

**HEARING, FEBRUARY 8, 16, AND 22, 1977**

**Legislative History**

**February 8, 16, and 22, 1977 Hearing**

Following is the February 8, 16, and 22, 1977 hearing before the House of Representatives Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs. The text below is compiled from the Office of Surface Mining's COALEX data base, not an original printed document, and the reader is advised that coding or typographical errors could be present.

**HEARING: SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS HOUSE OF REPRESENTATIVES  
BILL-NO: H.R. 2, 95TH CONGRESS, 1ST SESSION FEBRUARY 8, 1977, FEBRUARY 16, AND 22, 1977; SERIAL-NO: Serial No. 95-1 PART II**

TUESDAY, FEBRUARY 8, 1977

1 HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT, COMMITTEE ON INTERIOR AND INSULAR AFFAIRS, Washington, D.C.

1 The subcommittee met at 9:52 a.m., pursuant to notice, in room 1324, Longworth House Office Building, Hon. Morris K. Udall, chairman, presiding.

1 The CHAIRMAN. The Subcommittee on Energy and the Environment will be in session. We have scheduled this morning witnesses on the bill, H.R. 2, an act to provide for the cooperation between the Secretary of the Interior and the States with respect to the reclamation of surface coal mine operations.

1 We are pleased to have as our leadoff witness this morning the distinguished Secretary of the Interior, the Honorable Cecil Andrus. Mr. Secretary, glad to have you back before this committee. We have your statement which, without objection, will be made a part of the record at this point.

1 [Prepared statement of Hon. Cecil Andrus may be found at the end of his testimony.]

1 The CHAIRMAN. We will be pleased to hear from you, sir.

STATEMENT OF CECIL D. ANDRUS, SECRETARY OF THE INTERIOR

1 Secretary ANDRUS. Thank you, Mr. Chairman and distinguished members of the House Interior Committee. Before I get into my presentation of the statement and supplying the necessary documents, Mr. Chairman, I wonder if you could tell me whether Mr. Burton of California will be with us this morning. If not, for the record, I owe the man an apology. I would like to make it before we start, Mr. Chairman.

1 The CHAIRMAN. Well, this is a hearing of the Energy and Environment Subcommittee rather than the full committee. Mr. Burton is not a member of this

subcommittee.

1 Secretary ANDRUS. I would like to take about 60 seconds to point

1 The CHAIRMAN. Yes, you certainly may.

1 Secretary ANDRUS. I would like to take about 60 seconds to point out an oversight on the part of myself. As you might know, and I think it would be of interest to everyone, it is our intent within the Department of the Interior, Mr. Chairman, to cut down some of the political appointees, particularly in those little regional offices where they have been representatives of the Secretary, level C, and so forth. There are 11 of those throughout America authorized. There are eight of them full. We made the decision to cut that back to three and eliminate some of those political positions. Protocol would require, and common courtesy demands, that you contact the Congressmen of the States in which these offices are located before you take any such action; and somehow, by my staff, Mr. Burton was not contacted. Although I wasn't making the phone calls, it is my responsibility. I wanted to publicly acknowledge that I take the responsibility for that action.

2 I appologize. If I caught the Congressman unaware, it was my fault.

2 If I may proceed?

2 The CHAIRMAN. Mr. Burton will appreciate it. We will pass it on to him. Since there were no offices closed in Arizona, we will let you continue with your testimony. [Laughter.]

2 Secretary ANDRUS. Your neighboring State of New Mexico had one, Mr. Chairman.

2 Again, Mr. Chairman, members of the committee, the Department of the Interior strongly endorses the enactment of comprehensive surface mining control legislation. Your committee has worked on, and the Congress has passed, such legislation during the past two Congresses. A Presidential signature on it is long overdue and I am glad to see that you have personally placed it on the top of your agenda for this session.

2 Drawing on your past efforts and expertise, this administration looks forward to a new law under which an effective surface mining control program can be carried out.

2 Increasing this Nation's ability to produce and use coal in order to decrease our reliance on imported oil and scarce natural gas is essential. With sound environmental safeguards, surface mining will be an acceptable way to produce much of the coal that will be needed to meet this demand.

2 Fortunately, coal is abundant in this country. We can afford to be particular about where and how we mine it, consistent with conservation of the resource. We can afford to declare certain areas off limits to strip mining because of other important resource values, and we can insist on ending the abuses which historically have been associated with coal strip mining.

2 Prompt establishment of new ground rules for surface coal mining is essential both for a sound environmental policy and a sound energy and economic policy. Despite recent improvements in State and Federal programs, a uniform approach, that is approved by the Congress, needs to be adopted to assure a high level of environmental protection; to provide for sound management of our land resources; to eliminate competitive economic pressures on States to lower their reclamation standards; and to provide the coal industry with firm guides for its future development.

2 If I may expand upon my prepared statement there, let me say that there are many, many reputable, strong coal companies who really desire to have the guidelines put forth prior to the time that they have to put the front-end money into the development to know exactly what they are doing. I think we owe it to them to come forth with strong guidelines so they will know the ground rules.

3 In reaffirming my support of this legislation, I would like particularly to mention some of its fundamental components, which have been developed in the last few years of debate and compromise on this legislation on the Hill.

3 First, that reclamation is required to fully restore strip-mined land to at least its original productivity; second, that the burden is on the operator, not on the Government or on the people to demonstrate affirmatively that reclamation according to the law will be achieved; third, that certain areas will be off limits to strip mining because of other important resource values, preserving the option for society later to determine whether the coal is worth the the sacrifices associated with mining by surface methods, fourth, that citizens will have meaningful opportunities to participate in the implementation of the law - through availability of information, hearings, and opportunities for citizen suits; last, that abandoned, unreclaimed mines will be reclaimed using money from production fees.

3 In approaching this legislation, I want to see a bill which will make for an effective and efficient program without an undue burden on the economy. More specifically, the following principles should govern, Mr. Chairman, in my

opinion.

3 No arbitrarily imposed losses of coal production should result from the program.

3 It should not result in significant unemployment.

3 No substantial consumer impacts should result.

3 It should assign responsibilities to State and Federal Governments appropriately.

3 It should not adversely affect competition.

3 No unreasonable administrative burdens and governmental costs should be imposed.

3 In general, I believe that the legislation before you meets these tests.

3 I hope that you will agree with me, however, that if we can improve the bill, we should not be deterred from this by past history and, in any event, several issues remain to be resolved.

3 How to protect the owners of surface interests in lands where the Federal Government owns and might lease coal for surface mining is an issue of central concern. Some recognition is certainly appropriate to protect the interests of individuals who have, in many instances, created by their own labor a working ranch or farm and who may be faced with serious losses if Federal leases are issued.

3 Many hours of your time were spent in the last Congress trying to resolve this difficult issue. The bill which finally passed conferred a right to consent on a specified class of surface owners. To avoid large windfalls, it also specified compensation which could be paid for consent. The concept of this provision in the vetoed bill would appear to be preferable to an outright prohibition in the splitownership situation. At this point, I can only suggest that we remain open to reaching the most reasonable possible solution of the problem and I will be ready to work with you to this end.

3 A second question is the protection of alluvial valley floors. I fully support such protection. H.R. 2 clarifies the alluvial valley floor prohibition in the vetoed bill and makes specific allowance for the continued operation of approved mines already producing coal. These changes appear to be desirable to me.

4 As I mentioned, a basic feature of H.R. 2 which I support is its

provisions for remedying the historical environmental neglect of lands already mined and now abandoned. Some estimates are that 1 1/2 million acres of land have been disturbed by all coal mining.

4 As you consider the bill's provisions for abandoned land reclamation, let me urge you to focus on highest priority needs. A tremendous amount of reclamation work must be done to repair the scars and correct the continuing environmental harm from mines where responsibility for reclamation has ended and we must assure that our limited resources will be used to produce the greatest possible good.

4 Another issue of some concern is the assignment of responsibility for the surface mining reclamation program on Federal lands between the States and the Federal Government.

4 I favor accommodating arrangements worked out in the last year to permit States to enforce the reclamation program on Federal lands. I would urge, however, that you make these arrangements like other portions of State programs, subject to review by the Secretary and approval by the Secretary, rather than election by the States.

4 Other issues will also need resolution. The Department's legislative report, which you have, addresses most of these specifically and I will be happy to answer any questions that any of you may have. My staff will also work with you in making whatever changes will improve the bill that can be approved by this subcommittee and by the Department.

4 As we plan and undertake preparation for implementation of the program, we will keep you fully advised and remain open to your advice.

4 Coal constitutes over 85 percent of our hydrocarbon energy reserves and there can be no question that coal will provide a significant proportion of our energy needs for years to come. But as coal production increases, the environmental and land use problems it entails will also increase.

4 We just can't afford to permit historical mining practices to continue, particularly since environmentally sound mining can meet the Nation's energy and economic needs. The pollution of some 11,000 miles of streams by acid mine drainage, extensive silution, the loss of forest and agricultural lands from productive capacity, the destruction of wildlife habitat, burning mine waste dumps, and health and safety hazards must all be controlled. Major impacts on land use and water resources are associated with many surface mines and these must be dealt with carefully.

4 The framework provided by H.R. 2 to deal with surface coal mining reclamation is sound. I want to work with you to make needed improvements expeditiously and produce a bill for President Carter to sign. I assure you that the administration is committed to helping you pass such legislation and to careful administration of the program the legislation provides.

4 Thank you, Mr. Chairman. You have the legislative report available to you. I would be happy to respond to any questions.

5 The CHAIRMAN. Well, the legislative report is more comprehensive and is excellent. We have already made it a part of our hearing record. I am sure the members will want to refer to it.

5 [The legislative report referred to may be found at the conclusion of Mr. Andrus' oral testimony.]

5 The CHAIRMAN. I just wanted to say that a good part of the last 4 years of my life went into this effort to get sensible strip mining legislation. I never really felt the impact of the election of last November until this morning when I see the official representative of the administration here telling us that it is a good bill, we need it, and offering to help us.

5 The whole story of the last 4 years was of administration attempts to sabotage the bill by offering mischievous amendments, espousing misleading production and employment figures, and all of the rest. I don't want to sound too partisan, although I confess I am on this issue.

5 I just want to thank you for what I think is a sensible statement and to tell you we will work very closely with you in the weeks ahead in moving this bill forward.

5 The Secretary has a tight schedule this morning. I told him I would try to get him out as soon as possible. I don't want to unduly restrict the questioning. I won't call on each member but I will ask if there are questions here on my left on the majority side.

5 Mr. Tsongas?

5 Mr. TSONGAS. Just a comment. I sat here when your predecessor, once removed, indicated that although he supported the concept, he could not support a strip mining bill. That was 2 years ago and was one of the most sorry spectacles from a man who was compelled to give testimony that he must, deep inside, have disagreed with violently. It is a pleasure to see you here. Thank you, Mr. Chairman.

5 Mr. SKUBITZ. Mr. Chairman?

5 The CHAIRMAN. Yes, Mr. Skubitz?

5 Mr. SKUBITZ. I didn't want to let the remarks of Mr. Tsongas and your remarks go without saying one thing. If you intend to make this a political issue, let's get it out on the table right now. Personally, I think there should be honest differences of opinion regarding what is a good strip mining bill without accusing one party or the other of playing politics with this legislation. I resent the type of statement that both of you are making.

5 The CHAIRMAN. The gentleman's views are on the record. Mr. Bauman, do you want to get involved in this nonpartisan friendly exchange?

5 Mr. SKUBITZ. To make the record clear, we didn't bring the subject up.

5 Mr. BAUMAN. Mr. Chairman, I had occasion to have dinner with the former Secretary of the Interior only two or three evenings ago. He reiterated his opposition to the strip mining bill to me privately. If you want to have him in to testify publicly, I never knew Rod Morton to say anything publicly he didn't believe. I would like the record to show that in response to the gentleman from Massachusetts.

5 I do have a question for the Secretary.

6 Mr. Secretary, you have been in office a very short time. You brought to us this morning the official departmental recommendations for some modifications in this bill.

6 Hopefully, since we are going to have a strip mining bill - and I think that is a foregone conclusion - it will be in a form that will take cognizance of the fact that we have now in this country an even more acute energy problem than we had when this bill was first recommended. You yourself, I believe in your statement this morning, drew attention to the reserves of coal and to the need to replace oil and gas with coal production. So, the fundamental question becomes the balance between the desire to preserve and protect our environment and the need to produce more coal.

6 As you know, the previous administration referred to the loss of 36,000 jobs and number of hundreds of tons of coal to be lost, and so on.

6 As a result of that, a study was ordered by the Council on Environmental Quality and the Environmental Protection Agency which was contracted out by the Federal Government to this firm called ICF.

6 Now, I would like to ask you whether or not this report was used in determining your suggestions and your support for this bill, whether it played a part in your determinations of support for this bill?

6 Secretary ANDRUS. Mr. Chairman, Congressmen, no, sir. I testified yesterday on the Senate side. I heard the comments with reference to this ICF report. I have not personally seen that report. There was a question as to calendar dates of preliminary reports from it that were somewhat confusing. I do not know whether staff and Interior have these reports.

6 I suspect that they have. I was told that they were made available to some people over the weekend; and my testimony was prepared and presented to you prior to that time. I did not use them in the preparation of this. If I might say, Mr. Chairman, and to the Congressman, I think his point is well taken. In my testimony, I pointed out that any improvements that can be made should be made, sir.

6 There is no way I can win the battle of the argument as to the history of the bill. What I am here for this morning is to attempt to go forward from this date to achieve a bill; and if I find myself bogged down in the arguments about what could have been or should have been, I am going to lose the battle before I start.

6 I am going to try to go forward with it.

6 Mr. BAUMAN. Mr. Secretary, the reason I pose my question is because of my interest in what might be, not what has been. I am interested in what might be as a result of this legislation. I would like to ask you to provide for us at some future date an explanation of why this report - perhaps your explanation may be that it wasn't in your purview - this report by ICF, that was supposed to be the definitive study on the loss of coal production and the loss to consumers if this bill was passed, was in fact substantially altered between the original version, January 24, which was issued by this contractor for the Government, and February 1, to the point where tables were divided by two as to show loss production in the alluvial valley floor areas, for instance. It seems to me if this was to be the definitive report, before we can intelligently make a decision on this bill and its amendments, we ought to know whether or not we are

going to suffer substantial losses; and if not, we should know that also.

7 I would ask you to - if your staff or you can provide us with a full explanation of why this report was so substantially changed that was supposed to be the Government's last word on lost production.

7 Secretary ANDRUS. Mr. Chairman, Congressman, I will comply with your request. Permit me to make one point if I might here. Any time that you contract out for studies - and I think all of us at some point in our political and professional lives have been involved in it - that it is a constant massaging of the information before they get to the end result; but that the contract with the firm that is responsible, their reputation is on the line on the final document that carries the signature of the officer of that company, and that that is the one that normally we all look at.

7 I don't think it is anything new to see figures changed; but I can't debate the issue because I haven't compared the two documents. I will, and we will respond to you.

7 [The information requested may be found at the conclusion of Mr. Andrus' oral testimony.]

7 Mr. BAUMAN. You do understand the concern we have? If the original figures are correct, they do go a large way to proving some of the statements made by the previous administration; and that ought to affect the concerns that your Department and this committee have about what this is going to do to our overall energy picture. That, of course, has been the fundamental issue in all of the debate for years.

7 Mr. SKUBITZ. Will the gentleman yield?

7 The CHAIRMAN. The gentleman is recognized on his own time.

7 Mr. SKUBITZ. Mr. Secretary, you have just stated that there has been a constant massaging until the final reports are submitted. Don't you think it is rather odd that the production figures themselves in this report have been reduced one-half? Isn't that going just a little bit too far in this massaging period?

7 Secretary ANDRUS. Mr. Chairman, Congressman, my point was not specifically to the report referred to by Mr. Bauman. I haven't seen those two documents. I was using as an example the constant study. I can't say that that took place in this one, but I would suspect you have it in your hand and I am about to be enlightened.

7 Mr. SKUBITZ. I am not going to question you on it, Mr. Secretary. I just use the term that you used. While you are making your study, may I call your attention to page 13 in both executive summaries where there is a difference in production loss in 1977 - where one of them shows 17 million tons, the other 35 million tons; this is concerning the alluvial valley floor production impact, 1978, the worst case shows, 51 million tons; the revised report shows 25 million tons.

7 And so on and so forth. Everything has just been cut in half. I think this is a matter that the Secretary should study very carefully before he comes up here. I hope that our chairman will have you up here once again before the markup of this bill at which time you should be thoroughly familiar with all of the provisions of this bill and can properly address them. I can't believe, Mr. Secretary, that in this short time you have been able to master all of the controversial provisions contained in this bill.

8 The CHAIRMAN. He is pretty quick.

8 Mr. SKUBITZ. Can we assume that you are thoroughly familiar with every provision of the bill and are you ready to testify at this moment to questions?

8 Secretary ANDRUS. Mr. Chairman, Congressman, no, I don't sit before you this morning saying I know -

8 Mr. SKUBITZ. I wouldn't think so, Mr. Secretary.

8 Secretary ANDRUS. No, sir.

8 Mr. SKUBITZ. I am going to ask unanimous consent, Mr. Chairman, to submit to the Secretary a comprehensive list of questions dealing with various provisions of this bill. I am hopeful he will answer them as honestly and candidly in his report to us as he did the other day when he testified before us and is doing so today.

8 The CHAIRMAN. Without objection, the gentleman from Kansas and any other member of the subcommittee will have the right to submit questions to the Secretary on this specific issue.

8 Mr. SKUBITZ. Thank you, Mr. Secretary.

8 The Chairman. Let me say two things in the interest of harmony if I can. This whole thing has been a numbers game all along. The figures you are talking

about depend upon assumptions. The last administration assumed that no steep-slope mining could be carried on under the bill if it were passed. If mountain slopes were over 20 degrees, all mining on such slopes would come to a grinding halt. We assume that mine operators in all States can do as Governor Shapp stated they do in Pennsylvania: mine on steep slopes. The administration always took the worst assumption that all mining on alluvial deposits in Wyoming would come to a grinding halt. We assume alluvial floor subsection provisions would be interpreted sensibly and most of the coal in Wyoming would be available to strip mining.

8 It is simply an assumption. It isn't a question of someone being able to find the right figures up in the sky and having all the truth that we can agree on. We didn't agree on these figures last year and probably won't this year.

8 I cast no aspersion on any member of this committee. As I said the other day, the good thing about service on this committee is we have been pretty much a nonpartisan committee. There were people on your side, including the gentleman from Kansas himself who put in amendments from time to time as far as the surface mining bill. There were people on our side of the aisle against this thing from the very beginning and they did all they could do to defeat it. I am trying to express my relief at having an administration which wanted a bill and would help us get one as against an administration that I assume consciously and conscientiously made up its mind they didn't want one.

8 Mr. RONCALIO?

8 Mr. RONCALIO. Thank you, Mr. Chairman. Have a good day on the Hill, Mr. Secretary. I have no questions for you today. We are hoping we can reduce this 178-page bill that was about 230 pages last time down to 128 pages. That will reduce some of the verbosity. We are always interested in the possibility of reducing the tyranny of words and abundance of verbiage that makes our work so difficult.

9 I would like to call your attention to title VI and impress upon you, Mr. Secretary, its great value to you. It gives you the authority to designate areas as unsuitable for any or all types of mining operations. For example, if it should come to your attention that there are claims upon limestone desposits within 1 mile of beautiful little towns like Story, Wyo., nestled in the

foothills of the Bighorns, and there is limestone elsewhere in the forest that can also serve the need for limestone for scrubbers, you can designate such an area unsuitable for mining, subject to valid existing rights. That gives you some good sense legislation that I hope you will use.

9 Second, we hope to amend the language so that we can continue with the cooperative agreements which are so excellent, and which allow a State that has a State law which has equal or more stringent requirements for reclamation to do the administering on Federal lands with a one-shot type that you don't have to do more than go by once a year to see that the program is working satisfactorily. I again admonish you, Mr. Secretary, please protect the surface owners' consent that there be no rancher run off the land because somebody got a lease in their hand and the country needs the coal and he is denied his title in fee simply to the property he owns when nobody gives anybody the right to disrupt the surface and drop it 80 feet without his written consent.

9 That is about all I have to say.

9 Thank you very much.

9 The CHAIRMAN. The gentleman from Louisiana was here early this morning.  
Mr. Huckaby?

9 Mr. HUCKABY. Mr. Secretary, what is your estimate of the percent of our normal reserves that would be off limits, analytically speaking?

9 Secretary ANDRUS. Mr. Chairman, Congressman, with reference to the alluvial valley floors, about 3 percent where you are talking about being off limits with that protection is the figure that has been used. I have accepted it as a basis of fact; and the point would be that if the prohibition against new mining on alluvial valley floors goes into being, that is about 3 percent of the total reserve that is available. You still have available to you the other 97 percent where you can make the decision and then future generations may want to come back and make the determination that we have not been willing to make today. That is what I meant in my testimony when I said that they can then compare the sacrifices against the proposed technology that is available at that time and make their own determination.

9 We would not, in our opinion at the Department, lose any production because of it, because we protect this - this bill would protect the existing operations; but the prohibition would simply say you can't mine here, but you can mine over here, so that total production should be available.

10 Mr. HUCKABY. All right.

10 Thank you.

10 The CHAIRMAN. Mr. Seiberling?

10 Mr. SEIBERLING. Thank you.

10 Mr. Secretary, you cannot imagine how your words are music to the ears of some of us who sweated out the long years of trying to get a bill; and while I don't wish to cast any political aspersions, I would like to make one observation.

10 President Ford twice vetoed a bill comparable to this one. If he had come to the State of Ohio before the election campaign last year and looked at the strip mining devastation in our State - and I can remember it has been going on ever since I was a teenager - I think he might have had a different feel for this problem; and I think he might have not vetoed the bill. If he had not vetoed the bill, he might well have carried the State of Ohio because the people in our State are bitter because after fighting the reclamation - so-called Reclamation Association, which is the strip miners' association for years to get a good strong bill, which is comparable to this bill, we have not been able to enforce it effectively because of the fact that we are competing with States like West Virginia and Kentucky which have a weaker bill, and, therefore, the coal mining industry has said, "We simply can't compete if you impose all the conditions of this bill."

10 The people of our State are bitter about that fact; and I really think that if President Ford had not vetoed that bill, he might well have carried the State, which a shift of 6,000 votes would have given the State of Ohio to President Ford and presently changed the results of the last election.

10 Maybe that is at least one good result, from my viewpoint, in what was an unfortunate situation as far as strip mining was concerned. I really think that he might well, if he had understood the problem of seeing what was happening to our State and others, had a different feel for this problem.

10 Secretary Morton himself sat here and denied the allegations that were made by Mr. Zarb and others as to the amount of unemployment and loss of production that would be caused by this bill. In fact, Secretary Morton said this bill would produce a net gain in employment.

10 Now, with that in mind, I would like to ask you a question: part of the

debate over the last several years on this bill and other bills like it has given rise to a reasonable question as to the integrity in the past of the Interior Department's data-gathering procedures and to its conclusions. In fact, I think we had a pretty strong feeling that - and we conducted a special hearing on this subject - that some of the data generated by the Bureau of Mines indicated a strong politicalization of what should have been an objective data-gathering system. Now, I would like to ask you, now that you are putting together a new structure in your Department, if you would explore fully the procedures used in gathering coal reserve and resource data and the methods used to analyze the production impacts of this legislation, because it seem to me that this is an essential step not only in putting together a bill, because by now I think the committee has pretty good data that we have collected - but in putting together a policy for coal mining and - as well as for strip mining reclamation.

11 Now, there are some features of this bill that I would like to call your attention to which I think you might want to give some careful thought to.

11 Title IV of the bill covers the Abandoned Mine Reclamation Fund; and we have provided for reclamation fees of 15 cents per ton on all deep-mined coal and 30 cents a ton on all strip-mined coal which according to our estimates would result in an average of about 25 cents per ton on all coal.

11 I have had some recent calculations submitted to me based on Bureau of Mines estimates as to the costs of reclaiming all of the abandoned coal land and collecting deep-mine subsidence problems and acid mine drainage and so forth that indicates the total cost at today's dollars would be \$25.31 billion.

11 Now, the fee would produce at the current rate of production of coal of 640 million tons a year about a net of \$8 6.4 million a year for reclamation. If you divide 86,400 into 25.31 billion, you find that at the current rate of production of coal, and the current fee in this bill, it would take 294 years to complete all of the reclamation that the Bureau of Mines estimates needs to be done.

11 Of course, coal production we expect is going to increase very substantially in the years to come; but I would appreciate it if you would give some consideration to whether we ought not to increase the fee so that at least maybe we would produce an average of 50 cents a ton instead of 25 cents a ton for reclamation of the hundreds of thousands of acres of land and the thousands of miles of rivers and streams that have been ruined by strip mining practices

in the past.

11 I would just like to ask a couple of other questions if I may.

11 The CHAIRMAN. The Chair is trying to stay close to some kind of 5-minute rule. The gentleman has had about 7.

11 Mr. SEIBERLING. I will yield.

11 The CHAIRMAN. We are submitting written questions if the gentleman would yield.

11 Mr. SEIBERLING. Are we going to have a second go-around possibly?

11 The CHAIRMAN. Yes.

11 Mr. SKUBITZ. Mr. Chairman?

11 The CHAIRMAN. The gentleman from Kansas?

11 Mr. SKUBITZ. I ask unanimous consent to ask the gentleman from Ohio one question at this point.

11 The CHAIRMAN. Well, the Chair will recognize Mr. Marriott and ask him to yield to the gentleman from Kansas for that purpose.

11 Mr. MARRIOTT. I yield.

11 Mr. SKUBITZ. Mr. Seiberling, time and again I have heard you make the statement in this committee that Mr. Morton changed his position.

11 Mr. SEIBERLING. He didn't change his position. He reiterated his previous position.

11 Mr. SKUBITZ. Then, I would ask you - I thought you said that he changed his position. I believe that is a matter of record now.

12 I would ask unanimous consent that Mr. Seiberling be given an opportunity to place Mr. Morton's official statement in the record because I presume he knows exactly where it is in the old one.

12 Mr. SEIBERLING. Well, if the gentleman would yield?

12 Mr. SKUBITZ. Yes.

12 Mr. SEIBERLING. The statement is already in the record. Mr. Morton stated in our hearing -

12 Mr. SKUBITZ. Mr. Chairman, if he did state such then let's put it in the record and let the record speak for itself.

12 The CHAIRMAN. The Chair will find the testimony of Mr. Morton and we will place a reference to it in the file.

12 [Transcript of document referred to above may be found in the committee files.]

12 Mr. SEIBERLING. If the gentleman would yield? Since he stated what I stated, I would like to state what I stated.

12 The CHAIRMAN. The gentleman from Utah will yield to you for that purpose.

12 Mr. SEIBERLING. Mr. Morton testified in a hearing before this committee several years ago before the second veto of the strip mining bill that the bill would produce a net increase in employment. In the veto message, the President said that it would produce a decrease in employment; and so we hailed Mr. Morton and Mr. Zarb who advised the President before this committee in a special hearing. Mr. Morton reiterated his position. So, he didn't change it.

12 The CHAIRMAN. I think Mr. Skubitz' point is that the record itself would be the best evidence of what Mr. Morton said and not my version or your version or anyone else's recollection of what he said. We will put that reference into the record.

12 Mr. SKUBITZ. My recollection is not the same as Mr. Seiberling's. Let's let the record speak for itself for the benefit of the new members.

12 The CHAIRMAN. My recollection is the same, too, but I don't think it helps us write a bill to overhaul what was said in the past.

12 Any further questions? You have a little time left.

12 Mr. MARRIOTT. How much time do I have left.

12 The CHAIRMAN. About 3 minutes.

12 Mr. MARRIOTT. Mr. Secretary, you stated last time you were here, as I recall, that you were in favor of H.R. 2. Today I thought I heard you say you were in favor of a strip mining bill. Do I misinterpret this that you may not be in favor of H.R. 2 or is it just other legislation in that hearing?

12 Secretary ANDRUS. Mr. Chairman, Congressman, no.

12 My position and the Department of the Interior's position is that we favor H.R. 2. We ask that we keep an open mind for any amendments that would improve the bill; but we urge expeditious handling of it so that the bill can be

passed; but if I am put in a position, Mr. Chairman, of saying do I favor it, yes; but I would like to offer those suggestions I had in my statement.

12 Mr. MARRIOTT. Also, you indicated that you had not read the ICF report which had been substantially amended and cost about \$2 00,000, as I recall, to put that study out. What information between and data have you relied on to this point in formulating your approval or acceptance of H.R. 2?

13 Secretary ANDRUS. Mr. Chairman, the ICF report has been mentioned. I believe the draft copies were available this weekend. I, frankly, haven't had the time to go into them; but the records at the Department of Interior, the past hearing records that were held on this subject matter in prior years have been utilized. The discussions between myself and the President of the United States with reference to this legislation has brought us to the position that we are in.

13 I have had endless hours of discussion with staff persons; but I think also in all fairness, if memory serves me, the ICF report was not budgeted by the Department of the Interior.

13 I believe that is an EPA and FEA report that has really - it will come to us in hopefully a final form that we can then rely with reference to this legislation have brought us to the position that I submit to you today.

13 Mr. MARRIOTT. One other question, if I may.

13 That is, it appears to me that what is necessary is not a lot of splinter programs, but a long-term national energy policy. Would it not be a good idea, Mr. Secretary, to table this so-called H.R. 2 bill temporarily until we can put together - working together - a long-term policy that would have some meaning and some guts, if you will?

13 Secretary ANDRUS. Mr. Chairman, no, sir.

13 I do not concur with that statement. I think that we must move ahead now. This Nation has to look to coal as a source of energy to end the dependence of this Nation on energy sources from outside of America; and coal is the largest resource that we have easily available to us to bring about an end to this dependency.

13 I would hope that this committee would not move to table this legislation, because there are many, many coal companies in America that are capable of extracting this energy from the earth in a manner that is

environmentally sound; but they want to know that they have national guidelines so that they will not be put at a competitive disadvantage with another coal company that might be operating in another State.

13 I think that your hearings will show, as they proceed, that there are many private industry entities that are willing to move ahead, but they want to know what the ground rules are going to be. I would hope, sir, you would not move to table this bill, that you would proceed to amend it, if you will, to improve it; but that you would go for early passage.

13 The CHAIRMAN. Are there any further questions of the Secretary?

13 Mr. SYMMS. Mr. Chairman.

13 The CHAIRMAN. Yes. Mr. Symms.

13 Mr. SYMMS. I hate to come in late and ask a question. I apologize for not being here although our Forestry Committee on Agriculture is meeting on this double tractor we ride. It is very important in my district also. I just wanted to ask the Secretary one question about something that you said Sunday - and I agreed with what you said right here about the necessity for us to develop coal.

13 I am somewhat concerned about anything that might discriminate against any group of people who might be able to have the technology and the expertise to go out and develop coal. Do you have any immediate plans for blocking oil companies from getting into the business of developing coal? Or did I misunderstand what you said Sunday?

14 Secretary ANDRUS.No.

14 Mr. Chairman, in response to the Congressman's questions, you say do I have any immediate plans? No, sir.

14 In response to a question on a question and answer situation, my concern was that - let me back up and see if I can articulate it more briefly.

14 I was asked a question about large oil companies getting into the coal business. My response was that I did not want to see us create in America large energy companies so that we would be faced with the same monopolistic approach that sometimes gets us in trouble with the OPEC nations so we would, in turn, be dealing with the same power brokers, if you will, but that their national citizenship is the United States of America instead of some other country.

14 I don't believe that one company should control all of the energy so that

you have an energy company that then has control of the pricing.

14 Mr. SYMMS. You want to be very careful, I would assume, though, in anything that would discriminate against people who had the engineers, the technology, the capital, the wherewithal to develop the coal mines in this country? That was my concern.

14 Secretary ANDRUS. Mr. Chairman, Congressman, I would have to say in response to the first part of your question, you said immediate concerns. No, sir.

14 Obviously in 2 weeks, Congressman, I have been busy trying to formulate this policy not looking ahead to the others. I would prefer to defer that. I don't quarrel with what you are saying about the ability to have the technical expertise.

14 Mr. SYMMS. I see.

14 Secretary ANDRUS. I will stick by my guns that I don't think in my opinion that it is wise to have company XYZ control the oil, the gas, the coal, and everything else.

14 Mr. TSONGAS. Would the gentleman yield?

14 Mr. SYMMS. Thank you, Mr. Chairman. I will yield.

14 Mr. TSONGAS. Mr. Secretary, I strongly support your statement about going to coal as an end resource.

14 I hope as we do that, as we burn more massive amounts of coal, that we study the impact on the environment, on health, the so-called hot house effect of that burning as we proceed down the road. the CHAIRMAN. All right.

14 Mr. Bauman wanted seconds and so did Mr. Seiberling.

14 All right. Mr. Rahall? Mr. Murphy?

14 Mr. Murphy was here first.

14 Mr. MURPHY. Thank you, Mr. Chairman.

14 I want to say, Mr. Secretary, I am sure that the words I say will be more fully explained by my good Governor Shapp who is here this morning and previously talked to you.

14 I went through the same frustrations as my good Chairman, Mr. Udall, in 1958, 1959, and 1960, 1961 in Pennsylvania, as a proponent of Pennsylvania's strip mine law. I am sure Governor Shapp will say the same to you. During those periods of frustration, we had demonstrations at our State capital. We

were accused of attempting to close all strip mining in Pennsylvania. We were going to strave women and children. It was a long, hard battle.

15 I want to say it was a bipartisan battle. We had a great deal of opposition. We have an excellent strip mine law in content. We have an excellent enforcement of that, Mr. Guckert and Mr. Heine are here this morning.

15 A credit to a previous Republican Governor who supported the program and signed it, and a credit to Governor Shapp who kept the same people on who were doing a tremendous enforcement job.

15 In Pennsylvania, we have a good program; it was a bipartisan program. It has been a great asset to our State. It did not greatly affect the cost of coal production, but it did affect it some. It added some cost to the consumer; but at the same time, we were taking not millions but hundreds of millions of tax dollars in the way of a huge bond issue and reclaiming land that had been desecrated before there was strip mining controls.

15 I say to my colleagues who are concerned about the small added cost of production, John Seiberling indicated it is going to be in the matter of cents not dollars, that it is far better that we add a few cents a ton onto the cost of production today than hundreds of millions of dollars thrust onto taxpayers of the future the way we have had to reclaim our land in Pennsylvania.

15 We are just about caught up; and we hope that the rest of the United States joins us. We are put at an unfair competitive advantage in our strip mined coal; but we are producing more stripmined coal in Pennsylvania today than we were in 1958 and 1959 when I sponsored the first bill.

15 With my speech over, Mr. Secretary, I just want to ask: You made one comment, and you said that it would be subject to the review of your Department rather than the delegation of the enforcement. Now, I think we in Pennsylvania are quite concerned on two aspects. We have some good strip miners in Pennsylvania; and we have a good law enforcement bureau. To thrust additional unnecessary cost, not only on the coal mining industry - and we have more small operators, incidentally, than the biggest - and to thrust additional cost and effort and energy onto an already overloaded enforcement arm we are very much concerned with your attitude, as well as the provisions of how you will treat a State like Pennsylvania.

15 Secretary ANDRUS. Mr. Chairman, Congressman, first, let me say that you said with some levity that now that the speech is over. I think Pennsylvania has a right to be proud. I am learning that you were the author of that legislation that puts Pennsylvania in the forefront, admittedly, of other States with reference to strip mining legislation. So I think that the accolades are due everyone involved in that.

15 I wish that all States could make the same speech. I would not be here before your committee testifying this morning.

15 But, no, my past experience - I come from State government, as I think was pointed out the other day, a former Governor. I would prefer to have the States be the controlling authority if they all have a bill like Pennsylvania; and it would be my intent to have the Department look at that. The reason that I asked that we be in a position of entering into a contract instead of a blanket request from the State is the fact that all States do not have the same legislation that Pennsylvania has the benefit of.

16 So, therefore, I think that the Department should have the opportunity to look at those, enter into an agreement where we could specify maybe one area that we felt happened to be lax.

16 Using Pennsylvania as an example, I would suspect we are not going to hire a bunch of Federal employees and go up there and look over the shoulder of your people who are doing a good job. We will supply any technical expertise that you might find necessary or would request from us, but I don't want to be in the police force business any more than we absolutely have to.

16 I would suspect that the other thing would be true: We would be drawing upon the experience and the expertise of Pennsylvania. I would like to enter into a contract with the States. We all want the same thing as long as the State is doing it, I would prefer to have the State do it. I wouldn't get in the way and direct traffic.

16 Mr. MURPHY. Thank you, Mr. Secretary.

16 Mr. TSONGAS. [Presiding]. Mr. Rahall?

16 Mr. RAHALL. Thank you, Mr. Chairman.

16 Mr. Secretary, like my colleague from Pennsylvania, Mr. Murphy, I have concerns about the creation of a Federal bureaucracy superimposed upon our State bureaucracy. In defense of my home State of West Virginia, we were one of the

first States to enact a reclamation law in 1939. In recent years we have been pretty good about enforcement of laws on the books.

16 There are many concerns I have with H.R. 2, many questions I have which I will submit to you in writing because they are detailed questions. Many of the concerns are about the small operators that my colleague, Mr. Murphy, mentioned, the costs that the small operator has to bear under H.R. 2.

16 There are terracing provisions in H.R. 2 for which I feel that West Virginia law is more reasonable. There are other concerns I have with this bill.

16 I am glad to hear your statement about the state of coal. You would rather have the authority placed with the States. These are provisions I will address in writing to you.

16 I would also like to extend to you the invitation I extended to this committee, which this committee has accepted. To tour strip mine sites in West Virginia to see firsthand the progress that our State has made in reclamation.

16 While the sites and dates have not been determined, and I know you have toured Kentucky over the weekend, I would still like to extend the invitation to you. I look forward to your responses in writing to my questions.

16 Secretary ANDRUS. Thank you, sir.

16 Mr. RAHALL. Thank you.

16 Mr. TSONGAS. I recognize the gentleman from Maryland, who may yield.

16 Mr. BAUMAN. I yield.

16 Mr. EDWARDS. Thank you.

17 Mr. Secretary, I came in late. Of course, I think I was familiar with your views from what you said the other day and from what you said, I won't ask you any questions. I think you made yourself very clear. I would like to make this very brief statement. We have just gotten through recognizing that this Nation is in a severe fuel crisis, especially in the area of natural gas.

17 It is also true in the area of oil. We have been in that crisis because people in the Congress of the United States felt that it was not proper for either the free enterprise system or for the States to take charge of these

areas, but to get the Federal Government involved so that we can make everything better.

17 I sit here and quiver as I see that now we have learned absolutely nothing from the experience of the past and we say, "Well, here is another area that we are not adequately regulating, coal. Let's let the Federal Government get in and mess up that system, too."

17 I was very impressed by your comments the other day and by your desire, as you expressed it again today, to rely heavily upon the States, and I just hope that as amendments come up to H.R. 2, as I am sure they will, that you will look at them with that same light that the more we can get the Federal Government out of the business of messing up energy production, the better off we are all going to be.

17 Thank you.

17 Mr. TSONGAS.Mr. Bauman?

17 Mr. BAUMAN.Mr. Secretary, the gentlemen from Utah, Mr. Marriott, touched upon this. Perhaps he used too strong a suggestion, saying that the bill should be tabled. Quite obviously, the Carter energy package, aside from the sweaters involved, really hasn't been presented to the United States; and in April, we are told that this will come down as a comprehensive package. There isn't any way physically that you could possibly consider the relationship of this legislation to nuclear legislation, natural gas deregulation, synthetic fuels, coal degasification, and so on.

17 Yet, you have told us that we should move ahead. Would it be too much to ask that you might at least agree to delaying final action on this bill until we do have a Carter energy package in which this most abundant resource has to play one of the most important parts. Otherwise, we are likely to get ahead of ourselves and indeed have to back up.

17 Secretary ANDRUS. Mr. Chairman, Congressman, it would appear to me that H.R. 2 and the discussion we are having here this morning on the regulation for strip mining coal deals with where and how you extract it more than the volume that you extract, an established Btu need.

17 I honestly believe that the regulatory decisions as to how it is

extracted and where it is extracted geographically can be answered without an overall energy policy as to how many Btu's you are going to need and what volume you rely on coal.

17 I respectfully disagree that we must wait until we get the energy package. If we waited - and I would not want to put the burden on Congress any more than the executive branch of the government - but sometimes those move from the thought process to the final Presidential signature over a long, long period of time.

18 I hope we can move ahead with the extraction of coal in the interim so our coal companies can continue to produce, our people can be employed, the marketplace can experience the excitement of the revenue that comes from it without waiting for an overall energy policy.

18 Mr. BAUMAN. Mr. Secretary, I don't think the excitement by the people shivering in their homes or put out of work is going to be greater than increasing revenues or the passage of this one bill. The reason I brought up this \$2 00,000 report earlier is that even though it does not place any imprimatur on the previous administration's figures, it proves, or at least attempts to prove, hundreds of millions of coal production annually will be lost.

18 It seems to me when you ask two of our major environmental agencies to assess the impact of the bill and they come back with their independent contractor, albeit there is a question about the form of their summary, and say this:

18 It might be well for you to consider the overall picture and this report despite what it may do and the good intentions expressed.

18 Mr. TSONGAS. Mr. Seiberling?

18 Mr. SEIBERLING. Thank you.

18 Mr. Secretary, section 710 of H.R. 2 provides for a study of the deregulation of surface mining on Indian land, but provides only minimal protection of those lands during the study period.

18 I have been told there is some indication that the tribes affected by this legislation may request the Congress to amend this section so as to treat Indians basically the same as States are treated, provided, of course, that adequate Federal funding would be forthcoming to assist the tribes in developing their regulatory programs.

18 Section 505(a) and (b) of the legislation clarifies that States may apply more stringent standards than are contained in the legislation; so that if tribal lands were treated as States, presumably they would also be protected by section 505. I am not going to ask you what your view of these two sections and how they would interrelate would be with respect to Indian lands at the present time, but I would draw your attention to that and suggest that that is one area that you might want to give us some recommendations; but I also would suggest caution, because I think we probably spend more time wrangling over how to handle the Indian lands problem under this bill than almost any other section of the bill.

18 It is not an easy question - and I would be very reluctant to upset the balance that we finally arrived at in order to resolve the problem here - but there is an enormous amount of coal on Indian lands. I think if we can come to grips with that, we ought to try at an early time.

18 Another section I would like to invite your attention to is the so-called Alaska loophole, which is section 708, which provides for a study of Alaskan surface coal mining problems for up to 3 years after enactment of the bill during which time the full force of the bill would not be in effect on Alaskan coal lands.

18 Of course, Alaska has unique soil and climatic characteristics which make it a much more fragile ecosystem than a lot of the land in the lower 48; and I suggest that this might deserve a special study by the Interior Department and, perhaps, an amendment to the bill providing that in the meantime the bill will apply to Alaska lands the same as to other lands.

18 We need to protect those lands, if anything, more carefully rather than less carefully. At the same time, we don't want to prevent mining of coal to the extent it is essential to serve domestic needs in Alaska.

18 I would bring that to your attention. I would like to say on the suggestion that this bill be delayed until an energy policy is worked out, I think there's considerable evidence that the mining of coal - and particularly the investment in new mines - has been set back due to the fact that for over 4 years now the Congress has been laboring to bring forth a strip mining bill, and the industry still doesn't know what the rules of the game are going to be.

18 There is an old saying that money flees uncertainty.

18 I think we owe it to the mining industry and the people living in the mining areas to move ahead with this bill. If when an energy policy is developed in more detail, we find that there are some features that need to be amended, I am sure that we can do that; but on the theory that was advanced by the gentleman from Maryland, it seems to me that we would never have passed the Coal Mine Safety Act, and a whole lot of other legislation that affects our economy on the grounds that we haven't finally figured out how to handle the problems of the future.

18 There is an enormous amount of coal available. We heard the gentleman from Pennsylvania point out that mining production in his State has actually gone up since the Pennsylvania law was enacted - which is a law comparable to this one - and it does seem to me that those are two entirely separate problems.

18 Secretary ANDRUS. Thank you.

18 Mr. Chairman, although that was a statement, may I respond to your reference to section 701, Congressman?

18 Mr. SEIBERLING. Certainly.

18 Secretary ANDRUS. We in the Department of the Interior are very concerned about this, for many of the reasons that I am sure this committee is concerned about it, as to what happens to those lands. There is other legislation in the Congress that gives a year later date, I believe H.R. 2 is 1978, and another piece of legislation is 1979. My concern in the delay is that there's a lot of damage that could take place if the controls were not in place at the same time on all the lands.

18 There are pressures that could be brought about to accelerate some mining on Indian lands that may not be handled in proper manner as they might be on the lands controlled by this act.

18 In the Department of the Interior, we do not object to treating the Indian Nations as a State with regards to their lands. We would like to be in a position to help them provide that nation with the expertise to bring about their program on the same line that Mr. Murphy from Pennsylvania mentioned we would treat the States.

18 We have no objection. But there is a danger that if you have a different calendar date in that bill, that there will be some abuse take place.

20 Mr. SEIBERLING. I couldn't agree with you more. You have stated my position essentially, too; but for reasons which I don't fully understand

because I am not an expert on Indian law and policy, we have spent an enormous amount of time on this Indian lands problem.

20 It isn't an easy one. Let me just also say that as an antitrust lawyer for many years, I couldn't agree with you more either on your statement about not having a single huge group of energy companies in this country. If we are going to preserve the free enterprise system, we must preserve competition. That includes competition between competing forms of energy, or sources of energy. While that is a separate subject, I just wanted to state that what you have stated is very sound antitrust law doctrine.

20 Mr. TSONGAS. For the information of Mr. Markey and Mr. Miller, we went to those members who had questions and not used the 5-minute rule per se. Do you have any questions, Mr. Miller?

20 Mr. MILLER. Mr. Secretary, just one question.

20 I think it sounds a little bit like a homerun question. I think the point that the gentleman from Maryland, Mr. Bauman, has raised is one that will be raised from now until and maybe even after this bill is signed into law.

20 Fortunately, coal is abundant in this country. We can afford to be particular about where and how we mine it, consistent with conservation of the resource.

20 We just cannot afford to permit historical mining practices to continue, particularly since environmentally sound mining can meet the Nation's energy and economic needs.

20 Now, does that clearly state your informed opinion about this, because I think time and again we will see the issue raised that this will prevent us from having an energy policy, this will cause people to shiver in their homes.

20 It is clearly your Department's opinion apparently that we can enact H.R. 2 or something very similar thereto and still continue to meet the energy needs consistent with whatever happens in April or what the President comes up with or what finally the Congress turns out.

20 I think that has to be very clear in people's minds that that is your informed opinion, if in fact these two statements reflect that.

20 Secretary ANDRUS. Yes, sir.

20 Mr. Chairman, Mr. Miller, yes, that is our opinion.

20 I thought my statement, position was clear until you read both pieces and asked the question; and I can see where maybe there would be some confusion about present methods of continuation.

20 I don't think anybody in this room or any other room questions the vast quantities of coal that are located in the United States. It is the methodology used to extract that resource from the ground. We have seen abuses in the past because of what I term in my statement conventional practices, that those - that technology is changing, can change, and must change; but in no way in my opinion would the passage of this bill cause a decrease in the production of coal; and that comes from records, consultation, staff, technical experts.

20 I think what we have to do, Mr. Miller, is to get on with the program.

20 Mr. MILLER. Thank you.

21 Mr. BAUMAN. Would the gentleman from California yield on that point?

21 Mr. Secretary, I wish you would reanswer that question after you read the official report the Government submitted. It comes to a far different conclusion than you just stated about the reduction in the production of coal.

21 Mr. MARLENEE. Mr. Chairman?

21 The CHAIRMAN. Mr. Marlenee.

21 Mr. MARLENEE. Mr. Secretary, you spoke of treating the Indian Nations as a State in regard to the coal upon their lands; and in Montana we have several Indian reservations, including the Crow Reservation.

21 Recently, a judge ruled that the Crow Reservation was entitled to a 25-percent coal, severance tax. In Montana we have a 30-percent coal severance tax. That would bring the tax up to 55 percent of the price of coal, a considerable consumer impact and a considerable deterrent to the mining of coal in Montana.

21 Then we add the fees for reclaiming lands that has already been mined, and a lot of the lands have been mined in the East from the time when they started mining coal and were not reclaimed.

21 This places an additional burden on the State on Montana in view of the

high tax. Is there any mechanism that you have in mind to equate this with the States?

21 Secretary ANDRUS. Well, Mr. Chairman, let me respond by saying, Congressman, that the marketplace is going to make that decision. Is it economically feasible to extract the coal from that land as opposed to a different fee structure or tax than from another area? But for the reclamation, I favor - the Department favors that that money come from a fee on the coal so that it is, in fact, a cost of doing business for that company, and the consumer at the end. I think we all admit he will be paying the bill; a utility bill, or whatever use that coal is put to.

21 I think the marketplace will control the extra fees that might be placed on, because it will be, in fact, a cost of doing business in the end result.

21 The comparison of treating the States the same, I think that we have to recognize that there are treaties dealing with Indian Nations that are quite different from the sovereignty of the individual States and how they came about. I am not personally familiar with the one that you say the judge rendered the decision on.

21 I would suspect that someplace in that treaty, there were certain rights given that Indian Nation that the judge was protecting in his decision.

21 That is supposition on my part. I have not read the treaty.

21 Mr. MARLENEE. Thank you.

21 The CHAIRMAN [Mr. Udall presiding]. Thank you, Mr. Secretary. It has been a very useful warning. We will be working with you in the weeks ahead.

21 Secretary ANDRUS. Thank you, Mr. Chairman. We stand at your pleasure.

21 [Prepared statement together with additional material referred to in Mr. Andrus' testimony follows:]

22 STATEMENT OF CECIL D. ANDRUS SECRETARY OF THE INTERIOR BEFORE THE SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT OF THE HOUSE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS FEBRUARY 8, 1977

22 MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

22 I strongly endorse the enactment of comprehensive surface mining control legislation. Your committee has worked on, and the Congress has passed, such legislation during the past two Congresses. A Presidential signature on it is

long overdue and I am glad to see it placed at the top of your agenda. Drawing on your past efforts and expertise, this Administration looks forward to a new law under which an effective surface mining control program can be carried out.

22 Increasing this Nation's ability to produce and use coal in order to decrease our reliance on imported oil and scarce natural gas is essential. With sound environmental safeguards, surface mining will be an acceptable way to produce much of this coal.

22 Fortunately, coal is abundant in this country. We can afford to be particular about where and how we mine it, consistent with conservation of the resource. We can afford to declare certain areas off limits to strip mining because of other important resource values, and we can insist on ending the abuses which historically have been associated with coal strip mining.

22 Prompt establishment of new ground rules for surface coal mining is essential both for a sound environmental policy and a sound energy and economic policy. Despite recent improvements in state and Federal programs, a uniform approach, approved by the Congress, needs to be adopted:

23 - to assure a high level of environmental protection

23 - to provide for sound management of our land resources

23 - to eliminate competitive economic pressures on states to lower their reclamation standards, and

23 - to provide the coal industry with firm guides for its future development.

23 In reaffirming my support of this legislation, I would like particularly to mention some of its fundamental components, which have been developed in the last few years of debate and compromise on this legislation:

23 - First, that reclamation is required to fully restore strip mined land to at least its original productivity

23 - Second, that the burden is on the operator, not the government or citizen, to demonstrate affirmatively that reclamation according to the law will be achieved.

23 - Third, that certain areas will be off limits to strip mining because of other important resource values, preserving the option for society later to determine whether the coal is worth the sacrifices associated with mining by surface methods.

23 - Fourth, that citizens will have meaningful opportunities to participate in the implementation of the law - through availability of information, hearings and opportunities for citizen suits.

23 - Last, that abandoned, unreclaimed mines will be reclaimed using money from production fees.

23 In approaching this legislation, I want to see a bill which will make for an effective and efficient program without an undue burden on the economy. More specifically, the following principles should govern:

24 - No arbitrarily imposed losses of coal production should result from the program.

24 - It should not result in significant unemployment.

24 - No substantial consumer impacts should result.

24 - It should assign responsibilities to State and Federal governments appropriately.

24 - It should not adversely affect competition.

24 - No unreasonable administrative burdens and governmental costs should be imposed.

24 In general, I believe the legislation before you meets these tests.

24 I hope you will agree with me, however, that if we can improve the bill, we should not be deterred from this by past history and, in any event, several issues remain to be resolved.

24 How to protect the owners of surface interests in lands where the Federal Government owns and might lease coal for surface mining is an issue of central concern. Some recognition is certainly appropriate to protect the interests of individuals who have, in many instances, created by their own labor a working ranch or farm and who may be faced with serious losses if Federal leases are issued. Many hours of your time were spent in the last Congress trying to resolve this difficult issue. The bill which finally passed conferred a right to consent on a specified class of surface owners. To avoid large windfalls, it also specified compensation which could be paid for consent. The concept of this provision in the vetoed bill would appear preferable to an outright prohibition in the split ownership situation. At this point, I can only suggest

that we remain open to reaching the most reasonable possible solution of the problem and I will be ready to work with you to this end.

25 A second question is the protection of alluvial valley floors. I fully support such protection. H.R. 2 clarifies the alluvial valley floor prohibition in the vetoed bill and makes specific allowance for the continued operation of approved mines already producing coal. These changes appear desirable.

25 As I mentioned, a basic feature of H.R. 2 which I support is its provisions for remedying the historical environmental neglect of lands already mined and now abandoned. Some estimates are that a million and a half acres of land have been disturbed by all coal mining.

25 As you consider the bill's provisions for abandoned land reclamation, however, let me urge you to focus on highest priority needs. A tremendous amount of reclamation work must be done to repair the scars and correct the continuing environmental harm from mines where responsibility for reclamation has ended and we must assure that our limited resources will be used to produce the greatest good possible.

25 Another issue of some concern is the assignment of responsibility for the surface mining reclamation program on Federal lands between the States and the Federal government. I favor accommodating arrangements worked out in the last year to permit States to enforce the reclamation program on Federal lands. I would urge, however, that you make those arrangements like other portions of State programs, subject to review and approval by the Secretary, rather than election by the States.

26 Other issues will also need resolution. The Department's legislative report, which you have, addresses most of these specifically and I will be happy to answer any questions about them you may have. My staff will also work with you in making whatever changes will improve the bill. As we plan and undertake preparation for implementation of the program we will keep you fully advised and remain open to your advice.

26 Coal constitutes over 85 percent of our hydrocarbon energy reserves and there can be no question that coal will provide a significant proportion of our energy needs for years to come. But as coal production increases, the environmental and land use problems it entails will also increase. We just cannot afford to permit historical mining practices to continue, particularly since environmentally sound mining can meet the Nation's energy and economic needs. The pollution of some 11,000 miles of streams by acid mine drainage, extensive siltation, the loss of forest and agricultural lands from productive

capacity, the destruction of wildlife habitat, burning mine waste dumps, and health and safety hazards must all be controlled. Major impacts on land use and water resources are associated with many surface mines and these must be dealt with carefully.

26 The framework provided by H.R. 2 to deal with surface coal mining reclamation is sound. I want to work with you to make needed improvements expeditiously and produce a bill for President Carter to sign. I assure you that the Administration is committed to helping you pass such legislation and to careful administration of the program the legislation provides.

27

United States Department of the Interior  
OFFICE OF THE SECRETARY WASHINGTON, D.C. 20240  
FEB 4 - 1977

Dear Mr. Chairman: This responds to your request for the views of this Department concerning H.R. 2, the "Surface Mining Control and Reclamation Act of 1977." We strongly support enactment of this measure. A new law to control surface mining of coal and provide for reclamation of mined lands is badly needed and the legislation your Committee has before it is well conceived to meet that need. Its expeditious passage is a high priority of President Carter. H.R. 2 would provide for a cooperative surface coal mining regulatory program with responsibility for implementation being snared between the States and the Secretary of the Interior. Strong reclamation performance standards and permit requirements would assure that both State and Federal mined land would be fully reclaimed and that the environment would be protected. On the other hand, under mechanisms provided by the bill, the production of needed coal could continue under national standards in a reasonable manner. Public participation in decisions about surface coal mining would be provided for. Full development of needed information would be required or encouraged to serve as a basis for effective and reasonable regulation of surface mining operations. Through H.R. 2's bonding and enforcement provisions, actual compliance with the standards and requirements would be assured. In addition to the reclamation regulatory program, the bill provides for reclamation of lands already damaged by past mining. Financed in H.R. 2 through a fee levied against coal, the bill provides both for reclamation of rural lands through the Department of Agriculture and for acquisition and reclamation of abandoned and unreclaimed mined lands and for alleviation of problems related to mining, including community impacts of coal development. H.R. 2 would also establish Mining and Mineral Institutes and sets forth provisions for the designation of lands unsuitable for noncoal mining.

The effects of inadequately controlled surface coal mining are well known. Among them are destruction or diminution of the utility of land, erosion and land slide, flooding, water pollution, destruction of fish and wildlife habitat, loss of natural beauty, property damage, health and safety hazards, and adverse social impacts.

28 Increasingly in the future, the Nation's energy needs will depend on coal mining. Current trends indicate that more and more of this mining will be by surface methods. Federal and other western lands will be called on to supply coal, in many instances for the first time. Against this background, the need for legislation such as H.R. 2 is urgent.

28 In developing and carrying out an effective and efficient surface coal mining control and reclamation law, the Department will work closely with the Congress. President Carter has indicated that he would have signed the surface mining legislation, H.R. 25, passed by the last Congress, but vetoed. The President is prepared to approve similar legislation and has directed the Secretary to work with Congress in resolving remaining major issues and developing whatever changes in introduced bills may appear advisable to improve them.

28 Protection of surface owners of land where the Federal Government owns and proposes to lease coal was a particularly difficult issue for the last Congress. Section 714 of H.R. 2 incorporates the surface owner consent provision finally developed and included in the vetoed bill. That provision afforded a right to consent to specified individuals and limited the amount that such individuals could obtain if they consent. The amount specified has three components to be determined by appointed appraisers: (1) the fair market value of "the surface estate"; (2) certain specified losses and damages; and (3) an additional reasonable amount limited to the lesser of item 2 losses or \$1 00 per acre. If this provision is adopted, the language of item (1) should be clarified so that it would apply to the fair market value of the "surface estate (based on its use for agricultural purposes and exclusive of the value of minerals or the right to consent under this section)". Clarified in this way, a provision of this type is preferable to a provision which would prohibit surface mining of Federal coal where the surface is owned by a non-Federal party.

28 To limit the administrative and financial burden which might otherwise be placed on small mine operators, we support modifications of the vetoed bill which have been incorporated in H.R. 2, including:

28 - directing the regulatory authority to undertake the development of some of the information required to obtain a mining permit

28 - financing this work in part from the reclamation fee collected pursuant to section 401(d)

28 - permitting reduced application fees

28 - omission of certain permit application data as determined by the regulatory authority and in some instances requiring less data

28 - modifying the bond release administrative provisions by limiting the scope of the notice to be given and providing an informal procedure for release.

29 A related matter concerns the schedule provided by the bill for implementation of the program. H.R. 2 would apply performance standards to new mines beginning six months after enactment and to existing mines beginning after one year. In addition, application for permanent permits would be made only after a State or Federal program is approved. The regulatory authority's determination whether to issue a permit could not be delayed longer than six months after application is made (but not longer than 38 months after enactment of the bill). Tying the permanent permit application procedure to approval of a State or Federal program in this fashion is administratively preferable to requiring permit applications 20 months after enactment, whether or not a program has been approved. These modifications of the vetoed bill appear desirable to reduce any disruption which might otherwise have occurred. We also support H.R. 2's provisions for Federal "back-up" inspections where there is an indication of specific need - that is, when the Secretary receives information giving reason to believe that there are violations of the Act's requirements. Under the bill, the enforcement of reclamation requirements is principally intended to be a State responsibility. A full program of regular Federal inspections might weaken those incentives and encourage States to withdraw from the regulatory program.

29 In addition, the Administration would like to work further with the Congress to determine whether the provisions of section 405 relating to secondary impacts of mining are best suited to meeting problems posed by abandoned lands. We particularly question whether providing funding for developments in energy impacted areas is appropriate in the light of legislation passed at the end of the last Congress relating to the State share of revenue from federally owned minerals and payments in lieu of taxes. It is important that resources of the abandoned land reclamation program be directed to matters of highest priority and that past environmental damage be remedied effectively and expeditiously. To this end, consideration of the requirement that fifty

percent of the fees collected for the fund be initially allocated to the State from which they are derived may warrant modification to assure greater flexibility in directing resources to areas of greatest need.

29 An important purpose of this legislation is to protect fish, wildlife and other ecological values. In developing and implementing this program, we intend to assure that these values are appropriately recognized.

29 The provisions of Title III for State Mining and Mineral Resources and Research Institutes need to be carefully examined since there are other more effective ways of developing needed manpower and knowledge. We recommend that this matter be separately considered and not included in surface mining legislation.

30 We believe that administration of provisions of H.R. 2 relating to judicial matters may also be improved. With respect to citizen suits seeking to compel the Secretary or a regulatory authority to perform any act or duty under the Act which is not discretionary, it may be appropriate to specify that the citizen suit provision shall constitute the exclusive remedy to assure that the Secretary or regulatory authority will receive sixty days notice except for situations involving an imminent threat to the health or safety of the plaintiff or immediately affecting a legal interest of the plaintiff. This will allow the Secretary opportunity to remedy any failure that may in fact exist without the necessity for suit. In addition, a provision of the Clean Air Act similar to section 526(a)(1) of H.R. 2 has been the subject of much needless litigation concerning the specification of "the appropriate" United States Court of Appeals. We recommend that this be clarified by providing that review of actions relating to State programs or Federal programs for a State shall be by the Court of Appeals for the Circuit in which the State is located. Review of orders or decisions of national scope under section 526(a)(2) should be in the U.S. Court of Appeals for the District of Columbia.

30 Finally, we recommend that section 523 be amended to provide for the application of State programs to Federal lands. This should be carried out by agreement between the States and the Secretary of the Interior. The Interior Department has concluded similar agreements with several States during the past year. To accomplish this, H.R. 2 should provide that States with cooperative agreements will be permitted to retain their regulatory function, with appropriate modification, prior to the approval of a State program, that the Department will retain its statutory duty to receive and approve mining plans and that the designation of lands unsuitable for mining will continue to be an

Interior responsibility. It should also be specified that the States choice will be subject to Departmental review and approval as are other aspects of the program.

30 This Administration is firmly committed to the prompt enactment of good surface mining control and reclamation legislation. We are prepared to work closely with the Congress, both with respect to the modifications outlined above and to other improvements that may appear advisable as the Congress acts on the measure. More importantly we will continue that close relationship in implementing an effective program. The harm left in the wake of past surface mining must be ended promptly. Enactment of legislation such as H.R. 2 in the near future is a high priority both of President Carter's energy policy and his environmental policy.

31 The Office of Management and Budget has advised that enactment of legislation conforming to the views set forth above would be in accord with the program of the President and it has no objection to the presentation of this report.

31 Sincerely,

31 CECIL D. ANDRUS SECRETARY

31 Honorable Morris K. Udall Chairman, Committee on

31 Interior and Insular Affairs House of Representatives Washington, D.C. 20515

32 ICF INCORPORATED 1990 M Street Northwest Suite 400 Washington DC 20036  
(202) 785- 3440 February 10, 1977

32 MEMORANDUM

32 TO: Barry R. Flamm (CEQ) James Speyer (EPA)

32 FROM: C. Hoff Stauffer, Jr. Daniel E. Klein

32 SUBJECT: "Energy and Economic Impacts of H.R. 13950"

32 It has come to our attention that questions have been raised regarding modifications to our report between the Draft Final Report released on February 1, 1977, and the interagency review version of January 24, 1977. Some of the differences have been noted during both the Senate hearings on S. 7 (February 7, 1977) and the House hearings on H.R. 2 (February 8, 1977). On these occasions an inference was made that such changes could have been due to political considerations rather than analytical judgments. In this memorandum we would

like to fully resolve any confusion which may have arisen.

32 We wish to strongly emphasize that in no instance in our Draft Final Report (or in any preliminary drafts and/or memoranda) was any compromise made to the analytical integrity in order to effect findings which would appear politically desirable. The Draft Final Report of February 1 represents our very best analytical judgments at that point in time, just as any earlier drafts and/or memoranda represented our best judgments at earlier points in time. Hence, changes over time represent what we consider to be improvements in methodology, data, and/or assumptions, and in no way represent analytical compromises made for political convenience.

32 Throughout our study we have fully documented the data and assumptions underlying the impact estimates. Thus, any changes in impact estimates can be related directly to changes in underlying assumptions, where such changes are based upon what we consider to be analytically sound judgments and are fully documented. Any textual changes relate directly to efforts to (a) improve clarity, (b) improve readability, or (c) impart a more neutral tone to the document, since our study does not represent an advocacy document but rather an analysis.

32 The following sections will expand upon these points and detail the changes in particular impact estimates which have been noted in previous discussions. The first section will be a general discussion of ICF's approach in developing a Draft Final Report. This is followed by a detailed explanation of changes found between the interagency review version of January 24, 1977 and the Draft Final Report released on February 1, 1977.

### 33 GENERAL COMMENTS

33 Since ICF began its analysis of H.R. 13950, our approach has been one which has stressed cooperation with numerous and diverse interest groups, both in and out of government. This analysis has proven to be quite complex; since our own resources are limited, we have welcomed valid inputs from all who were willing to contribute. The primary vehicle for the solicitation of advice has been the use of draft reports and memoranda. These reflected our best judgments and knowledge at the time. By virtue of the extensive cooperation and thoughtful comments we received from others, we were often able to make what we considered analytical improvements in subsequent drafts. In those instances where we felt that the review comments did not contribute to the substance and/or appeared to be political at the expense of the analytical integrity, such comments were rejected.

33 In keeping with this approach, we prepared preliminary copies dated January 24, 1977 for the purpose of interagency review. This was done for the purpose of allowing several agencies (CEQ, EPA, FEA, BOM, DOI, OMB, TVA) to review and comment prior to the release of our Draft Final Report of February 1, 1977. It was never intended that the interagency review version of January 24 be the version submitted as our Draft Final Report under the terms of our contract. In fact, we at ICF were making several minor changes concurrent with the interagency review. Due to the high level of cooperation from these agencies, we were able to make what we consider to be analytically sound modifications and editorial improvements. Any suggestions which would have compromised the analytical integrity to achieve politically desirable findings were rejected, as were any other suggestions we judged to be unsound.

33 Accordingly, the Draft Final Report which we submitted on February 1, 1977 represents our best analytical judgments at this time. Still, we must note that it is a draft report, and is subject to further modification as additional reviewer comments are received. As stated in the Preface to the report.

33 "This draft is being distributed for purposes of review and comment. Further work is being conducted. Refinements are underway. Constructive comments are welcomed."

### 33 CHANGES IN TEXT

33 Some questions have arisen regarding textual changes which have occurred between versions leading up to the Draft Final Report of February 1, 1977. The concern was that these changes were made in an effort to distort or conceal substantive points developed in earlier versions. These concerns are unfounded.

33 Before describing the changes, it is useful to note types of changes which were not made. No changes were made which would distort or conceal substantive points. No omissions of previously-analyzed issues were made. No changes were made which would impart a partisan tone (either for or

34 The text changes which have been made in the Draft Final Report can be categorized in three basic types:

34 (1) Readability. Several minor changes were made throughout the report to rephrase sentences and paragraphs in an effort to improve readability and facilitate understanding of some of the more difficult points.

34 (2) Clarity. Several additions were made in the Draft Final Report to expand upon the assumptions, methodologies, and findings. Most of these

additions were made in response to questions raised during the review process, and include footnotes, supplementary descriptors, and additional caveats where necessary.

34 (3) Tone. Throughout this study we have attempted to present an impartial and factual analysis. This is in keeping with our instructions to develop impact estimates and not an advocacy document. We have refrained from expressing judgments as to the merits of the legislation or to what preferred legislation might read, and have limited our analysis to the impacts of H.R. 13950 as reported August 31, 1976. Although we have tried to present our analysis in neutral terms, we have been made aware of several instances in which the phrasing could possibly suggest a bias either for or against the bill. To avoid the appearance of having taken any advocacy position, alternative wordings were sought which would not suggest a bias while still retaining the substantive value. We did not make such tonal changes when the result would have been a diminution of the analytical finding.

34 Examples of such text changes which are particularly noteworthy are the first two major conclusions in the Executive Summary of the Draft Final Report. These paragraphs do not add any new material to the section, but seek to highlight the major conclusions which follow. In the interagency review version of January 24, these two paragraphs were combined. While the first part (relating to impacts which were not great) remained the same, the second part (relating to non-cost impacts and varying interpretations) was made less specific in the Draft Final Report. During the interagency review, it was suggested that this paragraph was combining general findings with specific points, and that insufficient detail had yet been presented which would make these specific points meaningful. Further, it was suggested that the original wording implied that these were the only impacts, where in fact there were several more. In response to what we considered to be valid criticism, we reworded this to read as two general conclusions. We note that all of the specific issues raised are still raised in detail in the Summary, and all are analyzed in full in the body of the report.

#### 35 ALLUVIAL VALLEY FLOORS - HIGH PRODUCTION IMPACT SCENARIO

35 Between the interagency review version of January 24 and the February 1 Draft Final Report, the assumptions used to develop the high production impact scenario for alluvial valley floors were modified. Whereas in the interagency review version the assumption was made that any lease area containing alluvial valley floors would be impacted, the Draft Final Report took account of the fact

that not all of these sites would be impacted under a reasonable high impact scenario. The effect of this change in assumptions was to reduce the high production impact estimates to approximately one-half of those estimated in the interagency review version.

35 The assumptions used in developing these estimates are fully documented in the analysis, and are summarized in the Executive Summary. The scenario specification used in the interagency review version of January 24 is as follows:

35 [\*]

36 [\*]

37 [\*]

38 In estimating production impacts due to the alluvial valley floor provisions, the term "production impact" should not be equated with the term "production losses." As clearly noted in the summary tables:

38 "Production impacts, as used here, do not necessarily mean production losses; delays and/or mining plan revisions are alternative impacts."

38 The term "worst-case production impact" was changed to "high production impact" in the Draft Final Report of February 1, 1977. This change was made for two reasons. First, it was claimed by some that "worst-case" implied that we opposed such an outcome, whereas others might see such an outcome as desirable. In keeping with an apolitical approach, this term was changed to a more neutral "high production impact." Second, a worst-case estimate calls for the most extreme case imaginable; in this case, the joint probability of every mine having alluvial valley floors within the lease area being impacted. The joint probability of such an event is extremely small. A high impact estimate, on the other hand, need not include the most extreme case imaginable, but can be tempered with judgment concerning the low probability that every mine having alluvial valley floors within the lease area might be impacted. This judgment is clearly stated in our report.

38 The change in assumptions made in the Draft Final Report was based upon our professional judgment that our original assumptions were overly strict. Through discussions generated during the interagency review process, coupled with a re-examination of the interviews with the western mine operators (fully documented in Appendix F); we concluded that alternative assumptions were necessary in order to ensure that the analysis presented our best analytical judgments at that point in time.

38 The February 1, 1977 report is still a draft report. All assumptions

have been documented. Reviewer comments are still welcome. Should new evidence be presented which convinces us that further modifications are warranted, further modifications will be made and the assumptions clearly documented.

38 Due to the substantial uncertainties associated with estimating these impacts, we believe (as clearly stated in our report) that no undue emphasis should be attached to any specific number or set of numbers. In the case of the alluvial valley floor provisions, the point being made was that there is a wide range of potential impacts (associated with both data uncertainty and varying interpretations of the language of the bill) ranging from zero to some very large numbers. We note that this point did not change at all between the interagency review version of January 24 and the Draft Final Report of February 1, 1977.

### 39 SURFACE OWNER PROVISIONS - RESERVE BASE IMPACTS

39 Between the interagency review version of January 24 and the February 1 Draft Final Report, the assumptions used to develop the reserve base impacts of the surface owner protection provisions were changed. The methodology used to develop these estimates is the same in both versions - beginning with estimates of the quantity of federal strippable coal beneath non-federal surface, adjustments are made to account for (1) the percent of this land owned by a qualified surface owner, (2) the percent of qualified surface owners who might be unwilling to consent to having the coal reserves leased, and (3) the nearby reserves which would be excluded. The changes in impacts relate directly to changes in these adjustment factors, and in total reduce the impacts by about one-half.

39 The description of the methodology is identical in both the interagency review version of January 24 and the Draft Final Report of February 1, and reads:

39 [\*]

40 In the interagency review version of January 24, the reserve base impacts were developed as follows (page V-10):

	*3*Scenario		
	Low Impact	Moderate Impact	High Impact
Federal coal beneath non-federal surface (million tons)	9,126	12,120	13,071
Qualified surface owner (%)	33	50	67
Percent unwilling to allow leasing	25	50	75
Nearby reserves			

effectively excluded (%)	10	20	30
Foserves impacted (million tons, rounded)	800	3,600	8,500

In the Draft Final Report of February 1, 1977, the reserve base impacts were developed as follows (page V-11):

	*3*Scenario		
	Low Impact	Moderate Impact	High Impact
Federal coal beneath non-federal surface (million tons)	9,126	12,120	13,071
Qualified surface owner (%)	25	35	50
Percent unwilling to allow leasing	15	30	50
Nearby reserves effectively excluded (%)	10	20	30
Reserves impacted (million tons, rounded)	400	1,500	4,200

41 The following points are worthy of note:

41 In both versions the estimates of federal strippable coal beneath non-federal surface are the same. Reserve base impact estimates differ only because of changes in the subjective estimates of (1) the percent of this land owned by qualified surface owners, and (2) the percent of qualified surface owners who might be unwilling to consent to having the coal reserves leased.

41 The factors which changed were and still are subjective estimates, based upon a paucity of meaningful data. Our subjective estimates were revised based upon reviewer comments relating to the success that energy companies have been having in acquiring surface rights in the West. These comments led us to believe that our earlier estimates had been too high.

41 The February 1, 1977 report is still a draft report. All assumptions have been documented. Reviewer comments are still welcome. Should new evidence be presented which convinces us that further modifications are warranted, further modifications will be made and the assumptions clearly documented.

41 We are uneasy about these estimates because there are very few data upon which assumptions can be based. We considered making no estimates at all, but judged this would not be a positive contribution toward helping others understand the potential impacts of the bill. Hence, we decided to estimate a range of potential impacts, making clear our methodology and assumptions. This

gives the reader the opportunity to test the effects of alternative assumptions on the estimates.

42 The CHAIRMAN. With us is the distinguished Governor of the Commonwealth of Pennsylvania, Milton Shapp, accompanied by two outstanding experts in this field, Mr. Walter Heine and Mr. William E. Guckert.

42 Governor Shapp, it is good to have an old friend back before this committee, particularly one who has been such a long and effective advocate of sensible strip mining of coal.

42 Secretary Andrus and I were down in Kentucky over the weekend as the guests of Governor Carroll of that State, and I was pleased to see that he supports a Federal bill again this year, so that we have at least two of the Governors of our largest coal-producing States who are on record of a Federal approach along the lines of H.R. 2.

42 I am delighted you could take time to come down here today. It is a great pleasure to have you with us.

STATEMENT OF HON. MILTON J. SHAPP, GOVERNOR OF THE COMMONWEALTH OF PENNSYLVANIA, ACCOMPANIED BY WALTER N. HEINE, ASSOCIATE DEPUTY SECRETARY, MINES AND LAND PROTECTION, DEPARTMENT OF ENVIRONMENTAL RESOURCES; AND WILLIAM E. GUCKERT, DIRECTOR, BUREAU OF SURFACE MINE RECLAMATION, DEPARTMENT OF ENVIRONMENTAL RESOURCES, COMMONWEALTH OF PENNSYLVANIA

42 Governor SHAPP. Mr. Chairman, thank you very much for your kind words.

42 I am Milton J. Shapp, Governor of the Commonwealth of Pennsylvania. I would like to thank Congressman Udall and members of this committee for inviting me here today. I have long been an advocate of a national strip mining bill, and I am here to testify in favor of the legislation now before this House committee.

42 There is absolutely no reason whatsoever to delay passage of this bill to await passage of an overall national energy bill. Implementation of the law that you are considering will create no reduction in ability to produce coal. In fact, we are increasing coal production in Pennsylvania even while operators must mine under the toughest environmental restrictions anywhere in the Nation under some State restrictions that are tougher than those proposed in the Federal bill under consideration by this committee.

42 Our Nation is in the grip of a severe energy crisis. It is nothing new. We have seen it coming for years. But the previous administration in Washington either sat on its hands or blocked legislation that would have led to a national energy policy geared to save us from critical shortages.

42 Coal is an important answer to our country's energy needs. Fortunately we are blessed with an abundant supply. But the problem is to extract coal without doing unnecessary damage to our lands. It seems to me that if we rush to strip mine our coal without providing adequate safeguards to our environment, as was done so often in the past and even today in extensive areas of our Nation, we will end up exchanging the current crisis of an energy shortage for an even greater future land, water and health crisis.

43 We can surface mine coal cleanly, efficiently, and relatively inexpensively with proper environmental safeguards. We have been doing this for 13 years in Pennsylvania, since enactment of State strip mining legislation. There is no reason why coal producers in other States cannot do the same. It would mean expanded coal production for our Nation without detriment our other essential resources - land and water.

43 It is refreshing for me to join with a receptive and progressive administration in Washington in calling for enactment of national strip mining legislation. Failure to override President Ford's veto of last session's bill was a disappointment to me in that Pennsylvania was forced to continue coal production at somewhat of an economic disadvantage.

43 Though that disadvantage represented less than 2 percent of the cost of mining, I think it is wrong for us to be penalized because of our concern for the environment.

43 Pennsylvania is the third largest coal-producing State. Yet we mine our coal under strong State laws and a regulatory program that protects our land and water. The Nation's energy needs have created a demand for more coal production in Pennsylvania and other States. That is why national minimum standards for strip mining must be established now.

43 The true cost of meeting the Nation's energy demands should be realized throughout the country. And that cost includes returning the land to productive use once the coal has been removed. As I indicated previously, in Pennsylvania we have found that cost to be very reasonable. Concurrent backfilling of strip mine operations may add anywhere from 35 to 50 cents a ton to the cost of producing coal. Considering today's market price of coal, this is a small price to pay to give the land renewed life, and to make it available for farming, construction, or recreational purposes.

43 Last year President Ford and other critics charged that a national strip mine bill could cost as many as 36,000 jobs and decrease the production of coal nationally. Nothing could be farther from the truth. There are not even 36,000 mine workers employed across the Nation in strip mining.

43 In Pennsylvania the production record speaks for itself. Seven years after our law became effect, in 1971, 26.8 million tons of bituminous coal were strip mined in Pennsylvania. It took 5,432 strip mine employees to do this job. However, by 1974, Pennsylvania's coal production soared to 36 million tons. The industry used 6,416 mine employees to produce this coal. By 1976, surface mined coal production was up to 38.9 million tons, employing 7,100 miners.

43 Pennsylvania not only experienced an increase in the amount of coal produced, but an increase in the number of mine-related jobs despite the introduction of more sophisticated mining equipment. The profits of our coal companies have also increased significantly over this period, primarily as a result of maintaining price parity with that of oil.

43 This has been our experience, though Pennsylvania's strip mine law is the Nation's strongest and our present regulations and enforcement are probably more stringent than will be the case for many other coal States under the proposed Federal law.

44 Yet, to answer some of the questions that have been raised here this morning, even though with tough State regulations, Pennsylvania's coal production is up and constantly rising. The number of coal mining jobs in Pennsylvania is increasing and so are the profits of coal mining companies in our State.

44 I might add the legislation you are considering also means new jobs for Pennsylvania through reclamation. We have what we call the orphan lands program to clean up abandoned mine sites in our State now. The declamation fund in this bill would send millions of dollars more back to our State and to others to restore scarred areas. Jobless people will be hired to return our land to economic health. With 8 percent unemployed presently in Pennsylvania, we can use every one of these new jobs.

44 Our commitment to coal in Pennsylvania is no secret. We encourage the use of Pennsylvania coal throughout our State to produce energy and to heat buildings and homes. It has been our policy in recent years since I have been Governor to convert all homes to coal, although I was disappointed when I could not change the Federal Government from going from coal to natural gas a few

years ago, I think to their sorrow today.

44 Our law has not hampered production, stifled profits, or cost jobs. An economic benefit has resulted while the scars of coal production have been reclaimed into valuable public and private resources. Pennsylvania's land is producing coal and continues to be productive through reclamation.

44 I have with me today, Mr. Chairman, as you indicated before, two members of our department of environmental resources, the department that controls our coal mining operations in Pennsylvania, Mr. Walter Heine, the deputy secretary of the department of environmental resources, and Bill Guckert, the man who has been in charge for a number of years of implementing the legislation that we have in Pennsylvania.

44 Bill Guckert, I might add, was also greatly instrumental in getting the passage of this bill through. He is one of the leading environmentalists of our State. They would also like a few moments to discuss a few amendments to the proposed bill that shaped up at our National Governors Conference last year.

44 As I indicated, Bill Guckert has been running our strip mine reclamation program for many years and is well known as the man who gave those strip mine operators "religion."

44 Now before I turn the floor over to my associates, I would like to invite the members of the committee to visit Pennsylvania and see firsthand what can be done and talk to the coal operators who have been producing coal under our laws. I am sure we can fix you up with a quick trip any time you are ready.

44 It will be a revelation for many Members of Congress to witness in successful operation what so many opponents of tough stripping laws claim would be the death knell of the strip mining.

44 Thank you.

44 The CHAIRMAN. Governor, thank you for a very effective statement and for your kind invitation. It was 4 years ago almost that we were in Pennsylvania with Walter Heine. I know we were all very impressed at that time. I am going to give every member of this subcommittee who is willing an opportunity to see some surface coal mine areas. They will probably take you up on that invitation.

45 I just had one other comment. It has been my observation out of

this struggle that you really need three things if you are going to treat the land right. You need a law that is good, but that isn't enough by itself. The Soviet Constitution reads about as well as ours does on human liberties. It is the spirit and enforcement that goes into it.

45 You need people like Bill Guckert and Walter Heine who believe in the law and who are determined to enforce it.

45 The third thing you need is the money and resources and people to do that job. Pennsylvania is one of the few places that has the combination of all three things. It is due to good people like you and folks like Congressman Murphy, who wrote the law, that you have led the way in Pennsylvania.

45 It is a great pleasure to me to see you again and have you and your people here before us testifying on this legislation. Let me ask you about your time problem. Do you want to stay here through the testimony of Mr. Heine and Mr. Guckert or do you want to see if there are any questions for you so that you could leave earlier?

45 Governor CHAIRMAN. The technical testimony about amendments and problem. It is not -

45 The CHAIRMAN. The technical testimony about amendments and so on will be presented by them?

45 Governor SHAPP. That's right.

45 The CHAIRMAN. We will limit the questions to any comments you have for Governor Shapp.

45 On my left, any observations or questions?

45 Mr. SEIBERLING. Mr. Chairman?

45 The CHAIRMAN. Mr. Seiberling.

45 Mr. SEIBERLING. I would like to make a brief observation.

45 Governor, I certainly applaud your testimony. As your know, Governor Gilligan was instrumental in getting bills similar to Pennsylvania's passed in 1972. We have had difficulty in getting it fully enforced because of the fact that Ohio coal seams are such in the quality of the coal that it is a little bit higher priced, much of it.

45 Second, because we are competing with States on the other side of us who haven't gone so far as Ohio or Pennsylvania in strip mining laws and enforcement.

45 I drive through Pennsylvania many times a year and have flown over some of the strip mine sites that the committee has visited. I must say that there is still an awful lot of abandoned and unreclaimed lands that you could do a great deal to help to restore.

45 I would like to just ask you one question: Can you tell me what percentage of Pennsylvania's strip mining is currently conducted on steep slopes, say, 20 degrees or more?

45 Governor SHAPP. Bill - I would rather have Bill answer that. The question is what percentage of our coal mining -

45 Mr. GUCKERT. What do you call steep slopes?

45 Mr. SEIBERLING. Well, I consider a 15-degree slope as pretty steep, but 20 degrees is what is bandied around here.

45 Mr. GUCKERT. I would say if you are talking about 15-degree slopes, I would say 25 to 30 percent, even up to 35-degree slopes. I will show you slides on it after a while.

46 Mr. SEIBERLING. Fine. In other words, a substantial amount of coal is being mined on steep slopes in Pennsylvania?

46 Mr. GUCKERT. There is quite a bit of it; yes.

46 Governor SHAPP. There is one comment I would like to make with reference to what you said, Congressman.

46 In the western part of the State, years ago, before the strip mining bill was put into operation, they used to strip and just dump debris around, make these deep mine craters in western Pennsylvania. At that time they did not have the equipment to dig down another 70 feet and take out another seam of coal.

46 Since our strip mining laws have been in effect, many coal operators have come back in the same area and are now digging the second seam; and, of course, as they do that, they are restoring the original contour, so that a large percentage of the scars of western Pennsylvania, where we had this double seam, have already been corrected; and you will find golf courses, rivers with fish. You will find residential areas being built now on this reclaimed land.

46 Most of the scars that we still have, where we have run out of money for reclamation, is in the anthracite region where we have not been going down below the surface seams; and that area still does look like moon crater land, and we are hoping, through the money reclamation, to do a considerable amount of improvement of that land.

46 I think in another decade the scars of the former strip mining operations in Pennsylvania will have disappeared.

46 Mr. SEIBERLING. I must say that I have seen some of the re-affectation that has been done by private operators, and it is very impressive. In Pennsylvania, in 1971, I went to visit the operations of the C. & K. Coal Co., which at that time was the largest strip mining operator in Pennsylvania. I was very impressed with what they were doing. However, I must say also that in western Pennsylvania I can show you an awful lot of old strip mines that were never reclaimed and can still stand an awful lot of work on it.

46 Governor SHAPP. You are absolutely correct, sir

46 Mr. SEIBERLING. It does need to be done.

46 Mr. GUCKERT. Congressman, you want to keep in mind that at these old areas - pre-act we call them, you call them "orphan lands," when you come back the operators can re-affect those areas and level them off at no cost to the taxpayers.

46 Industry can do it for about one-third of what the State can do it for.

46 Mr. SEIBERLING. Every time you can do that, we are all ahead.

46 Mr. GUCKERT. That's right. We are putting back between 3,000 and 4,000 acres a year at no cost to the taxpayers.

46 The CHAIRMAN. The gentleman from Maryland.

46 Mr. BAUMAN. Governor, we are glad to have you here today. I notice in citing the blame for the energy crisis, you cite the previous administration. I have only been in Congress less than 4 years, and it has been my impression that Congress has to take some of that blame, too. We did pass a "tinker toy" energy bill a year or two ago that the President signed and many of us voted against. It hasn't helped much. It was largely written by the Congress.

46 I only make that comment in passing.

47 Mr. TSONGAS. Would the gentleman yield?

47 Mr. BAUMAN. I yield, of course.

47 Mr. TSONGAS. I don't like to let an opportunity go by where I can agree with you.

47 The CHAIRMAN. It may be the only time this year. We want the record to reflect that.

47 Mr. BAUMAN. I am not going to yield the next time.

47 You make the statement in here that - in your testimony - that there are extensive areas of the Nation that today suffer from the results of at least less regulated strip mining as compared to the State of Pennsylvania. It has been my impression that in the last 6 or 7 years many States, as a matter of fact, most States, that have strip mining have enacted legislation or tightened their regulations to the point that Secretary Andrus was able to tell us that he prefers State enforcement and the use of State authority in this area to Federal enforcement and authority.

47 Isn't that somewhat a little bit overdrawn? Where are these extensive areas?

47 Governor SHAPP. I think if you go down into West Virginia, and some of the other coal-producing States, you will find that their restrictions are nowhere equal to what we have been doing; and I think the big fear out in the western area is the strip mining of coal around the Federal reservations that do not, therefore, come under the control of the States in the West as far as strip mining is concerned.

47 Mr. BAUMAN. Of course, if the Federal law is imposed, which would bring up all States to, let's say, Pennsylvania's strict standard, it would be an economic benefit to Pennsylvania's coal companies and operators because all operations would suffer under the same economic disability of increased costs. Isn't that true?

47 Governor SHAPP. I think you use the word "suffer" in its wrong intent. I don't think there is a coal company in Pennsylvania suffering under our land reclamation programs. The fact of the matter, back in 1971, when I first took over as Governor of Pennsylvania, and the coal companies at that time were getting somewhere around \$9, \$10, \$11, \$12 a ton for utility-grade coal.

47 When OPEC raised the price of oil, the coal companies were permitted by some of our utility companies to arbitrarily abrogate the long-term contracts they had and they just raised their price of coal \$15, \$16, \$1 8 a ton. Yet it only cost about 35 to 50 cents a ton to meet the conditions of our environmental protection laws in Pennsylvania.

47 So I don't quite frankly cast many tears for the plight of some of the coal companies in Pennsylvania who have taken advantage of OPEC oil prices to raise their prices. The utilities have allowed them to cancel their contracts in this regard.

47 Mr. BAUMAN. I would say to the gentleman perhaps I misjudged the placement of the suffering. Ultimately it is the consumer in Pennsylvania and the other 49 States who pay for the costs. To that extent they have to pay more money to suffer, do they not?

47 Governor SHAPP. I think that is entirely incorrect, sir.

47 Mr. BAUMAN. They don't pay for the costs?

48 Governor SHAPP. No. I think the costs of leaving our land devastated, the costs of leaving our streams polluted, is far greater than the added costs to the consumers for the few cents that are added onto the cost of coal in this regard.

48 What I want to see is to have every State equal with Pennsylvania in this respect because we are at a slight disadvantage pricewise. That disadvantage is less than 2 percent.

48 Mr. BAUMAN. Thank you.

48 The CHAIRMAN. Any other questions? Mr. Marriott? mr. MARRIOTT. Mr. Governor, I come from the western part of the country, and I have no preconceived ideas as to whether I like this H.R. 2 bill or not. I am still getting some facts on it. I am concerned about one thing: That is with such a great State law as you have in Pennsylvania, why in the devil do you need a Federal law on top of it? I can't understand that?

48 Is it possible that through such a law Pennsylvania may benefit at the expense of States farther to the West?

48 Governor SHAPP. No. It is no - as I indicated, the cost differential is less than 2 percent. First of all, I am interested in Pennsylvania, but I am

also an American citizen. Don't like to see the American landscape charred and torn up the way it is being done in many of these areas.

48 I think it is better for the Nation to have a tough strip mining bill so that we don't in any area of this country ruin our land and pollute our waters.

