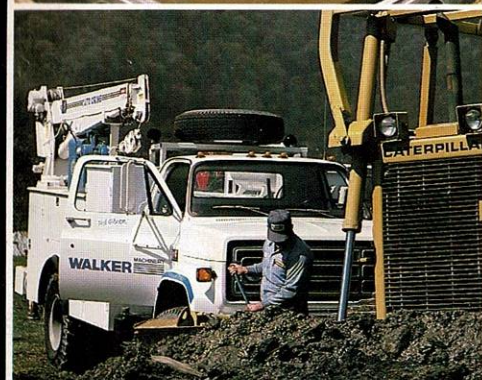


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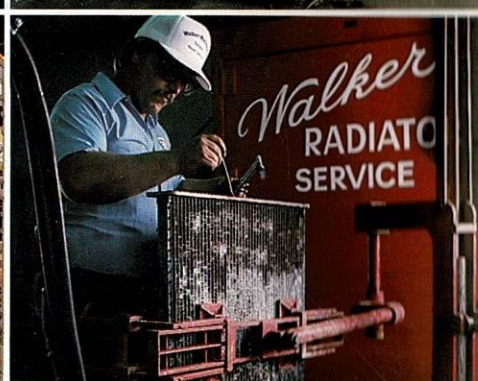
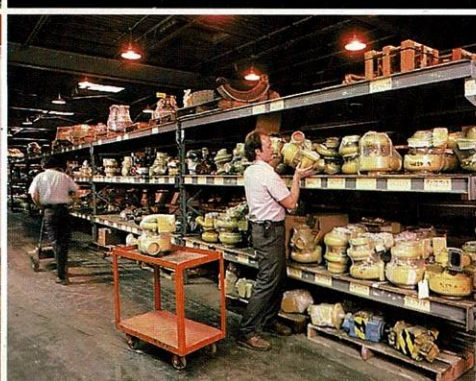
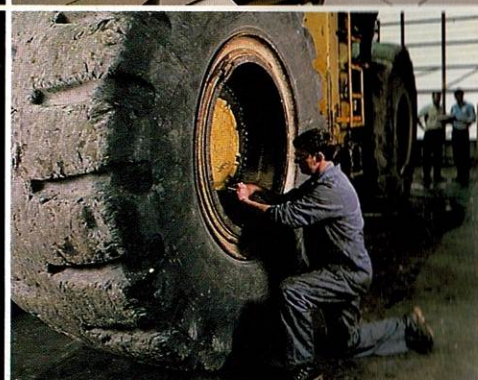
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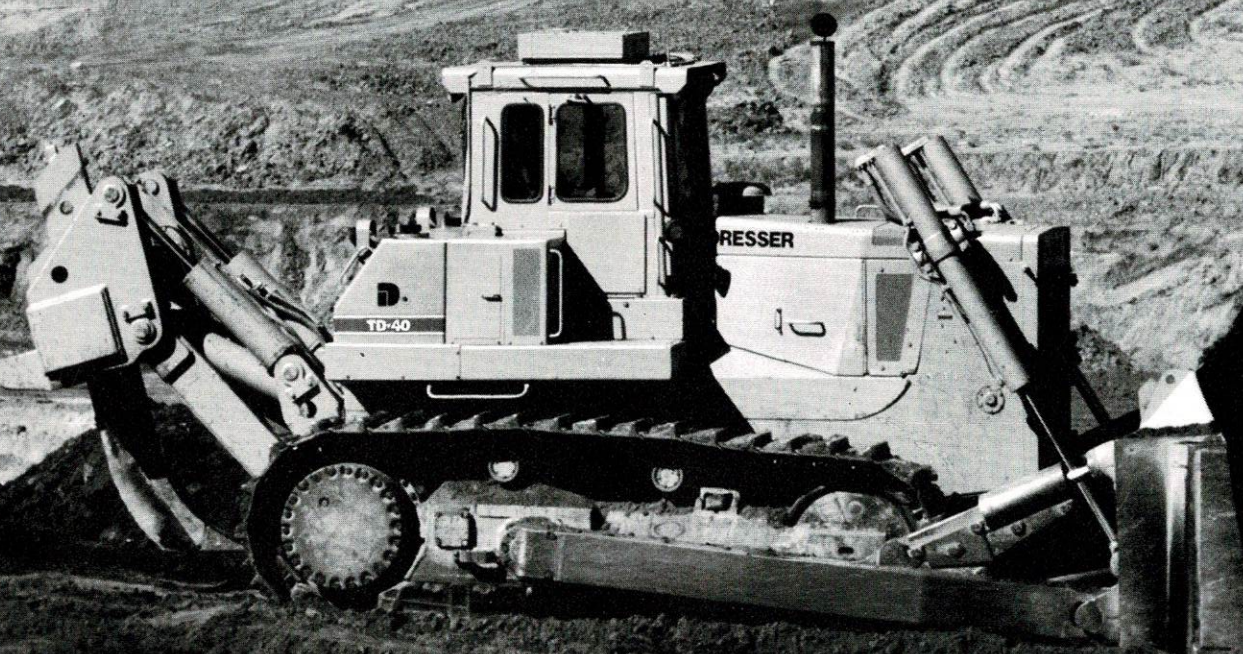
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Green Lands
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Charleston, West Virginia 25311
(304) 346-5318.



Our Cover
Unaffected by normal turnover at the
head of government, West Virginia's AML program
continues to turn out quality work. On the cover
is the Burke R & R Project, in Randolph County,
by Pioneer Construction Co.

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WV-AML Keeps Turning the Dollars

Administrations come and go, but the Abandoned Mine Lands (AML) program created by the Surface Mining Control Act of 1977, just keeps rolling along.

A new president and a new director of the Office of Surface Mining (OSM) are operating at the federal level. The State of West Virginia has a new governor, a new commissioner of the Department of Energy (DoE), and a new acting director of the AML section, but happily, the program itself has enjoyed considerable stability.

This is good because the money AML spends in West Virginia is extracted from West Virginia coal operators, enhances the West Virginia environment, and generally speaking, puts West Virginians to work.

Coal operators pay every year into the fund at the rate of 35¢ per ton for surface mined coal and 15¢ per ton for underground mining. The

money goes through a cumbersome process of division among several programs, but basically up to 50% of it may be returned to the State, which the regulatory authority (DoE) may then use to clean up abandoned mine sites.

West Virginia mining operations have now paid over \$500 million into this fund, and in the last couple of years, the State has started to receive significant dividends on this investment.

In 1987, the West Virginia AML program consisted of 38 projects worth \$14 million. In 1988, the figures jumped dramatically to 62 projects valued at 24.7 million. In 1989, 56 projects are expected at a price of \$31.6 million.

The increase in 1988 was mostly a matter of inventory identification. Federal regulations require that potential projects be identified according to specified criteria, and the funding application used that year was

based on the inventory of proposed projects within each state.

In West Virginia, the AML effort has been geared to priorities 1 & 2, and that's not likely to change. "We have identified approximately \$2.3 billion worth of priority 1 & 2 projects," says assistant director Danny Pritt. "That translates to over 100 years of work."

That should more than see us through. The AML funding mechanism will expire in 1992, unless it is extended by Congress. Stockpiled funds would keep the program going for a few years beyond that date.

For now, the AML program in West Virginia is functioning quite well. The State is securing its fair share of coal taxed dollars from the federal coffers. Mining and reclamation companies across the state are getting work. And, they are doing excellent work, as the pictures on these pages will attest.



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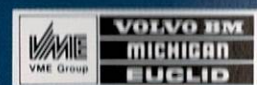
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is all about.

Small Operators Assistance Program

By Patrick C. Park
Assistant Director
Division of Abandoned Mine Lands and Reclamation
West Virginia Department of Energy

The Surface Mining Control and Reclamation Act of 1977 (PL 95-87) recognized the importance of the small coal operator to the overall coal resources and the nation's energy goals.

These operators constitute 84% of this nation's surface and underground mines, which produce in the neighborhood of 20% of the nation's yearly coal output.

The Surface Mining Control and Reclamation Act requires extensive permitting procedures, which have substantially increased costs to the small operators. Congress foresaw this condition, and, consequently, the Small Operators Assistance Program was enacted in Section 507(c) of PL 95-87, known as "SOAP."

The costs to maintain this program have been built into the Act through the Abandoned Mine Land Reclamation Fund, in which all operators of coal mining operations subject to the Act are assessed a reclamation fee of 35 cents per ton of coal produced by surface coal mining and 15 cents per ton of coal underground mining [Section 402 (a)].

In accordance with Section 401 (b) (1), the Abandoned Mine Land Reclamation Fund will be earmarked for the Small Operators Assistance Program annually in an amount not to exceed 10% of reclamation fees collected for each calendar year, and no more than ten million dollars each year.

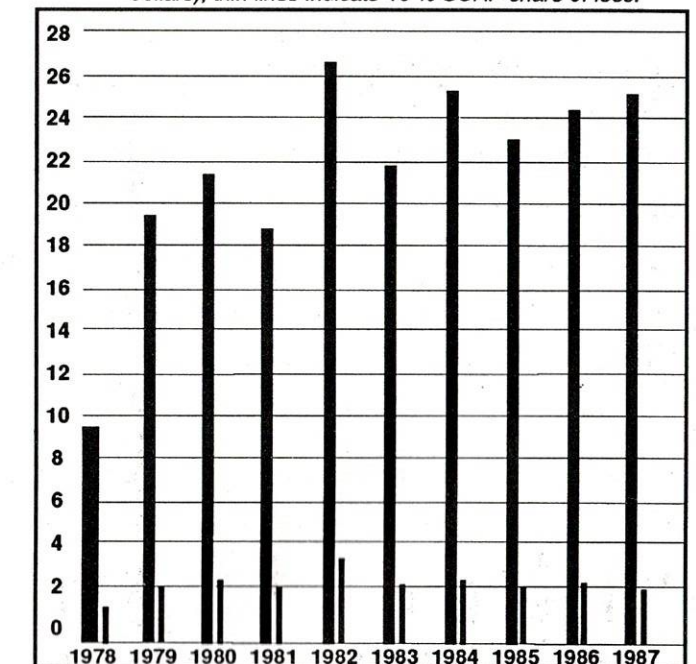
Figure 1 (right) depicts collection of reclamation fees compared with 10% of these monies in this state.

