not the highest and best, as in U.S. "prime farmlands" areas. The other is that generally, the operator is allowed to determine determine how the goal is to be achieved, on a site-by-site basis. Queensland, generally, has lower reclamation standards than New South Wales.

Their rail rates from the major inland coal export areas (the Hunter Valley and Bowen Basin) are around half of ours. Their loading docks can take larger vessels than ours, thus reducing ocean-going rates to the final customers.

Many of the export mines in the two states are large surface mining operations,



Winter scene in New South Wales. The reclaimed area is in the center of the picture.

with two or more strippable seams of bituminous coal. American draglines and power shovels are used, along with one German/Australian bucket excavator, to move overburden and partings. These mines are as productive as ours or more, but have created a heavy debt situation for many operations.

We visited a major underground mine, which runs a 1.2 Megawatt electric power plant on methane drained from its coal seams prior to mining. West Cliff Collieries also plans a short coal slurry pipeline to move coal to its export facility, Port Kembla.

Later, we visited the Bowen Basin, in Queensland, which is north of the Moura surface mine, opened by Peabody Coal around 1970, in Queensland. This area looks much like the Powder River Basin of Wyoming/Montana. Like that western area, a complete lack of infrastructure has required development of "company towns" by the mining interests to house the thousands of miners and dependents who followed the draglines into this interior plateau area.

South of Queensland, we toured two Hunter Valley surface mines. This area is

also a wine/grape growing area. Like the Bowen Basin, it is away from the coastal plains areas where virtually all of Australia's 18 million people live. Unlike Bowen, it has a moderate rainfall, making revegetation easier.

Both these areas have an advantage over American coal operation in parts of our west. They do not have to pay royalty payments to Aborigine tribes, which under Australian law have no inherent land or mineral rights. Also, major customers, such as Japanese and South Korean firms, have been induced into making financial investments in Australian mining and shipping operations. These investments help encourage use of Aussie coal, even when some other nation's is in the same price range.

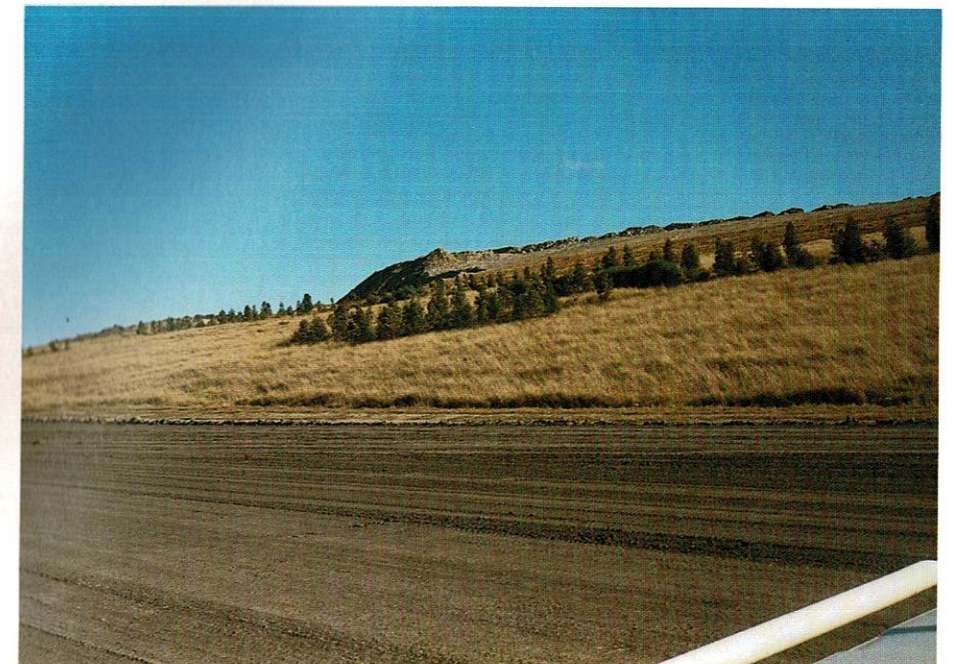
Australia has a major program on to encourage Japanese tourists, which has resulted in a lot of Japanese faces in downtown Sydney. At the same time, Australian cleaning plant staff were planning a trip to Japanese power plants, while we were there. All this helps cement relations with their (formerly our) major export coal buyer.