48 Mr. MARRIOTT. Thank you.

48 The CHAIRMAN. Mr. Murphy?

48 Mr. MURPHY. Thank you, Mr. Chairman.

48 Governor Shapp, it is nice to see you this morning.

48 Many of those opposed, Governor, are concerned with the increased costs to the consumer. Do you, Mr. Guckert, and Mr. Heine have any information in hand - I know you have it in the back of your mind - how much did this cost the Pennsylvania taxpayer to reclaim the lands that were stripped prior to the 1963 act before they were under the actual requirements they are under now?

48 Do you have an aggregate cost that it cost us?

48 Governor SHAPP. The cost - the aggregate cost in dollars, what was that - the bond -

48 Mr. MURPHY. \$500 million.

48 Governor SHAPP. A half billion. On top of that, we had additional expenditures -

48 Mr. MURPHY. Annual appropriations -

48 Governor SHAPP [continuing]. To go along with it, I think there have been reductions in that. The improved land has increased business activity in these areas and created more jobs. At the same time, we have had some commercial development of some of the property that has been reclaimed. What that amount would be, I can't tell, but I think that would be a reduction to the State in what has been invested in the reclamation program.

48 Mr. MURPHY. OK. I want to just add, Mr. Chairman, my comments to that of my Governor's. I don't think our interest is primarily that we become - we take any competitive advantage or our miners receive any competitive advantage, but that we would like - and my Governor is advising the members of this committee - we would like all of the United States to start on the program we have in Pennsylvania.

49 Someday we are going to have our State quota reclaimed. I think that is our concern, that the United States has not, where they are starting to strip, that they don't fall as far behind as we did.

49 Mr. SEIBERLING. Would the gentleman yield?

49 In other words, you don't want your State to suffer a competitive disadvantage because you have done a good job of trying to protect your land?

49 Mr. MURPHY. That might be about our third reason, John. Our second reason would be one that I don't know whether Bill Guckert is going to live forever. He may, but if he doesn't, we want to make sure we have continued vigilance. That continued vigilance would, of course, come from an overall uniform regulation on the Federal level.

49 The CHAIRMAN. Mr. Edwards?

49 Mr. EDWARDS. Thank you, Mr. Chairman.

49 Governor, I would just first like to thank you for your very eloquent testimony on behalf of what a State can do in regulating strip mining. I think you have given a very good case for the ability of a State to control the strip mining activities.

49 Second, I am confused by one of the items in your statement. You have a statement in here that Pennsylvania was forced to continue coal production at an economic disadvantage; and you then spend about four or five paragraphs talking about the tremendous increase in coal production in Pennsylvania which I assume also resulted in increased coal sales for the State of Pennsylvania.

49 You say our law has not hampered production, stifled profits or cost jobs. What is this economic disadvantage you are talking about?

49 Governor SHAPP. We have, as I say, about a 35- to 50-cent item which comes to maybe a 2-percent cost factor, which enters into the cost of strip mining coal in Pennsylvania. That is a disadvantage we have. It is a very slight one.

49 I minimize it, but it is there. I don't think that companies that operate in Pennsylvania should be placed at any disadvantage because they are trying to work with a State that wants to improve its environment.

49 Mr. EDWARDS. You obviously think that even though the State of Pennsylvania consists of a number of people like yourself who are very much involved in trying to protect the environment, that other States do not have the benefit of the same sort of concerned citizenry and that this cannot be done as

well in other States as well as it is done in Pennsylvania?

49 I want to tell you that I represent a State, Oklahoma, that has done a very good job of protecting its environment. We are very proud of it. Obviously Pennsylvania has done so. You know, I think that the sum total of what you have said today is eloquent testimony, as I said before, that we don't need to let the Federal Government do it as long as we have people in Oklahoma, and people like Governor Shapp in Pennsylvania, and similar people around the country.

49 Governor SHAPP. I would disagree with that.

49 Mr. EDWARDS. I thought you might.

50 Governor SHAPP. I don't think that having national laws interferes with the ability or desirability of having local operation and control over those laws.

50 In fact, we do this quite often. I think, though, that it is - it is not proper or right to allow some States to go ahead unregulated as they are, or regulated in such a sloppy fashion that it interferes with the standards of life of many of our people; and let me just say this: If we had bad strip mining laws in Pennsylvania, and did not enforce the standards we have, and continued to lump our silt and all kinds of impurities into our rivers, that water doesn't recognize a State border. It just goes from one State to another and creates a hazardous condition in other places.

50 So where - we are a United States. States can implement things and do things. At the same time, we need Federal guidance on what should be done in the benefit of all of our citizens.

50 Mr. MARRIOTT. Would the gentleman yield?

50 Mr. EDWARDS. Yes.

50 Mr. MARRIOTT. Just one question. That is, do you believe that strip mining in Pennsylvania is carried out exactly the same way in other States?

50 We have heard testimony here that you really can't have a uniform law for all States. I suppose what H.R. 2 is, is really Pennsylvania's law incorporated. I am asking is there any validity in your opinion to the statement that you really cannot mine coal in Utah and Wyoming and the Mid-States in the same way as you mine it in Pennsylvania?

50 Governor SHAPP. Well, you are going to have different mining conditions, so States are going to - the operators are going to have different operating

procedures, but I think you can have a law that sets as minimum standards what you expect nationwide.

50 For example, we have seams in Pennsylvania that are rather close to the surface, and 36 to 48 inches deep; in Montana, Wyoming, they have 60 to 70-foot seams. They are going to operate in a little different way than we do.

50 Second, our vegetation grows back rather rapidly. Part of our reclamation program is actually seeding the soil after it has been restored to a contour. Out in the Western States where they have less rainfall than we have, it is going to be much more difficult to implement some of the programs we have in Pennsylvania; but I think minimum standards must and should be set up.

50 Let me just say this: Before anybody can mine in Pennsylvania, they must get a permit to do so. As part of that permit, they submit their plans - I am talking strip mining now, the permits require deep mining as well - but they must submit blueprints of how they are going to restore the land with a contour map.

50 Before they get their permit, they must post a bond with the State so in the event they walk away from it, we have the bond, the use of that money then to go ahead and do it ourselves.

50 These are some tough features that have been incorporated into our bill. We strictly enforce it. They must come up with the plans in the beginning and they must implement those plans when they are through with the mining operations.

50 I think things of that sort should be done on a national basis to protect everybody.

51 The CHAIRMAN. Thank you.

51 Mr. McHugh?

51 Mr. MCHUGH. Thank you, Mr. Chairman.

51 Governor, I am from the State of New York, and to my knowledge we don't mine any significant amount of coal. Perhaps I can be a little more objective about this than representatives from States that do. I think it is fair to say that Pennsylvania has indeed been the leader in this field over the years. I

think what you have been able to do in Pennsylvania makes it much easier for us at the national level to pass this kind of bill. I certainly want to join with the chairman and other members of the committee to commend you and the State for that progress.

51 I have a question by way of clarification. I would like to be clear on precisely how you finance the reclamation effort in Pennsylvania? You have mentioned a bond issue and State appropriations bills. Specifically, do you also assess the operators a certain amount of money on coal mined, as we propose to do in our bill?

51 Governor SHAPP. No. I thought there might be some small fees attached. I wanted to make sure.

51 We don't, although one of the taxes that has been mentioned several times in recent years that could be levied, would be an extraction resource tax. That has not passed our legislature, and we have no taxes like some other States have.

51 Mr. MCHUGH. Is it your judgment - and I gather it is from your testimony - that by assessing this kind of fee to support reclamation efforts nationally, coal operators in Pennsylvania would not have any strong objections given the experience in Pennsylvania?

51 Governor SHAPP. I think any time you start to assess anybody anything, they are going to have some objections to it. Are they valid? I don't think so.

51 Mr. MCHUGH. Strong objections?

51 Governor SHAPP. I don't think there will be strong objections.

51 Mr. MCHUGH. From what you said earlier, I gather your assistants are going to give us some advice on amendments. In your testimony you imply, if I understood it correctly, that Pennsylvania's law in some respects is stronger than this proposed bill. If that is so, will your assistants be giving us some advice on it?

51 Governor SHAPP. Yes.

51 Mr. MCHUGH. Thank you, Mr. Chairman.

51 The CHAIRMAN. Thank you, Governor Shapp.

51 Mr. Heine and Mr. Guckert, if you will come forward.

51 Could we have you both at the same time? We have a little bit of a problem with the clock this morning.

51 Mr. GUCKERT. What time do you want to recess?

51 The CHAIRMAN. 12 or 12:15.

51 Mr. GUCKERT. I have a whole pile of slides that I will show you.

51 The CHAIRMAN. We have Mr. Heine's prepared testimony. We will print it in the record. You can summarize it or present it in any way you wish, sir.

51 [Prepared statement of Walter Heine may be found at the end of the panel's testimony.]

51 Mr. HEINE. I think it is important that you see some of the actual reclamation that is going on in some steep-slope areas. I would like to get to that rapidly.

52 The CHAIRMAN. Let me say I have asked the staff again to set up a field trip to Pennsylvania. We will be in your State for site inspections in the next 3 or 4 weeks. We will invite all the members to go along. Can you help us by figuring out where we can see the most good and bad operations in the least amount of time.

52 Mr. SEIBERLING. Mr. Chairman, could he arrange to have the snow melted so we can see?

52 The CHAIRMAN. The chairman takes care of everything, including that.

52 Mr. HEINE. I think I should get immediately to several amendments, without giving you specific language but perhaps some thoughts concerning H.R. 2.

52 First, if it is Congress intent and desire that the States assume primary regulatory authority and responsibility for surface coal mining, that the law should provide for long-term, if not indefinite, partial funding for State administration and enforcement.

52 As you know, the present bill, I think, the funds to the States to help in this matter end after 4 years.

52 Second, the abandoned mine reclamation provision - that is in title IV - should provide for State operation pursuant to an approved program similar to the regulatory program. The Secretary of the Interior should establish the criteria for the program with 50 percent of the funds generated in the State

returning for use in the approved program. The remaining 50 percent should be allotted by the Secretary or Congress to the States according to need.

52 A very important aspect of any reclamation program should be the provision that the lands to be reclaimed would be purchased only as a last resort. We do not think that purchasing only as a last resort. We do not think that purchasing of lands, reclaiming them and then selling them is a viable type of continuing program.

52 The CHAIRMAN. Why not?

52 Mr. HEINE. We find that the best way to do it is to get easements to get on the land. Most people who have this scarred land will be very happy to have - particularly the bad pollution sources - eliminated. They will give easements to go on the land to reclaim it.

52 Now already in your bill you have a provision so there would not be any windfall profit to the landowner, because you have a before-and-after-assessment type of mechanism which would preclude that kind of thing.

52 If you attempt to go out and purchase lands, you will get tied up in all types of court battles, litigation. We have tried it, West Virginia has tried it, and Maryland tried it. We all had very bad success in trying to purchase lands and then reclaiming them.

52 Certainly if any government purchases land, it takes it off the tax rolls. This is a very distasteful thing to the local people. So you will run into all sorts of problems.

52 The CHAIRMAN. Aren't there many cases where the land is abandoned and you can pick it up and get title without any difficulty?

52 Mr. HEINE. I would say you would want the provision this can be done. You should emphasize that that should not be a major portion of the program.

52 Quickly several other items concerning the existing bill:

53 As I indicated, title IV we would urge to be changed so the States could submit a program and it could be approved and the States could operate the reclamation programs. In that regard, I think you have to relook at the provision to provide money to the Department of Agriculture at the rate, I believe, of 20 percent of the fund for reclamation of so-called rural lands.

53 Well, most of the land we are talking about is rural land. I am not

quite sure how you can, on the one hand, ask a rural landowner to contribute  
20  
percent toward the reclamation of his land and then perhaps his neighbor, who  
will get in on the other end of the program of the Department of the  
Interior,  
will get it done for nothing.

53 I think you should look at that very carefully.

53 In regard to title III, which provides for the establishment of  
research  
institutes in the States, I would much prefer you save that money and use it  
for  
program purposes. I think that there are enough existing agencies that  
handle  
research for both the industry and for reclamation. If there aren't, that  
kind  
of research should be undertaken, certainly, by ERDA and some other agencies.

53 If the industry needs more mining engineers, let them give money to  
the  
college of their choice. They will certainly - certainly can get mining  
engineers educated as long as they pay them good salaries, they will get  
people to go to college to become mining engineers.

53 In fact, the mining college at Penn State is loaded with mining  
engineers  
now, whereas they almost dropped the program about 5 years ago.

53 A couple more quick items so Mr. Guckert can get on: We would  
recommend  
that with regard to hearings where a person who was concerned about a pending  
application or a proposed bond release, that that person certainly should be  
able to express to the regulatory agency the concern, but the law should not  
mandate a hearing without at least a preliminary mechanism for meeting with  
the  
complainant to try to work out the problem.

53 We get many letters that say, "I object to this permit, I want a  
hearing." We go to the person and he doesn't really want a hearing. He just  
wants to talk to us about the problem. Nine out of 10 of these problems are  
resolved.

53 Don't formalize a hearing when really in most cases it isn't  
necessary.

53 A very important point is your bill provides that two independent  
estimates be provided to determine the amount of bond on a mining area. We  
would  
strongly urge that that be deleted. The State regulatory agencies will have  
the  
best data available on how much it costs to reclaim land. They will get this  
information from actual bidding that they received, let's say, pursuant to  
the  
abandoned mine program.

53 If you leave it up to two independent estimates, I think there is, first of all, a possibility of collusion. Second, these people providing these estimates don't expect to get a job. This is not really a bid, so they are not going to put much of an effort into it. It is just going to be a job they will do because they are going to get a fee.

53 I think it will be a futile exercise.

53 The CHAIRMAN. The State is in the business of doing this all the time? The agency knows what the property values are?

54 Mr. HEINE. Sure. And if there is a concern that the States aren't setting the reclamation fee high enough, it will become readily apparent when lands are forefeited, there isn't enough money to do it, to reclaim the area. At that point then the regulatory agency should be required to raise the reclamation fee - the bond, excuse me.

54 I think I had better leave it go at that.

54 Mr. GUCKERT. You will take up all the time.

54 The CHAIRMAN. Let me ask you two questions. We will give you all the time you need, Mr. Guckert.

54 Mr. GUCKERT. You can take a raincheck on ours if you want to.

54 The CHAIRMAN. I was down in Kentucky earlier with Secretary Andrus. We did a quick tour at the result of their Governor down there. Industry was represented along the trip, and they are making the same basic pitch in Kentucky we have heard for 4 years. That is, we have to have highwalls. There has to be a provision to somehow leave the highwall. We will reduce them somewhat, that highwalls are not bad. That is the argument they make.

54 I notice a strong emphasis that you put in your statement that the key to enforcement, to reclamation, is the elimination of highways. You stand by that based on the Pennsylvania experience?

54 Mr. HEINE. Yes, we do.

54 Mr. GUCKERT. First of all, when you eliminate the highwall, you eliminate a hazard to human beings, to animals; you make the land accessible. What more do you want? You put it back on the tax rolls as beneficial land, not wasteland. It is that simple.

54 The CHAIRMAN. The second question I had, with regard to the reclamation program, would it be workable or usable at all to have a provision by which

maybe the reclamation fund could subsidize some second-seam operations that wouldn't otherwise be economical?

54 It may competitively take \$1 5 a ton to get coal out, say, or \$1 0 a ton.  
The operator has a second seam in old land he can't get to for \$10 a ton, but he could get to it for \$12. Should we subsidize him \$2 or \$3?

54 Mr. HEINE. Mr. Udall, we have thought about this for years. As you are keenly noting, it is much less expensive for the operator to reclaim the land. Such a subsidy program would encourage taking out coal which we need for energy at the same time we are reclaiming the land. We have had difficulty, however, getting that kind of a program down in writing that would make sense as a law, because obviously it is open - it possibly could open up to all sorts of conflicts.

54 What is actually the cost of removing coal? Is the subsidy really a fair subsidy? It is a good concept, but very difficult to enunciate.

54 Mr. GUCKERT. This would be an ideal way if you could get it worked out. As I said before, industry could do it for one-fourth or one-third of what the State could do it for. They can do the thing for a song. The idea is where do you stop? Do you understand?

54 The CHAIRMAN. Right.

54 All right, before we go to Mr. Guckert's slide show here, any comments?

54 Mr. Marriott?

54 Mr. MARRIOTT. Just one question.

55 In H.R. 2, one of the controversies is it says we should restore the land to its approximate original contour, and I wonder if you agree with that statement in light of the fact that this \$2 00,000 study we talked about today indicates that the best use may be not to restore it to its original contour.

55 Do you see any leeway in your attitude on that?

55 Mr. HEINE. I think we can answer that, sir. First of all, I think we have to look carefully at the definition of approximate original contour in the bill. I believe many of the States really do not understand that concept. They are thinking of the old concept of a - drawing a straight line from the top of

the highwall to the bottom of the spoil pile. That is not the definition that is in the bill.

55 Second, I think the bill has enough variances in it that it allows, under certain conditions, that you don't have to have a strict interpretation of approximate original contour. In other words, if he can show that mountaintop mining or some other use of the land is best, and the operator just has to set forth his plan, "cheer" it through a number of planning agencies, what-have-you, and have an opportunity for the public to express their opinion on that. He can get his planning done.

55 Mr. MARRIOTT. Can you be more specific as to where the variances are that you are talking about?

55 Mr. HEINE. For example, if you look at the mountaintop removal portion of the bill, there is a long dissertation in there on how a person can get a variance. It involves opportunity for public hearing, that an actual plan be developed, and that it is not just a ruse to allow some type of mining that isn't acceptable.

55 He really has to show the regulatory agency he intends to use that land in the manner he is suggesting it is going to be used.

55 Mr. MARRIOTT. Do you see any problem of changing that wording to say "the best use," and then if that is the case, who is to determine what the best use of that land is? The Federal Government, the State? How do you suggest?

55 Mr. HEINE. I find that a little difficult to answer, sir, for the best use of the land. I don't think you can have something as general as to say that - for an operator to say in his application, I will make best use of this land.

55 There are a lot of different interpretations of what "best use" is. Some operators will find reasons why "best use" is a vertical highwall that has spoil on the down slope and he can build a cabin on it. That is a best use for some people.

55 Mr. MARRIOTT. That is my question. Other than more mountaintop, don't we then have the same problem with the interpretation of original contour? Doesn't that really open up a can of worms on this thing?

55 Mr. HEINE. I think what would open up a can of worms is if you got away from the present definition of approximate original contour. I think it is pretty explicit, and yet it has just in the definition, I think, enough reasonable flexibility that the regulatory agency can use reasonableness in interpreting it.

55 Mr. MARRIOTT. Thank you.

55 The CHAIRMAN. The gentleman's time has expired.

55 Mr. Guckert, let's go.

56 Mr. GUCKERT. I will give you a few slides of steep hillsides. I had a number of problems I could show you, what we had before we got the law and after. I will go to these high slopes. I will show you what they are.

56 [Slide.]

56 Mr. GUCKERT. Here are some of the ones we put back to the original contour. We are talking about grades. Now you look at them.

56 [Slide.]

56 Mr. GUCKERT. Here is more of them. Right back to contour on steep hillsides. You can see where they have been seeded.

56 [Slide.]

56 Mr. GUCKERT. Here we are looking on one mountain across to the other one.

56 [Slide.]

56 Mr. GUCKERT. Here is another area. I don't have my pointer with me. On the land you see the old highwalls on the left-hand side of the picture. On the other side you see where we went back in and reaffected the area.

56 [Slide.]

56 Mr. GUCKERT. Here is another one on a hillside.

56 [Slide.]

56 Mr. GUCKERT. Here is one. You can see a steep one.

56 Mr. SEIBERLING. A good job.

56 Mr. GUCKERT. It is back to contour. It can be done. I will tell you something about industry. You tell industry they have to do it, and they come up with a way of doing it. They have to change their ways of operation. They can't keep throwing it over the mountainside. You put it right back in and you

only have to handle it once. That is where you make money.

56 [Slide.]

56 Mr. GUCKERT. There it shows the whole mountain.

56 Mr. SEIBERLING. Where did they put the spoil from the initial cut?

56 Mr. GUCKERT. They picked out the flatest spot they could, where they hauled out from. That will be about 300 feet. They put that spoil out. From there on, they push it right back in and keep filling it up as they go. In other words, they do not push any over the hill. It is all right here.

56 [Slide.]

56 Mr. GUCKERT. There is a steep hill. You can almost slide down that. You stand on that and you will slide. When you use that system, they can put it back.

56 Mr. SEIBERLING. Is that about 25 degrees?

56 Mr. GUCKERT. Oh, no, 35 degrees to 37 degrees. I can show you that.

56 The CHAIRMAN. Will that eventually have trees on it?

56 Mr. GUCKERT. No; that is grass growing there. We are going in for grass, trying to stop erosion. That is hydra seed. You can see the zigzags. The result is you put grass on it and stop erosion.

56 Eventually you will have trees on it. But the idea is you get grass on to stop erosion.

56 [Slide.]

56 Mr. GUCKERT. There is another shot of another side.

56 [Slide.]

57 Mr. GUCKERT. There is a steep one. They can do it, gentlemen, if they want to. In other words, my system is if you can't put it back, don't take it out. They find ways of putting it back.

57 [Slide.]

57 Mr. GUCKERT. This is looking across the mountain showing in the distance the different operations.

57 [Slide.]

57 Mr. GUCKERT. Here is one here. One, two, three, four seams of coal there. Took it out of the mountainside.

57 Mr. SEIBERLING. Will those roads remain?

57 Mr. GUCKERT. We will put a bench along there for access. They can haul out on those. We left them it. That has just been planted.

57 [Slide.]

57 Mr. GUCKERT. Here is a really steep - 35 degrees to 37 degrees on that hill.

57 [Slide.]

57 Mr. GUCKERT. There it is now. You can see they are putting mulch on it. The best way to seed these places is to get hay and mulch it and spread it over. You get everything mixed in.

57 I just wanted to show you some of those steep hills. I have one more here. Don't get me started, though. [Laughter.]

57 We will be here all afternoon.

57 [Slide.]

57 Mr. GUCKERT. Here is what we call the block method. Here is how they do it. They only affect the area where they are taking the coal out. This is a real steep hillside, 35 degrees, as a matter of fact. They run parallel, start at the top and start moving the earth out and filling in the hole. You just keep pushing it ahead. The result is you start wrapping it up.

57 You backfill right along the highwall. You only handle the spoil once. That is where you make money. When these people throw it over the hillside, they have to bring it up and handle it again. The result is they lose money. That makes a difference in how you do it.

57 Here is an AC-21, an old dozer, 7 years old. He averages 94 tons a day production, just one man. It is just a matter of how much money he makes for the company. It is a one-man job.

57 [Slide.]

57 Mr. GUCKERT. This is where he starts coming around.

57 [Slide.]

57 Mr. GUCKERT. This shows the steep hill. See how steep it is. There he is on top. He is running parallel and dumping the earth into the hole he took

the coal out of the day before or the week before. He is pushing it in.

57 [Slide.]

57 Mr. GUCKERT. Here he is pushing it up the other side, right up the other side. He backfills as he goes.

57 [Slide.]

57 Mr. SEIBERLING. Is there topsoil on those hills?

57 Mr. GUCKERT. It is on the sides. He pushes it out the sides, saves that.

57 [Slide.]

57 Mr. GUCKERT. This is the angle of repose there.

57 [Slide.]

58 Mr. GUCKERT. See the trips up above. In the old way we pushed it down to the bottom to fill it up. This way you just go into the hill as far as you can and go parallel with the hill. You never affect the trees above. It is really great conservation.

58 [Slide.]

58 Mr. GUCKERT. Here is the other end, finished. We had two seams of coal in this particular cut.

58 [Slide.]

58 Mr. GUCKERT. Here is another thing here on the left-hand side of this hill, where they used the contour method. There is the spoil. Then they came in and used the block method afterward.

58 [Slide.]

58 Mr. GUCKERT. Here is a good illustration showing the block method on the hill.

58 [Slide.]

58 Mr. GUCKERT. There it is right through the trees.

58 [Slide.]

58 Mr. GUCKERT. There it is back in vegetation. It can be done, gentlemen.

58 [Slide.]

58 Mr. GUCKERT. This is an area that was runoff.

58 [Slide.]

58 Mr. GUCKERT. This is another area of using the block method.

58 [Slide.]

58 Mr. GUCKERT. This is the same area, where they are working on it. It is chronological, out at the edge, 24 is being planted now.

58 [Slide.]

58 Mr. GUCKERT. This shows the steepness of the hill.

58 [Slide.]

58 Mr. GUCKERT. Look over there and see the hill all the way round.

58 Mr. SEIBERLING. Is that in western Pennsylvania?

58 Mr. GUCKERT. That is in Indiana county, yes, western Pennsylvania.

58 There is one of your Congressmen here.

58 [Slide.]

58 Mr. GUCKERT. I think that is Congressman Ruppe. That hill is 30 to 40 degrees they are standing on, showing it being put back.

58 [Slide.]

58 Mr. GUCKERT. Here is another operation, a general operation.

58 [Slide.]

58 Mr. GUCKERT. Here it is 5 years later. You see how they can revegetate and plant it.

58 This is just showing the topsoil here and a big operation. They keep all the topsoil going up the hill. That is all I want to show you. I have taken enough of your time.

58 Do you want more? [Laughter.]

58 You say what you want. I will give it to you.

58 The CHAIRMAN. That is a very impressive presentation. Do you have a few more you want to show us?

58 Mr. GUCKERT. Yes, I can show you a few more.

58 The CHAIRMAN. Are there any questions?

59 Mr. GUCKERT. Actually what we can do and what we have done with some of our areas, I will show you the problems we used to have in Pennsylvania.

59 [At this point an informal slide presentation was given off the record.]

59 The CHAIRMAN. Thank you very much, Bill. You were nice to come down and be with us.

59 Mr. GUCKERT. Come to Pennsylvania and we will take you any place you want to go. We don't have showcase areas. I will take you any place in the State of Pennsylvania and show you uniform enforcement, uniform backfilling. That is what the people want. That is what industry wants. In other words, before certain groups had privileges; others didn't.

59 The man with political influence did as he pleased. The man without, he was hit over the head.

59 Now there is no interference. I do a job for the people and industry likes it. Industry will do anything in the world for you if you cooperate with them in getting the work done. You can get the work done.

59 The CHAIRMAN. Anyone courageous enough to ask this gentleman questions?  
[Laughter.]

59 If not, we will recess. We thank you very much for coming.

59 [Prepared statement of Walter Heine follows.]

60 TESTIMONY BEFORE THE SUBCOMMITTEE ON ENERGY AND ENVIRONMENT  
COMMITTEE  
ON INTERIOR AND INSULAR AFFAIRS U.S. HOUSE OF REPRESENTATIVES by Walter N.  
Heine, P.E. Associate Deputy Secretary Mines and Land Protection PA  
Department

of Environmental Resources February 8, 1977

60 RE: PROPOSED "SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977"

60 My name is Walter N. Heine, and I am the Associate Deputy Secretary for Mines and Land Protection in Pennsylvania's Department of Environmental Resources.

60 William E. Guckert, the Director of our Bureau of Surface Mine Reclamation who will follow me, will show slides depicting examples of reclamation in Pennsylvania.

60 We became involved in the issue of Federal strip mine control legislation over four years ago when your Committee staffers and interested environmentalists inquired about the relevance of the Pennsylvania surface mine regulation experience to the drafting of nation-wide criteria and requirements in a Federal bill.

60 Presumably, our program was chosen because, at the time, many felt that we had a law and enforcement program that surpassed most, if not all, other states' programs in effectiveness.

60 We are here today at your Chairman's request to reiterate some of the salient features of our program and its relationship to the pending Federal legislation.

#### 61 Pennsylvania's Program

61 The Pennsylvania surface mine regulation program has evolved through the years beginning with the first law in 1941 and the last of 27 amendments being incorporated in 1973.

61 The most significant strengthening occurred in 1963 which outlawed retention of the vertical highwall. Subsequent significant changes in the law required saving and replacement of topsoil, setting the bond rate at "cost to reclaim" levels and strengthened the health and safety authority.

61 Other program actions encouraged by our Clean Streams Law included minimization of spoil on the downslope to control erosion and sedimentation and efforts to restrict mining on certain critical watersheds.

61 Effectively, therefore, the proposed Federal bills contain many of the features of our law and program.

#### 61 Minimum National Standards

61 We made it clear to the bills' authors from the outset that differences in terrain, geology, weather, etc. among the states would require very careful framing of minimum technical standards if they were to be applied to all operations. We believe that both pending bills (HR 2 and S 7) have successfully identified those standards that are common and critical to all surface mine operations and have included appropriate flexibility where it is warranted.

61 It is clear that the proposed environmental protection performance standards in both bills introduce no new concepts that are not already required in most state laws and regulations. These include: (1) restoring the

mining areas to support pre-mining uses, (2) preserving topsoil, (3) protection against water pollution and erosion, (4) revegetation, (5) prudent use of explosives, (6) contemporaneous reclamation, and (7) stabilization of waste piles.

62 Appropriate recognition is given to vital regional differences. For example, where the ratio of coal to overburden thickness is large (notably in Western surface mining), the operator is logically not expected to fill his excavation by creating a hole elsewhere. On the other hand, the bills recognize the importance of protecting alluvial valley floors in our relatively dry western states by disallowing mining of those alluvial valley floors which are vital to farming activities.

#### 62 Approximate Original Contour

62 We believe that the bills' requirement for backfilling to "approximate original contour" (AOC) is appropriate although misunderstood by many. This is because old definitions of AOC contained in many state laws are incorrectly envisioned in the context of the proposed bills. "Approximate Original Contour" is defined as:

62 ". . . that surface configuration achieved by backfilling and grading of the mined area so that it closely resembles the surface configuration of the land prior to mining and blends onto and complements the drainage pattern of the surrounding terrain, with all highwalls and spoil piles eliminated; water impoundments may be permitted . . ."

62 This is quite different than the common definition which describes straight lines between the top of the highwall and the bottom of the spoil pile.

62 It is my understanding from discussions with the Committee staff and reviewing the Committee report that the AOC requirement would not preclude, for example, the establishment of necessary diversion ditches and erosion controlling configurations which complement the drainage pattern, provided that all highwalls and spoil piles are eliminated. It is our our understanding that operators who reaffected old pre-act cuts and spoil piles could reclaim to a "rolling terrace" configuration which is a stable, attractive profile without highwalls and which restores the original drainage patterns. We certainly would not want to discourage reaffected of old areas by requiring all of the spoil down the slope from the pre-act mining to be returned to the mine cut. (About 3,000 acres are restored in Pennsylvania annually in this manner.)

63 It is essential that elimination of the highwall be retained in the

bills. Pennsylvania's laws required elimination of the vertical highwall since 1964 and have found that it is a fundamental ingredient in assuring a safe, stable and attractive reclamation job. In almost all cases, vertical or near vertical highwalls will erode and/or slide thereby perpetually contributing silt to nearby streams. They present a hazard to men and animals who might encounter them unexpectedly. Finally, they are an unattractive permanent monument to man's inability to live in harmony with nature. Incidentally, a practical aspect of the value of an aesthetic reclamation job is the increased willingness of landowners to allow mining of their coal after witnessing attractive restoration on their neighbor's land. This will become an increasingly important point as we look toward these small privately owned coal reserves as sources of energy.

#### 63 Effects of Regulation

63 We have attempted to ascertain what effect the stringent requirements enforced in Pennsylvania since 1964 have had on the growth of the coal surface mining industry. Surface mining coal production figures for the ten years since 1964 clearly indicate the industry during that period grew at a faster rate than the ten years prior to 1964 (see attachment). We are certainly not suggesting that regulation of the industry assisted growth of production, but the figures clearly indicate that regulation allowed reasonable growth and did not devastate the industry as many predicted would happen as our law was being considered in 1963.

64 Despite our strong regulatory program, the small operator has been able to survive and prosper. Of our 545 or so operators, half mine less than 50,000 tons of coal per year. Only 47 operators mine more than 200,000 tons per year. This has been accomplished even though no provisions in our laws grant any special variances to small operators.

64 I might add that the surface coal mining industry in Pennsylvania has, in general, become responsible and conscientious. Operators often debate among themselves about the superiority of their reclamation jobs as well as their ability to out-produce each other. This spirit has eased our regulation burden and has contributed to the health and stability of the industry.

#### 64 Proposed Amendments

64 We do have some proposed changes to the House bill and were pleased by

our recent discussions with your staff concerning their inclusion in the final bill.

64 In the interest of time, I will only mention two of these proposals now and will include the others with the package to be submitted to you by the National Governor's Conference.

64 The two major concerns we have essentially deal with Federal/State relationships.

64 First, if it is Congress' intent and desire that the states assume primary regulatory authority and responsibility for surface coal mining, then the law should provide for long term, if not indefinite, partial funding for state administration and enforcement.

65 Second, the Abandoned Mine Reclamation provision (Title IV) should provide for state operation pursuant to an approved program similar to the regulatory program. The Secretary of Interior should establish the criteria for the program with 50% of the funds generated in the state returning for use in the approved program. The remaining 50% should be allotted by the Secretary or Congress to the states according to need. An important aspect of any reclamation program should be the provision that lands to be reclaimed would be purchased prior to reclamation only as a last resort.

65 The lack of interest by the states to seek primacy under the OSHA and Safe Public Drinking Water Acts is a clear signal that this and other "state program" legislation must provide adequate funding and remove the spector of rigid subservience to Federal agencies.

66 COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
OFFICE OF MINES AND LAND PROTECTION

\*6\*

Relationship  
of Coal Strip  
Mine  
Production  
And Employes  
To State  
Reclamation  
Laws

Anthracite	Strip Mine Year	Employes Bituminous	Strip Mine Production million tons *		
			Anthracite	Bituminous	
	1954	7,287	5,915	16.9	7.8
	1955	7,262	4,983	19.2	7.8
	1956	7,674	5,458	21.6	8.5
	1957	7,489	5,253	20.5	7.8
	1958	7,177	4,863	19.5	7.0
	1959	6,734	4,194	20.5	7.2
	1960	6,533	3,804	21.0	7.1

	1961	6,682	3,958	20.8	7.2
	1962	6,601	3,455	22.2	6.9
	1963	6,198	3,686	24.2	7.5
Major Amendments went into effect	1964	5,974	3,560	24.0	7.2
	1965	5,421	2,895	23.6	5.9
	1966	5,153	2,219	24.7	5.3
	1967	4,610	2,034	21.7	4.9
	1968	4,480	1,897	20.5	4.9
	1969	4,132	2,083	21.6	4.6
	1970	4,701	2,116	24.1	4.6
	1971	5,432	2,229	26.8	4.4
Minor Amendments went into effect	1972	4,553	1,537	25.7	3.4
	1973	5,192	1,633	29.3	3.2
	1974	6,416	1,376	36.0	2.8
	1975	8,096	1,468	37.5	2.5
	1976 **	7,101	1,227	38.8	2.8

66 \* Rounded to nearest 100,000 tons.

66 \*\* Estimated figures

66 NOTE: During the ten year period before a strong law was passed (1954-1963), surface mining production increased at an average value of 512,000 tons per year.

66 During the ten year period following passage of the strong law (1964-1975), surface mine production increased at an average value of 773,000 tons per year.

66 Walter N. Heine

66 Associate Deputy Secretary

66 Mines and Land Protection

66 February 7, 1977

66 [Whereupon, at 12:14 p.m., the subcommittee adjourned, to reconvene at the call of the Chair.]

WEDNESDAY, FEBRUARY 16, 1977

67 HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT, COMMITTEE ON INTERIOR AND INSULAR AFFAIRS, Washington, D.C.

67 The subcommittee met at 10:20 a.m., pursuant to recess, in room 1324, Longworth House Office Building, Hon. Morris K. Udall (chairman of the subcommittee) presiding.

67 The CHAIRMAN. The Subcommittee on Energy and the Environment will be in session. We have scheduled hearings this morning on H.R. 2, and we have a long list of important witnesses. The Chair would like to make a couple of announcements before we begin.

67 We have scheduled a rather ambitious series of public hearings to accommodate the large number of witnesses who have asked to testify. In addition to today, we have four other days of hearings set aside during February, and some of these will run all day long, not just in the morning, but into the afternoon.

67 The Chair's purpose is to complete the public hearings on Monday, February 28. We will extend it, if necessary, to hear interested groups, but we are going to try to proceed as rapidly as we can to conclude all the public hearings by the end of this month, if possible.

67 In addition, we have announced a rather extensive set of field trips so that all of the members of this subcommittee, new and old, will have a chance to see the good and the bad practices with respect to surface mining being carried out in various States, and that which has been done in the past.

67 The members of the subcommittee should have a February 11 memo in which we outlined a schedule of field trips covering Alabama, Tennessee, Illinois, Ohio, West Virginia, Pennsylvania, Montana, Wyoming, Virginia, eastern Kentucky, New Mexico, and Arizona, all of these over the next month or so.

67 In addition, Mr. Skubitz and others have been encouraging us to look at what the Germans and British have been doing, and we might schedule a field trip to those countries in March or April, probably over the Easter recess.

67 Mr. SKUBITZ. Mr. Chairman?

67 The CHAIRMAN. The gentleman from Kansas.

67 Mr. SKUBITZ. May I say I do encourage you to take a trip. I think if time were limited, a trip to England to see how they are doing the job would be far more important and informative than a trip to Germany. I can't see any relationship between the German operation and our problem, while I can the British operation.

68 Mr. CLAUSEN. Mr. Chairman?

68 The CHAIRMAN. Mr. Clausen.

68 Mr. CLAUSEN. Mr. Chairman, will the trip be open to members on the full committee as well as the subcommittee?

68 The CHAIRMAN. Yes.

68 Mr. CLAUSEN. I know I would like to have a chance to see it.

68 The CHAIRMAN. I am encouraging all members to go on all these trips. I spent a day in Kentucky with the Governor and Senator Ford and their top people, and you can see a lot in a day. It is a very worthwhile trip. So we will provide helicopters and accommodations so that the members can get out on the ground and see what is being done.

68 Mr. RONCALIO. Mr. Chairman, I want to commend the chairman for the trip.

68 Mr. RAHALL. Mr. Chairman, I would like to commend the chairman for setting up the trips, and invite you into my district in West Virginia, and offer my assistance and my staff's assistance in this program.

68 Mr. SKUBITZ. Mr. Chairman, may I ask, too, if it is possible to visit Kansas? We are not one of the major coal-producing areas, but we have developed a new method of reclaiming land that might be of interest to the committee. If the committee can work it in, we will be very glad to have them come to Kansas and see what we have been doing in reclaiming land.

68 Second, Mr. Chairman, I wonder if the chairman has already prepared a witness list through February 28?

68 The CHAIRMAN. We have it in semifinal condition, and I hope we get it to your staff today so that you can make suggestions and criticisms.

68 Mr. SKUBITZ. We may have people we would like to bring in.

68 The CHAIRMAN. Yes. I am not going to try to foreclose the interested groups from participating.

68 Mr. SKUBITZ. I am sure the chairman wouldn't.

68 The CHAIRMAN. Our first witness today is Maj.Gen. Ernest Graves of the Army Corps of Engineers. We appreciate having you here with us this morning. If you will identify your associates at the table, we will proceed.

STATEMENT OF MAJ. GEN. ERNEST GRAVES, U.S. ARMY CORPS OF ENGINEERS, ACCOMPANIED BY IRWIN REISLER, CHIEF, OFFICE OF POLICY; AND CARL GAUM, CHIEF, CENTRAL REPORTS MANAGEMENT BRANCH, PLANNING DIVISION, DIRECTORATE OF CIVIL WORKS

68 General GRAVES. Thank you, Mr. Chairman. It is a great pleasure to

be here.

68 With me is Mr. Irwin Reisler, Chief of my Office of Policy, and Mr. Carl Gaum, who is from the Planning Division in my office.

68 The CHAIRMAN. We are glad to have Mr. Reisler and Mr. Gaum; and feel free to proceed as you wish.

68 General GRAVES. I would like to submit my complete statement for the record.

69 The CHAIRMAN. Without objection, it will be printed in the record in full, and you may read it or summarize it as you wish.

69 [Prepared statement of General Graves with attachment may be found at the end of his testimony.]

69 General GRAVES. All right. My object is to discuss the result of the national strip mining study authorized by section 73 of the 1973 Flood Control Act. The report of the Chief of Engineers on this study was forwarded to the Secretary of the Army in April of 1975, and is presently under review by the Office of Management and Budget. Although the report is 2 1/2 years old, the corps believes the conclusions are still valid. The Corps of Engineers study investigated the effects of strip mining operations upon navigable rivers and their tributaries and on water resource projects under the Chief of Engineers.

69 The corps broadened the scope of the report to include the effect of underground mining operations, mineral and ore processing operations and associated activities since mining and mining-related activities and facilities are often adjacent to one another and all impact on water resources in a similar manner. Our assessment was of the general impact of total mining activities in the 50 States, Puerto Rico, and Virgin Islands.

69 Current estimates indicate that more than 4.4 million acres of land in the United States have been disturbed by surface mining. There are 1.9 million acres which have not been reclaimed and on which under present law no one is required to take any remedial action. Of these lands, 1.1 million acres are open pit mines which generally do not contribute to water resources problems. Sizable acreages are also utilized for underground mining and processing. While the total disturbance is small compared with the amount of land used for other purposes, the nature of land utilization in the mining industry has resulted in significant problems for society. Aside from the 800,000 derelict acres that remain after several decades of poor mining practices and the accompanying lack of consideration for the future use of the land resources, the problems have extended far beyond the mining locale, to affect the lives of thousands.

69 Future energy needs will require the development of Western coal and increased production in the Appalachian and other coal fields from both surface and subsurface sources. In 1964, it was estimated that the annual rate of land disturbance by surface mining was about 153,000 acres. Current estimates indicate that the annual rate is now averaging about 207,000 acres. The proportion of all bituminous and lignite coal produced in the United States by surface mining techniques has increased from 30 to 49 percent during the last 5 years.

69 The National Strip Mine Study concludes that surface and subsurface mining and related activities have polluted 13,000 miles of navigable waters and their tributaries primarily by acid mine drainage and excessive erosion and have degraded the landscape as well. Also 56 Federal water resources projects have been adversely affected by water quality and sediment. Four Federal reservoirs in the Tennessee region have been significantly affected by mining-related sediments and are no longer able to function as intended.

70 The most widespread damages resulting from the effect of mining upon the water resource are environmental in nature. Water users and developers incur significant economic and financial losses as well.

70 Reduced recreational values, fishkills, reductions in normal waste assimilation capacity, impaired water supplies, metals and masonry corrosion and deterioration, increased flood frequencies and flood damages, reductions in designed water storage capacities at impoundments, and higher operating costs for commercial waterway users are some of the most obvious economic effects that stem from mining-related pollution and sedimentation.

70 In some small watersheds, other indirect economic and social problems can be related to the overall adverse consequences of mining. In others, mining has posed serious threats to life and property in the form of hazardous flooding conditions or potentially dangerous pollutants.

70 The instream problems, primarily sedimentation and chemical pollution, are related not just to surface mining, but to various other aspects of the industry as well. Land disturbances caused by underground mining are equally as significant as surface mining in some locations, and even more so in others. Chemical pollution in the Western United States is primarily caused by the leaching of mill tailings and refuse piles associated with various mining activities, including subsurface mining. In southern Appalachia, where the steep terrain and moderate to heavy rainfall are conducive to excessive erosion, sedimentation problems result from many types of land disturbances, including those associated with subsurface mining. Much of the sediment problems

originates from nonpoint sources.

70 Both active mining operations and abandoned mines contribute to the water and related land resources problems. In other cases, problems originating from active mining operations are attributable to the absence of sufficient control over various aspects of the operations. The most widespread problems, however, are caused by the derelict lands that remain after decades of uncontrolled mining practices and abandoned underground mines.

70 In some instances, where years of erosion of abandoned and orphaned mining-related land disturbances has already resulted in substantial deposits of sediment in streams and impoundments, reclamation of mined lands would fall short of remedying the problem. Channel rehabilitation, sediment removal and other measures may be required to correct such conditions.

70 Total concentration of remedial efforts on surface mine sources will not alleviate all of the damaging effects of mining-related pollution. In northern Appalachia, source inventory data collected during the period 1964 to 1969 indicate that there exist over 5,500 individual acid drainage sources. Of this number about 68 percent are subsurface or combined subsurface and surface sources and contribute about 80 percent of the total acid discharged into the streams. In only a few watersheds were surface sources found to be more significant than subsurface sources.

70 Remedial actions to prevent acid mine draining are highly dependent upon local environs. The complexity of the acid mine drainage problem, not only in northern Appalachia, but in the interior coal basin as well, dictates that any action directed toward the alleviation of the problem be a part of a comprehensive pollution control and environmental improvement program. Drainage from abandoned underground and surface mines is the primary cause of the problem. In northern Appalachia, it is estimated that abandoned mines account for 93 percent of all identified sources and 78 percent of the total acid discharged.

71 The cost for measures to correct the problem on the 800,000 acres of derelict land disturbed by surface and subsurface mines for coal, clay, phosphates, iron, and copper is about \$1 .5 billion. The greatest problem is in the Appalachia coal fields in the Ohio and Middle Atlantic water resources regions. A comprehensive program would establish priorities, set up procedures to seal or fill mine shafts and other openings, provide adequate drainage control, minimize erosion, provide treatment for drainage, and reclaim and

revegetate disturbed lands. It is estimated that preparing remedial plans for the major problem areas would cost over \$1.6 million. Another \$1 million would be required for basic data-gathering and investigation to establish additional priorities.

71 The Chief of Engineers report recommends that remedial action be taken to alleviate adverse impacts of past, present, and future surface and underground mining activities on the Nation's water and related land resources, and that such action include, but not be limited to, the establishment of minimum standards and basic reclamation measures for all surface and subsurface mining and mine reclamation activities in the Nation. Our study indicates that the regulation and control of surface mining activities will require a number of restrictions and remedial actions to prevent additional adverse effects on existing Federal water resources projects. These measures are listed in my statement.

71 It appears that alleviation or minimization of the adverse effects of improper mining practices on existing Federal investments should receive early attention in any concerted national effort to reclaim abandoned strip mined lands. Our study indicates that many such lands are located in the coal fields of Appalachia. Again, my statement placed in the record lists seven major problems.

71 The damages and costs to bridges, vesels, shoreside equipment, water treatment plants, and industry continue. Sedimentation in reservoirs, much greater than that anticipated, interferes with recreation, water supply, fish and wildlife and ultimately will reduce flood control capability. To correct these past impacts will be difficult, but we can prevent future problems and damages from mining activity by a good management program which must be the prime responsibility of operators and local and State governments.

71 During appropriations hearings related to this study and report, the Appropriations Committee directed that, as part of the effort, a feasibility report on a demonstration project be prepared on the Cabin Creek watershed, W.Va. A feasibility report thereon will be submitted separately to the Congress.

71 In specific response to the failure on February 26, 1972, of the impoundment on Buffalo Creek, W.Va., which killed over 120 persons, the Senate Public Works Committee passed a resolution for the corps to investigate hazardous flooding conditions in coal mine areas.

72 The corps inspected 687 coal mine waste embankments used to impound water. The investigation located 200 potential hazards and 30 embankments in critical conditions. Wherever serious hazards were found by the embankment inspection program, all concerned were notified immediately. The Corps of Engineers has no enforcement authority, hence the State governments and the U.S.

Mining Enforcement and Safety Administration have the followup responsibilities to assure that potential hazards are eliminated by corrective action. A summary report on the inspection program will be separately.

72 This concludes my statement, Mr. Chairman.

72 The CHAIRMAN. That is a very good statement. We are delighted to have it, and the report as well.

72 You know, this adds a whole additional dimension to this problem, and it is a shocking, devastating story that you have to tell here, not only about the damage to the land, but what we have done to our streams and to very expensive reservoir and impoundment facilities, and that we have done to the fishing and recreation industry as well; and I personally hope that we can work out ways to utilize the corps in connection with this reclamation program directed to abandoned and orphaned lands. It is an important part of this bill. So I hope you will take a look at the draft legislation and see if it adequately takes the corps' facilities and expertise into account, and maybe you can suggest to us improvements that could be made to that.

72 General GRAVES. Thank you, Mr. Chairman. We would like to do that.

72 Mr. CLAUSEN. Would the gentleman yield?

72 The CHAIRMAN. Yes.

72 Mr. CLAUSEN. I am glad that the chairman has asked for a corps response to their possible participation in this reclamation program, title IV, I think, being one of the areas.

72 As our chairman knows, and as General Graves knows, I have been involved in the so-called clean water program over in the Public Works Committee, and I am ranking on water resources. We are attempting, as you know, Mr. Chairman, to deal with entire basins, and to identify those point sources where we have water pollution factors. I think it is a natural that the Corps of Engineers could, in fact, utilize the information they have already gathered in that effort and coordinate it as part of this reclamation program.

72 So I am assuming that you are going to be asking for the corps, Mr.

Chairman, to respond to this, and I would like to see their comments in the record.

72 The CHAIRMAN. Thank you. We will include them in the record.

72 General GRAVES. I would like to say, Mr. Chairman, of course, that any data we have are immediately available. We believe that we do have planning, engineering, and management capabilities which could be very useful in carrying out such a program, but we will be glad to provide a more detailed response for the record.

73 Mr. CLAUSEN. If the chairman would yield on this point, and I don't intend to get into too many questions, but I wonder whether you could respond to this, and that is whether or not the corps should be the agency to assist in stabilizing the land behind the reservoirs, for example. Do you think you should be the lead agency on that?

73 General GRAVES. Well, sir, the first decision would have to be a question of the relative responsibility of the Federal Government and State and local governments. I would think that to the extent that the final decision in this matter designated the Federal Government to participate, that the corps could be involved.

73 However, I am not sure what scheme you to admit that it would the overall management, and I would have to admit that it would probably be a good idea to center in one department some overall responsibility; and it might be appropriate to designate the corps as the agency to assist - primary agency - to assist in areas where it has expertise.

73 The CHAIRMAN. May I ask a final question? Here we have spent tens of billions of dollars on corps water development projects. You have given us a long list of specific projects which sustained damage from sediment and so forth. Have you tried to put any dollar figure on this damage that has been done just to corps projects from abandoned lands and from some of the practices of the past?

73 Mr. GAUM. No, sir, we don't have a total dollar figure, but we know the dollars are high, and on specific sites we do have some damages.

73 The CHAIRMAN. Would you think it would be in the billions of dollars if we had the resources to make a complete study?

73 Mr. GAUM. It probably wouldn't be that high, but in the hundreds of millions of dollars.

73 The CHAIRMAN. When we spend money to prevent sedimentation, one of the things we are buying is the protection of investments.

73 General GRAVES. Yes, Mr. Chairman. But I would like to emphasize the element of environmental quality. You cannot put a dollar price on the effect of stream pollution on all the environmental amenities, the fish and the wildlife and the like; and I would like to rank that problem every bit as high as the dollar cost we are discussing here.

73 The CHAIRMAN. I would agree with you.

73 We have had an important development, and I want to take just a moment to advise the committee.

73 One of the chief places where opposition to this legislation focused in the last Congress was in the Federal Energy Administration and in the President's advisers on energy matters. I have just received a letter from James Schlesinger, Assistant to the President, the man who is going to head up the new Department of Energy, which reads:

73 DEAR MR. CHAIRMAN: From the perspective of energy policy, I should like to express the position of the administration regarding the strip mining legislation before you. We urge expeditious passage of the legislation which your committee has so effectively developed.

74 This Nation cannot expect to increase its reliance on coal unless the mining and burning can be done in a healthful and environmentally sound manner. The passage of clear and effective strip mining legislation is therefore a prerequisite to greater use of coal as part of a sound energy policy.

74 Negative arguments have characterized the strip mining debate for too long. Adequate safeguards of the land are not in conflict with a policy of expanded coal production. The Nation's coal resource is quite large and the portion of that resource made unavailable by this legislation is extremely small - less than 1 percent of the resource base and no more than 5 percent of total reserves. The modest costs of reclamation should not noticeably inflate fuel prices. It is money well spent in terms of benefits to the Nation. And, with expanded deep mining and more intensive reclamation efforts, more, not fewer, jobs will result.

74 Years of controversy over this legislation have increased the uncertainties facing the coal industry and the prospects for relying on more coal in this country. One particular reason I am eager to see the bill pass is finally to create a sense of certainty about the rules by which coal strip

mining can take place.

74 Fortunately, the great abundance of coal in this country allows us to declare certain areas off limits to strip mining because of their greater value for competing purposes. Protection of alluvial valley floors in the West, and prime agricultural land should be considered on the basis of the most valuable use of those lands to the Nation. It is wise planning to utilize land that is more productive for agriculture for that purpose.

74 In conclusion, let me emphasize that the energy agencies and the Department of the Interior and the Environmental Protection Agency see eye-to-eye on this legislation. Last year's arguments about this bill need not be reargued. I support your efforts to pass an effective bill, so that we can get about the business of developing a rational coal policy based on safeguarding the land from the abuses of strip mining.

74 I wanted to read that into the record, because I consider it an important document.

74 Mr. SKUBITZ. Mr. Chairman?

74 The CHAIRMAN. Mr. Skubitz.

74 Mr. SKUBITZ. I don't think any of us are opposed to reclaiming the land. That has been established in this committee. The question is how we go about it, and when we go about it that is important. I wonder if this is the same James Schlesinger that headed up the AEC at one time?

74 The CHAIRMAN. The Chair will advise the gentleman that it is the same man. [Laughter.]

74 Mr. SKUBITZ. Is this the same James Schlesinger that suggested that we expand our nuclear potential to the nth degree, without determining what we were going to do with the waste? Waste is becoming quite a problem in this country.

74 The CHAIRMAN. It was probably the same James Schlesinger who was fired by President Ford in the "Valentine's Day Massacre" year ago.

74 Mr. SKUBITZ. I don't see any relationship between that - the strip mining bill - and the waste problem, which is going to come before this committee one of these days with regard to the nuclear program.

74 The CHAIRMAN. Our subcommittee is going to deal with that problem. It is one of our new responsibilities; it is important and urgent; and some decisions have to be made.

74 Mr. BAUMAN. It is difficult to question a letter. I wonder if we could have Mr. Schlesinger or whoever drafted the letter to come before us so that we could further explore our reviews, so that some of the mistakes to which the gentleman from Kansas refers would not recur. Would the chairman invite him?

75 The CHAIRMAN. I will see what his schedule is. The administration wanted Secretary Andrus here earlier and he came. We will see what we can do.

75 Mr. Seiberling?

75 Mr. SEIBERLING. Thank you, Mr. Chairman.

75 To Mr. Schlesinger's letter, may I simply add "amen."

75 General Graves, I think this was a helpful statement and very informative. I would like to ask you, have you any figures as to the cost involved in correcting the Cabil Creek watershed? Have those been developed yet?

75 General GRAVES. Our estimate at this stage of our studies, Mr. Mr. Seiberling, is about \$16 million.

75 Mr. SEIBERLING. \$16 million. I suppose those will be subject to revision as you get further into it.

75 General GRAVES. Well, yes, sir. While the report is fairly far advanced, I think until we finally submit it I would like to reserve the right to update those figures.

75 Mr. SEIBERLING. I was very interested in your catalog statement of things that a national strip mine - or the strip mining regulations - should take into account, on pages 6 and 7 of your statement. I would say that everything there is certainly covered by the bill before us, but I would like to ask you if you think there is a need in this legislation for additional standards for mine waste bank stabilization.

75 General GRAVES. Well, I believe that we do need some standards for the stabilization of mine waste banks, and I believe this would be appropriate legislation in which to have such a requirement exist. Such standards would appropriately be worked out by the executive branch through a normal rulemaking.

75 Mr. SEIBERLING. Well, if you could take a look at what we already have in this bill, when you have an opportunity, and give us any comments and suggestions that you might have from the standpoint of dealing with that particular problem, we would be very appreciative.

75 General GRAVES. Mr. Seiberling, we will be glad to provide a comment for

the record on the language in the bill.

75 [The information referred to may be found at the conclusion of General Graves oral testimony.]

75 Mr. SEIBERLING. Thank you.

75 Now, I would like to ask you one other thing: When we had our last hearing, I asked Secretary Andrus - I recited some figures for him which indicated that at the current rate of coal production and the average reclamation fee of 25 cents a ton which we have in this bill, and when the distribution and proceeds of that fee, as provided in the bill, took place, it would take something like 349 years to totally reclaim and correct all the conditions that are already existent.

75 I am talking about acid mine drainage, subsidence of the surface over abandoned coal mines, as well as the abandoned strip mined land.

76 Most of that money was for acid mine drainage correction and drainage and sedimentation from underground mines and subsidence of the surface.

76 So I raised the question as to whether or not we ought to increase the amount of the reclamation fee, and also apply it across the board on all coal, since it now appears, or at least it appears from the figures I have, that the major part of the long-range problem is from underground mining in the past.

76 Is that correct? Is that correct in your point of view?

76 General GRAVES. That is exactly correct, sir.

76 My statement contains an estimate of \$1 .5 billion to do a program that we think would be effective, and about two-thirds of that amount relates to the acid mine drainage problem, and as I said in my statement, generally speaking underground mining is the dominant or greater cause of the acid mine drainage problem as compared with surface mining.

76 Mr. SEIBERLING. Your figure of \$1 .5 billion is a lot smaller than the figures that I was using. I didn't bring them with me, but as I recall, it was on the order of \$8 to \$9 billion.

76 General GRAVES. I would like to explain that difference, sir.

76 We also had the larger program, but the \$1 .5 billion was a program that focused on reducing the impact on water resources, and did not take care of all the upland problems.

76 Mr. SEIBERLING. I see.

76 General GRAVES. And our direction, of course, was oriented toward water resources. So while we made the larger estimate that you described, we said that if you want to do the minimum essential things for water resources, then that would be the \$1.5 billion program.

76 Mr. SEIBERLING. Does the \$1 .5 billion take into account correcting all the problems, or are those just high priorities?

76 General GRAVES. Those are just the high priorities. It would be a very, very large expense to take care of all the problems.

76 Mr. SEIBERLING. So you haven't looked into the problem of restoration of abandoned land, for example, from the standpoint of other environmental considerations?

76 General GRAVES. We made the estimate, which was in the \$9 to \$1 0 billion range, but it would be, if you will, the restoring of those lands to some type of productivity, and also the restoration from an esthetic standpoint. But that, as I said, was somewhat beyond our charter; so we didn't pursue that.

76 Mr. SEIBERLING. Assuming the corps were given responsibility for supervising the water resource related problems and the recovery from that, is it feasible to segregate the two aspects?

76 In other words, if you are going about reclaiming the land and correcting the acid mine drainage and correcting the erosion and sedimentation from strip mines, shouldn't you really have the same agency supervising the other aspects of the reclamation?

76 General GRAVES. I would say it is feasible, but it is not efficient. I would think a single agency could do the job in a geographic area, and that would be the preferred way. We weren't prejudging the organizational arrangement as we segregated the problem, but I think when it comes to solving it, once the policy decision is made as to what part of the problem the Nation should solve, and having a single agency manage it would be the best way.

77 Mr. SEIBERLING. Is it practical to have the States do it?

77 General GRAVES. Well, I think that a practical program would probably involve some substantial State participation. I don't think the entire job has to be done by the Federal Government. I think if the corps were given the

management responsibility over a program this large, we would certainly expect a role for the States in helping to carry it out.

77 The CHAIRMAN. The gentleman's time is up.

77 Mr. SEIBERLING. I would just ask this one question. Mr. Chairman?

77 The CHAIRMAN. Yes.

77 Mr. SEIBERLING. Should there be an overall responsibility to coordinate these efforts?

77 General GRAVES. Yes, sir, there should be.

77 The CHAIRMAN. The Chair states that we have a long list of important witnesses today, and I am not going to call on each member; but we will call on those who have questions to ask. We will observe the 5-minute rule.

77 Mr. Tsongas?

77 Mr. TSONGAS. You say 4.5 million acres have been described by strip mining, and part of it has been reclaimed. Does it assume that the other more than 2 million acres have been reclaimed?

77 Mr. GAUM. Yes, some have been reclaimed, and other areas are pit mines, which don't have an effect.

77 General GRAVES. They have not been reclaimed, but they are an isolated problem.

77 The CHAIRMAN. Are there other questions?

77 Mr. BAUMAN. You mentioned the role of the United States, generally. Your report was put together over a period of about 1971 to 1973?

77 General GRAVES. Yes.

77 Mr. BAUMAN. There have been significant changes in the State laws since that time. Did you make an effort to update and project what these new State standards might mean in terms of future damage?

77 Mr. GAUM. The assumption in the study was that the current regulations and rules and laws, whether they be State or Federal, would be implemented. So the numbers here address only those lands which we call the derelict lands where there is no present law or requirement for corrective action.

77 The CHAIRMAN. Are there further questions?

77 Mr. SKUBITZ. Mr. Chairman?

77 The CHAIRMAN. Mr. Skubitz.

77 Mr. SKUBITZ. General, I am quite curious why you omitted the last paragraph on page 1 in which you make the statement that the mineral extraction industry utilizes less than 1 percent of all employed persons in the United States and is the origin of 1 percent of the total national earnings.

77 Then on the next page you tell of the importance of that 1 percent relating that, "mineral extraction is the mainstay of the national defense."

78 Now, you omitted that paragraph. You point this out, and then you go on and talk about the number of acres that have been disturbed, which leads me to this question:

78 If mineral extraction is the mainstay of our national defense and it is in the national interest to secure the fuels that we need to carry out our industrial programs in order to keep our industries running, to keep our homes warm, our people working, if that program were to be slowed up by the passage of legislation which would result in the reduction of these minerals, what would your attitude be in this situation?

78 Would it be to go ahead with mineral extraction first, and reclamation second? Or, go ahead with the program that might slow up the production of mineral raw materials including, coal and other energy resources?

78 General GRAVES. Sir, first -

78 Mr. SKUBITZ. Would you answer my question? Which would you give top priority to under those circumstances? The production of minerals in the national defense, and national interest, or demand that we reclaim simultaneously, which might slow up the production of these materials in the interest of our national defense?

78 General GRAVES. Sir, I believe the country has the capability to do both.

78 Mr. SKUBITZ. There are a lot of people who might disagree with you. Many disagreed with you last year. That is why we didn't pass a similar bill last Congress.

78 General GRAVES. I think it is beyond the expertise of the Corps of Engineers to pass judgment on the priority among these things. I would only say there was no intent to slight the importance in omitting this material, which I had, of course, in my statement in the record.

78 Perhaps I should have read it to the committee, but I felt it was well-known to the committee, and was not information that was unique to the

corps. There is no question about the importance of the mineral industry to the country, and obviously we have to provide these essential elements of our national strength and economy.

78 Mr. SKUBITZ. General, it is rather difficult for some of us to go through such lengthy testimony as you have presented to this committee today. We must encourage witnesses to comply with the rules of this committee, which is that the testimony and statements, be presented 24 hours prior to appearing before the committee. Will the committee counsel advise us as to the time required for prepared statements.

78 Mr. MCELVAIN. Twenty-four hours, Mr. Skubitz.

78 Mr. SKUBITZ. Twenty-four hours. This statement was laid before us today in which the witness says, "I would like to just place it in the record and testify off the cuff."

78 The CHAIRMAN. Let me defend the General. I encouraged all the witnesses this morning to submit their statements and summarize them. And he is trying to accommodate the committee and is not undertaking a devious attempt -

79 Mr. SKUBITZ. I am not accusing him of that. I think the chairman must insist that statements should be presented ahead of time so those of us who are interested might be given the opportunity to pursue them ahead of time in order to ask responsible questions.

79 General GRAVES. I apologize to the committee for the late arrival of the statement.

79 Mr. SKUBITZ. The only thing I am trying to point out here is, the Corps of Engineers points out the mainstay of our national defense is the production of our mineral resources.

79 General GRAVES. I agree with that.

79 Mr. SKUBITZ. I think there are a number of people on this committee and in this Nation who believe reclamation is important. However, we must make a choice of whether to produce those minerals first and then go back and reclaim the land. I believe we should produce first if the national interest mandates or the national defense requires such production.

79 The CHAIRMAN. Thank you, General Graves and gentlemen. You have been very good this morning, and we appreciate your assistance.

79 [Prepared statement of General Graves, with attachments follow.]

80 Statement of Major General Ernest Graves Director of Civil Works  
U.S. Army Corps of Engineers before Subcommittee on Energy and the  
Environment  
Committee on Interior and Insular Affairs U.S. House of Representatives

80 16 February 1977

81 Mr. Chairman:

81 I am pleased to have the privilege of discussing the results of the  
National Strip Mine Study authorized by Section 233 of the 1970 Flood Control  
Act (Public Law 91-611).

81 The Chief of Engineers Report on this study was forwarded to the  
Secretary of the Army in April of 1975 and is presently under review by the  
Office of Management and Budget. Although the report is 2 1/2 years old, the  
Corps believes that the conclusions are still valid.

81 The Corps of Engineers study investigated the effects of strip mining  
operations upon navigable rivers and their tributaries and on water resources  
projects under the Chief of Engineers. The scope of the report was broadened  
to  
include the effect of underground mining operations, mineral and ore  
processing  
operations and associated activities since mining and mining-related  
activities  
and facilities are often adjacent to one another and all impact upon water  
resources in a similar manner. Our assessment was of the general impact of  
total mining activities in the fifty states, Puerto Rico and the Virgin  
Islands.

81 The minerals extraction industry utilizes less than one percent of all  
employed persons in the United States and is the origin of one percent of  
total  
National earnings. Despite these low figures mineral extraction is one of  
the  
most important activities in today's industrial society. It provides most of  
the energy to drive our factories, heat our homes and cultivate our crops.  
It  
provides much of the material to build our factories, our homes and our  
tractors. Mineral extraction is the mainstay of National defense. Energy  
demands  
in the United States have grown at a rate of about 3.6 percent per year  
during  
the last 15 to 20 years and projections indicate an even greater growth rate  
for  
the future. It is expected that coal production, including exports, will  
increase from the 671 million ton level estimated for 1976 to over one  
billion  
tons by 1985. Reserves are ample, but the energy shortage, safety  
regulations  
and air pollution abatement through the use of low sulfur coal could modify  
these  
projections. The extraction of other minerals is also expected to increase  
to

keep pace with National development.

82 Current estimates indicate that more than 4.4 million acres of land in the United States have been disturbed by surface mining. There are 1.9 million acres which have not been reclaimed and on which under present law no one is required to take any remedial action. Of these lands 1.1 million acres are open pit mines which generally do not contribute to water resources problems. Sizeable acreages are also utilized for underground mining and processing. While the total disturbance is small compared with the amount of land used for other purposes, the nature of land utilization in the mining industry has resulted in significant problems for society. Aside from the 800,000 derelict acres that remain after several decades of poor mining practices and the accompanying lack of consideration for the future use of the land resources, the problems have extended far beyond the mining locale, to affect the lives of thousands.

82 Future energy needs will require the development of Western coal and increased production in the Appalachian and other coal fields from both surface and subsurface sources. In 1964, it was estimated that the annual rate of land disturbance by surface mining was about 153,000 acres. Current estimates indicate that the annual rate is now averaging about 207,000 acres. The proportion of all bituminous and lignite coal produced in the United States by surface mining techniques has increased from 30 percent to 49 percent during the last five years.

83 The National Strip Mine Study concludes that surface and sub-surface mining and related activities have polluted 13,000 miles of navigable waters and their tributaries primarily by acid mine drainage and excessive erosion and have degraded the landscape as well. Also 56 Federal water resources projects have been adversely affected by water quality and sediment. Four Federal reservoirs in the Tennessee Region have been significantly affected by mining related sediments and are no longer able to function as intended.

83 The most widespread damages resulting from the effect of mining upon the water resource are environmental in nature. However, significant financial and economic losses are incurred by water users and developers as well. Reduced recreational values, fish kills, reductions in normal waste assimilation capacity, impaired water supplies, metals and masonry corrosion and deterioration, increased flood frequencies and flood damages, reductions in designed water storage capacities at impoundments, and higher operating costs for commercial waterway users are some of the most obvious economic effects that

stem from mining-related pollution and sedimentation. In some small watersheds, other indirect economic and social problems can be related to the overall adverse consequences of mining. In others, mining has posed serious threats to life and property in the form of hazardous flooding conditions or potentially dangerous pollutants.

84 The instream problems, primarily sedimentation and chemical pollution, are related not just to surface mining, but to various other aspects of the industry as well. Land disturbances caused by underground mining are equally as significant as surface mining in some locations, and even more so in others. Chemical pollution in the western United States is primarily caused by the leaching of mill tailings and refuse piles associated with various mining activities, including subsurface mining. In southern Appalachia, where the steep terrain and moderate to heavy rainfall are conducive to excessive erosion, sedimentation problems result from many types of land disturbances, including those associated with subsurface mining. Much of the sediment problem originates from non-point sources.

84 Both active mining operations and abandoned mines contribute to the water and related land resources problems. In other cases, problems originating from active mining operations are attributable to the absence of sufficient control over various aspects of the operations. The most widespread problems, however, are caused by the derelict lands that remain after decades of uncontrolled mining practices and abandoned underground mines.

84 In some instances, where years of erosion of abandoned and orphaned mining-related land disturbances has already resulted in substantial deposits of sediment in streams and impoundments, reclamation of mined lands would fall short of remedying the problem. Channel rehabilitation, sediment removal and other measures may be required to correct such conditions.

85 Total concentration of remedial efforts on surface mine sources will not alleviate all of the damaging effects of mining-related pollution. In northern Appalachia, source inventory data collected during the period 1964-69 indicate that there exists over 5,500 individual acid drainage sources. Of this number about 68 percent are subsurface or combined subsurface and surface sources and contribute about 80 percent of the total acid discharged into the streams. In only a few watersheds were surface sources found to be more significant than subsurface sources.

85 Remedial actions to prevent acid mine drainage are highly dependent upon local environs. The complexity of the acid mine drainage problem, not only in

northern Appalachia, but in the Interior Coal Basin as well, dictates that any action directed toward the alleviation of the problem be a part of a comprehensive pollution control and environmental improvement program. Drainage from abandoned underground and surface mines is the primary cause of the problem. In northern Appalachia, it is estimated that abandoned mines account for 93 percent of all identified sources and 78 percent of the total acid discharged.

85 The cost for measures to correct the problem on the 800,000 acres of derelict land disturbed by surface and subsurface mines for coal, clay, phosphates, iron and copper is about \$1 .5 billion. The greatest problem is in the Appalachia coal fields in the Ohio and Middle Atlantic Water Resources Regions. A comprehensive program would establish priorities, set up procedures to seal or fill mine shafts, and other openings, provide adequate drainage control, minimize erosion, provide treatment for drainage and reclaim and revegetate disturbed lands. It is estimated that preparing remedial plans for the major problem areas would cost over \$1 .6 million. Another million dollars would be required for basic data gathering and investigation to establish additional priorities.

86 The Chief of Engineers report recommends that remedial action be taken to alleviate adverse impacts of past, present and future surface and underground mining activities on the Nation's water and related land resources and that such action include, but not be limited to, the establishment of minimum standards and basic reclamation measures for all surface and subsurface mining and mine reclamation activities in the Nation. Our study indicates that the regulation and control of surface mining activities will require the following restrictions and remedial actions to prevent additional adverse effects on existing Federal water resources projects:

86 a. Advanced submission of mining and reclamation plans to a responsible government agency having authority to grant or deny approval to engage in mining, based upon the information in the plans and the requirements of the regulations;

86 b. Segregation and preservation of topsoils during, or preceding, mining operations or other procedures to provide soil conditions conducive to rapid revegetation after mining;

86 c. Control, limitation or prohibition, as appropriate to prevent problems associated with the spoiling and disposal of overburden, tailings and other wastes produced during mining and processing;

86 d. Sealing or filling of mine shafts, tunnels, entry-ways, auger holes and exploratory holes developed, or encountered, during a mining operation;

87 e. Control to prevent problems in mitigating for the construction, maintenance and post-mining condition of access and haul roads developed and/or used in conjunction with mining, processing and reclamation;

87 f. Provision of appropriate drainage control and diversion facilities to minimize erosion of disturbed lands during and after mining;

87 g. Treatment and other necessary measures to raise the quality of surface and subsurface mine drainage to acceptable standards; and

87 h. Revegetation of land disturbances to acceptable standards.

87 It appears that alleviation or minimization of the adverse effects of improper mining practices on existing Federal investments should receive early attention in any concerted national effort to reclaim abandoned strip mined lands. Our study indicates that many such lands are located in the coal fields of Appalachia.

87 The major problem areas are the:

87 a. Levisa Fork Watershed in Big Sandy River Basin, Kentucky, Virginia, and West Virginia;

87 b. Big South Fork Cumberland River Watershed, Kentucky and Tennessee;

87 c. Wills Creek Watershed in the Muskingum River Basin, Ohio;

87 d. East Fork Obey River Watershed in the Cumberland Basin, Tennessee;

87 e. Headwaters of the Kentucky River, Kentucky, including South, Middle, and North Forks;

87 f. The drainage area upstream of the John Hollis Bankhead Lock and Dam on the Black Warrior River in Alabama; and

87 g. Big Muddy River Watershed in Illinois.

88 The damages and costs to bridges, vessels, shoreside equipment, water treatment plants and industry continue. Sedimentation in reservoirs, much greater than that anticipated, interferes with recreation, water supply, fish and wildlife and ultimately will reduce flood control capability. To correct these past impacts will be difficult but we can prevent future problems and damages from mining activity by a good management program which must be the prime

responsibility of operators and local and state governments.

88 During appropriations hearings related to funding this study and report, the Appropriations Committees directed that, as part of the effort, a feasibility report on a demonstration project be prepared on the Cabin Creek watershed, West Virginia. A feasibility report thereon will be submitted separately to the Congress.

88 In specific response to the failure on 26 February 1972 of the impoundment on Buffalo Creek, West Virginia which killed over 120 persons the Senate Public Works Committee passed a resolution for the Corps to investigate hazardous flooding conditions in coal mine areas. The Corps inspected 687 coal mine waste embankments used to impound water. The investigation located 200 potential hazards and 30 embankments in critical condition. Wherever serious hazards were found by the embankment inspection program, all concerned were notified immediately. The Corps of Engineers has no enforcement authority, hence the State governments and the U.S. Mining Enforcement and Safety Administration have the follow-up responsibilities to

89 The damages and costs to bridges, shoreside equipment, water treatment plants and industry continue. Sedimentation in reservoirs, much greater than that anticipated, interferes with recreation, water supply, fish and wildlife and ultimately will reduce flood control capability. To correct these past impacts will be difficult but we can prevent future problems and damages from mining activity by a good management program which must be the prime responsibility of operators and local and state governments.

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89 Mr. Chairman, this concludes my statement.

91 Mining and related activities have adversely impacted upon about 13,000 miles of the Nation's navigable rivers and their tributaries. Numerous water resource uses and developments have been impaired in some respect. Among the developments significantly affected, are 56 Federal impoundments or structures. Several developments operated by other Federal, State, municipal, and private entities are also impacted upon.

91 The most widespread damages resulting from the effect of mining upon the water resource are environmental in nature. However, significant financial and economic losses are incurred by water users and developers as well. Reduced recreational values, fish kills, reductions in normal waste assimilation capacity, impaired water supplies, metals and masonry corrosion and deterioration, increased flood frequencies and flood damages, reductions in designed water storage capacities at impoundments, and higher operating costs for commercial waterway users are some of the most obvious economic effects that stem from mining - related pollution and sedimentation. In some small watersheds, other indirect economic and social problems can be related to the overall adverse consequences of mining. In others, mining has posed serious threats to life and property in the form of hazardous flooding conditions or potentially dangerous pollutants.

91 The instream problems, primarily sedimentation and chemical pollution, are related not just to surface mining, but to various other aspects of the industry as well. Land disturbances caused by underground mining are equally as significant as surface mining in some locations, and even more so in others. Chemical pollution in the western United States is primarily caused by the leaching of mill tailings and refuse piles associated with various mining activities, including subsurface mining. In southern Appalachia, where the steep terrain and moderate to heavy rainfall are conducive to excessive erosion, sedimentation problems result from many types of land disturbances, including those associated with subsurface mining. Much of the sediment problem originates from non-point sources.

91 Both active mining operations and abandoned mines contribute to the water and related land resources problems. Out - right violations of Federal and State laws are responsible to a very limited extent. In these instances appropriate legal actions are being taken. In other cases, problems originating from active mining operations are attributable to the absence of sufficient control over various aspects of the operations. The most widespread problems, however, are caused by the derelict lands that remain after decades of uncontrolled mining practices and abandoned underground mines.

91 Efforts to correct or control the instream problems caused by the minerals industry, have met with only limited success. Water quality control

laws, both Federal and State, have or will in the very near future, prevent most of the mining - related pollution caused by point - source discharges from active operations. The control of pollution from non - point sources and originating at active mining operations has been in the form of State erosion and sediment control laws and surface mining and reclamation laws. The enactment and refinement of such laws have had to await technological advancement. Currently, most mining and reclamation laws do not apply to the land disturbances caused by underground mining.

91 Many thousands of acres of land were disturbed and left unreclaimed prior to the enactment of surface mining and reclamation laws. Early laws were, in general, inadequate thus permitting additional thousands of acres of land to be abandoned without adequate reclamation. Mining activities not controlled by reclamation laws account for continued abandonment of unreclaimed lands. Federal and State efforts to restore lands left unreclaimed from prior mining operations have been generally limited. Several ongoing Government programs have been used for such purposes, but most are applicable only to publicly - owned lands. About 90 percent of the total land disturbed is in private ownership. Department of Agriculture erosion control programs have made substantial headway in reclaiming private lands, but no formal program exists for such purposes.

91 Over 4.4 million acres have been disturbed by surface mining. Underground mining, processing and other closely allied activities also generate considerable amounts of land disturbance. Despite a significant increase in the ratio of land used to land reclaimed during the last several decades, more than 40 percent of the total disturbed acreage is currently unreclaimed and reclamation is not required by law. These lands require reshaping, revegetation or water - control measures to prevent further land and water damage. Because of the overall adverse impact of these lands, particularly in the eastern portion of the Nation, there is Federal interest in reclaiming them.

92 [See Illustration in Original]

92 In some instances, where years of erosion of abandoned and orphaned mining - related land disturbances has already resulted in substantial deposits of sediment in streams and impoundments, reclamation of mined lands would fall short of remedying the problem. Channel rehabilitation, sediment removal and other measures may be required to correct such conditions.

92 Total concentration of remedial efforts on surface mine sources will not alleviate all of the damaging effects of mining - related pollution. In northern Appalachia, source inventory data collected during the period 1964-69 indicate

that there exists over 5,500 individual acid drainage sources. Of this number about 68 percent are subsurface or combined subsurface and surface sources and contribute about 80 percent of the total acid discharged into the streams. In only a few watersheds were surface sources found to be more significant than subsurface sources.

92 Remedial actions to prevent acid mine drainage are highly dependent upon local environs. The complexity of the acid mine drainage problem, not only in northern Appalachia, but in the Interior Coal Basin as well, dictates that any action directed toward the alleviation of the problem be a part of a comprehensive pollution control and environmental improvement program. The Federal interest in such actions is demonstrated by the fact that drainage from abandoned underground and surface mines is the primary cause of the problem. In northern Appalachia, it is estimated that abandoned mines account for 93 percent of all identified sources and 78 percent of the total acid discharged.

92 While considerable effort is already underway to rectify the mining - related problems, this study finds that a Nationwide Program is needed to direct and coordinate the various corrective and preventive activities. It is concluded that the implementation of a basic reclamation plan, at a cost of about \$1.5 billion, is required to remedy the abandoned mined land problem. Basic reclamation should be implemented watershed by watershed, with appropriate consideration given to the underground mine drainage problems therein. As an initial component of a Nationwide Program to alleviate the problems, seven watersheds are recommended for detailed investigation to develop remedial plans. In addition, special investigations are recommended in two river basins to quantify downstream damages caused by upstream mining activities. These latter investigations are needed for the purposes of determining future program priorities.

93 [See Illustration in Original]

94

\*3\*EXTENT OF WATER  
RESOURCE PROBLEMS RELATED  
TO MINING

PROBLEM	STREAM MILEAGE IN WHICH	CORPS WATER RESOURCES
TYPE OF PROBLEM IDENTIFIED	PROBLEM IDENTIFIED *	PROJECTS AT WHICH IDENTIFIED *
Acid Pollution	9,900	27
Sedimentation & Turbidity	7,600	21 **
Contamination by Heavy Metals	3,200	3

Other Chemical Pollution	3,100	4
Increased Flood Flows	600	
Reduced Low Flows	180	
Restriction of Surface Drainage	150	2
Alkaline Pollution	20	

94 [See Table in Original]

94 \* Because more than one type of problem was identified in the same stream reaches and projects, the mileages and projects sum to more than 13,000 miles and 56 projects.

94 \*\* Includes Tennessee Valley Authority projects.

*3*RELATIONSHIP BETWEEN WATER RESOURCE PROBLEMS AND MINING ACTIVITIES MINERAL EXTRACTION OR RELATED ACTIVITY		
PROJECTS	STREAM MILEAGE	NUMBER OF CORPS
CONTRIBUTING TO PROBLEMS	SIGNIFICANTLY AFFECTED *	SIGNIFICANTLY AFFECTED
Contour Stripping	9,800	44 **
Underground Mining	9,500	40 **
Area Strip Mining	5,400	13
Spoil Banks	5,100	10
Auger Mining	2,200	9
Access & Haul Roads	2,200	6
Processing	1,800	12 **
Open Pit Mining	500	2
Dredging	250	
Hydraulic Mining	50	

94 [See Table in Original]

94 \* Because more than one activity or type of land disturbance affects the same stream reaches and projects, the mileages and projects sum to more than 13,000 miles and 56 projects.

94 \*\* Includes Tennessee Valley Authority projects.

*3*RELATIONSHIP BETWEEN WATER RESOURCE PROBLEMS AND MINERALS		
MINERAL OR ORE WITH WHICH PROBLEMS ARE ASSOCIATED	STREAM MILEAGE SIGNIFICANTLY AFFECTED *	CORPS WATER RESOURCES PROJECTS AFFECTED *
Bituminous Coal	10,300	46 **
Anthracite Coal	500	2
Gold	500	1
Sand & Gravel	200	1
Copper	100	4 **
Iron Ore	80	1
Stone	80	
Phosphate	40	
Clay	30	
Other Minerals/Ores	600	1 **

94 [See Table in Original]

94 \* Because more than one mineral affects the same stream reach, the mileages sum to more than 13,000 miles.

94 \*\* Includes Tennessee Valley Authority projects.

95

\*3\*MINING-RELATED WATER  
RESOURCE PROBLEMS IN THE  
UNITED STATES - BY REGION

PROJECTS	STREAM MILEAGE		NUMBER OF CORPS
	WATER RESOURCES REGION	SIGNIFICANTLY AFFECTED	SIGNIFICANTLY AFFECTED
New England			
Middle Atlantic	1,640		6
South Atlantic-Gulf	30		2
Great Lakes	80		
Ohio	10,070		38
Tennessee	350		5 *
Upper Mississippi	200		1
Lower Mississippi	50		2
Souris-Red-Rainy			
Missouri	500		1
Arkansas-White-Red			
Texas-Gulf			
Rio Grande			
Upper Colorado			
Lower Colorado			
Great Basin			
Columbia-North Pacific	350		1
California-South Pacific			
Alaska			
Hawaii			
Puerto Rico-Virgin Islands			
United States	13,270 **		56

[See Table in Original]

95 \* Tennessee Valley Authority projects.

95 \*\* This mileage has been rounded to 13,000 miles for simplicity of discussion throughout this report.

\*3\*HIGH  
PRIORITY  
PROBLEM AREAS  
(ARRANGED IN  
ORDER OF STREAM  
MILEAGE  
AFFECTED) \*

PROJECTS	WATER RESOURCES REGION	TOTAL DRAINAGE AREA (SQ.MI)	STREAM MILEAGE	CORPS
			SIGNIFICANTLY AFFECTED	AFFECTED
SIGNIFICANTLY RIVER BASIN				
Monongahela	Ohio	7,400	2,210	11
Susquehanna	Middle Atlantic	26,000	1,290	4

Allegheny	Ohio	11,700	1,090	8
Kanawha	Ohio	12,300	1,070	1
Muskingum	Ohio	8,000	830	2
Cumberland	Ohio	17,900	730	3
Big Sandy	Ohio	4,300	650	6
Kentucky	Ohio	7,000	440	3
Tennessee	Tennessee	40,900	350	5
Cheyenne	Missouri	25,500	280	1
Potomac	Middle Atlantic	11,600	170	1
	Upper			
Big Muddy	Mississippi	1,100	70	
Lake Superior				
***	Great Lakes		50	
	South			
Black Warrio	Atlantic-Gulf	6,300	30	2
Total			9,260	47

[See Table in Original]

95 \* Not intended to indicate relative priorities.

95 \*\* Tennessee Valley Authority project.

95 \*\*\* Problem associated with processing wastes. Size of drainage area not appropriate for display. Extent of problem measured in shoreline miles.

96

DEPARTMENT OF THE ARMY  
OFFICE OF THE CHIEF OF ENGINEERS WASHINGTON, D.C. 20314  
5 APR 1977  
Honorable Morris K. Udall  
Chairman, Subcommittee on Energy and the Environment  
Committee on Energy and Natural Resources  
House of Representatives  
Washington, D.C. 20515  
Dear Mr. Udall:

96 I am referring to the committee hearings on u6 February 1977 at which time I testified on the Corps of Engineers National Strip Mine Study.

96 I am furnishing the following in regard to the questions concerning the stability of embankments in coal mining areas. The establishment of criteria for stability of embankments requires detailed consideration for each case to cover all circumstances. A certain amount of flexibility is required to fit different situations. If the embankment will impound water, then it should be designed as a dam to assure the safety of downstream areas. In order to establish criteria that are not overly stringent in uninhabited areas but will also protect life and safety in built-up areas, the design criteria should be flexible to fit the several conditions one may encounter and still prevent catastrophic failure. For example, the criteria for impoundments for dams in agricultural areas, Public Law 83-566 (16 USC 1006), may be less stringent than those established for major impoundments or those protecting urban areas.

96 If the embankment will not impound water, then engineering criteria are required to assure a stable slope, including as necessary adequate internal drainage facilities to prevent sliding.

96 The Corps of Engineers is available to work with other Federal agencies to establish detailed criteria and guidance.

96 Sincerely,

96 ERNEST GRAVES

96 Major General, USA

96 Director of Civil Works

97 The CHAIRMAN. Our next witness is Mr. Aubrey Wagner, chairman of the Tennessee Valley Authority.

97 Mr. SEIBERLING. Mr. Chairman, while Mr. Wagner is taking his seat, could I comment on Mr. Skubitz' comments?

97 The CHAIRMAN. Yes; a friendly comment.

97 Mr. SEIBERLING. I thought the significant thing was that General Graves said we could do both, extract the minerals and reclaim the lands. As a matter of fact, the testimony before this committee of Mr. Guckert and Mr. Heine from the State of Pennsylvania state that you can do both at the same time.

97 Mr. SKUBITZ. Mr. Chairman, that was the question we debated all last year, even on the floor. Then we got into the hassle of "it will stop production" or "it won't stop production." Those are the issues here today.

97 The CHAIRMAN. Mr. Wagner, we are delighted to have you with us. We appreciate your help. You can proceed with your statement as submitted or summarize it, bearing in mind that you may get some flack.

STATEMENT OF HON. AUBREY WAGNER, CHAIRMAN OF THE TENNESSEE VALLEY AUTHORITY, ACCOMPANIED BY JAMES AL CURRY OF THE DIVISION OF FORESTRY, FISHERIES AND WILDLIFE, TENNESSEE VALLEY AUTHORITY

97 Mr. WAGNER. I appreciate the opportunity to be here today to speak in support of Federal legislation to regulate surface coal mining and repair some of the scars left by the unregulated surface mining of the past. As you know, Mr. Chairman, TVA supported H.R. 25, the surface mine control legislation passed by the 94th Congress.

97 TVA has been involved with the problems of surface mining and reclamation almost from its inception. Our coal surface mining demonstration work began in the 1940's, some 10 years before TVA became a major coal purchaser. This work consisted largely of promoting voluntary reclamation, with TVA supplying technical advice and free plant material for revegetation.

97 This involvement with coal was an extension of our earlier reclamation efforts with phosphate mining in middle Tennessee. More than 15 years ago, we began trying to get the States where we buy most of our coal to enact reclamation laws. When these laws were slow in coming, we struck out on our own, in 1965, by requiring the individual coal mine operators from whom we purchased coal to reclaim the land.

97 Since 1965, we have strengthened the reclamation provisions in our surface mine coal contracts three times; and today, TVA is still the only major coal purchaser in the Nation of which I am aware that makes such requirements part of its agreements.

97 Of course, since TVA purchases only about 10 to 15 percent of the total amount of surface-mined coal in our normal purchasing area, TVA's own requirements amount to only a drop in the bucket with respect to handling the entire environmental problem of surface mining. Furthermore, our electric power consumers have to pay the extra cost of TVA reclamation, while others who benefit by the use of surface-mined coal do not. These are two reasons why I support the enactment of strong Federal legislation.

98 However, the most important reason for supporting such legislation is apparent from the events of the last 2 months. We are in an energy crisis. We have seen that our Nation's need for energy is not, as some suggest, to feed a bloated and indulgent society. Quite the contrary. The recent energy shortages show that our energy needs are for warm homes, decent jobs, good education, and the opportunity to improve one's standard of living.

98 To achieve these goals we must, among other things, expand the use of our coal resources as quickly as possible. Coal makes up about 80 percent of our U.S. fossil fuel reserves. Most projections indicate that we must double our coal production by 1985. Yet, production has remained essentially stable over the past several years. Production last year, even knowing that rapid expansion is essential, was only 2.6 percent ahead of 1975. At that rate, production will not be doubled until 2002 - some 17 years too late.

98 This does not mean that conservation and other possible energy sources should be ignored. Conservation of energy is of paramount importance, and TVA

has undertaken several programs to encourage more electricity conservation in our area. Nevertheless, those of us who have the legal and moral responsibility to continue supplying the energy needed by our society to survive and grow have to choose the here and now. Together with nuclear power, that choice must be coal and conservation.

98 I believe that one of the principal factors that have stalled the Nation's coal production is the uncertainty surrounding proposed Federal legislation. We must remove this uncertainty and remove it now, so that all coal mine operators and potential coal mine operators can plan their futures with the certainty necessary to increase production and finance the opening of new mines.

98 This does not mean that I am happy with every provision contained in H.R. 2, the bill presently being considered by this committee, I believe H.R. 2 is too complex and detailed, and that a simpler law - but rigorously enforced - would achieve its environmental objectives faster. The bill tends toward the nature of regulation more than legislation. It locks in requirements which may be appropriate in many instances, but not in others. The environmental requirements of the bill are also overlaid with such allpervasive and complicated procedures that I am afraid the bill will support more lawyers than miners.