The SOAP program provides assistance to qualified small operators who mine less than 100,000 tons of coal from the preceding year from all locations. The production from the following operations shall be attributed to the operators:

1. All coal produced by operations beneficially owned entirely or controlled by reasons of ownership, directions of management or in any other manner.
2. Prorated share, based upon percentage of beneficial ownership of coal produced by operations in which the operator owns more than a 5% interest.
3. All coal produced by persons who own more than 5% of the applicant or who directly or indirectly control the applicant by reasons of stock ownership, or direction of management.
4. The pro rata share of coal produced by operations owned or controlled by the person who owns or controls the applicant.

The U.S. Department of the Interior, Office of Surface Mining, has designated the West Virginia Department of Energy as the sole regulatory authority in the administration of powers and duties relating to PL 95-87. Furthermore, the Department of Energy, Division of Abandoned Mine Lands and Reclamation (AML & R) has the responsibility in the administration of the SOAP program. Authority is vested to the Department in Chapter 22 of the Code of West Virginia.

Figure 1. Thick lines indicate AML fees collected (millions of dollars); thin lines indicate 10 % SOAP share of fees.



The Division of AML&R, SOAP Program, will be responsible for having hydrologic information collected for the "Determination of the Probable Hydrologic Consequences," Chapter 22A, Section 3, Subsection 9 (a) (11), known as **Determination**, and all information related to the "Statement of Physical and Chemical Analyses of Test Borings and Core Samples," Chapter 22A, Section 9, Subsection (a) (14), known as **Statement**, for all qualified small operators.

The **Determination** is essentially an analysis of the potential "cause-effect" relationship of the mining and reclamation operation on the quality and quantity of the surface groundwater regimes. Within the affected area and the adjacent areas, to adequately assess the surface and groundwater regimes, quality and quantity of waters must be defined for the seasonal variations in which seasonal variation could be defined as a spring, summer, fall, and back-to-spring relationship.

The **Statement** is essentially to identify the geology, groundwater conditions, and potential toxic materials. The **Statement** requires logs of the drill holes, the thickness of the coal seams, analyses of the chemical properties of the coal, including sulfur content, chemical analysis of potentially acid and toxic forming sections of the overburden, and chemical analysis of the overburden above the coal and the stratum (minimum ten feet) lying immediately beneath the coal to be mined.

Overburden and minesoil analysis shall be in accordance with standard procedures outlined in Environmental Protection Agency Manual #600/2/78-054 (*Field*

and Laboratory Methods Applicable to Overburden Minesoils) or any other methods approved by the Division of AML&R.

Small operators who received assistance from the Division of AML&R will be liable for reimbursing the Division for all costs incurred in their assistance under any of the following conditions:

1. Submission of false information on the application (DMM-30) submitted to the Division of AML&R;
2. Failure to file a Surface Mining Application with the West Virginia Department of Energy within one year from receipt of the approved SOAP report;
3. Failure to mine after obtaining a surface mining permit;
4. Mining in excess of 100,000 tons per year. However, if the operator's annual production for coal exceeds 100,000 tons during any year of the life of this permit in all operations, the Division may waive the reimbursement section, if it finds that the operator acted in good faith at all times.

I have attempted in the above text to provide a short narrative of this service program as regulated by the Department.

Now, let me highlight important events of the SOAP program from 1979 through 1987.

Figures 2 & 3 (below) will assist in understanding the importance of these events.

The history of the program from initial approval within the Department of Natural Resources (DNR), October 1979 through and including 1987, is as follows:

Figure 2. Project costs in millions of dollars

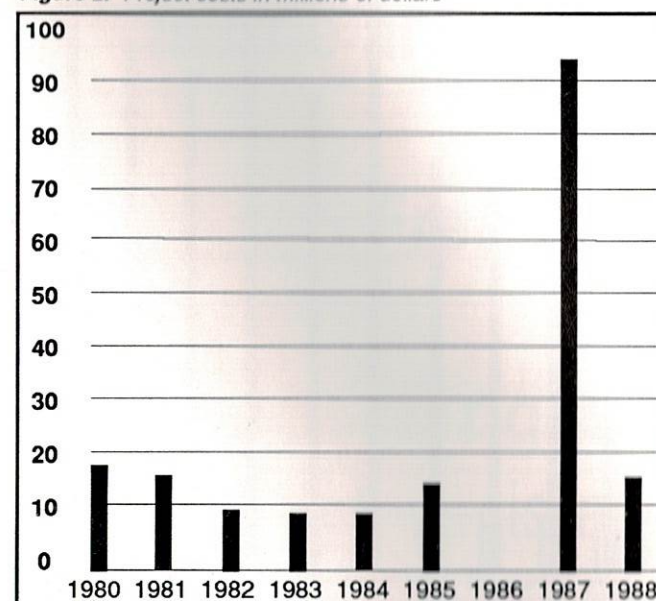
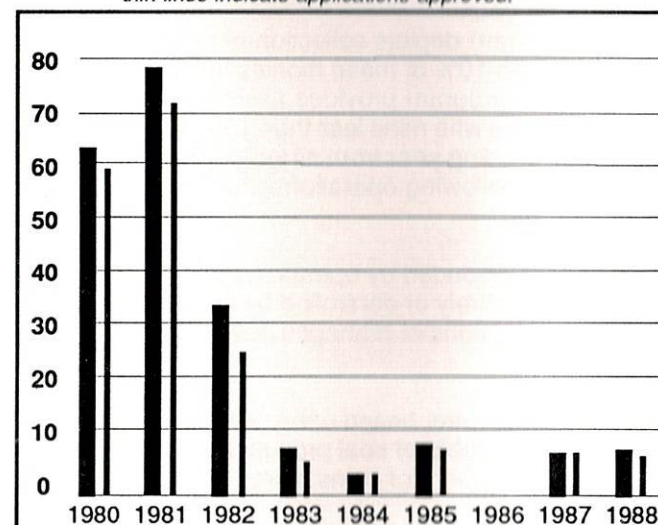


Figure 3. Thick line indicates applications received; thin lines indicate applications approved.



1980: DNR, Division of Reclamation adopted procedures for providing services to qualified small operators within the state, essentially, those services were utilizing four consultants to prepare a study to:

1. Assess site mineability;
2. Establish mining company qualifications;
3. Recommend consideration for full scale investigative efforts;
4. Assist the Division in preparation of the work order for required services phase of the program.

After completion of that phase, three qualified consultants were selected to provide a proposal to perform services in accordance with a work order.

1981: West Virginia received a Permanent Program status from the Office of Surface Mining.

1983: DNR revised operating procedures to eliminate first phase and solicit bids from all interested qualified consultants.

1984: DNR again revised operating procedures by the establishment of six contractors and one assignee. The contractor was responsible for the completion of the determination and statement phase, while the assignee collected and analyzed all laboratory work.

1985: The Department of Energy was established as the regulatory agency for the West Virginia program.

1986: DoE rebid and awarded SOAP services to one contractor and four assignees to perform all SOAP services.

That concludes the past. Now let us look at the present period of the SOAP program. Again, let us interpret Figures 2 & 3 in relationship to a comparison of 1979 and 1986.

An important part of this period is that DoE requires the contractor to prepare the SOAP report in an outline that will satisfy applicable sections of the (DMM-4) Surface Mine Application form such as;

- ATTACHMENTS 23, 24, 26, 27
- ATTACHMENT 29.D - Geologic description and column, along with analysis
- ATTACHMENT 30 - Underground mine supplement
- ATTACHMENT 42 - Water monitoring
- ATTACHMENT 44 - Protection of water rights
- ATTACHMENT 45 - Chemical treatment
- ATTACHMENT 47 - Probable hydrologic consequences study

Appendix: GEOLOGIC INFORMATION

1. Coal and overburden analysis
2. Drill logs

Appendix: WATER QUALITY RECORD

1. Surface water quality
2. Groundwater quality

Appendix: FLOW MONITORING RECORD

1. Water levels
2. Flows

Furthermore, Figure 4, the probable number of small operators in the state from 1982-87, and Chart 1, a county list of completed SOAP projects, contain a wealth of information which may be applicable in the preparation of new permit applications for all operators.

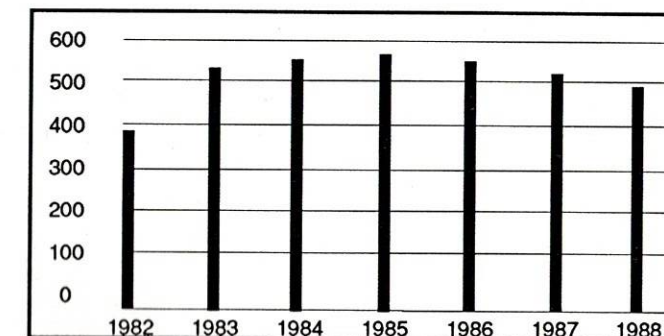


Figure 4. Number of West Virginia small operators.

County	Final Reports	County	Final Reports
Boone	1	Mercer	1
Braxton	3	Mineral	2
Brooke	2	Mingo	3
Clay	2	Monongalia	4
Gilmer	7	Nicholas	28
Grant	1	Preston	24
Greenbrier	3	Raleigh	6
Harrison	18	Randolph	9
Kanawha	2	Summers	1
Lewis	11	Taylor	2
Logan	8	Upshur	11
Marion	4	Webster	4
Mason	1	Wyoming	3
McDowell	5		

Chart 1. Completed Projects

Finally, let's try to visualize what the future of this service program for the small operators will be like within the Department of Energy.

First, it has been determined by simply reviewing Figure 4 that there exist small operators within the state, and furthermore, Figure 1 indicates that monies are available for the administration and operation of this program.

Then why has the trend for the number of applications received for assistance declined over the years? What can the Department of Energy delete and/or change to reverse the trend of this service program?

The Department's long-range goals are to assist the qualified small operators in the SOAP Program in accordance with the statutory requirements and more importantly, return the monies collected in the Abandoned Mine Lands Fund to the states, operators, consultants and laboratories.

The Department expects changes and/or corrections to the present program procedures in the near future, and will, hopefully, reach these goals.



