

SURFACE MINING RECLAMATION

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HEARINGS
BEFORE THE
COMMITTEE ON
INTERIOR AND INSULAR AFFAIRS
UNITED STATES SENATE
NINETIETH CONGRESS
SECOND SESSION
ON
S. 3132, S. 3126, and S. 217
BILLS TO PROVIDE FOR FEDERAL-STATE COOPERATION
IN THE RECLAMATION OF STRIP MINED LANDS

APRIL 30, MAY 1 AND 2, 1968

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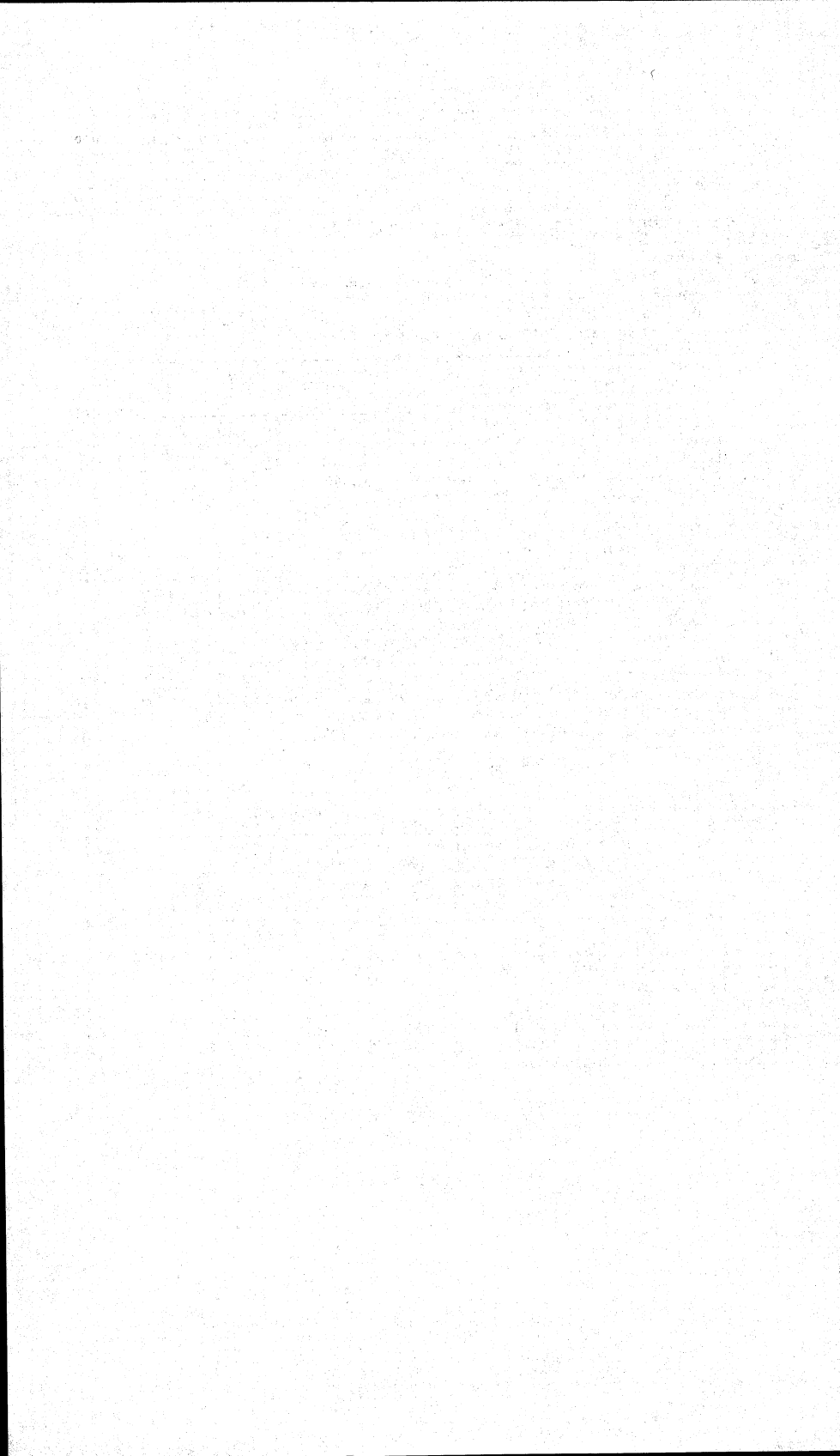
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SURFACE MINING RECLAMATION

TUESDAY, APRIL 30, 1968

U.S. SENATE,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The committee met, pursuant to call, at 10 a.m., in room 3110, New Senate Office Building, Senator Lee Metcalf presiding.

Present: Senators Nelson, Metcalf, Allott, Jordan of Idaho, Bible, Fannin, and Hansen.

Also present: Jerry T. Verkler, staff director; Stewart French, chief counsel; Porter Ward, professional staff member, and E. Lewis Reid, minority counsel.

Senator METCALF. The committee will be in order.

This is an open, public hearing by the Senate Committee on Interior and Insular Affairs on proposed legislation for the protection and reclamation of lands and waters from the effects of surface mining operations.

There are three bills for this purpose now before the committee. They are S. 3132, which was drafted and submitted by the Department of the Interior and which Senator Jackson introduced for himself and Senators Nelson, Lausche, and Anderson; S. 3126, which is sponsored by Senator Nelson, and S. 217, sponsored by Senator Lausche, with Senators Bartlett, Fulbright, Metcalf, Nelson, Scott, Tydings, Young of Ohio, and Kuchel as cosponsors.

Without objection, I will direct that the text of all three of these measures appear at the conclusion of these brief opening remarks, together with the text of the executive communication by which the draft of S. 3132 was submitted and any departmental reports we may have.

All of these measures are similar in purpose, and I am happy to be able to point out that the chief sponsors of S. 3126 and S. 217 have joined Senator Jackson, the chairman of this committee, in sponsoring the administration bill.

Thus, it can be anticipated that S. 3132 will be the measure on which the committee will act, with, of course, such amendments as are adopted.

The administration bill, S. 3132, is based on a study undertaken by the Department of the Interior with the active cooperation and assistance of the Departments of Agriculture, Commerce, Defense, Health, Education, and Welfare, the Tennessee Valley Authority, and the Appalachian Regional Commission. This study was authorized and directed by section 205 of the 1965 Appalachian Regional Development Act, Public Law 89-4, on a nationwide scale.

The Interior Department submitted to the President a comprehensive, strikingly illustrated report last fall on the results of this study entitled "Surface Mining and Our Environment." S. 3132 would put into effect many of the findings and recommendations set forth in this report.

The title of the bill is descriptive of its subject and purpose. It states that the bill is "To provide for the cooperation between the Secretary of the Interior and the States with respect to the future regulation of surface mining operations * * *"

The key phrases are "cooperation with the States," and "future regulation." That is, under S. 3132 the States themselves would have initial and primary responsibility for regulation and control of future surface mining operations within their borders, and for making provision for restoration and reclamation of lands and waters that may be detrimentally affected by surface mining operations.

I might point out that Senator Nelson's bill and that of Senator Lausche, which is restricted to surface mining of coal, would provide programs for use of Federal funds for reclamation and restoration of the 2 million acres of already surface mined lands that the Interior Department's report finds require treatment "to alleviate a range of environment damage both on-site and off-site."

The cost of such a retroactive program, so to speak, would be tremendous—upward to at least \$50 million the Interior Department estimates—whereas the cost of the prospective program established by the administration bill would be relatively modest.

While we are on the subject of cooperation between the States and the Federal Government, I would like to speak a word in behalf of cooperation—continued cooperation—among the several agencies of the Federal Government that have jurisdiction and responsibilities for lands and waters that are affected by surface mining.

Each agency has its own particular expertise, and the expertise of all will be needed to meet, in an equitable manner, the problems arising from regulations and reclamation of surface mined areas.

Unquestionably long-range planning for such a program as we envision requires geologic knowledge, such as possessed by the Geological Survey; mineralogical knowledge, such as that of the Bureau of Mines; and water pollution control knowledge, such as that in the Federal Water Pollution Control Administration.

All these are agencies of the Department of the Interior. It also has within it other agencies, such as the Bureau of Reclamation, that have knowledge and skills invaluable to the program. At the same time, the Soil Conservation Service and the Forest Service of the Department of Agriculture also have essential expertise for reforestation and cover crops for surface-mined lands, as does the Corps of Engineers of the Defense Department with respect to many problems of hydrology.

Other agencies also have the trained personnel and the background of experience necessary to make the control and restoration program successful.

In short, it is the hope and expectation of the Congress that the surface-mined lands program will be a truly cooperative one as to the Federal agencies as well as to the States.

In bringing these remarks to a close, I want to point out that the committee is well aware of the basic importance of surface mining to

our local and national economies. The Bureau of Mines reports that something like 80 percent of our Nation's mineral production, tonnage-wise, is from surface mining.

The report states that more than 50 minerals are produced in very substantial part by surface mining, including gold, iron ore, copper, and uranium as well as the huge tonnages of coal, and the sand, gravel, and stone, all of which are so basic to construction and roadbuilding.

We also recognize and pay tribute to the progressive action that already has been taken by the industry itself, and by the States, to meet the problems this legislation seeks to solve.

At the same time, we face the fact that in many areas very real problems do exist with respect to effects on our environment, present and future, of surface mining. The environmental report points out that about 20,000 active operations are disturbing the land at a rate estimated in excess of 150,000 acres annually. Data submitted by the surface mining industries indicate that in 1964 the amount of land partially or completely reclaimed was equivalent to only 31 percent of the area disturbed that year. Surface mining activities are expected to expand rapidly in coming years.

The report concludes:

Some damage from surface mining is inevitable even with the best mining and land restoration methods. But much can be done to prevent damage and to reclaim mined lands.

"Elementary principles of resource management dictate that our Nation put a stop to unnecessary damages from future mining, and begin an orderly program to repair damage from past mining."

It is for this purpose that Senator Jackson introduced S. 3132, and that we are considering it here today.

(The data referred to follows:)

[S. 3132, 90th Cong., second sess.]

A BILL To provide for the cooperation between the Secretary of the Interior and the States with respect to the future regulation of surface mining operations, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Surface Mining Reclamation Act of 1968".

DEFINITIONS

SEC. 2. For the purpose of this Act, the term—

- (a) "Secretary" means the Secretary of the Interior;
- (b) "reclamation" means the reconditioning or restoration of an area of land or water, or both, that has been adversely affected by surface mining operations;
- (c) "commerce" means trade, traffic, commerce, transportation, transmission, or communication among the several States, or between a State and any other place outside thereof, or within the District of Columbia, or a possession of the United States, or between points in the same State but through a point outside thereof;
- (d) "surface mine" means (1) an area of land from which minerals are extracted by surface mining methods, including auger mining, (2) private ways and roads appurtenant to such area, (3) land, excavations, workings, refuse banks, dumps, spoil banks, structures, facilities, equipment, machines, tools, or other property on the surface, resulting from, or used in, extracting minerals from their natural deposits by surface mining methods or the onsite processing of such minerals;
- (e) "surface mined areas" means any area on which the operations of a surface mine are concluded after the effective date of a State plan or the regulations issued under section 8 of this Act, whichever is applicable;

(f) "person" means an individual, partnership, association, corporation, or other business organization;

(g) "State" includes a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, and Guam; and

(h) "State plan" or "plan" means the whole or any portion or segment thereof.

CONGRESSIONAL FINDING

SEC. 3. The Congress finds and declares—

(a) That extraction of minerals by surface mining is a significant and essential industrial activity and contributes to the economic potential of the Nation;

(b) That there are surface mining operations in the Nation that burden and adversely affect commerce by destroying or diminishing the availability of land for commercial, industrial, recreational, agricultural, and forestry purposes, by causing erosion and landslides, by contributing to floods and the pollution of waters, by destroying fish and wildlife habitat and impairing natural beauty, by counteracting efforts to conserve soil, water, and other natural resources, by destroying or impairing the property of citizens, and by creating hazards dangerous to life and property;

(c) That regulation by the Secretary and cooperation by the States as contemplated by this Act are appropriate to prevent and eliminate such burdens and adverse effects;

(d) That, because of the diversity of terrain, climate, biologic, chemical, and other physical conditions in mining areas, the establishment on a nationwide basis of uniform regulations for surface mining operations and for the reclamation of surface mined areas is not feasible;

(e) That the initial responsibility for developing, authorizing issuing, and enforcing regulations for surface mining operations and for the reclamation of surface mined areas should rest with the States; and

(f) That it is the purpose of this Act to provide a nationwide program to prevent or substantially reduce the adverse effects to the environment from surface mining, to assure that adequate measures will be taken to reclaim surface mined areas after operations are completed, and to assist the States in carrying out such a program.