98 I would prefer a bill which in positive, but more general terms, would protect against environmental damages, but also would require that surface mined lands be returned to an equal or higher use than before they were mined and would permit the specific requirements to be tailored to meet local desires and conditions. Environmental problems do differ from State to State, and each State should be given the flexibility to solve them following general Federal guidelines. Nevertheless, we must not vacillate on surface mine reclamation legislation. Let's bite the bullet and set rules in a Federal surface mine control law which gets the job done. Then, investment decisions can be made, coal production can increase, and this Nation can get on the road to solving its energy crisis.

99 In order to fully protect the environment, we must look backward as well as forward. Past unregulated or poorly regulated surface mining has left its scars, and many of these mined areas continue to pollute our streams. This past summer, TVA began a 38-county orphan mine reclamation program which is being carried out in cooperation with the States of Alabama, Kentucky, Tennessee, and Virginia. Its purpose is to test administrative arrangements and reclamation technologies which could serve as a guide for similar efforts throughout the Nation's coal fields. This effort will bring about the reclamation of about 20 percent of the orphan mine problem throughout

Appalachia. Based on our experience with our orphan mine program, we conclude that orphan mines can be reclaimed with minimum land disturbance for approximately \$300 to \$4 00 per acre. With reclamation of this sort, we have found that there is little or no risk of landowner windfall and that it is unnecessary to purchase the land in order to reclaim it.

99 Finally, let me cover one last item - our Massengale Mountain back-to-contour reclamation project. I know some of you are already familiar with the project and may have visited it. At its inception, this project was the only large-scale, true back-to-contour reclamation done on steep slope, central Appalachian surface mines. It is still, as far as I know, the only one for which detailed cost records are available. I believe this project proves a number of things about back-to-contour reclamation on steep slopes.

99 First, it shows that it can be done. Second, it shows for the first time the main cost of back-to-contour reclamation. This is covered in detail in a University of Tennessee report and copies of the report will be provided for the record and the committee's use.

99 Finally, it shows that the economics of back-to-contour reclamation will dictate orderly, efficient, and well-planned mining which will maximize coal recovery in a once-only process. There should be no more cases of continual disturbance of an area by mining an area and re-mining the same coal seam every couple of years.

99 Again, I appreciate the opportunity to present my views, and we will be happy to provide the committee any assistance we can on this matter.

99 I have with me this morning, Mr. Al Curry, who is a professional forester, who spent most of his working career with strip mining reclamation programs, and he has some facts I would like to have him give you with his permission.

99 The CHAIRMAN. All right.

99 Mr. Curry?

99 Mr. CURRY. Mr. Chairman, and members of the committee, a year or so ago, it was my privilege to talk to members of your staff about some preliminary figures that we have collected on Massengale Mountain. I was asked if I would update those figures and perhaps show the committee some slides and discuss in more detail our experience at the Massengale site.

99 Before I get to the slides, Mr. Chairman, I would like to make a couple of preliminary remarks. First of all, as Mr. Wagner said, we have for many

years been involved and concerned with the problems of surface mining, and much of our concern has been directed to the problem of surface mining on steep slopes. We have for years worked on that specific problem along with a great many other people who have been concerned about the impact of steep slope mining.

100 Through the years, we have seen a great deal of improvement in mining techniques on mountain slopes, particularly as they relate to the careful handling and placement of spoil material.

100 I think it is fair to say that as we made improvements in spoil handling and placement on steep mountain slopes, the tendency has been to keep the spoil material closer to the original mine site.

100 What I am saying is that in a gradual way we have been progressing in recent years toward this back-to-contour concept.

100 Back in the late 1960's and the early 1970's, there was a great deal of support for a Federal law which would require back-to-contour reclamation on steep slopes as a hard and fast rule. In the early 1970's, this was of some concern to TVA and to others because we had no experience with that type of mining. We didn't know, for instance, whether it was feasible to do it under the conditions that exist in central Appalachia, nor did we have any information on the costs that might be incurred.

100 In view of this, the TVA Board in late 1971 directed its staff to select a typical site in our region and conduct a large-scale experimental mining test to determine the feasibility of this mining method and to get a fix on the costs that might be involved.

100 The staff, in early 1972, selected a site on the south slopes of Massengale Mountain in Campbell County, Tenn. Massengale Mountain is typical of the terrain you find in central Appalachia. It has 25-degree slopes. It has overburden that is typical not only for Tennessee, but also for West Virginia, eastern Kentucky, and southwest Virginia.

100 Another reason we selected the Massengale Mountain site is that on the north side of the mountain in previous years, we had conducted a conventional mining operation on the same coal seams, on the same type slope, and dealing with the same overburden.

100 When we finished our experimental mining, we would have not only have cost figures that would tell us exactly what the back-to-contour mining method would cost, but we would have figures that we could compare to the conventional

mining. In other words, we could come up with an incremental cost. We would know how much more back-to-contour mining costs over and above conventional mining techniques commonly applied in central Appalachia.

100 Now, I would also like to make the point that the Massengale experience is a real world situation. It was a large-scale, commercial, production-oriented job. The Massengale experiment began in July of 1972 and continued through the summer of 1976. We have 4 years' experience with back-to-contour mining.

100 During that period, the mine operator mined almost 900,000 tons of coal from 185 acres. In mining that 900,000 tons of coal, he moved and handled some 1 billion cubic yards of rock and dirt. While he was doing all this, we maintained careful cost records. We felt after we had collected our information that it might be wise if we got a third party to analyze and report on the Massengale experience, so we prevailed on the good people at the University of Tennessee Environment Center to have their economists and engineers do the task. We simply supplied this data to the University of Tennessee.

101 We asked them to analyze and report on it, not only for the TVA, but for everybody interested in this type of mining system.

101 This is the report that Chairman Wagner mentioned in his statement. We have brought copies today, and we will be glad to make them available for the committee.

101 The CHAIRMAN. We would like to have them. Thank you very much.

101 [The information referred to may be found in the appendix.]

101 Mr. CURRY. Now, a couple of other points before we look at the slides, Mr. Chairman.

101 First, the Massengale experiment is a case study of the feasibility and costs of back-to-contour mining on one site. We think it is typical of central Appalachia, and while the data is not precisely transferable to other areas, we think it is close enough that people in the decision-making roles can use the Massengale data to make some good solid judgments.

101 Second, we did not have the time nor the opportunity to measure the environmental impact of back-to-contour mining as compared to the environmental impact of conventional mining. This is a job that remains to be done. We have only feasibility and cost data.

101 What we have done, I think, is eliminate some of the uncertainty in dealing with the back-to-contour mining method.

101 Now, with your permission, Mr. Chairman, I would like to show you some slides to give the committee members an idea of what we went through and to give them a little background as to where these figures actually came from. If we could have the slides.

101 The CHAIRMAN. We have a problem here this morning.

101 Mr. CURRY. This first slide, Mr. Chairman, is simply a slide of the topography that we deal with in the central Appalachian region. Here you see the steep mountains and the V-shaped valleys. We have relief on those mountains of 2,000 feet from the creek level to the top of the mountain. The coal seams lie in these mountains in horizontal beds. On one of these mountains, you might find 10, 12, or 15 commercial seams of coal.

101 The old way of getting at this coal was to get up on the mountain sides to dig a toehold to bring in a drill machine like this, to drill the overlying rock and material, blast it loose, and then move it. You drill, shoot and push it. This is a shot of a large drill rig drilling the overburden lying above coal about 30 feet below that machine.

101 After they shoot the material, they just move it down-slope and they keep moving that material until they expose the coal.

101 This is a shot of the coal being lifted. Later, some of the overburden will be preserved and moved back over the mined out seam and you wind up with a situation looking like this. You have a vertical highwall and a flat bench and then the outslope. This is conventional mining. This is what went on on the north side of Massengale Mountain, and this is the type of mining that we compared our experimental mining costs to.

102 This slide shows a bench where the conventional mining techniques were properly conducted. Good material was put back over the mined-out seam and grass was reestablished. Again, you have the highwall, the bench, and the outslope.

102 Using the old conventional methods, we have the opportunity to preserve some water impoundments for wildlife or livestock, as the case may be.

102 I wanted to give you a picture of a properly done outslope. This is an

outslope where the material is stable. A good effort was made at reestablishing vegetation, but again, the configuration of the land - the high wall, the bench and the outslope.

102 This is a picture of an unregulated mine bench. This is as bad as it can be. Here you see the exposed waste. There has been no effort at reclamation whatsoever. This is what you see through the length and breadth of Appalachia. There are also many examples of unstable outcrops.

102 This next picture was taken in northeast Tennessee. The operator overloaded the outcrop. He performed his mining operation in a reckless and careless way, and this was the end result. You are looking at a landslide that extends for almost a quarter of a mile.

102 Returning now to the Massengale Mountain project, this next slide shows the typical terrain in Campbell County, Tenn. This is the New River drainage, and as I said, we have topographic relief of 2,000 feet from the valley floor to the top of the mountain.

102 On Massengale Mountain, there are some 12 mineable seams of coal at various levels on that mountain.

102 What we went after in our demonstration site were these four seams of coal here. We had four seams of coal within 100-foot elevation. The Red Ash seam you see at the bottom at elevation 2,400. The top seam, the Rider seam was at 2,500. All four seams were mined as one operation.

102 The CHAIRMAN. Where is the fourth seam? I can only see three.

102 Mr. CURRY. The middle seam was 66 inches. Actually, it was two seams that almost ran together, and they show up as one in that schematic drawing. This is the postmining configuration that we were shooting for on our back-to-contour reclamation. Remember that this was 1971. We were trying to anticipate what people meant when they said "back to original contour," or "approximate original contour."

102 You see that all the pits have been backfilled. We made provisions for access roads. We thought reasonable people would accept that, and we also thought that it would be reasonable to assume that the strip of land 20 feet immediately below the coal seam could be used as offsite storage. Instead of hauling the spoil off some place, we thought that placing it on the 20 feet below the lowest seam would be permissible.

102 We understand that this will not be permitted under the bill.

102 I would point out to the committee that the big problem we have with

back-to-contour reclamation is that as you dig out this mountain, the material that is removed swells. In other words, when you move 100 yards of rock and material, it swells up and you have 125 or 130 yards. So what you backfill these pits, you have an extra 25 to 30 percent of the material that has to go some place else.

103 The area below the lowest seam was one place for offsite storage of this extra material, and, of course, other places would be needed.

103 This is the haulback method that we used.

103 Now, I don't want anyone to be confused because we were mining four seams of coal. We were using the truck haulback method. It doesn't make any difference whether we were working one seam or four seams.

103 In this drawing, the coal seam lies here. And as I showed you before, using conventional mining methods, they were simply drilling and blasting this overburden. What they did different in this haulback method was bring in the big haulback trucks, and instead of drilling, shooting and pushing, they drill, shoot and do some pushing, but mostly they haul.

103 Here is the seam of coal and mining is advancing in this direction and the overburden material is being brought behind and backfilled. They are working their way around the mountain with the trucks.

103 Now, the point you have to remember about the Massengale situation is that the costs involved in back-to-contour are tied up in the haulback truck. Almost all the costs associated with that back-to-contour reclamation can be tied right to that truck. What it boils down to, is whether you are working one seam, two seams or three seams, is that for every yard of overburden material you have to pick up and haul it costs an extra 40 cents over and above the conventional mining method in 1973 dollars. It is as simple as that.

103 On the Massengale project, we had 10 yards of material to move for every ton of coal that we mined. Seven of those yards were handled by truck. Three of them were pushed at no cost over and above conventional mining. Those 7 yards of coal at 40 cents a yard came to between \$2.50 and \$3 a ton, in 1973 dollars.

103 If you remember that it is all tied up in those trucks, it would simplify this whole process.

103 This picture shows the Massengale site prepared for mining. We have stripped off the vegetation, and we are getting ready to mine the coal. We are going to put it back pretty much to that configuration.

103 To do that, we brought in these big 50-ton haulback trucks, and here again, this is where the game is. It is right there with those trucks.

103 As I said, we had 10 yards of overburden material to handle per ton of coal, and we had to handle 7 of them with trucks. The other 3 yards could be handled by pushing it to a lower seam or literally along the bench.

103 Another thing we would like to point out about back-to-contour mining is that when we use the big haulback trucks, we have options of handling that overburden material that we didn't have before. Your rock material can be put in its proper place, and the acidbearing material can be properly handled. This picture depicts the handling of the better overburden material to be put on top.

104 One of the good points of back-to-contour is that it does force extensive mine planning. It forces that, and it forces maximum resource recovery under a once-only mining situation. In order to assure that this was a once-only situation, we brought the auger machine in and augered that seam of coal so that these resources will not be available later to another stripper.

104 The deep miner can go back in the mountain and get coal, but the strippers won't be back on this site.

104 The auger is working here. Later, it will come up on the fill bench and auger this seam.

104 Mr. TSONGAS. Mr. Chairman, how many seams are exposed there?

104 Mr. CURRY. This picture shows three seams; the upper seam I just showed you and these two middle seams down here. There is also a lower seam, that is out farther on the mountain and out of this picture. We are getting, actually, three seams at this point.

104 Mr. CLAUSEN. What is the depth of the seam?

104 Mr. CURRY. In total, we had almost 10 feet of coal. Seams ranged from 25 to 66 inches at points where the two middle seams came together.

104 Mr. CRANE. What is the vertical distance?

104 Mr. CURRY. We have highwalls as 100 feet with no restrictions on how far back in the mountain we could dig. We had no fear of landslides. Our material was properly handled, so we could maximize resource recovery. Had we used conventional methods, we couldn't have taken a 100-foot wall, but would have been restricted to a 60-foot wall. An auger machine drills, it is a brace and bit composition. They drill back into the seam to recover what they can. Then the pit is backfilled.

104 Very quickly, this next picture is just a set of sequential shots. This is the back-to-contour project when it was just beginning. This is working on the lower seam. This is a later view working at the lower seam, and then here is the subsequent cut up here.

104 The next shot is getting on through the experiment. We have already mined the lower seam, and we are working the upper seams now. We are getting ready to make the last cut here.

104 This next picture shows what it looks like when you finish the job. Everything is back to contour. We have terraces there. We have used that area right below the lower seam for some offsite storage. But most of our excess spoil material was taken offsite, and stored on 30 acres elsewhere on the mountain.

104 That is the Massengale experience, Mr. Chairman. That is the end of the slides.

104 The CHAIRMAN. Will you eventually have trees on that area?

104 Mr. CURRY. Yes, sir. We require that within 7 days of completion, we hydraseed it. In the wintertime, we go back and plant shrubs and forest trees.

104 The CHAIRMAN. That is very impressive, and you have done a real service in trying to put this together and trying to learn something about this important mining method.

104 We have a long witness list today. Are there any questions?

104 Mr. KAZEN. Mr. Chairman, one question. Is everything that you have shown us here today in conformity with the provisions of this bill before us, or would you be violating any section of it?

105 Mr. CURRY. We used 47 feet of the slope below the lowest coal seam as permanent offsite placement of spoil material.

105 Under H.R. 2, it does not appear that we would be permitted to do that. It would have to go elsewhere. Outside of that, that is all I know.

105 There may be some question about whether or not we could leave multiple access roads on those areas. We left two at Massengale. But whether the bill would allow more than one road or not does not create a big compliance problem.

105 Mr. CLAUSEN. Would the gentleman yield?

105 Mr. KAZEN. Sure.

105 Mr. CLAUSEN. I am not sure whether you fully understand the question, or maybe I didn't understand. Are you familiar with the language in H.R. 2 that is before us? Are you familiar with its content, and have you applied it to this kind of experiment? If you have applied the provisions to this kind of experiment, have you been able to conform to the law under this procedure that you are using?

105 Mr. CURRY. To comply with the law?

105 Mr. CLAUSEN. Could you comply with H.R. 2 under this procedure? Would it give you any problems?

105 Mr. CURRY. No; I don't think so.

105 The CHAIRMAN. Essentially because the material is placed below the lowest seam?

105 Mr. WAGNER. I think you could go back to contour as required under H.R. 2, but you would have more material to store offsite. The 30 acres for offsite storage would perhaps become 40 or 50 acres. I am not familiar enough with the details of the bill to know whether roads are permitted or not, but if not, they should be because that will provide access to the mountain to get trees out, or for hunting or fishing or hiking, or whatever.

105 Mr. CLAUSEN. Mr. Chairman, could we ask them to critique the legislation for us on the basis of your own experiences and see whether or not it provides you with any problems, and yet at the same time you maintain your back-to-contour objectives. Could you critique it and give us a response for the record?

105 Mr. WAGNER. Yes; we could do that. Are you talking about just back-to-contour now, or the entire bill?

105 Mr. CLAUSEN. I am thinking about the back-to-contour, but we are dealing with legislation, and I think as the chairman stated, you are doing a great service for the Nation, and I would like to have you critique the legislation.

105 The CHAIRMAN. We welcome all the advice we can get.

105 In your statement, Mr. Chairman, you said it ought to be simplified, and

some provisions are too complex. He is suggesting that you go through the whole bill and tell us where you think it is too complex.

105 Mr. WAGNER. We will be glad to do that.

105 [The document referred to may be found at the end of Mr. Wagner's testimony.]

105 Mr. SEIBERLING. Mr. Curry, what was the pitch of the slope you ran the experiment on?

106 Mr. CURRY. Twenty-five degrees. It would be about a 48-percent slope. That was the average. They ran between 21 and over 30 degrees.

106 Mr. SEIBERLING. On page 13 of your report, you list the comparative costs of this experimental operation and conventional operation.

106 Mr. CURRY. Yes, sir.

106 Mr. SEIBERLING. Have you any estimate as to how this would affect the sales price of coal at the tipple?

106 Mr. CURRY. Yes, sir. I think if back-to-contour mining - were carried out in that part of Appalachia, it would probably increase the cost of coal, in 1977 dollars, by \$4 or \$5. This is \$2 .67 in 1973 money, I would also point out that we are talking only about the cost of strip mine coal. In our part of Appalachia, the deep-mine coal price would probably track any increase in the price of surface coal.

106 Mr. SEIBERLING. Of course, deep-mine coal costs are already substantially higher than strip mining; are they not?

106 Mr. CURRY. They vary, sir.

106 Mr. SEIBERLING. I mean the cost of production.

106 Mr. CURRY. The cost of production would vary.

106 Mr. SEIBERLING. So, what you are saying is that they would try to match any increase in costs.

106 Now, it still isn't clear from your answer what the effect would be per ton in terms of production costs.

106 Can you tell us -

106 Mr. CURRY. \$2.67 in 1973 dollars. It is \$2 .67.

106 Mr. SEIBERLING. That is the additional costs?

106 Mr. CURRY. That is the additional costs over the conventional mining techniques commonly used in central Appalachia.

106 Mr. SEIBERLING. This is per ton?

106 Mr. CURRY. Yes, sir.

106 Mr. SEIBERLING. What was the cost per ton on conventional mining?

106 Mr. CURRY. In 1973, \$11.19 was the price on those same seams of coal  
-  
\$1 1.19 versus \$13.41.

106 Mr. WAGNER. Mr. Seiberling, those costs have increased considerably since then. Both of them have about doubled.

106 Mr. SEIBERLING. What is TVA paying for coal from this area?

106 Mr. CURRY. Our most recent purchases have been in the neighborhood of  
of  
\$19 to \$20 for spot coal.

106 Mr. SEIBERLING. How does this relate to the cost of producing that coal?

106 Mr. CURRY. If you took the costs at Massengale and brought it up to 1977 dollars, I would say you are talking about probably \$1 -a-ton profit, or something like that. Of course, while mining operations vary greatly from site-to-site, we would expect that the profit in most operations on the spot market today are greater than that.

106 Mr. CURRY. Not the back-to-contour requirements, no, sir.

106 Mr. SEIBERLING. Why not?

106 Mr. CURRY. Well, we don't as a flat rule require back-to-contour in  
our  
coal purchase contracts. However, we do have the option of requiring back-to-contour mining on the visually sensitive areas, and we have made that  
a  
requirement, sir. In other works, we have had miners come to us and say that they would like to mine a visually sensitive area, and we have either eliminated  
it from mining, or told them they can mine it only with the back-to-contour method.

107 None of them have taken us up on it.

107 Mr. SEIBERLING. Have TVA water resource investments been adversely affected by runoff, or waste from underground mines?

107 Mr. WAGNER. I don't think we could say we have had any substantial siltation in our reservoirs, Mr. Seiberling, no. There has been runoff from some of the open mines, acid, and silt, too, but generally, it stopped in the streams before it got to our reservoirs.

107 Mr. SEIBERLING. Isn't conservation one of TVA's statutory duties?

107 Mr. WAGNER. Yes.

107 Mr. SEIBERLING. How do you reconcile these two things?

107 Mr. WAGNER. As I pointed out in my statement, we have tried to get strip mining legislation adopted, State laws to begin with, and failing that, we have had these conditions in our purchase contracts. This is one reason we are now supporting strong Federal legislation to require reclamation.

107 Mr. SEIBERLING. Is there any instance where you don't require back-to-contour mining, and if so, -

107 Mr. WAGNER. With TVA's reclamation provisions here is a level area left, which is in effect a wide road to get back into the mountains. Our reclamation provisions also require control of drainage so you don't get siltation.

107 Mr. SEIBERLING. There was a road in the back-to-contour reclamation, too.

107 Mr. WAGNER. There can be beneficial public uses. In one case, there is an airport in a mountainous area. There have been schools, housing developments, and so on.

107 Mr. SEIBERLING. What percentage of the benches would you say are being used for such uses?

107 Mr. WAGNER. Mr. Curry says 5 to 7 percent. It is not a large percentage, but as time goes on, more may be used.

107 I don't mean to make a case for not going to back-to-contour, but I would like to see some flexibility.

107 Mr. SEIBERLING. You had a slide showing both sides of the mountain?

107 Mr. CURRY. The conventional side?

107 Mr. SEIBERLING. Yes.

107 Mr. CURRY. No, sir.

107 Mr. SEIBERLING. Thank you.

107 The CHAIRMAN. Are there further questions?

107 Mr. BAUMAN. I want to emphasize to them, Mr. Chairman, that I think their demonstration has been very helpful, but the total debate on this legislation for years has been on environmental protection and reclamation versus the use of the resource. You have shown us here what appears to be an adequate response to the environmental concerns, which will not, as I understand

it, square with this legislation.

107 You are talking about whether the road would be permitted, and whether the additional 47 feet would be permitted.

108 When you submit your critique, it would be helpful to us to point out specifically sections of H.R. 2 which in it has a large number of them, and point out what sections you think should be changed.

108 Mr. WAGNER. We will be glad to do that.

108 Mr. SEIBERLING. Would the gentleman yield?

108 Mr. BAUMAN. Yes.

108 Mr. SEIBERLING. The bill does allow roads to be maintained, so the only thing in this bill that differs from what they did was that the bill prohibits any storage of spoil on the downslope below the bench except for the initial top.

108 Mr. BAUMAN. I don't want to differ at all with the judgment of the learned comments of my colleague from Ohio, but you gentlemen have been at this 4 years and I would like to have your comments as well.

108 The CHAIRMAN. Thank you, gentlemen, for coming here this morning.

108 [Critique of H.R. 2 plus proposed amendments to the bill, requested of Mr. Wagner in the preceding testimony follow.]

109 CRITIQUE OF H.R. 2 SURFACE COAL MINE CONTROL LEGISLATION by Aubrey J. Wagner, Chairman Board of Directors Tennessee Valley Authority

109 SUMMARY

109 The establishment of strong Federally authorized programs to regulate surface coal mining and provide for the reclamation of areas affected by it and to reclaim abandoned ("orphan") surface mines is needed.

109 TVA urged the President to approve H.R. 25, the surface mine control legislation passed by the 94th Congress - in spite of TVA's reservations about some specific provisions in the legislation and TVA's belief that the bill was unnecessarily detailed. In July 1976 TVA launched its own 5-year program to reclaim about 20 percent of the orphan surface mine lands in the Appalachian region. This program will eventually reclaim some 86,000 acres of orphan mines in 38 counties in Alabama, Kentucky, Tennessee, and Virginia.

109 The following are my views on some of the more significant aspects of H.R. 2:

109 a. Nationwide Effects

109 1. Orphan Mine Reclamation - The specific reclamation programs provided for in H.R. 2 seem to me administratively cumbersome, unnecessarily expensive, and may well result in private landowner windfalls. The basic problem with these programs is that the underlying assumption - that reclaiming orphan mines will usually enable the land to be put to some higher use, thereby enhancing its value - is incorrect. The Federal orphan mine reclamation effort should be aimed principally at "minimum disturbance reclamation." TVA's own orphan mine reclamation program indicates that the simpler, more cost-effective program - unlike the maximum disturbance reclamation encouraged in the bill - can correct the problems caused by orphan mines, while avoiding many of the difficulties created by the more intensive reclamation approach.

110 2. Back-to-Contour - If the public is willing to pay the costs, lands disturbed by surface mining should be returned to their approximate original contour unless it can be shown that some other configuration will support specific postmining uses which are equal or better economic or public uses as compared with the premining use and that all necessary actions are taken to prevent any adverse environmental impacts. Based on TVA's experience with its Massengale Mountain back-to-contour reclamation project, the "back-to-contour" requirements of H.R. 2 are generally satisfactory except that a greater opportunity for alternate configurations than that permitted under this legislation would offer significantly greater benefits to the public and should be permitted. In many instances, however, alternate configurations may result in greater spoilhandling costs and, therefore, be more expensive than "back-to-contour" reclamation.

110 3. Small Mine Operators - Although most of the environmental and permit requirements in H.R. 2 are beneficial, they should be simplified, if possible, to be more understandable to small mine operators. The bill should also create some kind of financial assistance program to help small and marginal mine operators purchase the massive new trucks and bulldozers required to carry out back-to-contour reclamation.

110 b. Special TVA Problems

110 1. "Federal Lands" - Because the definition of "Federal lands" in H.R. 2 includes all land or mineral interests owned by the United States, without regard to how the United States acquired ownership or which Federal agency

administers the land, the literal definition would give the Department of the Interior the authority to prevent the mining or impose special requirements on the mining of coal and other mineral properties which have been acquired for the TVA power system - with the funds of electric power consumers in the Tennessee Valley. The definition of "Federal lands" should be amended to expressly exclude lands and mineral interests acquired or owned by TVA. This change would not affect Section 524 of the bill under which TVA would be required to comply with Title V of the bill on the same basis as any other Federal agency engaging in any surface mine operations.

110 2. Section 714 - Section 714 of H.R. 2 is intended to provide certain protection to the surface owner of land where the coal is owned by the United States. Like the definition of "Federal lands," this section was drafted in the Congress to apply to coal on "public lands" and not on lands which have been acquired by TVA for the benefit of its electric power system and power consumers. Subjection of TVA coal deposits to the provisions of Section 714 could result in TVA electric power consumers' losing their investment in the coal deposit if the surface owner fails to consent to surface mining or in their having to pay twice for those deposits - once for the original acquisition and again as a settlement with the surface owner.

#### 111 DETAILED COMMENTS

##### 111 I. Abandoned Mine Reclamation

111 1. The creation of a strong, well-financed Federal authorized program to reclaim abandoned mines is urgently needed.

111 2. However, the specific reclamation programs provided for in H.R. 2 (Sections 404 and 405) are administratively cumbersome, unnecessarily expensive, and may well result in private landowner windfalls.

111 3. The basic problem with these programs is that the underlying assumption - that reclaiming orphan mines will usually enable the land to be put to some higher use, thereby enhancing its value - is incorrect.

111 Quite the contrary is true. The most practical use of over 90 percent of all orphan mines in Appalachia for the foreseeable future is for forest and wildlife - in most instances the very uses to which the land was being put before mining. Much of this land is simply too remote and unsuited for other uses. Consequently, the reclamation of such lands should be directed toward taking the actions necessary to correct offsite environmental damages (such as

acid runoff, stream siltation, and landslides) and return the sites to forest and wildlife production. Grading and land stabilization can be done with a minimum of earth movement, the single most costly aspect of reclamation. To perform more grading than necessary to correct these environmental problems is like trying to make a silk purse out of a sow's ear - at the public's expense.

111 The land acquisition program (Section 405), in particular, relies largely on this incorrect assumption. It assumes, as does the Federal urban renewal program, that an influx of Federal money can substantially upgrade the usability of a parcel of land and that the market price of the improved land will be increased sufficiently to pay for the Federal investment. Although this assumption may be generally correct when applied to urban, often center-city land, it fails when applied to most rural orphan mine land. Heavy reliance on the land acquisition program as a method of reclaiming orphan mines will saddle the Federal Government with unwanted ownership of large amounts of remote and unmarketable land, which would also be removed from local tax rolls.

112 4. The Federal orphan mine reclamation effort should be aimed principally at "minimum disturbance reclamation" which - unlike the maximum disturbance reclamation encouraged in the bill - can correct the environmental problems caused by orphan mines, while avoiding many of the difficulties created by the more intensive reclamation approach.

112 First, "minimum disturbance reclamation" avoids exposure of toxic wastes and destroys less of the natural vegetation and wildlife habitat which has grown back naturally in the years since active mining ceased. Second, because "minimum disturbance reclamation" is primarily aimed at correcting offsite environmental problems, the only benefits which flow to a landowner at the public's expense are incidental. Third, it avoids unnecessary public expenditures not commensurate with benefits to the land. Average expenditures for "minimum disturbance reclamation" are in the \$300 to \$4 00 per acre range, which is sufficient to accomplish the environmental goals of reclamation (including the first three objectives cited in Section 402 of the bill) without the possibility of private landowner profiteering. Fourth, "minimum disturbance reclamation" emphasizes the use of unskilled labor, thereby providing job opportunities for the local unemployed.

112 5. The reclamation programs provided for in H.R. 2 (Sections 404 and 405) might permit private landowner windfalls at the public's expense. Where orphan surface mines are reclaimed to a higher use, the landowner should bear the entire cost of additional reclamation over and above basic reclamation.

112 The rural lands reclamation program (Section 404) would permit orphan

mines to be reclaimed to higher uses (e.g., recreation and agriculture) than their premining uses. However, the section is unclear as to how the cost of reclamation will be allocated between the landowner and the Government. Under the section, as presently written, it is possible that regardless of the cost of the reclamation work over and above the reclamation necessary to correct the offsite environmental problems and return the land to its former use, the landowner may pay no more than 20 percent of the reclamation cost.

113 Although any orphan mine reclamation program should certainly provide the landowner the opportunity to upgrade his land (indeed, a landowner's opportunity to upgrade should not be limited to recreational and agricultural uses, as does the bill, but should permit commercial, institutional, and industrial uses as well), the program should not give him a windfall at the public's expense. Because the upgrading of land usually involves extensive and expensive earth moving, the cost of upgrading land is often many times more than the cost of basic reclamation.

113 Similarly, the land acquisition program (Section 405) would permit the upgrading of orphan mine land without recovering the full cost of that upgrading. Although this program would require a lien to be placed on all reclaimed land which was significantly increased in value by the reclamation, the lien would be limited to the actual increase in market value of the land, regardless of the amount of public money spent on reclamation. Again, because of the expense of huge earth-moving operations, the cost of upgrading will more often than not exceed its benefit.

113 6. The legislation should provide that landowners, as a minimum, pledge to take reasonable measures to protect the reclamation work, prevent remaining, and permit appropriate public access to the reclaimed property.

113 7. The orphan mine reclamation programs would best attain their environmental objectives if the legislation were to require that reclamation be conducted on a watershed-by-watershed basis and be begun in each watershed only after assurances that it could be completed for approximately 85 percent of the orphan mines in the watershed.

113 8. Creation of the Abandoned Mine Reclamation Fund, which would be funded primarily by a Federal severance tax on coal, is good, but the rate of the severance tax seems unnecessarily high to accomplish needed environmental protection.

113 Although this severance tax will not substantially increase the cost of coal, it will cause the Fund to receive far more money than will be needed to achieve realistic goals. For instance, TVA's current orphan mine reclamation program, which will reclaim about 20 percent of the orphan mines in the entire Appalachian region, is presently estimated to cost only about \$23 million. These same areas reclaimed to the degree of reclamation proposed in the bill would cost \$200 million.

114 If the severance tax is to remain at the proposed level, we suggest that the purposes for which it may be spent be increased to include coal mining-related social and economic problems. First, spending severance tax receipts on these problems would be better than unnecessarily "gold-plating" the reclamation programs. Second, the ability to spend severance tax receipts on coal mining-related social and economic problems would help make the 50 percent local expenditure requirement of section 401(e) more workable. For instance, because of the recent boom in western coal mining, the western states are likely to produce far more severance tax receipts than they can spend on orphan mines, of which they have few. However, severance tax receipts could be beneficially spent on alleviating the serious social and economic problems that accompany the rapid growth in coal production in an area.

114 The need for as much money as is allocated for sealing underground mines is also questionable. While these mines do present environmental hazards which should be corrected as quickly as possible, it is questionable whether the technology for doing so is sufficiently developed at present for this undertaking to proceed on a full-scale basis. The severance tax, of course, might have to be increased at a later date to finance this undertaking after improved technology is available.

#### 114 II. The TVA Orphan Mine Reclamation Program

114 The best approach to orphan mine reclamation is exemplified by TVA's comprehensive orphan mine program, which has been approved by Congress and was begun in mid-1976.

114 TVA's program is a 5-year, 38-county orphan mine reclamation demonstration carried out in cooperation with the states of Alabama, Kentucky, Tennessee, and Virginia. Its purpose is to test administrative arrangements and reclamation technologies which could serve as a guide for similar efforts throughout the Nation's coal fields. This effort will bring about the reclamation of 86,000 acres - approximately 20 percent of the orphan mine problem throughout

Appalachia. This demonstration involves "minimum disturbance reclamation" - that is, the minimum level of work necessary to correct problems of surface water flow, to minimize erosion and acid water drainage, to return land to productive forest and wildlife use, and to enhance aesthetic values. More specifically, reclamation will include grading and restructuring of drainages, building silt traps and settling basins where necessary to reduce siltation, burying toxic wastes, and planting the land in trees, shrubs, grasses, and legumes to stabilize the soil and eventually cover the scars of the orphan mines.

115 The keystone of TVA's program is the cooperative agreements which are being entered into by TVA, the respective state, and each landowner. Under the program TVA will pay the entire cost of reclamation to correct the offsite environmental problems and return the land to productive forest and wildlife use. Many landowners are voluntarily contributing to the basic effort. Those who desire additional improvement to their lands must pay the additional costs involved. In addition, landowners are required to take reasonable measures to protect the reclamation work from disturbance, prevent re-mining, and allow public access for recreational use.

### 115 III. Control of Current Surface Mining

115 A strong Federal program to control the environmental impacts of surface coal mining should be established. TVA urged the President to approve H.R. 25, the surface mine control legislation passed by the 94th Congress - in spite of TVA's reservations with regard to some specific provisions in the legislation and the fact that TVA believed the bill to be unnecessarily detailed. Most of these problems remain in H.R. 2. The ones about which there is the greatest concern are the following:

115 1. Back-to-Contour-Cost - Although no judgment is being made for others as to how much extra cost is too much, there should be a clear awareness of the actual cost of back-to-contour reclamation. TVA's Massengale Mountain demonstration project is the only commercial scale project for which complete and detailed cost records are available for back-to-contour reclamation. A University of Tennessee group analyzed these cost records three different ways and reached a very simple conclusion: that the difference in cost between back-to-contour reclamation and current good reclamation practices amounts to about 40 cents for each cubic yard of overburden. This would amount to an extra \$3 to \$4 for each ton of coal mined from steep slope Appalachian mines. These cost figures are in 1973 dollars and must, of course, be escalated to whatever year is being considered.

116 2. Back-to-Contour Standards - Lands disturbed by surface mining should be returned to their approximate original contour unless it can be shown that some other configuration will support specific postmining uses which are equal or better economic or public uses as compared with the premining use and that all necessary actions are taken to prevent any adverse environmental impacts. The "back-to-contour" provision of H.R. 2 is generally satisfactory. Based on TVA's Massengale Mountain demonstration project, however, some of the detailed requirements may be too ironclad and inflexible:

116 A. At Massengale TVA permitted the use of a small portion of the downslope to place excess spoil material permanently, providing it met stability, drainage, and other requirements similar to those in Section 515(d) (1) regarding the permanent placement of spoil.

116 Because the material overlying a coal seam "swells" approximately 25 percent in central Appalachia, in steep slope situations all of it cannot usually be replaced into the mining cut. The excess maybe placed somewhere else. The area immediately downslope of the cut is the least costly site on which to place the excess. It is usually no steeper than any alternate offsite locations and has the advantage of not adding an unnecessary scar to some other area not adjacent to the mine. Downslope placement should, of course, not be permitted unless it meets all the applicable stability, drainage and other requirements for offsite placement and is approved by the regulatory authority.

116 B. The bill should clearly permit and encourage terracing to control surface erosion inevitable with "back-to-contour" spoil placement.

117 C. The bill should permit regulatory authorities to approve leaving a reasonable number of future deep mine openings from the mine bench, providing adequate environmental safeguards are taken.

117 3. Back-to-Contour Variances - Section 515(c) of H.R. 2 would permit for Eastern coalfields the appropriate Federal or state regulatory authority to grant variances from the "back-to-contour" requirement only for mountaintop mining and only where the entire coal seam is removed. TVA's experience is that each mining situation should be judged on its own merits and should be eligible for the statutory exception, provided it qualifies under strict environmental and land-use criteria.

117 In many parts of Appalachia there is a serious shortage of level land for agriculture, homes, schools, hospitals, and other public buildings. Often the only level land available is in the floodplain. Perhaps more importantly, industrial development, which could help diversify the Appalachian economy, is

discouraged when there are no suitable plant sites.

117 The bill, as written, would of course permit the use of totally cleared mountaintops (man-made plateaus) for such purposes. The problem is that mountaintop sites are too few and often remote. The flat benches following mountainside mining or partial mountaintop mining could meet many of these needs while accommodating environmental and aesthetic concerns. In the TVA region such bench sites have been used for housing, industrial parks, schools, and recreation areas. Specific examples are extensive grazing areas in Fentress County, Tennessee; Indian Mountain State Park in Campbell County, Tennessee; and school, home, and industrial sites in Wise County, Virginia. Scattered throughout the region are sanitary landfills utilizing contour surface mine benches.

117 If the bill were thus changed, such variances would still probably be few in number. First, only a few additional mining sites would qualify for a variance. As noted in connection with orphan mine reclamation, less than 10 percent of the mined land has the potential for substantially higher uses. Second, creating a flat bench for development may substantially increase mining costs. If the downslope cannot be used for most of the spoil material, it must be hauled by truck to offsite locations. For instance, at TVA's Massengale project, some of the excess spoil was trucked to previously mined areas, but such convenient nearby storage areas will often be unavailable. Every additional yard of spoil that must be trucked offsite and every increase in distance will, of course, substantially increase mining costs. Consequently, since more spoil must be trucked offsite when a flat bench is created than when back-to-contour reclamation is used, creating a flat bench may be more expensive than employing back-to-contour reclamation.

118 4. Understandability - Although most of the environmental and permit requirements in H.R. 2 are beneficial, some are unnecessarily detailed and complex. Small mine operations without sizable legal and engineering staffs may have difficulty understanding many of the requirements and picking their way through the sea of procedure. This problem is likely to be most severe in Appalachia, where many of the surface mining operations are relatively small. Some attempt should be made to simplify the requirements and procedural steps in the bill, or, at least, in the implementing regulations, so that they will be more understandable to small mine operators.

118 5. Small Miner Financial Assistance - The bill should create a financial aid program of federally guaranteed loans, interest rate subsidies, or other financial assistance in order to help small and marginal mine operators meet the large capital investments which "back-to-contour" reclamation on steep slopes will require. Because such "back-to-contour" reclamation will require

the purchase of additional bulldozers and massive off-the-road trucks, it could drive many small and marginal mine operators out of business without some financial assistance.

118 Based on a University of Tennessee analysis of TVA's Massengale Mountain back-to-contour reclamation project, the capital requirements of "back-to-contour" reclamation for small Appalachian mine operators will increase 30 to 40 percent. This additional capital is needed to buy the massive bulldozers and off-the-road trucks - each of which costs more than \$2 00,000 - required to perform "back-to-contour" reclamation. Many small and marginal mine operators may be unable to secure such financing and will be forced out of business - with obvious economic and production loss consequences.

119 This capital problem could, however, be overcome by including an appropriate financial assistance program in the bill.

119 6. Interim Program - The interim program provided for in Section 502 would require back-to-contour reclamation to begin at new mines six months after enactment of H.R. 2 and at existing mines 12 months after enactment. According to the University of Tennessee report on TVA's Massengale Mountain project, there may be insufficient production capacity to supply within this time frame the massive haul-back trucks needed to carry out back-to-contour reclamation efficiently. As a result, there could be coal production losses. The report recommends:

119 Federal back-to-contour surface mine reclamation requirements should be phased in over a two to three year period. Unless back-to-contour requirements are phased in slowly, critical equipment markets will not be able to meet new demands and short-run declines in production will be unavoidable.

#### 119 IV. "Federal Lands" - Suitability for Mining

119 Because the definition of "Federal lands" in H.R. 2 includes all land or mineral interests owned by the United States, without regard to how the United States acquired ownership or which Federal agency administers the land, the literal definition would give the Department of the Interior the authority to prevent the mining or impose special requirements on the mining of coal and other mineral properties which have been acquired for the TVA power system - with the funds of electric power consumers in the Tennessee Valley.

119 Section 522(b) would authorize the Secretary of the Interior to designate portions of "Federal lands" as unsuitable for surface coal mining operations. Such a designation could be made if Interior found that surface coal mining operations are incompatible with existing land use plans; could

result in significant damage to important historic, cultural, scientific, and aesthetic values and natural systems; could result in substantial loss of long-range water supply or of food or fiber products; or could substantially endanger life and property.

119 Section 601 would similarly authorize the Secretary of the Interior to designate portions of "Federal lands" as unsuitable for mining minerals other than coal.

120 Section 523 would authorize the Secretary of the Interior to impose any additional requirements he wishes in regard to surface coal mining and reclamation on "Federal lands" and to issue permits before most coal exploration could be conducted on such lands.

120 Accordingly, the definition of "Federal lands" should be amended to expressly exclude lands and mineral interests acquired or owned by TVA:

120 1. Congress does not intend the definition of "Federal lands" to include lands or mineral interests acquired by TVA.

120 Although TVA owns coal lands and uranium interests which literally meet the definition of "Federal lands," TVA is not the kind of public landowner intended in the definition. TVA is a corporation created by Federal law. It carries on its own business, borrows money, issues bonds, generates and sells electric power, and so forth. The definition was instead intended to cover agencies like the Bureau of Land Management, which administers public lands. That Congress did not intend the definition of "Federal lands" to apply to TVA lands was clearly stated by Senator Metcalf, the floor manager of S. 425, a predecessor bill in the 93d Congress, and Senator Mansfield, the author of the "Federal lands" definition, in a colloquy with Senators Baker and Sparkman [119 Cong.Rec. 33331 (Oct. 9, 1973)]. In a subsequent letter to Congressman Haley, Chairman of the House Interior and Insular Affairs Committee, Senator Mansfield stated:

120 At the conclusion of the Senate debate on S. 425, Senator Sparkman raised a question as to the applicability of my amendment to the Tennessee Valley Authority and its activities because TVA does operate in the name of the United States of America in exercising its right of eminent domain and in holding real property. It would appear that a modification is in order to exclude Federally chartered corporations of this nature. The intent of my amendment was to include only those lands which are subject to lease under applicable land and mineral laws governing public domain [119 Cong.Rec. 33956 (Oct. 12, 1973)].

121 2. Before mining any lands, TVA already has made a determination as to the suitability of mining those lands pursuant to its obligations under the

National Environmental Policy Act of 1969, which determinations are subject to appropriate judicial review.

121 3. If TVA lands were subject to the definition of "Federal lands," the Secretary of the Interior would be given substantial power to administer TVA lands without having any responsibility to TVA electric customers like that owed by the TVA Board of Directors.

121 4. Excluding TVA lands from the definition of "Federal lands" would not affect Section 524 of the bill under which TVA would be required to comply with Title V of the bill on the same basis as any other Federal agency engaging in any surface mine operations.

#### 121 V. Applicability of Section 714 to TVA

121 Section 714 of H.R. 2 would provide certain protection to the surface owner of land where the coal is owned by the United States. Like the situation with regard to the definition of "Federal lands," this section is not intended to apply to coal which has been acquired by TVA for the benefit of its electric power system and power consumers, and TVA should be expressly excluded:

121 1. The section was intended to apply only to coal on Federal "public lands," since it directs the Secretary of the Interior to offer such coal deposits for lease, authority he does not have over TVA-acquired coal deposits.

121 2. Although TVA acquires real property in the name of the United States, its coal deposits are acquired for the exclusive benefit of the TVA power system - with the funds of electric power consumers.

121 3. Subjection of TVA coal deposits to the provisions of Section 714 could result in TVA electric power consumers' losing their investment in the coal deposit if the surface owner fails to consent to surface mining or in their having to pay twice for those deposits - once for the original acquisition and again as a settlement with the surface owner.

#### 122 RECLAMATION OF RURAL LANDS

122 SEC. 404. (a) In order to provide for the control and prevention of erosion and sediment damages and acid mine diainage from unreclaimed mined lands, and to promote the conservation and development of soil, woodland, and water resources of unreclaimed mined lands and lands affected by mining, the Secretary of Agriculture is authorized to enter into agreements, of not more than ten years with landowners (including owners of surface rights, mineral rights, water rights, residents and tenants, [and] individually or collectively) determined by him to have control for the period of the agreement of lands in

question therein, providing for land stabilization, erosion, and sediment control, and reclamation through conservation treatment, including measures for the conservation and development of soil, water (excluding stream channelization), woodland, wildlife, and recreation resources; commercial, industrial, and institutional uses; and agricultural productivity of such lands. Such agreements shall be made by the Secretary with the land owners, [including owners of water rights, residents, or tenants (collectively or individually)] of the lands in question.

122 (b) The landowner, with the assistance of the local soil conservation district, [including, the owner of water rights, resident, or tenant] shall furnish to the Secretary of Agriculture a conservation and development plan setting forth a basic reclamation plan and such other [the] proposed land uses and conservation treatment as [which] shall be mutually agreed to by the Secretary of Agriculture and the landowner, [including owner of water rights, resident, or tenant to be needed on] for the lands for which the plan was prepared. In those instances where it is determined that the water rights or water supply of a [tenant,] landowner, [including owner of water rights, residents, or tenant have] has been adversely affected by a surface or underground coal mine operation which has removed or disturbed a stratum so as to significantly affect the hydrologic balance, such plan may include proposed measures to enhance water quality or quantity by means of joint action with other affected landowners (including owner of water rights, residents, or tenants) in consultation with appropriate State and Federal agencies.

123 (c) Basic reclamation is that work necessary to improve off-site water quality and off-site aesthetic values and obtain other environmental benefits and includes

123 (1) the minimum earth movement necessary to properly direct water, bury toxic wastes, and prepare planting sites;

123 (2) constructing silt traps or settling basins at critical points to catch soil that is washing from the area being reclaimed;

123 (3) sowing seeds and seedling legumes to provide ground cover on critical sites; and

123 (4) intensive tree and shrub planting to provide long-term soil stabilization, to blend the reclaimed area with the surrounding landscape, and to provide additional benefits for forest and wildlife production.

124 (d) [(c)] Such plan shall be incorporated in an agreement under which the landowner, [including owner of water rights, resident, or tenant] shall agree with the Secretary of Agriculture to effect the basic reclamation program

and such other land uses and conservation treatment as are provided for in such plan on the lands described in the agreement in accordance with the terms and conditions thereof.

124 Each such agreement shall include among its terms and conditions, specific provisions requiring each landowner

124 (1) to permit official representatives of the Secretary of Agriculture and the local soil conservation district to enter upon and occupy the area to be reclaimed to carry out the plan, to provide technical assistance and guidance, to inspect the reclamation work, and to perform such other duties as necessary to carry out the plan and agreement;

124 (2) to take all reasonable steps to protect the basic reclamation work for not less than five years;

124 (3) to protect reclaimed areas from further mining or disturbance not in accordance with the plan for not less than five years; and

124 (4) to permit for not less than five years public access to reclaimed areas for recreational purposes and the use and enjoyment of its wildlife resources to the extent which such access does not interfere with basic reclamation or with such uses as are set forth in the plan.

125 (e) In return for such agreement by the landowner, the Secretary of Agriculture is authorized to furnish financial and other assistance to such landowner in such amounts and subject to such conditions as the Secretary of Agriculture determines are appropriate to carry out the basic reclamation program set forth in the plan and agreement. The agreement shall provide that the landowner provide the entire amount of financial and other resources necessary to carry out such additional land use and conservation treatment as set forth in the plan and agreement.

125 (f) No basic reclamation provided for under any plan and agreement shall begin until at least eighty-five percent of all reclaimed mined lands within the same watershed are either subject to agreements with the Secretary of Agriculture under this section or have been designated for reclamation by the Secretary under section 406, unless the Secretary of Agriculture determines that some lesser percentage can be reclaimed without losing the off-site and environmental benefits of such reclamation by virtue of the condition of the lands not subject to such agreements or not designated by the Secretary under section 406.

126 (g) In order to carry out the provisions of this section, the Secretary of Agriculture may enter into agreements with local soil conservation

districts which have unreclaimed mined lands within their boundaries to perform certain supervisory, administrative, and technical services with regard to the reclamation work carried out under this section in those districts. Each such agreement shall include specific provisions requiring

126 (1) the local soil conservation district

126 (A) to identify watersheds containing unreclaimed mined lands and assign reclamation priorities based on the seriousness of the off-site and other environmental problems, landowner willingness to participate, and local unemployment levels;

126 (B) to assist landowners in preparing conservation and development plans and to prepare master plans for individual watersheds;

126 (C) to assist in securing written agreements with landowners;

126 (D) to provide technically trained supervisors and inspectors;

126 (E) to organize and conduct the work described in the conservation and development plans, making maximum use of the local unemployed labor force;

126 (F) to evaluate and award bids to local contractors for machine grading and assure that the work is properly scheduled and completed;

126 (G) to assure the availability of necessary seeds and plant materials;

127 (H) to inspect the work carried out under the landowner agreements;

127 (I) to monitor selected watersheds to measure the reduction of siltation and chemical pollution; and

127 (J) to maintain appropriate records on work conducted and funds expended, subject to audit by the Secretary of Agriculture; and

127 (2) the Secretary of Agriculture

127 (A) to prepare reclamation standards to insure the reduction of silt and chemical pollution of streams, erosion control, improvement of aesthetics, and reestablishment of desired vegetation;

127 (B) to review the watershed priorities and schedules recommended by the local soil conservation district prior to the commencement of reclamation work in the watershed;

127 (C) to assist in training reclamation planners and inspectors;

127 (D) to provide technical assistance and guidance;

127 (E) to inspect reclamation work in progress; and

127 (F) to audit the records maintained by the local soil conservation district and pay the costs of carrying out basic reclamation programs and the administrative expenses of the local soil conservation district in carrying out this agreement.

127 22 (h) [(e)] The Secretary of Agriculture may terminate any

127 23 agreement with a landowner or a local soil conservation district [including water rights owners,

127 24 operator, or occupier] by mutual agreement if the Secretary

127 25 of Agriculture determines that such termination would be in the public interest, and may agree to such modification of agreements previously entered into hereunder as he deems desirable to carry out the purposes of this section or to facilitate the practical administration of the program authorized herein.

128 (i) [(f)] Notwithstanding any other provision of law, the Secretary of Agriculture, to the extent he deems it desirable to carry out the purposes of this section, may provide in any agreement hereunder for (1) preservation for a period not to exceed the period covered by the agreement and an equal period thereafter of the cropland, crop acreage, and allotment history applicable to land covered by the agreement for the purpose of any Federal program under which such history is used as a basis for an allotment or other limitation on the production of such crop; or (2) surrender of any such history and allotments.

128 (j) [(g)] The Secretary of Agriculture shall be authorized to issue such rules and regulations as he determines are necessary to carry out the provisions of this section.

128 (k) [(h)] In carrying out the provisions of this section, the Secretary of Agriculture shall utilize the services of the Soil Conservation Service.

128 (l) [(i)] Funds shall be made available to the Secretary of Agriculture for the purposes of this section, as provided in section 401(c).

129 The CHAIRMAN. Our next witness is Mr. Robert Mullins of the National

Farmers Union.

129 Thank you for coming, Mr. Mullins. We have your statement. Do you wish to read it in full, or summarize it?

129 Mr. MULLINS. Mr. Chairman, I will try to summarize it.

129 The CHAIRMAN. It will be printed as though read in full and you can summarize it. Proceed.

129 [Prepared statement of Robert Mullins may be found at the end of his testimony.]

STATEMENT OF ROBERT J. MULLINS, LEGISLATIVE ASSISTANT, NATIONAL FARMERS UNION

129 Mr. MULLINS. As an organization of family farmers and ranchers, the National Farmers Union has long been active in support of legislation promoting soil and water conservation programs and projects. Family farmers and ranchers have taken great care over the years to protect the land and water resources of this Nation. As a result of this stewardship, the land has returned, to the farmer and consumer of this country, an abundance of high-quality food and fiber products.

129 We feel it is imperative that such conservation programs, reclamation programs, continue in the economic interests of both the consumer and the producer. This is one of the major reasons that the Farmers Union is pleased to support this legislation.

129 We are also pleased to note that the Secretary of the Interior, Mr. Andrus, and by means of the letter that the chairman read into the record this morning, both indicate the administration's strong support of this legislation.

129 The Farmers Union would also like to commend the chairman for his long-term efforts in supporting this type of legislation.

129 Farmers Union members meeting in New Orleans at our meeting last year adopted a position that:

129 A strong Federal statute on strip mining is needed so that any land stripped to recover underground resources must be returned to its original classification or higher so that the land can be put back into production. We favor requiring the posting of bonds or percentage value severance tax measures to ensure enforcement.

129 The members further stated that:

129 Any land not fully restorable to its original agricultural use should be banned to strip mining. All land already subjected to strip mining must be

restored to its original use.

129 Furthermore, the Farmers Union recommends that the following provisions be included in any legislation: First, that land and water resources must be protected from destruction or damage by surface mining operations.

129 Second, the concept of total resource recovery be required in all mining operations.

129 Third, strip mining should be for bid even in alluvial valley floors, and fourth, individual written consent must be secured from surface owners where the Federal Government owns the mineral rights prior to any lease of such lands for strip mining.

130 We feel H.R. 2 meets most of our minimum criteria for most of this legislation.

130 As a nation, we are faced with the challenge of increasing our self-reliance on domestic sources of energy, we must also be cognizant of our responsibility to protect our land and water resources and our agricultural production capabilities.

130 Mr. Chairman, we have got to strike a balance, or maybe in better terms, we have to set some national priorities on the use of our land.

130 It has been pointed out in this legislation through these hearings and through many reports and studies that we have vast resources of coal in this country.

130 The Farmers Union believes that there is no need, absolutely no need to strip mine good agricultural land needed to produce food and fiber. We feel that we must be selective as to where we allow surface mining activities.

130 It is our belief that under section 522, that we provide the mechanism for the protection of these agricultural lands and our natural water systems.

130 I would just like to touch on a few provisions of this that we feel are extremely important. First, the Farmers Union does accept the provisions in section 510 relating to the restrictions on mining in alluvial valley floors, although as indicated earlier, we would prefer an absolute prohibition against it.

130 Second, we support title IV, the abandoned mine reclamation provisions in the bill.

130 Provisions calling for reclamation of rural lands could result in a

return to productive use of many acres not now suitable for either agriculture or forest industry use.

130 During a time that we are losing millions of acres of farmland every year to different purposes, we feel that reclamation of these lands could provide us with a possibly needed reserve for the future.

130 On public lands, we would like to see reclamation projects carried out through public employment programs, such as the Farmers Union green thumb program, which could provide for parks, nature reserves, or other such uses.

130 Third, we feel provisions of 714 relating to surface owner protection is vital to protecting the rights and economic livelihood of farmers and ranchers, particularly in our Western lands.

130 In the event that surface mining is conducted on lands where the mineral rights are with the Government and the surface rights with the property owner, we feel the compensation requirements of this section are only fair and reasonable since the income-producing ability of the land is destroyed during the mining period.

130 Finally, although there is a substantial amount of coal that can be recovered through the relatively less costly and expedient method of surface mining, the bulk of our national coal reserves must be recovered through the use of underground mining technology. Therefore, we support the provisions in the legislation which provided for reserve and demonstration projects on alternative coal mining technologies and certainly urge that those provisions be adequately funded.

130 The Farmers Union feels the time has come for stringent controls upon the effect of strip mining operations.

131 Even though we are in the midst of an energy crisis, the Congress must not abdicate its responsibilities and capitulate to the demands that environmental considerations, agricultural and recreational uses of land must be subordinated to the exploitation of that same land.

131 This is a short-term approach to a long-term problem. We believe it is imperative that as a first step in attempting to solve this problem we develop a comprehensive, coordinated national energy policy, and we feel that elements of that policy should include a thorough research into causes and remedies of the

crisis, producing corporate control over the sources and distribution of energy, equitable distribution and efficient development of energy to assure adequate production of food and fiber, a pricing policy which will prevent economic hardship, and balancing energy needs with a necessity to maintain a safe and ever-renewing environment, and finally, a massive program to develop renewable resources of energy to reduce our dependence on fossil fuels.

131 Mr. Chairman, we feel the legislation before this committee would go a long way and would be a part of that national energy policy, and we thank you for the opportunity to express our comments today.

131 The CHAIRMAN. Thank you, Mr. Mullins.

131 I like the constructive and sensible approach that NFU has taken on this problem, and I personally appreciate your presence here today. I think you emphasized the need for the Nation to focus on protection of one of our greatest resources, which is the prime, productive agricultural land. There is no place on Earth that has the productive agricultural land that we have, and we ought to take it into account when we decide how to meet our energy needs. I saw a figure that 2 million acres of choice farmland are being chewed up for highways and shopping centers and strip mining, the whole range of things that our society needs as it grows.

131 It seems to me if we are wise, we can do the strip mining on rocky soils, if we have a choice, and not do it in an alluvial valley floor, which is so vital to the agricultural production in the West. I think we can add a little commonsense to this problem. It fits in with my philosophy and I like it very much.

131 Mr. SEIBERLING. Would the chairman yield?

131 The CHAIRMAN. Yes.

131 Mr. SEIBERLING. It is interesting that hard on the heels of our energy crisis, we have an incipient food crisis as a result of the drought in California, and it will be interesting to see how those who are using the energy crisis as a cloak to stop control of the land will deal with the food prices. If Mr. Mullins would like to comment on that -

131 Mr. MULLINS. We are very concerned. We have already seen projections of increased production costs next year because of this. I think our approach to moving to a dependence on other than fossil fuels and natural gasses is an attempt to make a step in the right direction to eliminate some of those problems in the future.

131 The CHAIRMAN. Are there any other questions?

131 Thank you, Mr. Mullins.

131 [Prepared statement of Robert Mullins follows.]

132 Testimony of Robert J. Mullins Legislative Assistant National Farmers Union on H.R. 2 "Surface Mining Control and Reclamation Act of 1977" before Energy and the Environment Subcommittee Committee on Interior and Insular Affairs U.S. House of Representatives

132 February 16, 1977

132 I am Robert J. Mullins, Legislative Assistant for the National Farmers Union.

132 As an organization of family farmers and ranchers the National Farmers Union has long been active in support of legislation promoting soil and water conservation programs and projects. Family farmers and ranchers have taken great care over the years to protect the land and water resources of this nation. As a result of this stewardship the land has returned, to the farmer and consumer of this country, an abundance of high quality food and fiber products. It is imperative to the economic well-being of producers and consumers that such conservation practices be continued. This is a major reason that the National Farmers Union supports the "Surface Mining Control and Reclamation Act of 1977".

132 We are pleased to note that Secretary of the Interior Andrus has given strong Administration support to surface mining legislation and we commend the Chairman for his efforts to enact such legislation into law.

132 Farmers Union members meeting in New Orleans last March adopted the position that "a strong federal statute on strip mining is needed so that any land stripped to recover underground resources must be returned to its original classification or higher so that the land can be put back into production. We favor requiring the posting of bonds or percentage value severance tax as measures to insure enforcement."

133 The members further stated that, "any land not fully restorable to its original agricultural use should be banned to strip mining. All land already subjected to strip mining must be restored to its original use."

133 Furthermore, Farmers Union recommends that the following provisions be included in any surface mining legislation:

133 (1) Land and water resources must be protected from destruction or

damage by surface mining operations;

133 (2) The concept of total resource recovery be required in all mining operations. This means that land would only be disturbed once and reclamation would be permanent;

133 (3) Strip mining should be forbidden in alluvial valley floors; and

133 (4) Individual written consent must be secured from surface owners where the Federal Government owns the mineral rights prior to any lease of such lands for strip mining.

133 Farmers Union finds that H.R. 2 meets most of our minimum criteria for surface mining regulation.

133 Although as a Nation we are faced with the challenge of increasing our self-reliance on domestic sources of energy to warm our houses, run our industry and produce our food, we must also be cognizant of our responsibility to protect our land and water resources and our agricultural production capability. We must strike a balance, or perhaps more correctly, establish a set of national priorities, over the use of our land.

133 As is pointed out in this legislation, through these hearings and many reports and studies, we have vast resources of coal in this country. Farmers Union believes that there is absolutely no need to strip mine good agricultural land needed to produce food for our people. We feel that we must be selective as to where we allow surface mining activity. It is our belief that Section 522 of the Act provides adequate safeguards for the protection of agricultural lands and natural water systems.

133 Although I shall not review each of the sections of this Act individually, I would like to discuss certain provisions.

133 First, Farmers Union accepts the provision in Section 510(5) relating to the restrictions on mining in alluvial valley floors, although we would prefer an absolute prohibition of such activity.

133 Secondly, we support Title IV, "Abandoned Mine Reclamation", which provides for reclamation of previously mined lands that have been left in a state which endangers or contributes to erosion and water pollution. The provisions calling for reclamation of rural lands could result in a return to productive use many acres of land not now suitable for agricultural or forestry

production. In a period when we are losing millions of acres of farmland each year such reclaimed land could provide a possibly needed reserve. On public lands, reclamation projects could be carried out with the assistance of public service employment programs, such as the Farmers Union Green Thumb Program, to provide recreational areas, parks or nature preserves.

134 Thirdly, we feel the provisions outlined in Section 714 relating to surface owner protection is vital to protecting the rights and economic livelihood of farmers and ranchers, particularly in our Western lands. In the event that surface mining is conducted on lands where the ownership of mineral rights is vested in the federal government and surface rights to an individual party, the compensation requirements of this section are only fair and reasonable since the income producing ability of the land is destroyed during the mining period.

134 Finally, although there is a substantial amount of coal that can be recovered through the relatively less costly and expedient method of surface mining the bulk of our national coal reserves must be recovered through the use of underground mining technology. We support the provisions of the legislation which provide for research and demonstration projects on alternative coal mining technologies and urge that it be adequately funded to expedite the expansion of underground mining as opposed to surface mining.

134 Stringent controls upon the effects of strip mining operations must be enacted at this time. Even though we are in the midst of an "energy crisis" the Congress must not abdicate its responsibility and capitulate to the demands that environmental considerations, agricultural and recreational uses of land must be subordinated to the exploitation of the same land for surface mining in the name of "energy independence".

134 Surface mining, in our opinion, is a short-term approach to a long-range problem.

134 It is imperative that, as a first step in trying to solve our continuing "energy crisis", we develop a comprehensive coordinated national energy policy.

134 National Farmers Union recommends that:

134 "Elements of a rational energy policy include: (1) Thorough research

into the causes and remedies of the current crisis; (2) reducing control of giant corporations of the sources, production, and distribution of energy; (3) equitable distribution and efficient development of energy to assure adequate production of food and fiber; (4) pricing policy which will prevent economic hardship; (5) balancing energy needs with the necessity to maintain a safe and ever-renewing environment; and (6) a massive program to develop renewable sources of energy to reduce our dependence on fossil fuels, including economic assistance for family farmers and ranchers to make agriculture more self-sufficient through increased application of alternative forms of energy."

135 The CHAIRMAN. Our next witness is Mr. W. P. Schmechel, president, Western Energy Co., Montana Power Co.

STATEMENT OF W. P. SCHMECHEL, PRESIDENT AND CHIEF OPERATING OFFICER, WESTERN ENERGY CO.

135 Mr. SCHMECHEL. My name is Paul Schmechel. I am president and chief operating officer of Western Energy Co., which is a whollyowned subsidiary of the Montana Power Co. with headquarters in Butte, Mont.

135 Western Energy Co. is engaged in the development and production of coal in Montana, Wyoming, and Texas, and is producing coal at its surface mine at Colstrip, Mont., for sale to Montana Power, Puget Sound Power & Light Co., and Midwest utilities as fuel for electric generating plants and to small industrial plants.

135 I appreciate very much the opportunity to appear before your committee on the important subject of H.R. 2, the Surface Mining Control and Reclamation Act of 1977.

135 Mr. Chairman, for those of you following my prepared text, in the interest of time I would ask that you move to the second full paragraph on page 3. I will not burden you with a lecture on energy problems in the Northwest.

135 The CHAIRMAN. Good, and we will print the statement in full and you can focus on the point you feel most important.

135 Mr. SCHMECHEL. Western Energy Co., therefore, respectfully requests consideration of the following alterations to H.R. 2 in the interest of making it a more workable instrument in terms of administration, equity and reducing the undesired impacts it otherwise could have on the Nation's coal production.

135 Title IV. - Abandoned mine reclamation. We believe this section should be modified to provide funding for reclamation of orphaned lands from general revenues. The assessment of a reclamation fee of 35 cents per ton of coal produced by surface coal mining and other amounts applicable to underground mining and lignite is an unfair burden on coal mines in those Western States where reclamation always has been an integral part of the mining operations. The problem of unreclaimed orphaned lands exists predominantly in the Appalachian region where coal production has been conducted over a long number of years and in many cases predates reclamation techniques.

135 If the Congress and the President are unwilling to provide funding for reclamation of orphaned lands from general revenues, then we ask that recognition be given to those Western States for the reclamation programs they have developed and followed. Accordingly, we suggest that section 401(d) should be changed to exempt those Western States which have not contributed to the problem. Further, in the event that revised language is not acceptable, the 35 cents per ton or other amounts as specified must be made exempt from the application of percentage royalties, State severance and other production taxes which are based on a percentage of the value of the coal at the mine. This will avoid an unintended bootstrap effect on the selling price of the coal. In Montana, for example, where a 30-percent severance tax, other production taxes and a 12 1/2-percent royalty on U.S. coal are applied, the 35 cents would result in a 57-cents-per-ton increase in the selling price of coal.

136 Section 507(b) (11) requires the applicant for a surface coal mining and reclamation permit to submit a determination of the hydrologic consequences of the mining and reclamation operations, both on and off the mine site.

136 We submit that an applicant may not be able to determine in advance all of the hydrologic consequences. Determinations based on existing mining operations in the general area may be sufficient. Moreover, the applicant may not have access to off-site lands in every case and could be denied the ability to fulfill the requirements of this section. Accordingly, we suggest that section 507(b) (11), line 4, page 63, be changed to read as follows:

136 "(11) a determination of probable hydrologic consequences . . ."

136 Section 508(a) (7) requires that each reclamation plan submitted as part of a permit application shall include a statement of the consideration which has been given to insuring the maximum practicable recovery of the mineral resource.

136 We have a concern over how the word "practicable" may be interpreted. Practicable means capable of being put into practice or accomplished. In many cases an operator may be capable of mining the mineral resource but it may not be marketable either because of the cost of production or quality. Therefore, we suggest that section 508(a)(7), line 18, page 69, be amended to read:

136 "Insuring the maximum practicable recovery of the mineral resource, consistent with its market ability";

136 This amendment will require a definition under section 701, as follows:

136 Marketability of the mineral resource means that the coal to be recovered is economically feasible to mine and is fit for sale in the usual course of trade.

136 Section 508(a)(12) requires a detailed description of the measures to be taken during the mining and reclamation process to assure the protection of the quantity and quality of surface and ground water systems, both on and offsite, from adverse effects of the mining and reclamation processes.

136 In the Western States surface coal mining may interrupt or diminish surface and ground water systems but this impact would be of short duration, that is, during the mining period or until recovery of or saturation of the backfill material occurs. In the meantime alternative sources of water would have to be furnished pursuant to section 515(b)(10)(E). After backfilling and rehabilitation, there is no reason the ground water levels should not recover. With care for water quality problems, no long-term impact on the vicinity should be experienced. Therefore, we suggest that section 508(a)(12), line 14, page 70 be amended to read:

136 Strike the words "assure the protection of" and substitute "protect to the extent reasonably practicable (A) the quantity and quality," and continue from there.

136 Section 510(b)(5)(A) requires the regulatory authority to find in writing that the proposed surface coal mining operations, if located west of the 100th meridian west longitude, would not interrupt, discontinue, or prevent farming on alluvial valley floors.

137 We submit that even with the exceptions provided in H.R. 2 this section is unnecessarily restrictive and unclear. It is our belief that many alluvial valleys are of minor consequence and can be restored, notwithstanding.

Dr. S. L. Groff, director and State geologist, Montana Bureau of Mines and Geology, comments on this situation in his letter dated February 8, 1977, addressed to Senator Lee Metcalf.

137 The point to be made here is that there are many bench areas underlain by old (Pleistocene) river gravels, and there are literally hundreds of small narrow stream valleys that are dry except in the spring and after heavy rains. Such small intermittent-flow streams or alluvial stream valleys might well be removed in the mining process and restored thereafter. It would probably be much more economical to do this than to redirect and move the machinery around these areas. This matter is well worth considering, as in this period of energy problems, coal production in a well-planned and uniform operation is of vital necessity. It would be difficult or impossible under the existing definition to plan a uniform mining program in a unit mining area if such area were crossed by several small, essentially dry stream valleys.

137 To avoid the limitations the legislation would create, we suggest that section 510(b)(5)(A), line 8, page 75, be amended to read:

137 (A) not permanently interrupt, discontinue or prevent farming on alluvial valley floors that are irrigated or naturally subirrigated, but excluding those areas that contain only intermittent streams and excluding undeveloped range land. \* \* \*

137 Section 515(b)(1) sets a minimum requirement for the operation that surface coal mining will be conducted to maximize the utilization and conservation of the solid fuel resource being recovered so that re-affecting the land in the future through surface mining can be minimized.

137 We suggest section 515(b)(1), line 20, page 83 be amended to read:

137 "Fuel resource being recovered, consistent with its marketability, so that re-affecting the land . . ."

137 Section 515(b)(3) requires the operation, as a minimum to restore the approximate original contour of the land with all highwalls, spoil piles and depressions eliminated.

137 The term "highwalls eliminated" is unclear. In the process of surface coal mining in flat or gently rolling terrain a series of cuts are made much like a giant single-bottom plow would make in a field, leaving an intermediate highwall after each cut. Only the last cut would result in a permanent highwall if left unrestored. We assume the legislation intends to prevent leaving that final highwall. Further, because surface coal mining is usually conducted from

a line along the outcrop where coal is found under the shallowest cover, and proceeds into deeper cover with each successive cut, it is extremely difficult in those cases to regrade the final highwall to an approximate original contour. Montana law has recognized this situation by allowing for regrading of the final highwall to a slope not to exceed 20 degrees from the horizontal. Therefore, we recommend that section 515(b) (3), line 14, page 84, be amended to read:

137 "Of the land with all" - and the word "highwalls" is stricken, so that it would read:

137 Of the land with all spoil piles and depressions eliminated (unless small depressions are needed in order to retain moisture to assist revegetation or as otherwise authorized pursuant to this Act) and final highwalls reduced to a slope not greater than twenty (20) degrees from the horizontal.

138 Section 517(e) specifies that each inspector upon detection of each violation shall forthwith inform the operator in writing and shall report in writing any such violation to the regulatory authority.

138 We believe that due process requires the inspector to point out to the operator the nature and location of the violation before the inspector leaves the mine. It has been our experience in several cases that the site of the alleged violation and conditions may have been disturbed or consumed by the ongoing operations before the operator has received notice. The end result is often a controversy.

138 To avoid the problem we suggest amending section 517(e), line 25, page 108 to read:

138 Act, shall point out to the operator the specific nature and location of such violation before leaving the operation and shall forthwith inform the operator in writing. \* \* \*

138 Section 522(a) (3) (A), (B), and (C) refer to areas unsuitable for surface coal mining.

138 The terms are too vague to be meaningful. A subjective determination by a regulatory official could rule out mining in almost any part of the country under these provisions. Without any standards under the law, coal operators and mineral owners would thus be at the mercy of interpretations by the administrator or any litigant deemed interested. Specific guidelines and definitions must be provided to avoid uncertainty.

138 Section 523 provides that the Secretary shall promulgate and implement a Federal lands program.

138 It appears that this section will result in overlapping regulation. It could require that an applicant for a mining permit prepare and submit both to State and Federal authorities complete mining and reclamation plans and other data covering the same tract of land. To compound the problem, each authority may require somewhat different information. To avoid this potential unnecessary and wasteful duplication in those States having effective surface mined land reclamation programs the States should have the clear right to assume regulation of these activities on Federal lands. Therefore, we recommend the language of S. 7, the companion legislation under consideration before the U.S. Senate, section 423(d) be substituted for section 523(e) of H.R. 2.

138 Section 714 specifies that in cases where coal owned by the United States underlies lands the surface rights to which are privately owned, the Secretary must obtain consent of the surface owner before the coal deposits can be offered for lease.

138 We are well aware of the time and attention this committee and the conference committee devoted to the issue of surface owner consent during the last Congress, and we are aware of the fact that the language contained in H.R. 2 was hammered out with the greatest difficulty to satisfy two divergent positions which we might state simplistically as follows:

138 First, certain members of the committee were concerned lest any farmer or rancher be forced to have his farm or ranch disturbed by surface mining simply because the Federal Government two or three generations ago withheld the rights to the mineral beneath the surface he owns; and second, the concern of other members that the surface landowner might be in a position to hold the minerals, the property of all Americans, in hostage until he got some exorbitant sum in exchange for disturbing the surface.

139 Our long experience indicates that both positions are founded largely upon theoretical misapprehensions. Practice, at least in Montana, finds very few surface landowners who are adamantly and unyieldingly opposed to having the land mined and very few whose demands for the economic loss and disturbance such mining causes are exorbitant. We have been able to work with and reach agreement with a number of surface owners where Federal coal underlay their lands and we do not view their payments as exorbitant. We have seldom met a surface landowner who was unalterably opposed to mining. Indeed, as our record

of successful reclamation has developed over the past 7 years the apprehensions and fears of ranchers and farmers have diminished measurably.

139 The Mansfield amendment which is restored in S. 7 denies surface owners the right to permit mining of Federal coal deposits even if they would be happy to do so. In view of the checkerboard pattern of ownership in Montana, it would make impossible any orderly and economic recovery of the resource. We simply could not develop a logical mining unit if all Federal coal over which the surface is in private ownership were excluded from mining.

139 The language in H.R. 2, which was the result of the House-Senate conference, is equally disruptive because it destroys any incentive for a surface owner to permit mining of Federal coal on his land. The result in practice will be precisely the same as the result of the Mansfield amendment. No Montana rancher in his right mind is going to agree to have his land disrupted and his ranching operations interrupted for a period of years in exchange for the money value of the surface owner's interest as fixed under Government regulation.

139 Furthermore, the language of the conference report and of H.R. 2 prohibits what has been a fairly common and highly satisfactory practice in Montana and one which should be permitted: that is the practice of selling outright the ranch or the section of the ranch of concern to the mining operator. Under the provisions of this bill, Western Energy Co. would not be eligible for a coal mining lease if it bought the surface overlying the Federal coal, because we would not be resident on it, we would not be ranching on it and we would not derive any significant portion of our income from farming it.

139 What we are saying merely illustrates the difficulty of writing Federal law to control a simple market transaction between a mining operator and an individual.

139 Under current practice in Montana, at least, there is virtually no way that we can enter upon the land of a man who adamantly refuses to consider any mining operation. Therefore, as we see it, the surface owner consent provision does not protect any significant number of people who seek or need such protection. Conversely, it would discourage surface owners from reaching agreement with mining operators, and it prevents the mining operator from buying the ranch even if this is the desire of that owner who has title to it free and clear.

140 The only real problem that needs to be addressed is that of the third party speculator who in the past signed surface mining leases with landowners for a few dollars per acre or a tiny fraction of a future royalty. These speculators then offered the leases to legitimate mining operators at a very large profit. If there need be any legislative action in this area, we

believe that this is the problem the Congress should address. Therefore, we suggest that section 714(g), line 12, page 174, be amended by adding another paragraph as follows:

140 Granting the consent, or (4) is a bona-fide operator pursuant to the definition provided under this act.

140 Mr. Chairman, I realize that my comments have been extremely lengthy, but it must be remembered that we are dealing with a lengthy piece of legislation which can have long-term consequences on the energy supplies of this Nation.

140 I would ask that my presentation be included in the record of these hearings. On behalf of Western Energy Co. and for myself, I would like to express to the chairman and the members of the committee our appreciation for allowing us to testify here today and for the courtesy that has been extended.

140 Thank you.

140 The CHAIRMAN. Thank you, Mr. Schmechel. I appreciate your long and detailed critique. This is the sort of focus we need if we are going to write a good bill.

140 What has been your experience with reclamation? Are you satisfied that you can restore the land and get growth coming back?

140 Mr. SCHMECHEL. We are satisfied that we can. At Colstrip and surrounding areas, and our experience has been duplicated in other mining areas of Montana and in Wyoming.

140 The CHAIRMAN. The land we visited 4 years ago had been freshly revegetated and was rolling. Does it have a solid vegetative cover now?

140 Mr. SCHMECHEL. It does, Mr. Chairman, and we have been conducting experiments of grazing livestock on those lands, and have found that to be a very satisfying situation as well.

140 The CHAIRMAN. Are there any questions?

140 Mr. SEIBERLING. Mr. Chairman, I think that some of the suggestions made here are very constructive and certainly are the kind of thing that we ought to consider very carefully, Mr. Chairman, and I am sure we will.

140 I wish all the people who have opposed the bill as written were as specific and as constructive in their approach as these comments are.

140 I would like to comment on the point made on page 6, which is that - in the last paragraph - it says that any interruption of ground water systems would be of short duration, and that no long-term impact should be experienced, and

then you go on and suggest that therefore we change the wording of section 508(a) (12) to read "protect to the extent reasonably practicable," and so forth, instead of saying "assure the protection of."

140 Now, if there is no long-term impact, I don't see anything wrong with the language in the present provisions, because you will be protecting the quality of the water instead of disrupting it. So why is this change necessary?

141 Mr. SCHMECHEL. Because the permit application fees, you have there to specifically state all of those steps which would be taken to assure that protection, and it just isn't lending itself to providing that assurance at the front end. I think you can - I don't want to say speculate - but assume that certain things are going to happen, based on all of the experience that we have had, but when you say the word "assure" that is a pretty definitive term, Mr. Congressman, and that is our concern.

141 Mr. SEIBERLING. You are simply required to show what steps you are going to take to assure this. This is not a guarantee?

141 Mr. SCHMECHEL. If that is the intent of the bill, I think we would have no difficulty with the language in the bill.

141 Mr. SEIBERLING. Well, perhaps we need to take another look at that to make sure it does what we intend.

141 Now, on this study that you referred to about the restoration and reclamation, is that the pit 6 area you are referring to?

141 Mr. SCHMECHEL. It is broader than the pit 6 area. It has extended into the adjacent areas. We have concluded mining in pit 6, and that area was fully reclaimed and we moved out of it about 2 years ago and we have now moved into an adjacent area, and reclamation is also ongoing in that adjacent area.

141 Mr. SEIBERLING. I understand you have had some serious reclamation problems in the pit 6 area. Is that correct?

141 Mr. SCHMECHEL. No; that is incorrect.

141 We have had no serious problems. I am not aware of any problem in pit 6.

141 Mr. SEIBERLING. Didn't you have a major revegetation failure last summer?

141 Mr. SCHMECHEL. No, sir, we did not.

141 Mr. SEIBERLING. Didn't you have to revegetate a good part of this land?

141 Mr. SCHMECHEL. There may have been an area or two, where, with an unusual amount of spring rains some of the seeding washed out, and we replanted those areas. It was not a wholesale reseeding. It was in a very small, selected area, or areas.

141 Mr. SEIBERLING. Is the dry winter likely to give you problems on plant survival in those areas?

141 Mr. SCHMECHEL. I would judge not, because basically the plant species that we are putting in are native to that area, and it has been demonstrated over the years that the native species, certainly, will survive the drought years as well as the good years, and there are areas that have been reclaimed just by natural invasion of native species which have gone through a number of weather cycles, and have endured dry cycles in the Colstrip area.

141 Mr. SEIBERLING. I understand the Montana Department of State Land in an environmental impact statement they issued for the Colstrip operation to identify air particulate problems, and windblown dust and soil as a particular problem.

141 I wonder if you could tell us what you plan to do about this?

141 Mr. SCHMECHEL. That really resulted from several sources. One was from the town of Colstrip where there was a lot of traffic during the construction of power generating units, and that traffic simply carried with it a lot of mud from the fields, and just in the normal county roads, and that was deposited on the streets, and as people continued to drive on it, it would create a dust condition, and we have purchased a street sweeper and that problem is being abated by the normal maintenance procedures used in any city.

142 The other stems from the fact that some of the air monitoring devices are located alongside of a county road which gets quite a lot of traffic, and naturally on any county road which is unpaved you are going to get a certain amount of dust.

142 Mr. SEIBERLING. Are you saying no significant amount originated from your reclaimed area?

142 Mr. SCHMECHEL. No significant amount results from the reclaimed areas where the vegetation has developed and is growing in a satisfactory manner.

142 When you start out with the ground as it is initially regraded and topsoiled, before any crop comes up of native species, you are going to have

some airborne particulate generating from those areas, just like you will from any farmers field adjacent to those areas.

142 But once the vegetative cover has established itself then it contributes no more particulate matter than any adjacent fields.

142 Mr. SEIBERLING. So we really get back to the problem of how long it takes to restore the vegetation.

142 Thank you very much.

142 Mr. VENTO. Mr. Chairman?

142 The CHAIRMAN. Yes.

142 Mr. VENTO. We went through this carefully, and one of the concerns, I think, that was touched on was with respect to the water. I think if you could give assurance in terms of the short duration, since it will be a short time, 3 to 6 months or so, maybe that would solve the problem. That is just a suggestion.

142 But the other aspect I was interested in is on page 5, where, consistent with its marketability, you suggest that the problem of providing a survey on the maximum recovery of mineral resources, I assume the reason that is written into this proposal is to assure, or insure that when we go through the process of strip mining that we end up with the maximum recovery of that resource so that it won't have to be mined again in the future when the market would permit or demand that particular type of cost for coal, or price for coal.

142 So it seems to me that the problem that you have here is that that is a very static view of what the value of the coal is while we are living in sort of a dynamic market for coal. I am interested in your response to that.

142 Mr. SCHMECHEL. Well, my response really would be in two areas. One, I suppose it would be practicable to recover a coal seam 1-foot thick, 200 feet below the surface. That is, it is capable of being done. But there is no system of economics that would permit it.

142 The second relates to quality, and if you have an underlying coal seam that has a very high sulfur content or has some other constituent that is deleterious for fuel purposes, you could mine it but it would have no marketability, and nobody would want to buy it.

143 We have exactly that situation at Colstrip. We have an underlying seam, but we have been unsuccessful in finding a market for the coal.

143 Mr. VENTO. I see you used the word "practicable," but you used it in one of your amendments. I think the concern is that it may be independently not feasible for price reasons to mine very deep coal, but taking into consideration when you are mining coal that is at a more shallow level, it can be mined.

143 The other point that I think that you went over and I just want to see if I have this right, you are talking about comments on site. I expect an inspection team goes out and provided, as it says here, a written statement regarding violations. But your concern goes to the fact that you want a comment immediately on site from that inspector. I am wondering what the effect would be, for instance, if an inspector is working with a team and he goes back and puts his data together in Denver, or some place where he is located, and then says either that violations exist that he was not able to determine immediately as a result of the visual or field inspection, and would that then disallow that particular point?

143 I see that as a problem.

143 Mr. SCHMECHEL. Well, it is a problem for us, and let me relate a specific experience. We received two violations from the State of Montana in January for events that occurred last June 1976. The land has since been totally restored, the conditions have been changed, and there is no way now that we can go back now and identify what actually did occur. We simply have to take the inspector's word for it, and he no longer works for the State land department, the administrative agency.

143 I don't see that situation greatly different than the main enforcement and safety administration inspections which are performed on mined lands, where the inspector finds a violation, he takes the operator out and points out exactly what is wrong, writes out the violation at that time, and hands it to him. He has the right to contest it, of course, but at least the both parties know what they are talking about.

143 Mr. VENTO. Mr. Chairman, and members, I just think that it would be desirable to leave some leeway there for citing a violation so that they could maximize the use of the data they are acquiring on site. I suppose we will have to talk to some inspectors about that. I see your contention that you can't go

back and change the contours if a violation is noted that late in time.

143 The last question I have flows to the page, page 11, where you go through about three pages of describing the consent of surface owners. I am kind of new to this process, but what is the effect of the amendment that you propose, and I think it is on page 14 if I followed the flow of this properly, that you put in "is a bona fide operator." Could you give me an example of how that would work in a practical setting?

143 Mr. SCHMECHEL. As we interpret the bill, we have had a couple of our attorneys to also interpret it, we are not permitted to acquire by outright negotiation with the surface owner his surface interests.

143 In the first place, it may impose on that surface owner a civil penalty if we were to attempt to do that. Second, even if we did it, the committee report indicates that we would not be classifying as a bona fide surface owner, and therefore, the United States would not be permitted to lease those lands.

144 Mr. VENTO. So the essence is that it ratifies agreements that you have made previously, or that you have made independently, rather than through the Secretary?

144 Mr. SCHMECHEL. That is right, and it permits the United States to offer those lands for lease.

144 Mr. VENTO. Thank you.

144 Thank you very much, Mr. Chairman.

144 The CHAIRMAN. Thank you for coming here today.

144 [Prepared statement of W.P. Schechel together with additional information in response to questions presented by Mr. Seiberling and Mr. Vento, follow:]

145 STATEMENT OF W.P. SCHMECHEL, PRESIDENT & CHIEF OPERATING OFFICER, WESTERN ENERGY COMPANY SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT HOUSE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

145 Washington, D.C., February 16, 1977

145 Mr. Chairman, Members of the Committee:

145 My name is W.P. Schmechel. I am president and chief operating officer of Western Energy Company, a wholly-owned subsidiary of The Montana Power Company, with headquarters in Butte, Montana. Western Energy Company is engaged in the development and mining of coal in Montana, Wyoming and Texas, and is producing coal at its surface mine at Colstrip, Montana for sale to Montana

Power, Puget Sound Power and Light Company and midwest utilities as fuel for electric generating plants and to small industrial plants.

145 I appreciate very much the opportunity to appear before your committee on the important subject of H.R. 2, the Surface Mining Control and Reclamation Act of 1977.

145 The potential of federal surface mining legislation to affect the ability to make coal available to the American people cannot be minimized. Of the 117 million acres of coal reserves in seven western states, the federal government owns the coal under 61 million acres. Legislation that unnecessarily impedes or prevents the development of that coal will reduce the nation's ability to avert energy shortages far more serious and enduring than those we experienced during the oil embargo of 1973 and the extreme winter of 1977.

146 The state of Montana alone contains 31 percent of the nation's coal that can be recovered by surface mining using existing technology. The states of Montana and Wyoming together contain 48 percent of that coal. The largest part of the western coal being produced and that which will be produced in the future will be used for the benefit of people in areas of much greater populace than we have in the Rocky Mountain states.

146 A partial listing of the states presently receiving Montana coal for generating electricity and fueling industrial plants includes North and South Dakota, Minnesota, Wisconsin, Illinois, Michigan and Iowa, in addition to Montana. Electric utilities and industrial plants in those states already are dependent on Montana coal and the list grows rapidly when the coal deliveries from other western states are added to it. If the eastern and midwestern states which will receive coal in the future or which have expressed firm interest in western coal were enumerated, the geographic listing would be nearly all inclusive. The same statement can be made of Pacific Northwest states which already anticipate a decade of electrical shortages. In 1977 such shortages will result from drought conditions in the Columbia Basin watershed, but in the 1980's even with good water conditions, shortages of coal for electric generation could cripple the region's economy.

147 We are convinced that the implications of surface coal mining legislation go far beyond the coal bearing regions of the west. If the United States is to progress toward the goals of attaining a greater degree of energy independence; if the U.S. economy is to avoid frequent setbacks resulting from energy shortages; if the economy is to attain a growth rate capable of accommodating an increasing labor force; then western coal must be used or those

ends cannot be achieved. Legislation which precludes reasonable development of that coal will not serve the nation well. Based on this nation's recent experience and on the prospects of energy problems which can become even worse, we know this Committee will produce legislation that will not unduly restrict energy options including rational development of surface mineable coal.

147 Western Energy Company therefore respectfully requests consideration of the following alterations to H.R. 2 in the interest of making it a more workable instrument in terms of administration, equity and reducing the undesired impacts it otherwise could have on the nation's coal production:

147 TITLE IV - Abandoned Mine Reclamation. We believe this section should be modified to provide funding for reclamation of orphaned lands from general revenues. The assessment of a reclamation fee of 35 cents per ton of coal produced by surface coal mining and other amounts applicable to underground mining and lignite is an unfair burden on coal mines in those western states where reclamation always has been an integral part of the mining operations. The problem of unreclaimed orphaned lands exists predominantly in the Appalachian region where coal production has been conducted over a long number of years and in many cases predates reclamation techniques.

148 If the Congress and the President are unwilling to provide funding for reclamation of orphaned lands from general revenues, then we ask that recognition be given to those western states for the reclamation programs they have developed and followed. Accordingly, we suggest that Section 401(d) should be changed to exempt those western states which have not contributed to the problem. Further, in the event that revised language is not acceptable, the 35 cents per ton or other amounts as specified must be made exempt from the application of percentage royalties, state severance and other production taxes which are based on a percentage of the value of the coal at the mine. This will avoid an unintended bootstrap effect on the selling price of the coal. In Montana, for example, where a 30 percent severance tax, other production taxes and a 12 1/2 percent royalty on U.S. coal are applied, the 35 cents would result in a 57 cent per ton increase in the selling price of coal.

149 Sec. 507(b)(11) requires the applicant for a surface coal mining and reclamation permit to submit a determination of the hydrologic consequences of the mining and reclamation operations, both on and off the mine site.

149 We submit that an applicant may not be able to determine in advance all of the hydrologic consequences. Determinations based on existing mining operations in the general area may be sufficient. Moreover, the applicant may not have access to off-site lands in every case and could be denied the ability to fulfill the requirements of this section. Accordingly, we suggest that Sec. 507(b) (11), line 4, page 63, be changed to read as follows:

149 "(11) a determination of the probable hydrologic consequences . . ."