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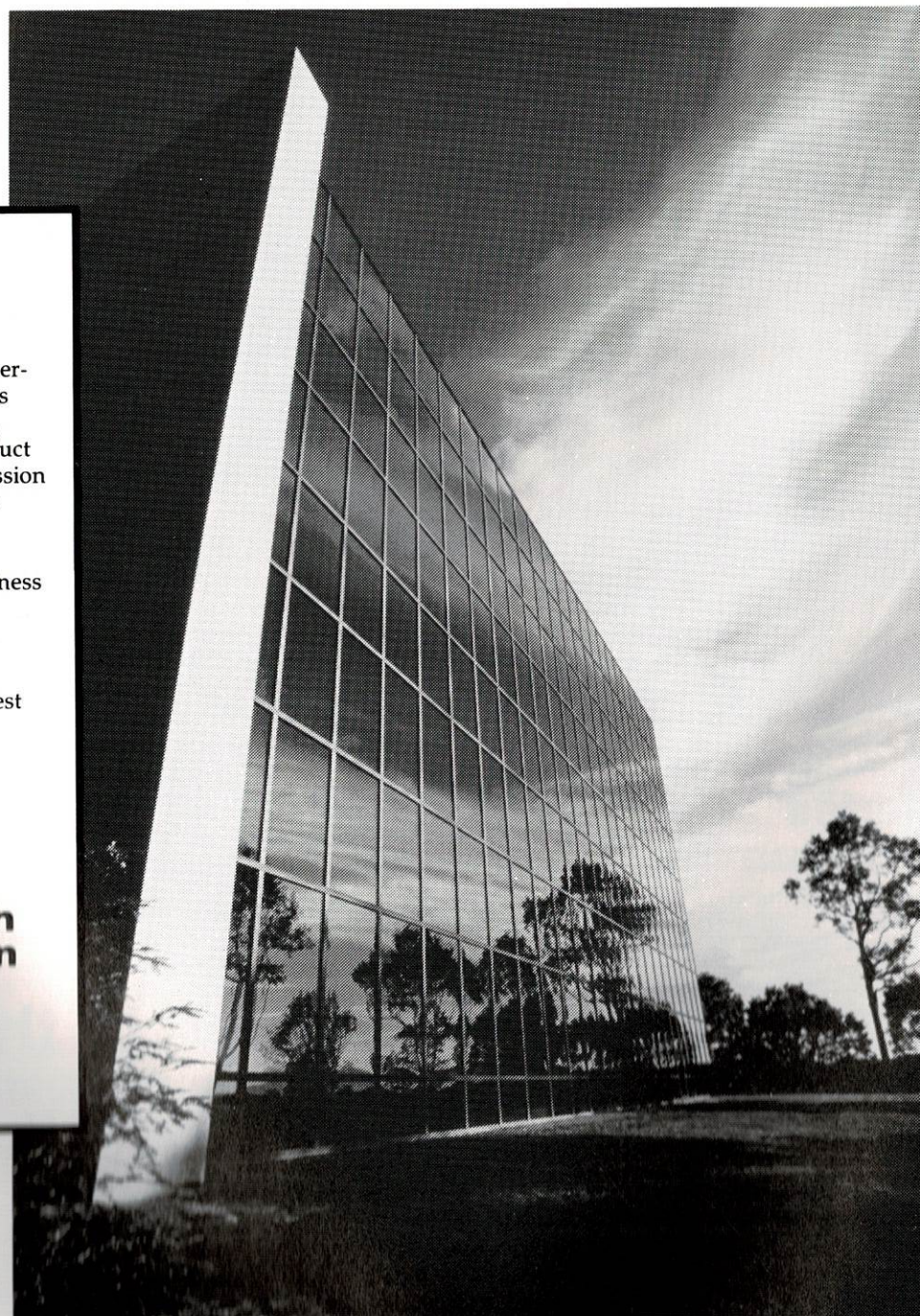
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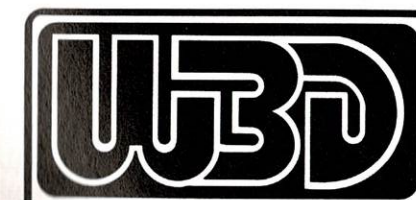
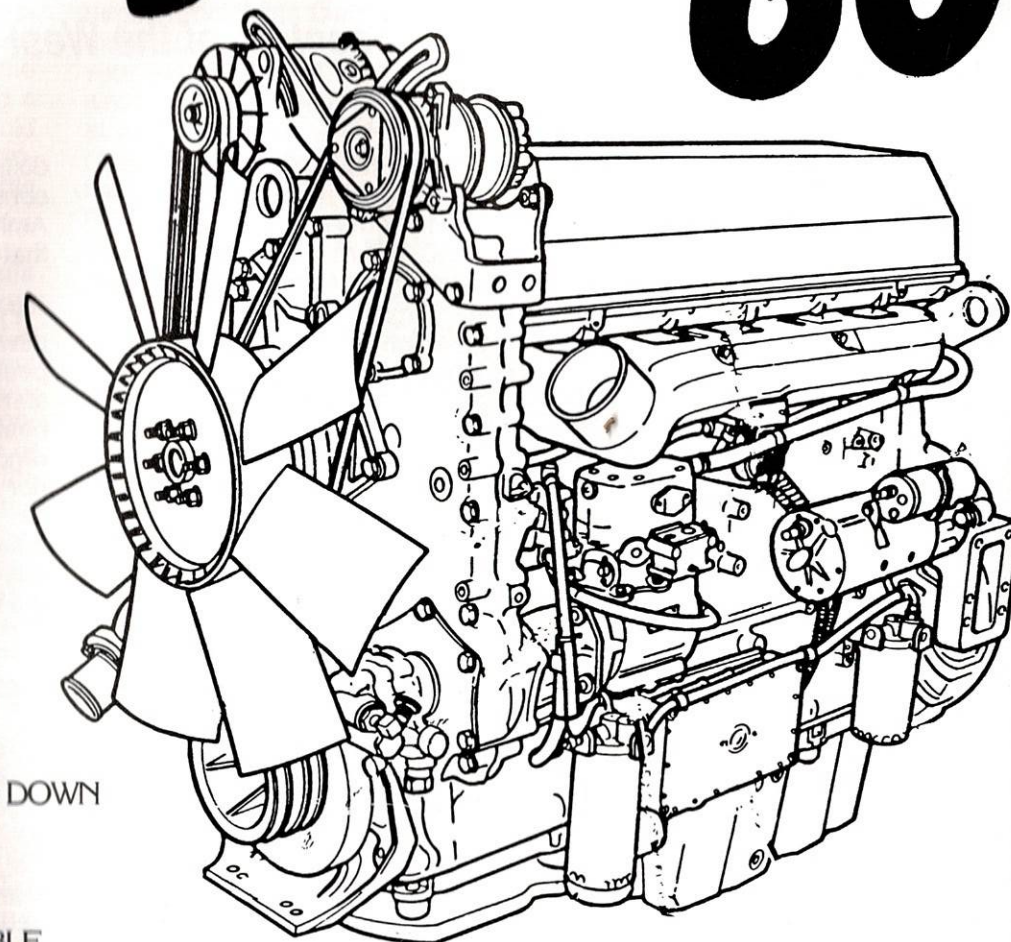


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1988 in Review

Excerpted from the Chronicle section of the West Virginia Coal Bell

January

Monday the 4th - State Senator C.N. "Bud" Harman (R-Taylor), long-time lonely advocate of a right-to-work law for West Virginia, announces that a statewide organization will place advertisements prior to this year's general election, to let voters know where various candidates stand on the issue. The right-to-work proposal, given token attention each year by the Legislature, appears to be gaining momentum. The current push is to have the issue placed on the ballot, apparently under the theory that opponents will not be able to bus boisterous union members in to every voting booth across the state. It's time that the people be allowed to speak on this issue.

Thursday the 7th - Island Creek Coal Co. announces the layoff of 80 miners at its Birch 2A mine in Nicholas County.

Saturday the 16th - Fifteen West Virginia coal companies are recognized for outstanding reclamation work in 1987, as part of the 15th Annual West Virginia Mining Symposium. The *Charleston Gazette*, which bills itself as "the State Newspaper," recognizes this effort with five column inches, or about 20% of the space devoted to each accusation of wrongdoing aimed at coal companies, or at the State's regulatory agency.

Wednesday the 20th - Peabody Coal Co. announces the layoff of 48 salaried employees at its various operations in southern West Virginia.

Monday the 25th - Federal officials agree to return \$28.3 million collected from West Virginia coal operators. The money comes back to the state in the form of a grant to the West Virginia Department of Energy, which will fund the reclamation of some 40 abandoned mine land sites. Since the federal surface mining law was passed in 1977, nearly half a billion dollars has been extracted from state coal companies in this manner. To date, \$170 million has been returned to WV-DoE for its AML program. It should be noted that while the federal government was extremely slow in getting the flow of funds started, West Virginia's agency is now doing an excellent job in securing funds for reclamation projects.

Wednesday the 27th - U.S. Senator Jay Rockefeller announces that China Steel Co. of Taiwan has agreed to buy 400,000 tons of metallurgical coal, valued at \$18 million, from an Island Creek Coal Co. mine in Logan County. The purchase, to be made over the next five years, doubles the amount of business presently conducted between the Republic of Taiwan and West Virginia coal companies.

Thursday the 28th - Amherst Industries, Inc., inarguably one of the best corporate neighbors a community or state could hope for, is under fire for what area residents view as excessive noise and dust from a river side tipple rail car shaker. Amherst has spent \$100,000 on noise abatement for the facility, which generates \$220,000 annual tax

dollars for the state. Though the controversy is of recent origin, Amherst has been loading coal at that site since 1870.

Friday the 30th - Late breaking news department - a federal appeals court has ruled on an appeal, stemming from a lower court case, based on revisions of surface mining regulations, generated by U.S. Interior Secretary James Watt (remember him?). Our court system was able to get the regulatory process to this point less than five years after the revisions were promulgated.

February

Tuesday the 2nd - One of the *Charleston Gazette's* contributing yoyo's is upset that Morgan Massey, president of A.T. Massey Coal Co., appeared as a speaker in Marshall University's "Yeager Scholars" program. This "columnist" reaffirmed Massey's right to free speech (thank you very much,) then devoted the rest of his space to a sophomoric attempt at sarcasm, the point of which was that Massey was an inappropriate guest speaker. Incredibly, this man who doesn't think college students should be allowed to hear from Massey, is a librarian, when he isn't writing high school journalism for the *Gazette*.

Wednesday the 3rd - Another interesting Charleston headline, "Flatboat arrives with a little help from a friend." The flatboat is a museum piece hauled nearly 1000 miles upriver to help celebrate Kanawha

County's bicentennial. The friend is Nelson Jones, and his father, Charlie Jones, of Amherst Industries — the same Amherst recently attacked as a noise polluter at a public hearing, and subsequently, in the local newspaper. The riverboat assistance given voluntarily to the community is more reflective of the Jones family's approach to being a corporate neighbor. And it should count for something when the company finds it necessary to do a little business.