MINES SUBJECT TO ACT

SEC. 4. After the effective date of this Act, each surface mine, the products of which enter commerce or the operations of which affect commerce, and the surface mined area thereof shall be subject to this Act.

FEDERAL AND STATE COOPERATION

SEC. 5. (a) In furtherance of the policy of this Act, the Secretary is authorized, whenever he determines that it would effectuate the purposes of this Act, to cooperate with appropriate State agencies in developing and administering State plans for the regulation of surface mines and the reclamation of surface mined areas, consistent with the provisions of section 7 of this Act, and to cooperate and consult with other Federal agencies in carrying out the provisions of this Act.

(b) In cooperating with appropriate State agencies under this Act, the Secretary may provide such agency (1) technical and financial assistance in planning and otherwise developing an adequate State plan for the regulation of surface mines and the reclamation of surface mined areas, (2) technical assistance and training, including necessary curricular and instructional materials, and financial and other aid for administration and enforcement of such a plan; and (3) assistance in preparing and maintaining a continuing inventory of surface mined areas and active mining operations within the State for the evaluation of current and future needs and the effectiveness of mining and reclamation regulatory measures.

(c) The amount of any grant the Secretary may make to any State to assist them in meeting the total cost of the cooperative program in each State shall not exceed 50 per centum of such cost: *Provided*, That such payment shall not be made for more than three years unless a State plan has been submitted and approved by the Secretary and thereafter such payment shall be contingent at all times upon the administration of the State program in a manner which the Secretary deems adequate to effectuate the purposes of this Act.

(d) The appropriate State agency with which the Secretary may cooperate under this Act shall be a single agency designated by the State to have responsibility

for the administration and enforcement of a State plan approved under this Act: *Provided*, That the Secretary may, upon request of the Governor or other appropriate executive or legislative authority of the State, waive the single State agency provision hereof and approve another State administrative structure or arrangement if the Secretary determines that the objectives of this Act will be enhanced by the use of such other State structure or arrangement.

ADVISORY COMMITTEES

SEC. 6. (a) The Secretary may appoint advisory committees which shall include, among others, State representatives, persons qualified by experience or affiliation to present the viewpoint of operators of surface mines, and persons qualified by experience or affiliation to present the viewpoint of conservation and other interested groups, to advise him in carrying out the provisions of this Act. The Secretary shall designate the chairman of each committee.

(b) Advisory committee members, other than employees of Federal, State, or local governments, while performing committee business, shall be entitled to receive compensation at rates fixed by the Secretary, but not exceeding \$100 per day, including traveltime. While so serving away from their homes or regular places of business, members may be paid travel expenses and per diem in lieu of subsistence at rates authorized by section 5703 of title 5, United States Code, for persons intermittently employed.

STATE PLAN

SEC. 7. (a) A State may, after public hearings, submit to the Secretary at any time a State plan or a proposal for a revision in a plan previously approved by the Secretary for the regulation of surface mines and the reclamation of surface mined areas located within the State. The Secretary shall, after giving appropriate Federal agencies a reasonable opportunity to review and comment thereon, approve a State plan or revision thereof if—

(1) He determines that, in his judgment, the plan includes laws and regulations which—

(A) promote an appropriate relationship between the extent of regulation and reclamation that is required and the need to preserve and protect the environment;

(B) provide that an adequate mining plan be filed with, and approved by, the State agency and a permit be obtained to insure, before surface mining operations are commenced or continued, that they will be conducted in a manner consistent with said mining plan;

(C) contain, in connection with surface mines and surface mined areas, criteria relating specifically to (i) the control of erosion, flooding, and pollution of water, (ii) the isolation of toxic materials, (iii) the prevention of air pollution by dust or burning refuse piles or otherwise, (iv) the reclamation of surface mined areas by revegetation, replacement of soil, or other means, (v) the maintenance of access through mined areas, (vi) the prevention of land or rockslides, (vii) the protection of fish and wildlife and their habitat, and (viii) the prevention of hazards to public health and safety;

(D) promote the reclamation of surface mined areas by requiring that reclamation work be planned in advance and completed within reasonably prescribed time limits;

(E) provide for evaluation of environmental changes in surface mined areas and in areas in which surface mines are operating in order to accumulate data for assessing the effectiveness of the requirements established;

(F) provide adequate measures for enforcement, including criminal and civil penalties for failure to comply with applicable State laws and regulations; periodic inspections of surface mines and reclamation work; periodic reports by mining operators on the methods and results of reclamation work; the posting of performance bonds adequate to insure the land is reclaimed; and the revocation of permits for failure to comply with the terms of the permits or of the provisions of the regulations or laws under which permits are issued; and

(2) The Secretary determines that, in his judgment, the plan includes—

(A) adequate provision for State funds and personnel to assure the effective administration and enforcement of the plan and, if needed, the establishment of training programs for operators, supervisors, and

reclamation and enforcement officials in mining and reclamation practices and techniques;

(B) provision for the making of such reports to the Secretary as he may require; and

(C) authorization by State law and that it will be put into effect not later than sixty days after its approval by the Secretary.

(b) After approval of a plan, the Secretary, on the basis of such inspections, investigations, or examinations as he deems appropriate and reports submitted by the State, shall make a continuing evaluation of the effectiveness of the approved plan and the enforcement thereof. Whenever he determines, after notice to the State agency referred to in subsection (d) of section 5, and opportunity for a hearing:

(1) that the State, in administering the plan, has failed to comply substantially with it or to enforce it adequately, he shall notify the State thereof and if within a reasonable time the State has not taken adequate measures, in his judgment, to correct the situation, he may withdraw his approval of the plan and issue regulations for such State under section 8 of this Act; and

(2) that a revision of an approved plan is appropriate to effectuate the purposes of this Act, he shall notify the State thereof, and if within a reasonable time the State has not revised said plan and obtained the approval of the Secretary thereon, he may withdraw his approval of the plan and issue regulations for such State under section 8 of this Act.

FEDERAL REGULATION OF SURFACE MINES

SEC. 8. (a) If, at the expiration of two years after the effective date of this Act, a State fails to submit a State plan, or a State has submitted a plan which has been disapproved and has within such period failed to submit a revised plan for approval, the Secretary, in consultation with an advisory committee appointed pursuant to this Act, shall issue promptly regulations for the operation of surface mines and for the reclamation of surface mined areas in such State: *Provided*, That if the Secretary has reason to believe that a State will submit an acceptable plan within one additional year after the expiration of the two-year period, he may delay the issuance of Federal regulations for such one-year period of time. If a State has within two years after the effective date of this Act submitted a plan for approval and the two-year period provided in the first sentence of this section has expired before the Secretary has approved or disapproved the plan, the Secretary shall delay the issuance of Federal regulations pending the approval or disapproval of the plan. The Federal regulations issued by the Secretary for a particular State shall be consistent with the principles set forth in subsection (a) (1) of section 7 of this Act.

(b) The Secretary shall publish in the Federal Register the regulations which he proposes to issue for a particular State. Interested persons shall be afforded a period of not less than sixty days after the publication of such regulations within which to submit written data, views, or arguments. Except as provided in subsection (c) of this section, the Secretary may, after the expiration of such period and after consideration of all relevant matter presented, issue the regulations with such modifications, if any, as he deems appropriate.

(c) On or before the last day of a period fixed for the submission of written data, views, or arguments, any person who may be adversely affected by the regulations which the Secretary proposes to issue may file with the Secretary written objections thereto stating the grounds therefor and requesting a public hearing on such objections. The Secretary shall not issue regulations respecting which such objections have been filed until he has taken final action upon them as provided in subsection (d) of this section. As soon as practicable after the period of filing such objections has expired the Secretary shall publish in the Federal Register a notice specifying the provisions of the regulations to which such objections have been filed.

(d) If such objections requesting a public hearing are filed, the Secretary, after notice, shall hold a public hearing for the purpose of receiving evidence relevant and material to the issues raised by such objections. At the hearing any interested person may be heard. As soon as practicable after the completion of the hearing, the Secretary shall act upon such objections and make public his decision.

(e) The Secretary may from time to time revise such regulations in accordance with the procedures prescribed in subsections (a) through (d) of this section.

TERMINATION

SEC. 9. If a State submits a proposed State plan to the Secretary after Federal regulations have been issued pursuant to section 8 of this Act, and if the Secretary approves the plan, such Federal regulations shall cease to be effective within the State sixty days after the approval of the State plan by the Secretary. Such Federal regulations shall again become effective if the Secretary subsequently withdraws his approval of the plan pursuant to subsection (b) of section 7 of this Act.

INSPECTIONS AND INVESTIGATIONS

SEC. 10. (a) The Secretary is authorized to cause to be made such inspections and investigations of surface mines and surface mined areas as he shall deem appropriate to evaluate the administration of State plans, or to develop or enforce Federal regulations, and for such purposes authorized representatives of the Secretary shall have the right of entry to any surface mine or upon any surface mined area.

(b) The head of each Federal agency shall permit by agreement authorized representatives of the State or the Secretary to have the right of entry to any surface mine or upon any surface mined area located on lands under his jurisdiction, unless the Secretary of Defense finds that such entry would not be in the interest of the national security.

REGULATIONS

SEC. 11. The Secretary may issue such regulations as are deemed necessary to carry out the purposes of this Act.

INJUNCTIONS

SEC. 12. At the request of the Secretary, the Attorney General may institute a civil action in a district court of the United States for a restraining order or injunction or other appropriate remedy (a) to prevent a person from engaging in surface mining operations without a permit from the Secretary required under section 8 of this Act, or in violation of the terms and conditions of such permit or the Federal regulations issued under section 8 of the Act; (b) to prevent a person from placing in commerce the products of a surface mine produced in violation of an approved State plan; or (c) to enforce the right of entry under section 10 of this Act. The district courts of the United States in which such person resides or is doing business or is licensed or incorporated to do business shall have jurisdiction to issue such order or injunction or to provide other appropriate remedy.

PENALTIES

SEC. 13. (a) If any person shall fail to comply with any regulation issued under section 8 of this Act for a period of fifteen days after notice of such failure, such person shall be liable for a civil penalty of not more than \$100 for each and every day of the continuance of such failure. The Secretary may assess and collect any such penalty, and upon application therefor may remit or mitigate any such penalty imposed.

(b) Any person who knowingly violates any regulation issued pursuant to section 8 of this Act shall, upon conviction, be punished by a fine not exceeding \$2,500, or by imprisonment not exceeding one year, or by both.

(c) The penalties prescribed in this section shall be available to the Secretary in addition to any other remedies afforded to him under this Act in enforcing the regulations issued under section 8 of this Act.

RESEARCH

SEC. 14. The Secretary is authorized to conduct and promote the coordination and acceleration of research, studies, surveys, experiments, demonstrations, and training in carrying out the provisions of this Act. In carrying out the activities authorized by this section, the Secretary may enter into contracts with, and

make grants to, institutions, agencies, organizations, and individuals, and collect and make available information thereon.

APPROPRIATIONS

SEC. 15. (a) There is authorized to be appropriated to the Secretary such sums as may be necessary to carry out the provisions of this Act.

(b) All appropriations and donations made pursuant to this Act, and all permit fees or other charges paid pursuant to section 8 of this Act shall be credited to a special fund in the Treasury to be known as the Mined Lands Reclamation Fund. Such sums shall be available, without fiscal year limitation, for carrying out the provisions of this Act.

OTHER FEDERAL LAWS

SEC. 16. Nothing in this Act shall affect in any way the authority of the Secretary or heads of other Federal agencies under other provisions of law to include in any lease, license, permit, contract, or other instruments such conditions as may be appropriate to regulate surface mining operations and to reclaim surface mined areas on lands under their jurisdiction: *Provided*, That such conditions shall be at least equal to any law and regulation established under an approved State plan or to any regulation issued under section 8 of this Act for the State in which such lands are located. Each Federal agency shall cooperate with the Secretary and the States, to the greatest extent practicable, in carrying out the provisions of this Act.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., March 8, 1968.