149 Sec. 508(a) (7) requires that each reclamation plan submitted as part of a permit application shall include a statement of the consideration which has been given to insuring the maximum practicable recovery of the mineral resource.

149 We have a concern over how the word "practicable" may be interpreted. Practicable means capable of being put into practice or accomplished. In many cases an operator may be capable of mining the mineral resource but it may not be marketable either because of the cost of production or quality. Therefore, we suggest that Sec. 508(a) (7), line 18, page 69, be amended to read:

149 "insuring the maximum practicable recovery of the mineral resource, consistent with its marketability";

150 This amendment will require a definition under Sec. 701, as follows:

150 Marketability of the mineral resource means that the coal to be recovered is economically feasible to mine and is fit for sale in the usual course of trade.

150 Sec. 508(a) (12) requires a detailed description of the measures to be taken during the mining and reclamation processes to assure the protection of the quantity and quality of surface and ground water systems, both on- and off-site, from adverse effects of the mining and reclamation processes.

150 In the western states surface coal mining may interrupt or diminish surface and ground water systems but this impact would be of short duration; i.e., during the mining period or until recovery of or saturation of the backfill material occurs. In the meantime alternative sources of water would have to be furnished pursuant to Sec. 515(b) (10) (E). After backfilling and rehabilitation, there is no reason the ground water levels should not recover. With care for water quality problems, no long-term impact on the vicinity should be experienced. Therefore, we suggest that Sec. 508(a) (12), line 14, page 70 be amended to read:

150 "protect to the extent reasonably practicable (A) the quantity and

quality . . ."

151 Sec. 510(b) (5) (A) requires the regulatory authority to find in writing that the proposed surface coal mining operations, if located west of the one hundredth meridian west longitude, would not interrupt, discontinue, or prevent [\*] on alluvial valley floors.

151 We submit that even with the exceptions provided in H.R. 2 this section is unnecessarily restrictive and unclear. It is our belief that many alluvial valleys are of minor consequence and can be restored, notwithstanding. Dr. S. L. Groff, Director and State Geologist, Montana Bureau of Mines and Geology, comments on this situation in his letter dated February 8, 1977, addressed to Senator Lee Metcalf:

151 "The point to be made here is that there are many bench areas underlain by old (Pleistocene) river gravels, and there are literally hundreds of small narrow stream valleys that are dry except in the spring and after heavy rains. Such small intermittent-flow stream or alluvial stream valleys might well be removed in the mining process and restored thereafter. It would probably be much more economical to do this than to redirect and move the machinery around these areas. This matter is well worth considering, as in this period of energy problems, coal production in a well-planned and uniform operation is of vital necessity. It would be difficult or impossible under the existing definition to plan a uniform mining program in a unit mining area if such area were crossed by several small, essentially dry stream valleys."

151 To avoid the limitations the legislation would create, we suggest that Sec. 510(b) (5) (A), line 8, page 75 be amended to read:

151 "(A) not permanently interrupt, discontinue or prevent farming on alluvial valley floors that are irrigated or naturally subirrigated, but excluding those areas that contain only intermittent streams and excluding undeveloped range land . . . "

152 Sec. 515(b) (1) sets a minimum requirement for the operation that surface coal mining will be conducted to maximize the utilization and conservation of the solid fuel resource being recovered so that re-affecting the land in the future through surface mining can be minimized.

152 We suggest Sec. 515(b) (1), line 20, page 83 be amended to read:

152 "fuel resource being recovered, consistent with its marketability, so that re-affecting the land . . . "

152 Sec. 515(b)(3) requires the operation, as a minimum to restore the approximate original contour of the land with all highwalls, spoil piles and depressions eliminated.

152 The term "highwalls eliminated" is unclear. In the process of surface coal mining in flat or gently rolling terrain a series of cuts are made much like a giant singlebottom plow would make in a field, leaving an intermediate highwall after each cut. Only the last cut would result in a permanent highwall if left unrestored. We assume the legislation intends to prevent leaving that final highwall. Further, because surface coal mining is usually conducted from a line along the outcrop where coal is found under the shallowest cover, and proceeds into deeper cover with each successive cut, it is extremely difficult in those cases to regrade the final highwall to an approximate original contour. Montana law has recognized this situation by allowing for regrading of the final highwall to a slope not to exceed 20 degrees from the horizontal. Therefore, we recommend that Sec. 515(b)(3), line 14, page 84, be amended to read:

153 "of the land with all highwalls, spoil piles, and depressions eliminated (unless small depressions are needed in order to retain moisture to assist revegetation or as otherwise authorized pursuant to this Act) and final highwalls reduced to a slope not greater than twenty (20) degrees from the horizontal:"

153 Sec. 517(e) specifies that each inspector upon detection of each violation shall forthwith inform the operator in writing and shall report in writing any such violation to the regulatory authority.

153 We believe that due process requires the inspector to point out to the operator the nature and location of the violation before the inspector leaves the mine. It has been our experience in several cases that the site of the alleged violation and conditions may have been disturbed or consumed by the on-going operations before the operator has received notice. The end result is often a controversy.

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153 "Act, shall point out to the operator the specific nature and location of such violation before leaving

154 the operation and shall forthwith inform the operator in writing .  
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154 Sec. 522(a)(3)(A), (B) and (C) refer to areas unsuitable for surface coal mining.

154 The terms are too vague to be meaningful. A subjective determination by a regulatory official could rule out mining in almost any part of the country under these provisions. Without any standards under the law, coal operators and mineral owners would thus be at the mercy of interpretations by the administrator or any litigant deemed interested. Specific guidelines and definitions must be provided to avoid uncertainty.

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155 Sec. 714 specifies that in cases where coal owned by the United States underlies lands the surface rights to which are privately owned, the Secretary must obtain consent of the surface owner before the coal deposits can be offered for lease.

155 We are well aware of the time and attention this committee and the conference committee devoted to the issue of surface owner consent during the last Congress, and we are aware of the fact that the language contained in H.R. 2 was hammered out with the greatest difficulty to satisfy two divergent positions which we might state simplistically as follows: (1) certain members of the Committee were concerned lest any farmer or rancher be forced to have his farm or ranch disturbed by surface mining simply because the federal government two or three generations ago withheld the rights to the minerals beneath the surface he owns; and (2) the concern of other members that the surface land owner might be in a position to hold the minerals, the property of all Americans, in hostage until he got some exorbitant sum in exchange for disturbing the surface.

155 Our long experience indicates that both positions are founded largely upon theoretical misapprehensions. Practice, at least in Montana, finds very few surface land owners who are adamantly and unyieldingly opposed to having the land mined and very few whose demands for the economic loss and disturbance such mining causes are exorbitant. We have been able to work with and reach agreement with a number of surface owners where federal coal underlay their lands and we do not view their payments as exorbitant. We have seldom met a surface land owner who was unalterably opposed to mining. Indeed, as our record of successful reclamation has developed over the past seven years the apprehensions and fears of ranchers and farmers have diminished measurably.

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156 The language in H.R. 2, which was the result of the House-Senate conference, is equally disruptive because it destroys any incentive for a surface owner to permit mining of federal coal on his land. The result in practice will be precisely the same as the result of the Mansfield amendment. No Montana rancher in his right mind is going to agree to have his land disrupted and his ranching operations interrupted for a period of years in exchange for the money value of the surface owner's interest as fixed under government regulation.

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157 Under current practice in Montana, at least, there is virtually no way that we can enter upon the land of man who adamantly refuses to consider any mining operation. Therefore, as we see it, the surface owner consent provision does not protect any significant number of people who seek or need such protection. Conversely, it would discourage surface owners from reaching

agreement with mining operators, and it prevents the mining operator from buying the ranch even if this is the desire of that owner who has title to it free and clear.

157 The only real problem that needs to be addressed is that of the third party speculator who in the past signed surface mining leases with land owners for a few dollars per acre or a tiny fraction of a future royalty. These speculators then offered the leases to legitimate mining operators at a very large profit. If there need be any legislative action in this area, we believe that this is the problem the Congress should address. Therefore, we suggest that Sec. 714(g), line 12, page 174, be amended by adding another paragraph as follows:

158 "granting of the consent, or (4) is a bona-fide operator pursuant to the definition provided under this Act.

158 Mr. Chairman, I realize that my comments have been extremely lengthy, but it must be remembered that we are dealing with a lengthy piece of legislation which can have long-term consequences on the energy supplies of this nation.

158 I would ask that my presentation be included in the record of these hearings. On behalf of Western Energy Company and for myself, I would like to express to the Chairman and the members of the Committee our appreciation for allowing us to testify here today and for the courtesy that has been extended.

158 Thank you.

159  
WESTERN ENERGY COMPANY  
GENERAL OFFICES: 40 EAST BROADWAY, BUTTE, MONTANA 59701.  
March 1, 1977  
The Honorable John Seiberling  
Subcommittee on Energy and the Environment  
Committee on Interior and Insular Affairs  
United States House of Representatives  
Washington, D.C. 20510  
Dear Mr. Seiberling:

159 It was a pleasure for me to appear on February 16 before the House Subcommittee on Energy and the Environment to present testimony on H.R. 2.

159 The questions you asked concerning our reclamation effort at Colstrip concerned me greatly, and I wish to offer some additional information in response.

159 1. Reseeding of certain areas in Pit 6: As I said, we had an unusual amount of precipitation at Colstrip during the Spring of 1976. Specifically, during the months of May and June two high intensity storms moved through the Colstrip area causing severe runoff and erosion on portions of Pit 6 that had

been graded and seeded the previous fall. Because of the duration and intensity, the storm which occurred on May 5 was classified as a 45 year storm and the second, which occurred on June 7, was classified as a 75 year storm. We

reseeded a total of 60 acres because of the runoff. I am able to report that the remaining area that was seeded in the Fall of 1975 had a good seedling establishment by the Fall of 1976. In all of the other areas where reclamation was done earlier and vegetation was mature, there was no problem.

160 The Honorable John Seiberling

160 March 1, 1977

160 Page Two

160 2. Maintenance of vegetation during current dry periods: I think the Subcommittee has failed to take adequate notice of the tremendous body of experience that Montanans have built up over a long period of time. Those of us who witnessed the dust bowl era will not forget the circumstances that lead to the loss of millions of acres of good farm land. Montana's Agricultural Experiment Station has developed many vegetative species and procedures to help counter drought conditions. Their efforts on highway vegetation have provided many answers that have been correlated with strip mine reclamation needs and applied at our operation and others. The highway work dates back a number of years. At Colstrip we have built upon this experience and have added new techniques based upon our own studies and experiments. We are completely confident that our reclaimed areas will withstand drought as well as or better than many of the adjacent rangeland areas.

160 3. Dust conditions at Colstrip: Dust is endemic in Eastern Montana and the background level of particulates on most days will exceed EPA air quality standards. It is worthwhile to bear in mind that we are disturbing no more than 450 acres in the process of mining and reclamation in any given year, which is an almost inconsequential acreage in an area where ranches are often measured in thousands of acres and in a county of over 3,200,000 acres.

160 4. Assure the protection of ground water systems: We have extensive research information on the hydrology of the area which we will be glad to provide if you wish. We do appreciate the willingness you expressed during the hearing to take another look at the language of the bill in this regard to make sure it does what is intended.

160 Please contact me or Gil LeKander, our Washington representative, if you

require additional information. Gil's telephone number is (202) 296-3060.

160 Sincerely,

160 W. P. Schmechel

160 President and Chief Operating Officer

160 WPS/1h

160 cc: Morris K. Udall/Teno Roncalio/Paul Tsongas/Robert Carr/Robert Bauman/Gil LeKander

161

WESTERN ENERGY COMPANY

GENERAL OFFICES: 40 EAST BROADWAY, BUTTE, MONTANA 59701.

March 1, 1977

The Honorable Bruce Vento

Subcommittee on Energy and the Environment

Committee on Interior and Insular Affairs

United States House of Representatives

Washington, D.C. 20510

Dear Mr. Vento:

161 I appreciated the interest you evidenced during my testimony on H.R. 2 and I am not certain that I fully answered your question about recovery of the entire resource.

161 At Colstrip we are mining the Rosebud seam which is approximately 25 feet thick and under 30 to 150 feet of cover. Underlying the Rosebud seam is another coal bed called the McKay seam. It is approximately 8 feet thick and is found from 10 to over 100 feet below the Rosebud seam.

161 The Rosebud seam coal has excellent properties for burning; the sulfur content is about 8/10 of one percent. The McKay seam, however, has a sulfur content of 1.3 percent and other undesirable characteristics which make it unusable within today's environmental and economic constraints. The marketability amendment I suggested would simply take notice of the fact that McKay coal and perhaps other coals in other areas are impractical to recover because of quality. My amendment is based upon Montana's surface mining law which is recognized to be among the most strict in the nation.

161 When we applied for our state mining permit, acknowledging that we would not recover the McKay coal because it was not marketable, the state required us to make every effort to find a market. We did so, exhausting the possibilities for sale of the coal. Our efforts are continuing. The state then conducted its own survey and reached the same conclusion. I would expect a federal regulatory agency to follow similar procedures.

162 The Honorable Bruce Vento

162 March 1, 1977

162 Page Two

162 If language such as I suggested is not included in the final version of H.R. 2, we would be faced with the choice of (1) abandoning all of our mining at Colstrip because the McKay seam universally underlays the Rosebud seam, or (2) mining the McKay seam and stockpiling it somewhere. It is easy to understand that the second alternative is completely unthinkable because of the massive amount of land that would be occupied by such a stockpile and the highly undesirable environmental consequences.

162 Although research and development is now underway to remove sulfur before coal is burned, it has not yet been developed to a point that would make McKay coal marketable.

162 Please call me or our Washington representative, Gil LeKander at 296-3060, if there are any other questions we may answer for you.

162 Sincerely,

162 W. P. Schmechel

162 President and Chief Operating Officer

162 WPS/1h

162 cc: Morris K. Udall

162 Teno Roncalio

162 Paul Tsongas

162 Robert Carr

162 Robert Bauman

162 Gil LeKander

163 The CHAIRMAN. We have scheduled two other witnesses this morning. They are Mr. Lusk and Mr. Kilpatrick.

163 Mr. SCOVILLE. He just left the room, I believe.

163 The CHAIRMAN. Mr. Lusk, let me ask you, would you rather take about 10 minutes now and conclude this? We have a quorum call which I am prepared to miss; or would you rather come back at, say, 1:30, and we will try to draw a crowd for you.

163 Mr. LUSK. Mr. Chairman, I will need more than 10 minutes.

163 The CHAIRMAN.All right.I think we will then recess until 1:30 and take you and Mr. Kilpatrick at that time.

163 [Whereupon, at 12:30 p.m., the subcommittee recessed, to reconvene at 1:30 p.m. of this same day.]

163 AFTER RECESS

163 [The subcommittee reconvened at 1:42 p.m., Hon. Morris K. Udall, chairman of the subcommittee, presiding.]

163 The CHAIRMAN.The subcommittee will be in order.

163 We will resume our hearings now. Mr. Lusk, take the witness stand please.

163 We have your prepared statements.

STATEMENTS OF BEN E. LUSK, PRESIDENT, AND JOHN STURM, TECHNICAL DIRECTOR, WEST VIRGINIA SURFACE MINING & RECLAMATION ASSOCIATION

163 Mr. LUSK. Inside the envelope, Mr. Chairman, first we have our prepared testimony; second, our position, our official position of our association that we sent to all members of Congress last week by mailogram. Third, we have the specific objections to H.R. 2 from the State of West Virginia as presented to the National Governors Conference and they permitted us to provide it to you today for your consideration and hopefully to be entered into the record.

163 Also, we have five magazines that we publish at our association in West Virginia, all of them with some significance to this committee. The first one on the top of the page is a current photograph, one taken last October, of the original haulback in the United States, the haulback method which we talked about earlier this morning.

163 The second copy of the magazine, you will note, is a mountaintop removal operation which was actually the boxcut where it was totally reclaimed to the original contour in 1972. The operator is mining 40 acres of coal there, but the significance of this photo was that it took 14 months for public hearing before the operator could get his permit to mine that 40 acres and it just about bankrupted him.

163 The other magazine with a series of 12 photographs on it, shows the interagency evaluation information where the State of West Virginia invites over 100 representatives of State and Federal Government to come into our State and

evaluate our surface mining operations. We are the only State that does that.  
We felt it - we found it to be very successful.

163 The last two magazines highlight mining methodology and reclamation technologies and methods in Poland and in Germany. I understand this committee is considering a field trip to Europe to investigate mining methods in that area and we would wholeheartedly recommend Poland and Germany. Our organization takes a field trip every year to various parts of the world to discover or try to discover new mining technology.

164 With me today is Mr. John Sturm, who is our technical services director and advisor to our association.

164 My name is Ben E. Lusk; I am president of the West Virginia Surface Mining and Reclamation Association and I appreciate the opportunity to appear here today to discuss pending surface mining legislation. Our association is the Nation's largest organization dealing specifically with the surface mining and reclamation of coal. We have been and are today in favor of the establishment of Federal guidelines for individual States to follow in the regulation of the surface mining industry.

164 We believe that uniform guidelines are necessary to, one, bring about environmental improvement of land disturbed during the surface mining process; two, eliminate the uncertainty surrounding the future of the industry so that proper planning and expansion can be successfully accomplished without the threat of adverse legislation and regulation which has been looming over the industry for the past several years; and three, to provide for a more economically stable industry by the elimination of the competitive inequities that are associated with the various differences in individual State regulations.

164 It is our hope that with establishment of State programs, these problems will be eliminated and the surface mining industry can proceed forward to provide much needed coal while, at the same time, insuring that proper environmental protection be maintained.

164 However, although there is a need for Federal assistance in bringing about a more stable and environmentally sound industry, it is my opinion that H.R. 2, in its present form, is not the vehicle to accomplish this goal. The many problems associated with this legislation in the past still have not yet been corrected. We applaud this committee for having these hearings and for accepting the various States mining operations. But, we believe that adequate time has not been allocated for the proper investigation of our industry.

164 It is understandable that Congress would like to complete its work on this legislation as soon as possible. I feel that quick passage though without proper investigation into the various changes that have occurred in the industry

during the past 4 years is wrong.

164 For example, establishing field trips in the first part of March will not accomplish much. In West Virginia, this committee will not be able to see the way we are adequately controlling water pollution associated with surface mining because our drainage control systems are frozen. Also, we are extremely proud of our revegetation programs and it will be impossible to see how successful we have been in this area until early April.

164 We feel we have a great deal to offer in the way of factual information to help this committee in its consideration of H.R. 2. Our industry has spent millions on developing new mining methods and research projects that are still active in our State. None of these new developments are recognized in H.R. 2 and it appears that all our efforts to bring about a more environmentally sound industry apparently have gone unnoticed.

165 After 100 years of surface mining in the United States and 7 years of hard work by this committee and its staff for a workable Federal bill, that this committee can't wait another month to properly investigate the current state of the art.

165 Obviously, in our opinion, there is a major need for updating of H.R. 2. When we read H.R. 2 as introduced last month, we were disturbed to find the results of the emotionalism generated in the early 1970's still present in 1977. We were hopeful that the political and emotional influence which surrounded this controversial issue would have been placed aside in an attempt to effect workable legislation which would be a beneficial thing to the Nation.

165 Instead, we find under title I, section 101(A), the first thing there, that it still claims that coal is the only mineral needing regulation and the mining of other minerals still need investigation. This finding is 7 years old and ignores completely an 11-year old study by Secretary of Interior Stewart Udall.

165 His investigation prepared for the 89th Congress, entitled "Surface Mining In Our Environment," which I have a copy of right here, shows that two-thirds of the land disturbed in the United States by surface mining were disturbed by the mining of minerals other than coal. Why rush to regulate an industry that disturbs one-third, which has been accomplished already?

165 Second, section 102(J) states the purpose of the bill is to encourage the full utilization of the coal resources through the development and application of underground extraction technologies.

165 We can find little reasoning why emphasis on deep mining should be stressed in a "Surface Mining Control Act." Obviously, with 54 percent of the Nation's coal now extracted by surface mining, section 101(B) stating that the overwhelming percentage of the Nation's coal reserves can only be extracted by underground mining. It is also our opinion that physical differences in the East and the West should be recognized a little more. Idealistically, it would be good to have uniform reclamation standards for the entire Nation. However, it is obvious that there are certain situations that are endemic to individual areas. For example, we accept the fact that special requirements are necessary to accommodate the differences in topography and geology from State to State. But, there has to be more consideration and recognition given to climatic conditions which are also different from State to State.

165 In the Eastern United States, for example, we have been successful in accomplishing adequate vegetation in two growing seasons. Since there are special provisions to accommodate the differences in climate. There is no need for States with adequate rainfall to wait 5 years to prove it can grow something which takes 18 months to accomplish.

165 One big concern of our association which represents a lot of smaller operators, is the discrimination aspects of H.R. 2 which we have noticed. There is no possible way that a small operator can economically comply with the various permit requirements of H.R. 2. The establishment of the filing fee, which is to cover the enforcement and administration over the life of the operation, would be enormous. Also, it's been calculated that the engineering necessary for establishing proper preplanning could cost as high as \$50,000 to \$1 00,000 with the hydrologic and test boring studies that are mandatory. Add to that the cost of citizen's suits, and the lengthy permit review process, the small operator couldn't possibly stay in business.

166 A major point of objection and probably our No. 1 priority item is section 520. If it is mandatory for every permit application to be accompanied by a public hearing, no matter how valid the reason, there is no way the States can administer this provision, based on your experience in West Virginia, for example, there are an average of 300 permits granted annually.

166 Last year that would have meant at least 300 public hearings. Recently, under our public hearing procedure in the West Virginia law, we experienced a public hearing which took 14 months to resolve. Also, in H.R. 2, there are no

less than seven opportunities where a public hearing could be called through the life of the permit. Hearings can be called during this period by the Federal, State, local government agencies, or any citizen with a valid legal interest.

166 There is no way this part of the act can be administered or complied with by the mining companies.

166 Before I turn it over to Mr. John Sturm, our technical director, I would just like to recommend that this committee consider establishing a special advisory committee made up of equal representatives from the environmental groups, industry, the general public at large, and State government to possibly sit down and work with various members of your staff and try to eliminate some of the provisions of this bill which still reflect the early 1970's.

166 At this time, without objection, I would like to turn it over to Mr. Sturm who would like to comment somewhat on the new mining methods we have developed in West Virginia and also as it relates to H.R. 2.

166 The CHAIRMAN. All right, Mr. Sturm.

166 Mr. STURM. Mr. Chairman, members of the committee, my name is John Sturm, I am director of technical services for the West Virginia Surface Mining and Reclamation Association. I am also vice president of the West Virginia Applied Research Institute, which is the research branch of our Surface Mining Association.

166 Since 1972, through the work of Applied Research, we have been developing mining methodologies that would minimize environmental disturbance. At this time our association has helped to obtain and implement several research projects which have been funded by our industry, and State and Federal Governments.

166 During the past 5 years, our association has received two U.S. Environmental Protection Agency grants, the first being "New Surface Mining Technology to Minimize Environmental Disturbance," and the second grant was the "Environmental Impact of Steepslope Mining."

166 We have also received a joint grant with Skelly & Loy from the U.S. Bureau of Mines to study "Cross Ridge Mountaintop Removal" mining methods. We have numerous research projects with the U.S. Forest Service, and the West Virginia Department of Natural Resources with West Virginia University and Virginia Polytechnical Institute.

167 In West Virginia, we have established the Council for Surface Mining

Research in Appalachia and also the Steering Committee for Surface Mine Research in West Virginia. As Mr. Lusk pointed out, we are the only State that opens our industry to interdisciplinary, interagency evaluation of surface mining and we have done this in the past 6 years

167 It is just not represented by industry groups, it is represented by State, Federal, local governments and also environmental concerns. We publish everybody's suggestions in an interagency evaluation book so it can be distributed and viewed by everybody and we try to take considerations on all matters that are brought about in this book.

167 In West Virginia, we have developed the lateral movements concept which Mr. Curry from TVA spoke about this morning. We call it the haulback concept.

167 I am certain that if this committee would realize the concept behind haulback, it would certainly be incorporated into this Federal bill as an intricate part in an improved mining method under the steep slope operations.

167 What I would like to do is take you through a very brief cycle of a haulback operation which I hope won't be too ambiguous from Mr. Curry's slide presentation, then I will show you the same concept as applied to mountaintop removal. We use the same concept except we turn over the entire top of the mountain. Then I would like to compare to some of our approximate contour operations in the northern part of the State and show you why on the southern part of the State we cannot do what I feel that you are talking about in H.R. 2 as an approximate original contour.

167 There has to be some variation between the two. That is what I would like to show you at this time.

167 The CHAIRMAN. Good. I am going to have to step out and in honor of the occasion, I am going to ask Mr. Rahall to preside and I will be back by the time he finishes the show, I trust.

167 Mr. RAHALL (presiding). Proceed.

167 Mr. STURM. Probably the reason we are all here today is because of situations that have existed not only in West Virginia, but in Tennessee, Kentucky, and many of the - all the Appalachian States.

167 Early procedures were the push and shove-type of method. Unsightly highwalls and outer slope overburden placement is the result.

167 [Slide.]

167 Mr. STURM. This is the multiple operation done from the 1940's and 1950's. This is exactly what you see in a lot of cases when you fly over West

Virginia, you say, "Oh, my gosh, what has happened?" Not only in West Virginia, but the other Appalachian States. Today when you fly over a modern haulback operation, this is what you see.

167 [Slide.]

167 Mr. STURM. You can tell there is something going on but you are not sure what it is until you get down on it and take a look at it.

167 [Slide.]

168 Mr. STURM. What I am standing on is the top of the haulback operation. At the top of this, we do leave a depression. That depression serves as many things but environmentally it serves as a catch area for surface runoff from the natural ground down into the field material, deterring the velocity of the water coming on the fill material, slows it down, it seeps into the spoil, and you notice the lush vegetation you get because you do have good water-holding capacity in these types of soils.

168 At the base of this fill material, you can see we maintain a ditch and our haulback road is there and a small berm. On the other side of the berm, we retain a tree line. That tree line is very important. We don't place any overburden material on steep slope mining below the outcrop area.

168 [Slide.]

168 Mr. STURM. The first thing you do when you start your haulback operation - first of all, I want to point out one thing. In southern West Virginia, all our operations are haulback or mountaintop removal. They all entail the same methodology, which is the lateral movement; you pick up a piece here and move it over here. The first thing you do is construct the drainage system. This is before mining operations even begin.

168 As you construct our drainage system, you are building your haulroad to your access point where you are going to start your active mining operation.

168 As soon as you construct this structure, you seed it and revegetate it.

168 [Slide.]

168 Mr. STURM. This seeding right here is less than 2 months old so you can see that you get a very good response because we do use adequate rates of fertilizer, we apply lime, we apply as much as 100 pounds of seed in some cases, which is too much in most cases, and the proper amounts of mulch.

168 After the drain structure is built and you have constructed your

haulroad and seeded your accessway, then the mining operation begins.

168 [Slide.]

168 Mr. STURM. But, before we get to this stage, we have to have our drainage structure and haulroad served so we have the professional engineers design the plans as built and submit them to the Department of Natural Resources prior to any mining disturbance whatever.

168 So, you see it is quite a lengthy process just in order to get to this stage. Now, the active operations start and in this case we are loading overburden with two types of equipment, a shovel and endloaders. The material is loaded in rock trucks anywhere from 20 ton up to as much as 100-ton rock trucks. These trucks carry that material back to the valleyfill. Now, this valleyfill is our offsite storage. In West Virginia, we do not place any of that overburden material in that 20 feet below the outcrop, or 47 feet, or whatever.

168 We take the material and place it in a controlled structure. It is not a temporary structure. It is permanent. This thing is designed and built to specific criteria and these lifts are 50 feet, the slopes are no steeper than two to one, the rock quarry is minimal 16 feet wide, it goes all the way down to natural ground and as each lift of the valleyfill is built, it is subsequently revegetated.

169 As soon as you get something ready, you seed it, and in West Virginia, that is exactly what we do.

169 [Slide.]

169 Mr. STURM. This, as Mr. Curry depicted, is a normal haulback operation in graphic form. What we have here is approximately anywhere - depending on the overall size of the permit - from 500 to 1,500 feet of open pit. Now, we are ready to start our haulback. We have our swell factor already placed in a valleyfill structure and we start our haulback operation now.

169 [Slide.]

169 Mr. STURM. The material is hauled back and ramped up - you see the ramp there - dumped and worked mechanically, stabilized with tractors, bulldozers.

169 [Slide.]

169 Mr. STURM. This slide is a picture of the first haulback operation in West Virginia by Holbeck Mining and Construction. The area was just recently seeded and you can just barely see a light green haze on that material.

169 Last fall, the fellow who seeded this area took a picture of it and here is what it looked like last fall.

169 [Slide.]

169 Mr. STURM. We are talking about three growing seasons for this picture, gentlemen. This was the first haulback operation. Now, in the interim during this period of time, everybody in southern West Virginia was using haulback and even a lot of the operators in northern West Virginia realized the benefits of the haulback operation because you are caught up with your reclamation all the way through the progress of the operation.

169 So, it has its advantages even though it is costlier; it does require extra equipment, it requires the rock trucks which are quite expensive. The operation does have its benefits in the long run and certainly, as you can see, you can place that material back on steep slopes.

169 Now, the slopes here are about 65 percent. In some areas, they are steeper; some areas they go down to 60 percent.

169 [Slide.]

169 Mr. STURM. What I would like to do is show you a recent haulback operation. This is the type of material that, on a lot of operations where we have a lot of fine materials, we get all these fine materials and original surfacing materials back on the surface, work it in, stabilize it and seed it until we get product that looks like this.

169 [Slide.]

169 Mr. STURM. Now, this is a fall picture and this area is 1 year old and what I would like to point out now is something that I am questioning in H.R. 2 and the fact is that, is this approximate original contour?

169 [Slide.]

169 Mr. STURM. Will you look at this closer? We have that depression, that bench at the top of the operation. We also have the road.

170 Gentlemen, these things are needed there, not only environmentally but these roads are access roads to areas of future land-use sites. They are access areas to control fires. It is unbelievable how many forest fires we have in southern West Virginia. These access roads are invaluable. Also, the top of the bench, as I stated, controls the runoff from the natural ground. We feel

that this methodology is by far more environmentally sound than the approximate original contour concept of going right into natural ground, having a smooth transition.

170 [Slide.]

170 Mr. STURM. This is a haulback operation in Kanawha County - Princess Coal Co., an operation of about 1,200 acres. This area to the extreme right that is a little brown, is annual rye grass. The reason it turned brown is because it is an annual. Underneath there are the understory species. In the southern areas we use cerica lespedeza, A; in Kentucky, 31 fescue.

170 But the annual gives the quick growth responsibilities and cuts down on off-site damage due to sedimentation. We don't have to go in there and clean out the sediment control structures because we apply the revegetation and the hydroseeding practices as soon as the area is suited for it.

170 We don't wait until we have 100 acres or so, we take care of it as soon as possible.

170 [Slide.]

170 Mr. STURM. The valleyfills we construct adjacent to haulback operations, as I pointed out, are quite stringently controlled.

170 Now, this is another valleyfill that had helicopter seeding.

170 [Slide.]

170 Mr. STURM. This is a valley fill in central West Virginia with the rock quarry adjacent to the haulback operation. This is the mountaintop removal concept. We work this basically the same as our contour haulback. We start on the outcrop and we work laterally. This picture shows that contrary to what some people feel, it gives us some valuable real estate in southern West Virginia.

170 We need this, gentlemen, because we don't have much land in southern West Virginia. This site is 7 miles from Charleston and it is being developed at the present time for a future site of a housing project.

170 [Slide.]

170 Mr. STURM. You can see right in the middle of the picture that this area was put back to approximate original contour. The land feature was put back, you can see it is mounded there. Now, we don't have the trees on it because this is going to be a development site.

170 [Slide.]

170 Mr. STURM. We have a lot of these mountaintop jobs. This site is in McDowell County. The operator was growing his moss here for his other mining operations. At this time, the high school was being constructed on this site, the McDowell County High School called now, Mountain View.

170 We have another site in West Virginia that the mining operation and the high school construction was going on at the same time. The operator and the State worked in conjunction and it is in Raleigh County in Berkeley.

171 This is an operation in Raleigh County, W.Va.

171 [Slide.]

171 Mr. STURM. It shows a recent seeding and you can see the green haze again. This seeding is less than 2 weeks old. Since last fall, looking back in this direction toward where I stand, the site looks like this now.

171 [Slide.]

171 Mr. STURM. What you see here is the rye grass again, it grows extremely fast and under that is your understory species.

171 [Slide.]

171 Mr. STURM. This is a mountaintop removal in Kanawha County, W.Va., where the unit is put back into the farming unit. This was one of the first mountaintop removals in southern West Virginia and it was a quite large open pit. This is approximately original contour as proposed by H.R. 2.

171 I would like to show you just a few slides of what we are doing. This is in Nicholas County, approximate original contour.

171 [Slide.]

171 Mr. STURM. This is in Tucker County, approximate original contour. This site is adjacent to the Black Water Falls State Park and has been noted as a recreation, reclamation-for-recreation area.

171 [Slide.]

171 Mr. STURM. This is a site in Preston County, W.Va., approximate original contour.

171 [Slide.]

171 Mr. STURM. A site in Grant County, W.Va., and one of the best stands of crown vetch that I have seen on this site, approximate original contour again.

171 [Slide.]

171 Mr. STURM. This is in Upshur County, W.Va., approximate original contour.

171 [Slide.]

171 Mr. STURM. This site is in Barbour County, W.Va.

171 [Slide.]

171 Mr. STURM. Randolph County. I could go on and on and show you what we are doing up north as far as original contour is concerned.

171 [Slide.]

171 Mr. STURM. Here is one in Barbour County, it is a haulback operation but they took it right back to approximate original contour.

171 [Slide.]

171 Mr. STURM. This was almost what you call an alluvial valley floor but we don't have any of those in West Virginia but it was a perched area, a beautiful valley. From where I stood when I took this, all the way to the treeline has been surface mined. It is a farm now and we are building a lot of farm ground in West Virginia. However, this was a farm previously. So, we didn't make a farm here, it was a farm, we mined the coal, put it back the way we took it out, and the gentleman is now producing the same corn crop and soybean crop he was previously.

172 [Slide.]

172 Mr. STURM. Now, you can do that in the northern part of the State in the generally sloping areas but when you get to southern West Virginia, and talking about slopes above 50 and 60 and 70 even 80 percent, we have to use this haulback concept.

172 We need the roads, we need access, we have to have off-site storage because of our swell factor. We need that bench at the top of the fill material because it is in environmentally sound condition and we feel in West Virginia we know how to build mine soils rather than strip mines.

172 I would just like to make one more comment and that is the way I read H.R. 2 presently, it would require for mountaintop removal and for this haulback concept, variances, special considerations, public hearings, and I don't know what all. But if we can mine using our haulback method in West Virginia, if this conforms to your concept of approximate original contour, then I applaud this provision.

172 [Following are three photographs selected from the slide presentation which are examples of the "haulback" method, with regrading to approximate original contour, "valley fill" in steep slope areas, and regrading to approximate original contour.]

173 [See Illustration in Original]

174 [See Illustration in Original]

175 [See Illustration in Original]

176 Mr. RAHALL. Thank you very much for your presentation. I am sorry there are not more members of the committee here to enjoy the beautiful scenery that you brought to us on the slides that I know we have in West Virginia.

176 Despite the fact I have lived there all my life, I thought your presentation was very informative and it showed us a great deal of the progress that has been made under West Virginia reclamation laws.

176 West Virginia was, I realize, one of the first States to enact reclamation laws, in 1939, and the environment and progress has been better in recent years than many have realized.

176 I have just a few questions I would like to ask.

176 On the hallback procedures that you did explain to us in the mountaintop projects, do you allow placement of soil on downslope below the lowest break?

176 Mr. LUSK. No, we don't.

176 Mr. RAHALL. On the haul roads themselves, the need for them would be the reasons you stated that they have to be there possibly for access to forest fires, and the benches that you have set up are very commendable projects that you have done in West Virginia.

176 Do you have estimates on what the increased costs of your haulback is, the haulback methods that you use in West Virginia versus the old traditional push and shove that existed prior to your methods of hallback?

176 Mr. LUSK. Well, the cost of mining coal varies from site to site. I have seen a lot of reports in the last several years from the Bureau of Mines and EPA and various Government agencies stating \$1 a ton or 60 cents a ton or even 40 cents per lift.

176 The situation is basically, geologic conditions vary from job to job. Some operations may be massive sandstone which requires a lot more difficult conditions for removing materials.

176 This first job, the 1972 haulback which was started in southern West

Virginia cost the operator between 40 and 45 percent more to mine the coal than it did under conventional mining methods.

176 I would have assumed that this is pretty consistent today from the standpoint that the cost of mining coal in West Virginia is extremely high compared to the cost of mining coal by conventional methods. But as far as an exact figure, it's awfully hard to tell, Congressman.

176 Mr. RAHALL. All right.

176 Mr. LUSK. Could we add one thing, Mr. Sturm has something to add about the downslope spoil place.

176 Mr. STURM. I would like to point out one thing that I didn't bring out in my presentation on the mountaintop removal and that is as presently written, I understand that an outcrop barrier, coal barrier will be left on the mountaintop operations. Well, this is not an environmentally sound condition. It's not an economically sound condition.

176 The area when left in that manner, all the surface runoff, all the water that infiltrates into the spoil, goes to the underclay where the coal was taken out, an impervious layer, you get a perched water table; it runs with the dip of the coal and what you have is sort of like a sponge. Your mountaintop works just like a sponge.

177 Now, the concept is all right as far as bearing acid producing material but when you talk about a large mountaintop job, you want to take all the coal, the name of the game is maximum resource recovery with reclamation and environmentally sound conditions, and we take all the coal, replace the material back, the large coarse fragments on the bottom next to the underclay acts as an underdrain, a French drain and the water is taken off and handled correctly.

177 Mr. RAHALL. I noticed on a lot of the mountaintop removal projects there have been valuable community services added, the school that you mentioned, the hospital, the church in my home county, Raleigh County. What would be your estimate of the percentage of mountaintop removal projects where such valuable additions to the community actually have been constructed on the project?

177 Mr. STURM. All of our mountaintop removal operations, I would say that

all of the operations have some consideration for some future land use. All the permits that I look at from our operators in southern West Virginia when they are doing a mountaintop removal operation are thinking somewhere ahead to future land use.

177 Now, on a lot of contour operations it's merely to go in, remove the coal, extract it, maybe go back in later and at a second or third cut or when economically sound conditions exist, but in most mountaintop operations they are not 18-month or 2-year operations; they are 4, 5, 8, 10, even 15-year operations, and most of our operators are making considerations for future land use because these are valuable pieces of property, and in your area, in Raleigh County, there are some farms and some considerations for farmland and also some housing developments from what I understand.

177 Mr. RAHALL. Do you feel the provisions of this bill relating to returning land to original contour are overrestrictive as far as being able to say 3 or 4 years in advance what you will use the land for?

177 Mr. LUSK. Congressman, our only question in that area is, one, is haulback acceptable as approximate original contour as the definition is as stated in H.R. 2; and second, our biggest problem with that is again speaking in behalf of the smaller operators, to have to apply for a variance would bring about more paperwork, frankly, for many, another public hearing.

177 We would think that mountaintop removal and haulback removal should be recognized as new mining methods acceptable from environmental as well as mining standpoints.

177 Mr. RAHALL. You mentioned the additional paperwork and cost to the small operators. What would you estimate the additional cost of H.R. 2 over what they now have to pay under State law?

177 Mr. LUSK. It is all a matter of interpretation, but I remember reading one section where the permit fee alone, in West Virginia, it's \$5 00 per permit; but the permit fee can be established up to the total cost of the administration and enforcement of the life of the permit. Well, according to our division of reclamation chief and the department of natural resources that would include three vehicles, four people, a helicopter and 7 years of salary. One operator could not afford the several hundred thousand dollars if interpreted strictly, that that would entail.

177 Mr. RAHALL. Do you see a danger to the small operator of being driven out of business?

178 Mr. LUSK. Yes, sir, I definitely do. I would think that the permit requirements, the public hearings and permit fees are too punitive for the small operator to comply with. For example, core samplings alone, if it's mandatory to take core samples, I would think that that cost would be well in excess of \$50,000.

178 In West Virginia we know what our soil is, we have taken enough soil samples in the last several years in various areas that we know which are the sensitive areas, which soils are best for revegetation and which are not. As a matter of fact, Mr. Sturm is a graduate scientist in soils from West Virginia with a specialty in this area.

178 Mr. RAHALL. OK, are there other questions?

178 Mr. HUCKABY. Does the State of West Virginia have statutes that require this haulback method of mining?

178 Mr. LUSK. Yes, the State of West Virginia, the 1971 amendmends to earlier law, states no operation can leave a highwall higher than 30 feet and that any spoil placed on the downslope has to be controlled effectively.

178 Since that time, our rules and regulations have changed drastically and any operations on slopes greater than 50 percent which equalizes out to about 24 degrees or a 2 to 1 slope, no spoil can be placed on the downslope and all the spoil has to be stacked against the highwall which effectively eliminates the high wall.

178 Mr. HUCKABY. But it is only since 1971 that the State has enforced it.

178 Mr. LUSK. That is correct. Well, no, excuse me; you mean in this one area? We have always had the law in West Virginia but the controlling of the overburden and leaving the high walls have only been controlled since 1967.

178 Mr. HUCKABY. Would you describe the type of technical services that your organization provides to small operations?

178 Mr. LUSK. I would like to yield to Mr. Sturm, the director of that division.

178 Mr. STURM. We provide our operators with numerous services, primarily permit review, in the field type of inspections, when there are any soil or spoil problems or revegetation schemes not working out we provide possibly an

individual to look at the area and make evaluations, probably take soil samples, we send them off to West Virginia University for evaluation. We just provide overall consulting type services to our operators.

178 We also set up an environmental quality control laboratory which initially was for water sampling and which our operators sent water samples into the association and we evaluated them for their surface mine permits. The permit review that we do, we review the permit and take it to the department of natural resources and see that the technical aspects of the permit are carried out according to the present plan, et cetera.

178 Research activities associated with technical services are numerous as I have suggested in my testimony.

178 Mr. HUCKABY. I think you mentioned that the haulback procedure added 45 percent in costs to the -

178 Mr. LUSK. In the original haulback method in 1972.

178 Mr. HUCKABY. What increase in costs is it today?

179 Mr. LUSK. It is more expensive basically because of the addition of the extra equipment and the manpower necessary in order to handle the material.

179 We have seen figures anywhere from 20 to 100 percent high. Unfortunately, nobody in our industry has been really that concerned about quantifying how much it costs because we all have to do it and the bottom line I guess is where you can tell the difference. It's more expensive to mine coal in southern West Virginia than it is to mine coal in other States.

179 Mr. HUCKABY. Are there any areas in surrounding States where this is not being done?

179 Mr. LUSK. Haulback?

179 Mr. HUCKABY. Yes.

179 Mr. LUSK. I am not familiar with operations in other States.

179 Mr. HUCKABY. What I am getting to is if H.R. 2 were put into effect is the price of coal to the consumer going to go up 20 to 30 percent?

179 Mr. LUSK. I would think so, yes.

179 Mr. HUCKABY. Is that a good estimate?

179 Mr. LUSK. No, sir, I think it would be more like 20 percent.

179 Mr. HUCKABY. You mentioned your travels to European countries. Is their state of the art higher than ours?

179 Mr. LUSK. Depending on the country. I would think that of the countries we have visited, Spain, Australia, England, are not as developed as we are in the United States.

179 I think that Poland and Germany, Western Germany, where they have had their surface mining law amended, the last time they amended the act over there was in 1899, and they have been in full compliance since, which means returning the land to the original state, because they value every inch of land that they have whether it be a village, a farm, a river; the Rhine they have moved once and the autobahn they have moved six times, I think, or three times. Their technology is unbelievable, but at the same time they are mining thick seams of coal, their costs per acre of land is probably cheaper to reclaim than it is in Appalachia, for example.

179 One advantage that they have over the United States especially in Poland and West Germany is that we don't have but hopefully we will be able to get it, is a working relationship between government and industry. The government sits down with the - of course, I think it's all intertwined in Poland. They sit down and work out the problems and go from there. There is no adversary position taken. I would think if revegetation and water pollution control is not as good as it is in West Virginia, I would think that their mining methods, the machinery they employ and the technology they have to extract coal is far superior from the standpoint that their hauling systems are unbelievable.

179 Mr. HUCKABY. Thank you.

179 The CHAIRMAN. (Mr. Udall presiding). Mr. Lusk, I appreciate your presentation. I am sorry I had to step out. I appreciate your constructive tone of your statement and in the work you have done and the slides that you have presented. You have made a good presentation.

180 I want in fairness to you to comment on some of the things you have raised.

180 You mention that the fee provisions would bankrupt the small operator. We tried in redraft of the bill last time to get provisions that were fair to the small operator since I am for them and I don't want to see the giant coal companies dominating the business. I hope you will show us how we can make it easier for the small operator to comply.

180 But on the fee, on page 60 of the bill it says, the " . . . application shall be accompanied by a fee as determined by the regulatory authority. Such fee may be less than but shall not exceed the actual or anticipated cost of reviewing, administering, and enforcing such permit issued . . . "

180 So you can assume as I do that the administrators of this will not be a bunch of nitwits and put you out of business and you can also assume we will have sensible people in your State when West Virginia takes over this program and that you will be dealing with people who will set fees that are reasonable.

180 Mr. LUSK. Mr. Chairman, with all due respect, I went to Mr. Green who is the head nitwit in our -

180 [Laughter.]

180 Mr. LUSK [continuing]. State program. He is very competent and has been in State regulatory actions of surface mining since 1961 and he is a professional. He calculated it would cost somewhere from \$250,000 to \$300,000 in permit fees if he were to stick to the maximum in West Virginia for any operator, whether it be 3 acres or 3,000 acres.

180 The CHAIRMAN. Well, I am searching for ways so we don't get the worst case that you are talking about. In the same place the bill says the regulatory authority may develop procedures so as to enable the cost of the fee to be paid over the terms of the permit. You don't have to pay it all on the same day you apply.

180 We thought maybe that was helpful. That is also on page 60.

180 Mr. LUSK. Yes, Mr. Chairman, he gave me a note to that effect and told me he did not accept Mastercharge or BankAmericard.

180 [Laughter.]

180 The CHAIRMAN. All right. Now, you mentioned the core samples had been a burdensome requirement and I can see how they might be if they were administered inflexibly, and I can see where you are dealing with a known stratum and known seam of coal in a known area that a lot of this might be unnecessary.

180 At the bottom of page 65, after requiring test borings, it says:

180 . . . except that the provisions of this paragraph may be waived by the

regulatory authority making a written determination that such requirements are unnecessary with respect to a specific application. . . .

180 Does that give you any comfort, or does that make it worse?

180 Mr. LUSK. Well, again that is up to the regulatory authority and we cannot speak for the State of West Virginia, we, the industry.

180 The test boring is an extremely expensive proposition. Unfortunately in West Virginia we only have I think now one laboratory - is that right, John? - that can test core samplings.

180 We do require it in West Virginia in areas where the State feels it is necessary. With this one laboratory we have core testing capabilities of doing - how fast can we do one, how much are we backlogged?

181 Mr. STURM. In West Virginia we now probably have a 6 to 8-month backlog in merely having a core pull for an overburden testing because special consideration has to be taken if you are going to save the core. If you want to grab a core sample, where we can throw everything away, OK; but there have to be other considerations made. There is not only the backlog of coring, but we have the backlog of having the core analyzed. There is only one laboratory in West Virginia that does this sort of thing and the other laboratories that have set up across the United States are not fully set up yet because the EPA manual that is going to come out shortly, has not been finalized.

181 If only - there is a couple of soil overburden testing laboratories by the larger companies, Peabody has one which I set up for them; Consolidation has one, and Amax has one. But those are the three largest coal companies in the United States and we feel possibly that it could definitely hurt the small operator as far as lag time in order to get that permit.

181 The CHAIRMAN. Well, we can work with you on it and try making it easier on small operators.

181 Just a couple of comments, I don't want to prolong this, but you talk about recognizing the differences between Eastern coal mining and Western coal mining, and the southern part of your State where the ridges are and the northern part where the soil is more rolling. Don't you think the bill recognizes this? We tried very hard to write those provisions in there.

181 Mr. LUSK. Yes, sir. It's obvious that there are differences in the bill primarily on topography. As far as rainfall is concerned, though, it states that the operator is responsible in the West for 10 years and in the East I think for 5 years.

181 Our suggestion was basically in West Virginia - and again I can't speak for other States in Appalachia - but we can get a good stand of vegetation in two growing seasons, in 18 months which we showed slides of, incidentally.

181 The CHAIRMAN. Can you demonstrate in 2 years that you can have revegetation and that it really is stable?

181 Mr. LUSK. Yes, sir, no question about it.

181 The CHAIRMAN. Maybe there ought to be a provision that allows them to shorten that time?

181 Mr. LUSK. I would certainly hope so.

181 The CHAIRMAN. Do you think the bill prevents mountaintop removal now?

181 Mr. LUSK. There is a variance that allows it but I think the mountaintop removal concept is advanced, that it should be recognized as an acceptable mining method rather than going through the variance procedure.

181 The CHAIRMAN. I got this down in Kentucky when I was there with Secretary Andrus. I want to make my position clear, I think mountaintop removal is a legitimate, good, sound way to mine; frequently you end up with a better result than the old mountain; it's smoother, flatter, and you can do things with it that you couldn't do previously.

182 If the hangup with a lot of people in the industry is that we list this as a variance instead of an approved substantial type of method, maybe we can get that changed. To me it's semantics.

182 If the bill permits you to do it, it seems that that would be enough. But if the variance troubles you maybe we can change it.

182 Mr. LUSK. Mr. Chairman, the biggest problem I see with mountaintop removal in the past, from an emotional standpoint, our adversaries claim that it caused more environmental damage because we cast more material over the hill. In West Virginia we have another system called the valleyfill which we construct and compact and store this material so we get around that. But since that time we have not had so many objections.

182 The CHAIRMAN. Valleyfill is good and you again end up frequently with a

better result.

182 Let me comment here, otherwise you seem to want us to hold off to April so we can go down and see West Virginia. I spent some time down there in May, I think it was 4 years ago, and I was in Kentucky a week ago; and it was very cold and a lot of snow was on the ground. But it was a very meaningful trip. I saw a lot and I did not feel handicapped not waiting until the rhododendrons were coming out in the spring, but I want to assure you that we are moving with all deliberate speed on this. It will be April, well into April before we can get this bill to the floor in all likelihood, and I want the members of this committee to have a continuing opportunity.

182 If we can't get a group in March, I will see if Mr. Rahall can get one together in April. But the bill will be in process, we have to have a conference committee meeting with the Senate, too; so we will be into summer before we make the major decisions on the bill.

182 I am just not prepared to stall and delay and wait until the snow melts before we even start, or conclude the hearings. I think we can move along together in this regard.

182 The second point you made is that we ought to have an all minerals bill instead of just a coal bill.

182 I agree with you, but the abuse has not been so much in phosphate and copper and sand and gravel, the abuse that stirred up the country was in coal, particularly in Appalachia. We found 4 years ago starting out to write an all minerals bill involved so many difficult problems that we thought maybe we ought to tend to the one area of abuse, one ongoing problem area, and get to other minerals later.

182 Congressman Kazen, who heads the Mines and Mining Subcommittee, we have talked a little about doing some things with other minerals in connection with rewriting the mining law of 1872. So we are not out to punish coal at the expense of other minerals, I think we owe other minerals some attention, too.

182 Mr. LUSK. Mr. Chairman, with your permission, I have not advocated any personal vendetta against the mining of minerals other than coal as far as surface mining is concerned. I think there is a need for other minerals besides coal. I have not quite figured out what it is yet. But there are areas in West

Virginia that have been mined for sand and gravel or for limestone or what-have-you, and in our State we require those companies to get a permit.

182 That way the State has some control over them. They can't then go too far afield.

183 My only suggestion is basically maybe this bill could include all minerals but not make them go back to original contour and all the things we are doing now until you have a chance to study further on them.

183 We are looking at it from the environmental standpoint, not as a competitive standpoint or anything else.

183 Environmentally, if we are going to reclaim lands affected by coal surface mining to bring about a better environment, to bring about more accessibility and acceptability by the public, I think we should also consider other areas.

183 The CHAIRMAN. I agree. Let me make one final comment.

183 You refer in your statement to the burdensome need for public hearings and you say in West Virginia with 300 permit applications you would have had to have 300 hearings last year. My own philosophy on this goes to two things: one, that these hearings could be concurrent or consolidated. An example is the hearings being held today with 8 or 10 witnesses. You can have 8 or 10 hearings at the same place, same day, and run them through.

183 I understand industry's point of view, but the reason so many environmentalists and citizens' groups have been angered and have sought these delays is there is really no place for them to go make their case. Once you give them the machinery for the public hearing so they know they will get some notice, or if a particular operator is not responsible they can shout and scream in front of somebody who has the power to do something about it. Once we pass this bill and get uniform standards and industry gears up to comply with it, you will find that these hearings run through very quickly, that you won't have the kind of extreme situation that you fear.

183 I recognize that if you had 300 hearings and they all took 14 months and everybody in town wanted to come in and testify, it would be burdensome. If some little old lady in Charleston was at her typewriter cranking out complaints every time a good operator filed on any 2 acres, that, too, could be very burdensome.

183 But my view is you won't have that, we will all learn to mine right, and live together, and the mere fact you have a hearing available to you will save a lot of these people who resisted very hard what the coal companies have done over the years.

183 Mr. LUSK. Mr. Chairman, I am sorry I was misinterpreted. We are not opposed to public hearings, we are opposed to mandatory public hearings. We have a provision in our law where if in a year there are substantial complaints and justification for them, our State can call a hearing. At the same time if there is no problem in an area, nobody really objects to it, where the landowner owns a substantial amount of land, nobody complains and we notify all the people behind this, there is no real reason to have one; but under the bill we will have to have one for formality purposes.

183 The CHAIRMAN. OK, I misunderstood you.

183 Mr. RAHALL. One last question, Mr. Chairman. Mr. Lusk, do you know the position the United Mine Workers, one of the largest unions in your State, takes on H.R. 2?

183 Mr. LUSK. This year I understand they are opposed to Federal legislation. Last year I think they were in favor of it.

183 Mr. RAHALL. Do you know what debate went into their vote or the final tally that was taken within their executive board?

184 Mr. LUSK. No, sir. I think it was very close.

184 Mr. RAHALL. It is my understanding that the union debated it at length and they felt that strip mining legislation could best be implemented on the State level and they voted 24 to 0 in favor of such.

184 Mr. LUSK. I am just not sure, Congressman.

184 The CHAIRMAN. Mr. Vento?

184 Mr. VENTO. Thank you, Mr. Chairman.

184 Mr. Lusk, the first point I find still not answered is on this borings question, the necessity for them. Are those part of the public record, borings that are in existence now throughout the State, soil samples and so forth?

184 Mr. LUSK. Any permit application, where we are required to submit core borings analyses is a matter of public record; yes.

184 Mr. VENTO. Isn't it somewhat advantageous for someone who is going to mine to have those core borings available so they know whether they will be successful and what they are going to expect in terms of haulback or other procedures, toxic materials and so forth?

184 Mr. LUSK. No question about it, but what we are in opposition to is mandatory core drilling in all situations. If there are three operations in one area and one - in one area that is maybe only 100 acres in total, there is no reason for each three permits to get a core analysis. We know that -

184 Mr. VENTO. Is it a part of the public record once the core borings are made, are they public property or are they held by the developers?

184 Mr. LUSK. It is a matter of public record I would assume, isn't it, John?

184 Mr. VENTO. Couldn't your association coordinate the data and make it available for the members in a presentation for an application or permit under those circumstances?

184 Mr. LUSK. I know it's confusing. We know what the information is that this bill asks for. Because of the core drillings we have had throughout time, we know what strata is where and we think we can supply this information for West Virginia. But this bill calls for specific core drillings for every operation for every permit application accompanied by it.

184 We think it is not useful or not necessary.

184 The CHAIRMAN. It says it can be waived. I read you the language.

184 Mr. VENTO. The chairman went over that point. I would point out there is benefit to be derived in areas where it doesn't exist at least if trying to determine whether it's feasible to mine.

184 The other question gets back to the State-by-State versus national standards, and I think you have suggested that that is good. You have suggested your haulback method has existed for something like 5 years now.

184 Mr. LUSK. Yes.

184 Mr. VENTO. Do you have any older than that that exists in West Virginia?

184 Mr. LUSK. The haulback?

184 Mr. VENTO. Yes?

184 Mr. LUSK. That was the first one in the United States, in 1972.

184 Mr. VENTO. So we are looking at a track record of about 5 years' experience with that method.

185 What is the effect, for instance - and I would ask Mr. Sturm about it - what is the effect when you cross streams and so forth that exist in that haulback method. How do they deal with that?

185 Mr. STURM. We do not cross streams. Anything that is identified by a dotted line on a topographic map we maintain a 100-foot width, 50 feet each side of the stream and put in a culvert large enough to support a storm frequency of 20- or possibly 50-year storm frequencies, and build the road across that; and then continue our haulback operation.

185 But most haulback operations are close to the top of the drainage, close to the top of the hills, and those are not - in those areas all you have is natural depressions; so we mine through those areas and we put culverts in those areas.

185 So the natural flow of the water goes in natural depressions, any place there is a seep we put in a culvert. We put in a lot of French drains - where there are wet areas to handle all the water.

185 This gives us a much stronger type fill material. We don't have it underlain by water.

185 Mr. VENTO. You referred to the fact that you have only been involved in this for 5 years and there are certain costs involved in the mining and providing the haulback type of fill program.

185 What would happen, wouldn't that place you at an economic disadvantage if other States didn't have the same sort of requirements?

185 I think that this is one thing - like in Minnesota we are concerned about the environment in legislation at the State level and it's been suggested that that puts us at a disadvantage to some extent in terms of selling our ore and other products.

185 What is your response to that? What if Kentucky for instance chose a more lax law which didn't require the same requirements?

185 Mr. LUSK. We think that - excuse me, John.

185 We think that one of the three reasons that I listed originally for supporting Federal legislation or Federal guidelines was so we brought about more stability, economically, competitively, and environmentally in the United States. We think that, yes, if there is a competitive disadvantage in West Virginia or Pennsylvania or Kentucky, wherever it is, this would stabilize the industry more with Federal guidelines.

185 Mr. VENTO. So you agree with a national bill that you want some latitude for States, though.

185 One of the other points brought out, and this came up with TVA initially, is that the fact is that you suggest the bill disallows roads and disallows the haulback system which you claim is really an improvement for the area. There is a provision in the bill, as pointed out by staff on page 92 and 93, that does permit State and local use plans that include those roads. I think it gets down to the definition of a road and who wants to maintain it. You may find communities that don't want to maintain extra roads, for example, and it might contribute to erosion down the road with regards to the plan. This is just 5 years' experience that you have, and if you could point out in other countries where it's proven for a longer time, but if you had any trouble in West Virginia where the local municipalities didn't want to maintain a road; or who would maintain it?

186 Mr. LUSK. It is basically the responsibility of the landowner to maintain that road if he wants to keep it maintained. After we are done with the operation, we have to see that that road is prepared for the future with vegetation if it is not otherwise going to be maintained.

186 Mr. VENTO. Private property would not be subject to a public plan, though, would it?

186 Mr. LUSK. Yes, sir.

186 Mr. VENTO. Well, I think that the bill does allow for the improvement for local or State plans, but I don't know what happens on a private plan if it was in a local use plan. So that might be something we ought to consider at that point. But it does permit roads of some type.

186 The CHAIRMAN. Well, even in private forests it is valuable and wise to have access roads. You need to get in there and get timber out and have access for fire control. I see nothing in the bill that forbids a reclamation plan that ends up leaving some kind of a roadbed, whether it's public or private, so long

as it is seeded in that area and it is constructed in such a way that it is not a cause or source of sedimentation, water pollution, or flooding, etc.

186 I want to comment on one more thing. We tried last year even under the duress of the veto hanging over our heads, to meet all legitimate objections that were made, and there were legitimate objections made. But on page 66 of the bill it says, and we are dealing with small operators, but it says if the regulatory authority finds that the probable annual production of any operator will not exceed 250,000 tons certain special provisions apply. Is that a good definition of a small operator?

186 Mr. LUSK. Yes.

186 The CHAIRMAN. Then the determination of hydrologic consequences required in section 111 and the statement of the result of test borings or core samplings required by section 515 shall be performed by the regulatory authority or such qualified public or private laboratory designated by the regulatory authority and the cost of the preparation of such determination and statement shall be assumed by the regulatory authority.

186 We take the burden off the back of the little guy.

186 Mr. LUSK. The little guys would appreciate that but even the State couldn't do it physically because we don't have enough facilities in West Virginia to accomplish it.

186 The CHAIRMAN. What you are saving on the borings, I think, is that the language now says you shall submit test borings with your permit applications, then it says, however, that may be waived. What you want it to say is it shall be waived or it shall not be required unless there is reason shown for it.

186 Mr. LUSK. Basically, Mr. Chairman, I think what we are looking for is understanding, or legislative intent. We are not quite sure. In our talking with our State regulatory authority, and we have talked about this a great deal in the past several months, he says, OK, I will be glad to pay for the smaller operators from the State standpoint, but we will tack it onto your permit fee.

186 The CHAIRMAN. So you go round and round. All right. It's been a very useful time you have given us and I hope we can write a better bill with your aid and assistance. Thank you very much.

187 Our final witness today is Norman Kilpatrick of the Surface Mining Research Library, Charleston, W.Va.

STATEMENT OF NORMAN KILPATRICK, DIRECTOR, SURFACE MINING RESEARCH LIBRARY, CHARLESTON, W.VA.

187 Mr. KILPATRICK. Mr. Chairman, members of the committee, my name is Norman Kilpatrick, director of the Surface Mining Research Library, which is located in Charleston, W.Va., but I would say that during the 5 years of its existence its mandate has been to obtain information, disseminate information, look into issues connected with surface mining and coal generally all over the country.

187 I have personally had a chance to visit all the Eastern coal-producing States. I hope to in the near future visit the Western States and I have had contacts in the Western States keeping me informed on various activities connected with surface mining in that part of the country.

187 In addition to the testimony, I would like to read into the record the written testimony I have given your staff, which includes two supporting documents. One is a brochure prepared by Marshall University in Huntington, W.Va., that discusses surface mining, the Eastern versus Western coal issue, and some other related issues that get into the economic aspects of coal.

187 Also there is a copy of a form 423, a Federal Power Commission form, that was filed in July of last year by American Electric Power, that demonstrates in my opinion conclusively that conforming coal from Appalachia is cheaper than Western coal delivered to Midwestern locations such as the plant on the Ohio River, which is, I think, tied into a number of the issues that are at stake here in the surface mining controversy.

187 The CHAIRMAN. We would like to have that material for our use and our files. It is particularly comforting, in light of a coal journal cartoon showing me in bed with Western coal about to turn off the lights. I am glad to see that Eastern coal is competitive, that this bill isn't going to deliver them into the hands of the Western coal producers.

187 Mr. KILPATRICK. Mr. Chairman, as I mentioned in my testimony, the pure economics of it do not justify Western coal east of the Mississippi River very much. Unfortunately, there are other issues which this bill will not deal with that currently are responsible for some of the peculiar-looking things. But on straight economics, the cartoon is unquestionably off base.

187 The CHAIRMAN. That is very comforting to me.

187 Mr. KILPATRICK. I would also like to present, if I could, for

examination by the committee members seven photographs which I feel represent a number of critical issues here.

187 The first is a photograph of the Massengale-Long pit mining operation of the TVA, which I visited in 1974. It demonstrates two problems with the way the TVA conducted that particular experiment. One is that when you place - it shows clearly when you place spoil below the coal seep on the downslope, you cannot control it and it erodes and erodes and erodes.

187 [Photograph of Massengale-Long pit mining operation, TVA, follows:]

188 [See Illustration in Original]

189 Mr. KILPATRICK. The other thing is that you see that on the right-hand side there. Left-hand side, excuse me.

189 On the right side you see a massive break in backfill which caused a landslide down into the trees, which apparently is a result of lack of compaction. I mentioned in my testimony one of the problems with the way TVA went about that that resulted - and I have never seen this in West Virginia where the haulback method has been used.

189 The second photograph is a photograph, aerial photograph, of the Scarlet, W.Va. operation mentioned earlier by the West Virginia Surface Mining and Reclamation Association that shows not only the lack of spoil over the side on very steep slopes, steeper than Massengale Mountain, I would add, but also the relationship of the protection offered by the no-spoil over the side to the housing units below. You can see there is a lot of housing down there.

189 The third photograph is one taken 20 minutes before I took the photograph that you see in West Virginia, in Kentucky. If you look on the right side, you will see something you don't see in West Virginia nowadays. You will see bulldozers pushing spoil down the side.

189 To give an example of the differences, when you say the States have surface mine laws, fine, but take a look at that West Virginia photograph and look at the Kentucky photograph and you can see that the differences between State laws are enormous.

189 Another photograph shows Virginia surface mining. They say they have one of the strictest laws in the Nation. My understanding 2 years after the area in question was reclaimed, according to Virginia law they have required that the grassy plants grow, but since they have no limits on highways or spoil down the side, certainly their law is quite different and much inferior to that of West Virginia and other States.

189 The next photograph shows one of the basic issues in the Northern Great Plains. That is, how do you reclaim an aquifer when the coal seam you mine is an aquifer? In fact, should you allow an aquifer to be mined or should you even raise that issue in the surface mine bill?

189 What you see is water bleeding out of the coal as the dragline removes the overburden, because the coal seam is the water-bearing strata in that part of the country.

189 The next photograph shows the old and new surface mining in West Virginia, and I think it deals with the objection that Virginia and eastern Kentucky operators have, that you cannot preserve the tree line below the haul road, which you see is done in the foreground on a very steep slope.

189 They talk about Pennsylvania with its gentle slopes. You notice on the other side of the hollow how steep the slopes are and what you had under the old steps in mining as opposed to the new method in the foreground.

189 The next is mining in Illinois, which has probably the strictest of the Midwestern State laws, where you see a shovel moving rock and spoil in the foreground, and in back of it a bucket excavator reaching out past the area that the rock has already been removed from, to take topsoil and spread it on top of the rock, thereby preserving the relative relationship between topsoil on the top and rock spoil below.

190 Prior to the Illinois law the same machinery had been mixing topsoil and spoil to such a degree that the best you got was pasture. Under the current Illinois law and the use of that machinery in the sequence you see there, it is possible to continue to farm an area that was farmable prior to mining.

190 The last photograph shows an area with a partial highwall and how some acid water seeping out of the bottom of the backfill. That raises the issue of, if you allow water to seep into a filled area, how do you control the production of acid material even though you guard the acid as deep as you could on the bench area?

190 With that, Mr. Chairman - with that background, which I am sorry was so extensive, I would like to present my testimony, if I might.

190 It is a pleasure to be invited to provide information and ideas today on the subject of Federal surface mine legislation. I very much appreciate Congressman Rahall's letter to you, Mr. Chairman, asking that I be allowed to be here today.

190 Such legislation has been supported, you might be interested to know, by a wide range of persons in West Virginia, including newspapers in Morgantown and Huntington that represent our high-and low-sulfur coal areas. I might say they agree on little else, but they do agree on that.

190 It is generally supported, from what I can learn, by most independent coal operators in West Virginia. During my 5 years as a coal researcher and consultant, such legislation seems to have the support of most working miners, I believe I can safely say. News articles indicate the same may be true in Virginia as well. At the same time, as you are well aware, major coal industry and national energy industry interests, as well as some United Mine Workers members, oppose the bills being considered.

190 It seems to be the purpose of this bill, H.R. 2, and a similar bill in the Senate, S. 7, to regulate surface mining for coal, rather than abolishing it or partially abolishing it - except perhaps in certain areas of the West. Therefore, the exact details of this legislation must be carefully worked out, and I think that was the thrust of the testimony prior to mine, so as to achieve their purpose of even regulating surface coal mining - as Federal law now regulates all underground mining - without unduly restricting coal production nationally.

190 I would, then, like to comment on three aspects of H.R. 2 that seem to me of vital importance: The administrative process established, the reclamation standards required, and the orphan lands fund proposed. Before moving into these areas of specifics, I would like to comment on the problems this legislation poses to many persons who might normally be expected to support it.

190 Numerous firms who operate only in States like Ohio, Illinois, Pennsylvania, and West Virginia feel keenly the unfair competition of stripped coal from States with weaker surface mine laws. Illinois coal will find this is a problem with Indiana and western Kentucky coal at times. So, too, will Ohio. West Virginia low-sulfur coal has problems with competition from eastern Kentucky and Virginia stripped coal, and even Alabama coal when export markets

are concerned.

191 However, many reasons exist for operators affected by such differences in State regulations not to speak up. One is the obvious fact that no industry is likely to support increased Government regulation of itself. Additionally, it is said that many independent firms operating in a State with strong strip mine controls must do business - be it by using their brokering abilities, loading tipple, or cleaning plant - with firms that own coal in other States. Thus, it has been suggested rather strongly by some that these firms feel they cannot afford to oppose the interests of someone they need to help them in their normal coal operations.

191 Finally, supporters of this sort of legislation often claim that since electric utilities are often the major customer of certain firms, these firms feel under great pressure not to say anything favorable about a proposed law that the utility customer opposes. Obviously, firms with coal in States with relatively weak laws will use all the influence they can, even in States they operate in with strong laws, to oppose this sort of bill since it will increase their mining costs, if passed, in certain of the States they have interests in.

191 All these factors need to be weighed when Congress finally votes on this bill and any changes proposed in it.

191 United Mine Workers members in Virginia, Ohio, and West Virginia all have indicated support for strong Federal legislation in this area of concern. I might say I have been asked to speak at several compact meetings in West Virginia and also at the national compact meeting here in Washington on Inauguration Day.

191 They appear to believe that, as happened in Ohio and West Virginia after passage of strong State laws in 1972 and 1971, if Federal action does not go so far as to abolish the industry, it will create more jobs in the mining and/or reclamation end of the stripping process.

191 It is true that the United Mine Workers convention supported a resolution favoring State, rather than Federal, action on this issue. It is also true that that particular session of the convention was one at which all resolutions introduced by the resolutions committee were approved by the membership, with little discussion.

191 It is true that some surface mine production and jobs have been lost in West Virginia since the Mountain State adopted its 1971 law. However, a national law will eliminate loss of markets to other States, by any particular

State, since all States will be equally affected by similar reclamation requirements and mining costs.

191 Looking at title V of H.R. 2, you can see in certain of the administrative requirements of the bill good reason for surface mine operators who do not fear the bill's reclamation requirements to oppose the bill as a whole. Item No. 11 on page 63 is an example of what many operators consider paperwork "overkill." That has been referred to in earlier testimony.

191 So, too, is item No. 15 on page 65. The provision in section (c) on page 66 that the State agency pay for many of the administrative costs of the bill, for small operators, which I just mentioned, Mr. Chairman, recognizes that such provisions and requirements can be a major burden to operators. In fact, what is needed to protect our environment with a minimum of extra expense is to change the permit application sections of the bill so that the details of the application are left up to the State enforcement agency and a strict time limit for initial approval or rejection of an application is established.

192 The fact is that time and work are money to a surface coal operation. It seems reasonable to set strict performance standards for strip mining, as this bill does.

192 At the same time it is only fair to limit the paperwork and time delays the current bill would surely create. Extra costs associated with passage of this bill should be tied to improved environmental protection, not to extensive paperwork and unnecessary delays in processing an application. This approach, tied to the bonding requirement contained in section 509, will surely take care of the objection that different geology in the many coal States makes a Federal surface mine bill unworkable. This argument could, after all, logically be used against Federal mine health and safety legislation, it would seem to me, as well.

192 In any case, it would seem that many of the public notice and review requirements contained in title V should be done simultaneously, so that an absolute time limit - and I would suggest 90 days - could be set by which action on the permit request must be taken by the enforcement agency. Once initial approval is given to a certain mining permit, the operator should be allowed to continue operations even if appeals of the favorable decision are made, unless a proper authority rules against the operator. The mere fact of protest should not be allowed to stop initially approved mining.

192 I would point out that coal operators and environmentalists alike often are highly critical of the delays by existing State agencies in making decisions on strip permits. Neither the cause of the environment or the Nation's economy is served by delay and this bill might serve as a most helpful tool if it were modified to limit such delays in processing.

192 I also feel that a bill that covers as much as this bill covers, and is nationwide in scope, must allow the State enforcement agencies to fill in many of the details of permits, applications, changes in plan, et cetera that are attempted to be required here. I admit the line between insuring that uniform environmental standards are met and creating undue burdens for the coal operator is hard to draw. Yet such flexibility at the State level simply must be allowed.

192 I would point out that the flexibility allowed individual inspectors in Pennsylvania is, in my opinion, the key to Pennsylvania's having the overall best reclamation of any coal State, while increasing surface coal production since 1971.

192 The reclamation standards of this bill are the real heart of the matter and deserve some individual comment. The critical issues here, I feel, are (a) prohibitions against spoil over the side of a mountain - and that is the issue, I understand, the TVA has raised; (b) requirements that contour strip mining see the mountain returned to the "approximate original contour"; (c) how mountaintop removal/valley fill operations are regulated; (d) how western water supplies are to be protected; and (e) what protection surface owners of land over Federal coal will receive.

192 West Virginia has barred, by law and administration regulation, placement of spoil after the first cut on the downslope of hills over 25 degrees in steepness. This will not prohibit mining on steep slopes, even with hard sandstone overburden, as my photos will show. The Mingo County photograph is the photograph I used.

193 Use of the Pennsylvania modified block cut - using bulldozers and fronted-loaders - or the haulback method - using trucks to move spoil sideways - allows operators to meet this requirement of section 515. This requirement has

been met in areas of West Virginia equal to or steeper than any in Virginia or eastern Kentucky, and I feel operators in those States, including Tennessee and Alabama, who believe their costs would go up 50 percent or some such if this standard were enforced, should take a tour of the West Virginia jobs on steep slopes. Such a tour would show the operators and equipment supervisors the most economic ways to meet such a requirement, developed after years of trial and error.

193 Since it is clear that haul roads and some water impoundments may be left on mined areas - and I am simply interpreting page 92 to allow that, although when I look at it again, the State and local land-use plan might be something to be clarified more surely, to make it clear that a private road can still be left. In any case, assuming that the haul roads and some water impoundment may be left in these mined areas, the "approximate original contour" requirement of section 515 seems to be the same as what Pennsylvania requires by law and West Virginia, in many cases, has required by administrative action. Such a requirement eliminates the land isolation above the mined area, and there is a lot of mention for below the mined area, but it is important to consider the above-the-mine area, too. But this is noticeable when one flies over surface mine Appalachian areas or hikes around stripped lands. It also allows man and animal to pass over and through mined areas after the mining is completed. It eliminates the stark highwall that clearly does not win favor with the public for the surface mine industry. It eliminates the breaking away year after year of bits of the highwall which are exposed to the weather. It eliminates the production of acid runoff from direct exposure of acid rock in the highwall to rain or from seeping of rain into a partial backfill that does not cover the entire highwall and thus saves on sheet erosion for a few weeks, but risks major water pollution over a period of time.

193 With this requirement, and based on the West Virginia experience with backfilling highwalls where augering has taken place, I can see no need for requirement No. 9 on page 88, requiring a special plug be placed in auger holes before backfilling takes place.

193 Operators who doubt this requirement can be done economically - and I am thinking of the example I gave - on steep slopes should visit Elk County, Pa.; Mingo County, W.Va.; and Kanawha County, W.Va. Such operators will save themselves a lot of money if they will do this. Failure of Long Pit Mining Co. and TVA staff to do this is one reason the TVA experiment in Campbell County, Tenn. with highway elimination cost more than it might have, in my opinion.

193 The major reason for mountaintop removal techniques is to remove a

maximum amount of coal - I think we should be frank about that - not to create better land uses. From the valley below such an operation, where the reclamation standards of section 515 are met, as at Cannelton Coal Co. in Kanawha-Fayette Counties, W.Va., the process is not environmentally objectionable or even a problem of physical appearance. To prohibit a mountaintop project in some isolated area of Kentucky, Virginia, or West Virginia because a market does not exist for cattle, corn, or housing, if all environmental regulations are to be met, seems questionable as a matter of policy. Reconsideration of this land-use requirement, applied to mountaintop removal and filling of the valley floors, might be well advised.

194 Protection of Western alluvial valley floors, considered in section 510 of this bill, is surely in the national interest. Plenty of Western coal exists outside of such areas and huge reserves of low-sulfur coal also can be deep mined and surface mined in Alabama, eastern Kentucky, Virginia, and much of West Virginia. Most of these lands cannot produce the food or meat possible on Western alluvial valley areas.

194 Another problem is represented by one of my photos, which is how you reclaim an aquifer as it seems must, and likely should, in item D on page 89, when the coal seam is your aquifer. I know of no evidence that such is possible and logically either this section should be dropped or it made clear that aquifers should not be mined.

194 Protection of the rights of surface owners of Federal coal lands is one of the most important policy decisions that this legislation will make. Much of the coal owned by the Federal Government with private surface ownership is being "pushed" or promoted for development on the ground that it is low-sulfur and needed in areas outside of the Northern Great Plains, such as the Ohio Basin and the South, to help clean up our Nation's air.

194 The surface owner protection section, which is 714 in this bill, will not prevent some windfall profits for certain Western landowners nor will it stop pressure tactics by major energy firms against surface owners, as some have claimed has taken place in the West. What it will do is encourage coal firms with ties to certain utilities to mine this coal and bring it into the Midwest, South, and further east, to the great detriment of the Eastern coal industry. This will especially harm the low-sulfur coal industry of Appalachia, already impacted by a recession due to lack of purchases by electric utilities and a slow year in the steel industry.

194 Attached, and I refer to the form 423 I mentioned earlier, is proof Western coal is not less expensive than Virginia and West Virginia low-sulfur coal in Ohio. Yet a certain power company insists on moving it to that State on "captive" transportation equipment. Meanwhile, the TVA continues to buy Western

low-sulfur coal and refuses to negotiate for likely less expensive low-sulfur West Virginia coal that can reach TVA plants all the way by navigable water.

194 Unless wording is substituted for section 714 similar to that in section 423(e) of S. 7, the Federal Government will continue to move into the coal business, even though such a move harms the laborintensive coal industry in the East. Prohibiting the mining of Federal coal when the surface is privately owned, which is what S. 7 will do, as I mentioned, will end pressure tactics of any sort against any surface owners. It will not eliminate billions of tons of coal now mined by the Indian Nations, fee simple ownership by certain private firms and Federal coal already under lease or even being mined. More than enough coal exists in the Northern Great Plains today in minable blocks to take care of the needs of that region and the Pacific Northwest, another natural market for it, without the Federal coal under private surface.

195 Perhaps someday this coal will be needed, but not before the year 2000, in my opinion.

195 The orphan lands reclamation fund created by title IV of H.R. 2 is a fund that can surely do much good. Much environmental damage in the older coal regions of the Nation, including Illinois, Virginia, Kentucky, Pennsylvania, and West Virginia, needs to be undone to the extent it can be. These areas likely are owed a great debt by the rest of America for the cheap power and chemicals they supplied the Nation, at great cost to their environment and people.

195 The idea of making deep-mine costs more equal to those of surface mining by taxing surface-mined coal at 35 cents per ton and deepmined coal at 15 cents per ton is interesting, but today's economics and inflation mean it will have no impact on this issue, in fact.

195 What may make more sense is if Congress wants to encourage Federal coal development and not lock up Federal coal with private surface ownership, to consider the approach of title III of S. 7, which limits the reclamation fund to federally owned coal production. This would be a true example of the Nation, from coal it owns, paying back at least some of the debt it owes the traditional coal areas of America, even as the Federal coal takes some of their markets from them.

195 However this matter is resolved, I would urge that, as in enforcement of

the reclamation provisions, title IV clearly allows States that have a program of reclamation of orphan lands, such as Ohio, Pennsylvania, and West Virginia, to use funds allocated to their State for such a purpose instead of having the Department of Agriculture coming in and messing around with a program that duplicates the State program, and with staff with less experience in that State's conditions than the State staff are likely to have.

195 If it is consistent to allow the reclamation portion to be enforced at State level, why is it not reasonable to have the orphan lands likewise enforced by a State that has a program enforced to do so?

195 I have circulated a number of photos I have taken of surface mining in different States - or in some cases I commissioned the photo to be taken - for your consideration.

195 I would be happy to answer any questions of the subcommittee.

195 The CHAIRMAN. Thank you for that very comprehensive statement. You have obviously given a lot of time to it and it will be very valuable to us.

195 Mr. Bauman, do you have any questions?

195 Mr. BAUMAN.No questions.

195 The CHAIRMAN. Nick?

195 Mr. RAHALL.No, Mr. Chairman; thank you.

195 The CHAIRMAN. Mr. Vento?

195 Mr. VENTO. Thank you, Mr. Chairman.

195 This has been very good testimony and I think it will be somewhat helpful as we look at this process. Some of the points you have were covered in earlier questioning, but I was interested in the problem you portray with respect to transportation and sale.

196 I was trying to go through the brochure very quickly and find out the aspects of it. Maybe you would like to fill us in. There seems to be a point there that is different.

196 Mr. KILPATRICK. Regarding the delivery?

196 Mr. VENTO. I believe you allude to a problem on page 4 of your testimony. You talked about the captive transportation equipment, proof that the western coal is not less expensive, et cetera.

196 Mr. KILPATRICK. The situation, as people in Ohio raised the issue, and this was raised in West Virginia when western coal was burned by the same holding company, American Western Power, both in Ohio and West Virginia were told that western coal was environmentally better and it cost less.

196 What the investigations that were done by the West Virginia Legislature, for whom I was coal consultant at that time, discovered was that the company in question owned the barges and have invested \$1 00 million in barges, railcars, and loading tipplers on the Ohio River, and they were essentially an Indiana affiliate not regulated by the West Virginia or Ohio Public Service Commissions. They were charging whatever they could get away with to transport the coal by rail, transfer by tipple and by barge and delivering it to plants in West Virginia and Ohio.

196 They have completed all of those facilities now, and that is why people in Ohio - West Virginia reacted to this by abolishing the automatic fuel clause that the electric companies had. The legislative act expired, but the PUC took action on its own and they have no clause now, which means the PUC can look at anything.

196 Since that happened, no western coal has been burned in West Virginia. What happened is that it started coming to Ohio. They didn't abolish the automatic fuel clause, but this legislature passed a bill which requires review by the Public Utilities Commission of this type of thing and there is a possibility now that some of these costs - you know, the Utah coal is exorbitant in its cost here and the Wyoming coal is certainly not a great bargain.

196 Particularly since this plant can burn 4 percent sulfur coal, you don't need to go anywhere to get low-sulfur coal. That and the fact that the captive coal at the bottom of this page is more expensive than all except one item of western coal is causing an investigation, and there may be some requirements for refunds, as I understand it, to the consumers in Ohio, as the Ohio regulatory agency gets into the question of captive mines, captive transportation, et cetera, and what is a fair and reasonable profit as opposed to what the company wants to charge itself.

196 Part of the trouble is that many of the large utilities in this country are holding companies and they have - they can have several different affiliates approved by the Securities and Exchange Commission, which so far has never

rejected these requests. Some are mines, some transportation, some sell electricity, and the parent company coordinates all of this.

196 It has become very difficult for the State regulatory agency to really get a handle on what is fair, just and reasonable. All I can say is if you look at the evidence here, all of the coal here except the coal above 4 percent sulfur is acceptable environmentally. What then is the excuse for having more expensive coal come in from the West when coal closer to home is cheaper?

197 Why should captive coal mined 3 miles away from the plant at the bottom line here - why should the captive coal be more expensive than any of the other coal except the Utah coal purchased from a private company?

197 Mr. VENTO. I didn't see your last chart. That is something that I will turn my attention to. Thank you.

197 The CHAIRMAN. All right, if there are no further questions, we thank you very much for your helpful appearance here.

197 Mr. KILPATRICK. Thank you, Mr. Chairman.

197 The CHAIRMAN. The subcommittee will stand in recess.

197 [Whereupon, at 3:21 p.m., the subcommittee recessed, to reconvene at the call of the Chair.]

197 [Additional material submitted for the hearing record may be found in the appendix to this volume.]

TUESDAY, FEBRUARY 22, 1977

199 HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT, COMMITTEE ON INTERIOR AND INSULAR AFFAIRS, Washington, D.C.

199 The subcommittee met at 9:50 a.m., pursuant to recess, in room 1324, Longworth House Office Building, Hon. John Seiberling presiding.

199 Mr. SEIBERLING. The Subcommittee on Energy and Environment of the House Interior Committee will please come to order.

199 Today we are having hearings on H.R. 2, the Surface Mining Control and Reclamation Act of 1977. Our first group of witnesses are Mr. Ira E. McKeever, president of Colowyo Coal Co., Denver, Colo., accompanied by Mr. John Ward, Charles Margolf, and John Thurman.

199 Is that correct, sir?

STATEMENT OF IRA E. MCKEEVER, PRESIDENT, COLOWYO COAL CO., DENVER,  
COLO., ACCOMPANIED BY JOHN WARD, CHARLES MARGOLF, AND JOHN THURMAN

199 Mr. MCKEEVER. Yes, sir.

199 Mr. SEIBERLING. I understand that the focus of your testimony will  
be  
on planning for coal development, mining and reclamation?

199 Mr. MCKEEVER. Yes, sir.

199 Mr. SEIBERLING. And you may proceed with your testimony.

199 Mr. MCKEEVER. Mr. Chairman, and members of the committee, my name is  
Ira McKeever. I am president and general manager of Colowyo Coal Co.

199 May I correct the record that my home is in Craig, Colo.

199 I have 27 years of experience in the mining industry.

199 My colleagues and I are happy to be here at the invitation of the  
committee to show what can be done with a proposed coal surface mining  
operation  
in order to meet what we deem to be all reasonable present and future  
requirements concerned with environmental and socioeconomic objectives.

199 Our presentation today focuses on the planning and development work  
undertaken by Colowyo to open a major surface coal mine in northwest  
Colorado.

199 This mine involves a Federal coal lease of approximately 2,500 acres  
which was mined earlier as a low volume underground operation from 1914 until  
February 1974.

200 At that time it was closed down, ordered closed by Federal  
officials  
because of hazards created by a fire in an adjacent underground mine.

200 We undertook an extensive drilling and exploration program in early  
1973, and that exploration drilling continued through the fall of 1975. It  
revealed that the property contained 165 million tons of reserves of high  
quality, low sulfur, by recovering them by a multiseam method of surface  
mining.

200 There are eight seams at this deposit that we would recover.

200 The preliminary marketing and engineering studies indicated a  
commercial  
deposit of sufficient potential to warrant intensive planning and  
preparation.

200 At this time I would like to refer to the white copy of the exhibits  
that you have in front of you under exhibit 1, page 1.

200 This lists some of the market, transportation, mine planning, and  
engineering analysis of the railroad studies.

200 Mr. SEIBERLING. Are you offering these exhibits for inclusion in our hearing record?

200 Mr. MCKEEVER. Yes, sir.

200 Mr. SEIBERLING. Without objection they will be placed in the committee files.

200 [The document referred to may be found in the committee file.]

200 Mr. MCKEEVER. Now being aware of the high level of awareness of public about the environment, in February 1974 we enlisted the services of an environmental consultant, and we recognized the necessity of identifying and examining the full range of potential impacts and costs of a major surface mining operation.

200 In our judgment we faced the likelihood of failure at great financial loss if we failed to identify, understand, and control acceptably the impacts of our operation on local community life and the environment.

200 I would like to refer to the second page of the white book to be, also, included, which relates to the socioeconomic and environmental studies that we undertook.

200 Colowyo will be a 3 million ton per year mine with a capital cost of over \$7 5 million and a lengthy startup period. It is just simply good business to take every reasonable step to assure that the project be acceptable to the broad range of general public interests.

200 Consequently we simultaneously undertook a spectrum of specific studies, both regional-cumulative basis, as well as on a site-specific basis, employing specialists both internal and external to Colowyo.

200 A few of the areas involved were transportation. One reason that the Colowyo coal mine area in northwest Colorado coal region had not been developed is that a large volume transportation facility was lacking.

200 Studies of all transportation modes indicated a rail spur to Craig, Colo. would be an environmentally and financially superior choice.

200 Further studies were initiated to determine preferable railroad routes. We agreed to accept the route recommended by the Government as the one most environmentally acceptable.

200 Other regional transportation studies were also undertaken. We needed to know if the main lines to Denver had the capacity to handle not only coal,

but all other anticipated tonnage.

201 SOCIOECONOMICS

201 Our main plan will require a work force of about 250 within 3 years of startup. Since our operation and others would significantly affect Craig and other nearby communities, we made a cumulative regional socioeconomic analysis for early identification of potential problems and courses of action to mitigate the growth impact.

201 I would like to show a copy of that study for socio and economical land use study.

201 This study covered 3 counties -

201 Mr. SEIBERLING. Excuse me, sir. Are you offering that for our record, too?

201 Mr. MCKEEVER. No.

201 Mr. SEIBERLING. Thank you.

201 Mr. MCKEEVER. Our studies covered three counties, an area of about 36,000 square miles.

201 We have initiated action on the housing problem by guaranteeing \$500,000 of financing for a 400-unit permanent housing development in Craig which would be open to all people.

201 We also have made a financial contribution to the local hospital, and have participated in the citizens advisory council dealing in community services.

201 Now to the reclamation program.

201 Our area has been used primarily for domestic livestock grazing. The topography is gently rolling terrain sparsely covered with various grasses, sagebrush, and some mountain juniper.

201 Our average annual precipitation is 16 to 18 inches, and there is 12 to 48 inches of good nonacidic topsoil on the property.

201 Reclamation studies were initiated in 1974, and extensive information was gathered on the site, surrounding areas, and along proposed rail routes.

201 Some of the projects involved transects to determine the wildlife use, inventory of existing plant life, water gaging stations, meteorological stations, and an archeological survey by the University of Colorado.

201 Two years ago, we constructed a test area of approximately 5 acres on the site by stripping vegetation, intimately mixing the topsoil to simulate topsoil removal and replacement, and grading the surface at various slopes for the purpose of studying vegetation methods.

201 Techniques included seeding and transplanting of native and introduced species.

201 Runoff tanks have been installed and sediment measurements studied for different gradients.

201 This 4-year program is directed by Dr. William Berg of Colorado State University. Progress reports indicate assurance of a successful revegetation program.

201 We also have undertaken, in conjunction with BLM, a wildlife habitat improvement program. We expect this program to increase the feeding capacity of the land and improve the habitat for wildlife.