But they do have some problems fac-

ing them. These include sudden wind storms which hinder reclamation and almost blew us into a dragline pit at Hunter Valley #1, thousands of citizens petitioning against longwall deep mining in one area of New South Wales, and designation of thousands of acres of coal as part of a national park in New South Wales.

The major problem, while we were there, seemed to be caused by low international coal prices, which Australia itself helped create. This has led to management demands that the unionized work force make concessions or face major layoffs. And union demands that the national government (a Labor government as it happens) take over the sales of coal to international customers and set a minimum price for different types of coal.

Jim Lumbley, the Queensland Colliery Employees Union vice president put it this way. "Australian coal producers had penetrated the world market very successfully, but were now turning on each other, which was bringing prices down." American producers can only hope the union's demand comes to pass, of course.



Mixed trees and grasses at Hunter Valley #1, in New South Wales's Hunter Valley, during winter of 1987, (July). Active spoil piles are visible in the background.

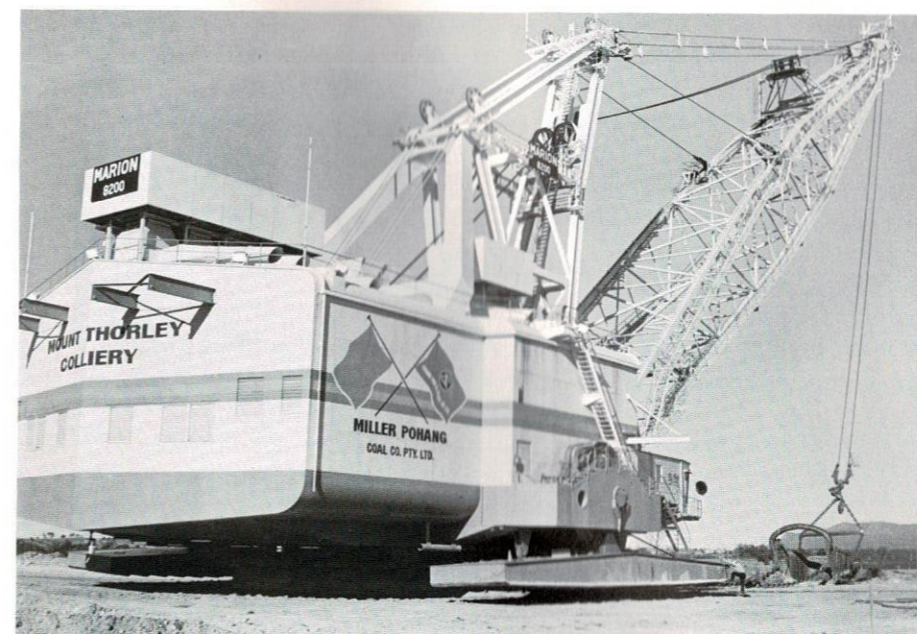
But because of the failure of the state government owned railroads to cut their transportation costs for coal, and the often state-owned loading facilities to make any major price concessions, the produc-

ers are going ahead with layoffs. And thus we faced a number of mines closed by wildcat strikes. Also, Newcastle area docks were hit by a wildcat among dock workers, over a different issue.

The labor unions (several are represented in a single mine there) did not receive the support of Australian Prime Minister Bob Hawke in their fight for a national export coal authority or for an all-out national coal strike to fight layoffs. Thus, Australian coal is likely to continue to be highly competitive, but also a bit unreliable due to continued labor unrest.

Last, but not least, a typical export "met" coal from Australia would be like that from the Peak Downs Mine of Utah Development (owned by Broken Hill Proprietary): over 12,000 BTUs, 0.55% sulphur, 9.5% ash cleaned, 9.5% moisture, an 8-9 F.S.I. and a 21% volatile make-up.

A final note; surface mining seems to get on well with Australian wildlife, as we saw a gang of 'roos near an active pit at Peak Downs, as the sun set on that Australian winter day.