HON. HUBERT H. HUMPHREY,
President of the Senate, Washington, D.C.

Dear Mr. President: Enclosed is a draft of a proposed bill. "To provide for the cooperation between the Secretary of the Interior and the States with respect to the regulation of surface mining operations and the reclamation of surface mined areas, and for other purposes." Also enclosed is a brief explanation of its major provisions.

We recommend that this bill be referred to the appropriate committee for consideration, and we recommend that it be enacted. It will carry out the recommendations of President Johnson in his message on this subject.

This very important proposal is based upon the findings and recommendations of the National Surface Mine Study and the Interior report entitled "Surface Mining and Our Environment," which the President transmitted to the Congress on July 3, 1967.

The study revealed that 3.2 million acres of land have been affected by surface mining in the past. Furthermore, at the present time approximately 20,000 active surface mining operations are disturbing our land at a rate estimated to exceed 150,000 acres annually. In producing the minerals needed in our economy, it is estimated that by 1980 more than 5 million acres will have been affected by these operations.

While there are many mining companies with extensive current reclamation programs, data received from various sources indicate that, as recently as 1964, the amount of land being partially or completely reclaimed was approximately 30 percent of the area disturbed in that year. At the present time only 11 States have laws requiring the reclamation of surface mined lands, and unless measures are undertaken to insure reclamation of lands subject to surface mining in the future, our Nation's inventory of derelict lands will continue to grow. The study also showed that unreclaimed mined land is responsible in many instances for degradation of the environment through erosion, landslides, air and water pollution, loss of fish and wildlife habitat, and the creation of hazards to public health and safety.

In our report, we proposed that a national programs be undertaken which would include both the prevention of future damage to the land from surface mining and the repair of lands damaged by such mining in the past.

It was recommended that priority be given to Federal, State, and local programs for the prevention of future damage.

We are recommending at this time only the enactment of a program to regulate future surface mining. We believe it is essential that the States and the Federal Government move forward now with that part of the program. While it is important and desirable to remedy past mistakes if possible, we believe that it is even more important to prevent future ones now.

The reclamation of previously mined areas is a very complex subject and presents many problems. We are looking into these problems and hope that we can propose a workable program in this area in the not too distant future.

Also, at the direction of the President we will be submitting to him by April 1, 1969, a report, based on studies now being conducted, on the appropriate measures to be taken to prevent and control adverse effects to the environment resulting from underground mines and underground mining operations and the washing, sizing, or concentrating of minerals.

The Bureau of the Budget has advised that this legislative proposal is in accord with the President's program.

Sincerely yours,

STEWART L. UDALL,
Secretary of the Interior.

(The draft bill referred to is identical to S. 3132.)

TENNESSEE VALLEY AUTHORITY,
Knoxville, Tenn., April 5, 1968.

Hon. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: In Mr. Wagner's absence I am replying to your letter of March 29 in which you request TVA's views with respect to S. 3132 which would provide for cooperation between the Secretary of the Interior and the states in the regulation of surface mining operations.

We strongly endorse legislation along the lines proposed in S. 3132, and we recommend that the Committee report the bill favorably. We think enactment of S. 3132 will help provide the kind of encouragement and assistance to the states that will persuade those not now having legislation for the regulation of surface mining promptly to enact such legislation; and that it will encourage those states which already have such legislation on the books to strengthen it and administer it more effectively. For any states which fail to enact and enforce satisfactory measures for the control of surface mining, S. 3132 provides appropriate administrative machinery whereby the Secretary of the Interior may carry out such functions.

The Bureau of the Budget advises that it has no objection to the presentation of this report from the standpoint of the Administration's program.

Cordially,

FRANK E. SMITH, *Director.*

[S. 3126, 90th Cong., second sess.]

A BILL To provide for the regulation of present and future surface and strip mining, for the conservation, acquisition, and reclamation of surface and strip mined areas, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Mined Lands Conservation Act".

SEC. 2. (a) The Congress finds and declares that the mining of minerals by the surface or strip method, both past and present, (1) destroys natural beauty, (2) damages the terrain for an indefinite period, (3) causes erosion of the soil, (4) contributes to water pollution, (5) adversely affects commercial and industrial development, (6) damages real property, (7) destroys forests, wildlife habitat, and other natural resources, (8) menaces the public health and safety, (9) cannot be made subject to uniform conservation requirements because physical and chemical conditions on spoil areas and spoil-bank characteristics can differ from State to State, county to county, bank to bank, and even from spot to spot on a particular bank, and (10) creates, because of the diversity of State regulations, or the lack thereof, competitive disadvantages for firms operating in a given market area and thereby interferes with the orderly and fair marketing of min-

erals in commerce. The Congress further finds that these results are detrimental to the economy of the Nation.

(b) It is therefore the purpose of this Act to provide for participation by the Federal Government with State and local governments, private, individuals, and other interested parties in a long-range, comprehensive program to reclaim lands and waters damaged by surface and strip-mining, to promote an effective continuing conservation land-use and management program, and to prevent further detriment to the Nation from such mining operations through—

(1) the establishment of criteria and standards for the reclamation, conservation, and protection of surface and strip mined areas;

(2) the encouragement of the States to enact, or revise, and enforce laws, rules, and regulations for the regulation of future surface and strip mining operations in accordance with criteria and standards at least equivalent to the criteria and standards established pursuant to this Act;

(3) financial aid to provide for research and development, and technical advisory assistance, and the installation of demonstration projects;

(4) cooperative programs with State and other governmental agencies to provide Federal assistance for the reclamation and conservation of publicly and privately owned surface and strip mined lands;

(5) the acquisition of surface and strip mined lands where necessary in the public interest to achieve their reclamation and conservation;

(6) the promotion of public recreation, flood control, and soil erosion control, water pollution control, forestry, agriculture, restoration and preservation of natural beauty, enhancement of fish and wildlife habitat, and other natural resource values, and the public health and safety; and

(7) the elimination of competitive disadvantages for firms operating in a given market area which interfere with the orderly and fair marketing of minerals in commerce.

Sec. 3. For the purposes of this Act:

(a) The term "Secretaries" means the Secretary of the Interior and the Secretary of Agriculture;

(b) The terms "surface mining" and "strip mining" are interchangeable, and mean the mining of minerals after complete removal of the surface or overburden above the deposit to be mined in a series or rows or strips, and include "auger mining" when conducted in conjunction with such mining;

(c) The term "overburden" means the earth, rock, and other materials which lie above a natural mineral deposit;

(d) The term "spoil" means all overburden material removed from over the mineral after it is either deposited into the area from which the mineral has been removed, or deposited on undisturbed land;

(e) The term "spoil bank" means the material of whatever nature removed and deposited on the surface so that the underlying mineral may be recovered;

(f) The term "stripping" means any trench, cut, hole, or pit formed by removal of the surface or mineral as a result of surface or strip mining;

(g) The terms "person" or "operator" are interchangeable and mean person, partnership, association, corporation, or subsidiary of a corporation which owns, leases, or otherwise controls the use of land on which surface or strip mining is conducted, which is engaged in the mining of minerals as a principal, and which is or becomes the owner of the minerals recovered as a result of such mining, and includes any agent thereof charged with the responsibility for the operation of such mine;

(h) The term "mine" means (1) an area of land from which minerals are extracted in nonliquid form, (2) private ways and roads appurtenant to such area, (3) land, excavations, and workings, structures, facilities, equipment, machines, tools, or other property, on the surface, used in the work of extracting such minerals from their natural deposits in nonliquid form, and (4) the area of land covered by spoil;

(i) The term "reclamation" means the reconditioning or restoration, when appropriate, of the area of land affected by surface or strip mining operations and such contiguous lands as may be necessary for an effective continuing use and management program, under a plan approved by the Secretaries;

(j) The term "commerce" means trade, traffic, commerce, transportation, or communication between any State, the Commonwealth of Puerto Rico, the District of Columbia, or any territory or possession of the United States and any other place outside the respective boundaries thereof, or wholly within the District of Columbia or any territory or possession of the United States, or between

points in the same States, if passing through any point outside the boundaries thereof;

(k) The term "State" means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, or a territory or possession of the United States;

(l) The term "area of land affected" means the area of land from which the overburden is removed, except that in stripping pits not more than one hundred feet in depth the area shall include the area occupied by the spoil banks; it also includes all lands affected by roads constructed to gain access and to haul minerals; and

(m) The term "operation" means all of the premises, facilities, roads, and equipment used in the process of producing minerals from a designated surface or strip mine area.

SEC. 4. Each surface or strip mine the products of which enter commerce, or the operations of which affect commerce, shall be subject to this Act.

SEC. 5. This Act shall be administered by the Secretary of Agriculture and the Secretary of the Interior as hereinafter provided. The Secretaries shall cooperate to the fullest extent practicable with each other and with other departments, agencies, and independent establishments of the Federal Government, with State and local governments and agencies, with interstate agencies, and with individuals or organizations. The Secretaries may request from any other Federal department or agency any information, data, advice, or assistance which they may need and which can reasonably be furnished, and such department or agency is authorized to expend its own funds with or without reimbursement. The Secretaries may also request the advice of State and local agencies and persons qualified by experience or affiliation to present the viewpoint of persons or operators of surface or strip mines, and of persons similarly qualified to present the viewpoint of groups interested in soil, water, wildlife, plant, recreation, and other resources.

SEC. 6. (a) The President shall establish a national advisory committee to advise the Secretary of Agriculture and the Secretary of the Interior in the development or revision of standards and reclamation requirements as required by section 101 of title I of this Act, and in such other matters as the Secretaries may request. The National Advisory Committee shall include among its members an equal number of persons qualified by experience or affiliation to represent the viewpoint of persons or operators of surface and strip mines, and of persons similarly qualified to represent the viewpoint of other interested groups, Federal, State, and local agencies. The President shall designate the Chairman of the Committee.

(b) The Secretary of Agriculture and the Secretary of the Interior, if they deem it desirable, may establish regional advisory committees to assist them and the National Advisory Committee. Each such regional committee shall consist of an equal number of persons qualified by experience or affiliation to represent the viewpoint of surface and strip mine operators and other interested groups, Federal, State, and local agencies.

(c) (1) Members appointed to such National Advisory Committee or regional advisory committees from private life shall each receive compensation at the rate of \$100 per day for each day they are engaged in the performance of their duties as members of any such committee. All other members of any such committee shall serve without compensation.

(2) All members of any such committee shall be entitled to reimbursement for travel, subsistence, and other necessary expenses incurred by them in the performance of their duties as members of any such committee.

TITLE I—STANDARDS, RECLAMATION REQUIREMENTS, AND CRITERIA FOR THE PROTECTION AND MANAGEMENT OF STRIP AND SURFACE MINED AREAS

SEC. 101. (a) The Secretary of Agriculture and the Secretary of the Interior shall develop, or revise, after consultation with the National Advisory Committee appointed pursuant to section 6(a) of this Act, (1) Federal standards and reclamation requirements for the reclamation, conservation, protection, and management of previously surface and strip mined areas of private, State, and federally owned or controlled lands and waters, (2) Federal standards, and mining and reclamation requirements for the administration and regulation of all future surface and strip mining operations in the United States, and (3) criteria and

priorities for the selection of projects and programs for affected areas of land and water in need of reclamation in those States which are eligible for assistance under the provisions of titles II, III, IV, or V of his Act.

(b) In establishing Federal standards, and mining and reclamation requirements for the administration and regulation of future strip and surface mining operations in the United States, the Secretaries shall consider requirements which will reasonably assure the attainment of the following objectives:

(1) The standards shall include, but not be limited to, grading, drainage, backfillings, plantings, revegetation, and any other measures or practices deemed by the Secretaries, after consultation with appropriate advisory committees, to be necessary to carry out the purposes of this Act.

(2) No person shall be permitted to commence operations to mine by strip or surface methods without first securing a permit or license from the Secretaries.

(3) Adequate law enforcement procedures shall be provided.