201 As to the overall scope of this work, during the past 2 years we have spent approximately \$2 .2 million for the services of experts outside our organization mainly relating to environmental and socioeconomic considerations.

202 Our drilling and exploration has involved expenditures of over \$1 million, and additional planning costs total more than \$3 million.

202 In addition, the purchase of land and capital equipment brings our total investment to approximately \$27 million to date.

202 As demonstrated, we have mounted a massive effort to understand and control the effects of our mine operations. We sent copies of our studies to a wide variety of public interest groups and met personally with their representatives to describe our plans and solicit their views.

202 We have acted on every possible suggestion and incorporated their thoughts in the planning of our project.

202 The exhibits in the white book under section 2 list those that receive copies of our environmental impact assessment.

202 Under exhibit 3, we have the mailing list for the socioeconomic summary listed.

202 Now we have signed sales contracts covering about 70 percent of our mine capacity with most of the remainder under option to the same two utilities. They include the city of Colorado Springs, and Central Power & Light, of Corpus Christi, Tex.

202 We have secured all necessary county and State mine-related permits. We have substantially all necessary mining and loadout equipment on site or on order.

202 The Northwest Colorado Final Environmental Statement, commenced by BLM in March 1975, is now completed. We have a copy to show here.

202 We are ready to proceed under the plans described within this report here today pending a favorable decision by the Department of the Interior.

202 For over 4 years, we have been exploring, conducting studies, making surveys, submitting plans, and meeting with various interested groups in an effort to comply with all county, State, and Federal laws.

202 In addition, we have attempted to plan so that we could meet all foreseeable reasonable changes in the laws.

202 In closing, Mr. Chairman, and members of the committee, we hope our presentation to you today serves as an example of the planning necessary to accommodate conservation, socioeconomic, and environmental concerns prior to the development of the surface coal mine.

202 What is needed now are prompt governmental decisions permitting timely developing of our Nation's coal reserves.

202 Now, I would also like personally to invite each of you to visit Colowyo's project when you come to northwest Colorado, because I believe it would add to your understanding of the various coal surface conditions found regionally in our great country.

202 Thank you.

202 Mr. SEIBERLING. Well, thank you, Mr. McKeever.

202 Do either of your associates wish to add anything to your statement?

202 Mr. MCKEEVER. No.

202 Mr. SEIBERLING. All right. I have a few questions I would like to ask you, in that case.

202 First of all, let me ask a general question:

202 How far do your planning studies go which are normally undertaken by surface mining companies in the western areas?

203 Mr. MCKEEVER. That is a question that has to be answered, but that I am not that familiar with as to the normal practices of all of the companies in

the west. I would say that many of the companies are doing what we have done.

203 We have tried to accommodate the entire region on our study and I think that most of the mining companies are trying to do that, also, now.

203 Mr. SEIBERLING. What is the capital investment required to open a mine of this sort apart from the planning studies?

203 Mr. MCKEEVER. Between \$6 0 and \$80 million additional.

203 Mr. SEIBERLING. And your testimony indicates you spent about - on planning, you spent about \$5 million?

203 Mr. MCKEEVER. That's correct.

203 Mr. SEIBERLING. So this is about 6-plus percent of the total capital cost?

203 Mr. MCKEEVER. That's correct.

203 Mr. SEIBERLING. To what extent would you undertake this even in the absence of State or proposed Federal laws and regulations?

203 Mr. MCKEEVER. Well, we started this in early 1974 with a sincere concern for our people and for the community, recognizing that to be a good citizen we had to do this type of work.

203 Mr. SEIBERLING. Now under tab 1 of the exhibit, you have grouped a series of studies by subject. Can these studies also be grouped by stages of planning and development? And if so, how would you characterize these stages?

203 Mr. MCKEEVER. They can be grouped by planning and development. There are many of them that are interrelated and going on at the same time. Maybe a brief history of the Colowyo project as I was involved with it would be useful for your consideration.

203 I first became aware of the Colowyo mine in December 1972. Negotiations for the acquisition of the Colowyo Coal Co. commenced in January and February of 1973.

203 In order to acquire the company we needed to understand what we were buying in the relation to coal reserves, so an exploration program commenced in April of 1973, and as I indicated earlier, that drilling program continued through the fall of 1975.

203 Once we were convinced that we had adequate reserves and could convince our board of directors to acquire the Colowyo Coal Co., that time took until

November 1973. It was then an underground coal mine and operated as such until February of 1974.

203 Our drilling program had indicated that there were possibilities of a surface mine as early as the spring of 1974. We continued our drilling program through that season.

203 In early 1974 we also recognized the need to acquire surface rights over this mine, and at that time my colleague, Mr. Margolf, worked on land acquisitions which continued through 1975 simultaneously.

203 We also commenced our environmental studies by contracting in February 1974 with an environmental consulting concern to start a regional study. This study was prepared by Colowyo and submitted to the general public in July 1974.

203 The need for a regional environmental study broader than the one that we had undertaken for the Colowyo mine was determined by the BLM and they commenced the formation of a task force which became operational in March 1975 to study northwest Colorado.

204 This first draft of their study became available about July 1 of 1976, and hearings were held in both Denver and Craig on that draft.

204 Because of the volumes involved and the time required for additional study, the State of Colorado requested an extension of the 45-day time and a second set of hearings was held in August.

204 So the studies continued simultaneously with our marketing studies and everything else, accumulating in the final environmental impact statement being issued by BLM, I believe, January 13 into our Federal Register.

204 Mr. SEIBERLING. How does this correlate with the actual development of the mine?

204 For example, the ordering of equipment?

204 Mr. MCKEEVER. Yes, sir. We recognized the need for large draglines and other long-delivery item pieces of equipment early in the game, and we placed an order in January 1974 for deliveries of a dragline which is just now about 75 percent delivered to our mine site.

204 The final delivery is now expected in April of 1977.

204 This was the longest lead item, and cost about \$9 million, that we had to order. The balance of the equipment had varying leadtimes from a few months to immediately off the shelf.

204 Mr. SEIBERLING. In your opinion, is this kind of planning and development work representative of the type of premining work that ought to be done on all large western coal mines?

204 Mr. MCKEEVER. Obviously this was our interpretation of what we needed to do as good citizens.

204 Mr. SEIBERLING. Do you think that it isn't only as good citizens, but as a businessman that it is desirable from an economic standpoint, from the standpoint of your own economic viewpoint? Is that correct?

204 Mr. MCKEEVER. That is a better way of saying it.

204 Mr. SEIBERLING. Thank you.

204 I have other questions, but I think we will try to stick to the five-minute rule as much as possible.

204 The gentleman from Wyoming, Mr. Roncalio.

204 Mr. RONCALIO. Thank you, Mr. Chairman.

204 I presume on page 4, when you say you are pending a favorable decision by the Department of Interior, that that means with your acceptance of your environmental impact statement?

204 Mr. MCKEEVER. Yes, sir. The statement is in final form now and the Department of Interior can issue a favorable indication to go ahead with the issuance of the mine permit through the Department of USGS.

204 Mr. RONCALIO. I wish you good luck on that. I hope that he acts favorably quickly. I have lost three attempts to get favorable action from the Department of Interior, whether Democrat or Republican. I have lost the last one to Secretary Andrus in behalf of one of our neighbors involving modification of the lease in the matter of the royalty. So I wish you good luck on that.

204 Mr. MCKEEVER. Thank you.

204 Mr. RONCALIO. You see nothing in H.R. 2 that would deter or become an impediment upon your mining operation, you see nothing in our H.R. 2 that we are working on now that would constitute an impediment to your operations?

205 Mr. MCKEEVER. Not in our area, sir.

205 Mr. RONCALIO. I have no further questions.

205 Thank you, Mr. Chairman.

205 Mr. SEIBERLING. The gentleman from Kansas, Mr. Skubitz.

205 Mr. SKUBITZ. Thank you, very much.

205 I regret very much that I was not here to hear your testimony, Mr. McKeever. I will read it, however.

205 Mr. Roncalio has asked the question that I had in mind.

205 You have studied this bill?

205 Mr. MCKEEVER. Yes, sir.

205 Mr. SKUBITZ. Are you stating to this committee that there isn't any section in H.R. 2 that would hinder your process or hold up your mining operations? Would this legislation stop the production of coal due to long hearings that may be necessary for the passage of or approval of plans; or by threatened actions of litigation by environmental groups to make you do additional work? Are you satisfied with the way in which this bill is written?

205 Mr. MCKEEVER. I cannot say that I am satisfied because my business is mining coal, not writing bills. But it is my understanding, of what I understand about the bill, for our regional area that it is possible for us to go ahead.

205 The chairman of this committee would like to get into the marking up period in March. It is my suggestion that between now and March, our marking up time, you have your lawyers and your engineers look this bill over, very, very closely, and submit to us or to me, if you will, any changes that you feel are necessary relative to the fact it won't hold up your production or stop production at any time.

205 Mr. MCKEEVER. We would be happy to do that, and we certainly will.

205 [The information, when reviewed, will be placed in the committee files.]

205 Mr. SKUBITZ. In viewing your pictures, you have a multiseam mining operating going on; is that correct?

205 Mr. MCKEEVER. We are operating on one of the seams in the multiseam operation, yes, sir.

205 Mr. SKUBITZ. What is the depth to the coal? I am not familiar with your operations. Is this a mountaintop operation?

205 Mr. MCKEEVER. There is a photograph in the brown book in frontal view under tab No. 3, the first photograph.

205 Mr. SKUBITZ. I see.

205 As you get down to the second seam of coal, will you start reclaiming the first seam area?

205 Mr. MCKEEVER. There is a period of time where we are actually digging a V-cut to reach a mature mine.

205 Mr. SKUBITZ. Yes.

205 Mr. MCKEEVER. Now, once the mature cut is dug, then we have the opportunity to begin reclaiming as the pit advances. We reclaim where we have mined out as the pit advances. That period of time could be as much as 4 years.

205 Mr. SKUBITZ. Four years?

205 Mr. MCKEEVER. In digging for the mine.

206 Mr. SKUBITZ. Do you complete the first seam in the mine, then the second and so forth? Is this a table operation? Is that the mode of operation?

206 Mr. MCKEEVER. Let me see if I can't answer that a little better.

206 Referring now under tab 2, the second picture shows a cross section of the mature pit.

206 Mr. SKUBITZ. This one?

206 [Indicating.]

206 Mr. MCKEEVER. That's correct.

206 Mr. SKUBITZ. All right.

206 Mr. MCKEEVER. When I refer to a mature pit, that is this entire area of the V-cut.

206 Now we are mining on benches at this site at that time, and we are reclaiming the area on this side.

206 [Indicating on the photograph.]

206 Mr. SKUBITZ. I think that is compatible with the method they are using in England today.

206 Mr. MCKEEVER. I am not familiar with that.

206 Mr. SKUBITZ. That is all this time, Mr. Chairman.

206 Will you have your lawyers go over this bill very closely? Will you advise me whether this legislation is satisfactory and indicate the sections you find that need modification in order to permit you to operate, mine coal, and at the same time have a reasonable reclamation program in operation?

206 Mr. MCKEEVER. Yes, sir. Time is of essence to us, also.

206 Mr. SKUBITZ. I don't want someone coming in a day or so before we are ready to mark up the bill and say, we found an error, this has got to be changed.

206 Thank you, Mr. Chairman.

206 Mr. SEIBERLING. Thank you. And I am going to try to go more or less in order of arrival here, but alternating between the majority and minority sides.

206 I recognize the gentleman from Louisiana, Mr. Huckaby.

206 Mr. HUCKABY. Thank you, Mr. Chairman.

206 I, too, would like to apologize for not being here at the time of your oral presentation.

206 Are there any what we would classify as small coal operations operating in your area? Small miners?

206 If so, would H.R. 2 seriously impact upon them, or do you see any possibility with the flexibility in H.R. 2 as now written - such as financial surety and where they are left to the discretion of the local administration - would cause any problems with the small operations in your area?

206 Mr. MCKEEVER. There is what we would call an underground mining operation that is small and adjacent to us. There are not that many operations right in our regional area there.

206 One that I could make on the small miner is that bonding could be a problem for them, someone without the financial ability would face a problem.

206 Mr. HUCKABY. You see H.R. 2 as handicapping smaller operations?

206 Mr. MCKEEVER. There is a possibility of that, yes.

206 Mr. HUCKABY. All right. That's the only question I have at this time.

207 Thank you, Mr. Chairman.

207 Mr. SEIBERLING. All right, I think Mr. Marriott was here first, so I

will call on you next.

207 Mr. MARRIOTT. Thank you, Mr. Chairman.

207 Mr. MCKEEVER. I am from a neighboring State of yours, Utah, and we have very little strip mining there. Not enough to put in your eye.

207 I wonder how much strip mining goes on in Colorado as compared to underground mining? Do you have those figures?

207 Mr. MCKEEVER. The majority of the tonnage produced in Colorado is from strip mining. Especially for the electrical utilities. Those mines are in the area south of Steamboat and Hayden and near Oak Creek.

207 Mr. MARRIOTT. Now you indicated that Colorado does have a good strip mining law at the present time.

207 Mr. MCKEEVER. Colorado recently passed one which I believe went into effect in July 1976. And the writing of the regulations to interpret that law have been going on during the past months.

207 Mr. MARRIOTT. Do you feel that that law is adequate? Do we need a Federal law on top of the one you have in Colorado?

207 Mr. MCKEEVER. Regulations and inspections of an operating coal mine do increase costs of the coal, do take a lot of the operator's time. Maybe the best of all worlds is coordination between the Federal and State laws such that only one is actually at the operator's shoulder so that you do not get conflicting interpretations of the law.

207 Mr. MARRIOTT. I have heard testimony in the last week or several weeks since I have been sitting in these meetings that what the H.R. 2 is, is really a Pennsylvania warmed over.

207 Now, do you think that mining, strip mining coal in Colorado is the same procedure with the same problems and so on as mining in the East? And would a law that may be oriented more to the East work well in Colorado?

207 Mr. MCKEEVER. I have had experience mining in western Pennsylvania as well as studying mining in northwest Colorado.

207 There is a definite difference in the regional areas even within a State or within a region that must be accommodated in our laws and regulations.

207 Mr. MARRIOTT. Do you think those now exist in H.R. 2 as you read the bill? You see no problems with H.R. 2 in regard to mining in different locations?

207 Mr. MCKEEVER. Let us study that and report back to you and your colleague there.

207 Mr. MARRIOTT. Just one other question, if I may, Mr. Chairman, along the lines of Mr. Huckaby's questioning.

207 Many have testified that the real problem with H.R. 2 is that it will wipe out small business. You don't classify yourself as a small business, I take it.

207 Do you really think that this bill would have an adverse effect on the small coal miner?

207 Mr. MCKEEVER. I guess we have to deal with definitions of a "small coal miner." Any regulations, whether it is Federal or State additional to a one- or two-man operation would have an adverse effect on him. They have the Mine Health Safety Laws, MESA, and there are many regulations already that compound the time of an individual operator.

208 Mr. MARRIOTT. The small businessman certainly couldn't spend \$3 million doing the type of studies that you have been involved in, in the last couple years?

208 Mr. MRKEEVER. That's correct.

208 However, once these studies have been done for a region, it does make it a little bit easier for a smaller operation to identify within that region.

208 Mr. MARRIOTT. Thank you.

208 And that's all, Mr. Chairman.

208 Mr. SEIBERLING. The gentleman from California, Mr. Miller.

208 Mr. MILLER. I have no questions, Mr. Chairman.

208 Mr. SEIBERLING. The gentleman from Michigan, Mr. Ruppe.

208 Mr. RUPPE. Thank you very much.

208 Is the Colowyo Coal Co. an independent operation, or are you a subsidiary of another company?

208 Mr. MCKEEVER. Colowyo Coal Co. is a general partnership wholly owned by subsidiaries of W. R. Grace and Co. and Hanna Mining Co., each holding 50 percent.

208 Mr. RUPPE. I appreciate your testimony, and I happen to be a supporter of this legislation myself. I do know that many people are concerned about

mining in the alluvial valley floors and are concerned about the requirements concerning the quality and quantity of water in those areas.

208 I would like to refer to the legislation on page 73 in which it indicates that a mining permit will be given only if - I will read the language.

208 If the proposed operation would not interrupt, discontinue or prevent farming on alluvial valley floors that are irrigated or naturally subirrigated - do you feel, that your type of mining operation, either in the site in which you are presently proposing to operate or in the general area to which you have referred on a number of occasions, do you think mining there would in no way interrupt, discontinue or prevent farming on any alluvial valley floors that are irrigated or naturally subirrigated?

208 Mr. MCKEEVER. This is why I invited the members of the committee to visit our area which would add to the various types of geology that is involved.

208 We do not have a problem, in my opinion, of the alluvial valley floor nature in the immediate area of the Colowyo mine.

208 I am not really qualified to discuss that in general throughout the country.

208 Mr. RUPPE. In a subsequent paragraph you say that the mining operation will not adversely affect the quantity or quality of water in surface or underground water systems that supply these above two referred to.

208 Do you think, again from your point of view, the language in the legislation is acceptable in its present form?

208 Mr. MCKEEVER. For our operation we do not have this problem. The topography and geology are such that the aquifers in the Colowyo mine area have been transected by a valley and essentially drained.

209 Mr. RUPPE. So in effect where you are mining, there are no aquifers?

209 Mr. MCKEEVER. There are some perched water tables, but there are no aquifers.

209 Mr. RUPPE. Perched water tables? That sends me back to the drawing boards. Perhaps I ought to go on out there.

209 Mr. SEIBERLING. Before you had never gone into the aquifers in the mine site, I know that. At least in your present mine site, you are not cutting into aquifers and will not be when you mine. So the question of your mining operation restricting the quality or quantity of water in an adjacent alluvial

valley floor really is not a question that will be raised in your particular mining operation.

209 Mr. MCKEEVER. In our opinion, it is not pertinent in our case.

209 Mr. SEIBERLING. What is the size of your mining unit, by the way?

209 Mr. MCKEEVER. About 2,500 acres of a Federal coal lease.

209 Mr. RUPPE. When will you be in operation in terms of producing coal?

209 Mr. MCKEEVER. We are in a situation of interim mining on one statement.  
We are awaiting the issuance of our mining permit to go to the planned 3 million ton operation.

209 Mr. RUPPE. Do you segregate the topsoil for restoration at a future time?

209 Mr. MCKEEVER. Yes, sir. We have, as I testified, 12 to 48 inches of topsoil.

209 Mr. RUPPE. And you segregate that?

209 Mr. MCKEEVER. And we segregate that, stockpile it, plant it to avoid erosion and maintain until we then replace it.

209 Mr. RUPPE. You revegetate or replace from time to time. How long will it be from the time you mine an area until the time you go back and reclaim and revegetate that particular area?

209 Mr. MCKEEVER. We will have a mature pit dug in 3 to 4 years, depending on sales of coal, etc., as we mine.

209 So the soil will be stockpiled, the majority of the soil will be stockpiled for between 3 to 4, maybe 5 years. And that requires, in my opinion, that it be revegetated in the stockpile during this waiting period.

209 Mr. RUPPE. And then put back over again?

209 Mr. MCKEEVER. Yes, sir.

209 Mr. RUPPE. Thank you very much.

209 Thank you, Mr. Chairman.

209 Mr. SEIBERLING. The gentleman from New Mexico, Mr. Lujan.

209 Mr. LUJAN. Thank you, Mr. Chairman.

209 Mr. McKeever, you say you have been planning it for 3 years and another

3 before you start selling coal?

209 Mr. MCKEEVER. That is not what I said. We will be selling coal to the city of Colorado Springs in March of this year.

209 Mr. LUJAN. So 5 years years, roughly?

209 Mr. MCKEEVER. But it is on an interim permit and it will be an additional 3 to 4 years before we have reached the 3 million ton per year of the mine capacity.

209 Mr. LUJAN. If this legislation were in effect from the time you started, would that shorten or extend that period of time? Or would you have done the same things even with that legislation?

210 Mr. MCKEEVER. I think the answer is that it would not have affected what we were doing. We would have done this, anyway.

210 Mr. LUJAN. With or without this legislation?

210 Mr. MCKEEVER. Yes, sir.

210 Mr. LUJAN. Then why do you think we ought to have it, if you would have done it, anyway?

210 Mr. MCKEEVER. I did not say one way or the other that we should have it. All I -

210 Mr. LUJAN. I thought you said you supported it? Did you not?

210 Mr. MCKEEVER. No.

210 Mr. LUJAN. No?

210 Mr. RUPPE. He didn't oppose it.

210 Mr. LUJAN. Well, oh, all right.

210 Mr. RONCALIO. If the gentleman would yield; I think my question was, was there anything in this legislation that would impede your continuing operation. But he sure didn't say he approves of the legislation. I think he implied that he could live with it.

210 Mr. LUJAN. The difference is a very, very gray area, it seems to me. I can't distinguish between not opposing it and supporting it.

210 Mr. MCKEEVER. As operators of a coal mine, we live in a gray area.

210 Mr. LUJAN. Oh, all right. Very good.

210 Mr. SKUBITZ. Would the gentleman yield?

210 Mr. LUJAN. Certainly. I have one more question, but I will yield.

210 Mr. SKUBITZ. Go ahead.

210 Mr. LUJAN. Getting back to money, which is, I suppose, what mining is all about, and supplying coal or buying energy is all about; is the 35 cents significant or insignificant, that you will pay for reclamation into the fund?

210 Mr. MCKEEVER. It is approximately what we had set aside in our budget before we knew about this legislation.

210 Mr. LUJAN. But what will this do to my electric bill at home?

210 Mr. MCKEEVER. It will affect it, it will increase it.

210 Mr. LUJAN. Substantially or - I am trying to get an idea as to whether we are too high with the 35 cents. That was the center of controversy last year. Or whether that is a proper amount. It says 35 cents or 10 percent of the value of the coal. I suppose 35 cents will be cheaper.

210 Mr. MCKEEVER. In my opinion, it is appropriate.

210 Mr. LUJAN. Thank you, Mr. Chairman.

210 Mr. SKUBITZ. Will you yield?

210 Mr. LUJAN. I yield back my time, yes.

210 Mr. SKUBITZ. How much would it increase the price of a ton of coal when you add the 35 cents per ton for reclamation? How much will it add to the fuel bills that citizens have to pay?

210 I assume when you say 35 cents a ton if coal was \$10 it will be \$10.35; is that correct?

210 Mr. MCKEEVER. That's correct.

210 Mr. SKUBITZ. Mr. McKeever, you state you are in the business of producing coal. You are not in the field of reclaiming land; is that correct?

211 Do you think we would be better off to take reclamation completely away from the coal companies? Then we would permit you to pay your 35 cents a ton to professionals with expertise who are knowledgeable in the field of reclamation. They could bid on reclaiming of land.

211 Mr. MCKEEVER. We have acquired the surface of the land, we are the surface owner. I think it would be a mistake in our case to separate

reclamation from the mining operations. They are coordinated, necessary parts because of the, not only the safety of operation, but the cost in my opinion would have to go up for reclamation if they were separated.

211 Mr. SKUBITZ. Would the cost accelerate if you're being assessed 35 cents a ton and you are completely out of the field of reclamation? Other companies with reclamation expertise and knowledgeable in that field would work with you in the aspect of reclamation.

211 Mr. MCKEEVER. I would take a bit of exception about not being knowledgeable on reclamation. We're at 7,000 feet of elevation with 16 to 18 equivalent inches of rainfall and from a study that we have conducted jointly, I feel that we are as knowledgeable about reclamation in our region and area as anyone can be.

211 Mr. SKUBITZ. I raised that point for one reason. I have heard of coal companies that are doing their own reclaiming, but are having to pay the wage scale for reclaiming of land that they have to pay for the mining the coal. Is this correct?

211 Mr. MCKEEVER. Yes, sir.

211 Mr. SKUBITZ. Doesn't that raise the price considerably in the reclamation process?

211 Mr. MCKEEVER. Not in our area. You would be paying the same price.

211 Mr. SKUBITZ. You mean it is as cheap to mine dirt as it is coal; is that correct?

211 Mr. MCKEEVER. You have to move the overburden or the dirt at the same time that you uncover the coal.

211 Mr. SKUBITZ. Thank you, Mr. Chairman.

211 Mr. SEIBERLING. Thank you.

211 The Chair recognizes the gentleman from New York, Mr. Bingham.

211 Mr. BINGHAM. No questions.

211 Mr. SEIBERLING. Thank you.

211 I have a few -

211 Mr. MILLER. Mr. Chairman?

211 Mr. SEIBERLING. Excuse me.

211 Mr. MILLER. I didn't have a question the first time, but on this issue

of knowledge of reclamation, I assume that when you remove the coal, you do according to a design in terms of what is going to be left, what the land is going to be left with, assuming you are a good operator as we classify operators. That there is an engineering project there on what the land will be left to look like and for what purposes anticipated uses will be made.

211 Then it is a question of spreading the overburden that you have taken off back over the land for purposes of grazing or planting or what-have-you. Is that not correct? And that is done today within your existing budget and you say that your allocation within your asking price for coal is roughly about 35 cents. Is that a fair summation?

212 Mr. MCKEEVER. Yes, sir.

212 Mr. MILLER. So it is not a question of having to bring in an independent contractor, it is not a question of increasing your cost of production really in any manner?

212 Mr. MCKEEVER. I think I can agree with that.

212 Mr. MILLER. You anticipate in doing that in your operation today in terms of supplying coal to Steamboat Springs?

212 Mr. MCKEEVER. Yes, sir.

212 Mr. MILLER. Thank you.

212 Mr. SEIBERLING. Just to follow this up a little further, what is the mine mouth price of coal in your area at the present time?

212 Mr. MCKEEVER. In 1976 dollars, July 1976 dollars, our contract price to the city of Colorado Springs, I believe, is \$13.56.

212 Mr. SEIBERLING. \$13.56 a ton?

212 Mr. MCKEEVER. Yes.

212 Mr. SEIBERLING. And what are the costs of mining and reclamation as a percentage of what that mine mouth price would be, would you estimate?

212 Mr. MCKEEVER. It is running about 2 percent.

212 Mr. SEIBERLING. How much?

212 Mr. MCKEEVER. I am sorry, sir. Could you ask that question again?

212 Mr. SEIBERLING. What are the production costs as a percent of the price of coal in your area of operations? If you could split them out, it would be helpful.

212 Mr. MCKEEVER. That would be, the rough figure for production costs to the mine mouth or on the railhead is about \$7 of the \$13.56.

212 Mr. SEIBERLING. So that an additional 35 cents a ton might not have any effect on the current market price which is apparently demand-determined, rather than production cost-determined?

212 Mr. MCKEEVER. Yes.

212 The record should be clear that Colowyo Coal meets and exceeds all of the environmental requirements for new plant, power plant consumption environmentally. The quality is approximately 10,500 Btu per lb.; it is .4 percent sulfur; it is 15 percent moisture; and about 5 percent ash.

212 This is a premium fuel when you look at coal as a substitute fuel source in this country.

212 Mr. SEIBERLING. This is true of a great deal of western coal, is it not?

212 Mr. MCKEEVER. It is true of a great deal of western coal. However, we may have an edge over the majority of the western coal as far as quality.

212 Mr. RONCALIO. Mr. Chairman?

212 Mr. SEIBERLING. Yes, the gentleman from Wyoming.

212 Mr. RONCALIO. Is that what you call, sir in a category of coal that is mined up by Redstone, Colo., this metallic coal that goes over to Columbia-Geneva?

212 Mr. MCKEEVER. No, sir, that is metallurgy quality coal.

212 Mr. RONCALIO. That is higher yet.

213 Mr. MCKEEVER. What I am saying here is premium fuel for electric power generation plants.

213 Mr. RONCALIO. Thank you. Thank you.

213 Mr. SKUBITZ. Will the gentleman yield?

213 Mr. SEIBERLING. Yes.

213 Mr. SKUBITZ. If I understand the legislation correctly, there is a 35 cent per ton charge on production, that is set aside to take care of open land. There will be another charge to cover the normal costs of land reclamation in addition to the 35 cents. If the State has a severance tax of 30 cents per ton

like Montana, that is added on; isn't that correct?

213 Mr. SKUBITZ. Is your mining operation in Colorado? Is there a severance tax in Colorado?

213 Mr. MCKEEVER. There is not.

213 Mr. SKUBITZ. In Wyoming?

213 Mr. MCKEEVER. There is one pending and that could be -

213 Mr. SKUBITZ. How much could it be?

213 Mr. MCKEEVER. It could be 4 to 5 percent of the market price of the coal.

213 There are various bills pending or proposals pending in Colorado. It could be 50 cents per ton, or 4 percent of the sales price or even, I have heard, 6 percent.

213 Mr. SKUBITZ. What is the sales price of a ton of coal today?

213 Mr. MCKEEVER. At our mine it is \$1 3.56.

213 Mr. SKUBITZ. If the severance tax was 4 percent, what would that be?

213 Mr. MCKEEVER. About 50 cents.

213 Mr. SKUBITZ. It would be a 50 cent severance tax.

213 Mr. MCKEEVER. Yes.

213 Mr. SKUBITZ. Then there is the normal added cost of reclaiming the land; is that correct?

213 Mr. MCKEEVER. Yes.

213 Mr. SKUBITZ. That is added on. You figure it about 35 cents per ton, is that correct?

213 Mr. MCKEEVER. Yes. And we have included that in our costs already.

213 Mr. SKUBITZ. Then it is added on already, correct? If you find it is going to cost you more, you have to add more; is that correct?

213 Mr. MCKEEVER. Yes.

213 Mr. SKUBITZ. That is 85 cents.

213 I assume there will be another 35 cents added on in order to take care of the orphan lands; is that correct?

213 Mr. MCKEEVER. Yes, sir.

213 Mr. SKUBITZ. We are talking of adding a little over \$1 per ton. How much is coal selling for, did you say?

213 Mr. MCKEEVER. \$13.56.

213 Mr. SKUBITZ. That is about 8 percent, that it would cost, the fees and all for moneys needed for orphan lands and so forth. It could accelerate, the price of coal about 8 percent; is that correct?

213 Mr. SEIBERLING. He didn't say that. If I may interrupt.

213 Mr. SKUBITZ. He is shaking his head "yes."

213 Mr. SEIBERLING. He said it would raise the cost of coal, not the price.

214 Mr. SKUBITZ. It could raise the price.

214 Mr. SEIBERLING. The cost of mining.

214 Mr. SKUBITZ. Do you think that the cost of production won't be added on?

214 Mr. SEIBERLING. Well. I believe that in the long run the marketplace will decide. If the demand for coal and supply picture are such that there is an oversupply, why, the price is going to go down regardless of the cost of mining. I hope we are still in a free-market economy.

214 Mr. RUPPE. Well, you have to say costs are costs. You can't say business is bad and there are less taxes, or business is good, so you pay more; forget it, because you will get more money, anyway. I think a cost is a cost. It may well be the cost should be put into that bill as an acceptable social expenditure, but I don't think we can look at the cost figures and say they are simply to be ignored either in the price of the coal or in the price of the -

214 Mr. SEIBERLING. I am not objecting to that. The question was asked not will that increase the cost, but will that increase the price.

214 Mr. SKUBITZ. Will the gentleman yield?

214 Mr. SEIBERLING. Yes.

214 Mr. SKUBITZ. We are talking about costs added to the cost of production. The 35 cents you have to pay per ton to take care of orphan lands; the 35 cents you say you are adding on now. Can these take care of reclaiming land, land that you are mining now; plus the severance tax that might be added

on? Will the severance tax be added on at the mouth of the mine as a cost of production?

214 Mr. MCKEEVER. It will be added on as a cost of production and passed on in the price to the ultimate consumer.

214 Mr. SKUBITZ. All right.

214 Do you anticipate the demand for coal falling in the next 5 to 10 years?

214 Mr. MCKEEVER. No, sir.

214 Mr. SKUBITZ. Thank you.

214 Mr. RONCALIO. Would you yield?

214 Mr. SKUBITZ. I don't have the time.

214 Mr. SEIBERLING. Let me followup on that.

214 You have a contract that provides for some sort of passing on of production costs?

214 Mr. MCKEEVER. Of actual cost.

214 Mr. SEIBERLING. So that this is pursuant to your contract that you will be passing on the costs of increases in price?

214 Mr. MCKEEVER. In our particular case that is true.

214 Mr. SEIBERLING. The gentleman from Wyoming.

214 Mr. RONCALIO. Thank you.

214 I would like to state for the record for clarification, and perhaps for an ounce of edification for the new members, that 35 cents a ton is not for orphan lands solely. We have been up and down this road before. We have removed it more than you have removed your overburden. We have plowed this field so many times. Half of that amount stays in the area where the strip mining takes place and helps with the impact in that area, be it Craig, Colo., or wherever. It stays home.

215 The other half is given to the care of the orphan lands that resulted in such a bad track record for the mining industry.

215 Is it fair and reasonable? We hope so. The original amendment was Mr. Seiberling's a few years ago, and it was \$2 a ton or so at that time.

215 Mr. SEIBERLING. That was the gross.

215 Mr. RUPPE. Just one question, if I may:

215 Does my colleague know whether the States such as Colorado or Wyoming have a State severance tax?

215 Mr. RONCALIO. They are working on getting it.

215 Mr. RUPPE. Let me ask this question:

215 Half of the 35 cents is not the only bite on the consumer.

215 Mr. RONCALIO. Last year they had a healthy bite on the Federal dollar and it helped on return of the mineral royalty, so they get back more.

215 Mr. SKUBITZ. If the gentleman would yield.

215 Mr. RONCALIO. The States are happy for the rest of the money.

215 Mr. SKUBITZ. Does the State of Montana now have a severance tax?

215 Mr. RONCALIO. 30 percent.

215 And may I say what it adds to the consumer's bill, according to Detroit Edison? It is at \$2 to \$3 less than a penny a day, \$3 a year.

215 Mr. SKUBITZ. These penny additions are the way we figure our Government costs and it doesn't sound so bad.

215 Mr. RONCALIO. That is what the Detroit Edison says is passed on to consumers for the Montana 30-percent severance tax. It is estimated it adds less than a penny a day to the Detroit Edison's customers' fuel bill.

215 Mr. SKUBITZ. Mr. McKeever, when you talk of coal at \$10 a ton, that is your cost, or is that what you are selling it for?

215 Mr. McKEEVER. No. Our 1976 July dollar cost for our coal in our sales contract is \$13.56 per ton.

215 Mr. SKUBITZ. Is this the price you charge the utility?

215 Mr. McKEEVER. The utility at the mine mouth.

215 Mr. SKUBITZ. Is this at the mine? Or is this the delivered price to the utility?

215 Mr. McKEEVER. That is at the mine mouth.

215 Mr. SKUBITZ. In other words, we have the additional cost to the consumer of transportation. That must be added to the price of the fuel; with the added cost to the utility being added to the consumer heat bill; is that correct? Otherwise the cost of transportation is added onto their production costs of energy, isn't that correct?

215 Mr. McKEEVER. Yes; that's correct.

215 Mr. SKUBITZ. Thank you.

215 We are talking about the net cost to the consumer. With all the add-ons, isn't that correct?

215 Mr. McKEEVER. Yes.

215 Mr. SEIBERLING. The gentleman from New York is recognized.

215 Mr. BINGHAM. Thank you, Mr. Chairman.

215 First, having read your statement, Mr. McKeever, I really would like to compliment you on what seems to me to be a most extraordinary case of enlightened self-interest. You have approached this problem recognizing what you might face in the future, and with a great deal of wisdom, it seems to me.

216 I would just like to ask one simple factual question. I am not clear from your statement whether you are actually engaged in these surface mine operations at the present time.

216 Mr. McKEEVER. Yes, we commenced mining in December, removing overburden in December 1976, under an interim permit granted to Colowyo which allows us to mine in one seam, 250,000 tons during 1977.

216 Mr. BINGHAM. When do you expect to reach your target of 3 million tons per year?

216 Mr. McKEEVER. After approval we will need 3 years, maybe 4 years to reach 3 million tons per year level

216 Mr. BINGHAM. Thank you, Mr. Chairman.

216 Mr. SEIBERLING. The gentleman from Louisiana.

216 Mr. HUCKABY. Thank you, Mr. Chairman.

216 Mr. McKeever, did I understand you to say that your actual production cost is only \$7 per ton?

216 Mr. McKEEVER. Approximately.

216 Mr. HUCKABY. Does that include reclamation costs or does that include an adequate return on capital? I understand it does not include transportation costs.

216 Is the difference between the 7 and 13 your profit, return on investment?

216 Mr. McKEEVER. The difference between 7 and 13 is that the actual costs are included in the 7 including reclamation costs which results in a pretax profit and the return on investment would have to come out of the other 6 and a half dollars.

216 Mr. HUCKABY. How much of that \$7 is reclamation costs? I realize it is difficult.

216 Mr. McKEEVER. We have budgeted 35 cents, as I recall, for reclamation.

216 Mr. HUCKABY. That just happens to be the same number that we are saying we are going to pull out and use for our numbers.

216 Mr. McKEEVER. Yes.

216 Mr. HUCKABY. Would you approximate what is the mining industry's strip mining return on investment?

216 Mr. McKEEVER. I am sorry, I was interrupted. Could you repeat that?

216 Mr. HUCKABY. What is the typical return on investment, return on capital for the year 1976?

216 Mr. McKEEVER. I cannot answer that. Are you asking for an average?

216 Mr. HUCKABY. Well

216 Mr. McKEEVER. I can't answer that at this time. I don't know.

216 Mr. HUCKABY. How about for your specific company?

216 Mr. McKEEVER. Let me clarify the record. The \$6- \$7 cost is a projected cost when we are at a 3-million-ton-per-year level. Our costs right now are enormous. I think that our rate of return in order to sell the project to our partners is in the order of 20 percent rate of return on the capital investment.

216 Mr. HUCKABY. Thank you, sir.

217 Mr. SEIBERLING. Just a couple more questions. We are under time constraints here, but your testimony was so informative I thought we ought to not observe so rigid rules at the time.

217 Does the fact that this mine of yours has many seams require a more elaborate advance planning effort than a mine with just one or two seams?

217 Mr. McKEEVER. Yes, sir, we have spent a lot of money involving what we consider a unique mining plan and equipment mix for our particular operation.

217 As you can see, in the booklet, there are draglines involved, plus shovels and electric trucks involved in our mining plan.

217 It is quite complicated, needing a lot of coordination.

217 Mr. SEIBERLING. With that many seams, you really have to move to overburden twice, don't you?

217 Mr. McKEEVER. Only a portion of the overburden is handled twice in our mining scheme. But by so going to this plan, we increased the number of tons per acre disturbed significantly over an earlier plan. When we first started this operation, we estimated about 19,000 tons would be recovered per acre disturbed.

217 As we continue drilling and working with equipment mixes and manpower schedules, we were able to see that we could recover nearly 60,000 tons per acre or nearly three times, significantly reducing the environmental impact per ton of coal recovered.

217 Mr. SEIBERLING. If we could recover one-tenth of that much per acre of land disturbed in places like Ohio, we would consider ourselves lucky.

217 Now, can you describe briefly the extent of public involvement in your planning effort, the time over which it occurred and the nature of the involvement?

217 Mr. McKEEVER. Well, we have since July 1974 tried to run our operation with an open door to public interest groups with distribution of our own environmental impact statements, with distribution of our socioeconomic and environmental land-use survey, which I have here; with a constant involvement at the city of Craig, the city of Meeker, the county levels of Moffat, Rio Blanco and Routt, and a listing, as I stated earlier, of the mailing lists in the white booklet.

217 As recently as Sunday afternoon, the county commissioners for Rio Blanco and Moffat Counties were with me at the mine site with their wives in order to bring them up to date on what has transpired in the past 2 months.

217 Our visit was gratifying to not only our company, but to the county commissioners with the attempts that we have made to involve all public interests into what we consider our mine has to offer them.

217 Mr. SEIBERLING. All right.

217 Mr. McKEEVER. On the white booklet, under exhibit 4, is a statement

that was published in a document from the Rocky Mountain Center on Environment which demonstrates the degree of participation with public interest groups, both environmental, the press, State, county people, at a box supper we provided to allow them to ask any questions that came to mind.

217 We worked closely with these groups.

218 Mr. SEIBERLING. Did you find these helpful to you?

218 Mr. MCKEEVER. Yes; many of these suggestions were incorporated in our mining and thinking plans.

218 Mr. SEIBERLING. Are there boom town community impacts from your operation?

218 Mr. MCKEEVER. The most impacted area in Colorado now is the Craig area.

218 As I indicated earlier, I am living in the Craig area, so I am also impacted. I felt tht it was important that the leader of this development be an intimate part of the community to understand these problems.

218 Mr. SEIBERLING. How much of these boom town aspects are the result of other energy development activities in the area?

218 Mr. MCKEEVER. Well, at the present time there is a powerplant being constructed about 4 miles south of Craig with the operator being Colorado University. They are employing upwards of 1,200 people. It's reached as much as, I believe, 1,700, in a community with a normal population of about 6,000 to 8,000.

218 So there are a lot of impacts.

218 Mr. SEIBERLING. How are the public impacts being met financially?

218 Mr. MCKEEVER. To answer you, they are not all being met financially. There was an attempt a week or 10 days ago to vote in a recreation district. It was met with defeat in a 4 to 1 vote against it.

218 There are needs for front-end assistance in northwest Colorado.

218 Mr. SEIBERLING. Thank you.

218 Are there any further questions?

218 Mr. MARRIOTT. Mr. Chairman, I ask unanimous consent that a letter from

Detroit Edison bearing on this line of questioning be inserted in the record at this point.

218 I don't have the letter with me, but I will see that I get it.

218 Mr. SEIBERLING. What letter is it?

218 Mr. MARRIOTT. It bears on the cost to the consumer. I think it would be wise.

218 Mr. RONCALIO. Was the gentleman referring to my \$3 a year letter?

218 Mr. MARRIOTT. Yes.

218 Mr. RONCALIO. We will be glad to get that.

218 Mr. SEIBERLING. Without objection, it will be included.

218 [The letter referred to, when received, will be placed in the committee files.]

218 Mr. SKUBITZ. One more short question concerning costs. Do you mine coal in Montana?

218 Mr. MCKEEVER. No, sir; Colorado.

218 Mr. SKUBITZ. They do not have a severance tax at this time.

218 Mr. MCKEEVER. That's correct.

218 Mr. SKUBITZ. Do they have any under consideration?

218 Mr. MCKEEVER. Yes.

218 Mr. SKUBITZ. In Montana they have a 30-percent severance tax on the market price of a ton of coal. If a ton of coal in Montana is selling for \$12 and there is a 30-percent tax on that \$12, this raises the price to around \$15.60. This would be a \$3 per ton tax; is that correct?

219 Mr. MCKEEVER. Yes; in that range.

219 Mr. SKUBITZ. Thank you.

219 Mr. SEIBERLING. Is the gentleman finished?

219 Mr. SKUBITZ. I am finished.

219 Mr. SEIBERLING. Mr. McKeever, we certainly appreciate your appearing here today along with your associates.

219 This has been a most interesting and enlightening presentation.

219 I want to commend you on your thoughtful and precise answers to the questions.

219 Thank you, very much.

219 Mr. MCKEEVER. Thank you, sir.

219 Mr. THURMAN. Thank you, sir.

219 Mr. SEIBERLING. The next witnesses will be Mr. Richard F. Hadley, Chief of Public Lands Hydrology program, U.S. Geodetic Survey at Denver, Colo., and Dr. Harold E. Malde, geologist, USGS, Denver.

219 Mr. Hadley and Dr. Malde, are you here?

STATEMENT OF RICHARD F. HADLEY, CHIEF, PUBLIC LANDS HYDROLOGY PROGRAM, USGS, DENVER, COLO., ACCOMPANIED BY DR. HAROLD E. MALDE, GEOLOGIST, USGS, DENVER, COLO.

219 Mr. SEIBERLING. Do you have a prepared statement?

219 Mr. HADLEY. No, we don't.

219 Mr. SKUBITZ. Mr. Chairman, I wonder if he was notified by our committee that he was to present a prepared statement and that the statement was to be before this committee 24 hours before he testified? Did our committee notify you or not?

219 Mr. HADLEY. We were asked to come here and respond to questions on the legislation regarding alluvial valley floors and the letter that we received said that if we deemed it necessary, we can prepare a statement. We do have exhibits here and we will refer to those in answering questions.

219 Mr. SEIBERLING. In response to the gentleman from Kansas, these witnesses were asked to come here as expert witnesses on the subject of alluvial valley floors which I know is of great interest to us and to provide us with some expertise and answer our questions. Therefore, they do not have a prepared statement.

219 I understand you may have a brief oral statement before your slide presentation; is that correct?

219 Mr. HADLEY. Yes.

219 Mr. SEIBERLING. You may proceed.

219 Mr. BAUMAN. Mr. Chairman, let me just add that this is the second time in as many hearings, that we have been faced with a situation such as this. It

is difficult for the minority to have any ability to question the witnesses who do not provide us with prior statements.

219 We had the occasion, I believe, 1 week or 10 days ago of having statements given to us right as the witness sat down. We were unable to formulate any questions except off the top of our heads. We have the same situation this morning again.

220 I know that the chairman has announced this bill isn't going to be reported until April or perhaps May. I would hope that in the future the committee staff would inform the witnesses of the rules of this committee and require a written statement even for informal question sessions, or some outline in order that we know exactly about what the witness is going to testify.

220 The gentleman from Kansas raised this at that time.

220 Mr. SKUBITZ. Would the gentleman yield?

220 I am not critical of the witness for not having his statement. Unless our committee itself notified you that the rule of this body says each witness who appears before the committee or one of the other subcommittees shall file with the committee a statement at least 24 hours in advance of his appearance. This is to be a written statement of his proposed testimony, and he or she shall limit their oral presentation at this appearance to a brief summary of their argument unless this requirement is waived by the committee.

220 Were you so advised?

220 Mr. HADLEY. Yes.

220 Mr. SKUBITZ. It makes it rather difficult if we don't have your statement before us to ask questions.

220 Mr. SEIBERLING. Mr. Skubitz, while I think that is the normal way we ought to proceed, we are going to have a description of slides and it seems to me it is rather difficult to have much of a prepared statement.

220 Mr. SKUBITZ. We have another group of witnesses appearing and I understand that not a single one prepared their statement 24 hours ahead. At least we didn't have a list of them. I am just wondering whether the witnesses appearing without them were informed or whether it is by our staff.

220 That is all, Mr. Chairman.

220 Mr. SEIBERLING. Thank you.

220 You may proceed, Mr. Hadley, Would you identify yourself?

220 Mr. HADLEY. I am Richard F. Hadley, hydrologist of the U.S. Geological Survey, in Denver, Colo., Water Resources Division. I am also the chief of the public lands hydrology program.

220 About 3 years ago, Dr. Malde and I were members of the National Academy of Science Study Committee that prepared a report on the rehabilitation potential of western coal lands.

220 In addition to that, both of us have worked in the western coal fields on problems related to hydrology, and environment and rehabilitation of these surface mine lands.

220 Primarily, we are here this morning to answer questions concerning the potential impact of mining on alluvial valley floors and answer questions concerning the characteristics of the environment and the hydrology of alluvial valley floors. I think with that, with the permission of the committee, I will go directly into the exhibits that we have prepared and give you a visual concept of what an alluvial valley floor is and then be prepared to answer any questions that you might have.

220 Mr. SEIBERLING. You may proceed.

220 Mr. HADLEY. I have prepared here a block diagram and it shows a hypothetical but very typical situation of alluvial valley floors in the arid and semiarid parts of the West. These valleys are eroded into bedrock formations and filled with alluvium. This alluvium is generally a coarse grained material that is very permeable and transmits water. The valleys are generally bordered by terraces. Some of these terraces are low enough so that they are flooded occasionally either every year or every few years; other terraces are higher and receive no flooding and no benefit of the water that is stored in the valley.

221 In this particular block diagram, this valley is underlain by a coal seam. If this coal is to be mined by surface methods, both the bedrock formations on both sides and overlying the coal plus the alluvium would have to be removed.

221 The crux of the alluvial valley floor problem, as far as the hydrology in the semiarid valley is concerned, is that when this alluvium is removed to mine the coal, that this valley will have to be rehabilitated and material of like permeability will have to be replaced in there in order to maintain the hydrological balance that exists under natural conditions.

221 Another problem that exists is that if this coal is very thin, as it is

in many parts of Wyoming and Montana, when you remove this coal and replace it with alluvium or overburden, that you are going to have a depreciation here because there is not enough material to fill up the role that the coal occupied.

And if the material is derived from finer grain materials on the sides of the valley, then you will create an impermeable zone in the valley and the water will not be able to flow through as it did before.

221 Mr. RUPPE. You mean the water will be held back? Where, right in the valley?

221 Mr. HADLEY. As the water moves down through the alluvium and in the surface channel, if this material that is replaced in the valley after the mining is more impermeable than the material that was there originally, the water will not be able to move through it and it will be backed up and the ground water will be forced to the surface.

221 Mr. SKUBITZ. One question: What is the little white line that goes right through the green with an arrow on it?

221 Mr. HADLEY. This is the channel.

221 Mr. SKUBITZ. Is it an underground river?

221 Mr. HADLEY. Most of these channels in the West have no water in them except in response to thunderstorm runoff. They are dried ephemeral streams.

221 Mr. SKUBITZ. Is that on the subsurface?

221 Mr. HADLEY. It is on the surface; yes.

221 Mr. SKUBITZ. What is the green area there?

221 Mr. HADLEY. The green area there is the flat valley floor that is covered with grass and is flooded whenever this stream overflows, or if the water level in the alluvium is high enough, it is subirrigated from water coming up from below.

221 Mr. RUPPE. The yellow area is the area that is later put back; is that correct, sir?

221 Mr. HADLEY. This is the alluvium. The yellow is just alluvium. In order to get at the coal in this particular situation, you would also have to remove this rock formation which I have shown as sandy shale.

222 Mr. RUPPE. Is that the one, sir, that you say if you take that area and replace it with something else, that you would affect the water system?

222 Mr. HADLEY. That is correct.

222 Mr. SEIBERLING. If you take the yellow area and replace it with something else.

222 Mr. RUPPE. That is what I would like to know.

222 Mr. HADLEY. Both. Any overburden that you put back in here has to have the same permeability characteristics.

222 Mr. RUPPE. It would seem the water in the white area, regardless of the composition of the yellow area after mining, would continue to flow albeit that the irrigation below it would be affected; is that not correct?

222 Mr. HADLEY. The water would flow but it would be forced to the surface; yes. If this is replaced with a more impermeable layer, right.

222 Mr. RUPPE. In other words, the stream water would not be going down.

222 Mr. HADLEY. That is right.

222 Mr. RUPPE. The only water that would be moved in the area below the stream would be the water coming up from the table below it?

222 Mr. HADLEY. That is right.

222 Mr. RUPPE. Thank you.

222 Mr. HADLEY. In addition to this problem, I would like to show - did the members of the committee receive a copy of this circular?

222 Mr. SEIBERLING. You are referring to geological survey 743?

222 Mr. HADLEY. Yes.

222 If you would refer to pages 24 and 25 near the back of the report, there are two maps that are shown there on facing pages.

222 Mr. RONCALIO. I have a question. May I ask unanimous consent that this be inserted?

222 Mr. SEIBERLING. I would ask unanimous consent that this survey be included in our hearing records, not in the printed record, but in the file.

222 Without objection, it will be included in the file.

222 The gentleman from Wyoming?

222 Mr. RONCALIO. Sir, earlier, you stated that if the permeability of what replaces the overburden is higher than that which was there before -

222 Mr. HADLEY. Not necessarily.

222 Mr. RONCALIO. No; I say if it were, then the water will not - will be forced to the surface?

222 Mr. HADLEY. No, sir.

222 The permeability is lower.

222 Mr. RONCALIO. Lower. Then the water is forced to the surface?

222 Mr. HADLEY. Yes.

222 Mr. RONCALIO. If the water is forced to the surface, what are the agricultural consequences thereof?

222 Mr. HADLEY. In many valleys in the West, the ground water, the quality of the ground water is of lower quality than the quality of the surface water. The chemical quality.

223 If you mix this ground water that is forced to the surface with the surface water, you will degrade or deteriorate the quality of water in that valley.

223 Mr. RONCALIO. It will decrease the drainage. Infiltration rates will be lower?

223 Mr. HADLEY. Yes.

223 Mr. RONCALIO. Thank you.

223 Mr. HADLEY. One other potential impact of surface mining in the alluvial valley is shown on these two topographic maps that are located in the area of Gillette, Wyo.

223 The main channel that drains this valley in Donkey Creek which runs at the present time through here and passes the Wyodak Mine.

223 At the present time, the channel of Donkey Creek is diverted around the surface mine of Wyodak Mine. If you will note in figure 17 on page 24 in the circular, the grey area of strippable coal in the Gillette area. It runs northwest and southeast through Campbell County in a strip approximately 90 miles long and into Converse County.

223 At the present time, there are not very many operating mines in this area and there are no two mines very close together. But if the strippable coal were to be mined in this area to the point where there were no longer any places to divert the channels, and there were more than one mine in a valley, and you came up to the valley walls and there was no place to divert the channel any

longer, you would have interrupted surface streams. The channel of Donkey Creek carries approximately 1,000 acre-feet of water a year into the Belle Fourche River.

223 We took the data that we had on the thickness of coal and the thickness of overburden and removed all of the coal and replaced it with the overburden that would exist in the area assuming a swell factor of about 20 percent and you can see on the map on page 25, figure 18, that there would be a huge depression east of Gillette and which the channel of Donkey Creek would be interrupted.

223 In the reconstructed topography, on the same topographic maps not, is the same picture that you see in figure 18.

223 The channel of Donkey Creek would run into a depression here east of Gillette and you would have a depression of approximately 80 feet deep in places.

223 There is the rainfall in these areas, you must know, is so low that there is no possibility that there would be enough water to create a lake here. That sump could not be filled up with water to create a recreation lake or any kind of a water storage lake. The evaporation rates far exceed the precipitation.

223 So in preserving or in reconstructing alluvial valley floors, it must be considered in my opinion that you have to maintain the profile of the stream as it crosses the strippable coal because if you have a high wall at this point on the upstream side of the mining area and if care is not taken to reconstruct that profile, you have the chance of headward erosion as the water drops over the high wall, coming back up through here and essentially putting in a drainage ditch that will drain much of the soil moisture in the valley up-stream.

224 This is a very well known process that occurs and has occurred in the past throughout the West and Southwest. The number of gully valleys in Wyoming, New Mexico, and Arizona that have been formed by this kind of process where you get headward cutting of gullies and draining of the alluvium, of soil moisture available in the alluvium, we make these valleys ineffective as far as any ranching operations, as far as storing water and growing any grass at all.

224 I think that this sort of an impact can be mitigated, that there can be efforts made to reconstruct the longitudinal profile and allowing a drop of the

water to a lower elevation by drop structures. This is a common practice in agricultural lands in the West.

224 But it is something that should be considered. It is very important.

224 I think that Dr. Malde has slides of typical alluvial valleys mainly in southeastern Montana to give you a better picture of what these alluvial valleys really look like on the ground.

224 Mr. SEIBERLING. May I ask you a question at this point?

224 Suppose the alluvial valley is not mined in this particular example, but everything else on either side is mined. What will then be the effect?

224 Mr. HADLEY. You mean on either side of this valley?

224 Mr. SEIBERLING. Yes.

224 Mr. HADLEY. On the uplands?

224 Mr. SEIBERLING. That whole structure is mined except for the alluvial valley; then what would be the result?

224 Mr. HADLEY. If you mined right up to the edge of the alluvial valley and left a trough on either side, you would have seepage into the trough anyway. If you get up on the uplands far enough above the valley, then it would have a lesser impact on -

224 Mr. SEIBERLING. How much of a margin are you talking about?

224 Mr. HADLEY. It depends. It depends on the thickness of the alluvium and the amount of rainfall you get. Some of these valleys, on smaller drainages, have very thin alluvium and they store no water at all. We are talking about the central valleys, the -

224 Mr. SEIBERLING. How much of a margin do you need on each side of the alluvial valley in order to stop the seepage into the mined areas on both sides?

224 Mr. HADLEY. I would think up to about a quarter of a mile.

224 Mr. SEIBERLING. A quarter of a mile, thank you.

224 Mr. HADLEY. Dr. Malde, please.

224 Mr. RONCALIO. Mr. Chairman.

224 Mr. SEIBERLING. Off the record.

224 [Discussion off the record.]

224 Dr. MALDE. Mr. Chairman, I am Harold Malde, a geologist in the Central Environmental Branch of the Geological Survey in Denver. I have been employed with the Geological Survey since 1951. My general activities are currently involving the interplay of man and the environment; prehistoric Indians in the American Southwest; and the effect of knowledge of human and Earth history, Earth surface processes, and land analysis as it applies to the conservation of our energy resources in the Western States. I also serve for the Geological Survey as a member of the Oil Shale Environmental Advisory Panel.

225 In 1975, after serving on the Study Committee for Report on Rehabilitation of Surface Mine Lands, I did some mapping of alluvial valley floors in what was considered to be a representative region.

225 Mr. RONCALIO. Dr. Malde, I can't hear you, can you speak up?

225 Mr. SEIBERLING. Also, can we have a little more order up here.

225 Dr. MALDE. I did mapping of alluvial valley floors in what was considered to be a representative region in southeast Montana. So that most of you who have never visited this region of the country may get some idea of the appearance and the use of the alluvial valley floors, I have mine slides which may prompt some further discussion.

225 Mr. SEIBERLING. Can you project your slides a little more, too, please?

225 [Slide.]

225 Dr. MALDE. The Bel Air Mine is on Caballo Creek, it was operated on the floor of the alluvial valley and is not migrating upstream toward the area of this view. It shows hay production using machinery to bale the hay on the floor of the valley with the grassy channel to Tobio Creek in the immediate foreground.

225 Hay production is slightly on the elevated portion of the valley, what we call the low terrace, rising about five feet above the floor of the channel.

225 Occasionally, water will overflow the banks during times of ephemeral floods and irrigate that low terrace. But most of the time the irrigation is by the subflow, underground flow of water through the alluvial aquifer.

225 Mr. RUPPE. The terrace you are referring to, is it actually the center of the photograph or the range up on the side?

225 Dr. MALDE. At the center of the photograph in which the high bales

appear.

225 [Slide.]

225 Dr. MALDE. Another stream in the Eastern Power River Basin in Wyoming is the Belle Fourche. This shows a general view of the alluvial valley floor and the mixture of vegetation which grows there, and a shallow mounted sagebrush called silver sage. The grass and this particular experience of sagebrush are supplied mainly by subirrigation of water moving through the alluvial aquifer.

225 In this particular stretch of the valley, there is no cropping of the hay for cattle feed but, nonetheless, cattle graze in the area and it provides an open pasture by which then the cattle are able to gain food and can actually range over a much larger area in the hinterlands.

225 [Slide.]

225 Mr. LUJAN. How far down is the water here?

225 Dr. MALDE. I think at the extreme right of the picture you can see water in the channel.

225 The distance below the highest parts of that alluvial valley floor would be on the order of five, seven, eight feet.

225 Mr. RUPPE. Is this area going to be mined by that mining operation at a later date?

225 Dr. MALDE. There is mining planned on the Belle Fourche River and a mine is now underway.

226 Mr. RUPPE. Will this retard the -

226 Dr. MALDE. Moving toward it now, yes.

226 Mr. RUPPE. And ultimately into it?

226 Dr. MALDE. The mine is the Cordero Mine located upstream from this view.

226 Mr. LUJAN. Is there coal under that water?

226 Dr. MALDE. I think this is just downstream from the area in which the coal crops out.

226 Mr. RUPPE. But in another situation, this could be an area where it could be mined; is that correct?

226 Dr. MALDE. Yes, that is true. It is representative of other portions of the Belle Fourche River.

226 Mr. RUPPE. Thank you.

226 Mr. SKUBITZ. How many head of cattle can you graze on 100 acres?

226 Dr. MALDE. Mr. Congressman, I am not a rancher.

226 Do you have an answer for that, Dick?

226 Mr. HADLEY. You could run about - the way they rate the land as in animal unit months of grazing, I think that it rates about six or seven cows to the acre.

226 Mr. SKUBITZ. Six or seven?

226 Mr. HADLEY. On this kind of bottom land where you have that much grass. On the uplands, it is much lower.

226 Mr. SKUBITZ. It doesn't look like much grass there. It looks like sagebrush.

226 Mr. LUJAN. That is western grass.

226 Mr. RONCALIO. Would the gentleman yield? I mentioned some areas in Campbell County in my home area, you need 50 acres per unit animal to survive. I think that is still compatible with your observation that on the bottom where you can cut a hay crop, you can put six animals per acre but that is where you can cut a hay crop.

226 Dr. MALDE. That isn't for most of it though.

226 Mr. RONCALIO. That is a mighty small percentage for Campbell County though.

226 Mr. SKUBITZ. Usually, it is 1 in 50 acres.

226 Mr. RONCALIO. It is a huge county but it varies.

226 Mr. LUJAN. Mr. Chairman, I am sure you want to get on with the hearing but I want to establish what an alluvial floor is.

226 Are you talking about some type of marshland? Is that what we are talking about when we say alluvial valley floor? Or does it have an aquifer under it so many feet down?

226 Dr. MALDE. I think -

226 Mr. HADLEY. The alluvium is seldom greater than 30 feet in thickness

and the water table varies all the way from 5 or 6 feet down to 20 feet below that. It is no marshland.

226 Mr. LUJAN. What you are talking about is below that water, in some places there is some coal.

226 Mr. HADLEY. That is right.

226 Mr. LUJAN. That is the only thing in the alluvial valley floor that under this legislation we are saying you cannot mine when the water table is that close to the surface?

227 Mr. HADLEY. I don't think that that is what we said.

227 Mr. LUJAN. No, I understand; I just don't know what an alluvial floor is in terms of the legislation that you can't mine there. I am just asking.

227 Dr. MALDE. There are places in which land of this character, land with this type of use, is underlain by shale or coal within the reach of the surface mining. I thought that that was the kind of situation that you were interested in this morning.

227 With respect to the grazing of cattle, recognizing that the size of the holdings to produce cattle are necessarily rather large, and that the proportion of the area which is what we would identify geologically and hydrologically as an alluvial valley floor is proportionately very small. The ratios for ranchers and ranches in this region of Wyoming would be about 1 acre of alluvial valley floor to 100 acres of rangeland.

227 Mr. SKUBITZ. The reason I raise the question, is if we destroy an alluvial valley floor area, what are we destroying? How valuable is the agricultural land in this area?

227 The value would be determined by the number of cattle you could pasture per acre or acres on this land.

227 Dr. MALDE. Mr. Congressman, not only the cattle that could be grazed on the alluvial valley floor itself but the cattle at other times of the year that can graze on the adjoining uplands, an area 100 times larger, because the alluvial valley floor exists.

227 Mr. SKUBITZ. There would be more cattle grazing on the uplands than there is on the bottom lands, isn't that correct? You have grass up there; is that correct?

227 Dr. MALDE. I am not sure I understand your question.

227 Mr. SKUBITZ. Is the grazing better in the upland area or the valley area?

227 Dr. MALDE. I think -

227 Mr. SEIBERLING. I will make the point of order here. We have got to finish the slides and then let's ask the questions because we are really going to run out of time. We have a very full schedule here today.

227 [Slide.]

227 Mr. SKUBITZ. That is what happens, Mr. Chairman, when you schedule too many witnesses.

227 Mr. SEIBERLING. I didn't schedule them.

227 Dr. MALDE. In Montana, some of the alluvial valley floors are cropped for hay and contain small structures for the control of the seasonal distribution of runoff.

227 The picture shows a curved berm, a low ridge going across the area of the valley which is a device placed in the valley for the control of the floor waters. These waters provide the irrigation for the cultivation of hay.

227 [Slide.]

227 Dr. MALDE. Another valley in southeast Montana, here seen in the middle of July, it has a very lush growth of grass but the channel by this time of year has gone dry. Nonetheless, there is enough subflow of ground water through the alluvial aquifer to maintain the height of the grass that you see in this view.

227 [Slide.]

228 Dr. MALDE. This is along Otter Creek, one of the principal tributaries to the Tongue River which in turn flows into the Yellowstone. It is a broad valley, bordered by coal on both sides.

228 Here we see the hay production from what we call the low terrace bordering the channel and narrow flood plain of Otter Creek.

228 [Slide.]

228 Dr. MALDE. Looking downstream, we get a better impression of width of Otter Creek Valley and its intensive use for cultivation of hay; and the

outcrops which you see along the margins of the valley are outcrops of clinker formed by the natural burning of the coal and express the situation that coal crosses the valley, underlies the valley in this particular area.

228 [Slide.]

228 Dr. MALDE. In the upstream reaches of these alluvial valleys, the valleys necessarily become narrow and often become overgrown in part with shrubby vegetation as well as grass.

228 The valleys are narrow enough, streams wind from valley wall to valley wall in such a way that it is difficult to crop them with machinery. They are used for pasture range and the shrubs provide a cover for wildlife in this area.

228 [Slide.]

228 Dr. MALDE. The same kind of valleys exist in northeastern Montana. Again in the upper reaches where the valleys are used in part for grazing of livestock in the open pasture as well as providing shelter for wildlife.

228 [Slide.]

228 Dr. MALDE. This is the last picture of a stream in northeastern Montana showing the broad alluvial valley floor with a meandering channel in this view. Even though it is midsummer, it contains water as you can see. But again, with most of the water supply for the grass maintained from the flow through the aquifer.

228 Mr. SEIBERLING. Does that complete your testimony?

228 Dr. MALDE. Mr. Chairman, that completes the presentation of the slides.

228 [Following are four photographs selected from the slide presentation:]

229 [See Illustration in Original]

230 [See Illustration in Original]

231 [See Illustration in Original]

232 [See Illustration in Original]

233 Mr. SEIBERLING. Can we have the lights? We can open the blinds, too, and we can cut down on the lights perhaps. Can we cut down on the lights?

233 Both of you gentlemen testified last spring before the mines and Mining

Subcommittee chaired by Mrs. Mink on Federal coal leasing and oversight.

233 At that time, two tables were introduced in that testimony. The first, on page 135 of the hearing record, pertains to the amount of alluvial valley floors in a 42 quadrangle area in southwestern Montana which shows that only 2.67 percent is strippable coal of the area underlies the alluvial valley floors.

233 Is this still an accurate picture of the situation for that area?

233 Mr. HADLEY. Yes.

233 Mr. SEIBERLING. The second, on page 131, identified a number of proposed strip mines in four States, Montana, Wyoming, Colorado, and New Mexico, and their relationship to the alluvial valley floors. And the percentage ranged from 3.7 percent of the total mine area being included in alluvial valley floors to zero percent on the alluvial valley floors.

233 Is that still accurate as a picture for those areas?

233 Dr. MALDE. Yes, it is.

233 Mr. SEIBERLING. I would ask unanimous consent for reference purposes we include the same tables in our hearing record.

233 Mr. RONCALIO. Very good.

233 [The tables referred to follow:]

234 1. Last Spring, both of you gentlemen testified before Mrs. Mink on Federal Coal Leasing Oversight. Two tables were introduced during that testimony.

234 The first pertains to the amount of alluvial valley floors in a 42 quadrangle area in Southeastern Montana. Is this still an accurate picture of the situation - for instance, it shows only 2.67% of strippable coal underlies alluvial valley floors?

234 The second identifies a number of proposed strip mines in four States, Montana, Wyoming, Colorado and New Mexico, and their relation to alluvial valley floors. The percentage ranges from 3.7% of the mine area to no percent of the mine area on alluvial valley floors. Is this still an accurate picture?

\*3\*AREA OF ALLUVIAL VALLEY  
FLOORS WITH RESPECT TO  
STRIPPABLE COAL IN PART OF  
SOUTHEAST MONTANA

Area of alluvial  
valley

Quadrangle name	Area of strippable coal (in square miles)	floor underlain by strippable coal (in square miles)
Ashland	4.90	None
Bar V Ranch	2.14	0.05
Bar V Ranch NE	3.33	.19
Bear Creek School	19.38	1.03
Birney	15.77	1.77
Birney SW	15.86	.83
Birney Day School	5.01	.06
Bloom Creek	2.82	None
Browns Mountain	2.67	.18
Club foot Creek	2.60	None
Coleman Draw	35.05	1.15
Decker	22.19	.46
Forks Ranch	16.68	1.20
Fort Howes	2.85	.42
Goodspeed Butte	24.46	.07
Green Creek	6.97	.26
Half Moon Hill	17.65	.37
Hamilton Draw	19.66	.16
Hodson Flats	30.95	.12
Holmes Ranch	17.24	.59
Home Creek Butte	12.18	.14
King Mountain	18.93	.10
Kirby	18.18	.26
Lacey Gulch	4.11	None
Otter	14.82	.21
Pearl School	24.40	1.04
Pine Butte School	18.00	None
Quietus	5.31\$.35	
Reanus Core	10.94	None
Samuelson Ranch	24.65	1.46
Sayle	20.61	.05
Selway I NE	7.15	.19
Selway I NW	8.75	.28
Sonnette	28.11	.29
Spring Creek Ranch	3.47	.03
Spring Gulch	4.95	1.23
Stacey 4 SE	14.50	1.05
Stacey 4 SW	35.72	.09
Stroud Creek	13.56	.01
Tongue River Dam	3.73	None
Willow Crossing	25.28	.26
Yager Butte	26.71	.39
Total	612.51	16.34

[See table in original]

235  
\*6\*OCCURRENCE  
OF ALLUVIAL  
VALLEY FLOORS  
N1 IN AREAS  
OF PROPOSED  
SURFACE COAL  
MINES WITH  
FEDERAL

INVOLEMENT:  
MONTANA,  
WYOMING,  
COLORADO, AND  
NEW MEXICO n2

Agricultural in Name of proposed mine floor Montana:	Size of proposed mine area (in square miles) n2n3	S Size of alluvial valley floor in proposed mine area (in square miles)	Percent of proposed mine area classed as alluvial valley floor	Source of information	activity alluvial valley
used  cultivation  agricultural					Deer Creek Valley  in places for  of hay. Other
1. Decker Coal Co. - Decker East	3.46	0.13	3.7	Open-file report 76 - 162	activity limited to use as natural pasturage.
Agricultural					activity limited to use as natural pasturage.
2. Decker Coal Co. - Decker North	2.13	.07	3.3	do	activity limited to use as natural pasturage.
3. Shell Oil Co. - Youngs Creek Wyoming:	3.28	.03	1.0	do	Do.
4. Amax - Belle Ayr North	4.43	.07	1.6	Unpublished surficial geologic map (V. S. Williams, 1975).	Do.
5. Carter Oil Co. - Caballo	8.24	.23	2.8	Unpublished surficial geologic map (D. S. Fullerton, 1975). Unpublished surficial	D Do.

6. [*] -McGee No. 2 East Gillette	4.73	n4 .02	.4	geologic map (V. S. Williams, 1975).	Do.
7. Peabody Coal Co. - Rochelle	3.21	.08	2.4	Unpublished surficial geologic map (D. A. Coates, 1975).	Do. Unpublished Belle surficial Fourche geologic map River
Valley				(D. S. Fullerton, D. A.	used in places for
8. Sun Oil Co. - Belle cultivation Fourche (Cordero) crops	6.42	.13	2.0	Coates, 1975).	of hay and forage
9. Arco - Coal Creek Colorado:	9.42	.19	2.0	Unpublished surficial geologic map (D. A. Coates, 1975).	Do.
10. Peabody Coal Co. - Seneca alluvial II-Yost (Area B).	.670	None	0	Photointerpr etation, R.	No valley floor.
Peabody Coal Co. - Seneca II-W (Area C).	1.11	None	0	do	Do.
11. Utah international - Yampa	10.50	None	0	do	Do.
12. W. R. Grace - Colowyo	1.92	None	0	do	Do.
New Mexico: 13. Peabody Coal Co. - Star Lake	17.07	None	0	Photointerpr etation, H. E. Malde, 1976	Do.
[See Table in Original]					

235 [See Table in Original] 235 n1 The term alluvial valley floor as used here includes alluvial valleys where width exceeds 25 ft (8 m) and includes stream channel, flood plain, and low alluvial terrace deposits. They may be subirrigated by underflow of near-surface water or irrigated by diversion of flood flow. Included are alluvial terraces generally not higher than 5 ft (1.5

m) above channel floor of small streams but as much as 8 ft. (2.5 m) high along principal streams. Terraces have distinct boundaries along bordering alluvial fans or colluvium, either at a step a few feet (about 1 m) high or, less commonly, along a line at which the ground surface begins to slope upward.

235 n2 Excludes proposed extensions of three operating mines: Western Energy - Colstrip; Utah International - Navajo (Wesco); and Westmoreland - Absaloka (Sarpy Creek); and proposed Burnham mine of El Paso Natural Gas for which detailed mining plan has not been filed.

235 n3 Total area likely to be surface-mined according to mining plans on file with the Conservation Division, USGS, data from Eastern Powder River EIS, and data from State agencies.

235 n4 Alluvial valley floor crosses extreme margin or corner of proposed mine or holdings.

236 Mr. SEIBERLING. All right, sir.

236 Second, earlier in this month, the Environmental Protection Agency completed a study of alluvial valley floors in a known coal leasing area located in east-central Montana.

236 This report concluded - and I have a copy here - that the alluvial valley floors deposits amounted to only 1.6 percent of the coal reserves in the known coal leasing area. It also concluded, and I am quoting from page 38 of that report:

236 This report has indicated the importance of valley floor areas for the production of forage and in some localities for the production of hay. This report also has shown that substantial coal reserves with high potential for development exists in areas not overlain by alluvial valley floors or their related alluvial deposits. Thus, if alluvial valley floors and their related alluvial deposits were protected from surface coal mining, extensive reserves of coal could still be extracted.

236 Are you familiar with that study?

236 Dr. MALDE. Mr. Chairman, I am somewhat familiar with it. I was in the field with Commissioner Schmidt who did the work at the beginning of his field work, and reviewed the field relations of all the major areas in his region of study.

236 I also made an informal review of the primary manuscript for the report during the Christmas holidays. So I am somewhat familiar with the report.

236 Mr. SEIBERLING. Well, are you in a position to say whether you think those conclusions that I have referred to are reasonably accurate?

236 Dr. MALDE. Yes, I would agree that they are reasonably accurate.

236 Mr. SEIBERLING. I also ask unanimous consent that the portions of that report that I read from be included in the hearing record.

236 Without objection, it will be done.

236 [The information referred to follows:]

237 2. Earlier this month the EPA completed a study of Alluvial Valley Floors in a known coal leasing area located in EastCentral Montana.

237 This report concluded that alluvial valley floors and related alluvial deposits amounted to only 1.6% of the coal reserves in the known coal leasing area.

237 It also concluded that (quote from page 38 of Report)

237 Are you familiar with this study? Can you comment on it?

237 If so, it seems to be another piece of evidence that alluvial valley floors are only a small but essential, part of the western landscape and that restrictions on their mining will not significantly hurt the overall coal production potential of the U.S.

238 [See Illustration in Original]

239 RECONNAISSANCE REPORT: ALLUVIAL VALLEY FLOORS IN EAST-CENTRAL MONTANA AND THEIR RELATION TO STRIPPABLE COAL RESERVES JACK SCHMIDT CONSULTANT  
TO: THE MONTANA ENERGY ADVISORY COUNCIL AND ENVIRONMENTAL SCIENCES DIVISION MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES HELENA, MONTANA 59601

239 SUPPORTED BY: U.S. ENVIRONMENTAL PROTECTION AGENCY OFFICE OF ENERGY ACTIVITIES 1860 LINCOLN ST. DENVER, COLORADO 80295

239 JANUARY, 1977

240 [See Illustration in Original]

241

\*9\*Table 3

\*9\*Tonsof Coal Underlying Alluvial Valley Floors (AVF) And All Related Alluvial Deposits (AD)

\*9\*Burns Creek-Thirteen mile Creek KCLA

USGS	Moderate			
7.5- minute Quadrangle Map	High Potential Development Area a) (Million Metric Tons)	Potential Development Area a) (Million Metric Tons)	Low Potential Development Area a) (Million Metric Tons)	Total

	AVF	AD c)	AVF	AD c)	AVF	AD c)	AVF	AD
c)								
Allard Ranch	4.7	9.1						4.7
9.1								
Bloomfield	0.5	0.5						0.5
0.5								
Butler Table	13.7	30.4	1.8	1.8	9.9	12.1		25.4
44.3								
ay Butte	1.3	2.4					1.3	2.4
Crane	0.4	1.8					0.4	1.8
Enid SE	3.5	5.6	11.8	13.5	8.5	8.8	23.9	27.9
Intake NW	12.2	17.1						12.2
17.1								
Larson School				0.3				
0.3								
McCone Heights		0.4						
0.4								
	36.4	67.0	13.6	15.6	18.4	20.9	68.4	103.9
Estimated Total Reserves in KCLA (Spencer, 1976)								
	2400		1600		2400		6400	
Percent of Reserves Under Alluvial Valley Floors and Alluvial posits								
1.5%		2.8%	0.8%	1.0%	0.8%	0.9%	1.1%	1.6%

241 a) Potential for mining of coal determined by Spencer (1976). "High Potential" for extraction exists with shallow overburden and thick coal. Coal data are based on the Pust Seam.

241 b) 1 metric ton= 1.10 short tons

241 c) Related alluvial deposits include alluvial valley floors.

#### 242 CONCLUSIONS

242 This report has indicated the importance of valley floor areas for the production of forage and in some localities, for the production of hay. (See page 35.) This report has also shown that substantial coal reserves with high potential for development exist in areas not overlain by alluvial valley floors or their related alluvial deposits. (See page 18.) Thus, if alluvial valley floors, and their related alluvial deposits, were protected from surface coal mining, extensive reserves of coal could still be extracted.

242 Reconnaissance identification of alluvial valley floors is not a substitute for detailed ground water studies to actually identify the nature of the alluvial ground water system of concern to a particular mining operation. Drilling of observation wells could document not only the level (elevation) of the alluvial ground water table, but also the quantity of water flowing in the alluvium and its quality.

242 This reconnaissance study is also no substitute for a detailed economic

assessment of these valley floor areas. Some mapped alluvial valley floors in these study areas provide the critical supply of water, forage, and/or winter feed to the ranching operation using the valley lands. Other valley floors are viewed by ranchers as a future source of hay production. Some valley floor areas are little used by livestock but supply important wildlife habitat. No assessment has been made to date of the economic importance of these areas; no studies have been made of how selected ranchers would be affected if the valley floors they utilize were to be lost from production due to failure of revegetation efforts or detrimental off-site impacts. No assessments have been made of the importance of valley floor habitat to the maintenance of certain wildlife populations.

242 The results of this report show that further reconnaissance mapping of alluvial valley floors might better use characteristic valley bottom grass species, and observed use of lands for haying, as indicators of the existence of alluvial valley floors. Indicator grass species, when identified by a competent field botanist in late spring and early summer, are believed to provide an excellent characteristic to establish that certain valleys receive greater than average moisture. Existence of similiar communities on higher terraces would justify inclusion of these areas within the alluvial valley floor.

242 If time does not permit extensive field work, it seems that identification of hayed lands on air photos provides an excellent indicator of which valleys have the potential for development of that land use. Most alluvial valley floors mapped in this study area already are hayed in part.

243 This report has identified extensive parts of valley floors where saline soils are predominant. These valley floors serve as important sources of forage production, where overgrazing has not reduced the range quality to inland saltgrass dominance. Some of these saline soil areas are also used to produce hay. Even so, the SCS does not recommend tillage of these saline soils.

243 Proposed mining activities in these areas will have to address these saline conditions. Special handling of saline materials might permit its burial and improve the quality of ground waters in the alluvial system. It is also possible that mining activity might detrimentally affect these saline valley floors if even greater saline concentrations were the result of mining disturbance. In this latter case, downstream landowners who might be using valley floors for haying might suffer productivity losses from an increasingly saline water supply.

243 It is possible that these alluvial valleys could be mined and successfully reclaimed if the critical factors supporting the hay crops are identified and reclamation procedures can be demonstrated to recreate conditions equivalent to those existing before mining. An identification of these critical factors is the next logical step necessary to adequately protect alluvial valley floors in the western United States.

244 Mr. SEIBERLING. Do you have any comments on the terms "adverse" or "agricultural use" as used in the bill with respect to alluvial valley floors.?

244 Dr. MALDE. I think, as the slides showed, the term "agricultural use" needs some interpretation in that there are - there is a range of agricultural use in these areas of the West. Some are used only as noncultivated, uncropped areas of natural pasture.

244 Others are used with machinery to bale the hay and to increase production in that way.

244 Some are even cultivated.

244 So there is a range of meaning that might be applied to the term "agricultural use" in these, western alluvial valleys.

244 Mr. SEIBERLING. Does the term "adverse" need clarification?

244 Dr. MALDE. Mr. Chairman, I would think that the term "adverse" needs clarification to the extent that any interruption of present uses of these areas, whether for open pasture or as areas of cropping or as areas of cultivation would necessarily be somewhat adverse. But what needs to be recognized, I would suppose, the degree of adversity that might be considered to be acceptable.

244 Mr. SEIBERLING. Thank you.

244 The gentleman from Kansas is recognized.

244 Mr. SKUBITZ. I reserve my time, Mr. Chairman. I yield.

244 Mr. SEIBERLING. The gentleman from Wyoming.

244 Mr. RONCALIO. Thank you, Mr. Chairman.

244 Secretary Andrus stated when he was before us that he would like to think there are certain areas toward which you must not mine here and there are other areas suitable for mining but would encourage you to mine here by preserving the environmental need for preservation, conservation in some places and serve the need for production, also.

244 Do you gentlemen concur with this statement of mine that there are certain alluvial valley floors that have such an abundance and thickness of coal that in comparison to agricultural value of the land directly above it ought to be mined in the overall best interest; where as there are alluvial valley floors where the margin or thickness of the vein of coal is not sufficient to disturb this for the agricultural value thereof? I would like your observation on that.

244 Mr. HADLEY. I think in answer to that question, that each valley floor, or each specific minesite has to be judged on its own merits on a site-specific basis.

244 Mr. RONCALIO. Does this bill let us do that here, or does it prescribe that individual fact from each area?

244 Mr. HADLEY. I think that there should be room in any legislation to allow a judgment on the site-specific basis so that some alluvial valley floors, obviously, in my own opinion, could be mined and there would be adequate mitigations that would take care of any impacts.

244 There are some that obviously are such where you have a perennial flowing river, and an agricultural base that is worth more per acre than, say, an open range pasture, that the judgment should be made on that basis, weighing one against the other.

244 Mr. RONCALIO. Gentlemen, it is the hope of this member speaking that that is what we accomplish in this legislation. I would welcome from the two of you professional men whose opinions are probably more highly respected than any we know of in the Department of Interior or the USGS. I would like if you contribute to this committee those statements and materials in addition to your statement and your publication that can go into the debates on this bill so that everyone, the environmental lawyers and the company lawyers, can conclude that we ought to proceed on this delicate subject matter on a valley-by-valley basis with an adjudication made on the spot of each particular valley as to its overall benefits and as to whether there should or should not be mining there under the circumstances that exist in each particular valley.

245 I now yield.

245 Mr. SKUBITZ.Thank you.

245 I am under the impression you have not answered Mr. Roncalio's question. It doesn't really permit a case-by-case or valley-by-valley study. Am I correct?

245 Mr. RONCALIO. Let's look to the specific section of the bill we are working on and get a good answer to that.

245 We are talking about page 75 which says no permit will be granted unless "The proposed surface coal mine operations, if located west of the 100th meridian west longitude" - and this is on page 75 for the time being, and in the interests of time, let me ask that you read all of this section on page 75 and please let us have your written statement of whether or not you concur that this would permit a case-by-case evaluation on valley-by-valley basis or should this language be changed?

245 I think this is the most delicate matter in the entire bill next to surface owner consent. I will be grateful for your help on it.

245 I thank you.

245 I yield the balance of my time.

245 Mr. SEIBERLING. The gentleman from Michigan.

245 Mr. RUPPE. Thank you very much. I appreciate your testimony.

245 I would ask you questions on the testimony you gave previously because I am concerned about the alluvial valley floor question. It seems to me that my reading of page 75 takes me to the conclusion that there shall be no mining and I repeat no mining, that would adversely affect the quantity or quality of water in surface or underground water systems that supply these alluvial valley floors.

245 I think that back in 1976 - it seems like a long time ago - in any event, I think about April of that year, Mr. Malde, you testified that you had done some mapping, I think, in southeastern Montana, 42 quadrangles, and so forth, and it was your impression or feeling at that time that only about 2.7 percent of that area was overlain by alluvial valley floors.

245 Here is what concerns me and it is basically what really is an alluvial valley floor and what is the extent of it? I think you indicated that when you talk about alluvial valley floors as they relate to section 510 of the bill that it was necessary in the field to comprehend such words in terms of the

features of nature. I guess we are all agreed on that.

245 I think that if the features of nature were identified as a stream channel, a flood plain and in many instances a low terrace adjacent to that flood plain.

246 Are we agreed on that?

246 Dr. MALDE. Yes.

246 Mr. RUPPE. Isn't it true that you map or confine your mapping essentially to terraces immediately adjacent to the flood plain?

246 Dr. MALDE. That would be correct.

246 Mr. RUPPE. Isn't it true that there would be other terraces that would have unconsolidated alluvial material capable of supporting steady or intermittent water flow? Are there not other terraces within your judgment that would actually be capable of supporting steady or intermediate water flow?

246 Dr. MALDE. There are higher terraces along nearly all of such valleys.

246 Mr. RUPPE. And from a legal terminology, couldn't they be construed as supporting steady or capable of supporting steady or intermittent water flow, capable of doing so?

246 Dr. MALDE. I think that would depend upon the nature of the discharge from the valley and what engineering works are installed for the control of the available runoff and also the size of the acreage which is involved in proportion to the available runoff.

246 Mr. RUPPE. But if you start with a stream bed on the bottom - I don't know much about it so I am saying this in the form of a question - don't you develop terraces all the way up the side and don't some or portions of or all of these terraces have unconsolidated substances that might be identified as part of an alluvial floor?

246 Mr. HADLEY. If I may interject; only the lower terraces that are able to be flooded by the flow of the ephemeral stream would be considered as being capable of supporting vegetation or grass cover that would be used for agricultural purposes.

246 Mr. RUPPE. I see.

246 Mr. HADLEY. The minute you get to terraces that are over 10 or 12 feet

high, they are never covered by water from the stream.

246 Mr. RUPPE. But could they be affected by mining in any way?

246 Mr. HADLEY. You bet they could, yes. It is all part of the alluvium but I think that probably where we get into trouble is where we mix the discussions of the physical features of the alluvial valley with the agricultural practices on the alluvial valley. I think that the problem as I see it as far as the physical characteristics of an alluvial valley, are the characteristics that will allow that valley to erode and once the erosion has started in that valley, you lower the water table, you drain the moisture out of the alluvium and you leave that valley useless for any kind of agricultural use.

246 Mr. RUPPE. Don't all of those terraces have some alluvium and aren't they to some degree capable of or have the potential of supplying water to the bottom system?

246 Mr. HADLEY. Not very well.

246 Mr. RUPPE. Do they have any - that is the -

246 Mr. HADLEY. They have some but most of the water is collected in the bottom of the valley.

246 Mr. RUPPE. Right, but the upper ones do have the potential of providing some drainage.

246 Mr. HADLEY. Right, some.

246 Mr. RUPPE. And if there is an absolute prohibition against any mining where the quality or quantity of water can ultimately be affected, couldn't one legally say that it would be not permissible to mine in any area where there is any alluvium which could be used or has the potential for supplying groundwater to the bottom irrigated area?

247 That is my concern over the language in the legislation.

247 Mr. HADLEY. I think that this comes back to Congressman Roncalio's question. I think that each lease that would occupy an alluvial valley has to be considered as a separate case and the reason for that is that if you mine an alluvial valley floor, you are going to automatically disrupt the alluvium and you are going to interrupt the alluvial aquifer during the time of mining but there are many cases where this can be restored and the valley -

247 Mr. RUPPE. I think the language has the prohibitions in it. That is my

concern. At the present time, I think, contrary to what was suggested a moment ago, I think the prohibition is absolute. What I am really saying is that in the light of what appears to be an absolute prohibition, could not it be construed by a lawyer or by the judge that he is addressing all of the areas that have any alluvium that are capable from ridge to ridge of sustaining or carrying a water supply to the bottom valley, could they not be construed under this bill as being off limits to all mining?

247 Mr. HADLEY. Any valley that is occupied from alluvium, from bedrock to bedrock on the sides would be - the way the definition is written - could be construed as an alluvial valley.

247 Mr. RUPPE. I am really trying to learn so we can later on pinpoint this bill as best we can.

247 I think in part of the testimony, Mr. Malde, you stated that with respect to the hydrologic attributes, these are dependent on the conditions of the drainage basin which is tributary to the valley floors and they are also dependent on the conditions of the underground flow of water such that the alluvial valley floors that are recognizable will be places where the areas will be irrigated by an overland flow or in places subirrigated by underground flow of near surface ground-water.

247 I would like to get a more precise figure on just how much of this given area is strippable coal overlain by alluvial valley floors, at the same time taking into consideration the permit requirements of the bill, I would think, and am I correct, that the determination of the area affected by overland flow and by subirrigation of the near surface ground water would be essential? How do you feel about that?

247 Dr. MALDE. Yes; I think that in the review of the particular mining application that a survey of these hydrologic conditions should be done on a scale commensurate with that scale of the mining plan.

247 Mr. RUPPE. We are talking about subirrigation or near surface ground water. Again, are we not talking about an area not just underneath the growing area of the valley but a very much wider area along side of it? How far could we say that an area exists that is affected by or could be affected by underground water - just the immediate area in the valley bottom or quite a ways out from the valley bottom that might be under some of the peaks that we addressed a few moments ago?

248 Dr. MALDE. In terms of the agricultural use in the valley, I think there would be no effect on the valley walls if that is your question.

248 Mr. RUPPE. No; but forgetting the agricultural element, forgetting the value of the underground water system, it says you can't have any underground system affecting it, so my question, the question a lawyer might raise is how far in any way does the subsurface water reach because if there is any subsurface water, my understanding is that the bill says the mining cannot affect that, forgetting whether it is useful for irrigation purposes. So, therefore, how far out from the bottom floor is there likely to be or is there a possibility of subirrigation or underground water existing?

248 Dr. MALDE. M Hadley should check me on that but my impression would be that those confined aquifers border bedrock that is incised as valleys into bedrock which in many cases is more or less impermeable.

248 Mr. SEIBERLING. Would the gentleman yield?

248 Mr. RUPPE. Yes.

248 Mr. SEIBERLING. In response to an earlier question, I ask roughly how far - how close to the valley floor could you mine and still not adversely affect it and he said, well, as a general rule of thumb, a quarter of a mile. So isn't that the answer to your question?