West Virginia coal operator John Raese (lower right) climbs aboard "Big Pete."

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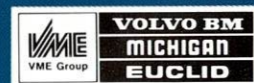
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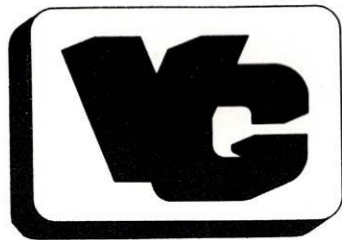
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# Species for Revegetation: Legumes

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

There are three general categories or types of plants that are used for revegetation.

**GRASSES** are the most commonly seeded plants in revegetation programs. They belong to the Gramineae family, produce large amounts of biomass, and are adapted to initiate regrowth rapidly after mowing or grazing. Most of the grasses have a fibrous root system which helps hold soil particles and control erosion.

**FORBS** are another category of plants. They are also termed herbs or flowering plants. Forbs usually have broad leaves, showy flowers, and a branching taproot system. Forbs are further divided into classes as legumes or non-legumes.

**LEGUMES** are forbs (flowering herbaceous plants) that belong to the Leguminosae (Fabaceae) family. Legumes are especially important and desirable for revegetating mined lands because the majority of them form a symbiotic association with bacteria of the genus *Rhizobium*. Certain strains of *Rhizobium* infect the roots of specific legumes to form nodules, and it is in the nodule that atmospheric nitrogen gas is fixed by the plant and incorporated into plant proteins. Grasses growing with legumes may also benefit from the nitrogen fixed by legumes through recycling of the decomposing legume plant material.

**NONLEGUMINOUS FORBS** are also broad-leaved plants with showy flowers. Examples of nonleguminous plants used in revegetation are buckwheat (*Fagopyrum sagittatum*), sunflowers (*Helianthus spp.*), and Japanese fleecflower (*Polygonum cuspidatum*).

**TREES and SHRUBS** are the last category. They are used when commercial woodland or wildlife habitat land uses are desired on the site after mining.

This paper will identify forage legumes used in revegetation programs in the eastern U.S., discuss their adaptations and uses on surface-mined lands, and describe some basic seeding techniques for legumes.

Several forage legumes have been grown successfully on mined lands in the East. Table 1 shows a list of forage legumes generally available for use on disturbed areas and gives some general characteristics for each. The table shows the common and scientific name, and its principal cultivars.

A cultivar is derived from *cultivated variety* and has distinguishing morphological or physiological characteristics which make it more adapted to certain environmental conditions or locations. The plant's life cycle, season of growth, origin, seeding rate, and soil/site tolerances are also shown. A few of the more important legumes are described in more detail.

**ALFALFA** (*Medicago sativa*) is probably the best known and widely-used forage legume in the U.S. It grows well on a wide range of soils and climates but requires good soil fertility (especially phosphorus), non-acid conditions, and good drainage. Use of alfalfa in the Appalachian Coal Region is most likely limited to areas where low sulfur coal seams and overburdens have been disturbed. It produces high amounts of biomass by itself or in mixtures, and has a deep, taproot system which makes it somewhat drought resistant.

Table 1. Forage Legumes available for use in revegetation programs in the eastern U.S.