(4) The posting of an appropriate performance bond shall be required, forfeiture of which may automatically involve denial of future mining permits or licenses.

(5) Surface and strip mining operations and reclamation procedures shall be required to be preplanned and approved by the Secretaries prior to issuance of a permit or license.

(6) The penalties provided herein shall apply for mining by strip or surface methods without a license or permit, and for willful refusal or failure to comply with the law, approved regulations, or the orders of a duly authorized authority.

(7) If warranted, the Secretaries may prohibit strip and surface mining in areas where reclamation is considered unfeasible because of physical considerations, such as ground-surface slope, but not limited thereto.

(8) Reclamation work shall be required to be integrated into the mining cycle, and appropriate time limits shall be established for the completion of reclamation.

(9) Periodic reports by the operator on the progress, methods, and results of reclamation efforts shall be required.

(10) Provision shall be made for the reporting and evaluation by the Secretaries of environmental changes in active and dormant strip and surface mining areas in order to provide data upon which the effectiveness of the reclamation requirements and their enforcement may be evaluated.

SEC. 102. (a) The Secretary of Agriculture and the Secretary of the Interior, after consultation with the national advisory committee established pursuant to section 6(a) of this Act, shall publish in the Federal Register rules, regulations, model standards, and reclamation requirements promulgated by them pursuant to section 101.

(b) The provisions of section 553 of title 5, United States Code, shall be applicable to the rules, regulations, model standards, and reclamation requirements promulgated pursuant to this section.

(c) Any person or operator whose application for a license or permit has been denied by the Secretaries, or whose bond has been ordered forfeited by the Secretaries, or who has otherwise been aggrieved by an action of the Secretaries pursuant to the provisions of this Act, may appeal to the Secretaries for annulment or revision of such order or action, and the Secretaries shall issue regulations for such appeals which shall include due notice and opportunity for a hearing.

(d) Any final order made by the Secretaries on appeal shall be subject to the judicial review by the United States court of appeals for the circuit in which the mine affected is located, upon the filing in such court of a notice of appeal by the operator aggrieved by such final order within twenty days from the date of the making of such final order.

(e) The applicant shall forthwith send to the Secretaries by registered mail or by certified mail a copy of such notice of appeal. Upon receipt of such copy of a notice of appeal the Secretaries shall promptly certify and file in such court a complete transcript of the record upon which the order complained of was made. The costs of such transcript shall be paid by the appellant.

(f) The court shall hear such appeal on the record made before the Secretaries, and shall permit argument, oral or written, or both, by both parties.

(g) Upon such conditions as may be required, and to the extent necessary to prevent irreparable injury, the United States court of appeals may, after due

notice to and hearing of the parties to the appeal, issue all necessary and appropriate process to postpone the effective date of the final order of the Secretaries, or to grant such other relief as may be appropriate pending final determination of the appeal.

(h) The United States court of appeals may affirm, annul, or revise the final order of the Secretaries, or it may remand the proceedings to the Secretaries for such further action as it directs. The findings of fact by the Secretaries, if supported by substantial evidence on the record considered as a whole, shall be conclusive.

(i) Following adoption of rules and regulations by the Secretaries pursuant to the provisions of this section any person or operator who willfully fails or refuses to comply with such regulations shall be guilty of a misdemeanor, and upon conviction shall be sentenced to pay a fine of not less than \$5,000 nor more than \$10,000, or undergo imprisonment not exceeding six months, or both. Such fine shall be payable to the Secretaries, who shall credit it to the reclamation fund established under title VI of this Act.

SEC. 103. (a) Any State which, at any time, desires to secure the benefits of the financial assistance provided in titles II and III of this Act, and to develop and enforce standards, and mining and reclamation requirements for the administration and regulation of future mining operations by strip or surface methods within such State, shall submit to the Secretaries a State plan for the development of such standards and requirements and their enforcement.

(b) The Secretaries shall approve the plan submitted by a State under subsection (a) of this section, or any modification thereof, if such plan—

(1) designates the State agency submitting such plan as the sole agency responsible for administering the plan throughout the State,

(2) provides for the development and enforcement of standards and reclamation requirements for regulating surface and strip mining, and for the conservation and reclamation of surface and strip mining areas in mines in the State which are or will be substantially as effective for such purposes as the standards and reclamation requirements which the Secretaries have established pursuant to this Act, and which provide for inspection at least annually of all such mines,

(3) contains assurances that such agency has, or will have, the legal authority and qualified personnel necessary for the enforcement of such standards and reclamation requirements,

(4) gives assurances that such State will devote adequate funds to the administration and enforcement of such standards and reclamation requirements,

(5) provides that the State agency will make such reports to the Secretaries in such form and containing such information as the Secretaries shall from time to time require.

(c) The Secretaries shall, on the basis of reports submitted by the State agency and his own inspection of mines, make a continuing evaluation of the manner in which each State having a plan approved under this section is carrying out such plan. Whenever the Secretaries find, after affording due notice and opportunity for a hearing, that in the administration of the State plan there is a failure to comply substantially with any provision of the State plan (or any assurance contained therein), he shall notify the State agency of his withdrawal of approval of such plan and upon receipt of such notice such plan shall cease to be in effect.

(d) (1) If any State is dissatisfied with the Secretaries' final action with respect to the approval of its State plan submitted under subsection (a) of this section, or with his final action under the second sentence of subsection (c) of this section, such State may, within sixty days after notice of such action, file with the United States court of appeals for the circuit in which such State is located a petition for review of that action. A copy of the petition shall be forthwith transmitted to the Secretaries by the clerk of the court. The Secretaries thereupon shall file in the court the record of the proceedings on which they based their action, as provided in section 2112 of title 28, United States Code.

(2) The findings of fact by the Secretaries, if supported by substantial evidence on the record considered as a whole, shall be conclusive; but the court for good cause shown may remand the case to the Secretaries to take further evidence, and the Secretaries may thereupon make new or modified findings of fact and may modify their previous action, and shall certify to the court the record

of the further proceedings. Such new or modified findings of fact shall likewise be conclusive if supported by substantial evidence.

(3) The court shall have jurisdiction to affirm the action of the Secretaries or to set it aside, in whole or in part. The judgment of the court shall be subject to review by the Supreme Court of the United States upon certiorari or certification as provided in section 1254 of title 28, United States Code.

(e) The provisions of sections 101 and 102 pertaining to the Federal standards and mining and reclamation requirements for the administration and regulation of future mining operations by strip or surface method shall not be applicable in any State in which there is a State plan approved under subsection (b) of this section.

SEC. 104. The Secretaries are authorized at any time to cause to be made in a surface or strip mine or previously surfaced or strip mined area such inspections and investigations as they shall deem necessary for the purpose of determining compliance with applicable rules, regulations, standards, and reclamation requirements.

SEC. 105. For the purpose of making any inspection or investigation authorized by this Act, authorized representatives of the Secretaries shall be entitled to admission to, and shall have the right of entry upon or through, any strip or surface mine or previously strip or surface mined area.

TITLE II—RECLAMATION AND CONSERVATION OF SURFACE AND STRIP MINED LANDS OWNED BY STATE AND LOCAL GOVERNMENTS IN THE UNITED STATES

SEC. 201. It is the purpose of this title to facilitate the reclamation and conservation of lands owned by State and local governments that have been adversely affected by strip and surface mining operations and have not been reclaimed prior to the date of enactment of this Act to a level commensurate with the criteria and standards established pursuant to the provisions of title I of this Act, by providing authority to the Secretary of Agriculture to enter into agreements with the States and local governments to provide financial and other assistance for their reclamation: *Provided*, That when the intended use of the lands to be reclaimed is for parks or fish and wildlife, the Secretary of Agriculture shall enter into agreements respecting such lands only after consultation with the Secretary of the Interior.

SEC. 202. (a) (1) To carry out the purpose of this title, the Secretary of Agriculture is authorized to enter into agreements with the various States and local bodies of government for the conservation and reclamation of surface and strip mined lands presently owned or hereafter acquired by them.

(2) Each such agreement shall describe (A) the actions to be taken by the Secretary of Agriculture and by the State or local body of government, (B) the estimated cost of these actions, (C) the public benefits expected to be derived, including but not limited to the benefits of the economy of the State or local area, abatement or alleviation of land and water pollution, public recreation, fish and wildlife, and public health and safety, and (D) the share of the costs to be borne by the Federal Government and by the State or local body of government: *Provided*, That, notwithstanding any other provision of law, the Federal share of the cost shall not exceed the direct identifiable benefits which the Secretary of Agriculture determines will accrue to the public, and shall not in any event exceed 75 per centum of such cost: *Provided further*, That the share of the State or local body of government shall not consist of funds granted under any other Federal program, and (E) such other terms and conditions as the Secretary of Agriculture deems desirable.

(b) The Secretary of Agriculture, in his discretion, may require as a part of any agreement under this section that adequate provision be made for access to and use by the public of lands reclaimed under the provisions of this title.

(c) Each agreement entered into under this section shall contain a reasonable assurance by the State or local body of government that the reclaimed lands which are devoted to public use will be adequately maintained.

SEC. 203. Whenever the Secretary of Agriculture, after reasonable notice and opportunity for hearing, determines that there is a failure to expend funds in accordance with the terms and conditions governing the agreement for approved projects, he shall notify the State that further payments will not be made to the State from appropriations under this Act until he is satisfied that there will no longer be any such failure. Until he is so satisfied the Secretary of Agriculture shall withhold any such payment to such State.

SEC. 204. The programs authorized to be assisted pursuant to this title shall be completed not later than January 1, 1988.

TITLE III—GRANTS TO STATES AND LOCAL AGENCIES AND OTHERS TO PROVIDE ASSISTANCE TO PROGRAMS OF RESEARCH AND DEVELOPMENT AND TECHNICAL ADVISORY ASSISTANCE

SEC. 301. It is the purpose of this title to facilitate the reclamation and conservation of lands and waters adversely affected by surface and strip mining operations by authorizing the Secretary of Agriculture and the Secretary of the Interior to make grants to the States, local governments, and others to be utilized in programs of research and development and in rendering technical advisory assistance.

SEC. 302. (a) The Secretary of Agriculture is authorized to make grants to States or local agencies and other public or nonprofit agencies and institutions (including State or private universities), for investigations, experiments, demonstrations, studies, and research projects with respect to the development of improved reclamation and conservation practices for the utilization and development of surface and strip mined lands, and for the development, preparation, and maintenance of a State program commensurate with the criteria and standards adopted pursuant to title I of this Act for the conservation, utilization, and development of surface and strip mined lands, and for rendering technical assistance to States and mining operators on these subjects.

(b) The Secretary of the Interior is authorized to make grants to States or local agencies and other public or nonprofit agencies and institutions (including State or private universities), for investigations, experiments, demonstrations, studies, and research projects with respect to the development of improved mining techniques, for preparing and maintaining a continuing inventory of surface and strip mined areas and active mining operations on these subjects.

SEC. 303. (a) Any State or local agency or institution, desiring financial assistance under this title shall submit a proposal to the appropriate Secretary in such form and manner as he shall prescribe, and payments may be made only for those projects or programs approved by him.

(b) The appropriate Secretary may make payments from time to time in keeping with the rate of progress toward satisfactory completion of individual projects or the implementation of approved programs.

(c) No project or program to be assisted under the provisions of this title may be approved unless the State in which the project or program is to be undertaken has adopted State laws which meet the standards for the mining, reclamation, conservation, protection, and management of surface and strip mined lands established by the Secretaries pursuant to sections 101 and 102 of this Act, except in those instances where the appropriate Secretary determines that no surface or strip mining occurs within the State which produces a significant detrimental effect upon the local environment.

SEC. 304. Sums appropriated or otherwise available for State projects and programs under this title shall be apportioned among the eligible States by the appropriate Secretary, whose determination shall be final. In determining the apportionment among such States the appropriate Secretary shall consider, among other things, the financial and administrative resources available to the State to undertake projects of the type authorized by this title, and the nature and extent of problems and adverse conditions brought about by surface and strip mining operations in the individual States most in need of solution within the individual States.

SEC. 305. The programs authorized to be assisted by this title shall be completed not later than January 1, 1988.