Thursday the 4th - Four men are sent to prison for terms ranging from 35-45 years for their involvement in the sniper murder of independent truck driver Hayes West nearly three years ago. These four were convicted of "conspiracy to damage or destroy vehicles used in interstate commerce, intent to endanger the safety of a driver and carrying firearms in a federal crime of violence." Justice has nearly been done. But at some point, hopefully, there will be a conviction and a sentence which reflects that first degree, cold blooded murder was done.

Sunday the 21st - Political opposition to WV-DoE Commissioner Ken Faerber reaches a ridiculous zenith with the introduction of a bill in the House of Delegates to abolish the Department of Energy. Faerber's opponents have harped ad nauseam on the fact that he is a former coal operator and former owner of a reclamation firm. Now UMW lobbyist Mike Burdiss charges that Faerber has filled the department with people who have no mining background. Now which is it? Should mining regulators have a background in the industry, or should they not? This is typical of the fast and loose accusations which have beset Faerber since he assumed the post. He came into office announcing that industry and government need not have an adversarial relationship, and he has run his department in that manner. He be-

lieved that the mine permit process could be streamlined without compromising environmental integrity, and he has acted on that belief. In 1987, the permit turnaround time was more than cut in half, and West Virginia maintains the finest reclamation program in the nation. Last year was our best in production since 1970, and mine fatalities were at an all time low. This is not the record of a man who should be hounded from office, or an agency that needs revision, let alone abolishment. It's time the attack dogs found another target.

Friday the 26th - Speaking of inconsistent charges, some congressmen are unhappy with the performance of the Office of Surface Mining. Mo Udall (D-AZ), who fathered national surface mining legislation, says that OSM has "created confusion, uncertainty and a regulatory vacuum." No argument there, Mo, but whose fault is that? The long leash given OSM in the Jimmy Carter years, and the resultant backlash under the Reagan administration have kept the agency, its personnel, and its programs in court and in flux for more than a decade now. Stability, not further congressional mud-dling, is the solution.

March

Saturday the 5th - Consolidation Coal lays off 330 employees, 220 from the Ireland Mine in Marshall County, and 110 at the Pursglove Mine in Monongalia County.

Tuesday the 8th - OSM Director Jed Christensen resigns his position in favor of a county government job in California. Christensen served as OSM director for three years, longer than anyone else in the agency's 11 year history. No successor has been named.

Sunday the 20th - Rayle Coal Co. has filed suit to reclaim money lost

from the pursuit of an unsuccessful attempt to block its mining operation in Ohio County. The original suit was thrown out on the grounds that the plaintiff's property was not contiguous to the mine, and therefore, not directly affected. That was the position previously outlined by the State Department of Energy, which is supposed to administer such matters. Rayle now feels it is entitled to recover expenses incurred by a suit which never should have been brought. The *Charleston Gazette* is sufficiently shocked by this turn-about to assign its attack reporter to the case. In typical fashion, the initial story is written to say that Rayle "claims" to have lost money. This implies to the reader that maybe a coal company can be in business, not mine coal, and still not lose money. The reporter also manages to ferret a quote that the countersuit is meant to intimidate citizens. The standard phrase for this is "a chilling effect on citizens' rights." He is, perhaps, saving this for a follow-up piece.

Monday the 28th - Consolidation Coal announces an additional 138 layoffs, this time at the company's Robinson Run Mine in Harrison County.

Thursday the 31st - Governor Moore vetoes the coal severance tax bill, thus re-imposing the tax-on-a-tax on state coal operators.

April

Tuesday the 5th - Good times may lie just ahead for the troubled coalfields of southern West Virginia. According to a United Press International story, some 130 companies are seeking leases from the Pocahontas Land Corp. for 40,000 acres of coal in Mingo and Logan Counties. Coal reserves in the tract total 225 million tons, about a 40 year supply. Full development of the reserves could jump annual produc-

tion from 1.5 million tons to 8 million, adding 1,500 jobs in the process.

Tuesday the 12th - Kanawha County Circuit Judge Patrick Casey has returned the Black Gold permit controversy to "ground zero." Supplanting the proper role of the Department of Energy, Casey ruled that Black Gold of West Virginia has made "substantial changes in its permit application." This means that the advertisement and public comment period will have to be repeated. Which means that everything that has been said and written about the proposed Lincoln County surface mine will be said and written again. This is a paperwork process which does nothing to resolve the argument over whether the mine site should be permitted.

Wednesday the 13th - Congressman Nick Rahall and West Virginia Energy Commissioner Ken Faerber continue their squabble over who is doing what with Abandoned Mine Lands Funds, and when, and why. Coal operators are naturally sensitive to the AML Fund, since they have directly provided the millions and millions of dollars which are lying dormant in federal accounts. The money is, and has been, buried under an avalanche of paperwork mandated by the Surface Mining Control and Reclamation Act of 1977, and its subsequent implementing regulations. Federal and state officials would do well to expedite the process as much as possible. It's DoE's job to ask for the money in an organized manner. It is the function of Congress to appropriate the money. It is for OSM to fulfill the state grants. And finally, it is up to DoE to spend it efficiently. Congressman Bob Wise wants "to get everyone involved," but the congressional role is supposed to be minimal, and the fewer people involved, the quicker the coal-funded program can translate into accomplished reclamation.

Friday the 15th - More good news for West Virginia coal, though of a long-range nature, comes with the passage by the U.S. Senate of "alternative fuels legislation." The bill was designed to provide incentives for U.S. automakers to produce vehicles which run on fuels made from coal, grain, or natural gas. The House of Representatives has already passed a similar measure, and the bill is expected to become law later this year. Though the technology for alternative fuel vehicles is still several years away, the measure may have important implications for the coal industry by the turn of the century. West Virginia Senator Jay Rockefeller was a leader in securing passage of the bill.

Thursday the 21st - South Korea's government owned steel company has agreed to increase its purchases of West Virginia metallurgical coal by 28% over a five year period. The new contract is expected to add at least 100 new mining jobs, primarily in Boone and Raleigh Counties.

Friday the 22nd - Consolidation Coal Co. announces that it may shut down its Shoemaker Mine in Marshall County, if state and federal agencies refuse to approve its permit to expand a refuse pile. A shut-down of Shoemaker would result in 350 layoffs.

May

Saturday the 4th - In a letter to OSM Acting Director Robert Gentile, Congressmen Morris Udall (D-AZ) and Nick Rahall (D-WV) today attacked the West Virginia Department of Energy as failing to enforce the letter and spirit of the federal Surface Mining Control Act of 1977. Udall, the "father" of national surface mining legislation, is upset by the fact that the Act which he sponsored, and the mountains of regulations which have since been drafted, fail

to require an applicant to disclose who will actually mine coal. Rahall, chairman of the House mining subcommittee, spent most of an afternoon in Logan recently, cross-examining a Lincoln County applicant on this point. Regardless of the expressed concerns of these gentlemen, the applicant in question is now in compliance with the law, and WV-DoE has properly enforced that law. No amount of posturing will change that fact, and whether the D.C. based Environmental Policy Institute is pleased, or not, is not relevant.

Thursday the 6th - Presidential front-runners George Bush and Michael Dukakis have both made their obligatory visits to West Virginia coal facilities, days ahead of the now meaningless West Virginia presidential primary. In traditional Democratic fashion, Dukakis posed with UMW President Richard Trumka outside a Kanawha County mine, rigged out in miner's gear, and looking as much like a coal miner as Donald Duck. In a more Republican manner, Bush visited WVU and talked about coal research, while acknowledging that much of it is "over his head." In neither of these "photo opportunities" did either man raise the specter of acid rain legislation, which could cripple West Virginia and its coal industry. It is to be hoped that in any future campaign appearances by the candidates, the state's crack investigative media will raise this point of relevance and find out where they stand. Inquiring voters want to know, or at least they should.

Wednesday May 11 - West Virginia's Supreme Court of Appeals will get a new look over the next several years. Darrell McGraw, the former chief justice, who lectured litigants, castigated colleagues, and generally showed himself to be a judicial enemy of anyone who meets a payroll, was rejected yesterday by Democratic voters in his bid to stay on the Court for the remainder of the

century. On philosophical grounds, business groups generally opposed incumbent Thomas Miller, who led the ticket. But the erratic behavior and blatantly hostile attitude of McGraw made his defeat a prime objective of those who would like the Court to veer back toward the middle ground. Whatever the outcome of the November general election, West Virginia's Supreme Court of Appeals will have changed for the better.

Thursday the 19th - Allegheny Power has negotiated a five year contract with electric cooperatives in Virginia that will utilize 550 to 800 thousand tons of West Virginia coal, annually. Some 250 mining jobs will be saved, or created.

Friday the 20th - American Electric Power proposes to construct the world's largest fluidized bed combustion power plant in Mason County. The \$579 million project would greatly increase the market for West Virginia high-sulfur coal. Pending a grant from the U.S. Department of Energy, construction could begin in 1993, with the units coming on line two years later. AEP officials warn, however, that pending acid rain legislation could divert needed funds to scrubber installation, and cancel the project.

Saturday the 21st - Worn down by endless litigation, MEPCO has withdrawn its plans to mine coal on Booths Creek, in Monongalia County. All that was demonstrated in the lengthy legal process is that a bulldog tenacity by environmental litigants can drive the profitability of a small coal company below the line of mining feasibility.

Thursday the 26th - Senator Robert Byrd of West Virginia, prime mover of the Clean Coal Technology Program, announced that Virginia Power Co. and Island Creek Coal Co. will seek federal funding to help build a \$223 million "clean coal

power plant" in Grant County. The facility would burn 390,000 tons of state coal per year, and create 44 new jobs, once constructed.

June

Sunday the 5th - Anhydrous ammonia is a promising treatment system for acidic waters, in that it costs little and raises the pH quickly. The use of this chemical in West Virginia streams is headlined as follows by the ever vigilant *Charleston Gazette*: "Nearly 60 state mines pumping dangerous gas." Such a headline implies a danger to human life, and anyone who didn't bother to read the story would be left with just that impression. The toxic properties of anhydrous ammonia relate to aquatic life, which by definition, does not exist in highly acidic streams. The use of this chemical requires, and receives, careful monitoring. It would be nice if the *Gazette* were as careful with its rhetoric.