Common Name (Scientific Name)	Principal Cultivars	Life Cycle <sup>1</sup>	Season Of Growth	Origin <sup>2</sup>	Seeding Rate Alone lbs. PLS/ac	Ease of Establishment
<b>Alfalfa</b> ( <i>Medicago sativa</i> )	Pioneer 524 Hi-Phy *Classic *DeKalb 120 *Saranac AR Arc Vernal	P	Cool	I	15-20	Good
<b>Alsike Clover</b> ( <i>Trifolium hybridum</i> )	Aurora	P	Cool	I	5-10	Good
<b>Crimson Clover</b> ( <i>Trifolium incarnatum</i> )	Dixie Auburn	A	Cool	I	10-15	Good
<b>Red Clover</b> ( <i>Trifolium pratense</i> )	*Arlington Mammoth Dollard Midland Lakeland *Kenland Pennscott Norlac *Kenstar Chesapeake	P	Cool	I	10-12	Good
<b>White (Ladino) Clover</b> ( <i>Trifolium repens</i> )	*Ladino Merit Pilgrim	P	Cool	I	1-5	Good
<b>Crownvetch</b> ( <i>Coronilla varia</i> )	*Penngift *Chemung Emerald	P	Cool	I	1-5	Fair
<b>Flatpea</b> ( <i>Lathyrus sylvestris</i> )	Lathco	P	Warm	I	25-30	Poor
<b>Common Lespedeza</b> ( <i>Lespedeza striata</i> )	*Kobe Tenn. 76	A	Warm	I	10-15	Good
<b>Korean Lespedeza</b> ( <i>Lespedeza stipulacea</i> )	Climax Iowa 6 Rowan	A	Warm	I	10-15	Good
<b>Sericea Lespedeza</b> ( <i>Lespedeza cuneata</i> )	Interstate Serala Appalow Caricea	P	Warm	I	10-20	Fair
<b>Cicer milkvetch</b> ( <i>Astragalus cicer</i> )	Cicar Lutana	P	Cool	I	10-15	Fair
<b>White Sweetclover</b> ( <i>Melilotus alba</i> )	Spanish Evergreen Cumino Hubam Polara	B	Cool	I	5-10	Good
<b>Yellow Sweetclover</b> ( <i>Melilotus. officinalis</i> )	Madrid Goldtop Yukon	B	Cool	I	5-10	Good
<b>Trefoil, Birdsfoot</b> ( <i>Lotus corniculatus</i> )	*Fergus *Empire Cascade Granger Tana *Viking Douglas Maitland Mansfield Dawn *Norcen	P	Cool	I	10-15	Good
<b>Vetch,hairy</b> ( <i>Vicia villosa</i> )		A	Cool	I	20-30	Good

<sup>1</sup> P - perennial, A - annual, B - biennial

<sup>2</sup> N - native, I - introduced

\* Commonly used cultivar

Persis -tence	Drought	Cold	Acid	Salt	High water	Precip. Range (in.)	Lower pH Limit	Comments
Good	Good	Good	Poor	Fair	Fair	15-20	6.0	Minesoil pH must be maintained above 6. Phosphorus needed in high quantities. Good drainage required.
Poor	Fair	Good	Fair	Fair	Good	15-40	5.0	Adapted to cool, moist sites. Used in pasture mixtures. Wildlife food. Generally dies in 2 yrs.
Fair	Poor	Good	Fair	Fair	Fair	14-50	5.0	Winter annual legume. Reseeds itself.
Fair	Poor	Good	Fair	Fair	Fair	20-50	5.0	Used for erosion control. Short-lived perennial, but reseeds itself. Requires high phosphorus levels.
Good	Poor	Fair	Fair	Fair	Good	18-45	5.5	Sod-former. Used in pasture mixtures for erosion control, soil improvement, and wildlife. Phosphorus and calcium levels critical.
Good	Poor	Fair	Fair	Fair	Good	18-45	5.0	Generally slow establishing. Commonly seeded with ryegrass or rapid establishing species.
Good	Good	Good	Good	Fair	Fair	20-50	4.5	Slow establishment, but has hardy rhizomes. Drought & acid resistant.
Fair	Fair	Fair	Good	Poor	Fair	25-45	4.5	Forage legume under trees. Establishes quickly and reseeds itself.
Fair	Fair	Fair	Fair	Poor	Fair	25-50	5.0	Not as acid-tolerant as Kobe. Reseeds itself, establishes quickly.
Good	Fair	Fair	Good	Fair	Fair	25-50	4.5	Tolerant of low fertility sites. Long term erosion protection. Tends to choke out other vegetation. Woody after first year.
Good	Fair	Good	Poor	Fair	Fair	12-40	5.0	A long-lived rhizomatous, legume adapted to dry sites. Non-bloating.
Fair	Good	Good	Poor	Fair	Fair	14-40	5.5	Grows in early spring. Has a large taproot.
Fair	Good	Good	Poor	Fair	Fair	14-45	5.5	More drought tolerant and competitive than white.
Good	Fair	Fair	Good	Good	Fair	18-45	4.5	Grows well in mixtures. Non- bloating and rhizomatous.