TITLE IV—RECLAMATION AND CONSERVATION OF PREVIOUSLY MINED LANDS OWNED BY PRIVATE INDIVIDUALS

SEC. 401. It is the purpose of this title to facilitate the reclamation and conservation of privately owned lands and water adversely affected by surface and strip mining operations and not reclaimed prior to the enactment of this Act to a level commensurate with the criteria and standards established pursuant to the provisions of title I of this Act, by authorizing the Secretary of Agriculture to provide assistance to States, their political subdivisions, private organizations, and others for the reclamation and rehabilitation of such areas.

SEC. 402. (a) To carry out the purposes of this title the Secretary of Agriculture is authorized to:

(1) provide, upon the request of States, their political subdivisions, or legally qualified local agencies, technical assistance for developing project plans for the reclamation and rehabilitation of lands which were not reclaimed prior to the date of this Act to a level commensurate with the criteria and standards adopted pursuant to title I of this Act, and were not at the time they were mined subject to any legal requirements for their reclamation to a level commensurate with such criteria and standards; and

(2) cooperate and enter into agreements with, and to furnish financial and other aid to any agency, governmental or otherwise, or any person for the purpose of carrying out any project plan that has been approved by the Secretary of Agriculture and the cooperating State, soil and water conservation district, or other political subdivision or legally qualified local agency, subject to such conditions as may be prescribed by the Secretary of Agriculture.

(b) The Secretary of Agriculture may require as a condition to the furnishing of assistance thereunder to any landowner that the landowner shall:

(1) Enter into an agreement for a period of not to exceed ten years providing for the installation and maintenance of the needed reclamation works or measures;

(2) Install, cause to be installed, or permit the installation of the needed reclamation works or measures in accordance with technical specifications as approved by the Secretary; and

(3) Provide assurances satisfactory to the Secretary that such reclaimed and rehabilitated lands will be adequately protected against damages resulting from future surface mining operations.

SEC. 404. The financial contribution of the Federal Government toward the land treatment and construction costs for the reclamation and rehabilitation of lands in an approved project under this title shall not exceed 75 per centum of the total of such costs thereof.

SEC. 405. (a) Each project plan shall (1) describe the nature of the project and the actions to be taken by each of the public and private parties, (2) describe the public benefits expected to be derived, (3) specify the share of the costs to be borne by the Federal Government and by the other participating parties, and (4) such other terms and conditions as are deemed necessary to protect the public interests.

(b) The Secretary of Agriculture, in his discretion, may provide in the agreements with landowners that the work to be done under the project plan may be contracted for or performed by the owner of the land involved, subject to rules and regulations adopted by the Secretary of Agriculture.

SEC. 406. The programs authorized by this title shall be completed not later than January 1, 1988.

TITLE V—ACQUISITION OF LAND AND THE RECLAMATION AND CONSERVATION OF PREVIOUSLY SURFACE OF STRIP MINED LANDS

SEC. 501. In order to facilitate the reclamation, conservation, protection, and management of lands that have been affected by surface mining operations and not reclaimed prior to enactment of this Act to a level commensurate with the criteria and standards adopted pursuant to title I of this Act, the Secretary of the Interior is authorized to acquire by donation, exchange, or purchase any such surface or strip mined lands or interests therein and such contiguous lands as may be necessary for an effective continuing conservation land use and management program.

SEC. 502. (a) The authority of the Secretary of the Interior to acquire lands, as provided in this title, may be exercised only when he determines that:

(1) The land is located within or adjacent to the boundaries of an established Federal unit and which, because of conditions prevailing thereon, are damaging other lands and waters inside or outside such Federal unit; and should be reclaimed to a level commensurate with the criteria and standards adopted pursuant to title I of this Act;

(2) The land is within the boundaries of an approved project provided for in title IV of this Act and that:

(A) The owners of the land are unwilling or unable to join with the other landowners in the project area in an agreement to reclaim jointly the project lands;

(B) The owners of 75 per centum or more of the lands within the project have entered into a joint agreement with the Secretary of Agriculture to reclaim surface mined lands pursuant to some other title of this Act.

(3) No State or local governmental body desires to acquire the land in furtherance of a project to be undertaken pursuant to some other title of this Act; and

(4) The Federal Government should acquire the land in order to accomplish the purposes of this Act.

(b) With respect to lands acquired by the Secretary of the Interior pursuant to this title which are located adjacent to national forest lands, the Secretary of the Interior is authorized to transfer jurisdiction over such lands to the Secretary of Agriculture for administration by him in the same manner and to the same extent as are other lands within the national forest system.

SEC. 503. In the case of acquisition by purchase of property pursuant to this title, the property owner shall, unless he offers to sell at a lower price, be paid the fair market value as determined by the Secretary of the Interior. Owners of improved property acquired under the provisions of this title may reserve for themselves and their successors or assigns a right of use and occupancy for noncommercial residential purposes, as hereinafter provided, appropriate portions of the property not required for reclamation measures for a definite term not to exceed twenty-five years or, in lieu thereof, for a term ending at the death of the owner, or the death of his spouse, whichever is the later. The owner shall elect the term to be reserved. In such cases the owner of the property shall be paid the fair market value of the property on the date of such acquisition less the fair market value on such date of the right retained by the owner: *Provided*, That such use and occupancy shall be subject to such general rules and regulations as may be established by the Secretary of the Interior.

SEC. 504. (a) The Secretary of the Interior shall conserve, reclaim, protect, improve, develop, and administer any property or interest therein acquired pursuant to this title and construct such structures thereon as may be necessary to adapt it to beneficial public use.

(b) Except to the extent otherwise herein provided, lands acquired for the purpose of this title within established Federal units shall become part of such unit and shall be administered in accordance with the laws and regulations applicable thereto.

(c) With respect to lands acquired under this title other than those within established Federal units, the Secretary of the Interior may, under such terms and conditions as he deems will best accomplish an effective continuing conservation land use and management program, sell, exchange, lease, or otherwise dispose of such property. When, in the judgment of the Secretary, reclamation of such property has been substantially accomplished, and such property should be administered by another Federal or State agency under conditions of use and administration which will best serve the purpose of a conservation and land use program, the Secretary is authorized to transfer such property to any such agencies.

(d) With respect to any land or interest therein acquired for the purposes of this title, the Secretary may make dedications or grants for any public purpose, and grant licenses and easements upon such terms as he deems reasonable.

SEC. 505. Each Federal department and independent Federal agency head shall develop and carry out a program for the reclamation and conservation of federally owned lands under his jurisdiction that have been affected by surface and strip mining operations and are not reclaimed in accordance with the criteria and standards adopted pursuant to title I of this Act.

SEC. 506. The programs authorized by this title shall be completed not later than January 1, 1968.

TITLE VI—MISCELLANEOUS PROVISIONS

SEC. 601. There are authorized to be appropriated, out of any moneys in the Treasury not otherwise appropriated, such sums as may be necessary to carry out the provisions of this Act.

SEC. 602. All appropriations for the purposes of this Act, all moneys received under this Act from the sale or lease of federally owned reclaimed land, repayment and interest costs by owners of nonfederally owned reclaimed land, all donations to the Federal Government for the purposes of this Act, all moneys received from fines or forfeitures, and other revenues resulting from the opera-

tions of the continuing conservation land use and management program shall be credited to a special fund in the Treasury to be known as the "Mined Lands Reclamation Revolving Fund". Such moneys shall be available, without fiscal year limitation, for carrying out the provisions of this Act, including purchase and reclamation of land.

SEC. 603. If any provision of this Act, or the applicability thereof to any person or circumstances is held invalid, the remainder of this Act, and the application of such provision or circumstances, shall not be affected thereby.

[S. 217, 90th Cong., first sess.]

A BILL To authorize the Secretary of the Interior to designate within the Department of the Interior an officer to establish, coordinate, and administer programs authorized by this Act, and the reclamation, acquisition, and conservation of lands and water adversely affected by coal mining operations, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Mined Lands Conservation Act."

SEC. 2. (a) The Congress finds and declares that there are coal mining operations in the Nation which continue to cause erosion, landslides, the accumulation of stagnant water, river and stream pollution, the increased likelihood of floods, loss of fish and wildlife habitat, damage to natural beauty, and the destruction of the value of land for commercial, industrial, agricultural, and forestry purposes; that such despoliation of the land counteracts efforts for the conservation of soil, water, and other natural resources, destroys or impairs the property rights of citizens, adversely affects economic development, and in general creates hazards dangerous to life and property so as to constitute an imminent peril to public health and safety; that these results are detrimental to the economy of the Nation and should be remedied; that because of the diversity of terrain, climate, biologic, chemical, and other physical conditions in coal mining areas, uniform reclamation and conservation requirements are difficult to establish; and that the Federal programs now authorized to provide financial assistance for the reclamation and conservation of such mined lands are not sufficiently broad in scope to provide remedies for these conditions and need to be supplemented.

(b) It is therefore the purpose of this Act to provide for participation by the Federal Government with State and local governments, private individuals, and other interested parties in a long-range, comprehensive program to reclaim lands and waters damaged by coal mining, to promote an effective continuing land-use program, and to prevent further detriment to the Nation from such mining operations through—

- (a) The reclamation and conservation of State-owned coal mined areas;
- (b) financial assistance to provide for research, and technical advisory activities;
- (c) the reclamation and conservation of privately owned coal mined areas;
- (d) the reclamation and conservation of federally owned coal mined areas;
- (e) the acquisition, reclamation, and conservation of coal mined lands;
- (f) the establishment of standards for the reclamation, protection, and management of surface and strip coal mined areas;
- (g) the construction by the Federal Government, when appropriate, of demonstration projects in cooperation with other interested parties in furtherance of a program of research and development; and
- (h) the promotion of water pollution control, public recreation, industrial and commercial development, forestry, agriculture, restoration, and preservation of natural beauty, enhancement of fish and wildlife habitat, and other natural resource values, and public health and safety.

SEC. 3. (a) The Secretary of the Interior shall designate within the Department of the Interior one officer with primary responsibility to administer the provisions of this Act.

(b) In administering this Act the Secretary shall cooperate to the fullest extent practicable with other departments, agencies, and independent establishments of the Federal Government, with State governments and agencies, interstate agencies and compacts, and all other interested agencies, governmental and

nongovernmental. He is authorized to request from any other Federal agency any information, data, advice, or assistance which he may need and which can reasonably be furnished, and such agency is authorized to expend its own funds for such purposes with or without reimbursement.

Sec. 4. Each coal mine, as defined by this Act, the products of which enter commerce, or the operations of which affect commerce, shall be subject to this Act.

Sec. 5. (a) The Secretary shall establish a national advisory committee to advise him in the development or revision of standards and reclamation requirements as required by section 101 of this Act, and in such other matters as he may request. The national advisory committee shall include among its members a number of persons qualified by experience or affiliation to present the viewpoint of persons or operators of surface and strip coal mines, and of persons similarly qualified to present the viewpoint of other interested groups, Federal, State, and local agencies. The Secretary shall designate the chairman of the committee.

(b) The Secretary, if he deems it desirable, may establish regional advisory committees to assist him and the national advisory committee. Each such regional committee shall consist of members qualified by experience or affiliation to present the viewpoint of surface and strip coal mine operators and other interested groups, Federal, State, and local agencies.

(c) Members appointed from private life to either the national advisory committee or any regional committee shall, while serving the business of the committee, be entitled to receive compensation at rates fixed by the Secretary, but not exceeding \$100 per day, including traveltime, and while so serving away from their homes or regular places of business they may be paid travel expenses and per diem in lieu of subsistence at rates authorized by 5 U.S.C. 5703.

TITLE I—STANDARDS, RECLAMATION REQUIREMENTS, AND CRITERIA FOR THE PROTECTION AND MANAGEMENT OF STRIP AND SURFACE COAL MINED AREAS

Sec. 101. (a) The Secretary shall develop, or revise, after consultation with the advisory committee appointed pursuant to section 5(a) of this Act, (1) Federal standards and reclamation requirements for the reclamation, conservation, protection, and management of previously coal mined areas of private, State, and federally or public-owned or controlled lands and waters, (2) Federal standards, and mining and reclamation requirements for the administration and regulation of all future surface and strip coal mining operations in the Nation, and (3) criteria and priorities for the selection of projects and programs for affected areas of land and water in need of reclamation in those States which are eligible for assistance under the provisions of title II, III, IV, and V.