248 Mr. HADLEY. I think that what Mr. Ruppe is trying to get at is that there are two types of aquifers that we are talking about. Alluvium that fills the valley, and is generally less than 50-feet thick - between 30-and 50-feet thick - and fills the valley and that has been cut into the bedrock is generally saturated to a depth where you have an alluvial aquifer.Or you can put down a shallow well and get a well in the bottom of the valley.

248 In addition to that there are sandstones and permeable horizons distributed in the bedrock itself which are another set of aquifers at greater depths. And where this exists over the whole region.

248 Mr. RUPPE. Sandstones do from time to time carry or have the capacity of carrying water runoffs though, don't they?

248 Mr. HADLEY. That is right.

248 Mr. RUPPE. So we are back to this question.

248 Supposing you took for speculation all of those sandstones that have the capacity of taking surface runoff, if you took all of the surface areas that have alluvium on them - and I am speaking from mountain top to mountain top up from the valley floor if you understand a layman's description of that - then I would think instead of having 2.7 percent of that alluvial valley floor off

limits, you are talking about perhaps the whole thing. I would hesitate to speak to what you are talking about, it is a tremendous acreage because as I understand it, when the original map was done, they did not go into sandstone formations understandably and they did not go into the whole range of alluvium that could be impacted or could be affected by surface or ground water.

248 Mr. HADLEY. That is an entirely different question though.

248 Mr. RUPPE. If you had to take an offhand guess or would you prefer to give us a more calculated guess, what percentage of the area then would be off limits to mining under the conditions I have laid out forgetting the others, but under the conditions I laid out.

249 Mr. HADLEY. You are not talking about alluvial valley floors and alluvium when you are talking about the hilltops that may have a few areas of colluvium or windblow material on them. I think the definition of alluvial valleys is quite clear.

249 What we are talking about is alluvial filled, not the sandstone bedrock aquifers.

249 Mr. RUPPE. I just go back to this section where it says you cannot get a permit that - if the proposed mining operations would adversely affect the quantity or quality of water in surface or underground water systems that supply these alluvial valley floors.

249 So we are talking not about the definition - if I might be as precise as to say so - but I don't think we are talking about the definition of alluvial valley floors, we are saying you cannot get a permit wherein there would be an adverse effect upon the quantity or quality of water for surface or underground water systems.

249 Under that statement, it would seem to me that one might logically suggest that we are talking about the sandstones and we are talking about all of the alluvium surface areas above ground.

249 Mr. HADLEY. If we have not defined what an adverse effect is, we have not.

249 Mr. RUPPE. Well, would you agree - no, we have not. But I mean the whole thing is really up in the air.

249 Mr. HADLEY. I think we said earlier that any surface disturbance is going to have some adverse effect but what has to be defined is just how much adversity can you put up with.

249 Mr. RUPPE. The problem is, sir, that the bill doesn't define it. I would like to see what you think. That is my concern with it. I am not concerned so much about the construction of the floors, but I am concerned as to whether the permit would be excluded under all circumstances that I have addressed a moment ago. Because for better or worse, I think there was a letter written by, I guess, probably by Mr. Kleppe in paragraph 76, and he stated then - that is one person's opinion, granted, or his counsel's opinion - it would be the opinion of our hydrologist that the wording of section 510(b)(5), clause (b) which I can refer to, if enforced vigorously would virtually preclude coal development in the Northern Great Plains and areas upstream of alluvial valley floors as defined in H.R. 9725.

249 Would you agree with that or what would be your reaction to that, sir?

249 Mr. HADLEY. I think I responded to that at the very same thing at the hearings last spring and I really don't know what adverse means in the bill.

249 Mr. RUPPE. Well, so there is the problem. If adverse means any impact, then we can logically, we are not saying major impact or substantial adverse impact, we are saying any impact. Certainly I would say that almost any mining would have a shred of adverse impact somewhere between the sandstone formations and the tops of the peaks, would you agree?

249 Mr. HADLEY. Yes.

249 Mr. SEIBERLING. The gentleman's time has long expired.

249 Mr. RUPPE. Would you say yes or no to the statement?

249 Mr. HADLEY. Yes, yes, I would say yes.

249 Mr. RUPPE. Thank you.

250 Mr. SEIBERLING. I asked the question if he had trouble with the word "adverse" and the witness said that he thought that needed some further working over.

250 I would invite the attention of the witness and the members to page 89, subparagraph, over to the top of page 90, which says that during the mining and reclamation operation, the operator shall preserve throughout the mining and reclamation process the essential hydrological functions of alluvial valley floors in arid and semiarid regions of the country.

250 I asked the witness about that. If it might not be worked into the definition of "adverse" so as to get in the context of preserving the essential hydrologic functions.

250 Would that be a way that might be approaching that?

250 Mr. HADLEY. I would think so. I would interpret that "preserving the essential hydrologic functions" to be allowing to continuance of surface flow in that valley to continue the way it does under natural conditions and to assure that the ground water, surface water relationships are not changed so that you get a mixing of poor quality ground water with better quality surface water.

250 Dr. MALDE. Mr. Chairman, committee report for 13950 further explains the mining, the views by the committee for the statement of preserving the essential hydrologic functions.

250 This is on page 63. The committee report says that preserving includes assuring that the water balance both upstream and downstream of the mine is maintained. That goes to the point Mr. Hadley just made.

250 Then it goes on to say that after completion of the mining preservation means that the operation does not become a barrier to water movement and availability in the valley deposit. I think that this was the point that Mr. Hadley made earlier in describing the block diagram of the alluvial valley floor, that if in the mining operation, the valley were to be filled with some impermeable material, this would provide a barrier to the subsurface flow of groundwater.

250 Mr. SEIBERLING. Well, I would suggest - we are running out of time, but I suggest that you gentlemen might give some thought to those sections we have just discussed plus the definitions on page 155 of the bill, alluvial valley floors, which I think is the reason for the straightforward definition and give us any comments or suggestions you might have by writing us after this hearing.

250 We are going to have to recess, gentlemen.

250 Mr. RUPPE. Can we supply a couple of questions to these gentlemen, Mr. Chairman?

250 Mr. SEIBERLING. Yes, we will hold the record open for 5 days and you may submit additional questions.

250 [Questions submitted by Mr. Ruppe to Mr. Hadley and Mr. Malde may be found at the end of the witness' oral testimony.]

250 Mr. SEIBERLING. I would just like to ask the gentleman from Minnesota, Mr. Vento, if he had any questions.

250 Mr. VENTO. I just have some brief questions.

250 I think it would be helpful, we all understand what you are pointing out in terms of the alluvial damages and the fact that the water loss would singly change the type of floor that we have in these areas.

251 But what I think we are concerned with, you mentioned something about steps, you mentioned something about replacement with impervious types of soil out of the order in which it was picked up. I think it is sort of an important question, so if you had some specific things, remedial measures that could be utilized, I think it would be helpful for us to understand those.

251 As I came into the room late today, I think the slides adequately depicted what the present conditons are but I think it would be helpful if we had some examples of alluvial valley floors which have been adversely affected by not taking those steps or by in fact mining and destroying the surface aquifer in this instance.

251 Mr. SEIBERLING. Are there any such examples that can be given?

251 Mr. HADLEY. Mr. Chairman -

251 Mr. SEIBERLING. Or are we into a new field where we have not had sufficient experience?

251 Mr. HADLEY. For many of the questions that have been raised, there is not enough experience. There are some examples of lowering of water levels in wells upstream from a surface mine where the - where it has required increased pumping lift in wells that exist because of the aquifer being drained into the pit of the mine.

251 Dr. MALDE. Mr. Congressman, my study has not progressed to the work where it has been easy so far as to observe these changes. They have been observed in a few areas where mining is either on the alluvial valley floor or adjacent to it.

251 In the first picture, there was an observation well a mile upstream from its initial pit where the water drawdown has amounted to about 5 feet. Considering the area cultivated for hay, this drawdown of water is sufficient to obliterate that hay production.

251 For the Decker Mine -

251 Mr. SEIBERLING. I will have to ask further response to this question in writing because we are about to run out of time.

251 The gentleman from Kansas has one burning question.

251 Mr. SKUBITZ. I have no burning question but I would like to make one observation. Mr. Ruppe has already asked most of the questions that are related to mine.

251 I think the point has been well established here by the witness himself by his comment that he doesn't understand what the word "adversely" means. This is the one area, Mr. Chairman, in which we are going to have to be more specific and not depend on pages 17, 25, and 58 to try to make a determination. This becomes a legal question, rather than a question that you can determine; am I correct?

251 Mr. HADLEY. I would agree, yes.

251 Mr. SKUBITZ. Since it is a legal question, it is one that must be made clear and specific, otherwise this question could be litigated in the courts for years and years and stopping any production.

251 Thank you, Mr. Chairman.

251 Mr. RUPPE. One question, can you determine the supply, quantity or quality of groundwater without actually drilling in the area?

251 Mr. HADLEY. No; not very well.

251 Mr. RUPPE. If you drill the areas, the sandstone areas that we talked about before, would that be a pretty heavy cost?

251 Mr. HADLEY. No; most of the sandstones are at moderate depth, less than 3 feet.

252 Mr. RUPPE. So you could drill the area in your opinion without much trouble?

252 Mr. HADLEY. There are many areas in the sandstone now that could be sampled.

252 Mr. RUPPE. Thank you, Mr. Chairman.

252 [Publication entitled "Land and Natural Resources Information and Some

Potential Environmental Effects of Surface Mining of Coal in the Gillette Area, Wyoming," may be found in the appendix to this volume.]

252 Mr. SEIBERLING. This subcommittee will recess until 1:30.

252 [Whereupon, at 12:18 p.m., the subcommittee recessed, to reconvene at 1:30 p.m., the same day.]

252 [Questions submitted by Mr. Ruppe, with responses, may be found in the appendix to this volume.]

252 AFTERNOON SESSION

252 Mr. SEIBERLING [presiding]. The hearing of the Energy and Environment Subcommittee will please come to order.

252 Our first witness this afternoon is Mr. William Hayes of Frankfort, Ky. Will you please take the stand?

STATEMENT OF WILLIAM HAYES, FRANKFORT, KY.

252 Mr. SEIBERLING. Mr. Hayes, before I ask you to tell us your background, let me say that we are becoming very pressed for time and I am going to ask each witness to limit himself to 5 minutes, which includes the time for the witness to answer his questions; and I will ask, therefore, witnesses to be concise and short in their answers as they can.

252 Mr. Hayes, if you would tell us a little bit about your position and background and then if you have a prepared statement, we would like to have it.

252 Mr. HAYES. Mr. Chairman, and members of the committee, I hope you had a statement, a brief statement, from me.

252 Mr. SEIBERLING. I have a statement here which applies to your testimony.

252 [Prepared statement of Mr. Hayes may be found at the end of his testimony.]

252 Mr. HAYES. It is brief, and I will try to go through what I have pretty much submitted there. I think it needs considerable thought, a lot of it, but I would have to present the short slide show as fast as I can and hope you can ask me some questions.

252 But I am William Hayes, and I was a former employee of the Kentucky

Department of Natural Resources for Environmental Control and in that capacity since I was - I was in that capacity since 1966 when Kentucky drafted its first strip mine law. I have brought with me today some slides, some color slides of methods of operation which I think are vital to the surface mining on steep slopes in Appalachia.

252 I heard some mention made earlier this morning of small operators. I have taken the liberty to get together slides on a large operator, a medium-sized operator, one I consider to be, and a small operator.

253 I will try to show you three particular methods which I have seen used in the States of West Virginia, and Tennessee, and Alabama. And the methods that I am presenting to you on slides today are from the State of Kentucky and they are covering a highwall, haulback - highwall reduction haulback method, box cut highwall reduction method, and mountaintop removal.

253 Most of the slides are covering the different steps or phases that you go through and I may have a few more slides, Mr. Chairman, I should have gotten them together, but I will run through them pretty fast.

253 Mr. SEIBERLING. I am going to have to interrupt you because there is a vote on the floor of the House and I am going to recess this for 15 minutes to give us time to get over and vote and, hopefully, by that time I can round up a few more members of the subcommittee.

253 Mr. HAYES. Fine.

253 Mr. SEIBERLING. This committee will stand in recess for 15 minutes.

253 [Recess.]

253 Mr. SEIBERLING. The Subcommittee on Energy and Environment hearings on the strip mining bill are again in session.

253 I will ask Mr. Hayes to proceed with his presentation.

253 Mr. HAYES. Thank you.

253 Mr. SEIBERLING. If any of the audience wish to slide around so they can look at the slide show, why, they may do so. After the slides they will have to move back though. [Laughter.]

253 Mr. HAYES. I am going to try to start out with the methods that I have

on your sheet, sort of go right down the line.

253 [Slide.]

253 Mr. HAYES. What I am trying to show you here is a typical terrain in Appalachia. Some areas may be steep, some may be less steep. But this is typical contour surface mining areas in eastern Kentucky.

253 [Slide.]

253 Mr. HAYES. Generally in surface mining we think in terms of pushing over the side of the mountain great amounts of timber, spoil and rocks and this is in most cases, in most cases this particular method of operation is what is happening in the State of Kentucky at the present time and I am satisfied in some of the other Appalachian States.

253 [Slide.]

253 Mr. HAYES. First, you blast up the Earth as you see, with the trees in most cases left in soil and then you take the bulldozer and push it over the side of the mountain.

253 [Slide.]

253 Mr. HAYES. This one operator by the way is in West Virginia, he came into the State of Kentucky and he promised that he would not push any soil over the outslope. So he starts off his first cut by stacking the spoil on the old strip mine job. That gave him 500 feet of distance, in other words, he had 500 feet that he had removed the spoil from and picked up the coal because he had moved the spoil, first spoil, over here and seeded it down.

253 [Slide.]

253 Mr. HAYES. Of course when he moved in he had quite a few pieces of equipment and as you can see they are pretty closely grouped together to be able to pick up the coal and move the spoil and still move ahead with your trough and move the spoil back into this pit when they finish picking up the coal. So it is a pretty close operation.

254 [Slide.]

254 Mr. HAYES. And another shot of the same area showing the closeness of the spoil. If you notice on the left, there has been no spoil pushed over the side of the mountain the way we saw in the first shots.

254 Mr. SEIBERLING. Was this a large company or what?

254 Mr. HAYES. This is a branch of the large company out of West Virginia.

254 [Slide.]

254 Mr. HAYES. Again I show you how close you have to get with your endloader to be able to dump that spoil in your big 50-ton truck and move it to the designated area.

254 [Slide.]

254 Mr. HAYES. This is what happens. In other words, you start moving the spoil back from the job, the spoil ordinarily pushed over the mountain side is rammed up against this highwall. In other words, this is a haulback highwall reduction method. In this case he dumps it and there is a bulldozer working side by side with this operation and he keeps it spread out and compacted down. By the way all this spoil is dumped what we consider on the solid. When I talk about the solid I am talking about the Earth in which the area - the area in which the soil has picked up and hauled away and it is not in a dug-up area.

254 [Slide.]

254 Mr. HAYES. This is what happens. In other words, the road was kept on the solid downblow. That is where he hauls his coal from. The spoil is on your left and your highwall has been reduced.

254 [Slide.]

254 Mr. HAYES. Another shot of the same area showing the road in the foreground, spoil up against the side of the hill.

254 The same area here after a little more vegetation, and I have had questions concerning this one.

254 [Slide.]

254 Mr. HAYES. Is that too steep to run a bulldozer up and down? In most cases that is the natural repose of the spoil as compacted in. But with no more spoil there and no more water running down from the above there is little likelihood that there would be any slough-off or the spoil getting out over the road or over the side of the hill.

254 Mr. SEIBERLING. Is that why he leaves a little bit of the highwall exposed to try to account for that? To provide a catchment for water coming down from above?

254 Mr. HAYES. As I say, I am skimming along pretty fast on the slides but I should have mentioned in the slides back there, that in most cases there is a drainage ditch on top of the spoil that is draining back to the natural drain and there is rock from the job made into a riprap ditch so the water will come down here and down here the spoil and through the cover and culvert and under the road in all standings.

254 [Slide.]

254 Mr. SEIBERLING. If you back up a couple more you can show Mr. Ruppe what we are doing.

255 Mr. HAYES. Mr. Ruppe, what we are trying to show here is different methods of operations. In this one, we have an end-haul highwall reduction method. This is a matter of instead of pushing the spoil out over the side of the hill, you haul that spoil back with a big earth-moving truck and put it against the highwall, compact it in and seed it.

255 [Slide.]

255 Mr. HAYES. You can see that here. The road itself, which they are using to haul the coal on, is on the same level as where the coal was picked up.

255 [Slide.]

255 Mr. HAYES. Then we get into the other operation. Now I said block-cut. Block-cut is one method used in Pennsylvania and also in West Virginia. But I am talking about a box-cut and one that has worked and it is being used in eastern Kentucky and West Virginia.

255 This particular method is leaving about a 40 or 50 foot highwall but the spoil is shot up and dumped into the trucks and hauled back to a pit, an old - in this case an old strip mine pit again on this particular job. This is the medium-sized operation that I was telling you about.

255 Mr. SEIBERLING. What is the nature of that overburden that they are removing?

255 Mr. HAYES. The nature?

255 Mr. SEIBERLING. Yes; what is the highwall composed of?

255 Mr. HAYES. I would say it's shale all the way up to about 12 foot of the top, and it's solid rock up there. The coal in this particular area was the whiteberg and it was about 4 foot in height. You will notice on the right that with the box-cut what we are referring to is you don't remove that particular

section at all. The trees and some outcrop of coal and the spoil is not removed at all. It is left there as a solid barrier.

255 Mr. SEIBERLING. Doesn't that mean they leave some coal?

255 Mr. HAYES. That generally isn't very valuable.

255 Mr. SEIBERLING. What degree of slope would you say it is here?

255 Mr. HAYES. Pardon?

255 Mr. SEIBERLING. What would be the slope of that particular hill?

255 Mr. HAYES. Most all of the shots that I am showing you here are all over 22 degrees. I would say that most of the areas in this particular county were from 26 through 28 degrees.

255 Mr. SEIBERLING. Thank you.

255 Mr. HAYES. This is the same operating showing you - you will run into solid rocks here and some so big you cannot accommodate them in the dirt carriers so naturally they are put back against the highwall and covered later on.

255 [Slide.]

255 Mr. HAYES. You can see that here. They had to leave this because they could not pick it up. You see the truck backing up with the spoil and dumping it into the pit.

255 [Slide.]

255 Mr. HAYES. And another shot of the same area. In some cases you are able to segregate the spoil and keep a good part of your topsoil so that you can use it as a last layer on your backfill.

255 [Slide.]

256 Mr. HAYES. Another shot of some of the finished pit.

256 [Slide.]

256 Mr. HAYES. Then we get into the other method that I am talking about, this is called mountaintop removal.

256 Mr. RUPPE. One question, in the box-cut, could you show us what it looks like after the mining is gone?

256 Mr. HAYES. It will be just like the other shot but as I mentioned in

the paper, instead of the road being on the same level from which you picked up the coal, the road is on top of the spoil. The access road is.

256 Mr. RUPPE. Thank you.

256 Mr. HAYES. That method has worked fairly well except in winters where you get freezings and thaws such as we have had in winter, and that is not so good.

256 The other two methods are much better. Mountaintop removal and end-haul method, that is, this one is being used, however, providing you can find a space to store your spoil.

256 [Slide.]

256 [Slide.]

256 Mr. HAYES. That is the mountaintop removal. Ordinarily it would be done in this fashion. In other words, you shoot and you push most of the mountaintop off on either side. This company supposedly had the hollow fill method but it was not working very well. As you can see in the foreground on your left, that part of the hollow fill has already sluffed off and dropped off in that ravine.

256 [Slide.]

256 Mr. HAYES. As in this illustration here, especially where you work multiple seams of coal in the mountains you have big problems. This operator says that he is filling the whole ravine. As you can see he started his road down in the center and the mountain up where you see the drill working will eventually all come down and into this hollow. But this particular company has not been too faithful in putting the mountain back. That is the reason I show you this shot.

256 [Slide.]

256 Mr. HAYES. Another shot giving you an idea of the size of the hollow fill that is used in the hollow fill method of operation in the State of Kentucky regulations.

256 I can show you others that -

256 Mr. RUPPE. Just a moment, how would you stabilize that?

256 Mr. HAYES. Well, in other words pushing it down and compacting it in with a bulldozer, this company says that they can keep the spoil from pushing on out of the hollow but my objection to this particular kind of operation is that there is too much area exposed and too much erosion.

256 Mr. RUPPE. You will have a lot of erosion there because that slope looks pretty steep.

256 Mr. HAYES. Well, he is supposed to take it down to 22 degrees.

256 Mr. RUPPE. In your opinion can he hold that hill at 22 degrees?

256 Mr. HAYES. No, sir.

256 Mr. RUPPE. What does he have to angle it down to to get it -

256 Mr. HAYES. He is required to angle down to 22 degrees.

256 Mr. RUPPE. I am saying in your personal judgment is 22 degrees suitable?

257 Mr. HAYES.No; it is not.

257 [Slide.]

257 Mr. HAYES. Here is another shot showing you what happens if you take off the top of the mountain and overcrowd the outslope to overload the outslope, you can see what you get get on the downhill side.

257 That was an operation that was tried, being worked at this time. Even with it dry, the mountaintop was slipping off because it was too heavy.

257 Mr. RUPPE. Do you have a stream down below there to save?

257 Mr. HAYES. There was leaching going into the stream, yes.

257 This is another shot showing the mountains in the background and the mountain that's been taken down here in the foreground.

257 I am just using this as an example.

257 [Slide.]

257 Mr. HAYES. I am not necessarily saying that is the best method. I am just showing you what will happen. This is a mountaintop removal job where they overloaded the outslope and the outslope keeps breaking off from year to year with the freezes and thaws and you never can get anything stabilized. In other words you never can get your grasses and trees stabilized. It is always moving on you.

257 Mr. RUPPE. Is that because there is too much dirt on the outslope?

257 Mr. HAYES. Yes, sir, and the outslope was so steep.

257 Mr. RUPPE. It was steep and lack of compaction, is that it?

257 Mr. HAYES. Well, there is no compaction here.

257 Mr. RUPPE. To resolve the problem you would have to be careful of your angle and you have to be sure of compaction?

257 Mr. HAYES. Yes; very much so.

257 Mr. SEIBERLING. Well, there clearly looks like there are slip planes in that whole structure, because that is a typical slip plane. While it is not surface erosion, a whole piece of the ground slides down. Isn't that what is happening?

257 Mr. HAYES. That is very true. Right. As it slips down, it creates a new pit for water to collect in and then water gets under that and the whole thing goes off. That is what happens in most cases.

257 [Slide.]

257 Mr. HAYES. As in this particular case here, most of the spoil was pushed over the side of the hill and that will end up eventually in the valley and it will break all the way back to the solid and on any slope like that it would take many years for it to work itself back to the solid and become stabilized.

257 Mr. RUPPE. Where was the topsoil that was originally on this?

257 Mr. HAYES. The top soil is mixed in and mingled but a good deal of it is over the hill, I think.

257 [Slide.]

257 Mr. HAYES. Then we have other operations such as this, methods that have been tried. The spoil was here pretty well stabilized but it's too thick.

257 [Slide.]

257 Mr. HAYES. In this particular operation all of the vegetation was pushed down to use as a barrier on the lower side. This, too, is stacking the spoil too high and you're apt to get quite a lot of heaving and erosion in this particular method.

258 Mr. RUPPE. If the soil is too deep - or was it the fact it's too abrupt an angle?

258 Mr. HAYES. Well, it's both.

258 Mr. RUPPE. When you have the spoil the more difficult it is to hold it

-

258 Mr. HAYES. The deeper you have the spoil the more difficult it is to hold it, yes.

258 Mr. SEIBERLING. Where is that picture taken?

258 Mr. HAYES. That is in Knott County, Ky.

258 Mr. RUPPE. Is that near Hazard?

258 Mr. HAYES. About 12 miles from Hazard, Ky.

258 Mr. RUPPE. What is the name of that mine?

258 Mr. HAYES. I think -

258 Mr. SEIBERLING. We visited a mine near Hazard about 3 years ago and it looks sort of like that.

258 Mr. HAYES. I think it was Leeberg.

258 [Slide.]

258 Mr. HAYES. This is what a good many of the companies are doing. They are applying for a permit in the State of Kentucky and asking for a hollow fill and a hollow fill is selected, a V-shaped hollow fill. and the spoil from the top of the mountain is all hauled and dumped into this particular hollow and pushed down with a bulldozer. This particular one is anywhere from 1,200 to 1,400 feet in length with no diversion ditches cut, and every rain that comes down it's washing the spoil off the mountain side.

258 Mr. RUPPE. What is the angle there?

258 Mr. HAYES. That one was supposed to be 22, but I would rather say it was 24 or better.

258 [Slide.]

258 Mr. HAYES. What I am trying to show you in this particular shot and the next two is rather than have the big hollow fill, you have a designated area in which the engineers have picked out. Let's haul the spoil from those areas with the pan or big dirt hauling truck and let's put it in a fill such as this.

258 [Slide.]

258 Mr. HAYES. Let's take the bulldozer and face the bottom part of it up and then keep compacting the top of it up and build it up in layers.

258 [Slide.]

258 Mr. HAYES. Such as this.

258 In other words, you know that the spoil that you put in there is compacted and it's not going to be so deep that what you can keep it stabilized in that particular area.

258 What I am trying to say is that instead of pushing the spoil over the side of the hill anywhere, let's haul it to a designated area, put it in compacted layers and build it up.

258 Mr. SEIBERLING. Is that what our bill requires now?

258 Mr. HAYES. Yes, sir. The one thing I am trying to get across and I think by this time that I hope you gathered what I am trying to say is, no spoil over the outslope. It just won't stay in Appalachia.

258 Mr. RUPPE. Do you get a field and raise the whole field 2 feet or what, or where do you accommodate spoil without transferring your problems to another area?

259 Mr. HAYES. All right. You are going to have to pick out an area in which that spoil itself will go out to 10 degrees, 10-degree slope. In other words, you have to come down off the hill until you get down to the hollow where it sort of begins to flatten out. If you are familiar with any of the ravines and hollows in the eastern Kentucky that is generally the way most of them do. Some of them are U-shaped; a good many are V-shaped.

259 Mr. RUPPE. That is what you call the head of the hollow, it's basically a U-shape.

259 Mr. HAYES. Yes, but what is happening in east Kentucky, I don't know whether it's happening in the other States or not, but anyhow the regulation says they can do this, but the hollow fill and the U-shaped hollows eventually end up a hollow fill all the way around the thing.

259 Mr. RUPPE. Around the mountain.

259 Mr. HAYES. Yes, so there is really no way to control it unless you have markers saying this is where it goes and if the inspector is following through it will be done that way. But where you don't have enough inspectors you are apt to have spoil all the way around the perimeter of the hollow.

259 Mr. SEIBERLING. What you are saying is that in effect you have to start

at the bottom of the hollow and not just dump it over the top?

259 Mr. HAYES. Yes, sir. There are two methods. In other words, if you had a small head of the hollow that you could say there is no water in it at the present time and it was sloping off at say about 10 degrees, you could start dumping in there with a truck and maybe make a small fill there. But with a large hollow fill, the big ones I have tried to show you, 1,000-1,500 feet in length, there is just no way to hold that spoil. So the thing to do is build a road down there at the bottom and start there. The operators are objecting, of course, and I can see why; but still they build very expensive roads up the hill or out of the valleys to haul the coal out, but very few of them want to build a road down into haul all this spoil and stabilize it in one spot.

259 That is where we are having our difficulty in Kentucky. So far there are specifications written up for those two methods and where they have been used and used like I am pointing out here, they are stabilized. But we have so many areas and I am sure we have them in West Virginia and Tennessee and some of the other States as well.

259 [Slide.]

259 Mr. HAYES. I better skip through here. This particular operator is the smallest operator. Instead of waiting for the big haul truck, the 50-ton truck, to move his spoil with, he decided, well, since the overburden even over the top of the coal doesn't have a lot of big boulders in it, I can move it with big Mack trucks. That is what he done. He picked a deep mining area, 3,000 feet from this particular site, he hauled the first spoil to the deep mine area which was down over the mountain about 300-foot elevation. And he hauled the first spoil there.

259 [Slide.]

259 Mr. HAYES. Then he - this is a shot of the same operation but I wanted to show you the solid barrier cut around the entire perimeter of the job, and this was I think about a 30-acre permit on top of the mountain.

260 [Slide.]

260 Mr. HAYES. What he did was, this is the 11-foot seam of coal, at Hazard No. 9; you can see the overburden he had. After it was shot it was hauled with a big Mack truck because in some instances you wouldn't be able to get a big rock in a truck and more or less it would tear the big Mack truck uploading into

it. So he was fortunate in having this kind of overburden. But anyhow he moves the overburden in the background into the section in which he has put his rocks and so forth and he is covering it with that topsoil.

260 [Slide.]

260 Mr. HAYES. This is some of the finished product.

260 Then of course the whole area is graded down. The State regulations say that the outslope must be seeded after 15 days at 1,500 feet. You can see a little bit of grass there on the right.

260 Mr. SEIBERLING. Was that a mountaintop?

260 Mr. HAYES. Yes, sir, that is about 1,600 foot elevation and the whole mountaintop was removed. In this case with no spoil over the outslope.

260 [Slide].

260 Mr. HAYES. And -

260 Mr. RUPPE. Do you classify that as a pretty good job?

260 Mr. HAYES. Yes, sir, it's one of the best jobs that I think the fellows had anywhere in eastern Kentucky as far as not putting any spoil over the hill and not having any land slides whatsoever. In other words, it is an area type stripping after you have first taken your spoil off the mountain and stored it somewhere, your first spoil, then it is area type stripping. It is a matter of just laying it back into the pit.

260 Now, the State of West Virginia is doing this in a great big way and I have seen some of their stripping and it is good.

260 [Slide.]

260 Mr. HAYES. That is all I have for the slides and I will be happy to answer any questions.

260 Mr. SEIBERLING. Thank you, Mr. Hayes, I would like to ask you a few questions.

260 Mr. HAYES. All right.

260 Mr. SEIBERLING. First of all, I presume that your one-page written statement you would like to offer for the record?

260 Mr. HAYES. Yes, sir.

260 Mr. SEIBERLING. Without objection that will be included in the record.

260 Mr. HAYES. Thank you, sir.

260 Mr. SEIBERLING. Given your experience in administering the Kentucky law, would you say there is still a need for a Federal strip mining law along the lines of H.R. 2? You may sit at the table still.

260 Mr. HAYES. I certainly do, sir.

260 Mr. SEIBERLING. You think there is a need for a Federal law?

260 Mr. HAYES. Yes, sir.

260 Mr. SEIBERLING. And could you give us a brief statement as to why?

260 Mr. HAYES. The reason I feel we should have a Federal law is because, well, one thing is, we got all States doing the same thing in that event.

261 Then we have got somebody, we have got some agency that is checking on us continually if we are following the Federal guidelines and which we have in this bill; we have somebody checking on us continually, and I think especially in the State of Kentucky that we need somebody checking very often.

261 Mr. SEIBERLING. There is a slogan in Latin on the gates of Harvard College which might be liberally translated, "Who will supervise the supervisors," and what you are saying, I take it, is that in the particular type of thing that it is important to have somebody looking over the shoulders of those actually administering the law?

261 Mr. HAYES. Yes, sir, very much so.

261 Mr. SEIBERLING. And it is also important, I understand from you, that we have reasonable uniformity of at least minimum standards for all the States?

261 Mr. HAYES. Right, sir.

261 Mr. SEIBERLING. Now, what would you say is the biggest thing or single problem in present mining practices in eastern Kentucky from an environmental impact standpoint?

261 Mr. HAYES. I am going to say enforcement. Lack of enforcement.

261 Mr. SEIBERLING. So when we hear statements around in the course of our hearings about, well, 38 States now have strip mining laws, what you are saying

is that it isn't just having the law, but it is what is in the law and how it is enforced?

261 Mr. HAYES. Yes, sir.

261 Mr. SEIBERLING. What would you say are the major problems of coal surface mining operations at the State level?

261 Mr. HAYES. Besides to enforce them? Would you run that by me once more?

261 Mr. SEIBERLING. Could you outline any or some of the major problems, deficiencies, perhaps is a better word, if there are deficiencies, in State regulation of strip mining as it is presently conducted without any Federal standards?

261 Mr. HAYES. Well, I feel that the - I am referring only to Kentucky now and eastern Kentucky, or the State regulations.

261 Over the years that I have been with surface mining, of course, I have worked under several Governors in those States and worked under several Commissioners and Secretaries in those States, and it is a problem for the inspector in the field to be able to have the amount of authority that he really needs or the district supervisor, as far as that is concerned; have the authority they need to be able to control those operations without them having to go through the formality of going up the line and waiting for weeks and weeks and laying on somebody's desk and being able to get something done.

261 I think that is the weakness that we have had in the State of Kentucky for a long, long time and that is what I would like to see in our State, if we had some Federal guidelines, I think people are going to be more alert and they are going to be on the lookout for these particular infractions of the law; and overall, I just look for better enforcement overall.

261 Mr. SEIBERLING. Would you say that the threat of not issuing a new permit to a violator of the regulations is a good mechanism or not for assuring compliance?

261 Mr. HAYES. I certainly think that it is.

262 Mr. SEIBERLING. Do you think that that should apply to all violations or just major violations?

262 Mr. HAYES. I would say just major operations because there is no need,

I mean, you can be overbearing in a good many ways. I am talking about major infractions.

262 Mr. SEIBERLING. What would you include in major infractions?

262 Mr. HAYES. I am talking about stream pollution, landslides and that sort of thing.

262 Mr. SEIBERLING. Are you familiar at all with the mining methods in West Virginia and Pennsylvania?

262 Mr. HAYES. Yes; I am.

262 Mr. SEIBERLING. Particularly those which don't allow spoil on the downslope and require return to approximate original contour?

262 Mr. HAYES. Yes, sir.

262 Mr. SEIBERLING. Do you think these are applicable in eastern Kentucky?

262 Mr. HAYES. Yes, sir, I know they are.

262 Mr. SEIBERLING. Are people -

262 Mr. HAYES. The terrain is so similar and a good many cases even steeper around Beckley, W. Va. and so forth, and they can be applied.

262 Mr. SEIBERLING. Now, we have had some testimony here that if they were applied in eastern Kentucky, it would put a lot of operators out of business. Do you think that that is -

262 Mr. HAYES. I heard that when I first started working surface mining in 1966, and we got the regulations, that they were going to be put out of business. But there are more people mining coal right now than at any time, and I am willing to pay for that extra; and I am sure that a lot of other people are willing to pay for it if it is going to save our land.

262 That is what it is going to take. It is going to cost more, that's for sure.

262 Mr. SEIBERLING. Now, how many of the existing strip mine benches in eastern Kentucky that you know of are being used for housing or other intensive land uses?

262 Mr. HAYES. Very few.

262 Mr. SEIBERLING. Would you call the highway a safety problem for such

land use?

262 Mr. HAYES. Yes, sir, I would.

262 Mr. SEIBERLING. And in what way is it unsafe?

262 Mr. HAYES. They are unstable in the first place, because you have had to use an awful lot of explosives to shoot that highwall down. You can't put a house right near a highwall because sometimes the whole thing will come in.

262 There are exceptions to that case. There are real solid highwalls that have been well shot that probably you could live with, but the majority of them are very unstable.

262 Mr. SEIBERLING. Thank you very much, Mr. Hayes.

262 The gentleman from Michigan?

262 Mr. RUPPE. Thank you.

262 Mr. Hayes, what is your title? I notice you are from Kentucky, but you are in enforcement. What is your title?

262 Mr. HAYES. I am a former employee of the department.

263 Mr. RUPPE. Well, what types of positions did you hold when you were on the payroll, I might ask?

263 Mr. HAYES. I was the regional supervisor in the eastern coal fields.

263 Mr. RUPPE. For inspection and safety and so on?

263 Mr. HAYES. My job was riding herd on the district supervisors in eastern Kentucky, all five of them.

263 Mr. RUPPE. You indicated that the problem in Kentucky is not so much with the State legislation which I presume has a measure of environmental safety in it, but, rather, with the enforcement. Is that the problem with enforcement on the State level from up the line on down? What is the problem? If you have a relatively decent law on the books, why don't public groups or environmental groups take the regulatory authorities to court and get them to carry out the law?

263 I am not being facetious, I just wondered. I know that there has to be a breakdown in enforcement; where does the breakdown occur and why is it difficult at the State level to remedy?

263 Mr. HAYES. I will just be pretty frank with you, the way I feel about it in the State of Kentucky. The breakdown is way up the line, because I have gone through this thing so many times and of course we have had so many changes in the department and the division over the years; in other words, there is too much favoritism.

263 I know, in fact, that there has been in the State of Kentucky over the years, favoritism to some of the larger companies. It is usually the little guy that gets it in the neck.

263 And that has been happening right along, and if I had to, I could cite cases. I don't want to do anything like that because I didn't come here to do that.

263 What I am trying to say is that we need somebody else helping the fellows that are out there really trying to do the job; and I hope that this bill is the answer.

263 Mr. RUPPE. If in the legislation that we have before us, if it is passed in its present form, there is a provision for a so-called State lead operation to take over whereby if the States follow the guidelines and develop standards as rigorous as Federal legislation provides that they would administer the enforcement of the bill, the mechanics of the bill.

263 In view of the fact that you have had difficulty in administering the program in Kentucky, under State law, do you think that there would be the same difficulty in administering the Federal law if indeed the State lead and the language for a State lead would carry over into the Federal legislation?

263 Mr. HAYES. No; I actually believe that with the State carrying on the programs in which they are involved, with proper supervision by Federal employees, that is my idea of a Federal strip mine bill. And this being done very, very frequently, that that is what we have been asking for all the time.

263 Mr. RUPPE. If there is a Federal bill passed then you feel that the enforcement will be strengthened not necessarily so much by the access to the courts that citizen or environmental groups may have, but actually by the presence of the Federal officials overseeing, if you will, the actions of the State regulatory authority?

263 Mr. HAYES. Right, sir.

264 Mr. RUPPE. In other words, you don't have - you would prefer to move through the regulatory system rather than through access to the court system?

264 Mr. HAYES. Right.

264 Mr. RUPPE. You indicated you do not like spoil on the downslope; as I recall, the bill does provide that there can be some spoil on the downslope if acceptable to the regulatory authorities.

264 I believe that there is a prohibition against spoil on the downslope in those situations where the angle of repose is more than 22 degrees. Do you think that that is a fairly good compromise?

264 Mr. HAYES.No, sir. I don't want any spoil on the outslope.

264 Mr. RUPPE. Under any circumstances?

264 Mr. HAYES. No, sir. For instance, Kentucky law has a method which they call the 40-60 method. You can put 40 percent of the spoil over the side of the hill and I don't know who you could send out there that could stand back and view 40 percent of material.

264 Mr. RUPPE. I am sorry, I guess I missed the last sentence.

264 Mr. HAYES. In other words, Kentucky has the 40-60 law which allows them to put 40 percent of the spoil over the side of the mountain; but how do you determine 40 percent of material over the side of the hill?

264 If you have a landslide and you approach the operator and he says, well I thought I put 40 percent of the spoil over the hill, how do you enforce that? There is just no way of controlling landslides and stream pollution until you have stopped letting the spoil go off the side of the mountain.

264 Not only does it pollute streams, of course, in the West you have one person per square mile and in Appalachia you have 50 to 100 per square mile. Every time you turn over a shovel of dirt or use a bulldozer, it is affecting somebody downstream.

264 What I am saying is let's try to put it back in some sort of respectable manner and in order to supervise it and keep it up there, that's the best method that I know of. Just not see any of it over the side of the hill.

264 Now, I think there was some leeway there in which you could put a certain amount of spoil here until you had picked up the coal and then you

picked this spoil up and put it back into the pit. Now, that may be feasible in some cases. I don't deny that.

264 But the majority of the permits that issue, I don't think any spoil should be put over the side of the slopes that we have in eastern Kentucky.

264 Mr. RUPPE. Thank you. Thank you, Mr. Chairman.

264 Mr. SEIBERLING. Mr. Rahall? Do you have any questions?

264 Mr. RAHALL. Just a brief question, Mr. Chairman. In Kentucky what are the requirements for permitting applications? What does the applicant have to go through to obtain a permit.

264 Mr. HAYES. He has to pay for the permit.

264 Mr. RAHALL. Yes.

264 Mr. HAYES. Yes, but he has to make up his maps, he has to post bond for every acre that he is going to disturb; and after the area has been mined and graded he gets some of that bond returned. And he gets his final bond money after he gets 70 percent of cover on the vegetated area.

265 Mr. RAHALL. Do you see the provisions of H.R. 2 as imposing additional burdens?

265 Mr. HAYES. No, sir. I don't. Not the way it's written; no, I don't.

265 Mr. RAHALL. Thank you, Mr. Chairman.

265 Mr. SEIBERLING. Thank you, Mr. Hayes. We appreciate very much your testimony.

265 Mr. HAYES. I am glad to do it.

265 Mr. SEIBERLING. And your slides.

265 [Prepared statement of William Hayes follows:]

265 Prepared Statement Submitted by William Hayes

265 CONTOUR AND AREA SURFACE MINING ON STEEP SLOPES IN APPALACHIA

265 A short color slide show by William Hayes showing three different methods of operation being used in Eastern Kentucky

265 1. END-HAUL HIGHWALL REDUCTION METHOD

265 The spoil from the first pit will be hauled to a storage area, either a head of the hollow fill or stacked on old surface mine bench. No spoil will be

pushed over the outslope at any point. Highwall will be reduced by hauling spoil back and ramping to approximate original contour. Access road will stay on the outside of stacked spoil, which will be on the solid part of the bench. All drainage will be diverted by contour ditches on top of stacked spoil to the low point. Riprap ditches made from rocks in the spoil can ease water over fresh spoil, with culverts used under the roadway. All slopes will be mulched and seeded as soon as area is completed.

265 2. BOX CUT END-HAUL, WITH HIGHWALL REDUCTION

265 A solid barrier will be left on the downslope side of the operation. The access road will be on top and near the middle of the sloped spoil. All drainage will stay on inside the solid barrier and be opened only at the low points where silt structures are located. At no time will spoil be allowed to go beyond the solid barrier. Seeding can be done both above the access road and below with the road being ripped up and seeded when job is complete. Wood fibre, straw or hay mulch will be used on all disturbed areas with slopes over 15 degrees.

265 3. MOUNTAIN TOP REMOVAL

265 Spoil from the first pit will be hauled to a designated area, (hollow fill or old surface mine bench) and compacted in ten foot lifts on the solid bench or used to reduce the existing highwall. Area type surface mining will be used throughout the job with no spoil being pushed over the outslope. A solid type barrier will be cut around the outside perimeter with drainways cut in low spoil leading to already constructed silt catch basins. Stacked spoil can be reduced to approximately the original contour.

265 William Hayes, the son of a Harlan County, Kentucky, coal miner, has been familiar with the problems of both types of coal mining for many years. As a former surface mine inspector, district supervisor and later as regional supervisor, he has had varied experiences with the Kentucky Division of Reclamation since their first strip mine regulations in 1966.

266 Mr. SEIBERLING. The next witness will be Dr. Lyle Sendlein of the Iowa coal research project.

STATEMENT OF DR. LYLE V. A. SENDLEIN, ASSISTANT DIVISION CHIEF, ENERGY AND MINERAL RESOURCES RESEARCH INSTITUTE, IOWA STATE UNIVERSITY, AMES, IOWA, ACCOMPANIED BY JAMES GULLIFORD

266 Dr. SENDLEIN. I am Lyle Sendlein, the Assistant Division Chief of the Energy and Minerals Resources Research Institute, and also a professor of geology at Iowa State University at Ames, Iowa. I have James Gulliford an

assistant ecologist and the mine safety officer for our experimental research mine.

266 Mr. SEIBERLING. I see you have a prepared statement here. Would it be possible to summarize it orally and put the whole statement in the record?

266 Mr. SENDLEIN. That is what I would like to do, sir. I will take you through the document if you have copies before you.

266 Mr. SEIBERLING. Yes. All right. Without objection the whole statement will be included in the record.

266 [Prepared statement of Dr. Lyle Sendlein may be found at the end of his testimony.]

266 Mr. SENDLEIN. Thank you. The State of Iowa funded Iowa State University back in 1974 for \$3 million to investigate the potential for the use of Iowa coal. There is not much coal in Iowa, there has not been much on record for Iowa coal, but anyhow we wanted to look at two aspects and these two aspects included the environmental implications of strip mining coal in an agricultural environment; and the second was the use of a high sulfur coal which Iowa has quite a lot of.

266 So the project then set out to do both of these. We have developed a processing plan on the campus, Iowa coal has never been processed before so this processing plant is the first for the State, and coal is presently being processed and studied.

266 The phase that I wish to talk about to you today though deals with the experimental strip mine that we have established near Oskaloosa, Iowa which actually is about 9 miles to the south and west of Oskaloosa, Iowa near the Des Moines River.

266 I will refer you first to figure 3 on page 3. This figure shows the potential strippable area in the State of Iowa, and see that it parallels the Des Moines River. You can't see the Des Moines River but the river flows to the southeast across the State there. And the strippable region potentially parallels this river.

266 The principal stripping occurs near the southeastern portion of this region, however, there has been stripping tail way up into the northwestern portion of that region, but the bulk of the mining at the present time goes on in this area.

266 There is not much coal mining that is going on in Iowa. There is about

six strip mines, about two deep mines at the present time. Production is about 600,000 tons.

266 The strip mines produce about 300,000 tons or an average of about 60,000 tons per mile.

267 The experiment that we wanted to conduct was to look at strip mining in an agricultural environment so we found a piece of coal near an existing strip mine and the reason we had to find it near the strip mine is that the legislature informed us that we could not own our own equipment, or own our own land but we had to cooperate with existing coal miners.

267 So we finally found another coal miner that would cooperate with the group of college professors and we set up our own mine. This mine is located on a 40-acre piece of land, has an average slope of 10 percent. There is 20 acres underlain by coal, two seams of coal, the lower figure on figure 3 shows the two seams. The upper seam is 5 feet, the lower one is 3 feet.

267 The lower coal seam covers about 30 acres, the upper above 5 acres. So we are mining more lower seam than upper seam coal.

267 When we sought out our plan to mine we are actually guided by the regulations, Federal regulations set forth in 1974 when the first strip mine bill was presented so we tried to follow those requirements as much as possible as well as to establish some of our own to insure proper environmental analysis of this site.

267 On page 5, figure 5, you can see the mining site showing topography on the site, in other words the slope increases to the northwest on the property approximately 100 feet of relief across the property, and you can see also the crop edges of the mined potentially mined seams, that is, dashed lines. Then the dark heavy lines illustrate the mining plan that was to be followed.

267 We used a haulback method of mining whereby we used strippers on dozers to rip the overburden and also scrappers to transport the overburden.

267 In order to segregate the toxic materials from nontoxic materials we were required to stockpile materials and in figure 6 we illustrate the various stockpiles used as part of our operation.

267 I might point out while we are looking at that figure that the sediment pond is constructed in the southeast corner of the property and the top soil

piles were laid out there on the property in such a manner that all runoff from the mine was concentrated through the sediment pond. So no sediment left the site.

267 Also, you can see that we segregated the surface materials into topsoil, into what we called loose and glacial till or unconsolidated materials and black shale which were the toxic materials. Toxic meaning they were pyrite containing materials and oxidized easily when exposed to the surface and resulted in acid conditions.

267 In order to get into a sequence of mining whereby we could reduce the movement of overburden, it required us about four pits before we were finally not double-handling anything. We had to double-handle topsoil through the first three pits then finally we were able to bring back into our first pit or into our second pit the topsoil from our fourth cut.

267 If you will look on the next page, figure 7, there is an area to show you what the site looks like as part of the operation.

267 The dark shales I think stand out in the pit area, those are presently being mined. On the left-hand side, the eastern side of the photo, there is a large black pile which is the acid shale pile. This pile I might add produced quite acid conditions after a very heavy rain that we experienced, about a 2-inch rain we experienced on the site, and our pond which was normally running at a pH of 7 to 6 1/2, overnight went down to a pH of 3 1/2.

268 Now, the technique that we are using for reclaiming the land is illustrated in figure 8. We plan to put this land back into the benched terrace configuration. This means that we are actually going to construct terraces which have 10-foot risers with approximately 120 foot spaces between each terrace. We have one terrace that will have 24-feet of width but the site will then step up in that manner. The terrace will have slopes of less than 1 percent. So they will be very good farmable pieces of land.

268 The area prior to mining had 4 percent usable land. The land was usable only as hay land on occasion being used for corn; however, the erosion was quite severe when it was used in this manner. We feel that after the mining - after our operations the site will have 87 percent usable land. We have increased the usable lands by 3 percent and it will all be 1 percent or less in slope and thus be extremely well suited for row crop production.

268 If you turn to figure 9 we show a cross section through the terraces and you will see how we plan to handle the acid materials.

268 Prior to mining we had approximately 10 feet of nontoxic material available to us to spread out over the whole site. So we then designed our plan so as we mined we would backfill first the acid material and then come back on top with nontoxic acid overburden, the loose and glacial till.

268 The figure 10 is an oblique aerial view of the site to try to illustrate some terraces. It is not easily seen here. You can see the mining activity near the top left-hand part of the diagram, just down from that to the lower right-hand corner of the map. There are two terraces that cut across the mine. At this stage in our operation we have already reconstructed two terraces. So as we are mining we are also reconstructing the final configuration of the site.

268 Now, as part of our operation we are of course interested in what the agricultural productivity of this land would be as well as the environmental effect. On the agricultural aspect we have been able to complete approximately 3 1/2 acres in the time that we have been mining, and we have produced two crops from - well, actually one season of crops, but two separate crops, soybean and corn.

268 Our corn produced, our maximum test plot, that is, produced 84 bushels per acre, which is right at the average for that particular area of unmined land; and our soybeans produced 17 bushels per acre which was about 5 bushels below the average for that area.

268 We had normal rain conditions in this part of Iowa last growing season, which was unusual, because much of the State is in a drought condition; but our section of the State had relatively normal conditions.

268 We feel that - I might say some of the test plots we worked on had extremely low yields. What we found was that in putting overburden back with scrapers there is a great amount of compaction that comes about during the transport of this soil, so in order to break up the compaction we had to go back in with our bulldozer and rip the material so that we could break it loose again and make it more water-acceptable for plants.

269 We have put 10 feet of nontoxic material back on the terraces. We feel that probably 7 feet will be a minimum because that is about the depth that the plant corn roots will extend into the subsurface.

269 The environmental studies that we have conducted on the site include quite a large team effort. We have been looking at the - we primarily before we did our operation, we had an archeologist study the site to be sure we were not destroying any ancient sites, Indian sites, in the area. Historians looked the area over. We have had a sociologist to take a look at the effect of mining in Iowa in general but in this particular region. We have a political scientist who is trying to look at some of the problems related to the melding together of the various agencies within the State and the Federal Government that actually impinge on an individual miner.

269 We have a slew of scientists, we have ecologists, groundwater geologists; we have agricultural resource people. I think we have quite a number of - in fact I can't remember them all. But anyhow, we have a large crowd who has been studying the environmental aspects of the mine. What we have found so far is that in terms of surface runoff from the site we have been able to control right up to this point - and our mining has been going on for only 2 years - we have been able to control up to this point in time the surface runoff and not pollute the stream.

269 Now, we have been monitoring the receiving stream in a very systematic way. We have about seven stations along the stream, upstream and downstream from our site, and we, one of the reasons why we have not harmed the stream too much is that this happens to be an old drainage basin where mining existed before and thus the stream is stressed by other old workings at times; and the water that we have put into the stream does not have any effect on the stream.

269 The pH in the stream ranges from as low as 3 pH up to about 7 under normal conditions.

269 Now, one other aspect, in fact a major aspect, of our project was to look at the reclamation costs for this kind of an operation because we were concerned that if we went into the - if we apply very strong requirements on the mining industry that we would wipe out the mining industry in Iowa. So we wanted to study the economics of this kind of an operation. As I mentioned the mines are small, our mine was a small mine, 40,000 tons per year is an average size mine.

269 What we found out is that for the kind of operation that we are conducting it's costing us about \$10.54 per ton to move overburden; it costs us

\$4 .10 a ton to actually fragment the coal and transport the coal to a tippie which then is loaded onto a truck to carry to market, and we are paying 50 cents a ton royalty for a total cost of \$15.14 a ton.

269 We have been selling the coal for somewhere around \$1 6 a ton at the mine. So our operation has been just about breaking even and we have been - we feel for our purposes this is satisfactory.

269 What I didn't point out is that in the mining operation we now have contracts. We have a contract who is our prime contract. He is the coal company and he gets from us \$4 .10 a ton for fragmenting the coal and transporting the coal. That \$4 .10 he has figured as a profit. The dirt-mover is a cost-plus 10 percent contract, therefore he has a 10-percent profit figured in. So when I say that we have broken even, what it means is that our project has broken even, but that the industry that is helping to run the experiment for us, actually made a profit during the operation of our mine.

270 Trying to get at reclamation costs then is an interesting number. For us it turns out that we feel that the final haulback of that material to fill up the final hole is really the reclamation cost. That is, in other words, the double-handling that will become involved in our operation. We estimate that that is going to be about \$220,000.

270 Now, if I spread that \$2 20,000 over to total reserves of the mine which are 124,000 tons, this can be then spread in different ways. One way to express it would be on the original 20 acres of coal which would be about \$11 1,000 an acre or one would be to spread it over the 40 acres which we disturbed in the mining operations which would be about \$5 ,500 per acre; or if we distributed over the tons produced it would be \$1.77 per ton.

270 When one looks at these reclamations on a ton basis of \$1 .77 and compares this to some of the work that the U.S. Bureau of Mines presented in one of their reports in 1975, it was an information circular 8695, this number falls well within the range that they have for area mining.

270 So we feel that probably this number is pretty close and does represent at least for the area mining a kind of reclamation cost.

270 I think I will stop at that point and entertain any questions if you are interested.

270 Mr. SEIBERLING. Well, thank you, Dr. Sendlein.

270 I take it that you feel that the Federal bill as embodied in H.R. 2 would be compatible with the kind of operations you were conducting?

270 Dr. SENDLEIN. Yes, I think it would be compatible. In fact, I think in looking over the bill there are some things that I would like to address myself to at a later time perhaps in writing. But I believe when we looked at this bill just recently, the last version that came out and compared it to our mine, we found that in some cases perhaps we would have been in violation of the things that were asked of us, some of the things. Especially we were concerned about original contour. We were just not really understanding what you intend by the bill in that respect.

270 Mr. SEIBERLING. Of course, approximate original contour does not remove the possibility of retaining haul roads or carry zone in nature, and if it needs clarification in that connection, we would like very much to have your suggestions or any other suggestions you may care to make.

270 What you are saying is, how deep were these coal seams? How thick were they?

270 Dr. SENDLEIN. The coal seams were 3-foot and 5 feet in thickness and total depth of the mine was about 85 feet at its deepest point.

270 Mr. SEIBERLING. So what you are saying is even with a coal seam of rather moderate thickness, in fact rather thin coal seam, that there is - applying the basic principles in this bill is still sufficient margin to mine coal and still make a reasonable profit?

271 Dr. SENDLEIN. Yes, sir. I am concerned about the 35 cents per ton charge that might be applied to a coal miner. I have computed that for my mine and if I had to come up with, for production through this last December, I would have to come up with \$29 99,000 and that might have made a difference in my making a profit, and that might have an effect on the small coal miner as we are dealing with in Iowa.

271 Mr. SEIBERLING. Well, thank you.

271 I am very delighted to welcome into this hearing a member of Congress who, though not a member of this committee, comes from Kentucky, and indeed is deeply concerned about the problem. And I just wondered, Mr. Perkins, if you would care to make any statement at this time?

271 Mr. PERKINS. I am here to introduce some witnesses when I get to it.

271 Mr. SEIBERLING. Would you like to do that now?

271 Mr. PERKINS. Just as soon as the witness concludes his testimony.

271 Mr. SEIBERLING. All right.

271 Mr. Rahall, did you have any questions?

271 Mr. RAHALL. Yes.

271 You just made one statement that is of special concern to me in this bill, that is the effect on small operators. Did your operation meet all the requirements for obtaining a permit as they are outlined in H.R. 2?

271 Dr. SENDLEIN. Yes; we paid special attention to do just that when we made our application. In fact Iowa law follows that pretty closely to obtain information similar to that. We obtain core information. Our present Iowa law does not require core information for overburden determination.

271 Mr. RAHALL. You did core drillings?

271 Dr. SENDLEIN. Yes; but our miners of course are very concerned about this added cost. However, I think it can be carried on and still be well within the operating budget of a small mine.

271 Mr. RAHALL. What did the application cost you?

271 Dr. SENDLEIN. Total dollar outlay?

271 Mr. RAHALL. Yes.

271 Dr. SENDLEIN. I have not come up with a number on that but I would be willing to let you know what the total dollars would be. For us, being a State agency we didn't have to come up with a bond, so that was one of the costs we didn't have to incur.

271 We did not have to - excuse me, we of course had professional staff, so, therefore hiring professional staff was not difficult for us to come up with.

271 But we have worked with our own miners trying to show them how we can develop the kind of data needed and the expertise that is available to put together the necessary mining plan and I think we have come up with a very ballpark figure.

271 For instance, there have to be topo maps of the site, we have our miners convinced of this. For \$2 50 now they can have a topo map made by flying the site. To have it surveyed can be more expensive depending on how much land they intend to mine at a given time.

271 But I think a rough estimate would be that probably \$1 ,000 or \$1 ,500 for the small miner to satisfy these requirements. That doesn't include the drilling. That is just the professional help to get the drilling.

272 The drilling, of course, depends on how big an operation, how big a piece of coal you are going to try to prove up so that is a variable.

272 Mr. RAHALL. Do you see any problems with the additional Federal bureaucracy that this bill would superimpose, say, on Iowa?

272 Dr. SENDLEIN. I must admit being - I like to think of myself as a coal miner and I must admit that dealing with MASA has been frightening to us; and when I begin to think of what another layer would do to us it might be something, I guess, that I would push very hard to have our State try to take over these regulations if they could. That is something I would push for.

272 Mr. RAHALL. In other words, if a State provision then was more stringent than the Federal law you would rather see the State provision prevail and enforced by the State.

272 Dr. SENDLEIN. By the State; yes. I think it would be better.

272 Mr. RAHALL. Thank you, I have no further questions.

272 Mr. SEIBERLING. Thank you, Mr. Sendlein.

272 The \$1 .77 per ton average figure you have for the area mining method, could you translate that into 1976 dollars or 1977 dollars?

272 Dr. SENDLEIN. Well, those are actually dollars - I have not moved back to 440,000 yards yet, which will backfill my hole. In other words, the photo that you see of the mine is just about the way the mine looks now. By the end of June I will have moved back all this overburden and built the final terraces. I will remove all coal that is left. So the numbers I gave you are present-day dollars. That is what I anticipate them to be.

272 Mr. SEIBERLING. If there are no further questions, we appreciate very much your testimony and thank you for coming.

272 Dr. SENDLEIN. Thank you very much.

272 [Prepared statement of Dr. Lyle Sendlein follows.]

273 STATEMENT OF LYLE V. A. SENDLEIN, ASSISTANT DIVISION CHIEF, ENERGY AND MINERAL RESOURCES RESEARCH INSTITUTE, PROFESSOR OF GEOLOGY, IOWA STATE UNIVERSITY, AMES, IOWA

273 This statement was prepared by Dr. Lyle V. A. Sendlein (Assistant

Division Chief, Energy and Mineral Resources Research Institute, Iowa State University, Ames, Iowa). It represents his views and not necessarily the views of Iowa State University. This material is based on data and methodologies developed as part of the Iowa Coal Research Project which was financed by the State of Iowa.

### 273 Introduction

273 The need for the maximum utilization of all coal in the United States and the idea of self-sufficiency on the state level stimulated the Iowa legislature to fund a research project to investigate the Resources Research Institute was granted \$3 million to investigate two primary goals and several secondary goals (Figure 1). The primary goals are: to investigate the washability of Iowa coal and to study the mining and restoration economics in the agricultural environment.

273 For some, washing of coal may not seem too important, however, it must be remembered that coal in Iowa has never been processed and it contains some of the highest sulfur and ash contents of the midcontinent coal fields. Thus, in order to be a useful product, Iowa coal must be beneficiated. The coal washing facility (Figure 2) was built at Iowa State University to employ heavy media separation and Deister tables to remove sulfur and ash. Preliminary experiments in the plant show that 7% sulfur coal can be reduced to 5% and even 4% sulfur content. The ash content can be lowered from 17% to 10%. The BTU content is increased from 10,300 to 11,300 BTU's per pound. Processing costs have been estimated to be approximately \$1.65 per clean ton and roughly 8~ per million BTU.

273 The mining and restoration research was designed to investigate the restoration economics, the environmental impact of strip mining in Iowa and the potential for agricultural productivity on strip mined land following restoration.

### 273 Iowa Coal Project Demonstration Mine # 1

273 Figure 3 illustrates the occurrence of coal in Iowa in the Forest City Basin and the location of the strippable coals, which parallel the Des Moines River in south central Iowa. The occurrence of the coal is in small isolated deposits which probably are no larger than 50 to 200 acres in size. The nature of the coal deposits is controlled by recent erosion as well as post-Pennsylvanian, pre-Pleistocene erosion.

### 274 IOWA COAL PROJECT

#### 274 PRIMARY GOALS:

#### 274 I Coal Refining

274 II Coal Mining & Land Restoration

274 SECONDARY GOALS:

274 I Coal Properties Chemical Analyses Geological Characteristics & Distribution

274 II Environmental Studies Biological Impact Physical Analysis Social Aspects

274 III Economic Analysis Mining & Restoration Costs Transportation Economics Economics Of Iowa Coal Legal Aspects

274 [See Illustration in Original]

275 [See Illustration in Original]

276 The research mine is situated just south and west of Oskaloosa, Iowa. It is located on a 40-acre site, adjacent to the Star Coal Company mine on the east and the old ICO Mining Company site on the north. The site contains two seams of coal (Figure 4), which covers approximately 20 acres of the 40-acre site. The lower seam of coal is three feet in thickness and covers approximately 20 acres, and the upper seam is five feet thick and has an areal extent of about five acres. The overburden can be divided into two types; the unconsolidated material, consisting of loess, glacial till, and oxidized shales, and the consolidated overburden, consisting of siltstones and shales. The shales contain high concentrations of pyrite and thus produce an acid condition upon weathering. The crop edge boundaries of the two seams are shown by dashed lines in Figure 5, which also illustrates the mining plan and the site topography.

276 The mining plan was designed to start at the lower end of the site and move diagonally across the site, getting deeper until all of the coal is obtained. The mine plan includes the segregation of acid materials from non-acid materials so that during mining the acid materials can be buried beneath the oxidized materials. Figure 6 illustrates the actual pits mined and the various stock piles, and the location of the sediment pond. The sediment pond drains into South Coal Creek. Figure 7 is an aerial photo of the mine showing the features described in the previous figure. The lower seam is being actively mined and the black shales stand out clearly.

276 The reclamation plan includes the final placement of the land surface. In this case the final plan of the surface will be a series of benched terraces as shown in Figure 8. There are three terraces, each 120 feet wide, and one terrace 240 feet wide separated by 10 foot risers. The terraces will be drained

by subsurface tiles. The cross section of the terraces, Figure 9, illustrates the final location of the acid shale and the oxidized material. Non-acid materials are to be placed on top of the acid shale.

276 Ground water elevations in the area were very high prior to mining and it is hoped that the ground water surface will return to its original level so the acid shale materials will remain beneath the saturated zone and thus not produce an acid ground water condition. Bore holes placed in the back-filled material required three months before water could be measured in them. Research will continue in this area to discover how quickly the saturated zone fills up and to determine the quality of the water. Figure 10 is an oblique aerial view showing the present status of the terrace construction.

#### 276 The Mining Method

276 The mining method is a modified haul-back system, which is generally used by scrapers or front end loaders and trucks. Our mining method includes scrapers. The overburden is composed of loess, glacial till, and acid shales. The scrapers mix the loess and glacial till, transport them to the other side of the pit and deposit them on top of the acid shales, which have been replaced after removing the coal. Ripping of shales is not new to the mining industry. We have observed it in West Virginia and Pennsylvania,

277 [See Illustration in Original]

278 [See Illustration in Original]

279 [See Illustration in Original] but it has not been used in Iowa prior to our mine operation. We feel that the favorable economics of ripping overburden make it possible for use by other miners in the state. Once shale and siltstones have been ripped, scrapers (in our case a 14-yard and an 18-yard General Motors Terex scrapers) are used to transport the shale as well as the unconsolidated material. The coal surface is then cleaned off, drilled, and charges set. Once blasted, the coal is then picked up by front end loaders, loaded into a pit truck and transported across the mine site to the adjacent mine. There it is unloaded into a grizzly and crushed. The grizzly feeds the crusher which stores it in a tiple. There the coal is loaded into trucks to be carried to the customer.

#### 280 Agricultural Studies

280 We have conducted agricultural studies in a limited manner based on one growing season. The test plot has five feet of non-toxic overburden on top of acid spoils placed in a region which has not been previously mined, but is adjacent to our site and is an integral part of the terrace system being

constructed on the site. The first results of our agricultural studies show that soybean yields approach 17 bushels per acre, which are far below the 22 to 23 bushels per acre for this region. The corn yields were much better with 84 bushels per acre which is comparable to the yields in non-mined areas of the region. We anticipate that as we continue to grow crops on these sites the yields will increase. We have improved the site by returning the land to a very flat surface and thus expect the crop yields to improve with time as the soils begin to develop. In our next year we will have a much larger area planted in crops. Therefore, during the next five to ten years we will continue to obtain agricultural data on these plots.

#### 280 Environmental Studies

280 A very unique environmental team has been organized to investigate surface water, ground water, social, economic, political, ecological, archaeological, and historical aspects of strip mining in Iowa. The final report will include an environmental impact statement of Iowa Coal Project Demonstration Mine #1 with data to show the effect of this mine on the surrounding environment. At the present time we feel that we have not contributed significantly to the pollution of the receiving stream. We have not contributed any sediment and have only slightly increased the dissolved solid load of the stream. We are presently researching ways in which we can control the runoff from the sediment pond so that we do not have any effect on the receiving stream.

#### 280 Reclamation Economics

280 Economics play an important role in the mode of restoration selected. The major expense is involved in the earth-moving part of the operation. Figure 6 illustrates the various pits that were mined and how the stock piled material will be put back into the final cut, which will be at the north end of the site. The pits were excavated one at a time and the acid shales from the adjacent pit were placed in the first pit. The non-acid overburden from the third pit was transported to the first pit. The shales from the third pit were placed into the second pit. The consolidated and nonacid material from the fourth pit was then transferred to the second pit, and so on. This kind of operation requires close scheduling of the equipment so that it is a continuous operation.

281	Costs to date are broken down in Table 1. *2*TABLE 1 \$/ton	\$/mm BTU
10.54		.51 Overburden removal .20 Blasting, removal, crushing,

4.10	loading coal
0.50	.02 Royalty

281 The \$1 0.54/ton overburden costs represent a 61~/cubic yard average cost for both unconsolidated and consolidated overburden. The fragmentation and removal of the coal is contracted for \$4 .10/ton. We have been able to market the coal for approximately 78~ per million BTU or \$1 6.14/ton f.o.b. mine and thus far it has been a paying operation.

281 Mining and reclamation must be considered as one operation in order to make the economics favorable. In our mine the major "reclamation" cost is the filling of the final hole with the material stock piled from previous cuts. The cost to return this material to the final cut and construct the terraces is estimated to be \$2 20,000. With this considered to be a fixed cost for reclamation one can compare the cost to land area or tons of coal mined. If we distribute it over the 20 acres of coal mined, the cost would be \$1 1,000/acre. If we distribute it over the 40 acres of land disturbed, the cost would be \$5 ,500/acre. If we distribute it over the amount of coal produced from the site, the cost would be \$1.77/ton.

#### 281 Summary

281 Our purpose was to investigate the economics and environmental impact of strip mining in Iowa. We have partial answers now but have installed the necessary instruments to monitor environmental parameters and will continue to carry out agricultural studies for the next 8 years so our knowledge will accumulate with time.

281 We have developed our mining approach based on Federal strip mine legislation that was proposed in 1974 and, in fact, Iowa adopted a new strip mine bill in 1976 which is very similar to the Federal Bill that was vetoed. We feel that regulations are required and that a federal bill is needed to require all states to practice the most environmentally sound mining methods available.

281 The preliminary cost figures we have developed so far seem to fall close to the numbers reported in IC 8695 of the U.S. Bureau of Mines (1975). For area mining methods the per ton costs ranged from \$1.02 to \$2.34 and the \$1 .77 figure we will have is well within the range. We believe if we were doing a full scale mining operation the costs would have been spread over more tons and thus be considerably lower.

282 Mr. SEIBERLING. The next witness will be Mr. Dennis Darcey of the Center for Science in the Public Interest.

282 But, Mr. Perkins, do you wish to wait until this witness is through?

282 Mr. PERKINS. Yes, I will wait.

282 Mr. SEIBERLING. Mr. Darcey, are you here?

A PANEL CONSISTING OF ALBERT FRITSCH, CODIRECTOR OF THE CENTER FOR SCIENCE IN THE PUBLIC INTEREST; DENNIS DARCEY; GERARD McMAHON; AND ELAINE BURNS,  
CSPIAPPALACHIA

282 Mr. FRITSCH. I am Albert Fritsch, codirector of the Center for Science in the Public Interest. With me are Dennis Darcey, Gerard McMahon, and Elaine Burns, working at CSPI-Appalachia in Jenkins, Ky. I am also from Congressman Perkins' district. I was born in Maysville, Ky.

282 Mr. SEIBERLING. Thank you, go ahead. You have a prepared statement, I see.

282 Would you like to summarize it for us?

282 Mr. FRITSCH. Mr. Chairman, we feel that no one else will speak for the thousands of victims who are the blasting victims of Appalachia and other parts of the country and we feel it is a very short and compact statement and we must keep it in the form in which it is written if possible.

282 Mr. SEIBERLING. Well, proceed.

282 Mr. FRITSCH. Thank you for inviting us to come before this committee and to plead for the victims of blasting damage resulting from strip mine operations. The seriousness of this problem came home to me in Muhlenberg County, Ky., in the spring of 1971 when our Appalachian research team met a woman who had seen two of her homes destroyed by vibrations resulting from strip mine blasting and her life's savings used up. She was reduced from a homeowner to a pauper without compensation.

282 After the release of our report, "Enforcement of Strip Mining Laws in Kentucky, West Virginia and Pennsylvania" in November 1975, two citizen groups solicited us to take up the blasting damage problem. We have worked on this for 9 months with a small grant and will narrate to you some of the results of that study.

282 [Simultaneous slide presentation.]

282 Mr. DARCEY. Because the cancer of strip mining is rapidly spreading throughout the United States, CSPI is conducting field investigations in the Appalachian States of Alabama, Tennessee, Virginia, and West Virginia, and in the Midwestern States of Indiana and Illinois.

282 When we began these investigations we thought that there were only a few isolated clusters of people being affected by strip mine blasting. As a map of Jefferson County, Ala. indicates, we soon discovered that large numbers of people live in close proximity to active strip mine operations. In this particular county, many thousands of people live within a few miles of existing or potential strip mines.

282 CSPI has discovered damage to homes, water wells, and utilities both adjacent to and as far away as 2 1/2 miles from active strip mines.

283 Our preliminary estimates for the Appalachian region alone reveal that strip mine blasting caused over \$2 00 million worth of damage in 1975 to nearly 10,000 people residing in the coalfields. Approximately 75,000 people in that same region have suffered \$1 .5 billion worth of damages between 1965 and 1975. Now we think that damages greatly exceed these figures.

283 The process by which coal is surface mined requires a great deal of blasting. The use of explosives is necessary to fracture the soil and rock strata which lay over the coal seam. Normally this is done by drilling holes into the overburden immediately behind the face of the highwall; these holes are then filled with explosives, primarily ammonium nitrate and fuel oil. Sections of overburden are then progressively shaved from the top of the coal - like slices of a cake. The environmental consequences of this technique will persist for thousands of years.

283 Here you see the face of a reclaimed mine in southwestern Virginia.

283 In contour mining explosives are sometimes used to throw overburden off the bench and down the slope. This saves time and the cost of removal by expensive equipment but it also requires a greater quantity of explosives.

283 The extent of blasting is comparable in terms of tonnage to the amount of explosives used in the Vietnam war. During that war, the Department of Defense delivered an average of 30 tons of explosives per square mile in Vietnam; from 1965 to 1975 strip mine operators detonated 35 tons of explosives per square mile in Appalachian coalfields. Given this massive use of explosives, it is not surprising that residents near strip mine sites have sustained major damage to their homes.

283 In Norton, Va., for instance, we talked with the residents of more than 20 homes that suffered structural damage from blasts originating at a nearby strip mine site. At times, the operation came within 30 feet of residences. Rocks thrown from the site crashed through the roofs of at least seven homes in the 11th and 13th Street areas of Norton.

283 Miraculously, no one has been injured by this fly-debris; although on one occasion children were forced to take shelter underneath a parked coal truck. Dust generated by heavy equipment, drilling, and blasting operations on this site has caused at least 18 residents in the area immediately surrounding the site to contract a mild form of pneumoconiosis, a debilitating lung disease. The Center for Disease Control is sending a mobile unit to investigate this site. This airborne debris creates 3 p.m. sunsets for the 11th Street residents.

283 In the Morris and Warrior areas of Alabama, 12 miles north of Birmingham, over 35 individuals are suing for damages caused by strip mine blasting. The settlements sought range from \$20,000 to \$2 million. A service station on Main Street in Warrior had four windows blown out early last spring by a blast which occurred over 2 1/2 miles away.

283 In the Cherokee Estates development in Warrior prospective homeowners have been denied Veterans' Administration and FHA loans because of the adverse impacts of blasting from a nearby mine. This subdivision land sits vacant because no housing loans are now available.

284 Area strip mining in the Midwest is notable not only for the amount of coal that is extracted, but for the extent to which it disrupts the environment. These disruptions are not always confined to the immediate vicinity of the mine. A study by a geology professor at the Indiana State University-Evansville suggests that vibrations from AMAX's Ayrshire mine have caused damage to homes as far as 2 miles from the site of mining activity. With humor in the face of adversity many residents of this area conscientiously date the progress of cracks across their walls. The progress is suggestive of cumulative or fatigue damage.

284 The use of explosives in the mining of surface coal can cause damage by thrown or dislodged rocks, by ground vibrations or airblast, or by a combination of all these types of pollution. Those who have been aroused by midnight blasts

can affirm that problems with airblast are not all visible. Specific examples of this damage include: electrical blackouts from destroyed transformers and downed lines, the obstruction of streambeds, damage to structural foundation, damage to sidewalks, cracking or separation of masonry, doors thrown out of plumb, windows cracked by excessive air pressure or concussion, damage to walls and paneling, and loosening of cabinet fixtures.

284 Ms. BURNS. We feel that paragraph 15, section 515 of H.R. 2 should be developed considerably if this bill is to adequately respond to the needs of private citizens.

284 State blasting regulations have been based on guidelines proposed by the U.S. Bureau of Mines in bulletin 656, entitled "Blasting Vibrations and Their Effects on Structures." And we will submit that for the record with your permission.

284 [Document entitled, "Ground Vibrations and Their Damaging Effects on Structures," an abstract, may be found at the conclusion of the panel's testimony.]

284 Ms. BURNS. In this bulletin the Bureau advises that the peak particle velocity at the structure nearest the site of the blasting activity should not exceed 2 inches per second. Selected research efforts used to support this figure suggest that if it is observed there will be a 95-percent certainty that there will be no major structural damage.

284 After interviewing over 100 citizens whose lives have been adversely affected by blasting activity regulated by this standard, we have reached the conclusion that a general standard of 2 IPS peak particle velocity is not adequate to protect the environment of citizens. A number of geologists, engineers, hydrologists, State blasting inspectors and Bureau of Mines researchers have admitted that vibrations from blasting activity that fall below the supposedly safe 2 IPS standard could well be cracking structural foundations, walls and waterwells.

284 The literature review upon which the 2 IPS standard is based also failed to account for the problems of "fatigue damage"; that is, damage arising from the cumulative effect of incessant blasting. Prof. Eugene Carden of the University of Alabama has noted that while only a small percentage of homes experiencing a vibrational shock of 2 IPS or less will sustain major structural damage, this safety factor is based on the assumption that only one blast takes place. No one knows the extent to which houses are affected by repeated blasts, yet Professor Carden as well as other experts advise that structural damage from repeated blasts could occur at vibration levels much lower than 2 IPS.

285 Bulletin 656 also fails to recognize the wide range of structures which may be subjected to blasting vibrations. The dynamic response of homes to ground vibrations varies according to the elasticity of the structure. The homes of most citizens are not as well constructed as the buildings on which the Bureau's recommendations are based.

285 Finally, bulletin 656 does not comprehensively account for a wide variety of geological and hydrological conditions. It is entirely likely that the local geological and hydrological characteristics found at any strip mine site will differ from those on which the Bureau's research is based. The adoption of a general 2 IPS standard assumes a surface geology that is both homogeneous and invariant with those geological characteristics encountered by the researchers on whose research the 2 IPS standard is based. Should this assumption fail to hold, citizens residing near the strip mine become vulnerable to the threat of extensive damage - both to their persons and their property.

285 In addition to presenting the following recommendation for H.R. 2, we strongly urge this committee to call upon the Bureau of Mines to expedite research activity that will enable the State and Federal authorities to effectively guard the constitutional rights of private citizens.

285 Mr. McMAHON. We suggest that the following provisions be considered for addition to paragraph 15 of section 515:

285 (1) That operators must notify, through the mail, the residents living within 2 miles of the proposed mining area of all blasting activity, including the time and location at which blasts are to occur;

285 (2) That the operator maintain a log detailing the location of blasts, depth of drill holes, amount of explosive used per hole and pattern and time length of the delay mechanisms, and that these records be available for public inspection.

285 These two provisions would assist the involvement of citizens in the enforcement of strip mine regulations by facilitating: First, the monitoring of blasts with seismographic equipment; and second, direct inspection of logs for evidence of irresponsible operation of the mine. Even assuming the existence of adequate laws, the rights of all interested parties can only be protected if the letter and the spirit of the law is vigorously and conscientiously enforced.

285 The energies of all interested citizens should be enlisted in the efforts to monitor the compliance with existing laws. Their effort would augment the enforcement by State and Federal mining inspectors who have

evidently discovered in the past that the enforcement of strip mine regulations is a difficult task. We feel that citizen involvement in this process is vital to the successful implementation of any strip mine regulations.

285 (3) That the use of explosives be restricted to fracturing the rock strata overlying the coal seam;

285 Blasting should not be employed in place of drag lines or other equipment in the removal of overburden. The use of techniques such as hydrofracture for fracturing the overburden should be encouraged as both an economical and safe alternative to conventional blasting practices.

286 (4) That the permitting process shall require the filing of a comprehensive blasting impact statement which graphically details the geological strata within a 4-mile boundary of the mining activity and which examines all the potential human and environmental impacts of blasting with specific reference to noise and vibration pollution;

286 According to the director of one of the most prestigious geophysical observatories in the country as well as several officials of Peabody Coal Co., such a study can be accomplished at a reasonable expense, and generates a substantial amount of information which can aid in the protection of the interests of everyone concerned with blasting.

286 (5) That inspections of dwellings within the area that the blasting impact study suggests will be affected by blasting activity be conducted at the request of a concerned homeowner and at the expense of the operator;

286 A provision similar to this is contained in a special use permit that the city of Sparta, Ill. is currently negotiating with Peabody Coal Co.

286 (6) That the mine operator be liable for damages shown to be caused by blasting vibration during the time of active operation. It shall be the responsibility of the mine operator to establish that any alleged damage is not related to the blasting activity;

286 Again, the Peabody Coal Co. has agreed to a similar clause in their special use variance of the Sparta zoning laws.

286 (7) The Federal Government set up a mechanism for compensating all past strip mine blasting victims requiring remuneration from the responsible mining companies.

286 (8) That all strip mine operators be required to obtain insurance policies that are adequate to provide recompense for damages linked to blasting practices;

286 (9) That no strip mine blasting be permitted within 1,000 feet of any occupied dwelling, public building, school, church, community center, public park, or cemetery;

286 (10) That any activities associated with blasting may only be conducted by a licensed blaster who meets the requirements to be promulgated by the appropriate State or Federal regulatory authority;

286 (11) That blasting be forbidden in the event of a temperature inversion or other climatic condition which could amplify the blasting air concussion. Such a condition is to be determined in conjunction with the U.S. Weather Bureau, and finally,

286 (12) That air blast standards be set at a limit of 95 decibels.

286 Although this is the recommended "safe" level, the technical progress report No. 78, underlying this value of 120 decibels states that blasting is done infrequently. Should this not be the case the report suggests that downward adjustment of the standard be made.

286 We urge the committee to consider the adoption of these provisions. Unless these or similar provisions are enacted into law, the externalities associated with strip mine blasting will continue to plague those residing near the mining operations.

286 Virginia's Bureau of Mines and Minerals has just adopted blasting regulations which allow a reduction of the peak particle velocity standard from 2.0 IPS to 0.5 IPS. While we applaud their recognition of the fact that the 2 IPS standard can be too high given the diverse geological conditions which might be encountered in southwestern Virginia, the Bureau of Mines and Minerals has failed to devise a consistent mechanism for determining how a proper standard is to be formulated.

287 And we would like to submit information for the record on that point if we may.

287 [The document referred to, when received, will be placed in the committee files.]

287 Mr. McMAHON. Federal legislation would have the advantage of being not only comprehensive but consistent across State boundaries. Thus, we again stress the need to adopt blasting provisions similar to those listed above.

287 These provisions will help insure that the rights and welfare of private citizens will not be sacrificed either on account of ignorance or greed.

287 Thank you, Mr. Chairman.

287 Mr. SEIBERLING. Thank you. You have obviously collected a great deal of information, done a lot of research and a lot of thinking on this problem which is a very serious one.

287 I would like to ask you a few questions, if I may. First of all, the section which you referred to, section A 515(b) (15), on page 92 of the bill, does require that regulations provide that they limit the type of explosives and detonating equipment to size, timing and frequency of blasts based upon the physical condition of the site, so as to prevent injury to persons, damage to public and private property outside the permit area, adverse impacts on any underground mine, and change in the course, channel, or availability of ground or surface water outside the permit area.

287 Don't you think that that is broad enough to cover all of the problems that you covered in your testimony?

287 Mr. McMAHON. Mr. Chairman, those of us at this table are in full agreement with the intents of that particular section, paragraph 15. It is just that we did not feel that the rights of the citizens of Appalachia, the midwest and western coal fields would be adequately protected by this particular paragraph. In other words, it does not call, does not detail as to whether or not a specific study should be made in each particular area where strip mining takes place.

287 In our travels and talking with both geologists and people that have been victims and other guys at strip mine sites throughout Appalachia, we have found the conditions at each site vary enough that it should be mandatory that a comprehensive study be done at each site detailing the relevant geologic and hydrologic conditions.

287 Mr. SEIBERLING. I think that makes sense but isn't that the normal thing done by regulation? Most of your points would be more appropriately handled in the regulations to be issued by the regulatory authority rather than try to write it into the bill. We are already being criticized because this bill is too detailed, some people think.

287 This would make it even more detailed.

287 Mr. McMAHON. Well, there is a problem with lack of detail in the past. We feel that unless these provisions are specifically articulated in the bill, that it would be very possible for the regulatory authority to perhaps overlook

one or two of them which are very important to the people.

288 Mr. SEIBERLING. Let me give you a couple of examples, No. 2 of your proposals is that the operator maintain a log detailing location of blast, depth of drill holes, et cetera.

288 I can see why that makes sense where he is blasting within, say, 2 miles of any residences or other structures. But suppose it is a mine way out in the middle of nowhere in Wyoming or Montana? And there are no structures and no human activity within several miles.

288 What is the sense of maintaining a log under those circumstances?

288 Mr. McMAHON. I think probably the co-operators that are here today would agree with me in saying that these reports are more or less maintained by coal companies regardless of whether they are mining in populated or unpopulated areas. What we would like to see included in either the bill or the regulations drawn up by the regulatory authority is that individual citizens have a right to examine these records if they feel that their welfare has been harmed by blasting activity. That is probably the key point we want to make on that one section.

288 Mr. SEIBERLING. All right. Well, let me ask you a couple of specific questions about your specific suggestions.

288 Suggestion No. 1, could the notification be by sets of blast or blasting schedule or supplied in advance, say a month at a time instead of notifying everybody at the time they plan to blast?

288 Mr. DARCEY. Yes; I think that would be very realistic and possibly a more economical way of bringing this intent. We intend to bring this kind of a provision into the bill and I think - certainly a monthly plan would be very good. I don't know how many coal mine operators are aware on a month-by-month basis where and when and how they will be blasting.

288 I feel that - my feel from our travels in Appalachia coal fields is that you could probably do this on a week-by-week basis. I don't think a month-by-month basis would be practical because I don't think coal operators plan their blasting that far in advance.

288 You have also the problem of wind and weather conditions on any given day.

288 Mr. SEIBERLING. Yes.

288 How about your suggestion six regarding the mine operators being liable for damages, if you say Peabody Coal Co. has agreed to their special use variance as part of the zoning law.

288 Does your proposal conform to what Peabody has agreed to or does it differ in any respect?

288 Mr. McMAHON. I would say the content is extremely similar to the special use permit that the city attorney of Sparta is currently negotiating with Peabody Coal Co. I could get a copy of the special use permit and submit it for the record if the committee would like.

288 Mr. SEIBERLING. In item nine, you propose that there be no strip mine blasting within 1,000 feet of any occupied dwelling, et cetera. Yet, there are plenty of areas in this country such as the District of Columbia, for example, where there is blasting for Metro every day within a few feet of buildings occupied by thousands of people.

289 How do we - how is that done and still not created hazards?

289 Mr. DARCEY. We are basing these recommendations on our extensive travels throughout the coal fields and we found in many communities in Kentucky, Tennessee, Alabama, Virginia, that people would be having flying rock problems, from blow outs on the sides of highwall, it would throw flyrock out on a neighboring community as they blast. We found this flyrock problem extending to about 1,000 feet and that is kind of our justification of 1,000 feet.

289 Mr. SEIBERLING. Would it be better there should be none closer than 1,000 feet until steps are taken so as to prevent any rock flying?

289 Mr. DARCEY. Again, the intent is to insure the integrity of the homeowner; it is not to allow the coal company to come up on someone's backyard like we saw in the slide show.

289 I think that the 1,000 feet limit would certainly provide some assurances for the homeowner that he would not at least have a 200-pound boulder running through his house.

289 There has been an instance in Kentucky, and we can submit for the record, it is now under litigation but a couple was killed one evening when a 75-ton boulder came tumbling down on their house in the Martin County area of Kentucky near Inez. There is a possibility that that might be linked to the blasting itself.

289 Mr. McMAHON. If I might, Mr. Chairman, two more points.

289 Mr. SEIBERLING. Yes.

289 Mr. McMAHON. With respect to the 1,000-foot standard, we have discovered and not too much knowledge has been generated with respect to this, but a great many people living near strip mines have been having problems with this industry which we alluded to in the slide presentation. We feel that it might be worthwhile from a certain health standpoint to restrict strip mining operations from a certain distance of occupied buildings. It is very difficult to control the winds, it is out of the control and if strip mine operations are

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289 Mr. SEIBERLING. There are other ways of keeping down dust - like sprinkling and that sort of thing.

289 M.r McMAHON. Right. Perhaps a provision should be in for constant use of monitoring and water truck use.

289 Mr. SEIBERLING. Just as there are ways of controlling the throwing of rocks outside of the actual pit, it seems to me that 1,000 feet might not be enough under certain types of terrain where you have blasting at the top of a mountain and it is rather high above inhabited areas. On the other hand, if it is done in a hollow, it might mean far more than is necessary. Again I have the feeling that these are all very good but that perhaps most of them are such that they ought to be handled by regulations except things like bond and insurance policies. There perhaps we ought to consider doing something about that in the bill and, of course, compensation for past blasting victims is a question which we have not addressed in this bill but perhaps we better take a look at that, too.

289 I don't know that we have any testimony other than yours on that subject though and we might have to have it subject to separate legislation. Perhaps Mr. Perkins' committee instead of this one.

289 I have no further questions.

289 Mr. Ruppe, do you have any questions?

290 Mr. RUPPE. No. I certainly want to say, though, that you have prepared a very well thought-out statement that is obviously based on a lot of informed and very hard work. I think your ideas concerning the maintenance of a log are excellent, which I hope we incorporate in our own legislation. Obviously I think it's quite true that the individual resident or homeowner can

be affected very adversely by blasting, and maintenance of records would give the plaintiff an opportunity to make his case in court, that being an opportunity he wouldn't have had otherwise.

290 I think in your reference to making someone liable for damages I would guess that they would be liable today for any damages incurred or liable for damages that have occurred in the not too distant past. The question always gets down to a burden of proof, though, doesn't it? My guess would be that if the records are not there today, granting the right to sue doesn't help the individual that much. They would have the right to sue now but they would not have any particularly better evidence to go on than would have been the case or would have been available to them precedent to the bill.

290 Mr. McMAHON. There is a great deal of difficulty with that 2-inches per second standard because that has come to be regarded as pretty much an absolute failsafe standard as far as damage occurring with respect to strip mine blasting vibrations.

290 Mr. RUPPE. You say 2 inches per second, is that to do with the size of the charge?

290 Mr. McMAHON. It's 2-inches-per-second peak particle velocity. I think one of these folks can explain it better.

290 Ms. BURNS. It's a maximum velocity of the particle generated at 100 feet from the site as measured by a seismograph in the greatest of three mutually perpendicular directions.

290 Mr. McMAHON. So it's an individual particle in the soil.

290 Mr. RUPPE. The last question I really have is what you refer to in item 4, the permitting process to require certain things that I would think are otherwise provided for in permit procedures now. I don't know what you really get into if you require a blasting impact statement and get into potential and human environmental impacts. Isn't that somewhat difficult to project?

290 Mr. McMAHON. Both coal operators, in other words, Peabody Coal, I spoke with several of their executives 2 weeks ago in St. Louis; as well as the director of St. Louis University seismological station, said that it would be no problem as far as from an economic standpoint, for a coal operator to generate such a study and that it would be advantageous for them because they could thereby head off potential damage suits.

290 Mr. RUPPE. Have you anything in print on that from them?

290 Mr. McMAHON. Peabody Coal, they do a study such as this and they consequently have had very little problems with damage suits.