**RED CLOVER** (*Trifolium pratense*) is a very important legume in the northeastern U.S. and is used for hay, pasture, soil improvement, and erosion control. It has a deep, taproot system, but also maintains a branching root system near the surface. Red clover should be seeded with long-lived grasses because it tends to die back after two years. It, like most legumes, grows best where high amounts of phosphorus and calcium are present in the soil.

**WHITE CLOVER** (*Trifolium repens*) is extensively used for pasture and in seeding mixtures for disturbed land in the East. It is almost always seeded with a companion grass, and has a deep taproot system that may or may not persist from year and year. Ladino is the most widely-seeded white clover.

**CROWNVETCH** (*Coronilla varia*) has become a widely-used perennial legume for seeding disturbed lands because it provides continuous, maintenance-free cover for erosion control. It is used on roadbanks and other sites highly susceptible to erosion. Plants can be established by seeds, rhizomes, or crowns. Crownvetch is slow to establish, but after the first year, it will gradually increase until it may suppress associated vegetation three or four years after initial establishment. It has a deep penetrating taproot with many lateral branching roots. Crownvetch should always be seeded with other rapidly establishing grasses or legumes.

**FLATPEA** (*Lathyrus sylvestris*) is a long-lived, viney legume that provides good ground cover. Establishment is slow but once established it suppresses other vegetation. It is drought resistant and tolerant of acid soil conditions. Flatpea is normally used to control erosion on highly sloping areas. There has been some concern that flatpea may be toxic to cattle at certain times during its life cycle, but I cannot find references to confirm it.

**SERICEA LESPEDEZA** (*Lespedeza cuneata*) is still used for revegetation on highways and mined lands to control erosion and to improve the soil. Most lespedeza species are adapted to low pH, infertile soils. Stand establishment may be slow but, during the next two to four years, it becomes the dominant species by forming dense stands. Sericea is being seeded less on disturbed lands because it has little value for wildlife, and pure stands often become a fire hazard in the fall. The main advantage of sericea is that it provides a permanent cover with little or no maintenance.

**SWEETCLOVERS**, yellow (*Melilotus officinalis*), and white (*M. alba*), are used extensively in western reclamation due to their drought resistance and soil-building capabilities,

but also have been used in the east. They are generally considered intolerant of acid soils. They generally complete their life cycle in two years but usually reseed themselves.

**BIRDSFOOT TREFOIL** (*Lotus corniculatus*) is a common forage legume seeded with Ky-31 tall fescue (*Festuca arundinacea*) on surface-mined lands in West Virginia. It grows on poorly-drained, droughty, infertile, acid, and even alkaline soils. Birdsfoot develops a deep, taproot system with lateral roots and is useful for erosion control and forage. In some cases, birdsfoot does not establish until a year after the initial seeding.

**SEEDING TECHNIQUES**

Legumes grow best in soils that are moderately well to well-drained, non-acid (pH greater than 6.0), and contain sufficient quantities of phosphorus and calcium. It is necessary to add lime and fertilizer when minesoil conditions are not favorable. Inoculation of legume seeds with the appropriate strain of *Rhizobium* is important (see "The Use of Legumes in Mined Land Reclamation", *Green Lands* 16(2):35-37, 1986). It is important because the wrong strain will not infect the roots and hence, will not fix nitrogen from the atmosphere.

Pure live seed (PLS) refers to the portion of a lot of seed that is live seed (capable of germination) of the desired kind. Germination tests should have been conducted on the seed and the test results must be printed on the seed label. Purity of the seed has also been determined and is printed on the label.

Percent PLS (% PLS) is determined by multiplying the percent of pure seed (% Purity) by the germination percentage (% Germination) and dividing by 100. Legume seeds commonly have seed lots with high purity, low germination, and a high percent of dormant seeds. Low germination and high dormancy in legume seeds is explained by the complex seed coats that surround them. Blocking mechanisms within the seed are broken only when certain environmental conditions (temperature and moisture) or chemicals are applied to the seed coat.