(b) In establishing Federal standards, and mining and reclamation requirements for the administration and regulation of future strip and surface coal mining operations in the Nation, the Secretary shall consider requirements which will reasonably assure the attainment of the following objectives:

(1) The standards shall apply to the surface or strip mining of coal if its recovery produces a significant detrimental effect upon the local environment.

(2) No person shall be permitted to commence operations to mine coal by strip or surface methods without first securing a permit or license from the Secretary.

(3) Adequate law enforcement procedures shall be provided.

(4) The posting of an appropriate performance bond shall be required, forfeiture of which may automatically involve denial of future mining permits or licenses.

(5) Surface and strip mining operations and reclamation procedures shall be required to be preplanned, and approved by the Secretary prior to issuance of a permit or license.

(6) The penalties provided herein shall apply for mining coal by strip or surface methods without a license or permit, and for willful refusal or failure to comply with the law, approved regulations, or the orders of a duly authorized authority.

(7) If warranted, the Secretary may prohibit the mining of coal in areas where reclamation is considered unfeasible because of physical considerations, such as ground-surface slope, but not limited thereto.

(8) Reclamation work shall be required to be integrated into the mining cycle, and appropriate time limits shall be established for the completion of reclamation.

(9) Periodic reports by the operator on the progress, methods, and results of reclamation efforts shall be required.

(10) Provision shall be made for the reporting and evaluation by the Secretary of environmental changes in active and dormant coal mining areas in order to provide data upon which the effectiveness of the reclamation requirements and their enforcement may be evaluated.

SEC. 102. (a). The Secretary, after consultation with the national advisory committee established pursuant to section 5(a) of this Act, shall publish in the Federal Register standards, rules and regulations which he proposes to promulgate pursuant to section 101. Interested persons shall be afforded a period of not less than thirty days after the publication of such standards within which to submit written data, views, or arguments. Except as provided in subsection (b) of this section, the Secretary may, after the expiration of such period and after consideration of all relevant matter presented, promulgate such standards.

(b) On or before the last day of a period fixed for the submission of written data, views or arguments, any person who may be adversely affected by any standard, rule or regulation which the Secretary proposes to adopt may file with the Secretary written objections thereto stating the grounds therefor, and requesting a public hearing (subject to the provisions of the Administrative Procedure Act) on such objections. The Secretary shall not adopt any proposed rule or regulation respecting which such objections have been filed until he has taken final action upon them as provided in subsection (c) of this section. As soon as practicable after the period of filing such objections has expired the Secretary shall publish in the Federal Register a notice specifying the provisions of the proposed standards, reclamation requirements, and regulations to which such objections have been filed.

(c) If such objections requesting a public hearing are filed, as soon after the expiration of the period for filing such objections as practicable, the Secretary, after due notice, shall hold a public hearing for the purpose of receiving evidence relevant and material to the issues raised by such objections. At the hearing any interested person may be heard. As soon as practicable after the completion of the hearing the Secretary shall act upon such objections and make his decision public. Such decisions shall be based only on substantial evidence of record at the hearing and shall set forth detailed findings of fact on which the decision is based.

(d) Any person aggrieved by a decision of the Secretary under subsection (c) of this section may obtain a review of such decision by the United States District Court of Appeals for the District of Columbia by filing in such court, within twenty days following the issuance of such decision, a petition asking that the decision of the Secretary be modified or set aside in whole or in part. A copy of such petition shall forthwith be served upon the Secretary, and thereupon the Secretary shall certify and file in the court the record upon which the decision complained of was issued. The findings of fact by the Secretary, if supported by substantial evidence, shall be conclusive; but the court, for good cause shown, may remand the case to the Secretary to take further evidence, and the Secretary may thereupon make new or modified findings of fact and may modify his previous action and shall certify to the court the record of the further proceedings. Such new or modified findings of fact shall likewise be conclusive if supported by substantial evidence. The court shall have jurisdiction to affirm the action of the Secretary or to set it aside, in whole or in part. The judgment of the court shall be subject to review by the Supreme Court of the United States upon certiorari or certification as provided in section 1245 of title 28, United States Code. The commencement of a proceeding under subsection (d) of this section shall not, unless specifically ordered by the court, operate as a stay of the Secretary's decision.

(e) Following adoption of rules and regulations by the Secretary pursuant to the provisions of this section any person or operator who willfully fails or refuses to comply with such regulations shall be guilty of a misdemeanor, and upon conviction shall be sentenced to pay a fine of not less than \$5,000 nor more than \$10,000, or undergo imprisonment not exceeding six months, or both. Such fine shall be payable to the Secretary, who shall credit it to the reclamation fund established under title VI of this Act.

SEC. 103. (a) Any State which, at any time, desires to secure the benefits of the financial assistance provided in titles II and III of this Act, and to

develop and enforce standards, and mining and reclamation requirements for the administration and regulation of future coal mining operations by strip or surface methods within such State, shall submit to the Secretary a State plan for the development of such standards and their enforcement.

(b) The Secretary may approve the plan submitted by a State under subsection (a) or any modification thereof, whenever the State gives evidence satisfactory to the Secretary that under such plan—

(1) the standards proposed in the State plan conform to or exceed the Federal standards adopted pursuant to sections 101 and 102 of this title;

(2) appropriate provisions are included relating to (a) the control or elimination of water pollution, (b) the control of soil erosion, (c) the elimination of health and safety hazards, (d) the conservation and preservation of natural resources, (e) the return of the land to productive use after mining, and (f) the restoration of natural beauty;

(3) the State will provide adequate financial resources and administrative personnel to provide enforcement, plan land use, render technical advisory assistance, and conduct appropriate research on mining and reclamation methods;

(4) the establishment of formal training programs for operators, supervisors, reclamation and enforcement officials in methods of effective mining and reclamation practices and techniques is authorized if needed; and

(5) the State shall make such reports to the Secretary, in such form and containing such information, as the Secretary shall, from time to time, require.

(c) The Secretary shall, on the basis of reports submitted by the State and his own inspection of coal mines, make a continuing evaluation of the manner in which each State having a plan approved under this section is carrying out such plan. Whenever the Secretary finds, after affording due notice and opportunity for a hearing, that in the administration of the State plan there is a failure to comply substantially with any provision of the State plan he shall notify the State of his withdrawal of approval of such plan and upon receipt of such notice such plan shall cease to be in effect.

(d) The provisions of sections 101 and 102 pertaining to the Federal standards and mining and reclamation requirements for the administration and regulation of future coal mining operations by strip or surface method shall not be applicable in any State in which there is a State plan approved under subsection (b) of this section.

Sec. 104. The Secretary is authorized at any time to cause to be made in a coal mine or previously mined area such inspections and investigations as he shall deem necessary for the purpose of determining compliance with applicable rules, regulations, standards, and reclamation requirements.

Sec. 105. For the purpose of making any inspection or investigation authorized by this Act, authorized representatives of the Secretary shall be entitled to admission to, and shall have the right of entry upon or through, any coal mine or previously mined area.

TITLE II—RECLAMATION AND CONSERVATION OF SURFACE AND STRIP MINED COAL LANDS OWNED BY STATE AND LOCAL GOVERNMENTS IN THE UNITED STATES

Sec. 201. It is the purpose of this title to facilitate the reclamation and conservation of lands and waters owned by State and local governments that have been adversely affected by coal mining operations and have not been reclaimed in accordance with modern standards prior to the enactment of this Act, by providing authority to the Secretary to enter into agreements with the States and local governments to provide funds for their reclamation.

Sec. 202. (a) (1) To carry out the purpose of this title, the Secretary is authorized to enter into agreements with the various States and local bodies of government for the conservation and reclamation of surface and strip mined coal lands presently owned or hereafter acquired by them.

(2) Each such agreement shall describe (A) the actions to be taken by the Secretary and by the State or local body of government, (B) the estimated cost of these actions, (C) the public benefits expected to be derived, including but not limited to the benefits to the economy of the State or local area, abatement or alleviation of land and water pollution, public recreation, fish and wildlife, and public health and safety, and (D) the share of the costs to be borne by the Fed-

eral Government and by the State or local body of government: *Provided*, That notwithstanding any other provision of law, the Federal share of the cost shall not exceed the direct identifiable benefits which the Secretary determines will accrue to the public, and shall not in any event exceed 75 per centum of such cost; *Provided further*, That the share of the State or local body of government shall not consist of funds granted under any other Federal program, and (E) such other terms and conditions as the Secretary deems desirable.

(b) The Secretary, in his discretion, may require as a part of any agreement under this section that adequate provision be made for access to and use by the public of lands reclaimed under the provisions of this title.

(c) Each agreement entered into under this section shall contain a reasonable assurance by the State or local body of government that the reclaimed lands which are devoted to public use will be adequately maintained.

SEC. 203. Whenever the Secretary, after reasonable notice and opportunity for hearing, determines that there is a failure to expend funds in accordance with the terms and conditions governing the agreement for approved projects, he shall notify the State that further payments will not be made to the State from appropriations under this Act until he is satisfied that there will no longer be any such failure. Until he is so satisfied the Secretary shall withhold any such payment to such State.

SEC. 204. The programs authorized to be assisted pursuant to this title shall be completed not later than January 1, 1988.

TITLE III—GRANTS TO STATES AND LOCAL AGENCIES AND OTHERS TO PROVIDE ASSISTANCE TO PROGRAMS OF RESEARCH AND DE- VELOPMENT AND TECHNICAL ADVISORY ASSISTANCE

SEC. 301. It is the purpose of this title to facilitate the reclamation and conservation of lands and waters adversely affected by coal mining operations by granting the Secretary authority to make grants to States, local governments, and others to be utilized in research projects, and the rendering of technical advisory assistance to mining operators.

SEC. 302. To carry out the purpose of this title, the Secretary is authorized—

(a) to make grants to States or local agencies, and other public or non-profit agencies and institutions (including State or private universities), for investigations, experiments, demonstrations, studies, and research projects with respect to the development of improved coal mining techniques and reclamation and conservation practices; and

(b) to make grants to States for the costs of administering programs to provide technical assistance to coal mine operators to assist them to comply with the requirements of State laws and regulations relating to the pre-planning of mining operations and reclamation procedures.

SEC. 303. (a) Any State or local agency, or institution, desiring financial assistance under this title shall submit a proposal to the Secretary in such form and manner as he shall prescribe, and payments may be made only for those projects or programs approved by him.

(b) The Secretary may make payments from time to time in keeping with the rate of progress toward satisfactory completion of individual projects or the implementation of approved programs.

(c) No project or program to be assisted under the provisions of this title may be approved unless the State in which the project or program is to be undertaken has adopted State laws which meet the standards for the mining, reclamation, conservation, protection, and management of coal mined lands established by the Secretary pursuant to sections 101 and 102 of this Act, except in those instances where the Secretary determines that no surface or strip mining of coal occurs within the State which produces a significant detrimental effect upon the local environment.

SEC. 304. Sums appropriated or otherwise available for State projects and programs under this title shall be apportioned among the eligible States by the Secretary, whose determination shall be final. In determining the apportionment among such States the Secretary shall consider, among other things, the financial and administrative resources available to the State to undertake projects of the type authorized by this title, and the nature and extent of problems and adverse conditions brought about by coal mining operations in the individual States most in need of solution within the individual States.

SEC. 305. The programs authorized to be assisted by this title shall be completed not later than January 1, 1988.

TITLE IV—RECLAMATION AND CONSERVATION OF PREVIOUSLY
MINED LANDS OWNED BY PRIVATE INDIVIDUALS

SEC. 401. It is the purpose of this title to facilitate the reclamation and conservation of privately owned lands and waters adversely affected by coal mining operations in the past, and not reclaimed in accordance with modern standards prior to the enactment of this Act, by granting the Secretary authority to enter into agreements with the owners thereof to reclaim such lands.

SEC. 402. To carry out the purposes of this title the Secretary is authorized to enter into agreements with the owners of lands in the Nation which (a) were adversely affected by coal mining operations prior to the effective date of this Act, and (b) were not reclaimed in accordance with modern standards, and (c) were not on the effective date of this Act covered by any law requiring their reclamation, for the conservation and reclamation of such lands in accordance with rules and regulations adopted by the Secretary: *Provided*, That no such agreement shall be entered into until and unless the Secretary has first determined that (1) Federal acquisition of such lands by purchase or eminent domain as provided in title V of this Act is not in the public interest, and (2) the States, or any local government body therein, do not intend to acquire or lease such lands as a part of any project or program authorized under this Act.