290 Mr. SEIBERLING. If the gentleman would yield, I think the idea of blasting impact statement is an excellent one. For example, if the mine is way out nowhere, the blasting impact statement would be very simple. No impact for all practical purposes.

290 On the other had, if there are houses nearby obviously it is a very different story.

291 Mr. McMAHON. With respect to a mining suit out in the middle of nowhere, we did stress the potential for human and environmental damage both. I think mining blasts out in the middle of nowhere which seriously damage the water table could be a critical factor to consider, particularly out in the West.

291 Mr. SEIBERLING. It depends on where "nowhere" is.

291 Mr. RUPPE. I assume that is west of Ohio, am I correct? [Laughter.]

291 Mr. SEIBERLING. Definitely. Any further questions?

291 Mr. RUPPE. No, thank you, Mr. Chairman.

291 Mr. DARCEY. Mr. Chairman, one second; we have a consulting firm out in Colorado that may possibly send us a detailed cost analysis of this blasting impact statement kind of procedure. When and if we receive that, we will submit it.

291 Mr. SEIBERLING. Well, thank you. That would be very helpful and I would like to ask the staff to be sure that we have some way of keeping in touch with you, because I think we would like to test out any new ideas that we may get as a result of this testimony and get your reactions to it.

291 Mr. Rahall?

291 Mr. RAHALL. Yes; I would also like to commend you for putting together an excellent report and for the hard work that I know went into this and the attention to detail.

291 I have a few questions.

291 The estimates that you present concerning blasting damages on the first page, have those been broken down according to State, the estimate of damage?

291 Mr. MCMAHON. No; they have not. We did it for the central Appalachia area.

291 Mr. RAHALL. You accumulated the data, is that it?

291 Mr. MCMAHON. Right, CPSI did a preliminary investigation this past summer, set up a very simple statistical model and generated these figures on the basis of assuming five residences per strip mine in central Appalachia damaged by a strip mine blast. So the extent to which this figure holds, obviously depends on whether or not five homes per strip mine site in Appalachia are damaged by blasting. As far as we have been able to see, it's - the figure has gone up to 30 and 40 for some strip mines.

291 Mr. FRITSCH. The Bureau of Mines believes these figures to be a little too high. But many citizen groups think they are too low; we don't know what it is.

291 Mr. MCMAHON. In talking with citizen groups in Appalachia they think this figure is too low.

291 Mr. RAHALL. How did you arrive at that 5 figure?

291 Mr. MCMAHON. That was just an assumption that went into the mine.

291 Mr. DARCEY. That was based on observed data in and around sites in five different States. In other words, these statistics are not the best statistics, but they are the only statistics; and to this point we have not had them refuted by anyone. They have not appeared in the press.

292 Mr. FRITSCH. We have submitted this to the head of the Bureau of Mines, and we can submit this correspondence that we had with them and his reply to us for the record if you care to.

292 Mr. RAHALL. If I might, Mr. Chairman, I would like to ask that that be submitted to be a part of the record.

292 Mr. SEIBERLING. Without objection it will be.

292 [The document referred to may be found at the conclusion of the panel's oral testimony.]

292 Mr. RAHALL. Also, I have a question on your suggestion for amending section 515, that operators notify through the mail residents living within 2 miles of proposed blasting areas of all blasting activity. I would like to draw your attention to page 80:

292 Any person with a valid legal interest or the officer or head of any Federal State, or local governmental agency or authority shall have the right to file written objections to the proposed initial or revised application for a permit for surface coal mining and reclamation operation with the regulatory authority within thirty days after the last publication of the above notice. If written objections are filed and a hearing requested, the regulatory authority shall then hold a public hearing in the locality of the proposed mining within a reasonable time of the receipt of such objections.

292 It would seem to me that this would open up the process to the public, to citizen input, and would take care of your No. 1 recommendation to section 515.

292 Mr. MCMAHON. It is not always the case that both citizens have access to a daily newspaper or perhaps even weekly newspaper to become notified of the intentions of some of the strip mining areas or even more than that, their intentions of when they are going to blast. So we were thinking that one way to alert the citizens, alternative to the newspaper, would be either on radio, which we did not suggest here, or direct mailings to homeowners within a certain distance from the mine.

292 It is imperative, the psychological stress on those people from the blasting is devastating. They need to know and they have a right to know when blasts are going to occur.

292 Mr. RAHALL. You are saying that ample notification is not given to them by any other means?

292 Mr. MCMAHON. We feel that radio or direct correspondence is the only way. In certain areas of the country people do just not have access to newspapers that readily.

292 Mr. RAHALL. Word spreads mighty quickly around Appalachia.  
[Laughter.]

292 I agree with the point made by Mr. Ruppe as far as your No. 7 recommendation. I think the present court proceedings are available to those injured by irresponsible blasting operations and I don't feel that any other mechanisms can provide for the submission of any more valid evidence that could be used.

292 The recommendations that you have made would seem to me that they could be made a part of the hearing record for submission to the Secretary of the

Interior when he issues his regulations and I would like to see that be done.

292 Thank you, Mr. Chairman.

292 Mr. SEIBERLING. Well, I just would like to say that after going through them again and listening to your testimony, it seems to me that while most of them could be handled by regulations, that wouldn't be true or requiring insurance, and as to making the mine operator liable, I don't know whether we could do that by Federal law. Basically, that is a State law.

293 But we might figure out some requirement for posting bond or that sort of thing.

293 However, in looking again at the rest of your recommendations it seems to me that Nos. 1 through 5 and No. 8 ought appropriately be considered for inclusion in the bill, and No. 7 is something that I think is really outside the scope of this legislation; and Nos. 9 through 12 I would think would be more appropriately dealt with by means of regulations.

293 I mention this because if you haven't any further comments on my offhand reaction, why, I would like to have them. If you don't have them now, you can write us later and we would like to have them.

293 Does anyone else have any comments or questions?

293 Mr. Perkins?

293 Mr. PERKINS. No, thank you.

293 Mr. SEIBERLING. Thank you very much, we appreciate your testimony.

293 [Additional material submitted by the preceding panel follows.]

294  
Center for Science in the Public Interest  
1757 S Street, N.W. Washington, D.C. 20009 (202) 332-4250  
25 February 1977  
Mr. Sta Scovill  
Legal Council  
House Committee On Interior and Insular Affairs  
Dear Mr. Scovill,

294 Enclosed are the majority of supporting materials for our testimony before the House Subcommittee on Energy and the Environment. Several additional documents, including a cost study of blasting impact statements and a draft copy of the Special Use Permit that Peabody Coal Co. is negotiating with the city of Sparta, Illinois, are being sent to us and we will forward copies of this material to you upon receipt.

294 We would like the Committee on Interior and Insular Affairs to consider the recommendations expressed in the above mentioned testimony as measures which are of utmost importance for the protection of those living as far as two and one half miles from active strip mine sites.

294 Another provision that we wish to include among our recommendations is a requirement that state and/or federal mining inspectors be licensed blasters. We are convinced that thorough knowledge of blasting techniques is necessary for mining inspectors to adequately monitor all the operations taking place at the mining site. The mining inspector often stands as the only safeguard between the welfare of citizens and the irresponsible operation of strip mines due to ignorance or greed.

294 Please do not hesitate to contact us in the event that questions arise. We would be happy to review these materials with committee members or their staff.

294 Sincerely,

294 Gerard McMahon

294 Dennis Darcey

294 Elaine Burns

295  
Center for Science in the Public Interest  
1757 S Street, N.W. Washington, D.C. 20009 (202) 332-4250  
March 14, 1977  
Mr. Donald Crane  
House Interior Committee  
1324 Longworth Building  
Washington DC 20510  
Dear Mr. Crane:

295 Enclosed are the majority of supporting materials for our testimony before the House Interior Committee, February 22. Particularly useful is the letter sent to us by a consulting firm in Colorado, Kenneth Medearis Associates. In it Mr. Medearis outlines the parameters to be included in a blasting impact statement and the probable costs to prepare such a study.

295 As we pointed out in our testimony (recommendation #4) an impact statement of this sort is essential in protecting the property and lives of people residing in the coalfields.

295 We sincerely hope that this information will be incorporated into the final text of the bill, H.R.2. If you have any questions regarding our

testimony or any of the documents contained in this packet please feel free to contact us at any time.

295 Sincerely,

295 Gerard McMahon

295 Dennis Darcey

296 House Interior and Insular Affairs Committee Subcommittee on Energy

296 February 22, 1977

296 Mr. Chairman,

296 I am Albert Fritsch, Co-director of the Center for Science in the Public Interest. With me are Dennis Darcey, Gerard McMahon and Elaine Burns who are working at CSPI-Appalachia in Jenkins, KY. Thank you for inviting us to come before this committee to plead for the victims of blasting damage resulting from strip mine operations. The seriousness of this problem came home to me in Muhlenberg County, Kentucky, in the spring of 1971 when our Appalachian research team met a woman who had seen two of her homes destroyed by vibrations resulting from strip mine blasting and her life's savings used up. She was reduced from a home owner to a pauper without compensation.

296 After the release of our report, "Enforcement of Strip Mining Laws in Kentucky, West Virginia and Pennsylvania," in November 1975, two citizen groups solicited us to take up the blasting damage problem. We have worked on this for 9 months with a small grant and will narrate to you some of the results of that study.

296 Because the cancer of strip mining is rapidly spreading throughout the United States CSPI is conducting field investigations in the Appalachian states of Alabama, Tennessee, Virginia and West Virginia, and in the Midwestern states of Indiana and Illinois.

296 When we began these investigations we thought that there were only a few isolated clusters of people being affected by strip mine blasting. As a map of Jefferson county, Alabama indicates, we soon discovered that large numbers of people live in close proximity to active strip mine operations. In this particular county many thousands of people live within a few miles of existing

or possible strip mines.

296 CSPI has discovered damage to homes, waterwells and utilities both adjacent to and as far away as two and a half miles from active strip mines.

296 Our preliminary estimates for the Appalachian region alone reveal that strip mine blasting caused over 200 million dollars worth of damage in 1975 to nearly 10,000 private citizens residing in the coalfields. Approximately 75,000 people in that same region have suffered 1.5 billion dollars worth of damages between 1965 and 1975. Now we think that damages may greatly exceed these figures.

296 The process by which coal is surface mined requires a great deal of blasting. The use of explosives is necessary to fracture the soil and rock strata which lay over the coal seam. Normally this is done by drilling holes into the overburden immediately behind the face of the highwall; these holes are filled with explosives, primarily ammonium nitrate and fuel oil. Sections of overburden are then progressively shaved from the top of the coal - like slices of a cake. The environmental consequences of this technique will persist for thousands of years.

296 In contour mining explosives are sometimes used to throw overburden off the bench and down the slope. This saves time and the cost of removal by expensive equipment, but it also requires a greater quantity of explosives.

297 The extent of blasting is comparable in terms of tonnage to the amount of explosives used in the Vietnam war. During that war the Department of Defense delivered an average of 30 tons of explosives per square mile in Vietnam; from 1965 to 1975 strip mine operators detonated 35 tons of explosives per square mile in Appalachian coal fields. Given this massive use of explosives it is not surprising that residents near strip mine sites have sustained major damage to their homes.

297 In Norton, Virginia for instance, we talked with the residents of more than 20 homes that suffered structural damage from blasts originating at a nearby strip mine site. At times this operation came within 30 feet of residences. Rocks thrown from the site crashed through the roofs of at least seven homes in the 11th and 13th street areas of Norton. Miraculously, no one has been injured by this fly-debris; although on one occasion children were forced to take shelter underneath a parked coal truck. Dust generated by heavy equipment, drilling and blasting operations on this site has caused at least 18 residents in the area immediately surrounding the site to contract a mild form of pneumoconiosis, a debilitating lung disease. The Center for Disease Control

is sending a mobile unit to investigate this site. This airborne debris creates  
3:00 p.m. sunsets for the 11th Street residents.

297 In the Morris and Warrior areas of Alabama, 12 miles north of Birmingham, over 35 individuals are suing for damages caused by strip mine blasting. The settlements sought range from 20 thousand to two million doollars. A service station on Main St. in Warrior had four windows blown out early last spring by a blast which occurred over two and one half miles away.

297 In the Cherokee Estates Development in Warrior prospective home owners have been denied Veteran's Administration and FHA loans because of the adverse impacts of blasting from a nearby mine. This subdivision land sits vacant because no housing loans are now available. The Beltona mine is situated one half mile from the last backyard in the Cherokee Estates. Residents living in this area of north Jefferson County have been denied homeowners insurance because of the adverse effects of blasting in the area.

297 Area strip mining in the Midwest is notable not only for the amount of coal that is extracted, but for the extent to which it disrupts the environment. These disruptions are not always confined to the immediate vicinity of the mine. A study by a geology professor at the Indiana State University-Evansville suggests that vibrations from AMAX's Ayrshire mine have caused damage to homes as far as two miles from the site of mining activity. With humour in the face of adversity, many residents of this area conscientiously date the progress of cracks across their walls. This progress is suggestive of cumulative or "fatigue" damage.

297 The use of explosives in the mining of surface coal can cause damage by thrown or dislodged rocks, by ground vibrations or air blast or by a combination of all these types of pollution. Those who have been aroused by midnight blasts can affirm that problems with air blast are not all visible. Specific examples of this damage include: electrical blackouts from destroyed transformers and downed lines, the obstruction of stream beds, damage to structural foundations, damage to sidewalks, cracking or separation of masonry, doors thrown out of plumb, windows cracked by excessive air pressure or concussion, damage to walls and panelling and loosening of cabinet fixtures.

298 We feel that paragraph 15, section 515 of HR 2 should be developed considerably if this bill is to adequately respond to the needs of private citizens.

298 State blasting regulations have been based on guidelines proposed by the United States Bureau of Mines in Bulletin 656, entitled "Blasting Vibrations and Their Effects on Structures". In this bulletin the Bureau advises that the peak particle velocity at the structure nearest the site of the blasting activity should not exceed two inches per second (2 i.p.s.). Selected research efforts used to support this figure suggest that if it is observed there will be a 95 percent certainty that there will be no major structural damage.

298 After interviewing over 100 citizens whose lives have been adversely affected by blasting activity regulated by this standard, we have reached the conclusion that a general standard of 2 i.p.s. peak particle velocity is not adequate to protect the environment of citizens. A number of geologists, engineers, hydrologists, state blasting inspectors and Bureau of Mines researchers have admitted that vibrations from blasting activity that fall below the supposedly safe 2 i.p.s. standard could well be cracking structural foundations, walls and water wells.

298 The literature review upon which the 2 i.p.s. standard is based also failed to account for the problems of "fatigue damage"; that is, damage arising from the cumulative effect of incessant blasting. Professor Eugene Carden of the University of Alabama has noted that while only a small percentage of homes experiencing a vibrational shock of 2 i.p.s. or less will sustain major structural damage this safety factor is based on the assumption that only one blast takes place. No one knows the extent to which houses are effected by repeated blasts, yet Professor Carden as well as other experts advise that structural damage from repeated blasts could occur at vibration levels much lower than 2 i.p.s.

298 Bulletin 656 also fails to recognize the wide range of structures which may be subjected to blasting vibrations. The dynamic response of homes to ground vibrations varies according to the elasticity of the structure. The homes of most citizens are not as well constructed as the structures on which the Bureau's recommendations are based.

298 Finally, Bulletin 656 does not comprehensively account for a wide variety of geological and hydrological conditions. It is entirely likely that the local geological and hydrological characteristics found at any stripmine site will differ from those on which the Bureau's research is based. The adoption of a general 2 i.p.s. standard assumes a surface geology that is both homogeneous and invariant with those geological i.p.s. standard is based. Should this assumption fail to hold, citizens resideing near the strip mine become vulnerable to the threat of extensive damage - both to their persons and their property.

298 In addition to presenting the following recommendations for H.R. 2, we strongly urge this committee to call upon the BOM to expedite research activity that will enable the state and federal authorities to effectively guard the constitutional rights of private citizens.

299 We suggest that the following provisions be considered for addition to paragraph 15 of section 515:

299 1) that operators must notify, through the mail, the residents living within two miles of the proposed mining area of all blasting activity, including the time and location at which blasts occur;

299 2) that the operator maintain a log detailing the location of blasts, depth of drill holes, amount of explosive used per hole and pattern and time length of the delay mechanisms, and that these records be available for public inspection;

299 These two provisions would assist the involvement of citizens in the enforcement of strip mine regulations by facilitating: 1) the monitoring of blasts with seismographic equipment; and, 2) direct inspection of blasting logs for evidence of irresponsible operation of the mine. Even assuming the existence of adequate laws, the rights of all interested parties can only be protected if the letter and the spirit of the law is vigorously and conscientiously enforced. The energies of all interested citizens should be enlisted in the efforts to monitor the compliance with existing laws. These efforts would augment the enforcement by state and federal mining inspectors who have evidently discovered in the past that the enforcement of strip mine regulations is a difficult task. We feel that citizen involvement in this process is vital to the successful implementation of any strip mine regulations.

299 3) that the use of explosives be restricted to fracturing the rock strata overlying the coal seam;

299 Blasting should not be employed in place of drag lines or other equipment in the removal of overburden. The use of techniques such as hydrofracture for fracturing the overburden should be encouraged as both an economical and safe alternative to conventional blasting practices.

299 4) that the permitting process shall require the filing of a comprehensive blasting impact statement which graphically details the geological strata within a four mile boundary of the mining activity and which examines all the potential human and environmental impacts of blasting with specific reference to noise and vibration pollution;

299 According to the director of one of the most prestigious geophysical observatories in the country as well as several officials of Peabody Coal Co.,

such a study can be accomplished at a reasonable expense, and generates a substantial amount of information which can aid in the protection of the interests of everyone concerned with blasting.

299 5) that inspections of dwellings within the area that the blasting impact study suggests will be affected by blasting activity be conducted at the request of a concerned homeowner and at the expense of the operator;

299 A provision similar to this is contained in a special use permit that the city of Sparta, Illinois is currently negotiating with Peabody Coal Co.

300 6) that the mine operator be liable for damages shown to be caused by blasting vibration during the time of active operation. It shall be the responsibility of the mine operator to establish that any alleged damage is not related to the blasting activity;

300 Again the Peabody Coal Co. has agreed to a similar clause in their special use variance of the Sparta zoning laws.

300 7) that the Federal government set up a mechanism for compensating all past strip mine blasting victims requiring remuneration from the responsible mining companies.

300 8) that all strip mine operators be required to obtain insurance policies that are adequate to provide recompense for damages linked to blasting practices;

300 9) that no strip mine blasting be permitted within 1,000 feet of any occupied dwelling, public building, school, church, community center, public park or cemetery;

300 10) that any activities associated with blasting may only be conducted by a licensed blaster who meets the requirements to be promulgated by the appropriate state or federal regulatory authority;

300 11) that blasting be forbidden in the event of a temperature inversion or other climatic condition which could amplify the blasting air concussion. Such a condition is to be determined in conjunction with the U.S. Weather Bureau

300 12) that air blast standards be set at a limit of 95 decibels.

300 We urge the committee to consider the adoption of these provisions. Unless these or similar provisions are enacted into law the externalities associated with strip mine blasting will continue to plague those residing near the mining operations. Virginia's Bureau of Mines and Minerals has just adopted blasting regulations which allow a reduction of the peak particle velocity standard from 2.0 to 0.5. While we applaud their given the diverse geological

conditions which might be encountered in southwestern VA, the Bureau of Mines and Minerals has failed to devise a consistent mechanism for determining how a proper standard is to be formulated which accounts for the peculiarities of each individual location. Federal legislation would have the advantage of being not only comprehensive but consistent across state boundaries. Thus, we again stress the need to adopt blasting provisions similar to those listed above. These provisions will help ensure that the rights and welfare of private citizens will not be sacrificed either on account of ignorance or greed.

301 GROUND VIBRATIONS AND THEIR DAMAGING EFFECTS ON STRUCTURES BY A. E. Carden, Professor of Mechanical Engineering The University of Alabama Box 2908, University, AL 35486 Article to be submitted for publication

#### 301 ABSTRACT

301 Bulletin 656 of the U.S. Bureau of Mines has been widely used to set "safe levels" of ground vibrations resulting from blasting. This paper is a critique of several deficiencies of that Bulletin. There are several apparent misunderstandings or misapplications of the recommended "safe level" of 2.0 in./sec particle velocity.

301 The principal misunderstanding is the acceptance of 2.0 in./sec ground particle velocity without regard to the statements in the text of the bulletin that specifically state that 2.0 in./sec is not a value below which one will not observe damage in structures. The authors are careful to state that the generation of damage in structures is a random or probabilistic type of process. The data of the report are sufficient to show a probability density function of the "% Probability of Major Damage from Single Blasts" versus "particle velocity" at the site of the structure. The distribution of the data are shown in Figure 1, attached. Note that at 2.0 in./sec. particle velocity there is a 3% probability of "Major Damage" resulting from a single blast. The probability of accumulation of major damage resulting from many blasts would be much higher. This second aspect was not part of the object of the report.

301 The omission of a discussion of or a recognition of the problem of accumulated damage resulting from structures sustaining repeated ground vibrations has caused misunderstanding of the readers to ignore or deny the existence of such a phenomenon. Evidently, few people recognize or concern themselves with this insidious kind of cumulative effect.

301 The third point of the paper which constitutes a critique of the definitions of "damage". The definitions are subjective; i.e., human vision was used to discriminate the presence of cracks in plaster, masonry, etc. There

may have been forms of damage less obvious which could have been measured, and the possibility exists that some may have been present in the structures that were labeled "No Damage". Strain in the structure is required for cracking and fracture, yet no strain readings were obtained.

301 The fourth point of weakness of the Bulletin is the singular use of ground particle velocity (or accelerations of points in the structures) as a measure of the damage producing mechanism. So far as damage production in structures is concerned, the principal variable is strain. In order to determine the accumulation of damage (in the form of cracks) it must be strain based. There are critical locations and directions for the measurement of the strain components when the structure is subjected to ground vibrations.

301 Finally, there was not a sufficiently adequate investigation of the effect of coupling of the structure to the ground in order to know how particle velocity correlated to maximum strain levels in the structure. Particle velocity can be used to estimate or give an index of the energy of the wave, but the amount of energy absorbed by a structure depends upon the coupling of the structure to the ground.

301 In order to qualitatively and quantitatively answer some of the questions and challenges raised by this paper, a research investigation is required. Such an investigation is outlined.

302 [See Graph in Original]

303 [See Table in Original]

304

Center for Science in the Public Interest  
1757 S Street, N.W. Washington, D.C. 20009 (202) 332-4250  
August 11, 1976  
Dr. Thomas V. Falkic, Director  
Bureau of Mines  
2401 E Street, Northwest  
Washington, D.C.  
Dear Dr. Falkie,

304 We would like to thank you for your generosity in setting aside time for our interview on July 28th. We also appreciated your arranging to have four of your co-workers join us - Mr. Donald Rogich, Chief of Division of Mining Systems - Engineering; Robert Marovelli, Chief, Division of Mining Research - Health and Safety; James Paone, Chief, Division of the Environment; Daniel Jones, Division of the Environment. We are grateful to all of you for listening to the concerns of the Center for Science in the Public Interest on the effects of blasting at

strip mines in Appalachia. However, we continue to have grave reservations about your agency's performance in this area.

304 CSPI deplors the failure of the Bureau of Mines to report to the public that strip-mine blasting is inflicting severe and widespread hardship on the people of Appalachia. CSPI estimates that strip-blasting caused over \$200,000,000's damage in 1975 to nearly 10,000 private citizens of Pennsylvania, Ohio, Indiana, West Virginia, Kentucky, Tennessee and Virginia and that approximately 75,000 people have suffered \$1 .5 billion in damages from 1965 to 1975. (see Appendix I and II)

304 The Bureau of Mines knows this tragedy is taking place. You said during the interview, "We're aware of the concern. We get bombarded with calls from all over the country about people having problems." Your staff has insisted repeatedly that the Bureau is on top of what goes on "in the field." Furthermore, the Bureau knows that its recommendations to regulatory agencies have been incomplete and inadequate, that mine operators who follow your guidelines are damaging homes and wells and endangering people near the mines. And, though this destruction occurs continually in Appalachia, you have chosen to remain silent, to make no studies of the people's hardships, to conduct no extraordinary research into the blasting problem. You have chosen not to alert the public and the coal industry to the uncontrollable hazards that this massive use of explosives represents.

304 And this use of explosives is indeed massive. CSPI estimates that the strip mining industry has detonated over 5 billion pounds of blasting agents in the Appalachian coalfields since 1965, or over 70,000 pounds of explosives per square mile - an estimate we believe to be conservative. The actual concentration of explosives on the land is much higher, because thousands of square miles of those coalfields have yet to be mined. The strip mining industry sets off a half-million pounds of blasting agents every day. (see Appendix III and IV)

305 The extent of the blasting in the Eastern coalfields is comparable to the American bombardment of Vietnam. During the Vietnam war, the Department of Defense delivered an average of 30 tons of explosives per square mile in Vietnam; from 1965 to 1975 strip miners have detonated 35 tons of explosives per square mile in Appalachia. (see Appendix V)

305 And the effects of these explosions can resemble scenes in a war. Mrs. Dorothy Burns of White Oak, Tennessee told CSPI of the morning last May when, with no warning, a thundering blast went off at a nearby strip mine. Mrs. Burns

was startled by the noise, but then panicked when she turned and saw several rocks hurtling through the air in the direction of her house. "When I saw those rocks flying toward me, I was so scared! I never heard anything so terrible in my life. I heard the rocks hit the ground like trees falling." Mrs. Burns later learned that rocks and debris had fallen on a neighbor's house and yard, that windows in two cars were shattered and that a rock damaged the roof of one of the cars. For people living in a quiet rural area, the blasting can mean emotional distress, as well as damage to their property.

305 The Bureau of Mines has failed to recommend adequate and complete guidelines for safe blasting. The Bureau describes itself as "the world's leading experts on explosions and explosives," and in the interview you stated, "Doing scientific analysis and getting information to regulatory agencies is our best service to the public." But Bureau researchers who are familiar with the agency's latest (1971), most comprehensive report on blasting standards have termed that report's criteria as "inadequate" and "simplistic." Longterm specialists within the Bureau have told CSPI that strip miners who observe its 2 inches per second (ips) maximum ground motion criterion could well be cracking foundations, walls and windows in houses near the mines. CSPI has records of several cases in which blasting shook the ground under houses at speeds lower than 2 ips and nonetheless did structural harm to the houses. Clearly, the Bureau of Mines' scientific analysis and information-distribution, are rendering, at best, rather poor service to the public.

305 As if the damage from single explosions is not enough, the public must also worry about repeated blasts, even blasts below the levels recommended by the Bureau. On March 6, 1976, you reported to the House Appropriations Committee, "A study of the assessment of damage from repeated blast-induced ground vibration produced evidence of fatigue damage to structures from repeated vibrations at levels which were too low to produce damage from single occurrences." You have stated then, that blasts which the Bureau of Mines publicly approves as "safe" could actually be damaging or at least weakening residences and other structures, implying as well that such weakening, while not visible to the eye as plaster-cracks or broken window-panes are, should also be counted among the damages from blasting.

305 The Bureau, thus, realizes and admits that its recommendations for the sake of the public are poor ones and do not adequately protect people from harm. But it has not drawn public attention to this fact. Nor does it intend to issue revised recommendations until 1978. The Bureau has chosen to remain silent until then. Meanwhile, in the next 18 months, another 600,000 tons of explosives

will be detonated in Appalachia and \$3 00,000,000's more damages will be inflicted on the people. (see Appendix VI)

306 Given all this, CSPI marvels that the Bureau of Mines chooses to conduct its explosives research on a business-as-usual basis. The Bureau spent only \$6 06,000 - just 1.5% of its coal mining research budget - on blasting investigations in 1968. But it plans to spend even less money in 1977:

After nine years of rampant inflation, the allocations for such research have increased to only \$606,000 and decreased to 0.9% of its coal mining research outlays - and this, in a year of what the Bureau considers "intensive investigation." Though the Bureau is "bombarded with phone calls from all over the country" about blasting and though it knows its explosives guidelines do not effectively protect the private citizen, it is nonetheless curtailing its attention to the problem. (see Appendix VII)

306 In addition, CSPI considers the research goals presently being pursued by the Bureau to be unreasonably limited and expects that the 1977 report, like the 1971 bulletin, will be blatantly inadequate. Bureau researchers and state blasting specialists speak repeatedly of how unpredictable explosives are, how blowouts from drillholes occur so often and so uncontrollably that a certain percentage of all blasts can be counted on to generate violent air concussions and send rock flying throughout the area. One expert told CSPI, "It's terribly hard, even for experienced blasters, to know when they are going to get (blowouts) and when they're not going to get them." On the subject of blowouts, a state blasting inspector mused, "Explosives - you just can't trust 'em. That kind of accident is unpredictable and could happen during any blast." Yet the Bureau has no plans to investigate what causes blowouts and what techniques would protect the public from the rock and debris that fly from these blastholes. Nor does it intend to address the problem of flydebris caused by non-blowout explosions.

306 You stated in the interview that "If mining is done properly, no flydebris should occur," but blasting experts, including those quoted above, would disagree. You also stated, "It's where mining and blasting are going uncontrolled that damages are occurring. The state programs are controlling the damage, but you still have the noise." The cases mentioned above, in which "controlled" blasting nonetheless damaged houses, indicates that no amount of present state programs or proper blasting will control the damage. The Bureau should look into the actual situation in Appalachia, talk to the people who live near the mines and consult blasting experts before making such generalizations.

306 For an agency that takes pride in being the federal government's prime

collector of data on minerals and mining, the Bureau of Mines is woefully misinformed about the blasting problem in Appalachia. In a recent discussion with one of our staff members, you and four top-level executives, managers of the agency that collects and analyzes 90% of the federal data on mining, offered some helpful hints about how CSPI might investigate the occurrence of blasting damages in Appalachia. CSPI submits that the responsibility for such a study lies with the Bureau of Mines, not with any small, private organization. The Bureau is the agency that promulgates blasting guidelines; it has the obligation of following-up its reports with field studies that check on the adequacy of those promulgations.

307 One finding the Bureau would make, if it investigated the effects of blasting in Appalachia, would almost certainly be that blasting is destroying the water supplies of thousands of private homeowners in the area. CSPI estimates that at least 15% of those harmed by strip mine explosions in some other way, are also sustaining damages to their wells and collecting ponds. CSPI knows of several cases in which blasting has dislodged sandstone, slate and other rock from the sides of well-holes. (see Appendix VIII)

307 Consider the case of Mr. Claude Ryan. He lives with his family in a hollow outside of Prestonsburg, Kentucky and grazes a handful of cattle in another hollow nearby. Mr. Ryan has suffered several disabling heart attacks and now supports himself by renting trailer-space to a half-dozen tenants near his house. A coal company began stripping the encircling mountains above his property nearly seventeen months ago. The ensuing blasts shook so much debris from the sides of well that the pump mechanism was buried under mud and rock; the mechanism had to be raised immediately, at Mr. Ryan's expense, to ensure water for him and his tenants. And the well, of course, has less capacity now than before. In the other hollow, the thirty-foot well that serves his livestock suddenly went dry, and Mr. Ryan had to drill a new one-hundred-foot hole to regain an adequate supply of water. Claude Ryan is one of the few people in Appalachia who has discovered a lawyer willing to use a coal company; his chances of winning in court are unknown.

307 The Bureau has also failed to look into how blasting can sink elevated water tables in a region by rupturing the aquicludes that support them. Disturbing these aquicludes causes the ground water, available to people living above the valley floors, to descend beyond the reach of their wells. A number of people have notified CSPI that blasting has dried up their wells in this way. Roy Meadows of the Richmond District, West Virginia is one of many people who live on high plateaus or mountainsides and who dread, with an urgent fear, that nearby blasting will eliminate his only sources of water. Roy lives on land three

thousand feet high, with only a small hill standing higher than his property. He knows of no way he could continue to live on the farm he dearly loves if the blasting destroys his springs and well. A geologist in Appalachia, who is knowledgeable about blasting, considers such fears as quite plausible.

307 But the Bureau of Mines has yet to consider this form of damage in its research. A top Bureau researcher could only offer CSPI the comment that it is "possible" that wells and water tables have been damaged in this way. Also, the Bureau has ignored the problem of the diversion of underground flows of water by blasting. Such diversion is a possible cause of many reported well-sinkings and a threat to farmers' collecting ponds.

307 All these are ways in which blasting has caused the people of Appalachia suffering, but the Bureau of Mines knows little of them. Indeed, the Bureau regards such information as outside the scope of its involvements. However, this does not prevent you from making statements such as the following, made during the interview: "There's no question that noise produced by blasting is annoying." "Noise can lead people to think they're being damaged when they're not." "The state programs are controlling the damage, but you still have the noise." "The damages are certainly not as widespread as the complaints are." You attempt to minimize the problem that these complaints point to, but with no scientific information to justify doing so.

308 The Bureau of Mines should not assume that damages caused by blasting can be readily compensated for through litigation. There are several reasons for this:

308 a) Only a small number of widely-scattered lawyers are willing to risk their careers by representing damage suits against coal companies. Because their clients normally have little money, these few lawyers represent them on a contingency basis and are severely limited as to how much they can invest in the preparation of such suits.

308 b) Lawyers shy away from suing coal companies on a contingency arrangement either because they fear that trial judges are coopted or because jury members are too afraid of the coal companies to hand down verdicts against them. The prospect of losing such cases and losing money on them appears forbidding to these lawyers.

308 c) CSPI was surprised to find how many of the people adversely affected by blasting depend for their livelihood on the coal industry. Many of them dare

not risk the almost certain loss of jobs or credit that bringing lawsuits would mean for them.

308 d) The law is a complex and intimidating reality for many of these people. And the past experience of the law in Appalachia convinces them that the judicial system serves King Coal, not poor and isolated individuals like themselves. So it is not surprising that they tend to avoid confronting coal companies in the courts.

308 This last reason is in a class by itself.

308 e) Blasting sometimes causes irreparable damages, such as the loss of the only available water sources for people's homes; core-structural damages that can only be repaired by virtually dismantling an entire building; possible loss of life or severely disabling injury. Granted that individuals can be awarded money for some of these, it is undeniable that the damages should not have happened in the first place, that people much prefer to live without damages than to be affected by blasting and gain cash compensation for it.

308 The Bureau of Mines is the only agency with requisite expertise in commercial blasting agents. As it encourages the use of these vast amounts of explosives by promoting increased productivity and efficiency in the coal industry, it should also strive to limit the hardship such usage causes people. No other agency has a charge to render this service, but the Bureau has this charge because it is the governmental instrument for deriving greater public good from mining.

309 CSPI therefore calls on the Bureau of Mines to do the following:

309 a) give immediate notice to the public, to strip mining companies, to state enforcement agencies, to appropriate state legislative committees and to all who request the information, that the Bureau's 1971 criteria for safe blasting do not guarantee avoidance of damage or injury and should not be used to define legally negligent activity;

309 b) promulgate more restrictive criteria, on a temporary and tentative basis, for safe blasting, based on the entirety of the Bureau's present knowledge, with the intention of replacing these criteria with more definitive findings in January, 1978;

309 c) draw up substantive plans to eliminate the dangers accompanying blowouts by first intensively researching and publicizing ways of attenuating flydebris and airblast from blowouts, and then by determining what causes blowouts, eventually recommending procedures that eliminate those causes;

309 d) begin hydrological research of water tables, especially those supported by elevated aquicludes, and determine ways to avoid disturbing those water tables;

309 e) involve the Environmental Protection Agency in an investigation of the harmfulness of blasting to the environment.

309 For its part, CSPI intends to investigate ways of: (a) involving the thousands of victims of blasting in the legal process, (b) encouraging private attorneys to invest more of their time in this area of rather potent litigation, (c) helping all these people obtain the technical guidance they badly need. We will also continue to pay attention to the states' programs for enforcing blasting regulations. Finally, we intend to continue working with the Bureau of Mines and exploring its role in the protection of private citizens from strip mine blasting.

309 We expect you to respond in detail to what we have written in this letter sometime in the near future.

309 Respectfully,

309 Albert J. Fritsch, Ph.D.

309 Brian L. Ulrickson

309 cc: Congressmen: Ken Hechler (D-West Virginia)

309 John F. Seiberling (D-Ohio)

309 Morris K. Udall (D-Arizona)

309 Senators: Wendell H. Ford (D-Kentucky)

309 Walter F. Mondale (D-Minnesota)

309 Richard S. Schweiker (R-Pennsylvania)

310 APPENDIX

310 I. 1975 damages of \$200,000,000 done to 10,000 private citizens:

310 from Keystone Coal Industry Manual, 1975: 2371 strip and augur mines in Appalachia in 1972, (for purposes of brevity, "Appalachia" refers to the states mentioned in paragraph 2 of the letter.)

310 from CSPI knowledge of blasting at strip mines near Barbourville, Prestonsburg, Jackson, and Jenkins, Kentucky; near Oneida and White Oak Tenn.; in the Richmond District of West Virginia; in Wise County, Virginia; in southeastern Indiana: a conservative estimate of 5 damaged residences (not counting other structures), housing as many households, per strip mine

310 implication:  $5 \times 2371 = 11,855$  (damaged residences and affected households per year)

310 "10,000", as an estimate, is 15.6% more conservative than "11,855"

310 from knowledge of actual damages successfully litigated, of damages estimated by construction experts, of damages repaired by affected parties: an estimate of approx. \$1 0,000 per structure (This prescinds from West Virginia's treble damages clause for strip mine damage suits.)

310 implication: physical, structural damages per year: \$1 00,000,000

310 from lawsuits pending in which emotional stress is listed as a charge in the litigation: an average of \$100,000 per household sought

310 reducing estimate of affected households per year by 2/3 yields 3300, a conservative estimate of the number of households experiencing comparable emotional stress

310 implication: \$330,000,000 damages - emotional stress per year

310 total damages - structural and emotional - per year: \$100,000,000 plus \$330,000,000 = \$430,000,000

310 an extremely conservative estimate of annual damages: \$200,000,000

310 These estimates ignore any structural weakening that blasting might be causing without producing visible signs of damage.

310 II. 75,000 parties affected and \$1.5 billion damage from 1965-1975:

310 Given that the number of surface mines in Appalachia was smaller than in 1972, a conservative estimate of that number would be 1,000.

310 implication: approx. 5,000 affected households in 1965

311 presuming a linear increase in number of strip mines in Appalachia from 1965 to 1975: an average of 7,500 affected households per year; 75,000 affected households in those ten years

311 using the same methods to estimate total damages for those ten years as were used to estimate total damages in 1975: \$1.5 billion damages - structural and emotional

311 III. 5 billion pounds of blasting agents in the Appalachian coalfields (or 2.5 million tons) since 1965

311 consumption of ANFO in deep mining is an insignificant fraction of the

total ANFO consumed in all coal mining

311 from Bureau of Mines "Mineral Industry Survey" edition titled "Apparent Consumption of Industrial Explosives and Blasting Agents in the United States, 1912-1975," prepared in April, 1976: total ANFO consumed by coal mining = 8,138 billion lb. (1965-1975) or 4.07 million tons

311 from Bituminous Coal Facts (National Coal Association) and Keystone Coal Industry Manual, 1975": Appalachian strip mining ('65-'75) accounts for approx. 64% of all coal stripped in the nation

311 Appalachian strip mining consumes, then, approx. 64% of ANFO used for stripping in the nation.

311 ANFO used in Appalachia, 1965-75: 5.21 billion lb. or 2,604,160 tons.

311 IV. 70,000 lb. explosives detonated per square mile total ANFO used in Appalachia, 1965-75: 5.21 billion lbs.

311 total ANFO used in 1976 to July (approx. half of the annual use of ANFO lately in Appalachia): 200,000 tons or 400,000,000 lb.

311 Total ANFO used in Appalachia since 1965: 5.6 billion lbs.

311 from Keystone Coal Industry Manual, 1975, total area of coalfields, mined or unmined, in Appalachia: 74,510 sq. mile

311 lb/sq. mi. of ANFO used in Appalachia since 1965: 75,158 lb-sq.mi.

311 V. Department of Defense, 30 tons explosives/sq.mi. in Vietnam

311 from Washington Post, Sunday, August 8, page A-16: (North) Vietnamese now claim that U.S. dropped 3.94 million tons of explosives on Vietnam (probably a high and liberal accounting)

311 total area of Vietnam (North and South) = 128,402 sq. miles

312 tons/sq.mi. of explosives dropped on Vietnam in the entire war by U.S.: 30.7 tons/sq.mi. (compared with 35 tons/sq.mi. calculated for ANFO in Appalachia since 1965)

312 VI 600,000 tons and \$3 00,000,000 in the next 18 months figures arrived at by multiplying figures from appendix I by 1.5

312 VII \$6 06,000 = 1.5% of coal mining research budget, taken from House Appropriations Hearings, 1968; similarly, for the \$660,000 = 0.9% figures

312 VIII 15% of those harmed by blasting also sustained water supply damage.  
Gleaned from the actual cases known to CSPI through lawyers, citizens' action groups, public service organizations, etc.

313 DOCUMENTED BLASTING EFFECTS

313 (Documentation available on request)

313 ALABAMA

313 Morris Lamar Reid, et al. vs. Cincinnati Insurance vs. Drummond, K & T, U.S. Pipe/property damage & devaluation, cancelled insurance, nuisance, power blackouts/\$200,000

313 Morris Mr. & Ms. Cook vs. State Farm Insurance/blasting damage to home/\$20,000

313 Morris Mr. & Ms. Rogers vs. State Farm Ins. vs. Pawnee, Hallmark, & K & T Coal Companies/property damage, VA & FHA penalties, Insurance denied, nuisance, power blackouts/\$2,000,000

313 Morris Mr. & Ms. McCombs vs. Hallmark and Pawnee Coal Companies/\$70,000

313 Morris Mr. & Ms. Bailey vs. State Farm Ins. vs. U.S. Pipe, B.T. Reid Construction/damage to home/\$20,000

313 Warrior 15 citizens (class action) vs. K & T Coal Company/well damage dust, vibration home damage/

313 Warrior 14 citizens (class action for over 25 families) vs. Alabama By-Products/flyrock, water system disrupted, vibration home damage, dust/\$2,000,000

313 KENTUCKY

313 Perry Co. flyrock from blasting several hundred feet away severely injured 4 year-old standing in doorway of home; damages to 3 homes, 4 automobiles

313 Knox Co. 57 citizens vs. Mark IV & Big Tim Coal Companies/flyrock damage/\$2,300,000

313 VIRGINIA

313 Norton 14 citizens (representing 14 families) vs. Greater Wise Jenny-Lou, Tabb Coal Companies/flyrock damage/\$2,000,000; 7 roofs broken through by rocks up to 8" diameter

313 Big Stone Gap 18 residents adjacent to strip mine diagnosed with pneumoconiosis (lung disease caused by exposure to great amounts of dust) - Lawrence J. Fleener, MD

313 Dante 200 lb. rock thrown over 2000 feet from blasting site

313 Wise \$5 0,000 damage to Clinch Valley College; leaks & holes in roof up to 2 ft. in diameter; 100 lb. rock landed within 400 feet of building

314 the University of Alabama in Birmingham /UNIVERSITY STATION / BIRMINGHAM, ALABAMA 35294

314 University College/ SCHOOL OF NATURAL SCIENCES & MATHEMATICS / (205) 934-3439 EARTH SCIENCE

314 February 18, 1977

314 Mr. Dennis Darcey

314 C/O CSPI - Appalachia

314 1757 "S" Street, N.W.

314 Washington, D.C. 20009

314 Dear Dennis:

314 At the outset, let me emphasize that I am very much in sympathy with the general objectives that you and your group are working toward with respect to blasting in strip mines or elsewhere. I feel very strongly that something must be done to improve the protection that is available to the owners of property around strip mines in particular. I have studied the problem extensively, both from a theoretical seismologic point of view and by inspecting many properties (buildings of various sorts) near mines, and I feel that the aggregate damage done by mining operations is very much greater than is commonly thought. As I explained to you earlier, however, I very strongly question the value and validity of regulations that exist or have been proposed. I will attempt to summarize in brief the points that I discussed with you, which are the grounds for my doubts.

314 Most of the bases that are proposed for control of blasting are wholly inadequate for the purpose because they do not in practice permit realistic allowance for the complexities of wave mechanics. Regulations based on change-and-distance tables, for example, make no allowance whatever for the many well known factors that cause shockwave intensities to vary erratically. Regulation based on a maximum allowable intensity of motion (expressed as a ground velocity of an energy ratio) are inappropriate unless some means can be incorporated to include allowance for the distribution of the energy across the different seismic frequencies. I lean more to a policy of limiting ground accelerations instead of velocities - and the great importance of acceleration

instead of velocity or amplitude of motion is generally accepted with respect to earthquake waves.

314 Perhaps my greatest reservations relate to practical aspects of the regulations. Even if we accept that a regulation that specifies that ground motion shall not exceed some specified quality (however that may be expressed), the problem has not been solved. We know that in reality, ground motion may differ greatly between two closely spaced points, even at considerable distances from a detonation. Abrupt changes in the underlying rock or soil type, topographic effects, and the presence of wave-conducting or reflecting materials are primarily responsible for such local variations in seismic intensity. Because intensity is so variable, a seismograph located a distance  $x$  from the point of an explosion does not in general tell us very much about the intensity of ground vibration at other places. In order to provide realistic protection to neighboring structures, it must be specified that a certain level of intensity not be exceeded at any of the structures. But to determine this, we require a seismograph at each structure, or that the level of intensity be set very low indeed to allow for local variation. I should think it unreasonable to expect a mining or excavating operator to maintain a large number of seismographs.

315 In addition, we need to know a great deal more about the prevalence of various natural frequencies of vibration in different kinds of structures. A seismic intensity which will not harm one structure may totally destroy another if the latter happens to resonate with a major component of the shock wave. Again, that this is true is well known in the earthquake seismic field. We know, too, that many structures do have natural frequencies in the high-frequency range that is associated with explosives. The details, however, are not known.

315 Another major problem that has been inadequately explored is the problem of cumulative effects. What is a very safe level of vibration for a single explosion becomes highly destructive if respected again and again. I know if no satisfactory way to allow for this in regulations.

315 I am afraid that a regulation based on a single, simple criterion will fail to provide adequate protection to the neighboring area, and at the same time may well work an unnecessary hardship on the blasting operator. I should like to see some better thought-out kind of regulation that is fair to both sides - and fairness to both sides is a major consideration. In order to achieve this goal, there is no doubt that further research is called for before

we find ourselves in possession of an unworkable, ineffective, or repressive regulation.

315 It is my feeling that a strong effort should be made - and made immediately - to investigate two problems. One branch of the program would investigate the harmonic properties of various common structure. Without improved knowledge of this aspect of the problem, a realistic guideline is impossible. A second effort should be made to develop cheap and effective seismoscopes (not seismographs) which should be the basis of effective regulation. This latter point deserves a bit more comment.

316 What is required is a reasonable cheap means of determining whether any given structure in the area has been exposed to shocks of intensity greater than some specified values. To determine this, we really need to make measurements at each structure (let us say houses). Except in very sparsely occupied area, we cannot ask the operator to maintain a seismograph at each house - nor is it reasonable to demand that a homeowner maintain a seismograph for his own protection. I think, however, that a simple seismoscope could be developed and produced at a cost of a very few dollars. Such a device might well indicate the maximum intensity reached and the time at which it was reached, but not give a continuous record. Utilizing hand-calculator technology, an appropriate device ought to cost perhaps fifty dollars (in quantity) and be about the size of a pack of cigarettes. It could be sotted or cemented to a structure, or placed in the ground near the structure, and left there for the duration of the blasting operations. Such a device would provide adequate security for both sides in a controversial situation.

316 I urge that you push, not for immediate passage of regulations that I believe to be unworkable and unrealistic, but for a prompt and thorough research program on the part of some suitable agency to develop a really effective and realistic way to cope with the problem this leads me to two last comments. First, the trouble with the guidelines that I have seen is their simplicity and the inability that they have no cope with the complexities of seismic behavior. I fear that such simplistic regulation would be detrimental to both sides. Second, my experience with my fellow scientists leads us to be suspicious of the man who calls for a research effort, for he usually is promising his own research work. In this case, although I have been active in studying his own research work. have no program of solid research in the field. That is, I have no axe of my own to grind. I don't know whether I would be interested in doing any of the research that I am advocating if I were asked; I do not expect to be asked.

316 Best wishes for your objective of promulgating effective guidelines, and good luck.

316 Sincerely,

316 George F. Brockman

316 Assistant Professor, Earth Science

317 Mr. Dennis Darcey

317 CSPI

317 1757 S Street N.W.

317 Washington, D.C. 20009

317 Dear Mr. Darcey:

317 The following information is presented in response to your March 7, 1977

letter. As previously indicated, we believe the prime objective of a blasting impact study should be a thorough, accurate, unbiased solution, or set of solutions. In my opinion, such has not been the case in regard to many blasting problems, thus all parties have felt the impact. An appropriate solution cannot be achieved through the citing of speculation, unsubstantiated opinions, "eyeballing", etc.

317 Specifically, our approach utilizes the following components:

317 1 - A basic inventory of the structures within the general area of concern, noting their construction, deficiencies, etc.; pre-blast checks of selected houses.

317 2 - An assessment of the dynamic characteristics of a representative number of area structures. We utilize actual field measurements in these determinations.

317 3 - Correlation of the obtained results with our previous experience, data, and studies.

317 4 - Analysis of the dynamic characteristics of an appropriate number of blasting ground and structure motion recordings relevant to the general area of concern. This may require some test blasts in areas where no recordings have previously been made.

318 5 - Assessment of the general dynamic characteristics of the soil supporting the area structures. This does not involve extensive detailing of the area geologic strata since that is normally not nearly as significant with regard to structural response.

318 6 - Correlation of the results of 4 and 5 with our previous studies, data, and experience, for the purpose of establishing potential response amplifications of the ground motions. This evaluation is absolutely essential

in predicting potential damage.

318 7 - Incorporate the results of 6 into our previously completed statistical damage assessment criteria. These correlate structural and ground motion dynamic characteristics, charge per delay, and distance, but further verification is desirable for specific areas. A resultant threshold damage criteria can then be summarized for the specific area.

318 It will be noted the steps are cited with regard to particular locations. I believe this is desirable at the present stage of development. As soon as we have more "proof of the pudding" actual situations, I'm certain that generalized criteria can be assembled for given areas.

318 The type of study described may seem somewhat detailed but, in my opinion, is by far the best way. A lesser effort will simply not do the job; neither will the simple citing of more stringent peak particle velocities. The associated costs depend on a variety of items, including how many structures, recordings, etc. are deemed necessary. I would estimate the costs to initially be in the \$50,000 - \$1 50,000 range for a complete blasting impact study. It is no simple task to evaluate blast-related damage and the cited steps should, in our experience, minimize the necessity for doing so. Such a study should be invaluable in eliminating numerous lawsuits as well as continuous blast monitoring, i.e., long-range cost reductions. The latter would, of course, require the confidence and trust of those involved. Our experience indicates that many recordings could have been eliminated since they recorded only minor ground motion levels.

319 I hope this information will be of value. Should you have any questions, please call.

319 Very truly yours,

319 Kenneth Medearis

319 KM: ks

320 The next witnesses who have been patiently sitting here all day while we have listened to the Prime Minister of Canada, are - the first group being Kentucky Independent Coal Producers, Mr. Charles Schwab, president of the Hawkeye-Elkhorn Coal Co., accompanied by other small and medium-sized producers.

320 Mr. Schwab, can you and your friends take the stand, please, if you are still here after all this time.

320 Mr. SCHWAB. Yes, sir, we are here.

320 Mr. SEIBERLING.Thank you. We apologize for the delays.

STATEMENT OF CHARLES SCHWAB, PRESIDENT, HAWKEYEELKHORN COAL CO.,  
PIKESVILLE, KY., ACCOMPANIED BY DOUGLAS C. GRIFFIN AND HERMAN D. REGAN, JR.

Mr. SEIBERLING. Mr. Perkins, do you wish to say anything at this point?

Mr. PERKINS. Yes; Mr. Chairman, members of the committee, I would like to take this time to introduce Mr. Schwab and the other gentlemen with him who are all surface coal miners-operators and to my way of thinking, responsible surface operators.

I was in the Congress starting back in 1949 to and from then until about 1956 I observed eastern Kentucky lose its coal market with utilities because of oil use, imported from Venezuela and from other sections of the world; so I have a great concern about maintaining industry and jobs in eastern Kentucky. It would appear to me that this committee has a real job rationalizing the different viewpoints in making sure that equity is administered, equity be done between the Eastern and Western U.S. coalfields.

The Western coal fields are sending coal up the Ohio River, taking a lot of the markets of the coal-producers of eastern Kentucky and throughout Appalachia and more of us should want to see a return to the days I mentioned, of the early 1950's.

Now, my point is that we need good reclamation, especially knowing strip mining is going to be with us and perhaps a Federal law should have been enacted many years ago, but that did not come to pass, so we have to look to the future.

But be that as it may, I would hate to see a provision in the bill that was not flexible enough to let the people of eastern Kentucky and throughout Appalachia, who are involved in the surface mining, be on an equal footing with the surface operators in other sections of the country.

And I think Mr. Schwab is moved by practicalities in operating surface mines; he knows that there are provisions in this bill that are going to make it real difficult for the small operator to operate.

Now, I know something about the feelings of people on the other side. I know from experience. I am a Kentuckian, a farmer. And a company came on my place and said they had the right to drill and went on with drilling their gas

well. I would have given any amount of money for them not to have drilled it. It turned out they hit a dry hole, but they tore up several acres of the best bench land I had.

But we have a situation here where all the banks are involved with millions of dollars in investments in eastern Kentucky, and many thousands of truck operators have invested everything they own; thousands of people have mortgaged their farms to buy trucks to transport coal - I mean literally thousands. So with this strip mining bill before this committee, it would be my hope that the committee would work diligently to resolve some problems that are going to put eastern Kentuckians' backs to the wall, and Appalachian's backs to the wall, unless modifications are made. Particularly in connection with the way the language could be construed in restoring the land to the approximate original contour.

321 I have had some experience as a youngster quarrying stone using blasting materials. I know how to use them today. And of course if there were damages that flowed from those methods and practices that have been carried on in eastern Kentucky and elsewhere, but we have a group of people now that operate responsibly, and that is the way it should be.

321 I feel that Mr. Schwab has some suggestions here, and his technicians that are with him, that will prevent any harm from the surface mining operations, but will also prevent hundreds of surface operators from going out of business.

321 That is all I have to say, Mr. Seiberling. You are a great environmentalist, there is no greater Member in the Congress or one who has worked harder in this area, but I know myself from experience that I would rather see a top of a mountain blasted off, I would rather see that done right there at home as to see usable benches destroyed.

321 So we have variances. Good reclamation is what we all want. It is a pleasure for me to introduce Mr. Schwab to you, who will introduce the other gentlemen who are with him and they have convinced me, convinced me that they have some points that are well taken and I would hope that these provisions, such as the restoring of the land to original approximate contour which I am afraid could be construed in such a way as to put hundreds of hill operators and thousands of people who have invested and borrowed money in trucks, put them completely out of business, especially in view of the Western coal situation, unless that language is modified as suggested by Mr. Schwab.

321 It is a great pleasure to introduce him, Mr. Chairman.

321 Mr. SEIBERLING. Thank you, Mr. Perkins.

321 We share your concern. We are between a rock and a landslide, to vary the popular phrase, in many of these steep slope cases, and we have, because of objections being made by small operators in particular, modifying the last bill that the President vetoed, and made quite a few changes to accommodate the needs of small operators, and Mr. Schwab and his colleagues can give us some more suggestions to move in that direction, and still do as responsible a job as we certainly want to.

321 Without further ado I would like to ask you to proceed, Mr. Schwab, identify yourself further and the gentlemen with you.

321 Mr. SCHWAB. Thank you, Mr. Chairman; thank you, Mr. Perkins.

321 I am Charles F. Schwab, president of Hawkeye Elkhorn Coal Co., Pikeville, Ky.

321 With me is Herman D. Regan, Jr., president of Kenviroso, Inc., and Doug Griffin, vice president, an environmental engineering firm in Frankfort, Ky. The Kentucky Independent Coal Producers is an association to assist me with technical aspects of my testimony.

322 Mr. SEIBERLING. Could you speak a little louder. There is a gap between that table and this end of the room.

322 Mr. SCHWAB. All right, sir.

322 This subcommittee has spend many years drafting and refining the -

322 Mr. SEIBERLING. Do you have a prepared statement? Excuse me.

322 Mr. SCHWAB. Yes. I do, and if you would like me to, I will skip over the rhetoric and get to specific points.

322 Mr. SEIBERLING. Yes, fine. You may all summarize.

322 [The panel's prepared statements will be placed in the committee files.]

322 Mr. SCHWAB. I would like to make clear at the outset that I am not here today to oppose the enactment of Federal strip mine legislation. It is abundantly clear the time for enactment of such legislation is at hand. My purpose here today is to explore with you certain alternatives to some of the provisions of the bill which would enable the responsible small and medium-size operators to better comply with the requirements of the act without any adverse effect on the environmental result expected from this legislation.

322 During the year 1976, Kentucky issued 1,333 underground mining permits, and 1,667 surface mining permits affecting a total of 40,000 surface acres. This is more permits and mined acres than the combination of any two other States.

322 The two-thirds majority of Kentucky's production was from 2,300 mines employing less than 20 men per mine producing 46 million tons and the balance of 50 million tons from the medium size mines employing 20 to 200 men per mine. I am here speaking on behalf of the majority of the responsible operators of this small to medium size who produce two-thirds of Kentucky's coal. Our companies are for the most part home-owned, financed and operated in or near the counties in which we live. We are mining on land owned by our neighbors and feel a community sense of responsibility to conduct our operations in a manner that recognizes the interests of our neighbors. Most of our communities are largely dependent upon the continued mining of coal for their economic well-being. Our responsible small and medium size companies want to continue to be a part of our communities' economic stability.

322 I would now like to discuss with you certain aspects of H.R. 2 about which we are uncertain or wish to comment. These will be discussed in numerical order as they occur in the bill.

322 I invite your questions at any time.

322 Section 501 requires the Secretary to promulgate regulations within 180 days of enactment of the bill. So much of the effect of this legislation is dependent upon the interpretation and implementation under the regulations we cannot help but as if these have not already been drafted and if so should we not be permitted to have these in order that our questions might be more clearly focused.

322 Mr. SEIBERLING. Could I interrupt at that point?

322 I believe that the previous administration did draft regulations under the previous bill, is that correct, Mr. Crane?

323 Mr. CRANE. Yes, sir, there have been some task force under the Secretary of Interior that have put together draft regulations.

323 Mr. SEIBERLING. However, that was the previous administration in a different bill, and I might add that that administration was unsympathetic to this legislation, and some of us had the suspicion that they were trying to draft regulations which were as difficult and as hard on the operators as possible to build up opposition to the bill.

323 So I would think we would have to give time to the new administration to take another look at this legislation. But I think your point is well taken. We ought to go ask them to do that.

323 Excuse me.

323 Mr. SCHWAB. Section 502(b) and (c) require specific compliance on specific dates. With regard to compliance with certain parts of section 515, particularly section 515(b)(10) which will be discussed in greater detail later, the data required for compliance is in most cases simply not available which would require a cessation of operations until such data could be developed if strict compliance with the written word of the act is required.

323 Surely this is not intended. Some latitude should be afforded the regulatory authority to permit compliance as promptly as practicable after these dates upon demonstration by the permittee of meaningful effort to comply. Surely the regulatory authority can be entrusted with the responsibility for determining reasonable ability to comply for the interim period until the State program has been approved or the Federal program implemented.

323 Section 506(d)(1) required a public hearing prior to the issuance of a permit renewal. It is unclear the conditions under which such a public hearing is to be held or the substantive result expected of such a hearing. The requirements of 506(d)(1)(a) through (e) having been met, there seems no purpose left to be served by a public hearing and we urge your reconsideration of this seemingly needless requirement.

323 The president of Kenvirons has a chart that we have asked him to prepare delineating the steps that an operator must go through in order to obtain a permit.

323 Mr. REGAN. Thank you. Mr. Schwab.

323 I am Herman Regan, I am a registered professional engineer in the Commonwealth of Kentucky and President of Kenvirons, Inc. As stated, we were asked to prepare the impacts of this proposed legislation on the small responsible operators of the Commonwealth of Kentucky. You have a complete copy of my written testimony before you, and since we are trying to save time I will definitely cut through all of the testimony I have and summarize it to the best of my ability in the shortest time we can.

323 Mr. SEIBERLING. Thank you.

323 I might say, for the benefit of the members, if you can't see the chart, there is a copy appended to Mr. Regan's printed statement - and I am holding it here. It's a very impressive exhibit in its art.

323 Mr. REGAN. Our first purpose was to illustrate graphically what the operator faces when he has to apply for a permit in compliance with the proposed H.R. 2 provisions to meet a State-approved program or federally approved program.

324 Second, we would like to highlight from the point of time necessary to acquire some of the data, and the area where there is a lack of available data.

324 So this is the purpose of our discussion, and the chart you have before you illustrates some assumption that we made referenced to the entity that would do the application.

324 First of all, it is a coal mining operation and they are a legal entity and they substantially meet the requirements of 507 which are the application requirements.

324 We do not include in our discussion any time for this; that is up to the operator.

324 However, as soon as operators tell his engineers to proceed with the application, we set in motion a series of events which must be followed if we are going to meet the requirements of section 507 and 508. Of course, 508 is the reclamation plan requirement, as you all know. We would have to check air quality, soil, subsurface, right on down, historical, socioeconomic, land use, terrestrial, and aquatic. All of these can take place at the same time. They can start to process, then start the process once the program is designed.

324 However, there are four areas of concern from the time standpoint: Air, subsurface, hydrologic, and topography.

324 At this point, I will break my testimony with your permission and let Mr. Doug Griffin, who is vice president of Kenviron for water resources, and the hydrologist, speak to you very briefly on the difficulties we have with the hydrological requirements contained in H.R. 2.

324 Mr. GRIFFIN. Thank you, Mr. Chairman. Mr. Chairman and members of the committee, as Mr. Regan told you, I am Douglas C. Griffin, also of Kenviron, Inc. I am a professional engineer registered in the States of Kentucky,

Tennessee, and South Carolina. I hold a master's degree in civil engineering from the University of Kentucky with specialized study in water resources and hydrology.

324 One of our primary concerns with the proposed "Surface Mining Control and Reclamation Act of 1977" is the required hydrologic studies for mining permit applications. It is accepted that such study is desirable and needed. However, the magnitude of the proposed requirements under current conditions presents a formidable - and sometimes impossible - set of circumstances for the coal producer.

324 This relatively short subsection of the bill presents an unreasonable approach to a hydrologic determination due to the following:

324 First, the required data does not exist;

324 Second, the timeframe necessary to acquire the necessary data could vary from one to several years, depending upon the interpretation;

324 Third, the cost of data acquisition would be vast; and

324 Fourth, any assessment of all anticipated mining in the area is virtually an impossible task for an individual, independent producer seeking a permit in only one portion of the watershed area.

324 In virtually all hydrologic studies, the basic unit under consideration is the watershed, or the area which drains to a given point. As set forth in this bill, by combining the mining site with the surrounding area, the basic unit becomes totally unworkable for the magnitude of the study being proposed. The watershed usually is much larger than the area being proposed for a permit. This raises a multitude of unknown variables which must be considered. Assessment of cumulative impact is particularly difficult when it is impossible to make any meaningful determination of anticipated mining. Kentucky's system of land ownership is such that a great percentage of mineral and surface ownership is divided - as Congressman Perkins mentioned - and most ownership is in relatively small tracts. This obviously complicates any attempt at a hydrologic study such as is proposed, even for a relatively small watershed. You may be dealing with several hundred owners and any small independent producer has no control over these people and their lands. We feel that is unreasonable.

325 Data establishing quantity and quality of water in surface and ground water systems, including dissolved and suspended solids under seasonal flow conditions, do not exist for most of the small streams in Kentucky. Virtually all data-gathering efforts by governmental agencies have been concentrated in larger watersheds, and would not be site specific as required by

H.R. 2.

325 The U.S. Geological Survey publication, "Water Resources Data for Kentucky - Water Year 1975," shows 49 active flow-measuring stations supplemented by approximately 30 more low-flow partial or annual stage stations in the eastern Kentucky coal fields. There are also 26 water quality stations, 9 of which measure only temperature, with 18 more partial stations and 9 observation wells for groundwater measurements. These few stations cover approximately 10,000 square miles. In contrast, most mine permits cover a relatively small area, usually less than 100 acres which is a much smaller area than is measured by any of the existing gauging stations. Therefore, we say the data to be required by H.R. 2 do not exist.

325 In order to gather seasonal data, a minimum of 1 year would be required and the reliability of such short-term data would most certainly be open to question. It is doubtful if any meaningful data could be derived from such a short record. At an absolute minimum, the data collection to satisfy the requirements of H.R. 2 would require monitoring for at least 1 year, but should be longer if meaningful data is to be gathered.

325 Time factors for obtaining required data are significant. This makes significant the financial burden of gathering the data. Continuous monitoring will be necessary to gather data required by H.R. 2. It is noted here that other climatological data such as precipitation, wind speed, and direction and temperature may be required and would have to be acquired by monitoring. These and associated laboratory costs add up to a significant cost factor. Most of the smaller companies are not well equipped or staffed for such activities and therefore would have to obtain outside expertise.

325 Further requirements are based on the premise that sufficient trained personnel are available to design the data collection programs and make the necessary hydrologic determinations. This is a fallacy. In reality, the number of engineers specifically trained in hydrology is limited. Many of these are employed by Government agencies involved in ongoing hydrologic programs and unavailable to producers. It's doubtful the regulatory agencies would have the manpower to review these studies if it were possible to prepare them. We feel that without some measure of existing personnel being available, that this requirement in the magnitude as proposed is somewhat unreasonable.

326 In summary, the requirements dictated by H.R. 2 create a situation that requires the collection of data not heretofore assembled. Further it creates unreasonable delay and cost factor application preparation; and requires personnel levels in the field of hydrology which simply are not available.

326 Thank you for your time.

326 Mr. REGAN. Mr. Chairman, to summarize and move on with the chart, from the start of the field program through the hydrologic cycle which we have assumed to be a minimum of 1 year for purposes of our timing, to the point where we can prepare a report on the existing environment which we feel is required under H.R. 2 would be 14 months. Without putting up the rest of the chart, because you have it in front of you, you move from preparation of the existing environmental report to the preparation of mining report as required, then we come up with the method to mine, then the impact that the mining would have upon that particular area.

326 Thus, from the start of the field program until the time that we feel we can submit an application is on the magnitude of 18 1/2 months, assuming two things; one is that 12 months is adequate to meet the requirements of the hydrologic cycle; and we are able to do it in that time.

326 Mr. SEIBERLING. Eighteen months until what point now?

326 Mr. REGAN. To the point where we can submit the application.

326 Mr. SEIBERLING. All right.

326 Mr. REGAN. To the regulatory authority.

326 We do not know that in the past in dealing with such other environmental studies, the hydrologic data could not be gathered in 1 year. It has taken a period of 2 or more years to gather if we were going to obtain "seasonal flow." Once the permit is in the hands of the regulatory authority they have additional requirements for advertisement and open for review of 30 days for comment; the regulatory authority has a reasonable time to act. We have assumed that a reasonable time for purposes of timing once again will be 60 days.

326 Assuming that there is no hearing then it would take approximately 22 1/2 months before a permit could be issued from the start of our process to obtain the permit.

326 If a hearing were to take place and be required, then you can add an additional 2 to 3 months and if the hearing officer finds after the results of the hearing that the permit could be issued, then from the start of the program to the issuance of the permit would be on an order of magnitude of 25 1/2 months.

326 Let me say that we are in agreement with Mr. Schwab that the intent of H.R. 2 is good. Further, we have tracked the bill and your fine work in the past few years on the bill so we know the efforts that have gone into it. We

simply think that we should present this to you to show you what an operator is going to be hit with immediately and we would hope that some consideration could be given along those lines that it would be recognized and we don't have a situation, I don't want to compare bills, but 925, the Water Pollution Control Act, we hope we don't have a comparison there where there might be a period of time where we might not be able to issue permits to those who should have and are responsible to mine.

327 I thank you for your time and I will be available for any questions.

327 Mr. SEIBERLING. Thank you.

327 Mr. SCHWAB. Herman, thank you.

327 It is clear from what you have just seen and heard that sections 507 and 508 require a much greater degree of long-range planning encompassing more area of activity than heretofore undertaken by the requirements of most existing State laws including that of Kentucky. While all of these areas need be of concern with regard to the total environmental impact of mining, it is doubtful that our small operators will be able to cope with this level of planning.

327 It is an unfortunate fact of increased regulation that in and of itself it begets bigness. The small independent businessman in coal or any other business simply is unable to cope with the complexities of such increased regulatory requirements and gives up in favor of the larger operator who has the staff and/or the capital to employ specialists capable of generating the data with which to comply.

327 We urge you in good conscience to reexamine the need for the detail and depth of the requirements and to be sure that the loss of many of the responsible small operators in the industry in favor of big operators is truly necessary to achieve the avowed goals of energy conservation and production balanced against environmental protection.

327 Section 509(a) establishes a minimum bond requirement of \$1 0,000. This minimum will create a hardship for the small- and medium-size operator when coupled with the 60-percent release provision of section 519(c)(1) and the 5 year revegetation minimum term provision of section 515(b)(2). We urge reconsideration of the minimum bond requirement for those operators whose production is expected to be less than 250,000 tons per year.

327 Section 509 contains no apparent relief from the decision of the regulatory authority with regard to the amount of bond to be required for any

given permit application. It would seem that in the absence of stated per acre amounts or an upset per acre limit there should be some appeal provision to afford the applicant. Some remedy in the event of a questionable bond amount being set by the regulatory authority.

327 Section 519(a) is silent with regard to the time by which a permit application will be granted or denied. We understand the difficulty in setting a single response period due to the wide variation in review times. However, in the absence of a specified time, perhaps "within a reasonable time" could be inserted after the word "grant" on page 73, line 13. This change would be consistent with the language of section 514(b) which more clearly sets forth the obligation of the regulatory authority to respond within a reasonable time.

327 Section 515(b) (1) and (2) sets forth the basic purposes of this legislation; that is, maximize the recovery of the solid fuel resources and restore the land affected so as to support at least the same but preferably higher or better uses. There is no known mining method that more directly meets these requirements than the complete mountaintop removal method of mining with spoil or waste storage in head of hollow or valley fill areas.

328 Mountaintop removal is just what the name implies, complete removal of all overburden permitting substantially complete recovery of one or more seams of coal with a resulting level or gently rolling area capable of supporting many alternative agricultural, commercial, residential, or recreational uses in the future. This mining method permits recovery of many seams of coal not minable by any other method because of such factors as seam height or inadequate roof conditions to support underground mining. No mining technology permits a higher recovery of in-place resource.

328 Overburden or spoil is stored in offsite areas designed and engineered to assure stability of the waste materials. A solid undisturbed berm is left at the outer edge of the disturbed area to prevent future erosion. These techniques combine to achieve the most desirable environmental result of any mining method.

328 The mountaintop removal method is treated in H.R. 2 only as a variance with most rigid requirements to demonstrate current alternative uses for the level land so resulting including a prefinancial plan for immediate development.

328 These requirements fail to recognize that much of the resource to be recovered does not lie adjacent to existing developments with electricity,

water, and sewage facilities readily available, but rather occur in outlying areas where development may be some years in the future. The physical location of the resource does not in any way alter the inherent fact that mountaintop removal is unquestionably the most efficient method of recovery of the resource with the least surface disturbance relative to recovery producing the most desirable environmental result of all mining technology known today.

328 We urge the acknowledgement of these readily demonstrable facts and your serious consideration of an amendment such as we here propose to recognize the undeniable fact that mountaintop removal technology more nearly meets the underlying purposes of this legislation and should be acknowledged as an accepted mining practice.

328 We propose the following:

328 And provided further that it should not be required to restore to approximate original contour where the surface mining operation will remove an entire coal seam or seams running through the upper fraction of a mountain, ridge, or hill by removing all of the overburden and creating a level plateau or gently rolling contour with no highwalls remaining and capable of supporting postmining uses.

328 Section 515(b) (2), line 3, page 86, after the word "Act"; add

328 Section 515(c) (2) should be deleted.

328 Section 515(c) (3), delete "of the nature described in subsection (c) (2)."

328 Section 515(b) (9) as presently written may create a serious safety problem in certain cases where water tables could build up pressures behind auger holes plugged with impervious material. We propose the following changes:

328 Section 515(b) (9), line 8, page 88, after the word "holes" delete "to a maximum of six feet in depth"; line 9, page 88, after "with" delete "an impervious and noncombustible" and add "best available natural".

328 These changes would remove the possible safety hazard. The control of toxic discharges is covered by several other sections of the act and would have to be dealt with before bond release in any event, so these changes do not diminish control over this matter. We urge your serious consideration.

329 As an active operator I have studied section 515(b) (10) and simply cannot see any way by which to comply. Let me explain: Silt structures are constructed to impound runoff during mining and revegetation of the disturbed

areas including the silt structure itself and any attendant drainways. Let us assume revegetation takes 2 years. This is 2 years after mining is complete and the operator has left the premises and is mining elsewhere. The silt structure likewise has been revegetated during this period. Is the operator now to reenter and redisturb the area of the silt structure to remove it? Where is the material to be placed? Is the operator to haul it back up the slope and reenter and redisturb the mined area to store this material? The fact is the material probably could not be hauled upslope even if the already reclaimed roads were reopened

329 The problem of the long term responsibility for maintenance of these structures has no obvious or easy solution. Removing the structure does not, however, seem to be the answer because of the undesirable necessity of disturbing an area already stabilized and the problem of material storage. We recommend the requirement of section 515(b)(10)(c) be deleted.

329 Section 515(b)(20) provides for the operator to assume responsibility for revegetation for periods of 5 and 10 years determined by rainfall. In Kentucky our climatic conditions are such that consistent revegetation can be achieved over an 18-month period. The problem here is really related to bonding and the cumulative effect on the small operator, though financially responsible, to continue to arrange increasing bond limits because of the 40-percent retention; we recommend the following changes:

329 Section 515(b)(20), line 17, page 93, change "five" to "two"; line 2, page 94, change "five" to "two".

329 As an alternative, a partial bond release where revegetation is established with a 5 or 10 percent retention for the full 5 or 10 years is an alternative to relieve the burden of the small operator. Nothing contained in either of the above proposals prevents the regulatory authority from holding the full bond for whatever longer period might be required to complete full compliance if a longer period should be necessary for whatever reason.

329 The following recommended changes in section 515(c) were discussed in connection with our recommended acknowledgement of mountaintop removal as an accepted mining practice:

329 Section 515(c)(11), page 94, line 20, change "3" to "2"; delete section 515(c)(2); line 8, page 95, change (3) to (2); line 7, page 97, change (4) to (3).

329 The following change in section 515(c) is also recommended:

329 Section 515(c)(3), line 13, page 95, delete "of the nature described in subsection (c)(2)".

329 It is not possible for all alternative possibilities ever to be foreseen and provision made to accommodate them. Our trust must always be placed in some judgment being properly exercised. We herein have recommended placing some trust in the judgment of the regulatory authority, whether State or Federal, to open the door to alternative variances if the stringent criteria of subsections (a) through (g) are met. Surely you must agree that these requirements are sufficiently strong in and of themselves that any permit granting a variance meeting these requirements would produce an acceptable result. It should be obvious that the public hearing requirement of subsection (f) would preclude the granting of an unacceptable variance. We urge your serious consideration of these changes.

330 Particularly in eastern Kentucky where slopes are steep, head of hollow fills have become an important spoil storage area for many sound reasons. First in importance to the operator is their proximity to his working area and the cost of hauling the materials is less than to an offsite area. From the environmental impact standpoint, properly engineered fills control runoff of water and sediment by controlling the degree of the main slope and providing a very shallow slope at the toe of the fill. Water filtration is often accomplished by rock drains in the body of the fill. There really is no better spoil storage area than a properly engineered, designed and constructed head of hollow fill.

330 The language of H.R. 2 leaves unclear the acceptance of head of hollow fills as approved storage areas. This may be exactly the sort of thing that would be completely clear if the regulations were available to us. Because of the great reliance of our operators on this method of spoil storage we would propose the following amendment:

330 Section 515(d)(1), line 8, page 99, add after "Operations" the following  
": and provided further that head of hollow fills shall be deemed to be proper offsite spoil storage areas."

330 This amendment would make clear the acceptance of this spoil storage method without diminishing in any way the other requirements of any acceptable spoil storage area.

330 Section 517(c) (2) requires all inspections to occur without notice to the permittee or his agents or employees. This mandatory requirement deprives the inspector of the opportunity to insure the presence of the operator during such inspection thereby making potentially necessary another trip to the same site to insure necessary remedial work is fully understood and can be carried out properly. While the value of no notice inspection is fully recognized as an effective enforcement program, the option of asking the operator to be present also serves a useful purpose. We would recommend subsection (2) begin with the word "may" which preserves both options to the regulatory authority.

330 Section 519(a) requires advertising placed on 5 successive days in a newspaper of general circulation in the locality. Obviously this is an oversight in this section since all other parts of the bill requiring advertising recognize that only weekly newspapers are generally available in most mining areas. Subsection (f), line 13, page 117 also provides more frequent advertising than weekly. Since the rest of the bill provides only for weekly advertising, we are sure these are oversights which probably could be corrected by your staff prior to final approval of the bill and we point them out only so that they may not be overlooked.

330 We cannot help but wonder at the reasons for including section 520. Certainly the rights of all our citizens are clearly set forth in other places without seeming to invite litigation by emphasizing these inherent rights. If this invitation is to be extended, then let us be sure that its acceptance invokes a definitive responsibility. We propose the following addition:

331 Section 520(d), line 12, page 120, after "party;" add "and in addition thereto, in the event that the court determines that a person has exercised the right to commence a civil action herein without good basis therefor, may allow recovery of any damages that may have been a consequence of such action."

331 The incidence of suits causing serious costly delays and financial damage to both private and government projects in recent years dictates the need for a means of requiring responsibility for frivolous acts. We urge your consideration of this addition.

331 Although H.R. 2 is styled "Surface Mining Control and Reclamation Act of 1977," underground mines are equally treated under the act. We therefore urge the adoption of the following in recognition of this fact:

331 Section 528(2), line 2, page 145, add after "surface" the following:  
"or  
underground".

331 No responsible operator could appear before you and not discuss highwalls. Because this is such a controversial subject I have purposely left it to be discussed last. Let me make clear that we have the technology and equipment to restore original contour and completely cover highwalls. We do not, however, believe that money is the only cost of accomplishing this.

331 It is easy for the Governor and other representatives of Pennsylvania whose law is widely advertised as more stringent than this proposed bill to favor completely covering highwalls. After all, approximately 90 percent of all Pennsylvania's reserves occur under slopes of less than 10 degrees and their regulations provide for terracing as an alternative, presumably for the remaining 10 percent of their operation which occur on slopes above 10 degrees. Kentucky is not so blessed with such gentle topography.

331 The ICF, incorporated draft report submitted to the Council on Environmental Quality and Environmental Protection Agency which has been so widely quoted in the press as concluding such a minimal effect on the industry of the enactment of this legislation, contains some interesting data that may shed some light on our problems. Page II-8 reports "three States have substantial areas of steep slopes (source: Skelly & Loy, Inc.), Kentucky, East, Virginia and West Virginia, South." Page II-35 sets forth cost analyses of the Oak Ridge model mines which show operating cost comparisons which clearly show a cost of \$1 2.31 per ton in 1974 dollars for a 90-foot highwall and a 25-degree slope to accomplish approximate original contour as against \$7 .88 per ton for the next highest degree of reclamation on similar terrain. Which ICF goes on to adjust these costs downward, nowhere is given any detail explanation of the reasons for such adjustments or engineering theory. In the absence of any real justification for change one must assume the Oak Ridge figures represent actual cost differences which in the case reported at \$4 .43 per ton. This contrasts with ICF's adjusted figures of less than \$1 per ton.

332 Turning from economics to the general conclusions of the report I would like to quote from their page 16:

332 It is noted that while it appears that approximate original contour regrading provides a generally high level of environmental protection, it does not always achieve the best level of protection. During the critical period between regrading and the establishment of a vegetative cover, the site is

particularly vulnerable to erosion due to rainwater runoff. Some studies by Government agencies and engineering firms have indicated that terracing is often desirable in reducing runoff and conserving moisture. Further, in many areas the haul roads and mining benches, when properly reclaimed, have created new land-use opportunities.

332 Herein lies the entire point I hope to convey to each of you. There is no opposition on our behalf to restoring original contour and completely covering highwalls as a general criteria for the standard of reclamation. What we ask is recognition of the fact recognized almost unanimously by current engineering reports that there are circumstances where other ways may produce a more desirable environmental and land use result.

332 Historically there has been a commingling of three mining results, that is, highwalls, spoil over the outslope, and landslides. The damage that has been done to the land by past practices is clearly and completely documented. There are provisions in this legislation to reclaim and restore these lands which we completely support. Let me point out that the highwall has done no physical damage. The past practice of placing spoil over the outslope rather than in a stable spoil storage area is the practice resulting in landslides and all of the adverse consequential results. The highwall has caused none of this.

332 The great majority of the low sulfur coal reserves occur in the steep slope States. Production of this high quality coal is badly needed if not vital to maintain air quality in high density areas.

332 We respectfully submit that in those areas of steep slope mining the alternatives of highwall reduction with appropriate highwall screening by the use of vegetative cover to restore aesthetic values may be a reasonable alternative to completely covering the highwall by producing a more secure environmental result and generating the opportunity for better land use while retaining the recovery of much of the high quality low sulfur coal available for use.

332 We sincerely hope you will not close your minds to responsible, soundly engineered, and environmentally acceptable alternatives in favor of the highly emotional aesthetic issues which contribute no heat in our homes. Reasonable people should be able to accept and devise responsible solutions which address all our needs. We ask only the opportunity to demonstrate to the responsible regulatory authority the soundness of these alternatives from the standpoint of environmental result and land use opportunity with the option left in the hands of the regulatory authority, State or Federal, to authorize such alternatives on

such a showing.

332 Thank you for permitting me the opportunity to appear before you today.  
I will be happy to answer any questions that you may have.

332 Mr. SEIBERLING. Thank you, Mr. Schwab. Your statement orally was just about verbatim, the same as your printed statement; so if it's all right with you we will use it that way. We will place your prepared statement in the files.

333 Mr. SCHWAB. The use of my printed statement is perfectly satisfactory.

333 Mr. SEIBERLING. I just wanted to avoid extra printing if that is all right with you.

333 Let me make a couple of observations starting with your last comments first, with respect to approximate original contours.

333 I think I ought to point out that on page 92 of the bill, subsection 17, it was brought out that the regulatory authority may permit where consistent with State and local land use plans and programs, and where necessary permit a limited exception to the restoration of approximate original contour for that purpose.

333 Then in the committee report on H.R. 13950, which was the last time we made an effort at bringing out a bill, on page 74 the same point is made, and it further says that the design and construction of such roads under appropriate engineering standards assuring environmental and maintenance objectives are met, implies that in some instances there might well be some narrow and shallow fill areas on natural slopes where construction of such roads as initial activity preceding the actual mining process.

333 So what we are trying to say here - maybe we need to say it a little better - is that approximate original contour doesn't rule out variances for roads, for example, and I would think that the grading of the type that was shown to us by one of the previous witnesses where he had terraces with roads going across the flat part, would also be within the scope of this, and I would like to ask you if that would meet your point on approximate original contour, or are you also questioning the elimination of the requirement of backfilling the highwall?

333 Mr. SCHWAB. I am suggesting two things, first of all, with regard to the access road language that is contained in the bill, we read that and understand that to mean where it says in connection with State and local land use plans, that these are permissible only with a public project, that the landowner himself who may wish to put his land to some higher use than that

enabled by restoration of the original contour may not have his needs and his wishes met under this act.

333 We are addressing ourselves to first of all roads and land use with respect to the rights of the individual landowner and what he may wish to do with his land on his request.

333 We don't think that that is covered here on page 92, section 17. We think this means only with respect to public programs.

333 Mr. SEIBERLING. I think you are reading something into the bill that actually isn't there.

333 All it says is that the regulatory authority may permit the retention after mining of certain access roads where consistent with State and local land use programs.

333 So if the road was not consistent with some local land use program then the regulatory authority would not permit it. Where it was not inconsistent, for example, if there was no land use program applicable to it, there would be no problem at all.

334 So we are not talking about public roads, we are talking about private roads on private lands.

334 Mr. SCHWAB. You are saying that the interpretation of this as if the landowner said if the road were left so he could have access to his land, and that was not inconsistent with some State or local land use plan, that that is permitted under the bill?

334 Mr. SEIBERLING. That is my interpretation of it. That is what we intended.

334 Mr. SCHWAB. If that is the intent, that is what we are trying to get at.

334 Mr. SEIBERLING. As to the backfilling of the highwall -

334 Mr. SCHWAB. With regard to the backfilling of the highwall, what we are getting at is that there are more stable means of keeping the spoil in place than just restoring to original contour. Storing this on the solid bench with terraces is one of those.

334 If we are forbidden to completely cover the highwall and we read in this bill in two places specific language that says you must completely cover the highwall - if we are not required to completely cover the highwall and these alternative methods of spoil storage which may be more stable in some of these situations, are to be permitted under the bill, this is what we wish.

334 Mr. SEIBERLING. I think your point is well taken. We had some slides today that showed backfilling where the highwall was not completely covered and for purposes of preventing erosion the point was made that it's better to leave a ditch at the upper end of the backfill between the highwall and the fill so that it will carry drainage from higher points off and into the normal drainage pattern.

334 I think perhaps we could work in some language of the very kind that you use where more stable methods is preferable, that that could be done.

334 I would ask the staff to take a look at that.

334 Now, I would like to comment on a couple of other things.

334 In connection with your chart that shows the length of time that this process will take, I think I ought to point out that operators - if this bill is enacted in its present form - are not going to be hit with this application process immediately. The process goes into effect after approval of the State program which could take 24-30 months. So that while once the bill is in effect there is going to be a certain time required to get a permit issued, everything isn't going to stop while that happens.

334 Mr. SCHWAB. I believe that is correct with one exception, that exception being that under section 502 you are required to comply with section 515(b)(10) which is the hydrologic study for any permit applications after 6 months after enactment. Also 12 months after date of enactment all existing preenactment permits that are ongoing under the interim rules must also comply, and has been pointed out in our testimony here, that data simply is not available to us and if the letter of the law is imposed, then operations must cease until that data has been generated.

334 Mr. SEIBERLING. Well, I also would like to call your attention to section 507(b)(11) on page 63 of the bill. Let's turn to that if you will.

335 Well, that isn't the one I had in mind. That is the hydrologic provision. But we have a provision in here that says that the State regulatory authority is to provide the necessary data to small operators.

335 Mr. SCHWAB. That is correct, sir.

335 Mr. SEIBERLING. I would like to ask for your comment on that.

335 Mr. SCHWAB. With regard to the provisions of this data for the small operator, his cost of providing the data is covered. The time factor necessary for the development of the data is unaltered.

335 Mr. SEIBERLING. Well, I think we better check that out and if that is the case then obviously at least in the initial period of this bill we are going to have to make some provision for relief because we do not want things to grind to a halt the minute this bill is put into effect, and if there is any way we can possibly work it out, I think we should.

335 Mr. SCHWAB. That was exactly what we asked for in our testimony.

335 Mr. SEIBERLING. Thank you.

335 Now, let me ask you one other thing on that subject: isn't it possible to use basic water data in one known watershed as a sort of proxy in another watershed of similar geology? Would that be possibly a solution?

335 Mr. SCHWAB. Mr. Griffin will answer that.

335 Mr. GRIFFIN. It has been done but it's not totally acceptable especially when you are dealing with very small drainage areas such as are encountered here with variations in slope, permeability and so forth.

335 Mr. SEIBERLING. I see.

335 Well, Mr. Griffin, while I have your attention you objected to the current conditions of hydrology when you don't really know that until you have made this sort of examination and study?

335 Mr. GRIFFIN. I am referring to current conditions where I know the data is not available.

335 Mr. SEIBERLING. Well, don't we have to have a base line against which the operator's impact is measured and monitored?

335 Mr. GRIFFIN. Right.

335 Mr. SEIBERLING. So how do you get that base line?

335 Mr. GRIFFIN. We have no qualms if such study is desirable. The thing that we are pointing out is in this interim period until the data becomes available, there does have to be some relief.

335 Mr. SEIBERLING. I can see that there could be a problem there and we have got to come to grips with that.

335 Now, again while I have your attention, Mr. Griffin, you made the point that it was unreasonable to require the operator to assess the impacts on the hydrological impacts on all of the different property owners that might be affected in a particular watershed for example?

335 Mr. GRIFFIN. That is not really what we are saying, Mr. Chairman.

335 What this says is "to determine the hydrologic consequences of all anticipated mining."

335 Mr. SEIBERLING. Yes.

335 Mr. GRIFFIN. What we are saying is that we cannot anticipate the activities of others.

336 Mr. SEIBERLING. Well, I can see that point but I thought you went on and made that additional point. Maybe I misunderstood you. I thought you were saying that it was unreasonable for you to assess the impacts all along the line.

336 Mr. GRIFFIN. No, sir, I was paraphrasing some of this from the paper. What I said was not quite as written and if I did

336 Mr. SEIBERLING. Well, I better read your written statement very carefully then because

336 Mr. GRIFFIN. Yes. The written statement.

336 Mr. SEIBERLING. [continuing]. Because I have been to areas in Ohio for example where people half a mile from a mine suddenly started pumping black water out of their pumps, hand pumps, and couldn't even drink their water any more because of the effect of blasting on the underground water supply.

336 It does seem to me that there are too many cases of people - and I just use that as one example - of being injured by disturbance of the water supply by strip mining with no recourse whatsoever and I don't - it doesn't seem unreasonable to try to figure out how to avoid that type of consequences or else assume the cost.

336 Mr. GRIFFIN. No, sir. As I pointed out, what we were referring to in the written statement was the fact that determining the anticipated mining activities of others in the surrounding area or in the watershed.

336 Mr. SEIBERLING. Just one comment on the graph or chart, Mr. Regan. Many of those steps that are referred to other than the application, and the hearings and the permit, etc., but those preliminary steps of the kind that are in the Big Bulge part of that reference chart, would be undertaken anyway, wouldn't they, by a mining operator trying to do a proper job?

336 Mr. REGAN. They are steps that should be undertaken by one who is

trying to do a proper job; however, they are not required at the present time in the Commonwealth of Kentucky, all of them are not.

336 We are trying to point out really that we are missing some data and there are some questions and all this is covered in the written testimony, questions about topography, for example, where you say a 1 to 24 thousand USGA topo will suffice. It will not in our mine suffice, it will require rematching, etc.