Preconditioning seed in cool, moist conditions to promote germination is called stratification. For this reason, dormant seeds may germinate several years after the initial seeding due to natural stratification in the soil. Scarifying legume seeds may also help germination.

Seed quality and price are important when estimating costs of reclamation. This can be accomplished in the following manner.

**Example:** You decide to seed Tall Fescue and Birdsfoot Trefoil at 20 and 10 lbs per acre, respectively on a 25 acre mine site. Seed can be purchased from either Company A or B. They quote you the following seed information over the telephone.

Table 2	Company A		Company B	
Species	TF	BT	TF	BT
% Purity	90	80	95	90
% Germ	80	55	85	60
Cost per lb.	75¢	\$2.75	90¢	\$3.00

You need to calculate the PLS percentage and then the PLS seeding rate with this particular lot of seed from each company. Percent germination times percent purity divided by 100.

Table 3	Company A		Company B	
	TF	BT	TF	BT
%PLS	72	44	81	54
Desired PLS Rate	20	10	20	10

Only 72% of the tall fescue seed from Company A is pure seed, so in reality you must seed 20/.72 or approximately 28 lbs per acre of this company's tall fescue seed to attain your desired seeding rate. You then calculate the amount of total bulk seed you would need for the job and the cost.

Table 4	Company A		Company B	
	TF	BT	TF	BT
Seed needed (lbs. per acre)	28	23	25	19
Lbs. for 25 acres	700	575	625	475
Cost per lb.	75¢	\$2.75	90¢	\$3.00
Seed Cost	\$525	\$1581	\$562	\$1425
Total Cost	\$2106		\$1987	

So if you thought you could save a little money by buying the cheaper seed from Company A, get your calculator out and think again.

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## Coal Calendar

### February

- 18-21 **Semi-Annual Meeting, West Virginia Mining & Reclamation Association, The Registry, Naples, FL, contact Patty Bruce, WVMRA, 1624 Kanawha Blvd. E., Charleston, WV 25311, (304) 346-5318.**

### March

- 21-22 **Coal Contracts Seminar, Key bridge Marriott Hotel, Arlington, VA, contact Fred Shear, Pasha Publications, 1401 Wilson Blvd., Suite 910, Arlington, VA 2209, (800) 424-2908**

### April

- 17-22 **1988 Annual Meeting, American Society for Surface Mining and Reclamation, Pittsburgh, PA, contact Bill Plass, 21 Grandview Dr., Princeton, WV 24740, (304) 425-8332.**

- 24-28 **MINExpo International '88, Chicago, IL, contact American Mining Congress, Suite 300, 1920 N St. NW, Washington D.C., 20036, (202)861-2834.**

### May

- 16-17 **Coal Outlook's "8th Annual INTERNATIONAL COAL TRADE Conference, Washington Marriott Hotel, Washington, D.C., contact Fred Shear, Pasha Publications 1401 Wilson Blvd., Suite 800, Arlington, VA 22209, (800) 424-2908.**

### June

- 13-18 **International Conference on Constructed Wetlands for Wastewater Treatment, Norris TN, contact Donald A. Hammer, Tennessee Valley Authority, Division of Land & Economic Resources, Forestry Bldg., Norris, TN, 37828, (615) 494-9800.**

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# Association Notebook

## Thirty New Members

Thirty companies have joined our ranks in recent months. WVMRA welcomed 15 new members during the Annual Meeting, which capped off a year long membership drive.

Four companies were added to the general membership, including: **De'Lyn, Ltd.**, William R. Corder, Skelton; **Kanawha Mining Co., Inc.**, Thomas P. Schneider, Charleston; **Reckart Equipment Co.**, Darrell E. Reckart, Elkins; and **Tammie Lynn Coal Co., Inc.**, Carol S. Roles, Beckley.