Monday the 6th - Governors Mario Cuomo of New York and Richard Celeste of Ohio announce a joint proposal to reduce sulfur emissions blamed for "acid rain." The agreement cannot accurately be called a "knee jerk" reaction, since it reportedly follows a "year of negotiations" between aides of the two governors. But it is based on some fallacious assumptions, and it does represent a "caving in" of sorts on the part of Governor Celeste. News accounts of the agreement refer to sulfur dioxide as "a major source of acid rain," an assertion that is far from proven. Also the prominence of New York and Ohio lends a false importance to the pronouncements of those states' respective governors. No one has authorized Richard Celeste to speak for midwestern coal and utility companies or their customers.

Thursday the 16th - Assistant Attorney General Eumi L. Choi accuses environmental lawyers Pat-

rick McGinley and Thomas Rodd of being "rude, confrontational and contentious," in the conduct of a homeowners' suit against the State Department of Energy; of unethically contacting DoE defendants; and further, that Rodd used obscene language in a phone conversation. Rodd and McGinley, unaccustomed to being on the defensive, declined to comment. They did, however, ask the judge to censure Choi, and to shield all papers concerning the complaint from public view. The *Charleston Daily Mail* ran an Associated Press account of the conflict, but the *Gazette*, true to its nature, seemingly assigned Paul Nyden to come up with character witnesses. Nyden dutifully quoted a court reporter and another state lawyer to the effect that Rodd and McGinley are wonderful guys. However this comes out, we can't say it hasn't been fun.

July

Friday the 1st - *Charleston Gazette* Editor Don Marsh, who never misses an opportunity to swipe at the coal industry, labels coal as "West Virginia's curse," and claims it is "responsible for many of our Third World conditions." This was just a passing shot fired as he launched into a discourse of criminal justice in the Mountain State. In recent years, much of coal news coverage has focused on job losses in the southern part of the state, which have resulted in depressed economic conditions. This would be (wouldn't it?) a "Third World condition" brought on by the absence of coal. Where coal is king, and the coal industry is healthy, the community prospers. Even Richard Trumka would agree to that.

Wednesday the 6th - The *Charleston Gazette*, unofficial partners with environmental lawyers in an unrelenting attack on coal and the West Virginia Department of Energy, should have been editorially

red-faced when ethics charges were filed against those same lawyers. The complaint stemmed from an anti-mining lawsuit and involved improper contact with DoE personnel, obscene language and generally rude, unprofessional behavior. Far from being embarrassed, the *Gazette* wrote an editorial brushing aside the charges, called the offending lawyers "idealists," characterized the complainant as "inexperienced," and ascribed ulterior DoE motives to the whole case. Such impotent rationalization is the primary reason why the *Gazette* has no credibility among the objective public, and is left to preach endlessly to its small choir of believers.

Sunday the 17th - A major *Sunday Gazette-Mail* (read *Charleston Gazette*) story reveals the startling news that business entities and individuals contribute more heavily to office seekers whom they perceive as favorably inclined toward their own interests. The level of shock registered by the state's largest newspaper at such revelations tells us that such interest groups as teachers, farmers, veterans, churches, small businessmen, labor unions, and environmentalists presumably contribute to politicians of opposing viewpoints. Either that, or they avoid contributions altogether, lest they be accused of seeking special favors. Monetary contributions to political campaigns are legal, and legally limited. As long as that is so, business, or any other interest, would be well advised to participate, the *Gazette's* curious logic notwithstanding.

Monday the 18th - Opposition continues to mount to the celebrated "acid rain compromise" reached by the governors of New York and Ohio. Illinois lawmakers fear massive layoffs and broad price increases as a result of the plan, and like others, they question the advisability of taking any further legislative action. This is good. There is a real

danger of a "bandwagon" effect among congressmen who are simply tired of the issue. Repetition of the accusation is not a substitute, nor an antidote, for hard scientific evidence. Thousands of Appalachian and Midwestern miners are understandably reluctant to disrupt their livelihood on the possibility that some fish are dying before their time.

Sunday the 24th - Coal operator James D. LaRosa purchased the old Robinson Grand Theater in Clarksburg, "reclaimed" the building, and turned it into the Rose Garden Theater of the Performing Arts, a source of great civic pride in that Harrison County city. This is the same James D. LaRosa whose Holly Grove Coal Co. aroused a storm of protest a few years ago when it attempted to open a mine in neighboring Upshur County. The money which he generously shared with his fellow citizens of Clarksburg was made primarily in the coal business. It is suggested that if he is worthy to be entrusted with a piece of Clarksburg's downtown heritage, he might be trusted with a few acres of country land.

Thursday the 28th - Black Gold of West Virginia has its permit in hand to operate a Lincoln County surface mine - almost. The State Department of Energy has issued the permit, pending receipt of a \$125,000 reclamation bond, and information as to who will actually perform the mining. There's one other hitch. After months of applications, revisions, hearings and other legal maneuvering, lawyers for protesting landowners plan to fight the issued permit in court.

Saturday the 30th - It just hasn't been the *Gazette's* month. Now comes word that a letter published by the *Gazette* last December was bogus. The letter, purportedly from one "Rufus Turner" of Racine was

sharply critical of State Department of Energy officials. Actually, it was written by Tom Hindes, a departing deputy in the Attorney General's office. Hindes claims he used the fictitious name to avoid casting any negative reflections on his fellow AG employees, specifically those who work with DoE, and even more specifically, Miss Ennui Choi. Choi is presently defending DoE in court, and she is also Hinde's social companion. It gets better. The initial *Gazette* story failed to reveal how the phony letter came to light. Choi, in connection with her DoE court case, recently filed an ethics complaint against two environmental lawyers (see item above). Paul Nyden, who is making a *Gazette* career out of attacking DoE and the coal industry, cast some editorial aspersions toward Choi, who had caused trouble for his lawyer buddies. Hindes took offense at this, and when the two encountered one another at a Charleston restaurant, a shouting match revealed that he had hoodwinked the *Gazette* with his bogus letter from "Rufus Turner." It gets better yet. In a subsequent column, *Gazette* Editor Don Marsh attempted to contain the damage to his paper's already limited credibility. In the course of trying to whitewash an uneven letter-to-the-editor policy, and Paul Nyden's attack approach to journalism, he recounts conversations with Energy Commissioner Ken Faerber. Faerber, however, says that he has never spoken with Marsh, on any occasion, on any subject. In its infamous Saturday Smiles & Scowls column, the *Gazette* frowned at Hindes for his duplicity, but spared itself the triple scowl it deserves for incompetence, unfairness, and an unwillingness to own up to it. This story, and its implications, should not die from inattention. It needs a good investigative reporter. Perhaps a member of the "insipid press" would be willing to take on the job. Any nominations, Mr. Marsh?

August

Wednesday the 3rd - 'State leads nation in mining deaths,' reads the headline. That's a true statement, but very misleading. The figures are based on actual fatalities, without regard to production levels. As such, the report says little about the level of mine safety in West Virginia. In 1988, fatalities have occurred in 11 states, all but one of which mine less coal than West Virginia. Also, it should be noted that the level of fatalities is the same as in 1987, when the state recorded an all time low number of fatalities for the year. When mine safety has reached the level that it has in West Virginia, then percentages mean little. Our concentration must be to reach zero fatalities without regard to the totals of other states. But that is apparently of less news value.

Thursday the 4th - A short news item reports that the Department of Natural Resources is keeping a close watch on the Tygart River, where heavy rains washed acid drainage into the stream, causing a significant rise in the river's pollution level. Nowhere is there any mention of the 18 companies who contributed equipment and manpower to abate the problem. None of these companies were responsible for the problem, but they willingly chipped in to provide the solution. Surely that was worthy, at least, of a smile from the *Charleston Gazette*.

Friday the 12th - *Charleston Gazette* Editor Don Marsh writes a weekly column in which he, as the late Dick Knowles described it, "picks the lint out of his journalistic navel." This time, he is attempting to excuse his paper for blithely printing a phony and derogatory letter-to-the-editor, in which the author, hiding behind a pseudonym, scurrilously attacked the State Department of Energy. Rather than admitting that the *Gazette* enthusiastically jumps at any chance to heap abuse on the DoE, Marsh rambles

on about the difficulty of checking the authenticity of letters, how he is good at spotting phonies (really!) and how he agrees with what the letter said anyway. What little logic he displays breaks down when he alludes to conversations with DoE Commissioner Ken Faerber. Faerber retorted that he has never spoken with Marsh. Marsh now isn't sure who he talked to over there. If it's too big a job to verify letters-to-the-editor, perhaps someone at the *Gazette* could at least check Marsh's column for accuracy.

Friday the 12th - Roy G. "Chick" Lockard, president of Kelley Coal Co., Clarksburg, is elected chairman of the Board of Directors of the West Virginia Mining & Reclamation Association at the organization's Annual Meeting in White Sulphur Springs.

Sunday the 21st - The *Sunday Gazette-Mail*, really the *Sunday Gazette*, places the following screaming headline over an erroneous Associated Press story: "Safety training waived despite mine fatalities." Three recent fatalities involving non-mine personnel on mine property have rightly raised safety concerns. But the statement that the State "Department of Energy has exempted surface mine contractors from a state law requiring safety training programs at all coal mines," is flat out wrong. In fact, no changes have been made in safety requirements in the past two years. The AP story confuses contract miners, who are required to undergo safety training, with those performing non-mining contract services, such as delivery, repair, etc. True to its nature, the *Charleston Gazette*, in a subsequent editorial, compounds the error by stating that the "Department of Energy has exempted surface mines from a state law requiring safety training programs at all coal mines." The *Gazette*, as experience teaches, will not correct its errors

and misimplications.

Thursday the 25th - An interesting situation has developed in Ohio County, where a citizen's group has obtained land to be used as a scenic overlook where visitors can view the progress of Rayle Coal Co.'s nearby surface operation. Given the fact that the group opposed the issuance of a permit to Rayle, the "tourist attraction," will presumably be constructed with tongue in cheek, and as a watchdog to the operation. But still, it's a good idea. Rayle, and every other mining operation already has plenty of government watchdogs. And the public overlook won't make them any more or less conscientious in their reclamation efforts. But it will be good for the public to witness the transformation of undisturbed land into a mining operation, and back again to reclaimed land.

Tuesday the 30th - Two sections of coal mining West Virginia going in opposite directions: M & A Mining in McDowell County, plagued by recent sniper fire has laid off its employees for their own safety; Island Creek Coal Co. is expanding its North Branch Mine in Grant County, creating 89 jobs in the process.