SEC. 403. (a) Agreements entered into under this title shall provide that the work to be done on the project shall be contracted for or performed by the owner of the private land involved, subject to rules and regulations adopted by the Secretary; that the financial contribution of the Federal Government toward the costs of the project shall be limited to the contractual costs approved by the Secretary, and that the Federal contribution shall not exceed 75 per centum of the costs of planning and executing the project: *Provided*, That whenever in the judgment of the Secretary the benefits to the public to be derived from a proposed project warrant, he is authorized to provide in the agreement that the Federal Government shall undertake to execute the project in its entirety, and that all or part of the costs of planning and execution of the project shall be borne by the Federal Government.

(b) In every case where funds are advanced by the Federal Government pursuant to an agreement entered into under this title the amounts advanced are to be regarded as a lien attached to the land involved in the agreement from the date such funds are expended by the Federal Government until repaid in full with interest by the owners of the land, or their heirs or assigns. The Secretary shall specify in the agreement the amount of interest, and the terms and conditions of repayment of funds.

(c) Whenever the Secretary determines that the facts and circumstances justify such action, he is authorized to waive the obligation imposed upon private parties to repay in full the amount of funds advanced by the Federal Government as provided in this section: *Provided*, That in the event such waiver is permitted the Secretary shall set forth in the agreement the basis for his determination that the waiver is granted, and shall specify that the waiver is conditioned upon faithful compliance by the private parties to the agreement of all obligations, terms and conditions imposed, and that in the event the agreement is breached in a substantial manner at any time by the private parties, or whenever the lands involved in the agreement are sold, rented, leased or otherwise disposed of by the private parties to any third person or persons who is not a party in interest to the agreement, the Secretary is authorized to determine that the obligation to repay in full funds advanced shall apply and a lien shall attach to the lands involved in the agreement until such funds are repaid in full with interest thereon from the date a breach is declared by the Secretary.

SEC. 404. (a) Each agreement entered into under this title shall describe (1) the actions to be taken by the Federal Government and the private parties to the agreement, (2) the public benefits expected to be derived, including but not limited to the benefits to flood control, soil stabilization, water pollution control, economic growth, public health and safety, public recreation, fish and wildlife management, (3) the share of the costs to be borne by the Federal Government and by the private parties, and (4) such other terms and conditions as are deemed necessary.

(b) The Secretary, in his discretion, may require as a part of any such agreement that adequate provision be made for access to and use by the public of lands reclaimed under the provisions of this title.

SEC. 405. (a) Coal mining operations upon and beneath lands reclaimed pursuant to an agreement entered into under this title shall not be permitted until

such time as the lien provided in section 403(b) has been discharged in full: *Provided*, That the Secretary may permit further coal mining operations upon or beneath such lands under a written agreement obligating the owners of the lands, their heirs, or assigns, to restore the land to at least the conditions prevailing at the time reclamation was completed pursuant to this title, and such other terms and conditions as he deems necessary.

(b) Owners of lands reclaimed pursuant to an agreement entered into under this title who wish to engage in further coal mining shall file a petition with the Secretary setting forth (1) a description of the lands upon which mining operations would be conducted, (2) an estimate of the number of acres to be disturbed by the mining operation, (3) the type and method of mining, (4) an estimate of the duration of the mining operation in terms of years, and (5) such other information as the Secretary shall require.

(c) The Secretary shall publish in the Federal Register a notice of intention to approve the petition, together with a copy of such petition and a statement that he has no objection to its approval. Interested parties shall be afforded a period of not less than thirty days after publication of such notice in which to submit written data, views, or arguments. Except as provided in subsection (d) of this section, the Secretary may, upon the expiration of such period and after consideration of all relevant matter presented, approve the petition upon receipt of the written agreement required by subsection 405(a) of this section.

(d) If, after consideration of the written data, views, and arguments submitted, the Secretary determines that a hearing on the matter is justified, he shall publish a proper notice of a public hearing to be held in the county within which the land is located. At the hearing any interested person may be heard. As soon as practicable after the hearing the Secretary shall consider the testimony and evidence produced at the hearing and shall proceed to approve or deny the petition.

SEC. 406. The programs authorized by this title shall be completed not later than January 1, 1988.

TITLE V—ACQUISITION OF LAND AND THE RECLAMATION AND CONSERVATION OF PREVIOUSLY MINED COAL LANDS

SEC. 501. It is the purpose of this title to facilitate the reclamation, conservation, protection, and management of lands and waters that have been adversely affected by coal mining operations and have not been reclaimed in accordance with modern standards prior to the enactment of this Act, by providing authority to the Secretary to acquire title to such lands and to reclaim them.

SEC. 502. (a) In furtherance of the purpose of this title, the Secretary is authorized—

(1) to acquire previously mined coal lands and such contiguous lands as may be necessary for an effective continuing land use and management program, including both surface and mineral interests, and other property, or any interest therein, by purchase with funds as provided in section 603 as he may find in the public interest; but any such lands or interest in lands may be acquired by eminent domain only when the Secretary determines (A) that he is unable to make a satisfactory agreement to acquire such lands or interest in lands, and (B) that such acquisition by eminent domain is necessary in the public interest. In the case of acquisition by negotiated purchase the property owners shall be paid the fair market value as determined by the Secretary. Owners of improved property acquired by the Secretary may reserve for themselves and their successors or assigns a right of use and occupancy of the improved property for noncommercial residential purposes, as hereinafter provided, for a term that is not more than twenty-five years. In such cases the Secretary shall pay to the owner of the property the fair market value thereof less the fair market value of the right retained by the owner: *Provided*, That such use and occupancy shall be subject to such general rules and regulations as may be established by the Secretary with respect to the land involved. The term "improved property" as used in this Act shall mean any family residence and such amount of land on which the building is situated as the Secretary considers reasonably necessary to the noncommercial use of such building;

(2) to conserve, reclaim, protect, improve, develop, and administer any property or interest therein so acquired, and to construct such structures thereon as may be necessary to adapt it to beneficial public use; and

(3) to sell, exchange, lease, or otherwise dispose of property so acquired under such terms and conditions as he deems will best accomplish an effective continuing land use and management program. Transfers may be made to public or nonprofit agencies, with or without a consideration, at the discretion of the Secretary.

(b) When, in the judgment of the Secretary, reclamation of property acquired pursuant to this section has been substantially accomplished, the Secretary shall recommend to the President an appropriate Federal or State agency to administer part or all of the property not otherwise disposed of, together with conditions of use and administration which will best serve the purposes of a land conservation and land use program, and the President is authorized to transfer such property to such agencies.

(c) With respect to any land or interest therein acquired by the Secretary for the purposes of this Act, to make dedications or grants for any public purpose, and to grant licenses and easements upon such terms as he deems reasonable.

(d) The Secretary may make such rules and regulations as he deems necessary to prevent trespasses and otherwise regulate the use and occupancy of property acquired for the purposes of this act, in order to conserve and utilize it for the purposes of this Act. (e) As soon as practicable after the end of each calendar year the Secretary shall pay to the county in which any land is held by the Secretary under this section, 25 per centum of the net revenues received by him from the use of the land during such year. In case the land is situated in more than one county, the amount to be paid shall be divided equitably among the respective counties. This subsection shall not be construed to apply to amounts received from the sale of such land.

SEC. 503. The Secretary is authorized to develop and carry out a program for the reclamation and conservation of other federally owned lands in the United States that have been affected by coal mining operations and are not reclaimed in accordance with modern standards prior to the enactment of this Act: *Provided*, That such programs may be carried out on lands administered by other Federal agencies only with the approval of such agencies, and under such terms and conditions as the Secretary deems necessary to carry out the purposes of this Act.

SEC. 504. The programs authorized by this title shall be completed not later than January 1, 1988.

TITLE VI—MISCELLANEOUS PROVISIONS

SEC. 601. For the purposes of this Act:

(a) The term "Secretary" means the Secretary of the Interior.

(b) The term "reclamation" means the reconditioning or restoration of an area of land or water that has been adversely affected by coal mining operations and waste disposal, including all surface manifestations resulting from such mining and processing whether the operation was conducted on or below the surface of the ground.

(c) The term "commerce" means trade, traffic, commerce, transportation, or communication between any State, the Commonwealth of Puerto Rico, the District of Columbia, or any territory or possession of the United States and any other place outside the respective boundaries thereof, or wholly within the District of Columbia or any territory or possession of the United States, or between points in the same State, if passing through any point outside the boundaries thereof.

(d) The term "coal mine" means (1) an area of land from which coal is extracted, (2) private ways and roads appurtenant to such area, (3) land, excavations, workings, refuse banks, dumps, spoil banks, structures, facilities, equipment, machines, tools, or other property, on the surface, used in extracting or processing of coal.

(e) The term "previously mined lands" means lands and waters adversely affected by coal mining operations and which have not been reclaimed in accordance with modern standards prior to the enactment of this Act.

(f) The terms "person" or "operator" are interchangeable and mean person, partnership, association, corporation, or subsidiary of a corporation which owns, leases, or otherwise controls the use of land on which the surface or strip mining of coal is conducted, which is engaged in the mining of coal as a principal, and which is or becomes the owner of the coal recovered as a result of such mining,

and includes any agent thereof charged with the responsibility for the operation of such mine.

SEC. 602. There are authorized to be appropriated, out of any moneys in the Treasury not otherwise appropriated, such sums as may be necessary to carry out the provisions of this Act.

SEC. 603. All appropriations for the purposes of this Act, all moneys received under this Act from the sale or lease of federally owned reclaimed land, repayment and interest costs by owners of nonfederally owned reclaimed land, all donations to the Federal Government for the purposes of this Act, all moneys received from fine or forfeitures, and other revenues resulting from the operations of the continuing land use and management program shall be credited to a special fund in the Treasury to be known as the mined lands reclamation revolving fund. Such moneys shall be available, without fiscal year limitation, for carrying out the provisions of this Act, including purchase and reclamation of land. Amounts accumulating in the fund in excess of the amounts the Secretary deems necessary to carry out the provisions of this Act shall be transferred to miscellaneous receipts of the Treasury.

SEC. 604. If any provision of this Act, or the applicability thereof to any person or circumstances is held invalid, the remainder of this Act, and the application of such provision or circumstances, shall not be affected thereby.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 24, 1968.

Hon. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: Your Committee has requested a report on S. 217, a bill "To authorize the Secretary of the Interior to designate within the Department of the Interior an officer to establish, coordinate, and administer programs authorized by this Act, for the reclamation, acquisition, and conservation of lands and water adversely affected by coal mining operations, and for other purposes," and on a similar bill, S. 3126 "To provide for the regulation of present and future surface and strip mining, for the conservation, acquisition, and reclamation of surface and strip mined areas, and for other purposes."

These bills would authorize a broad program of regulation of surface and strip mining operations and the reclamation of surface and strip mined lands, although S. 217 is confined to coal mining operations exclusively whereas S. 3126 is general in scope. Within the recent past, President Johnson proposed the "Surface Mining Reclamation Act of 1968." He said that under this legislation—

"Criteria will be established which the States will use in developing their own regulatory plans.

"The States, assisted by Federal grants, will develop their own plans within two years and submit them to the Secretary of the Interior for review and approval.

"The Secretary will impose Federal standards if the State plans are inadequate or if they are not submitted."

Such legislation has been transmitted to the Congress and introduced as S. 3132. In our letter of transmittal of this legislation to the President of the Senate, we stated the following:

"We are recommending at this time only the enactment of a program to regulate future surface mining. We believe it is essential that the States and the Federal Government move forward now with that part of the program. While it is important and desirable to remedy past mistakes if possible, we believe that it is even more important to prevent future ones now.

"The reclamation of previously mined areas is a very complex subject and presents many problems. We are looking into these problems and hope that we can propose a workable program in this area in the not too distant future."

We recommend the early enactment of S. 3132 in lieu of S. 217 or S. 3126.

The Bureau of the Budget has advised that this report is in accord with the President's program.