The eleven additions to the Associate Division were: **Austin Powder Co.**, Thomas F. Cochran, Latrobe, Pa; **Beitzel Welding & Construction, Inc.**, Olen Beitzel, Grantsville, Md.; **Dryden Oil Co.**, Gary Sweeney, Williamstown; **Gary W. Turner & Co., P.A.**, Gary W. Turner, Birmingham, AL; **Mon Valley Coal & Lumber Co.**, Ora Lee Kirk Ludwig, Morgantown;

**Philip R. Berger & Associates, Inc.**, Philip R. Berger, Jr., Mars, PA; **Preston Machine Enterprises**, Roger L. Graham, Kingwood; **Pretzel Excavating**, David A. Pretzel, Bruceton Mills;

**Sentry Oil & Grease, Inc.**, Leo M. Sestini, Cabot, PA; **BFGoodrich**, Vijay Rastogi, Brecksville, OH; and **Valley Steel Service, Inc.**, Donald L. Kyle, Dailey.

The Board of Directors approved 15 more applications at its fall meeting, including:

General Division—**Lexie Coal Corp.**, R. Bruce Ferguson, Summersville; **Marson Coal Co., Inc.**, Harry C. Marson, IV, Elkins; **P & C "Bituminous Coal", Inc.**, John Leaberry, Charleston; **River Ridge Coal Co., Inc.**, James Simpkins, Meador; **United Coals, Inc.**, W. J. Sutton, Jane Lew;

Associate Division—**Cline Ford Sales, Inc.**, Winston Cline, Gilbert; **Elmer G. Brake, Inc.**, Michael G. Brake, Clarksburg; **Gress Equipment Co.**, James M. McFee, Fairmont; **Groves Equipment Co., Inc.**, Michael D. Groves, Lorentz; **Jeff Lilly Insurance Co.**, Jeff Lilly, Beckley; **John Skidmore Truck Stop Inc.**, John K. Skidmore, Sutton; **Keystone Services Industries, Inc.**, James C. Justice, Beckley; **Matthews Brothers Wholesale, Inc.**, Ron H. Roby, Clarksburg; **Smith, Heenan & Althen**, Forrest H. Roles, Charleston; **Tarbro "Filter Reconditioning"**, Ginger Poniatowski, Charleston.



*Mountaineer Spirit is always a big part of the fall Board of Directors Meeting at the Sheraton Lakeview, near Morgantown. Two of the biggest practitioners of Mountaineer Spirit are shown above, in the persons of **Lawson Hamilton (l)** and **Buck Harless**.*

*Of course, their styles are a little different, but, one picture being worth a thousand words, we don't need to point that out.*



*The **Peters Creek Coal Association** took a bit of a risk this fall, scheduling its semi-annual business meeting and golf outing for mid-October. But apparently PCCA leaders **Mike Perilli** and **Tim Salvatti** knew what they were doing, as a beautiful fall day dawned on the lush Edgewood Country Club course, where the tournament was held. Mike knows how to choose his golf partners, too, as his foursome carried him to a first place tie in the best ball competition. Left to right are **John Billiter** and **Russ Rawlings** of Bethenergy Mines, Inc., **Mike Perilli** of Peerless Fuels, Inc., and **Jerry Friebs** of Conrail.*



## Call DDA Changes Hands

Effective October 1, **Call Detroit Diesel Allison, Inc.** was purchased by **Western Branch Diesel** of Portsmouth, VA. Included in the sale were subsidiary companies **Bliss Enterprises, Inc.** and **NEPCO, Inc.**

Bob Bliss, Call DDA president and a long-time key member of WVMRA's Associate Division, will stay on for a limited time in an advisory capacity.

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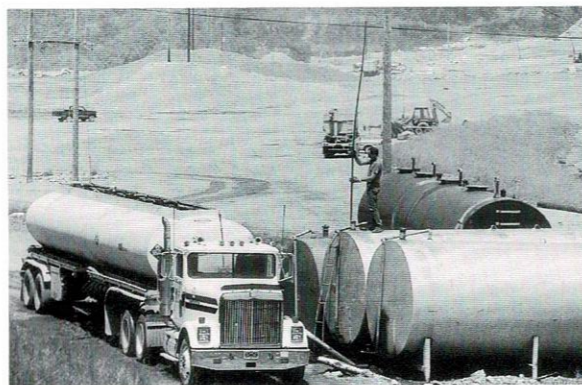
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