September

Friday the 2nd - Congressman Nick Rahall wants the Office of Surface Mining to delay granting emergency powers to the West Virginia Department of Energy. The congressman's thinking is that DoE doesn't respond efficiently to emergency situations. He wants the federal government to handle it instead. And with typical federal efficiency, he thinks that OSM and his congressional subcommittee should begin by studying the problem. The congressman apparently sees no incongruity in this curious position, and that's why these matters are best left at the state level.

Saturday the 10th - Economically ravaged McDowell County is in on the power plant sweepstakes. Blue-field Energy Supply Corp. is negotiating with Virginia Electric Power Co. to supply 300 megawatts of electricity. The transaction would mean the construction of a \$400 million power plant in McDowell, create 100 permanent operating jobs, and 500-600 related jobs, as well as a market for a million tons per year of low ash coal.

Tuesday the 13th - Congressman Nick Rahall continues to seek ways to help the coal industry in the marketplace. His latest proposal would require U.S. financed power plants on foreign soil to burn American coal. This would blunt the process wherein foreign companies and governments use U.S. dollars to bludgeon American competition. Good idea, Mr. Rahall.

Thursday the 15th - More good news from McDowell County. Gary Coal Sales Inc. has purchased the former U.S. Steel Mining Co. Mine No. 4 in Gary, and will reopen it within two weeks, recalling 24 union miners, hiring seven office workers, and contracting 8-10 truck drivers. Good luck, gentlemen.

Friday the 16th - Just as people-fied wild bears return for further handouts, Tom Galloway has come to West Virginia. Galloway is the Washington D. C. lawyer who extracted an outrageous amount of money from the taxpayers of Kentucky in return for dropping a lawsuit against the state's mine regulatory agency. Now, armed with an "intent to sue," a *Charleston Gazette* reporter in pocket, and the usual in-temperate rhetoric, Galloway has his hand out to West Virginia. In blasting the WV-DoE, Galloway has the cheek to say, "The taxpayers have not gotten what they paid for." If state officials here do what Kentucky did, and knuckle under to

Galloway's brand of legal larceny, the taxpayers will pay plenty and have nothing to show for it.

Saturday the 17th - A constituent of State Senator and coal operator Tracy Hylton (R-Raleigh) wrote him a letter, asking advice on finding employment. Sen. Hylton advised the man to "go south, where they have the right-to-work law, which has enabled them to bring in big industry, thus creating many jobs." The man expressed surprise that a West Virginia state senator would advise a constituent to leave the state. He needn't have been. Tracy Hylton is nothing, if not an honest man, and when you ask him a question, don't expect a sugar coated answer. He evidently assumed that the gentleman was seeking the most practical solution to his problem, and not a glossy advertisement for the state's economy. Perhaps right-to-work was on the Senator's mind, since both gubernatorial candidates are on record as opposing it, despite strong evidence of overwhelming support for right-to-work among the people of West Virginia.

Monday the 19th - Among the nation's top 20 coal producers, Westmoreland Coal Co. has the best safety record, according to a recently released survey, measuring the rate of fatal and other serious accidents for 1987.

Wednesday the 21st - The announcement of a planned \$150 million power plant for Morgantown will mean 400 construction jobs and 125 operating positions. The plant will burn 200,000 tons of coal annually.

Sunday the 25th - Island Creek Coal Co. is the 1988 national winner of a reclamation competition sponsored by the Interstate Mining Compact Commission. Island Creek was recognized for its 870 acre operation in Nicholas County.

Tuesday the 27th - The federal Department of Energy has approved construction of a \$579 clean coal project in Mason County. The 330 megawatt fluidized bed combustion power plant, to be built at the Philip Sporn plant near New Haven, is the largest project yet approved under the Clean Coal Technology Program. The project will be completed in late 1995.

October

Wednesday the 12th - Right-to-work supporters in West Virginia have been disappointed in every election year to hear all candidates for statewide office denounce their cause. But more and more, cracks are appearing in the dyke of opposition to right-to-work. In this year's gubernatorial debate, incumbent Arch Moore and challenger Gaston Caperton both vowed to veto any such bill which might be sent to their desk by the State Legislature. But both made oblique references to "the will of the people," indicating that the results of a popular referendum on the issue would weigh heavily in their decision. Since both sides in the controversy claim to have the support of the general populace, it would seem to be unanimously beneficial to let the people of West Virginia vote on right-to-work. Let's do it.

Friday the 14th - President Reagan has signed into law Sen. Jay Rockefeller's alternative fuels bill, which could someday open a major and badly needed market for West Virginia coal.

Sunday the 23rd - Another example of the curious logic which seems to afflict those who appoint themselves as guardians of the public interest. Washington lawyer Thomas Galloway and Jim Lyon of the Environmental Policy Institute, who are preparing an attempt to

extract money from West Virginia taxpayers to help run our government, chartered a helicopter for the purpose of video taping and photographing mining operations across the southern part of the state. The group apparently offered to make the flight with OSM and WV-DoE officials. The offer was ignored or declined. Lyon charges that DoE has "secretly assembled a list" of the overflight sites, and supplied it to OSM. Hopefully, DoE is guilty of this charge. OSM and DoE will be sued by Galloway and Lyon and their associates. To assist the plaintiffs, which they were duty bound to do, and then to refuse assistance to their "co-defendants," wouldn't be very prudent, would it? If EPI invited the agencies to take part in the overflight, how can a list of the sites be regarded as "secret"? Lyon expressed the obligatory horror at what he saw from the air. The *Charleston Gazette*, always a cooperative partner in the ongoing attack on DoE, illustrated Lyon's viewpoint with a black and white photo of an ordinary active mining operation, which tells the reading public exactly nothing, except that an active mine resembles a large construction project.

November

Monday the 7th - Heavens to Betsy! The *Charleston Gazette* has reported that coal operators "contributed heavily" to the reelection campaign of Governor Arch Moore. This startling pronouncement comes, of course, from the computer terminal of "investigative reporter" Paul Nyden, who apparently would have nothing to write about were it not for the coal industry. No Nyden story would be complete without a slanderous accusation for his select list of "sources." This time, Morgantown coal-truck-chaser Tom Rodd charges that coal operators get permits by a two-step process. First, you stop by the Governor's office

and make a big contribution. Then, you see Energy Commissioner Ken Faerber and get an automatic permit. This, says Rodd, is a "perversion of the regulatory process." Since the gloves are off, Nyden and Rodd should be exposed for what they are, namely a perversion of the journalism process.

December

Thursday the 1st - T. S. Ary, head of the U.S. Bureau of Mines, says that if he is reappointed to that post by President-Elect George Bush, he will "fight other agencies, environmentalists, and foreigners threatening the mining agency." Ary particularly wants to lead the battle against "crazy regulations," especially those generated by EPA. This alone would be reason enough to support the renomination, though it raises the question of whether these regulatory miracles were possible during the last administration.

Tuesday the 6th - U.S. coal exports to Canada were up considerably in 1987 due to "an increase in Canadian electricity demand, and the unavailability of hydroelectric power, brought on by the drought." Food for thought for those Canadians and Americans who would cripple large chunks of the U.S. coal industry to silence the persistent demands of the "acid rain" lobby.

Friday the 9th - A \$4.8 "clean coal technology" project has been approved for Logan County. The money includes federal funding of 50% for a two-year research project at United Coal's preparation plant at Sharples. The project will focus on recovering low ash, low sulfur coal from refuse slurry.

Tuesday the 13th - *Coal Magazine* honors U.S. Senator Robert C. Byrd (D-WV) as its "Coal Man of the

Year," for his legislative and leadership contributions on matters related to coal. The dinner in Byrd's honor is sponsored by the National Coal Association, which recognizes the Senator's "career-long dedication to the industry."

Wednesday the 14th - At times it is necessary for the coal industry to "go to the mat" with either the UMW or the environmental community when issues of mutual interest and contradictory desires arise. On any given issue, two of these groups might be allied. Such is the case with respect to the controversy over "acid rain" legislation. Management and labor are concerned with the preservation of the economic health of their constituencies. The environmentalists are more concerned with the fish count. Whenever such legislation is contemplated, proponents are certain to come forth with optimistic predictions that jobs will be created. It happens every time, without fail. Whether these new jobs are geographically or technologically related to the displaced miners is not usually discussed. A recently released report by the National Wildlife Federation concedes that federal legislation might cost some 1,100 northern West Virginia miners their jobs, but it cheerfully projects that 16,000 jobs will be created in the low sulfur southern counties. The UMW is skeptical, to say the least, and with good reason. A subsequent report, by the pro-legislation Center for Clean Air Policy, optimistically points to a possible 1,400 new job opportunities for southern West Virginians. That's less than 10% of the total envisioned by the Wildlife Federation's pie-in-the-sky projections. Neither number is much consolation to northern West Virginia miners who face the prospect of permanent unemployment, and who rightfully wonder how an employment increase in another part of the state is of any help?

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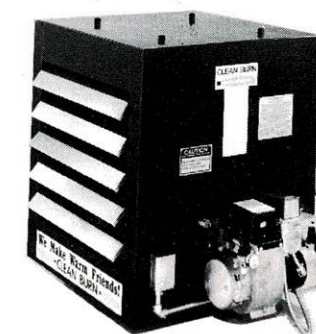
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Woody Plants for Revegetation

by Jeff Skousen
Extension Reclamation Specialist
West Virginia University



Figure 1. Direct seeding of black locust five years ago has produced this stand of locust trees on a southern West Virginia surface mine. The black locust seeding rate was 5 lbs./acre.

Introduction

During the 1940s, 50s, and 60s in the eastern U.S., tree establishment was a traditional method of revegetating surface mines to stabilize the site and to return it to forest land. However, during the past decade, revegetation practices in the U.S. have been primarily determined by legal requirements. Federal and state reclamation regulations encourage seeding of grasses and legumes to control erosion, stabilize the minesoil, and provide economic and aesthetic benefits. These laws tend to hinder tree planting because they permit partial release of revegetation bonds as soon as the ground cover requirement is met. The cover requirement is achieved by herbaceous plants, and planting of woody plants is an added reclamation expense to mining companies. Even though not planted, woody species will often become established by natural secondary succession if given the opportunity and sufficient time, especially where the reclaimed site is surrounded by native forest. However, establishment of a forest of commercial value is extremely slow by natural succession.