336 Environmental assessment, for example, is required although it is not stated because you have to know what was there before you start if you are going to know what the impact would be.

336 Mr. SEIBERLING. Yes, well, thank you.

336 Mr. Ruppe?

336 Mr. RUPPE. Thank you very much, Mr. Chairman.

336 You have given us one picture of mining in Kentucky and Mr. Hayes seems to have given us a picture of mining in Kentucky that is something at variance with yours.

336 What is your reaction to Mr. Hayes' statements regarding mountaintop removal and overburden placement? I gather from his statement that he is certainly very much opposed to mountaintop removal and against the placement of any overburden on the downslope.

336 Mr. SCHWAB. Mr. Ruppe, with respect to overburden on the outslope, we are all in complete agreement. This is what has caused the difficulty and the land damage in the past.

337 The highwall has not caused it. It has been the spoil over the outslope that has caused it. While it is true that Kentucky law still permits some spoil over the outslope, the generalization that Kentucky permits 40 percent of the spoil over the outslope is simply not true.

337 Forty percent over the outslope is permitted under Kentucky law under very low slope degrees. And it is a variable and no spoil is permitted over the outslope, if I recall, above 25-degree slopes.

337 Perhaps even lower than that. I don't remember the exact degree under the law now. Most of our work is all haulback anyway with none over the outslope. I just don't remember exactly what the degree is.

337 Nobody argues the point that spoil over the outslope is what caused the damage. Nobody is suggesting that this act should permit us to continue that practice.

337 Where that practice has occurred, much land damage has occurred, no argument.

337 With respect to mountaintop removal, I think my testimony speaks for itself. Properly done, properly engineered, spoil storage areas, etc., there is no better mining terminology for maximum recovery of the resource with minimum environmental impact.

337 Mr. RUPPE. What is your response to Mr. Hayes' comment that in Kentucky in his view the problem lies not with the law itself but rather essentially with the enforcement of that law?

337 Mr. SCHWAB. I would be very pleased for all or any of you to come to Pike County, Ky., where we operate and see whether or not our laws are being enforced.

337 My experience in Kentucky - and I have only been mining there for 2 1/2 years - has been that we are required to comply with the letter of the law.

337 There is no instance where we have not in our operations encountered responsible people on the enforcement side who insisted that we do what we said we were going to do in our mining plan.

337 Mr. RUPPE. If your colleagues have experience in Kentucky law enforcement that predates your 2 1/2 years' experience, I would appreciate their comments on that.

337 Mr. REGAN. We are not operators. We would not be qualified to comment on that.

337 Mr. RUPPE. You suggest the bond be limited to \$1 0,000 to an operator who does 250,000 tons a year. I gather he gets probably a minimum of \$1 0 a ton for his product. I would suggest that if the man could walk away from the mine where he has been doing \$2 1/2 to \$3 1/2 million of business for a penalty of \$1 0,000 he would be well advised to do that. In my opinion, your \$1 0,000 bond without further remedial availability of enforcement, really isn't much more than no bond at all.

337 Mr. SCHWAB. I am sorry, your math went by me.

337 Mr. RUPPE. You are suggesting that they reduce the bond, in the case of those operators mining less than 250,000 tons a year, you are suggesting we limit the bond, I believe, \$10,000.

337 Mr. SCHWAB. Yes, I am suggesting that the bond limit be less than a \$10,000 minimum for those operators, that goes down to operators producing quite a lot less than 250,000 tons per year, also.

338 Mr. RUPPE. The problem really is, I would think, that if you get down to \$3,000 or \$4,000 bond if the bond is the only thing that keeps the man on his toes, so to speak, you then get to the point where I would think a default in the bond really is a very small financial expenditure to the individual.

338 Mr. SCHWAB. Bonding is something that is becoming increasingly more difficult and for all intents and purposes it is necessary for the small operator to put up a cash bond. The insurance company or the surety that is writing the bond today requires all but the larger financially well capitalized companies to put cash in escrow in favor of the insurance company and when they write the bond effect on a cash reserve.

338 Where you are holding 40 percent of that bond for a period of 10 years, where this operator may have more than a single permit per year - because remember this is the operator that is operating on these small tracts of land, and his permits are not large and he may mine two or three or four or five permits per year.

338 Mr. RUPPE. What is the range of mining production in a given year on the part of a small operator in a single mine site?

338 Mr. SCHWAB. We are talking about operators who produce from zero to 250,000 tons a year.

338 Mr. RUPPE. What would be a small operator's average production in Kentucky on a single mine site?

338 Mr. SCHWAB. I wouldn't have that number on that. I would be happy to get it for you.

338 Mr. RUPPE. You did indicate on page 6 that mountaintop removal, I believe, has often led to postmining agricultural, commercial, residential or recreational uses.

338 And I think preceding witnesses have suggested that not a great deal of positive postmining use has been undertaken or can be identified with mountaintop removal. I wonder if for the record you or your associates might be

able to identify or give us an indication at a later time or by letter, of mountaintop removal operations where post-mining uses have been developed.

338 Mr. SCHWAB. We will be happy to supplement our testimony by letter.

338 Let me say that there are residential projects that have been under-taken both on bench and hollow fill areas and also on mountaintop removal areas that are active in the State of Kentucky today and we will document those for you.

338 Mr. RUPPE. Our staff people said that some of the other witnesses, apparently I have not attended all the hearings, have indicated that there have been some postmining use projects, but if you identify some of the typical uses it would be helpful.

338 Mr. SCHWAB. We will be glad to do that for you.

338 Mr. RUPPE. In reference to mountaintop removal, I believe you have indicated that to secure a variance, a prefiled plan for development is necessary. Is your concern over the pre-filing of that development plan or the fact that a development plan must be there, readily undertaken in spite of the fact that perhaps the postmining uses are not really that immediately identifiable?

338 Mr. SCHWAB. The filing of the plan is a problem if it is a plan that is going to be implemented in the future.

339 It is not a problem if the plan is going to be implemented immediately.

339 If you are removing a mountaintop in an area with close proximity to public facilities so that development is immediately realistic, then filing is no problem in connection with that.

339 The problem starts with the fact that the resource being recovered very often is located in an area where these public facilities are not available and must wait some years for the extension of the public facility loans.

339 Mr. RUPPE. OK.

339 Mr. SCHWAB. If you are required to show the filing as well as the use in the future, current filing for a longer range project is almost impossible.

339 Mr. RUPPE. On page 8, you refer to cell structures constructed to contain impoundment runoff. Are these cell structures commonplace in everyday

mining operations in your State?

339 Mr. SCHWAB. Yes, sir, they are.

339 Mr. RUPPE. Are they used for the purpose of impounding the runoff during mining and for the purpose of assisting in the revegetation of the disturbed area?

339 Mr. SCHWAB. They do not assist in the revegetation of the area. Their purpose is to impound the runoff and reduce stream sediment both during the mining phase and during the revegetation period.

339 Mr. RUPPE. I presume if your suggestions were to be incorporated that the structures would be permitted to be retained and I suppose then they, too, would have to be somehow constructed or engineered in such fashion that they would not suffer erosion at a future date? That, again, perhaps is not a problem in your opinion?

339 Mr. SCHWAB. The bill provides for design of these structures under a Corps of Engineers' specification already. I believe that that specification is probably adequate for purposes of your question.

339 Mr. RUPPE. And you put your reputation on the line that you can develop good head of the hollow fill techniques that with proper engineering can stand up?

339 Mr. SCHWAB. I've done it.

339 I have done it and I am doing it today, and I would be happy to have you come visit my mine.

339 Mr. RUPPE. And you don't think you will be sued by anybody downstream of your head of the hollow fill?

339 Mr. SCHWAB. I certainly don't expect it.

339 Mr. RUPPE. Thank you very much, Mr. Chairman.

339 Mr. SEIBERLING. Thank you.

339 Now, Mr. Rahall.

339 Mr. RAHALL. Thank you, Mr. Chairman.

339 I want to thank you gentlemen for your time and patience and staying with us all day today. Your statement is well presented and you are to be commended for the work you put into it, and it has been very informative to this

committee.

339 I am just a little curious. You state in your opening page that you are not here to oppose Federal surface mining legislation.

339 Then it seems that you proceed to attack every provision of the bill and make amendments or your recommendations for change.

340 My question concerns the relationship or the comparison between this bill, and State laws on the books, which should be taken into consideration when we rewrite the bill, if it is rewritten.

340 Would it be your opinion it would be a better bill than Kentucky State law?

340 Mr. SCHWAB. No question, sir, it would be a more stringent bill than the existing Kentucky law.

340 Mr. RAHALL. Then vis-a-vis H.R. 2 as presently written, you would rather live under Kentucky law?

340 Mr. SCHWAB. Well, yes -

340 Mr. RAHALL. Is that right?

340 Mr. SCHWAB. Obviously Kentucky law is less stringent than the way H.R. 2 is written or will be written with the modifications that we have suggested. It would be easier for our operators to continue to live under Kentucky law.

340 Mr. RAHALL. In the Federal bill would you desire the provision that the State law would be the controlling law, if it is more strict than the Federal law? You are saying you would rather abide by the State law?

340 Mr. SCHWAB. If the State law is more stringent than the Federal law, we have no objection to abiding by it.

340 Mr. RAHALL. You are putting the authority for enforcement of the law that you abide by, you would rather see the State law in effect; is that correct?

340 Mr. SCHWAB. We would prefer to see and we expect that the State of Kentucky Department of Natural Resources would see that every effort is made to insure that the State law does comply with the Federal bill and that the State continues to administer the mining in the State.

340 Mr. RAHALL. You also make the statement that the Kentucky law is presently being enforced. I have not seen it firsthand myself to be able to

agree or disagree with that.

340 Has this always been the case in Kentucky?

340 Mr. SCHWAB. Sir, I can only speak to the last 2 1/2 years that I have been there, but during that period of time when I have been an active mine operator, in every experience that I have had with the State regulatory authority, we have been obligated to do what we said in our mining plan we were going to do. Enforcement has been strict.

340 Mr. RAHALL. I share that same concern, coming from a neighboring State of yours, West Virginia, in fact, I feel our laws have been more strictly enforced in recent years than they had been in the past. And many of the concerns you have with this bill I also have.

340 Mr. SCHWAB. I wonder if it really has been as much a matter of enforcement as it has been the evolution of reclamation technology. You know, one could look back on the ravages of past practices and wonder if that was enforcement when perhaps it was the fact that the law was not there to enforce.

340 There has been an upgrading particularly in Kentucky over the last several years of the reclamation requirements and it is very difficult to go into these areas that have historically been mined for 30 and 50 years and determine the point at which certain occurrences took place with regard to the reclamation laws that were attempting to be enforced at that point in time.

341 Mr. RAHALL. Fine.

341 Mr. SCHWAB. There is no question but what reclamation technology has improved in recent years.

341 Mr. RAHALL. I think that one purpose for these hearings is to bring out a lot of the improvements that have been made over recent years and to take these into account in our consideration of Federal surface mining legislation.

341 I think you for your testimony.

341 Thank you, Mr. Chairman.

341 Mr. SEIBERLING. Go ahead, the gentleman from Michigan.

341 Mr. RUPPE. Did you say you have only mined in Kentucky for 2 1/2 years or you have only mined for 2 1/2 years?

341 Mr. SCHWAB. They are both true.

341 Mr. RUPPE. You have done a good job at the learning process, I will say

that.

341 Mr. SCHWAB. Thank you.

341 Mr. RUPPE. You are a very articulate gentleman.

341 I was thinking in the past few moments about head of the hollow fill. The bill, I believe, is silent on that subject.

341 On page 85 of the bill, however, I believe there is an indication that after we have provided for restoration through original contour, excessive overburden beyond that requirement could well be set aside in a head of the hollow situation as long as the head of the hollow is within the permit area.

341 I wonder whether you would agree to my interpretation of the language inasmuch as it really is silent on the specifics of that subject?

341 Mr. SCHWAB. I think our question is the use of "offsite" and we are not sure what "offsite" really means. Again, this is an issue where if the regulations were at hand it probably would be crystal clear.

341 Offsite, when we read it, means not adjacent to the bench on which you are removing coal. That means off in some other area.

341 Offsite apparently when interpreted by some of your staff people means that it is off of the mining bench itself, but still in the proximity of the mining area. This is purely a question of clarifying, as far as we are concerned.

341 If the regulations clarify this that a head of hollow fill is acceptable mining practice as it is used adjacent to the mining bench then there is no need to change this. But as we read it we are unclear as to whether it says that a head of hollow fill is accepted practice or not.

341 Mr. RUPPE. Your concern is not so much with the location of the head of the hollow, but with the legality of head of the hollow in itself?

341 Mr. SCHWAB. It really is both.

341 Mr. RUPPE. Well, head of the hollow fill could take place anywhere else except immediately adjacent to mined area?

341 Mr. SCHWAB. It is possible, of course.

341 In general practice that doesn't occur. But it is possible.

341 Mr. RUPPE. I would assume that in the language of the bill it would have to take place in the permit area?

341 Mr. SCHWAB. Yes.

342 Mr. RUPPE. Which would then restrict it to, I would think, if not to an area immediately adjacent, at least in the area of the mining operation?

342 Mr. SCHWAB. Let me find the exact language.

342 Mr. SEIBERLING. Are we not talking about really pages 98 and 99?

342 Mr. RUPPE. Well, I just was working on page 85 and I thought maybe a little bit on 87, paren seven which talks about "and not deposit spoil material or locate any part of the operation or waste accumulations outside the permit area."

342 That is where I came up with it. And head of the hollow fill under the best interpretation in my opinion would be limited to the permit area itself, I would think?

342 Mr. SCHWAB. Well, page 85, lines 18 on down, I think are the only language in this particular section that relates to that. That simply says you will put it some place within the permit area. It doesn't say what kind of a storage area.

342 Mr. RUPPE. Right, there certainly are obvious requirements for placement of any kind of a head of the hollow situation, but the subject is, can you use that technique which is not really immediately addressed? So I would ask - that is the reason for my asking whether you feel you can live with that language and still keep my house warm?

342 Mr. SCHWAB. Again, the regulations would probably answer that question. We think that it is probably covered under the language of the bill, but we are unclear and it is so important as a means of spoil storage in our area, we want to be absolutely certain that either the bill is modified or that the regulations so state or that the committee report gives cognizance to it so that it is a permissible means of storage.

342 Mr. RUPPE. Obviously if the regulations were developed in such a way as to permit head of the hollow fill, the remaining portion of that language would not be that obnoxious to you or your organization?

342 Mr. SCHWAB. No; we don't find a quarrel with that part of the legislation.

342 Mr. RUPPE. We are moving forward.

342 On that note, Mr. Chairman, I would ask no more questions.

342 Mr. SEIBERLING. Just to complicate matters a little, I wonder if we could turn to 98, subsection 515(d) (1), deep-slope mining mining?

342 I invite your attention to the proviso at the bottom of page 98 which says that:

342 Provided, That spoil material in excess of that required for the reconstruction of the approximate original contour under the provisions of paragraph 515(b) (3) or 515(d) (2) or excess spoil from a surface coal mining operation granted a variance under subsection 515(c) may be permanently stored at such offsite spoil storage areas as the regulatory authority shall designate and for the purposes of this act such areas shall be deemed in all respects to be part of the lands affected by surface coal mining operations. Such offsite spoil storage areas shall be designed by a registered engineer in conformance with professional standards established to assure the stability, drainage, and configuration necessary for the intended use of the site.

342 Doesn't that really address itself to the problem of filling the hollow?

343 Mr. SCHWAB. This is the language I was addressing myself to and the word "offsite." Now does offsite mean completely over the hill some place else? Or does it mean in the hollow, in the approximate area of the mining?

343 This is where we are unclear. This is where we wanted clarification.

343 Mr. SEIBERLING. The word "offsite" needs clarification but I think that we intended to mean - and our expert is Mr. Crane, and probably it is his language to begin with - was that it was not where the actual mining is taking place. Offsite simply means away from the mining location.

343 Now, it seems to me that head of hollow is no more a word of art than "offsite."

343 Mr. Hayes showed some slides that showed you could put it in head of hollow and it is going to go sliding on down the hill for years to come.

343 He suggested that maybe what you really want to do is put it in the bottom of the hollow and start building up to the toe of the hollow if that is the proper word, instead of the head of the hollow.

343 I don't know, but I think that the language in 99 which may be subject

to further clarity, nevertheless makes it clear that if we accept the word "offsite" as being somewhere other than where the mining is taking place, it could be head of hollow if that will insure - if an engineer can design it so as to assure stability, or if it isn't possible to do that in the head of the hollow, maybe he would say you would have to go down to the foot.

343 But isn't that really about all we can do subject to clarity of the language as to what we mean?

343 I don't see how we can say head of hollow is all right because sometimes it might not be all right.

343 Mr. SCHWAB. Certainly what you are saying is correct. Let me point out that the key with regard to head of hollow fills is the language here designed by a registered engineer in conformance with professional standards.

343 A properly designed head of hollow fill will stay in place. A properly designed head of hollow fill requires a constructive toe of no more than 10 degrees. Whether that is in the valley or halfway up the side of the hill, that is the key language.

343 Now, if offsite is sufficiently flexible so that what we are talking about is simply off the mining bench and it can be in the heads of hollow or across the hill or wherever, then I don't think there is any problem with this language, but if offsite can simply be defined in the regulations or keyed so we are assured of the flexibility of that word, we have no problem.

343 Mr. RUPPE. Will the chairman yield?

343 Mr. SEIBERLING. Yes.

343 Mr. RUPPE. The offsite head of the hollow fill has to be, in the language of the bill, within the permit area.

343 Mr. SCHWAB. Yes; you are required to -

343 Mr. RUPPE. I might say, that that whole section deals with steep slopes so we want to be sure we don't grant it for a steep slope mining and not for standard mining which I presume is covered by the language back on page 85. So one of these days I am called upon to be a lawyer.

344 Mr. SEIBERLING. As a lawyer and Harvard man -

344 Mr. RUPPE. You got two strikes against you.

344 Mr. SEIBERLING. I intend to make other suggestions and parts of it are not even grammatical. But considering the circumstances under which we

sometimes labor here, I guess we were willing to accept anything to just resolve some of our impasses as long as we thought we knew what it meant, even if it was not grammatical. But we ought to clarify that.

344 Does anyone else have any questions?

344 Mr. RUPPE. No, thank you.

344 Mr. SEIBERLING. Thank you very much, Mr. Schwab. I appreciate very much the spirit in which you have given us your advice. I think we will try to take heed of it and meet your points as far as it is possible.

344 Mr. SCHWAB. Thank you very much.

344 Mr. SEIBERLING. We are gradually running out of time here.

344 If the Virginia Surface Mining & Reclamation Association still wishes to testify today, I will be glad to sit here and take their testimony.

344 Mr. COOPER. Mr. Chairman, I think it will gladden the committee's heart when I tell you that many, many of the points we wanted to cover have been covered by the gentlemen from Kentucky; and we can summarize -

344 Mr. SEIBERLING. Are you Mr. Cooper?

344 Mr. COOPER. Yes, sir. We can summarize our testimony very briefly. I will ask the other gentlemen, if I may, to come up with me. We will do this very quickly and try not to tie you up too long. Some of us do need to try to get back about 400 miles tonight.

344 Mr. SEIBERLING. Fine. I sympathize with you.

STATEMENT OF B. V. COOPER, EXECUTIVE DIRECTOR, VIRGINIA SURFACE MINING & RECLAMATION ASSOCIATION, ACCOMPANIED BY WAYNE BOSTICK, H. C. BOSTICK COAL CO., SWORDS CREEK, VA.; ARTHUR WOODARD, OPERATIONS MANAGER, DEAN BROTHERS COAL CO., ST. CHARLES, VA.; J. KENNEDY, STUDENT, CLINCH VALLEY COLLEGE, WISE, VA.; AND TED ROBERTS, CARTER MACHINERY CO., SALEM, VA.

344 Mr. SEIBERLING. I assume you would like to have your written testimony printed in the record in full?

344 Mr. COOPER. Yes, sir, if I may.

344 Mr. SEIBERLING. Without objection that will be ordered done.

344 [Prepared statement of B. V. Cooper may be found at the end of the panel's testimony.]

344 Mr. SEIBERLING. Is Mr. Kennedy here?

344 Mr. KENNEDY. Yes, sir.

344 Mr. SEIBERLING. I assume you would like to put your written testimony in the record?

344 Mr. KENNEDY. Yes, sir.

344 Mr. SEIBERLING. Without objection that will be done.

344 [Prepared statement of Jack Kennedy may be found at the end of the panel's testimony.]

345 Mr. SEIBERLING. Would you identify yourself?

345 Mr. COOPER. I am B. V. Cooper, executive director of the Virginia Surface Mining & Reclamation Association, in Big Stone Gap Va.

345 I have with me here Mr. Wayne Bostick of H. C. Bostick Coal Co. in Swords Creek, Va.

345 He and his family run a relatively small operation. I have also with me Mr. Arthur Woodard on my left who is the operations manager for Dean Bros., Coal Co. in St. Charles, Va.

345 They have a shipping facility and mining operations. Mr. Kennedy we have already mentioned. He is a senior at Clinch Valley College in Wise, Va., lives in Coeburn, Va.

345 Also behind me, Mr. Ted Roberts of Carter Machinery Co. in Salem, Va., who I believe might be able to answer questions that you would have on equipment capability and what constitutes some of our concerns.

345 Mr. SEIBERLING. Did I see Mr. Wopler, Representative Wopler here?

345 Mr. COOPER. He was here but he had to leave, sir.

345 I would like to ask your permission to have Mr. Kennedy summarize his statement. Then I will make a brief statement and see if we have any questions.

345 Mr. KENNEDY. Mr. Chairman, members of the committee, my name is Jack Kennedy, Jr. I am a resident of Wise County, Va. Wise County is located in the southeastern section of the Commonwealth of Virginia, the heart of Virginia coal fields.

345 I am 20 years old and a life-long resident of Wise County. I am presently a fourth-year student at Clinch Valley College of the University of Virginia in Wise, Va.

345 My father is a coal miner in Virginia. My grandfather was a coal miner in West Virginia and Virginia. Personally, I have held summer jobs on mine sites. I am knowledgeable with surface mining operations in Virginia.

345 I request the time to come before the committee today to state my major objections to H.R. 2 from the perspective of a young man interested in the future development of the central Appalachian region. I am interested in the future job opportunities for thousands of young people in Appalachia.

345 Furthermore, I am interested in a sound and solid economy in the Appalachian region. The future of the coal industry is the key to job opportunities and the economy. Coal is the root of our economy in southwestern Virginia.

345 I hope that this committee will give serious consideration to the amendments being suggested by interested people from Virginia

345 Mr. SEIBERLING. Mr. Kennedy, are you just going to read your today statement?

345 Mr. KENNEDY. Yes, sir. It's only four pages.

345 Mr. SEIBERLING. Would it be possible to summarize it? We will put the whole statement in the record?

345 Mr. KENNEDY. Yes, sir. My basic objections are to the approximate original contour section because I feel this would be very costly and put several hundreds of small coal operators in the Appalachian section out of business.

346 I feel the approximate original contour section would be costly in putting land back to the approximate original and it would not be profitable for many mining companies to do so.

346 Section 520 of H.R. 2 allows for citizens' suits and public participation. My objection to this section is that it is very ambiguous and the potential for endless and repetitive litigation is quite possible.

346 I suggest an amendment to the citizen's suit section to allow an end to these litigation processes. Section 401(D) of H.R. 2 imposes a reclamation fee or tax of 35 cents a ton on surface mine coal and 15 cents per ton on underground coal, or 10 percent of the value of coal at the mines, whichever is less. I feel this section of the bill is anticonsumer as it will ultimately be passed on to the consumer in higher and higher electrical rates and inflation in the cost of goods being manufactured from coal.

346 I urge this committee to amend that section of H.R. 2. The appropriation of reclamation of orphan lands should be financed by general revenue in my opinion.

346 I pointed out my major objections to H.R. 2 in very brief terms. Employment opportunities in southwest Virginia have currently been on the rise. Young people born and raised in the central Appalachian region now have more job opportunities due to increased surface mining.

346 Many of my college and high school classmates are working on surface mining related jobs. If H.R. 2 is enacted in the current form I fear vast unemployment in central Appalachia because many small coal companies would be forced to fold.

346 Young people will generally be forced to leave their mountain homes for urban areas to seek new job opportunities. I feel this is unfair. I also wish to point out to the subcommittee that the United Mine Workers of America have recently reversed their stance on H.R. 2 and now are advocating regulations by the State.

346 I wish to thank the chairman, Mr. Seiberling, for the opportunity to come here today to testify about H.R. 2. I hope this committee will have the time in the very near future to hold more public hearings in the central Appalachian region of Virginia as I feel it would be most beneficial to the committee's complete understanding of our problems with this legislation.

346 Thank you very much, sir.

346 Mr. SEIBERLING. Thank you, Mr. Cooper. Do you wish to add anything?

346 Mr. COOPER. Mr. Chairman, if I may, I would simply like to hit four or five major points; and if I could have just a moment, I would like to explain one thing that seems to have puzzled quite a few people, and that is why those of us from Virginia seem to constantly be over here explaining about this bill; and the fact is that it appears to us, it appears to the attorneys who have reviewed it for us; it appears to our operators and it appears to consulting engineers with whom we have talked in depth that Virginia will probably suffer the greatest impact from a percentage standpoint of any State affected by the bill, and that results from the fact that our coal region is entirely in one small corner of the State, the steepest mountains of the State, and is confined to some seven counties, but only four or five of those actually produce large quantities of coal.

347 Those are the reasons for being very much concerned, and we are simply convinced that we cannot live under some of the provisions of the bill.

347 We are not alone in this. I have left with you, as part of my statement, some attachments which show the general opinion in our area and statewise. As a matter of fact, our general assembly has now passed a resolution unanimously, I understand, opposing the introduction of Federal legislation into Virginia.

347 We are at this very moment working very closely with the State agencies to enforce our law, to further upgrade the reclamation standards that we have. We have had a law since 1966 that has been constantly improved with industry support.

347 The relations are now being updated for the second time in 2 1/2 years, again with industry support. So those are some of the kinds of things that concern us.

347 We have the indication early in the bill that there will be a State lead, but after I think very carefully reviewing the language, it becomes obvious that the States will have relatively little in the way of prerogatives and that the desires and best plans of the people in the State would have often been frustrated by the lack of ability to comply with Federal standards and to do what those in the State believe is the best for their land.

347 We are very much concerned about money in this bill also. We have done some calculations. It appears to us that the titles for research and so forth will cost some quarter of a billion dollars.

347 One of the most difficult portions of the bill in our opinion, and unnecessary portions in Virginia - I can't speak for the rest of the country - but in Virginia that happens to be the title 4 on orphan land reclamations.

347 I have to assume from the titles of the sections that its basic purpose is orphan or abandoned land reclamation, but that gets a little interesting when you get into Virginia's situation again, which if I may, I would like to use as an example.

347 Even the highest guesses that I have heard don't go over 20,000 acres; and the most recent estimate which I received from Mr. Robert Heron in the Division of Land and Mine Reclamation last week is that, now, only about 18,000 acres of land in Virginia could possibly require any consideration for reclamation.

347 When we do the calculations on 35 cents per ton for surface coal, and

cents per ton for underground coal, we find that over the 15-year period, Virginia and the customers for its coal, assuming no basic change in production, are going to pay something on the order - now this could be off 10 percent either way, but it's going to be a number like \$110 to \$120 million.

347 We calculated \$1 17 million. If we read the bill correctly, half of that could come back to the State of Virginia. When we divide the \$5 8.5 million, resulting by the 18,000 acres of abandoned lands, we get a total of \$3 ,250 per acre, not necessarily all of which will be spent on the orphan land itself or abandoned land.

348 Mr. SEIBERLING. Could I interrupt at that point? Of course, you understand that the part that comes back to Virginia can be used for other reclamation conservation and public purposes?

348 Mr. COOPER. Yes, sir.

348 Mr. SEIBERLING. It won't all be spent on reclamation.

348 Mr. COOPER. Yes, sir. I certainly do understand that. I certainly can't quarrel with the need for some expenditures of this sort in Virginia and other States; but the point I am trying to make is that the reason for the existence of the abandoned land section started out at least - the reason started out to be the reclamation of those lands which people are concerned about.

348 We are concerned about them, too. That's why we pay into a special fee in Virginia for every acre that we mine, funds which result - going into an abandoned lands reclamation program.

348 The total you come up with, then, is that for Virginia's abandoned lands, some \$6,500 per acre would have to be generated, paid by the consumers with a profit on top of that; and we think that that is an outlandish expenditure for surface which has a market value typically in the range of \$100 to \$250 per acre.

348 I understand the other expenditures and I am in sympathy with those. We do feel that to spend about \$2 .25 billion - and that's what we calculate over the life of the program - it is excessively based upon what we see in Virginia.

348 Now, most of the problems we have with title 5, "The Environmental Impacts of Surface Mining," have been covered by the gentlemen from Kentucky and others.

348 We do feel that there's an open invitation to harassment in the endless series of public notices and hearings, because we have been told on several occasions by people who were not particularly fond of surface mining that as

soon as they get this provision, they will, as a matter of practice, oppose every permit application, every renewal, every bond release, whether or not they have a valid legal interest.

348 We don't think that's right and we don't think it's right to have it invited by the language of the bill.

348 The original contour requirement has become well discussed. It is simply not the best way to do it in our area in our opinion. Neither is it technically nor economically feasible. Neither does it allow the individuals who own the land to determine the ultimate use of it, because it is a fact that it is impossible to get long-range financing on a project when you haven't even completed the project and you may not even know you are going to do that particular project at the start.

348 I think one quick example will show what we mean:

348 In 1972, our organization became involved in its first efforts actually assisting operators in reclamation. At that time much was being made of rolling hills and so forth and the stand reclamation technique then was to do it just that way.

348 It then became obvious that if one is going to develop that land at a later date, it is fantastically more expensive to have to come back in and flatten it and rework it.

348 As I say, most of the land owners in our area do not want the land returned to the original contour. That is a fact. It is a documented fact, and I think that our General Assembly's passage of its rent resolution is a good indication that the citizens of Virginia at least don't feel that provision and some others are proper.

349 We have covered quite a few of the basic items, but I think that most of the people with whom we have talked, and all of the mining engineers and consultants, agree with us that if the bill is enforced as written, it will be in fact, if not in word, abandon mining slopes over 20 degrees because of the difficulties involved in having to comply with all of the additional restraints.

349 It is interesting that the typical slope in our area that we are mining is over 25 degrees. It approaches 26 degrees on the average. The basic philosophy that is used by some is that in fairness, let's get everybody to do the same thing.

349 I think that the reports which I cited which I will make available to

you, if you care to have them, indicate that Virginia will suffer losses in the range of 85 to 95 percent of its strippable reserves under the constraints played upon it in this bill.

349 There are some estimates being generated now that I think will show some rather shocking results in terms of employment in coal production. We think there is a better way.

349 We really have a fairly simple choice, we feel: If we are wrong about the impacts of this bill on Virginia, and we feel some other States, then we think the worst is going to happen is that we will continue to produce energy which we are hurting for, and we will continue to reclaim the land, but we might not do it in a way that suits 100 percent of the citizens. Typically the ones that it doesn't suit are those who don't own the land or don't have any vested interest in it and simply don't like the way it looks.

349 When we scrape away everything else in Virginia, that becomes the argument, typically.

349 However, if the proponents of keeping all of these minute requirements in this bill are wrong, the worst that can happen is that we can be plunged into a lot of unpleasant things such as additional energy shortages, higher inflation rates, and greater unemployment, at least in our area.

349 Mr. Chairman, that is a summary of 30 minutes worth of paper. I trust that it gives you the basic ideas as to why we are opposed to the bill in its present form; and if any of the gentlemen with me could answer any questions, or if I could respond to any you might have, we will be happy to do so.

349 Mr. Seiberling. Well, thank you, Mr. Cooper, and Mr. Kennedy. I don't know whether you heard all of the witnesses today, but we had testimony from which I conclude that with minor modifications, the - everybody from Kentucky and West Virginia who testified today, and other officials who testified in the past feel that mining on steep slopes within the principles laid down in this bill will continue.

349 I just wondered what is so different about Virginia?

349 Mr. COOPER. Virginia has the highest percentage of any State in the Nation according to all the information shown we have slopes over 20 degrees, which is indicated by our technical consultants of Thompson and Witton, Dr. Foreman at VPI, in Blacksburg, Virginia, and others have indicated that they don't feel that it is technically feasible under the economic constraints that exist to mine that way.

350 It is interesting to -

350 Mr. SEIBERLING. Well, but we had Mr. Hayes here, for example, showing us slides of mining on slopes well over 20 degrees.

350 Mr. COOPER. I was going to respond. Yes, sir, I wanted to respond to some of Mr. Hayes' comments and statements there.

350 He, I am afraid, gave you the impression that what you saw there were two things, typical and profitable. I don't think that either one of those is the case across the board. A lot of the testimony you heard today also involved very large companies.

350 Mr. SEIBERLING. Well, do you know any companies that are operating not to make a profit? Why would they go in and open up the mine and operate it?

350 Mr. COOPER. I don't recall saying that, sir, at all. My point is this: It is feasible to run a demonstration project, or it is feasible to run a portion of an entire operation as a demonstration project or because of variations in coal quality and quantity, and so forth.

350 It could be profitable in one area but not the others. The average coal seam that we are strip mining in all of southwest Virginia is about 30 to 32 inches, and that is not much when you have to consider the overburden that we are removing.

350 Another reason, I said to start with, that Virginia will probably suffer the greatest impact of any State in the country, our typical coal company that is strip mining in southwest Virginia employs fewer than 10 people.

350 They are literally operating their office out of the glove box of a Ford pickup. They don't have the capabilities in terms of financial resources, technical talent, and landholdings to do the kinds of operations and to go through the maze of paperwork and invitations to harassment that exist in this bill to stay in business; and, sir, that is a fact.

350 Mr. SEIBERLING. Well, we have also had testimony from Mr. Guckert and Mr. Heine and the State of Pennsylvania Reclamation Administration, and slides in this room within the last few weeks showing us slopes in Pennsylvania that were well above 20 degrees being mined and the original contour restored.

350 I am a little bit puzzled as to what is peculiar to Virginia.

350 Mr. COOPER. Mr. Chairman, we have sites in Virginia that we are restoring to the approximate original contour, but they are small areas as a part of a larger job.

350 Now, let's analyze what Mr. Guckert said. Mr. Guckert had some uncomplimentary things to say about Virginia by the way. Unfortunately he made the comments before he saw what we are doing, but that is another story.

350 I have here the CEQ Report of 1973 on this. It indicates that strippable reserves on slopes over 20 degrees account for approximately 1 percent of Pennsylvania's reserves.

350 Mr. SEIBERLING. Yes, but the ones he showed us were well over 20 degrees, and those are the ones I am referring to. If they can do those in Pennsylvania, why can't they do them the same way in Virginia?

350 I still don't know the answer to that question.

350 Mr. COOPER. Sir, the answer is very simple. We can't do them in southwest Virginia as a common practice with small companies with limited resources.

351 The average company operating in Pennsylvania is larger by far than ours. Typically, they will not have more than a small portion of an operation that is on that kind of terrain. Typically ours will be constituted almost 100 percent by that kind of terrain.

351 Mr. SEIBERLING. I presume that demand for coal in Virginia will continue; and while it might well be that one of the effects of this bill will be a consolidation of small operators or buying up of small operators by larger ones, I still don't see any case having been made that coal operations as distinct from individual operators won't continue in the same way and at the same rate as they are now.

351 I still want an explanation if there is one.

351 Mr. COOPER. I am not sure what answer you are looking for exactly; but the only answer I can give you is that in southwest Virginia, I don't think AMAX is going to come in and restore all of the land that we are mining to the approximate original contour and make a profit.

351 They might take a specific area which has a portion at 25 degrees and the remainder an average of 10 degrees or 15 degrees, and we have a little of that in Wise County, not much. But they won't mind all of the operations that we are running now and restore it to the original contour with the coal quantity and with the coal quality and with the transportation problems that we have and make a profit.

351 I think it is interesting that the lights in our capital of Richmond right now are being generated by out-of-State coal because we can't compete in our own State right now.

351 Mr. SEIBERLING. Well, we are going down to Virginia and look at the operations there as a subcommittee. I will be very interested when we do to see exactly what differences there are that make Virginia the one State now that still says they cannot comply with this bill even in principle as far as steep slope operations are concerned.

351 Mr. COOPER. No, sir, we are not concerned about the principle. What we are concerned about is an apparent obsession on the parts of some of the drafters of the bill without specifying in minute detail both the method and the result; and we don't think that is reasonable.

351 We think that you should either tell us the method and then take the responsibility for the results in every sense of the word, ecologically, economically; or you should specify the results in terms of good solid technical standards and let us get those results by reasonable means, reasonable in our judgment.

351 We don't quarrel with the idea of reasonable relations. We think that Virginia has a good law now which suits its citizens and suits climate and suits its terrain. We are trying very hard to work to make that law better. We have supported strengthenings of the Virginia law.

351 We are working now to strengthen, to a fantastic degree, compared to 5 years ago, the regulations which complete our law, and our problem is not with the principle of good reclamation and good citizenship.

351 Our problem is with being constrained to the point that we can't operate by what we consider to be unreasonable relations for our area.

351 Mr. SEIBERLING. Well, do you consider the requirement of restoration to approximately the original contour with the exceptions that we have written into the bill and possibly some more as suggested by Mr. Schwab as detailed regulation?

352 Mr. COOPER. Yes, sir, because the only conceivable variance that we can come up with is for mountaintop removal under a small range of circumstances. I am not counting roads and so forth. You don't build houses or

raise cattle on roads.

352 Mr. SEIBERLING. In our opinion this bill already permits mountaintop removal without any particular - without any different requirements than any other operation; but if it doesn't, we can correct that in the language; but I would say that it's difficult for me to analyze your statements because you are not really objecting to the details; you are objecting to the principle of restoration of the original contour.

352 Mr. COOPER. In that regard I do object to the principle of the bill on that point; but when you read the list of fantastically detailed and impossible, in many cases, requirements that one must meet to get a variance to the approximate original contour, one of our operators said the other day that he could mine coal under this bill if he has a rich imagination with a law degree.

352 Mr. SEIBERLING. That is interesting rhetoric but we need something more specific. Mr. Schwab came in here and gave us a whole sheaf of specific suggestions; and he said that if those suggestions were adopted that he felt they could operate in Kentucky, and he was operating on slopes of above 20 degrees.

352 We have had simple testimony from other people, Pennsylvania and people in West Virginia; and I still think that we need to know precisely in what way this makes it impossible for Virginia operators to operate. Because, frankly, we have gone through this same experience before in the State of Ohio, for example, in 1971, when we were considering a State law that is very similar to this one, a lot of operators came in and gave us generalities and said, "If this bill is passed, we will go out of business."

352 Well, they didn't go out of business. The bill was passed.

352 So I think we need something specific and we need specific critiques of specific provisions of the bill.

352 Mr. COOPER. Mr. Chairman, if I might respond to several of those things, we have presented on several occasions detailed objections to the bill. I don't think that one of our suggestions has ever become incorporated.

352 I will, sir, be happy to restate them in a letter which I will get out to you.

352 Mr. SEIBERLING. That would be helpful.

352 Mr. COOPER. The fact is that the original contour variance is applicable only to the mountaintop removal. Mountaintop removal is not feasible

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352 Mr. SEIBERLING. That isn't so. I read Mr. Schwab two different sections which covered variances.

352 Mr. COOPER. Sir, I followed you when I read it. I still read it the same way. Our lawyers still read it the same way.

352 Mr. SEIBERLING. I might say those variances were put in because of the precise objection of Virginia operators who came up here before we had a vote on the bill in 1975, and voiced some specific objections. So we met those.

353 If you can give us some specific objections that we think have merit, we will try to meet them, too.

353 Mr. COOPER. Well, sir, our request was for a variance procedure for the original contour requirement. It wound up with mountaintop only plus some roads which constitute 1 or 2 percent of our operations in the State. I don't know the exact percentage. It's that kind of number, though.

353 We will be happy to do that again; but the entire conversation here assumes the demonstrated need for a Federal bill; and we feel that in Virginia's case we have a law that suits its citizens and we do not see the logic of imposing another Federal bureaucracy on top of an existing State regulatory agency that is doing a good job in most people's opinion.

353 Mr. SEIBERLING. Well, I just have been handed a little note which says the Virginia Legislature just defeated all strengthening amendments during its short session; and I would be interested to know what if any strengthening amendments you felt - you supported in connection with the Virginia bill and precisely which ones did you oppose so we can get some better idea as to how you feel Virginia is handling this or should not handle it. Maybe that will throw a little light on it.

353 Mr. COOPER. Sir, I am afraid you were misinformed. They did not defeat all of the proposed strengthenings. As a matter of fact, there was a 25 percent increase in permit fees. The bill itself that I think Mr. Crane or whoever gave you the note is talking about being defeated was not a bill.

353 It was a series of bills proposed by people who by and large did not

have familiarity with how coal is mined or how coal is financed or how one has to go about running an operation in a sound manner.

353 There were such requirements in there as putting a specific limitation on the number of feet from which one can mine coal in proximity to a public road.

353 Now there are some public roads where you can come within 10 feet and not do any damage. There are others where it would be ridiculous to get within 500 feet. Those are the kinds of details we are talking about.

353 The results should be specified and those are being specified in the regulations which we are cooperating with the Division of Mining and Reclamation to develop now. Those recommendations are far more stringent. The basic structure of Virginia's law which I have outlined in our Eastern Shore is sound. It covers primarily results. It leaves the detailed regulations to the place they should be left.

353 It is being worked out between the enforcement agency and the public and we have public hearings on these and the public opinions are incorporated very often. That is where the details should be specified.

353 Mr. SEIBERLING. Well, thank you. I have quickly gone over your prepared statement. I will read it more carefully. We will give all due attention to any specific additional comments that you wish to submit to the committee.

354 I certainly appreciate anything you can give us in that regard.

354 Mr. Rahall, do you have any questions?

354 Mr. RAHALL. No, sir, Mr. Chairman, other than to thank you for appearing before us today and your time and patience with us throughout the day. I am sure your testimony will provide us helpful insight into our considerations of the bill.

354 Mr. COOPER. Thank you, sir.

354 Mr. SEIBERLING. Thank you gentlemen.

354 [Prepared statements of B. V. Cooper and Jack Kennedy follow.]

355 PUBLIC HEARING ON H.R. 2 HOUSE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

355 22 FEBRUARY 1977

355 TESTIMONY OF B. V. COOPER EXECUTIVE DIRECTOR VIRGINIA SURFACE MINING  
&  
RECLAMATION ASSOCIATION, INC.

356 MR. CHAIRMAN, MEMBERS OF THE COMMITTEE, I AM B. V. COOPER,  
EXECUTIVE  
DIRECTOR OF THE VIRGINIA SURFACE MINING AND RECLAMATION ASSOCIATION. OUR  
OFFICE  
IS LOCATED IN BIG STONE GAP, VIRGINIA AND WE REPRESENT ABOUT 180 COAL SURFACE  
MINING COMPANIES AND SUPPLIERS. OUR MEMBERS PRODUCE ABOUT THREE- FOURTHS OF  
ALL  
COAL SURFACE-MINED IN VIRGINIA AS WELL AS A SIGNIFICANT PORTION OF VIRGINIA'S  
UNDERGROUND COAL OUTPUT.

356 VIRGINIA'S COAL SURFACE MINING INDUSTRY DIRECTLY EMPLOYEES NEARLY  
3,000  
PEOPLE, AND SEVERAL THOUSAND ARE EMPLOYED IN SURFACE MINING-RELATED JOBS -  
SUCH  
AS TRUCKING, SHIPPING, EQUIPMENT SALES AND SERVICE, INSURANCE, FUEL SALES,  
AND  
OTHER FIELDS.

356 VIRGINIA PRODUCES ABOUT 36 MILLION TONS OF COAL ANNUALLY - ABOUT 24  
MILLION TONS BY UNDERGROUND MINING AND ABOUT 12 MILLION TONS BY SURFACE  
MINING.

356 AS WE HAVE ADVISED THIS COMMITTEE IN THE PAST, WE ARE EXTREMELY  
CONCERNED ABOUT THE CONTENT OF H.R. 2, S. 7, AND SIMILAR MEASURES. WE  
APPRECIATE  
THE OPPORTUNITY TO RESTATE THESE CONCERNS AND TO PROVIDE SOME ADDITIONAL  
INFORMATION WHICH WE TRUST YOU WILL CAREFULLY CONSIDER.

356 SOME MEMBERS OF THIS COMMITTEE HAVE REPEATEDLY SAID THAT FORD  
ADMINISTRATION ESTIMATES OF UNEMPLOYMENT AND COAL PRODUCTION LOSSES RESULTING  
FROM THE PROPOSED BILL WERE ERRONEOUS. EVERY CONCEIVABLE TACTIC WAS USED TO  
DISCREDIT AND INTIMIDATE FORD ADMINISTRATION WITNESSES. YET, THEY STOOD FIRM  
IN  
THEIR STATEMENTS, AND NO SUBSTANTIAL INFORMATION HAS BEEN PRESENTED TO REFUTE  
THEIR TESTIMONY.

357 IF SOME MEMBER OF THIS COMMITTEE HAS PERTINENT, RELIABLE  
INFORMATION  
SHOWING THAT THE IMPACT OF THIS BILL WILL BE POSITIVE, THEN IT SHOULD BE MADE  
PUBLIC. IF NOT, I SUGGEST THAT WE BEGIN RELYING ON HARD EVIDENCE RATHER THAN  
WISHFUL THINKING AND UNSUPPORTED CHARGES.

357 VARIOUS MEMBERS OF THIS COMMITTEE HAVE ALSO STEADFASTLY MAINTAINED  
THAT  
THIS BILL WILL, IN FACT, INCREASE EMPLOYMENT AND COAL PRODUCTION AND WOULD  
NOT  
PREVENT ANY APPRECIABLE COAL RESERVES FROM BEING MINED. IF YOU TRULY BELIEVE  
THAT, THEN SURELY YOU SHOULD HAVE NO OBJECTION TO INSERTING A PROVISION  
REQUIRING THE FEDERAL GOVERNMENT TO FULLY COMPENSATE WORKERS DISPLACED  
BECAUSE  
OF THIS BILL FOR LOSS OF WAGES; TO COMPENSATE COMPANIES FOR LOST PROFITS AND  
TO  
PURCHASE THEIR EQUIPMENT IF THEY CANNOT OPERATE UNDER THE BILL; AND TO

COMPENSATE LANDOWNERS AND LESSEES FOR LOSSES INCURRED BECAUSE THEIR HOLDINGS COULD NOT BE MINED UNDER THE BILL.

357 ADOPTION OF SUCH AN AMENDMENT WOULD BE AN EXCELLENT WAY TO INSPIRE CONFIDENCE AMONG COAL OPERATORS THAT THE BILL IS SOUND AND WILL IN FACT DO WHAT ITS PROPONENTS SAY.

357 AND THE UMWA HAS, AFTER CAREFUL STUDY, ABANDONED ITS PREVIOUS SUPPORT OF THE BILL. THEY HAVE REALIZED THAT IT WILL RESULT IN LESS EMPLOYMENT AND LESS COAL PRODUCTION - NOT MORE - AND THEY HAVE VOTED TO OPPOSE IT.

357 PROPONENTS OF H.R. 2, S. 7, AND THEIR PREDECESSOR BILLS HAVE DONE AN EXTREMELY THOROUGH JOB OF MAKING A CASE FOR THEIR CONTENTION THAT A FEDERAL COAL SURFACE MINING BILL IS ABSOLUTELY NECESSARY. THEY HAVE USED THE VAST AND POWERFUL RESOURCES OF THE U.S. CONGRESS AND THE ENVIRONMENTAL PROTECTION AGENCY AND HAVE CITED CAREFULLY STRUCTURED STUDIES WHICH SUPPORT THEIR PREVIOUS CONCLUSIONS, AND THEY HAVE METHODICALLY ATTACKED AND ATTEMPTED TO DISCREDIT THOSE WHO DARED TO DISAGREE.

358 THESE PROPONENTS HAVE TOLD US WHAT THEY WANT. THEY HAVE TOLD US WHAT THE BUREAUCRACIES WHICH WOULD EXPAND AND GROW EVEN MORE POWERFUL WITH THE BILL'S PASSAGE WANT. AND THEY HAVE TOLD US WHAT THE ADMINISTRATION, WHICH UNFORTUNATELY HAS RECEIVED SOME VERY QUESTIONABLE ADVICE ON THIS MEASURE, WANTS.

358 SADLY, THE ONLY GROUP WHOSE DESIRES THEY HAVEN'T CONSIDERED IS THE GROUP WHICH WILL HAVE TO PAY THE TERRIBLE PRICE OF THIS BILL - THE TAXPAYERS. THE CITIZENS OF VIRGINIA CERTAINLY DON'T WANT H.R. 2 OR S. 7. I HAVE GOOD REASON FOR SAYING THAT.

358 IN 1975, JUST PRIOR TO THE COAL TRUCK CONVOY WHICH CAME TO WASHINGTON PROTESTING FEDERAL SURFACE MINING LEGISLATION, WELL OVER 20,000 PERSONS FROM VIRGINIA'S FEW COAL PRODUCING COUNTIES SIGNED A DOCUMENT OPPOSING THE BILL. AND YOU SHOULD KNOW THAT THE LARGEST CITY IN OUR COALFIELDS HAS ONLY ABOUT 4,000 PEOPLE.

358 I HAVE FURNISHED YOU TODAY LETTERS FROM VIRGINIA'S LT. GOVERNOR, THE HONORABLE JOHN DALTON, AND FROM THE HONORABLE ANDREW MILLER WHO UNTIL RECENTLY WAS VIRGINIA'S ATTORNEY GENERAL. BOTH LETTERS URGE THAT THIS LEGISLATION BE DEFEATED. FURTHER, THE HONORABLE HENRY HOWELL, A FORMER LT. GOVERNOR OF VIRGINIA, HAS STATED HIS STRONG OPPOSITION TO THE BILL. INTERESTINGLY, ALL THREE OF THESE GENTLEMEN ARE SEEKING THE OFFICE OF GOVERNOR IN THE FORTHCOMING ELECTION. SURELY, THEY HAVE A BETTER THAN AVERAGE FEEL FOR WHAT VIRGINIANS REALLY WANT.

359 I HAVE ALSO INCLUDED A LETTER FROM ONE OF THE MOST RESPECTED STATE

SENATORS IN VIRGINIA, THE HONORABLE JOHN BUCHANAN. DR. BUCHANAN IS WELL KNOWN IN SOUTHWEST VIRGINIA FOR HIS WORK AS A CHAMPION OF THE ENVIRONMENTAL MOVEMENT. YET, EVEN DR. BUCHANAN STATES HIS PREFERENCE - AND THAT OF HIS CONSTITUENTS - FOR STATE CONTROL RATHER THAN FEDERAL.

359 REGRETTABLY, THE CONGRESS HAS USUALLY LISTENED TO THE VOCAL TWO PERCENT OF THE POPULATION WHICH MAKES 98 PERCENT OF THE NOISE, AND CONGRESS HAS CONVINCED ITSELF THAT IT IS HEARING FROM THE MAJORITY. THAT SIMPLY IS NOT THE CASE. THE OTHER 98 PERCENT WAS PROBABLY TOO BUSY MAKING A LIVING TO COME TO WASHINGTON AND PROTEST THE BILL.

359 I WOULD ALSO REFER YOU TO THE ENCLOSED EDITORIAL OF THE 18 FEBRUARY 1977 ISSUE OF THE BRISTOL, VIRGINIA HERALD-COURIER WHICH POINTS OUT THE BASIC UNREASONABLENESS OF H.R. 2 AND S. 7 WHEN APPLIED TO OUR MOUNTAINS. THE HERALD-COURIER IS THE MAJOR NEWSPAPER IN OUR COALFIELDS AND USUALLY REFLECTS IN ITS EDITORIALS THE MAJORITY OPINION IN THE REGION.

359 FINALLY, VIRGINIA'S ENTIRE GENERAL ASSEMBLY, REPRESENTING ALL OF THE COMMONWEALTH'S CITIZENS, HAS UNANIMOUSLY - YES, UNANIMOUSLY - PASSED A JOINT RESOLUTION URGING CONGRESS TO DEFEAT THIS MEASURE.

359 SO YOU SEE, VIRGINIA'S 98 PERCENT IS STRONGLY OPOSED TO STILL ANOTHER UNWARRANTED FEDERAL INTRUSION WHEREBY THE WILL OF A FEW IS INFLICTED UPON THE MAJORITY.

360 IF THE CONGRESS IS TRULY CONVINCED THAT MOST CITIZENS OF THE NATION WANT A FEDERAL COAL SURFACE MINING BILL, THEN LET US SIMPLY INSERT A PROVISION WHICH ALLOWS EACH STATE TO DECIDE FOR ITSELF WHETHER TO PARTICIPATE IN THE FEDERAL PROGRAM, SUCH DECISION TO BE THE RESULT OF A POPULAR VOTE DURING EACH STATE'S NEXT GENERAL ELECTION. SURELY, YOU WOULD AGREE THAT THIS WOULD BE A FAIR WAY TO SETTLE THE QUESTION ONCE AND FOR ALL.

360 THIS BILL, IF ONE BELIEVES THE INNOCENT-SOUNDING WORDS WHICH HAVE BEEN CAREFULLY CHOSEN TO MASK ITS REAL CHARACTER, DOES NOTHING MORE THAN FACILITATE COOPERATION BETWEEN THE SECRETARY OF THE INTERIOR AND THE STATES WITH RESPECT TO SURFACE COAL MINING OPERATIONS; ALLOW ACQUISITION AND RECLAMATION OF ABANDONED LANDS; AND "OTHER PURPOSES".

360 WHO COULD POSSIBLY ARGUE WITH SUCH GOALS? I, FOR ONE, COULD BECAUSE I'VE READ THE BILL. I TRUST THAT EACH OF YOU HAS ALSO CAREFULLY DIGESTED EACH WORD.

360 THIS IS NOT A RECLAMATION BILL. IT IS PURELY AND SIMPLY A LAND USE BILL

AND A BAN STRIP MINING BILL. THE WORD "BAN" IS NEVER USED, BUT THE RESULT IS JUST EXACTLY THAT - A BAN. LET'S COVER JUST A FEW OF THE MORE INTERESTING PROVISIONS, AND I BELIEVE YOU WILL SEE WHAT I MEAN. THERE ARE LITERALLY DOZENS OF IMPRACTICAL, SHORT-SIGHTED, PUNITIVE, HARASSING, AND OTHERWISE UNREASONABLE REQUIREMENTS IN THIS BILL. BUT THE FOLLOWING ARE A SMALL SAMPLE WHICH SHOULD SERVE TO SHOW THE REAL NATURE OF THE BILL SO INNOCENTLY DESCRIBED IN ITS PREAMBLE.

360 ONE OF THE FIRST OF NUMEROUS INCONSISTENCIES IS IN SECTION 101.(e) WHEREIN IT IS STATED THAT, RECOGNIZING DIVERSITIES BETWEEN STATES, PRIMARY GOVERNMENTAL RESPONSIBILITY FOR DEVELOPING, AUTHORIZING, ISSUING AND ENFORCING REGULATIONS SHOULD REST WITH THE STATES. THE BILL THEN PROCEEDS TO TOTALLY SMASH THAT FAINT HOPE BY SPECIFYING IN MICROSCOPIC DETAIL EVERY ACTION, DECISION, AND MOVE OF THE STATES - AND THE SEVERE PENALTIES TO BE IMPOSED FOR FAILURE TO COMPLY.

361 TITLE II OF THE BILL ESTABLISHES YET ANOTHER MASSIVE FEDERAL BUREAUCRACY WHICH WILL BE SUPERIMPOSED ON EXISTING STATE ENFORCEMENT AGENCIES. THIS NEW BUREAUCRACY IS REQUIRED TO DUPLICATE NUMEROUS FUNCTIONS OF OTHER EXISTING FEDERAL AGENCIES, SUCH AS COLLECTING AND DISTRIBUTING DATA ON MINING, MONITORING COAL RESEARCH PROGRAMS, ETC.

361 IT IS INTERESTING THAT DURING THE PRESIDENTIAL CAMPAIGN BOTH PARTIES MADE MUCH OF TWO MAJOR SUBJECTS. FIRST, THEY WERE GOING TO, AS THEY PUT IT, GIVE CONTROL OVER GOVERNMENT BACK TO THE PEOPLE AND STOP THE FRIGHTENING GROWTH OF THE FEDERAL BUREAUCRACY. BY ANY REASONABLE MEASURE, THIS BILL WOULD FLY IN THE FACE OF THAT PROMISE BY FURTHER INFRINGING ON STATE PREROGATIVES AND INDIVIDUAL PROPERTY RIGHTS WHILE ADDING STILL MORE FEDERAL EMPLOYEES.

361 SECONDLY, THEY PROMISED TO DO A BETTER JOB OF HOLDING DOWN UNNECESSARY FEDERAL SPENDING. BUT CAREFUL READING OF THE BILL WILL SHOW THAT THE COST TO THE CONSUMER WILL BE STAGGERING AND THAT FEDERAL SPENDING WILL GO STILL HIGHER.

361 TITLE III OF THE BILL SETS UP A STRUCTURE FOR MAKING GRANTS TO THE STATES TO ASSIST THEM IN "CARRYING ON THE WORK OF A COMPETENT AND QUALIFIED MINING AND MINERAL RESOURCES RESEARCH INSTITUTE, OR CENTER." UNDER SECTION 301(a) FUNDING STARTS AT \$200,000 PER YEAR FOR EACH PARTICIPATING STATE AND RISES TO \$4 00,000 PER YEAR IN THE THIRD THROUGH SEVENTH YEARS.

362 ASSUMING THAT 35 STATES "PARTICIPATE", THE TAXPAYERS WILL BE HIT FOR \$7 MILLION THE FIRST YEAR, \$1 0.5 MILLION THE SECOND, AND \$1 4,000,000 THE THIRD THROUGH SEVENTH YEARS, IF I HAVE READ THE BILL CORRECTLY. THEN, AFTER THE STATES HAVE THEIR PROGRAMS UNDERWAY IN ACCORDANCE WITH NUMEROUS FEDERAL STANDARDS, THE MONEY STOPS - UNLESS A GENEROUS CONGRESS RENEWS THE GRANTS.

362 FURTHER, SECTION 302(A) PROVIDES THE SECRETARY OF THE INTERIOR A SEVEN-YEAR FUND WHICH APPEARS TO START AT \$15 MILLION ANNUALLY, CLIMBING TO \$27 MILLION IN THE LAST YEAR. THESE FUNDS WOULD BE MADE AVAILABLE TO INSTITUTES FOR RESEARCH AND OTHER PROJECTS. THEN THE FUND STOPS, LEAVING THE INSTITUTES WITHOUT FUNDS TO CONTINUE PROJECTS ALREADY STARTED.

362 AS SO OFTEN HAPPENS, THE FEDERAL GOVERNMENT WOULD INITIATE THE PROGRAM, SET ALL THE RULES, AND LEAVE THE STATES HOLDING THE BAG FOR CONTINUING THE FUNDING - STILL UNDER FEDERAL GUIDANCE. THIS ONE SECTION COULD COST THE TAXPAYERS NEARLY A QUARTER OF A BILLION DOLLARS - PLUS WHATEVER THE STATES HAD TO CONTRIBUTE TO ADMINISTER AND CONTINUE OR PHASE OUT THEIR PROGRAMS.

362 NOW LET'S REVIEW WHAT COULD WELL BE ONE OF THE MOST INTERESTING TITLES OF THE BILL. TITLE IV ESTABLISHES A PROGRAM FOR RECLAMATION OF SO-CALLED ABANDONED LANDS - THAT IS, LANDS MINED BEFORE RECLAMATION LAWS WERE PASSED AND THEREFORE NOT RECLAIMED.

363 TO FULLY APPRECIATE THIS TITLE, YOU HAVE TO FIRST UNDERSTAND SOME BASIC FACTS ABOUT ABANDONED LANDS. LET'S USE VIRGINIA'S SITUATION AS AN EXAMPLE.

363 AT MOST, VIRGINIA HAS ABOUT 18,000 ACRES OF ABANDONED LANDS WHICH COULD CONCEIVABLY JUSTIFY ANY DEGREE OF RECLAMATION. A 1972 STUDY CONDUCTED JOINTLY BY THE STATE ENFORCEMENT AGENCY, INDUSTRY, AND THE U.S. SOIL CONSERVATION SERVICE SHOWED THAT NO MORE THAN FIVE-TO-TEN PERCENT OF VIRGINIA'S ABANDONED LANDS PRESENTED ANY SIGNIFICANT ENVIRONMENTAL PROBLEMS.

363 EVERY ACRE OF THIS LAND IS PRIVATELY OWNED. NO STATE OR FEDERAL LANDS ARE INVOLVED.

363 APPROXIMATELY THREE-FOURTHS OF THIS LAND IS ALREADY SCHEDULED TO BE REMINED FOR ADDITIONAL COAL AND MUST THEN BE RECLAIMED UNDER VIRGINIA'S LAW. AND VIRGINIA STATUTES ALREADY PROTECT SURROUNDING LANDOWNERS AND RESIDENTS FROM DAMAGE CAUSED BY SUCH LANDS.

363 NOW - LET'S SEE WHAT THIS BILL WOULD REQUIRE. ALL SURFACE COAL WOULD BE TAXED AT 35 CENTS PER TON AND UNDERGROUND COAL AT 15 CENTS PER TON, OR 10 PERCENT OF THE VALUE, WHICHEVER IS LESS - EXCEPT LIGNITE. THE LIKELY RESULT IS 35 CENTS AND 15 CENTS FOR BITUMINOUS.

363 VIRGINIA'S 12,000,000 TONS OF ANNUAL SURFACE PRODUCTION AT 35 CENTS WOULD RAISE ABOUT \$4.2 MILLION, AND HER 24 MILLION TONS OF ANNUAL UNDERGROUND PRODUCTION AT 15 CENTS ABOUT \$3.6 MILLION, OR \$7.8 MILLION TOTAL PER YEAR.

OVER THE 15-YEAR PROGRAM LIFE, ABOUT \$1 17 MILLION WOULD BE RAISED IN VIRGINIA, EVEN ASSUMING NO RISE IN COAL PRODUCTION. FIFTY PERCENT OF THE FUNDS WOULD BE SPENT IN THE STATE WHERE COLLECTED - ABOUT \$5 8.5 MILLION IN VIRGINIA'S CASE. THE REMAINDER WOULD APPARENTLY BE SPREAD AROUND THE COUNTRY.

364 NOW - IF WE DIVIDE \$5 8.5 MILLION BY VIRGINIA'S ENTIRE 18,000 ACRES OF ABANDONED LANDS, WE GET THE ASTRONOMICAL SUM OF \$3 250 PER ACRE TO BE SPENT ON PRIVATE LAND, MOST OF WHICH IS GOING TO BE REMINED AND RECLAIMED ANYWAY - LAND WHICH TYPICALLY HAS A SURFACE VALUE OF \$100 TO \$2 50 PER ACRE. AND, OF COURSE, THIS TITLE CONVENIENTLY IGNORES THE FACT THAT TVA HAS ALREADY MADE A MULTIMILLION DOLLAR GRANT TO VIRGINIA FOR THIS PURPOSE - MORE THAN ENOUGH TO RECLAIM EVERY ACRE OF SUCH LANDS IN THE STATE.

364 THE FACT THAT MANY OWNERS DON'T WANT THEIR LAND RECLAIMED BY THE GOVERNMENT HASN'T CONCERNED THE AUTHORS OF THIS BILL. THEY HAVE SIMPLY PROVIDED IN SECTION 405(a) (4) THAT ANYONE WHO REFUSES TO AGREE TO RECLAMATION - IF THE SECRETARY OF THE INTERIOR CONSIDERS RECLAMATION TO BE IN THE PUBLIC INTEREST - CAN HAVE HIS LAND ENTERED AND RECLAIMED. AND, THE COSTS OF SUCH RECLAMATION WILL BE CHARGED AGAINST THE LAND.

364 ALL TOLD, IT IS ESTIMATED THAT THE FEDERAL GOVERNMENT WILL SQUANDER SOME \$2 1/4 BILLION OF THE TAXPAYERS' MONEY OVER 15 YEARS ON THIS TITLE ALONE. WE THINK THIS TITLE SPEAKS FOR ITSELF.

365 TITLE V SUPPOSEDLY COVERS CONTROL OF THE ENVIRONMENTAL IMPACTS OF SURFACE MINING. WHAT IT, IN FACT, DOES IS TO CREATE AN IMPRACTICAL, CONFUSING, AND UNNECESSARY SERIES OF HURDLES WHICH MUST BE CLEARED BEFORE COAL CAN BE MINED. ONE OPERATOR RECENTLY STATED THAT THE ONLY PERSON WHO COULD MINE COAL UNDER THIS BILL WOULD BE A WEALTHY MAGICIAN WITH A LAW DEGREE. HIS COMMENT IS NOT FAR FROM THE MARK.

365 ONE OF THE MAJOR PROBLEMS WITH THIS TITLE IS THE SERIES OF UNNECESSARY PUBLIC NOTICES AND PUBLIC HEARINGS REQUIRED. OUR REASON FOR OPPOSING THEM IS SIMPLE: THEY WILL BE USED TO DELAY AND BLOCK SURFACE MINING OPERATIONS ON A ROUTINE BASIS. AS THE HEAD OF ONE ENVIRONMENTAL GROUP TOLD US SEVERAL YEARS AGO, HIS GROUP WOULD APPEAR AT EVERY HEARING AND OPPOSE EVERY PERMIT, EVERY RENEWAL, AND EVERY BOND RELEASE AS A MATTER OF PRACTICE. SUCH A PROVISION IS AN OPEN INVITATION TO HARASSMENT.

365 SECTION 515(b) (3) CONTAINS THE WELL-KNOWN APPROXIMATE ORIGINAL CONTOUR REQUIREMENT. THIS REQUIREMENT IS TOTALLY UNREALISTIC AND UNNECESSARY. IN THE APPALACHIAN MOUNTAINS, IT IS ENTIRELY FEASIBLE TO MINE AND RECLAIM AN AREA IN A

SATISFACTORY MANNER WITHOUT RETURNING IT TO THE ORIGINAL CONTOUR. THE FACT IS THAT THE ORIGINAL CONTOUR IS FAR LESS USEFUL FOR FUTURE DEVELOPMENT THEN AN ALTERNATE POST-MINING CONFIGURATION.

365 PROPONENTS OF THE MEASURE TELL US THAT VARIANCES ARE ALLOWED UNDER THE BILL. THE ONLY VARIANCE EVEN REMOTELY POSSIBLE IS FOR MOUNTAINTOP REMOVAL, WHICH IS PRACTICAL ON RELATIVELY FEW OF OUR OPERATIONS. AND TO OBTAIN A VARIANCE, AN OPERATOR MUST GO THROUGH THE MAZE OF REQUIREMENTS IN SECTION 515.(c) - INCLUDING ANOTHER PUBLIC HEARING. FROM A PRACTICAL STANDPOINT, THERE IS LITTLE CHANCE OF GETTING A VARIANCE, AND THERE IS NO JUSTIFICATION FOR RETURNING MINED AREAS TO THE APPROXIMATE ORIGINAL CONTOUR.

366 PROBABLY THE MOST HONEST COMMENT ON THE SUBJECT WAS MADE RECENTLY BY ONE OF THE BILL'S BACKERS WHEN HE TOLD A GROUP OF COAL OPERATORS THAT THE ORIGINAL CONTOUR REQUIREMENT WOULD NOT BE DELETED BECAUSE, AS HE PUT IT, "I JUST HAVE A HANG-UP ABOUT HIGHWALLS."

366 SURELY, THIS IS NOT SUFFICIENT REASON TO CREATE THE HAVOC THIS PROVISION WILL CAUSE.

366 SECTION 515(d) CONTAINS THE REQUIREMENTS FOR MINING ON STEEP SLOPES - THAT IS, SLOPES OVER 20 degrees. AFTER MANY DISCUSSIONS WITH QUALIFIED MINING ENGINEERING CONSULTANTS, PROFESSORS OF MINING ENGINEERING, AND EXPERIENCED SURFACE MINE OPERATORS, IT BECOMES APPARENT THAT IT WILL BE NEITHER TECHNICALLY NOR ECONOMICALLY FEASIBLE TO CONDUCT SURFACE MINING OPERATIONS IN ACCORDANCE WITH THIS SECTION.

366 IT IS GROSSLY DISCRIMINATORY IN THAT IT AMOUNTS TO A BAN ON MINING SLOPES OVER 20 degrees. WHILE STATES SUCH AS OHIO AND PENNSYLVANIA WOULD LOSE ONLY A VERY SMALL PERCENTAGE OF THEIR STRIPPABLE RESERVES UNDER THE 20 degrees CRITERION, VIRGINIA WOULD LOSE 85% OR MORE. THIS IS BASED ON DATA CONTAINED IN THE 1973 CEQ REPORT ON SURFACE MINING. IF WE ACCEPT FIGURES CONTAINED IN THE U.S. GEOLOGICAL SURVEY REPORT BY MR. KENNETH ENGLUND AND HIS ASSOCIATES, VIRGINIA'S LOSSES APPROACH 95% OF STRIPPABLE RESERVES.

366 THOSE WHO CALL FOR FAIRNESS THROUGH UNIFORM STANDARDS FOR THE ENTIRE COUNTRY ARE THE MOST EFFECTIVE CRITICS OF THEIR OWN ARGUMENT. ON THE OTHER HAND, THEY TELL US THAT THE LAW WOULD EQUALIZE COSTS AND RESULT IN FAIRER COMPETITION. THE ONLY REASONABLE CONCLUSION ONE CAN REACH FROM THIS STATEMENT IS THAT COSTS WILL RISE SIGNIFICANTLY IN STATES WHICH ARE ACCUSED OF NOT HAVING STRIP MINING LAWS WHICH MEET THE PROPOSED FEDERAL STANDARDS.

367 YET, ON THE OTHER HAND THEY STEADFASTLY MAINTAIN IN THEIR COMMENTS

TO THE INDUSTRY THAT WE ARE OVERSTATING THE PROBABLE COST IMPACT AND  
TECHNICAL  
DIFFICULTY OF THE BILL. SO YOU CAN SEE WHY SOME OF US ARE HAVING TROUBLE  
WITH  
THE FAIRNESS LOGIC.

367 THERE IS NO CONVINCING EVIDENCE THAT LACK OF A NATIONAL COAL SURFACE  
MINING LAW HAS ANY MEASURABLE EFFECT ON COMPETITION. TAKEN TO ITS LOGICAL  
CONCLUSION, SUCH A PHILOSOPHY HAS FRIGHTENING POSSIBILITIES. WHEN THE  
FEDERAL  
CONGRESS INJECTS ITSELF INTO FREE ENTERPRISE TO THE EXTENT THAT IT MUST PASS  
LAWS TO COMPENSATE FOR DIFFERENCES BETWEEN STATE LAWS - LAWS WHICH WERE  
PASSED  
IN ACCORDANCE WITH THE WILL OF THE CITIZENS OF THE RESPECTIVE STATES - THEN  
WE  
ARE INDEED ON A DANGEROUS COURSE.

367 IT IS MY UNDERSTANDING THAT SEVERAL TOURS OF U.S. AND EUROPEAN  
COAL-PRODUCING REGIONS ARE PLANNED. RELATIVE TO THE DOMESTIC TOURS, I HOPE  
THAT  
UNLIKE PREVIOUS TOURS INDUSTRY WILL BE ALLOWED TO HELP SELECT TOUR SITES  
WHICH  
ARE REPRESENTATIVE OF THE MAJORITY OF OPERATIONS. ONLY BY ALLOWING THIS WILL  
YOU GET ANYTHING APPROACHING AN OBJECTIVE VIEW OF THE INDUSTRY.

367 CONCERNING THE EUROPEAN TOUR, I FEEL THE TIME OF THE MEMBERS AND THE  
CONSIDERABLE EXPENSE TO THE TAXPAYERS WOULD BE FAR BETTER SPENT WORKING WHERE  
PERTINENT INFORMATION CAN BE GAINED - THAT IS, IN THIS COUNTRY. HOWEVER, IT  
APPEARS THAT THE TOUR WILL BE HELD, SO I URGE YOU TO ASK A FEW QUESTIONS ON  
THE  
TOUR, SUCH AS:

368 -WHAT IS THE NATURE OF THE TERRAIN BEING MINED IN EACH CASE?

368 -WHO OWNS THE SURFACE AND MINERAL RIGHTS IN EACH CASE?

368 -HOW DOES THE COUNTRY'S SOCIAL SYSTEM COMPARE WITH OURS?

368 -WHAT IS THE PRODUCTIVITY IN TONS PER MAN-DAY AT EACH MINE - AND WHAT  
IS  
THE PER-TON COST OF PRODUCTION?

368 -WOULD THIS NATION'S CITIZENS ACCEPT THE INCREASED COSTS,  
INEFFICIENCIES, INCONVENIENCES, AND LOWERED LIVING STANDARD INHERENT IN SUCH  
CIRCUMSTANCES?

368 THE ANSWERS TO THESE QUESTIONS SHOULD PUT THE COMPARISON BETWEEN  
EUROPE  
AND THE U.S. INTO PROPER AND USEFUL PERSPECTIVE.

368 THIS IS THE WRONG BILL AT THE WRONG TIME AND IT HAS BEEN INTRODUCED  
FOR  
THE WRONG REASONS. DESPITE CONCERTED ATTEMPTS TO PLACE THE BLAME ELSEWHERE,  
THE  
CONGRESS MUST ACCEPT A MAJOR PORTION OF THE RESPONSIBILITY FOR THE NATION'S  
PRESENT ENERGY WOES.

368 SHORTLY AFTER PRESIDENT KENNEDY'S INAUGURATION, HIS ENERGY ADVISORS PREDICTED OUR CURRENT CRISIS. THE CONGRESS WAS MADE FULLY AWARE OF THE SITUATION. YET, WELL OVER A DECADE AND A HALF LATER WE STILL HAVE NO NATIONAL ENERGY POLICY, NO LEADERSHIP TAKING US TOWARD LONGTERM ENERGY SELF-SUFFICIENCY, AND VERY FEW WILLING TO ADMIT THAT IN OUR ECOLOGICAL ENTHUSIASM WE ARE COMMITTING ENERGY SUICIDE.

368 IT IS MY CONSIDERED OPINION THAT HAD THIS COMMITTEE TAKEN THE EFFORT AND HUNDREDS OF THOUSANDS OF DOLLARS IT HAS SPENT ON THIS STRIP MINING BILL AND USED IT INSTEAD TO DEVELOP A POSITIVE PROGRAM FOR INTELLIGENT UTILIZATION OF OUR VAST COAL RESERVES, MUCH OF THIS WINTER'S SUFFERING WOULD NOT HAVE OCCURRED - AND MUCH OF THE NOWINEVITABLE FUTURE HARDSHIP WOULD NOT BE FACING US.

369 THE FEW WORKABLE PROPOSALS WHICH HAVE BEEN INTRODUCED ARE BURIED IN COMMITTEE AND PROBABLY WON'T BE GIVEN SERIOUS CONSIDERATION UNTIL IT'S TOO LATE TO TAKE ADVANTAGE OF THEM. PASSAGE OF THIS BILL WOULD BE ANOTHER GIANT LEAP FORWARD IN THIS COUNTRY'S LEMMINGLIKE RUSH AWAY FROM A REASONABLE BALANCE BETWEEN CONSIDERATIONS OF ENERGY PRODUCTION, ECONOMIC STABILITY, AND ENVIRONMENTAL PROTECTION.

369 THE FACT IS THAT COAL IS THE ONLY RELIABLE AND ABUNDANT MEDIUM-TERM SOURCE AVAILABLE IN THIS NATION. AND WHEN ANYONE SERIOUSLY SUGGESTS THAT WE CAN DOUBLE COAL PRODUCTION UNDER THIS BILL AND UNDER OTHER INCREASINGLY UNREASONABLE ENVIRONMENTAL CONSTRAINTS, IT IS EASY TO SEE WHY THE COUNTRY WAS LITERALLY KNOCKED TO ITS KNEES BY ENERGY SHORTAGES DURING RECENT WEEKS. WHEN UNFOUNDED ASSUMPTIONS, GROUNDLESS HOPES, AND AGREEMENT WITH UNREALISTIC ENVIRONMENTAL DEMANDS ARE SUBSTITUTED FOR SOUND PLANNING AND FIRM ACTION, THE RESULT IS NOT HARD TO PREDICT.

369 PRUDENCE DICTATES THAT THIS BILL BE KILLED NOW. CONGRESS HAS AN OPPORTUNITY TO SHOW THE NATION THAT REASON, FAIRNESS, AND A CONCERN FOR THE LONG-TERM WELL-BEING OF OUR CITIZENS ARE MORE IMPORTANT THAN PACIFYING THOSE WHOSE LOFTY IDEALS MIGHT BE ADMIRABLE BUT WHO DO NOT UNDERSTAND WHAT A TERRIBLE PRICE THE COUNTRY IS PAYING TO SATISFY THEIR IMPRACTICAL DEMANDS. I HOPE THE CONGRESS WILL TAKE ADVANTAGE OF THIS OPPORTUNITY.

369 THE CHOICE FACING THE CONGRESS IS REALLY VERY SIMPLE: IF INDUSTRY IS WRONG IN ITS VIEWS ON THIS BILL, THE WORST THAT CAN HAPPEN IS THAT WE WILL CONTINUE TO SUPPLY THE NATION WITH CRITICALLY NEEDED ENERGY WHILE CONDUCTING MINING AND RECLAMATION OPERATIONS IN A MANNER WHICH SUITS MOST - BUT NOT ALL - OF OUR CITIZENS.

370 IF THE PROPONENTS OF THIS BILL ARE WRONG, THIS COUNTRY WILL BE PLUNGED STILL FURTHER INTO THE DEPTHS OF ENERGY SHORTAGES CREATED IN LARGE MEASURE BY ENVIRONMENTAL EXTREMISM; STILL FURTHER INTO A DEADLY INFLATIONARY SPIRAL AIDED

BY OUTRAGEOUS IMPORTED OIL PRICES; STILL FURTHER INTO THE TRAP OF SHAMEFULLY WASTEFUL FEDERAL SPENDING; STILL FURTHER INTO THE PROBLEMS OF HIGH UNEMPLOYMENT; AND STILL FURTHER FROM A NATIONAL ENERGY POLICY.

370 MANY THOUGHTFUL PERSONS VIEW THIS AS NO CHOICE AT ALL.

371  
COMMONWEALTH of VIRGINIA  
Office of the Lieutenant Governor Richmond 23219  
January 10, 1977  
The Honorable Jimmy Carter  
President-elect of the United States  
The Transition Office  
The White House  
Washington, D.C. 20500  
Dear Governor Carter:

371 I have recently been advised that certain Members of Congress plan to introduce in the current session of Congress another version of the federal surface mining bill which was vetoed last year by President Ford. You stated during the campaign that you would have signed this bill. Since it seems likely that the bill will again be passed, I earnestly urge you to reconsider your position. For it is my firm belief, and the belief of many other Virginians, that federal legislation is simply not needed to control the surface mining of coal in Virginia and in most other states.

371 Virginia and nearly 40 other states now have laws which, in the opinion of their respective legislatures, meet their requirements. These various state laws take into account the differences between states in climate, terrain, coal quantity and quality, and the desires of the affected citizens.

371 These are precisely the kinds of factors which cannot be fairly addressed by a single set of federal requirements. Such a federal law could, in fact, be counter-productive since another bureaucracy would be superimposed on state enforcement agencies. This would add confusion, stifle innovation in mining and reclamation methods, and very likely result in reduced coal production.

371 The bill vetoed by President Ford last year was aimed primarily at preserving the topography of coal-bearing lands in the West. I suggest that the standards and criteria which may be appropriate to the West are not necessarily appropriate to the different topographical and geological situation in the East.

371 Virginia's first coal surface mining law was passed in 1966. Stringent new provisions were added in 1972. Still further improvements were made in 1974. In 1975, Virginia's Board of Conservation and Economic Development

approved a far-reaching set of new implementing regulations to guide enforcement officials in assuring that our law is effective.

372 To the best of my knowledge, Congress has not held formal public hearings on surface mining since early 1973; therefore, Congress has no basis at present for judging the adequacy of the laws Virginia and many other states have adopted or amended since then.

372 Virginia law requires coal operators to post a money bond to guarantee that mined lands are reclaimed. Practically every acre of land mined since 1966 has been restored.

372 Because of its complicated and unnecessarily stringent requirements, the proposed federal law would cause a serious loss of coal production at a time when coal is becoming a precious energy resource. It would result in significant unemployment and economic dislocation in the coal fields of Southwest Virginia. It would create yet another federal bureaucracy just when public discontent with big government has reached a peak.

372 For these and other reasons, I urge you to consider not what the states weren't doing ten years ago, but what they are doing now. I believe you will agree that control of coal surface mining should be left to the several states rather than handed over to an inflexible federal bureaucracy.

372 Very truly yours,

372 John N. Dalton

372 JND/pho

372 cc: The Honorable William C. Wampler

372 The Honorable Morris K. Udall

373  
Commonwealth of Virginia  
OFFICE OF THE ATTORNEY GENERAL  
SUPREME COURT BUILDING 1101 EAST BROAD STREET  
RICHMOND VIRGINIA 23219 804-786-2071  
January 7, 1976  
The Honorable Morris K. Udall  
Committee on Interior and Insular Affairs  
House of Representatives  
Washington, D.C. 20515  
Dear Mr. Udall:

373 Having been advised that you will hold hearings in the near future to determine whether federal coal surface mining legislation should again be

considered by the Congress, I respectfully request that the following views be made a part of the hearing record.

373 Coal surface mining provides a significant source of employment in Southwest Virginia. The citizens of the Commonwealth, however, have recognized that uncontrolled surface mining can adversely affect the environment. For this reason, the Virginia General Assembly has enacted legislation to require the proper control of coal surface mining in order to prevent injurious effects upon the people and resources of this State.

373 Since the inception of this legislation in 1966, Virginia's coal surface mining laws, which are found in Chapter 17 of Title 45.1 of our Code, have become increasingly rigorous in the requirements which are imposed upon mine operators. Pursuant to these laws, new regulations pertaining to mulching, expedited seeding, and improved drainage have been added to Virginia's program. Other regulations which would increase the amount of overburden retained on the bench are now under consideration. It is important to observe that these requirements have been developed and promulgated by Virginia's legislature and administrative agencies, which are in the best position to consider the unique needs of the Commonwealth's environment and its mining industry.

373 The success of Virginia's regulatory program depends upon its implementation. The agency which administers the program is supported by permit fees which are paid by mine operators. Originally, these fees were set at six dollars per acre for new permits. In 1974, the General Assembly increased these fees to twelve dollars per acre. A bill, which I support, is currently before the legislature which would increase the fees to thirty-six dollars per acre. If this bill is adopted at the upcoming Session, it will enable the Commonwealth to employ more mine inspectors and to upgrade its administrative resources, so that an even more effective job may be done.

374 I would also point out that Virginia's effort to reclaim orphaned land, which was surface mined prior to the institution of State controls, and has been significantly assisted by a recent agreement between the Tennessee Valley Authority and Virginia's Department of Conservation and Economic Development. This program is underwritten, in part, by a federal grant of \$6,000,000. Although the approach embodied in the TVA-State agreement may not find favor with those in Washington who insist that federal programs should regulate every aspect of an activity, I am confident that this straightforward

and cooperative TVA-State project will successfully reach its goal.

374 In conclusion, it is my opinion the Commonwealth is fully capable of responsibly addressing and correcting, through her own legislature and agencies, the environmental disruptions caused by surface mining. I believe that the people of Virginia have made, and will continue to make, such a commitment and would very much regret yet another effort by this Congress to preempt their ability to make decisions through their State government. I, therefore, would urge the Congress not to enact a comprehensive surface mining law similar to the one which was vetoed in 1976.

374 If there is a role for the federal government in the control of coal surface mining, I firmly believe that it should not go beyond the encouragement and reinforcement of State regulatory programs. Such an approach would not only be productive of programs which reflect the unique circumstances found within each State, but would be more economical for the national government as well. My staff stands ready to work with yours to explore alternatives to massive and preemptive federal controls.

374 With kindest regards, I am

374 Sincerely yours,

374 Andrew P. Miller

374 Attorney General

374 7:1/100Th 6

375

COMMONWEALTH OF VIRGINIA

SENATE

February 16, 1977

The Honorable Morris K. Udall,  
Chairman

House Interior Committee

House of Representatives

Washington, D.C. 20515

Dear Mr. Udall:

375 The proposed Federal Coal Surface Mining Legislation is causing serious concern in Virginia, among those oriented toward environmental protection as well as representatives of industry. I believe there is a general preference for State, rather than Federal, regulation of surface mining and reclamation.

375 Virginia has had a law for regulation of surface mining since 1968. The regulations were tightened pursuant to amendments of 1972. As a strong advocate

of mined land reclamation, I supported these amendments. I consider the present reclamation practices to be incomparably superior to those prevailing prior to 1972.

375 While advances in mining technology and new knowledge relating to its environmental effects require frequent updating of surface mining and reclamation laws, I believe this can best be done on the level of State government.

375 Respectfully yours,

375 John C. Buchanan

376 [\*]

376 Offered January 24, 1977

376 Memorializing Congress to allow regulation of surface mining of coal to remain in the hands of the states.

376 Patrons - Cantrell, Quillen, McGlothlin, and Dunford

376 Referred to the Committee on Mining and Mineral Resources

376 WHEREAS, coal is our nation's most abundant fossil fuel; and

376 WHEREAS, our nation faces an energy crisis of potentially devastating proportions, with coal being the only reliable and proven energy source available to meet our needs for the foreseeable future; and

376 WHEREAS, over one-half of our total coal production now comes from surface mines; and

376 WHEREAS, recognizing the necessity to properly control surface mining and reclamation operations, Virginia and thirty-seven other states, including all major coal-producing states, now have surface mining laws; and

376 WHEREAS, these laws are based on the desires and judgments of the citizens of the respective states, taking into account differences in climate, terrain, coal quality and quantity, transportation facilities, and other unique considerations; and

376 WHEREAS, there is overwhelming evidence that H.R. 2 and similar bills before the Congress would result in reduced coal production, greater dependence upon foreign oil, increased unemployment in the coal-producing counties of Virginia and other states, and unnecessary economic disruptions throughout our nation; and

376 WHEREAS, the United Mine Workers of America voted overwhelmingly on

September twenty-nine, nineteen hundred seventy-six, at their Cincinnati, Ohio, convention to withdraw their previous support of federal coal and surface mining legislation; now, therefore, be it

376 RESOLVED by the House of Delegates, the Senate concurring, That regulation of coal surface mining and reclamation should remain the exclusive responsibility of the several states, and that Congress should refrain from forcing federal intrusion into this area which is, and ought to remain, a matter properly under the control of those citizens directly affected; and, be it

377 RESOLVED FURTHER That the Clerk of the House of Delegates is hereby instructed to send copies of this Resolution to the President of the United States, the President of the United States Senate, the Speaker of the House of Representatives, the Secretary of the Interior, and the members of the Virginia delegation to the United States Congress as an expression of the Sense of this Body.

378 SUMMARY OF VIRGINIA COAL SURFACE MINING LAW AND REGULATIONS

378 \* \* \*

378 FACTS ABOUT COAL SURFACE MINING IN VIRGINIA

379 SUMMARY OF VIRGINIA COAL SURFACE MINING LAW

379 PERMITS - Coal surface mining operations cannot be legally conducted in Virginia unless the Operator obtains a permit from the Virginia Department of Conservation and Economic Development.

379 BOND - The law requires a bond of \$2 00 to \$1,000 per acre, with a \$2 ,500 minimum for more than five acres. (Under current policies of the Virginia Division of Mined Land Reclamation, bond is usually set at \$8 00 or more per acre.) Bond is not released until the area is satisfactorily reclaimed.

379 NON - COMPLIANCE NOTICE - The law allows a non-compliance notice to be served, stating conditions to be corrected and the time limit for correction. Failure to comply with the notice can result in the permit being revoked and bond being forfeited.

379 PERMIT FEES - The requires a \$1 2 per acre fee with no maximum. A \$6 per acre annual renewal fee is required.

379 PROSPECTING PERMIT - The law requires a prospecting permit. This permit can cover no more than 10 acres, must be bonded at \$300 per acre, and requires a permit fee of \$1 0 per acre.

379 EMERGENCY ORDER - The law provides for immediately closing down an unsafe operation or one which threatens to damage property or the environment.

379 SELECTIVE MINING SITES - Under the law, the Director may delete from a permit any areas the mining of which, in his opinion, will adversely affect surrounding areas or endanger public health or safety.

#### 380 SUMMARY OF VIRGINIA

##### 380 COAL SURFACE MINING REGULATIONS

380 RIGHT TO MINE - The operator must indicate that he has the legal right to mine property covered by a permit application before a permit is granted.

380 PLANS - The permit application must be accompanied by detailed plans for mining operations and reclamation.

380 HAUL ROADS - The operator must maintain haul roads properly, must seed all road construction slopes, and must surface the road in such manner as to prevent debris from being deposited on state highways.

380 CURRENCY OF RECLAMATION - The operator must adhere to standards which require that reclamation closely follow coal removal.

380 REVEGETATION - Specified types and quantities of seed, fertilizer, and mulch must be applied to all disturbed areas. In addition, 1,000 tree seedlings must be set on each acre of outslope, and an 80% survival rate is required.

#### 381 FACTS ABOUT COAL SURFACE MINING IN VIRGINIA

381 1. Over 2,000 persons are directly employed in Virginia surface mining companies. These employees provide direct support for an estimated 7,500 people in Southwest Virginia.

381 2. Over \$25 million in direct wages are paid annually to surface mine employees. These wages result in circulation of an estimated \$75 million annually in Southwest Virginia's economy.

381 3. If surface mining were banned in Virginia, numerous retail stores and service industries would also collapse. Mass unemployment would result, and an estimated 30,000 persons throughout the state - including railroad employees and east coast shipping employees - would lose their means of support.

381 4. Surface mine employees belong to the same union and, job for job, are paid approximately the same wages as their underground counterparts.

381 5. When all factors are considered, reliable estimates place the surface mining industry's contribution to Virginia's economy at \$175 million annually.

381 6. Coal-bearing lands are subjected to a quadruple tax burden in Southwest Virginia; a property tax; a mineral right tax; during the year coal is mined, a so-called "development" tax (this "development" tax amounts to nearly \$1 00 per acre for the average coal lands); and a severance tax on coal which was passed by the 1972 Virginia General Assembly and increased by the 1976 General Assembly.

381 7. In addition to the above taxes, the typical Southwest Virginia county also imposes on