Postmining land uses with woody plants

SMCRA recognizes forestland as a viable and desirable postmining land use. Regulations define the success of forest plantings by the survival rate of commercially valuable trees. In addition to tree survival, regulations require regrading of the spoil, topsoil replacement, and development of a dense, herbaceous ground cover. Soil compaction from regrading and establishment of a dense, competitive, herbaceous cover are detrimental to the survival and growth of trees. Because of the high

mortality rate of commercially valuable trees on mine lands and the expense of buying 600+ seedlings/acre (which is a minimum number that should be planted), forestland is generally not designated as the postmining land use in the permit.

Another postmining land use recognized by federal and state laws is wildlife habitat. Almost any postmining land use can provide some benefit to wildlife. Many plant species are known to meet specific habitat needs for wildlife. So, when developing wildlife habitat plans, the answers to a few questions can help to determine the type of plan that is needed. First, what wildlife species (or how many different types) can be supported and which ones will be selected for emphasis in the habitat management plan? Second, what plants do these wildlife species require for food and cover? Third, are these plants capable of surviving on the mine site, and are they available in sufficient quantities at a reasonable cost? Once these questions are answered, the reclamation specialist (with the help of the WV Department of Natural Resources or other consultants) can develop a planting plan. These plans normally contain instructions and drawings for establishing plants in an effective pattern for wildlife.

Practices

Direct seeding of trees and shrubs appears to be an appealing method for establishment of woody plants since a hydroseeder is used to seed grasses and legumes anyway. However, only a few woody species have been successfully established on surface mines by this

method. These successfully seeded species include black locust, bristly locust, bicolor lespedeza, indigobush, dogwood, and autumn olive (Figure 1). Other woody species (including Virginia pine and white pine) have been direct seeded and have shown mixed success. Therefore, direct seeding of woody species is generally not recommended unless plants listed above are used or personal success with direct seeding has occurred in the past. Some revegetation specialists reduce the amount of herbaceous seed (by a half or third of the total) and then add a small amount of black locust, pine, and/or shrub lespedeza seed to the mix.

Woody plants are most often established by hand or machine planting of individual seedlings. Some species (such as aspen, hybrid poplar, cottonwood, or willow) can be established by planting pieces of the root, sometimes called cuttings or bare rootstock. In order to successfully establish seedlings or cuttings on some sites, herbicide may be sprayed in patches or rows 4 to 6 weeks prior to planting to reduce competition from herbaceous vegetation. Even with herbicide, certain herbaceous species can come back quickly the next year and may choke out the seedlings. In addition, rodents and deer may also eat the succulent leaves of the new seedlings and kill them.

Common Tree Species

Black locust (*Robinia pseudoacacia*) has been planted and direct seeded more than any other tree species on mine lands in the eastern U.S. It grows well on a variety of sites including acid, compacted, steep, and droughty minesoils. Black locust improves the site due to its nitrogen-fixing capability and can provide for natural invasion of hardwoods. It is a competitive tree and may damage some companion trees and spread to adjacent areas. It is also susceptible to locust borer damage, and tends to die out after 10 to 20 years. Locust stands may become very thick after 6 to 10 years where excessive seeding rates were used.

European black alder (*Alnus glutinosa*) is adapted to a wide range of minesoils. It is a nitrogen-fixing plant, has good seedling survival, and grows rapidly. It performs well in acid environments, and grows better than black locust at high elevations. It provides food and cover for wildlife (Figure 2).

Hybrid poplars (*Populus spp.*) have been planted on many surface mine sites to grow trees for pulpwood. These hybrids show low mortality and rapid growth on surface mines, and can be established from cuttings.

Virginia pine (*Pinus virginiana*) is probably the most widely planted conifer on mine lands. It is particularly useful on acid and droughty sites, and often invades onto disturbed areas from surrounding native woodlands. It is good for wildlife food and cover.

White pine (*Pinus strobus*) is native to this region, and is adapted to a variety of soils and climatic conditions. Survival and growth of white pine on surface mines is variable. It has slow initial growth on minesoils and especially on sites with pH < 4.0. It grows rapidly after establishment during the juvenile stage. White pine is a very valuable timber species.



Figure 2. European black alder and Virginia pine are planted in a pattern beneficial for wildlife on a West Virginia surface mine.

Many other tree species have been transplanted on disturbed lands but their survival and growth have been variable so general recommendations cannot be made. Even though recommendations are not given, reclamation specialists should not be discouraged from attempting to grow new or different woody species from year to year. Sometimes, a particular woody plant will do very well on a specific site.

Usually the pioneer-type tree species establish better on mine sites because they are better adapted to minesoil conditions than the climax-type forest trees (oaks, maples, etc.). Some tree species to consider are the birches (especially on moist, cold, acid sites), spruces (high elevation, better quality minesoils), red and scotch pine, green ash, black walnut, yellow poplar, apple, mountain ash, hazelnut, willow, cottonwood, black cherry, sycamore, and some oaks and maples. Costs for tree seedlings can vary from 8 cents for alder or white pine to 45 cents for sawtooth oak.



Figure 3. Gray dogwood growth after three years on a northern West Virginia surface mine.

Common Shrub Species

Indigobush (*Amorpha fruticosa*) is a legume which is capable of fixing nitrogen and is a good minesoil conditioner for the invasion of other plants. Plant establishment is usually good but growth is often slow. This plant provides wildlife food and cover.

Silky and gray dogwood (*Cornus amomum* and *C. racemosa*) provide excellent cover and browse for deer and, after 3 to 5 years, produce abundant fruit for birds and small mammals. They may establish from direct seeding or seedlings, and grow rapidly (Figure 3).

Autumn olive (*Elaeagnus umbellata*) is easily established on a wide variety of mine soils and can spread rapidly. It has been designated a noxious weed in some northern West Virginia counties. Autumn olive has nitrogen-fixing capabilities and improves the mine soil. It provides good cover and food for wildlife.

Bicolor or shrub lespedeza (*Lespedeza bicolor*) has been planted and direct seeded over a wide range of minesoils and has shown good survival and growth. Some plantings have become very thick. This woody legume provides excellent wildlife cover and food.

Other shrub species for planting on surface mines

Federal and state laws require that mine sites be stabilized and erosion controlled. Grasses and legumes are essential to achieve this end. So regardless of the postmining land use, "a diverse, permanent, and effective vegetative cover" of herbaceous species is necessary. If forestland or wildlife habitat postmining land uses are desired, then additional steps (and more expense) are required to produce the desired land use.

These costs include seed and/or seedling purchases, lime, fertilizer, herbicide, labor to plant (non-union), some depreciation, etc. Most tree/shrub revegetation contractors charge a flat rate per stem planted; i.e., they will provide the seedlings, herbicide, and transplant for an average price per stem. The average price per stem in 1988 varied from 25 cents to 50 cents in West Virginia.

Cost per acre for revegetating mine lands to different postmining land uses. These costs are actual figures from two southern West Virginia coal operators in 1988.

Hayland and Pasture

Company A reports revegetation costs of \$311/acre.
Company B reports \$278/acre.

Rangeland

Wildlife Habitat

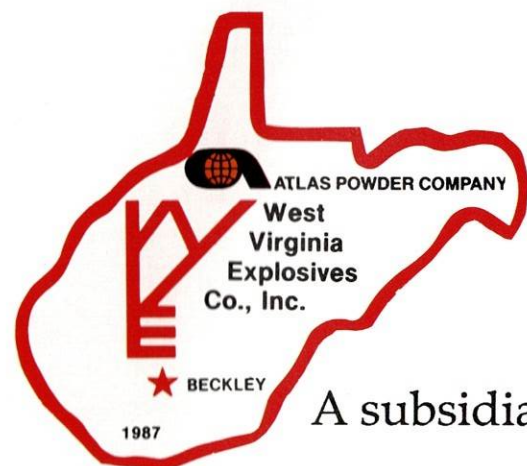
Company B seeds its regular seed mix, then plants 160 stems/acre for a total cost of \$327/acre.

Company A seeds its regular seed mix, then plants 600 stems/acre. Total cost is \$581/acre.

Acknowledgment

References

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Hardwoods? We can do that too!

by Norman Kilpatrick

Opponents of surface mining in West Virginia have expanded their attacks on this form of coal mining from specific objections to individual permits, to generalized attacks that go far beyond the facts of the matter.

A recent example is Morgantown geologist Richard DiPretoro, who has been involved in several cases opposing mining in northern West Virginia.

In a *Charleston Gazette* article, he was cited as a consultant to a Lincoln County organization which is opposing a surface mining permit by Black Gold of West Virginia.

The article, by Dr. Paul Nyden, the former sociology professor who serves as the *Gazette's* "investigative reporter," quoted DiPretoro as saying that strip mining in Lincoln County would "turn a steep, rugged mountain-side into a grassy wasteland. Today this is a lovely natural spot that supports excellent Appalachian hardwoods. Strip mining destroys the habitat for trees and native Appalachian plants like ginseng. They will never grow back."

Now, it is a fact that virtually no current reclaimed areas in this state, or anywhere in America, feature hardwood trees.

And this, despite the fact that in 1978, the Mining Task Force of the National Coal Policy Project, of which I was the only West Virginia member, called for greater use of hardwoods on reclamation sites in Appalachia.

Critics of the lack of hardwood replanting on West Virginia mine sites should realize that the problem lies in the way current state and federal regulations are written and enforced.

Hardwood forests in southeastern Ohio, and Preston County, WV, prove that even without today's site preparation, hardwoods can and do grow well.

During the 1940's and 1950's, surface coal mines in Morgan, Noble, and Guernsey Counties, OH, using medium power shovels, left miles and miles of unlevelled spoil piles, with little or no topsoil.

Later, seedlings were hand planted on these spoil

banks. While many have been lost to re-mining by giant (70 to 220 cubic yard bucket) draglines, some still remain along County Rt. 83, south of Renrock, OH.

In Preston County, there are many sites where native hardwoods have established themselves on sites mined some 20-40 years ago.

Raymond Stiles of Mountain State Surveying Co. in Kingwood, proudly points to a 26 year old forest of black locust that he and his boy scout troop planted just north of Kingwood.

Stiles regrets that current reclamation laws discourage the use of hardwoods to reclaim mined lands, and suggests that the use of scout troops and similar organizations could provide the economic manpower needed to hand plant seedlings.

There are some nine sites along Rt. 26 in Preston County that exhibit both planted and infiltrated stands of hardwoods on mined lands. Besides locust, Stiles cites cherry, maple, aspen, birch, and poplar trees growing on mined areas along or just off Rt. 26.

Additionally, he points to mined areas along Dog Town Road in the Manown area of Preston County, as having fish in the old strip pits, as well as hardwood timber growing on spoil areas. Fishing is also popular at many of the Ohio Power Co. pits in Morgan, Noble and Guernsey Counties in Ohio.

Today, however, things are different. Stiles claims, and WV-DoE official Mark Scott confirms, that bond release requirements for "full cover" actively discourage tree plantings of all kinds.

Operators cannot wait for tree seedlings to provide the cover needed to obtain their bond release. So, they opt for grasses, which provide the required cover far more quickly.

I posed these questions to Walter Davidson, research forester with the U.S. Forest Service in Princeton, who answered this way.

"It is true, that surface mining has the potential for creating wasteland. However, current legislation, mod-

'At the same time, I have seen mined areas that are more productive in terms of tree growth than adjacent unmined sites.'

ern technology, and years of reclamation experience preclude this from happening except in very rare instances, i.e. wildcat mines in which permits and bonds have not been secured, and the whole operation is illegal."

Referring to the requirement that "full cover" be rapidly established on newly mined areas, Davidson adds, "One problem we are experiencing at the present time is difficulty in getting trees established on sites that have a heavy herbaceous cover."

"At the same time," Davis states, "I have seen mined areas that are more productive in terms of tree growth than adjacent unmined sites. This is the result of releasing minerals that had been locked up in the overburden. With overburden analysis and selective overburden placement, mined areas can equal or exceed the productivity of the premined site."

So the problem seems clear. It is not that surface mined land cannot support good hardwood forests, but rather that no one can afford to plant them. This will be the case until major changes occur in current reclamation laws, and regulations governing what must be in place to allow an operator to gain his bond release.

Many of the same persons opposing surface coal mining permits in West Virginia today, are most likely among those who claim to be concerned with rising CO₂ levels in our air. Rather than attacking coal, they would be well advised to lobby for changes in surface mine regulations to provide "credit" toward bond release for adequate hardwood plantings on mined areas.

Meanwhile, they should drop the myth that mined lands cannot grow good hardwoods again, for they have, even without the grading and topsoil requirements that are necessary to current mining operations.

It will be interesting to see if these groups and organizations will go to Washington and Charleston with such requests, rather than just blast the coal industry at hearings and in the press as they have done in the past.

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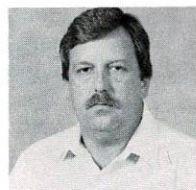


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Coal Calendar

April

- 3-5 **Short Course - Computer Analysis of Mine Ventilation Systems**, University Park, PA, contact Robert L. Franz, Penn State University, 126 Mineral Sciences Bldg., University Park, PA 16802, (814) 865-7472.
- 5-7 **Coal Laboratory Technician Training Course**, University of Kentucky, Lexington, KY, contact IMMR/OISTL, 201 Porter Bldg., Lexington, KY 40506, (606) 257-2846.
- 9-12 **U.S. Eastern Regional Private Landowner Conference**, Oglebay Park, Wheeling, contact Anthony Ferrise, 2104 Agricultural Sciences Bldg., West Virginia University, P.O. Box 6108, Morgantown 26506, (304) 293-3408.
- 10-12 **Short Course - Mine Cost Analysis and Control**, University Park, PA, contact Robert L. Franz, Penn State University, 126 Mineral Sciences Bldg., University Park, PA 16802, (814) 865-7472.
- 17-19 **Short Course - Computer Modeling of Subsidence with Spasid**, University Park, PA, contact Robert L. Franz, Penn State University, 126 Mineral Sciences Bldg., University Park, PA 16802, (814) 865-7472.
- 25-26 **West Virginia Mine Drainage Task Force Symposium**, Ramada Inn, Morgantown, contact Patty Bruce, West Virginia Mining & Reclamation Association, 1624 Kanawha Blvd. E., Charleston 25311, (304) 346-5318.

May

- 1-2 **Seminar - Coal Utilization and Managing Coal Specifications**, Campbell House Inn, Lexington, KY, contact The Energy Counsel, 301 E. Main St., Suite 1140, Lexington, KY 40507, (606) 255-0340.
- 1-3 **Workshop on Planning and Designing Longwall Mining Systems**, University Park, PA, contact Robert L. Franz, Penn State University, 126 Mineral Sciences Bldg., University Park, PA 16802, (814) 865-7472.
- 9-12 **Qualification Course on Well Control**, University Park, PA, contact Robert L. Franz, Penn State University, 126 Mineral Sciences Bldg., University Park, PA 16802, (814) 865-7472.
- 10-12 **Advanced Short Course - Coal Preparation**, University Park, PA, contact Robert L. Franz, Penn State University, 126 Mineral Sciences Bldg., University Park, PA 16802, (814) 865-7472.
- 11-12 **Short Course - Modeling Groundwater Flow in an Aquifer**, University of Kentucky, Lexington, KY, contact IMMR/OISTL, 201 Porter Bldg., Lexington, KY 40506, (606) 257-2846.
- 15 **Refresher Course on Well Control**, University Park, PA, contact Robert L. Franz, Penn State University, 126 Mineral Sciences Bldg., University Park, PA 16802, (814) 865-7472.
- 16 **Short Course - Blast Casting**, West Virginia University, Morgantown, contact Department of Mining Engineering, West Virginia University, P. O. Box 6070, Morgantown 26506, (304) 293-5695.
- 17-19 **Short Course - Surface Mine Blasting**, West Virginia University, Morgantown, contact Department of Mining Engineering, West Virginia University, P. O. Box 6070, Morgantown 26506, (304) 293-5695.
- 22-24 **Short Course - Mine Monitoring and Control**, University Park, PA, contact Robert L. Franz, Penn State University, 126 Mineral Sciences Bldg., University Park, PA 16802, (814) 865-7472.

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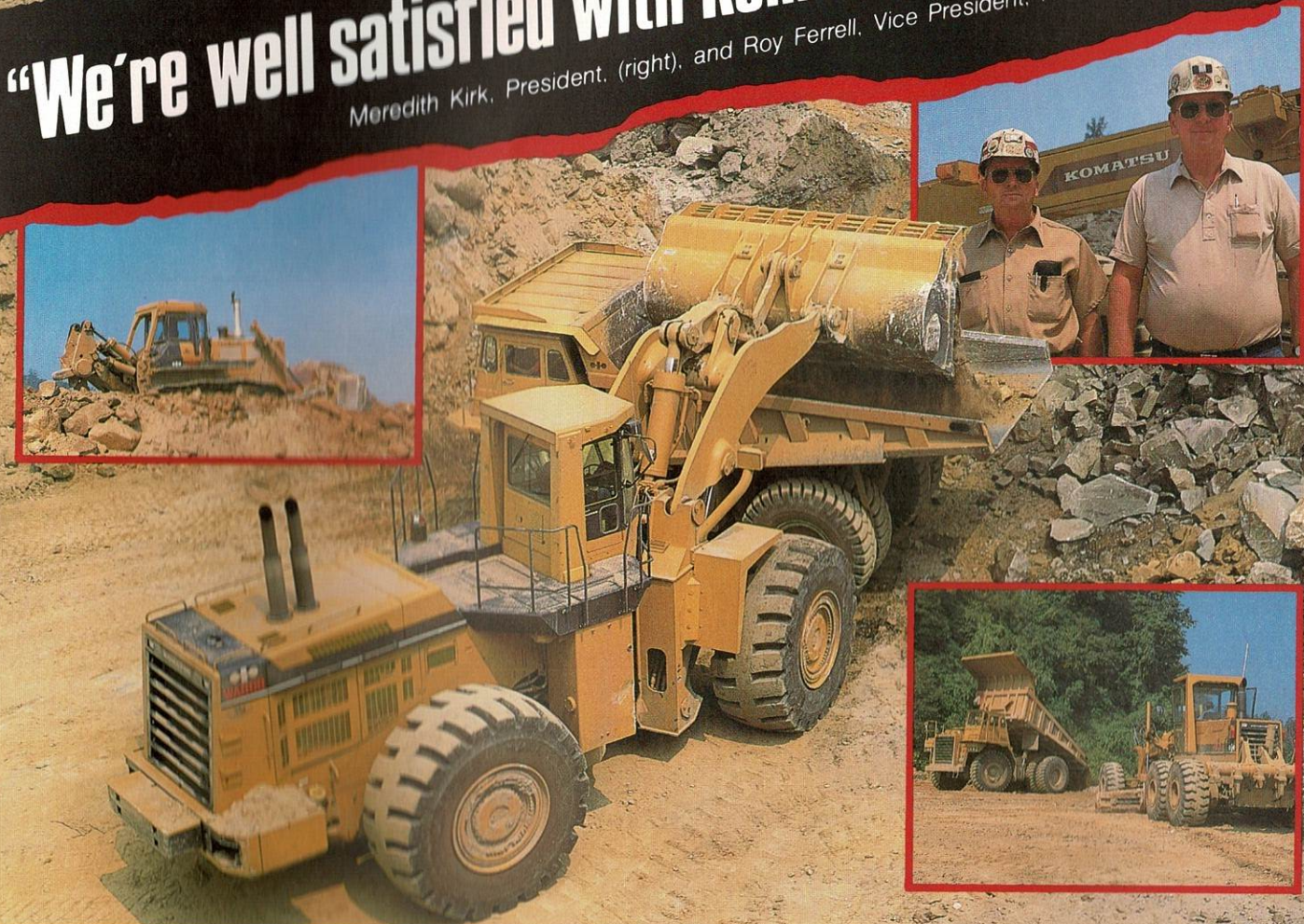
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"We're well satisfied with Komatsu equipment."
Meredith Kirk, President, (right), and Roy Ferrell, Vice President, KMF Corporation.



When it came time for Meredith Kirk and Roy Ferrell to line up equipment for a contract mining project near Clothier, West Virginia, they went with Komatsu.

"We visited jobs with a lot of Komatsu equipment on them before we finally decided to go with Komatsu," Kirk said. "Obviously, we liked what we saw."

Kirk is President of KMF Corporation which is mining the coal under contract to Westmoreland Coal Company. The mammoth earth-moving and mining project covers 244 acres in Boone County, West Virginia on a permit involving mountain top removal and contour mining.

Komatsu equipment on the project includes four HD465-3 off highway trucks, two D385A-5 crawler dozers, a D475A-1 dozer, a WA800-2 wheel loader, a WA600-1 wheel loader, and a

GD825A-1 motor grader.

The Komatsu WA600 is loading coal from the seam into the HD465 rock trucks which haul the coal to the crusher.

"We're well satisfied with our Komatsu equipment. The Rish salesman on our job has been real helpful," Kirk said.

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