Sincerely yours,

CORDELL MOORE,
Assistant Secretary of the Interior.

Senator METCALF. Now, before yielding to other members of the committee or calling the Secretary of the Interior to make his presentation, the Chair will state that the committee has received a number of written statements and comments on this bill which will be included in the official record of this hearing.

One is from the distinguished senior Senator from Ohio, Senator Lausche, who has most certainly been a pioneer in this field and who is a cosponsor of the administration bill. Unfortunately, Senator Lausche cannot be with us in person today.

Without objection, I will direct that Senator Lausche's statement appear at the conclusion of the remarks of any of the Senators present who wish to make a statement, and that the other communications appear at the conclusion of the oral presentations.

Senator Nelson, do you have some preliminary remarks?

Senator NELSON. Not at this time, Mr. Chairman.

Senator METCALF. Senator Jordan.

Senator JORDAN. No, Mr. Chairman. In the interest of getting on with the hearing with the witnesses here I will forego any statement at this time.

Senator METCALF. Senator Hansen.

Senator HANSEN. Mr. Chairman, I don't have any statement. I would like to ask inclusion in the record of statements by the Wyoming Mining Association and by Hon. Stanley K. Hathaway, Governor of Wyoming.

Senator METCALF. They will be included at the conclusion of the oral testimony.

(The statement referred to follows:)

STATEMENT BY HON. FRANK J. LAUSCHE, A U.S. SENATOR FROM THE STATE OF OHIO

Mr. Chairman and members of the Interior and Insular Affairs Committee, I am pleased to appear before your Committee today to join in firing the first salvo of the battle of the spoil banks of 1968. I am going to speak in general terms and am not going to go into the fine points of the pending bills because basically they seek to obtain the same objectives in somewhat similar manners. I will leave the explanation and discussion of the technical points of the bills up to the excerpts from the Department of Interior.

Fundamentally, S. 217, of which I am author, and S. 3132, of which I am co-sponsor, both follow the recommendations contained in the Secretary of Interior's report to the Congress entitled, "Surface Mining and Our Environment". May I, Mr. Chairman, at this point repeat what I said on the Floor of the Senate last July after having read this report. I commended Secretary Udall and all those who participated in the study, research, documentation, and publication of this extremely important report. I urgently recommended that each Senator and each Member of the House study it thoroughly in order that they might become familiar with past and present problems resulting from inadequate stripped-land reclamation and also the importance and the necessity for the Congress to address itself to this subject without further delay.

The results of the Secretary's study, his findings and the recommendations contained in the report are most gratifying to me, especially since they are a direct result of a bill, S. 368, which I introduced in 1965. Upon three different occasions I introduced bills—in 1962, S. 3304; in 1963, S. 1013; and, again in 1965, S. 368. These bills provided that the Secretary of Interior make a study of surface and strip mining operations in the United States and make a report to the Congress of the results and conclusions of such study.

The bills received widespread interest and support. Finally, in 1965, the contents of S. 368 were incorporated as an amendment to S. 3 and thus became section 205(c) of the Appalachia bill, which passed the Congress and was signed into law that year and is now known as Public Law 89-4. Complying with the provisions of section 205(c) of the Appalachia bill, the Secretary of Interior on

June 30, 1966, made an interim report to the Congress clearly proving that in the national interests the Federal Government has a responsibility to cooperate with States in enacting laws to properly require strip mined land reclamation by the industry.

Mr. Chairman, in October of 1966, I introduced a bill, S. 3882, which in some respects is similar to S. 217 before your Committee today. It dealt with the mining of all minerals. Due to the lateness of the session, no hearings were held. It was based on the Department of Interior's interim report.

Subsequently, on January 12, 1967, I introduced S. 217, which is before you today. The principal difference between my bill of 1966, S. 3882, and S. 217, is that the former dealt with all minerals and S. 217 deals with coal only. The principal reason for the change was that I thought that since the strip mining of coal disturbed by far the greatest number of acres, that problem should be dealt with first and efforts for adequate reclamation should be concentrated in that area. I am not at all adverse to including the mining of all minerals as provided in the Administration's bill, S. 3132. This is borne out by the fact that I am a co-sponsor of that bill.

Mr. Chairman, may I digress briefly from direct reference to the pending bills and say that I have had for many years and continued to have an unrelenting interest in reclamation of spoil banks. I have been called a veteran of the battle of the spoil banks. In 1944, while traveling throughout the State of Ohio in my first campaign for Governor, I was shocked upon seeing thousands of acres of once fruitful and productive land in southeastern hill counties which had been virtually destroyed and converted into row after row of unsightly spoil banks as a result of strip mining operations and little or no attempt by the operator to reclaim the land.

I observed spring-fed streams that were devoid of aquatic life and shore vegetation as a result of toxic sulfuric pollution seeping from exposed and abandoned seams of coal in the final cut. I then solemnly promised myself that if I became Governor of Ohio, I would wage an unrelentless campaign to have legislation enacted into law which would require the strip mine operators who had taken the wealth from the land to restore it to a productive capacity. Finally, after several attempts to obtain legislation, I was successful, and, as a result, thousands of strip mined acres in Ohio have been reclaimed. More needs to be done, however.

Mr. Chairman, while both S. 217 and S. 3132 are based on the findings and recommendations contained in the report by the Secretary of Interior, there are two principal differences. S. 217 deals with coal only and provides some Federal financial assistance to states for reclamation of pre-law or inadequately reclaimed spoil banks. S. 3132 provides for regulation of all open pit or surface mining of all minerals and reclamation of lands disturbed. S. 3132 makes no provision for Federal financial assistance to states for reclamation of pre-law spoil banks. In fact, I had some reservations in attempting to provide Federal assistance in my own bill due to the possibility that such Federal aid might result in a windfall to the mine operators themselves or to private land holders.

S. 217 would authorize the Secretary of the Interior to designate within the Department of the Interior an officer to establish, coordinate, and administer programs authorized by this Act, for the reclamation, acquisition, and conservation of lands and water adversely affected by coal mining operations.

S. 3132 would provide for the cooperation between the Secretary of the Interior and the States with respect to the future regulation of surface mining operations.

Mr. Chairman, I have battled the powerful strip mine lobbies before. I know what advocates of this type of legislation are up against. The opposition will be unmerciful and will pull every possible trick they can out of the book. They will say that legislation of this type is not needed. They have said that for twenty years and look at the unreclaimed spoil banks and those inadequately reclaimed by even the most poor standards. They will tell you that it is not their responsibility, yet they take the wealth from the land and in the process utterly destroy and render it useless. They will say let nature take its course; time and the elements will bring the land back to life. Gentlemen, there are unreclaimed spoil banks in Ohio created more than thirty years ago and today they are just as barren as the day they were created. And, in addition, they will say that the cost of reclamation is too great and that they cannot afford it. The information I am now about to give you, in my opinion, will refute both the claim of non-responsibility and financial inability.

I am directing this statement in principal to the strip miner of coal. The statistics and figures I am going to use are from the Treasury Department's Internal Revenue Service and the Department of the Interior's Bureau of Mines. The subject is depletion allowance, that multi-million dollar windfall the industry so greedily accepts from the Federal Government and so jealously guards. This lucrative 10% Federal income tax exemption in the mining of coal is well-known among the industry, but they would rather that the public not be too aware of how many millions of dollars it amounts to annually.

According to the Bureau of Mines, in 1965 there were 165,240,769 tons of coal extracted through strip or surface mining operations in this country, with a value of \$637,116,233. The depletion allowance on this amount of coal and its value was \$61,233,012—or 38¢ per ton. Now, I am referring to Table 7 on Page 114 of the Secretary's report on "Surface Mining and Our Environment". This table reveals the approximate reclamation cost per ton of bituminous coal and lignite mined by stripping in 1960 by state. The table shows the per ton reclamation cost calculated on the production per acre mined, the reclamation cost ranging from \$300 per acre up to \$800 per acre. I am going to use the table as it refers to the state of the whole strip mine operations in Ohio.

The average production per acre was 5,328 tons. Assuming that the reclamation cost per acre would be \$300, the reclamation cost per ton of coal mined would be .056¢. Should the reclamation cost per acre be \$500, which is considerably higher than the average, then the reclamation cost per ton of coal mined would be .094¢. When you compare the per ton cost of reclamation in both instances with the depletion allowance of 38¢ per ton, in my opinion, no one can justify saying that they cannot afford it.

The Internal Revenue Service permits industries extracting minerals from the earth a percentage depletion allowance, the percentage differing dependent upon the mineral being extracted. As an example, oil and gas have the highest, which is 27½%. Coal is 10%. The theory behind the granting of this depletion allowance is firstly to compensate the operator on an annual basis for the ultimate complete depletion or exhaustion of the mineral in the area in which he is operating, and, secondly, to provide him with an incentive for exploration of new deposits of minerals. While the operator greedily accepts this lucrative windfall in the way of depletion allowance which is supposed to compensate him for an ultimate exhaustion of the mineral, he gives little or no consideration to the fact that while he is operating, especially in the case of minerals extracted from the surface through the strip mining method, he is at the same time completely depleting the land for which no restitution is made.

In conclusion, Mr. Chairman, in my opinion, these bills before you today are of extreme importance, and I urge this Committee without undue delay to report out a clean bill from the combination of the bills before you incorporating the recommendations in the Secretary of Interior's report. And, to the powerful mine lobby, I suggest that you recognize your moral responsibility to our Nation and citizenry and work with the Congress and not against it in enacting into law a program that will rectify the wrongs that have been committed. It can be done.

Thank you Mr. Chairman and Members of the Committee.

Senator METCALF. The first witness is our very able and distinguished Secretary of the Interior. He has also been a pioneer in this legislation and will present testimony for the administration bill, which will probably be the bill which will be marked up before the committee.

Secretary Udall, we are delighted to have you here. Will you introduce the staff members that you have with you and proceed in your own way.

STATEMENT OF HON. STEWART L. UDALL, SECRETARY OF THE INTERIOR; ACCOMPANIED BY J. CORDELL MOORE, ASSISTANT SECRETARY, MINERAL RESOURCES; AND L. BOYD FINCH, STAFF ASSISTANT, OFFICE OF THE SECRETARY

Mr. UDALL. Thank you very much, Mr. Chairman. I have Assistant Secretary Cordell Moore with me and Boyd Finch of his staff, who will make the presentation in just a moment.

I have a prepared statement. I am going to read most of it, Mr. Chairman. I would like to have it all appear in the record.

Senator METCALF. Without objection it is so ordered and you can go right ahead in your own way.

Mr. UDALL. In order to give the committee a very quick insight as to some of the dimensions of the problem that we are here to discuss today I should like to begin, if I may, with a slide presentation, Mr. Chairman, that would give the committee a cross section look at the good and bad things that are happening.

These are pictures taken in the field. Some of them Secretary Moore himself took, and I would like Boyd Finch to make the presentation. It will take about 10 minutes. Then we will get right into the statement.

Senator METCALF. Go right ahead.

Mr. FINCH. (Slide 1.) This is an overview of surface mining to define the terms, to give some idea of the processes involved in the mining, and to show the results in reclamation and in nonreclaimed areas.

Senator METCALF. Where were these pictures taken?

Mr. FINCH. We will identify each one of them, Mr. Chairman, as we go along, if you wish. The first process on the land in most mining operations consists of clearing to remove the natural growth. This is a photograph taken in Campbell County, Tenn., and it shows what is called scalping. In this case a contour mine for coal was being undertaken.

(Slide 2.) This is an area strip mine. Area mining for coal is conducted in flat or gently rolling country. It consists of removing the overburden, the waste material above the mineral commodity, by draglines such as you see in the rear and then loading the coal that has been exposed, by a small shovel such as is in the foreground. This photograph was taken in south central Tennessee.

In this particular case about 50 feet of overburden were being removed to get at a seam of coal about 30 inches in thickness.

(Slide 3.) This is a view of surface mining in west Kentucky. This is area mining again, an aerial view that shows more clearly than on the ground the typical corduroy effect of the piling of overburden as it is removed to expose the coal. In the foreground you can see a large shovel at work.

Both the land in the foreground and the rear have been or are being area mined for coal.

(Slide 4.) This is auger mining. This took place in generally more hilly terrain, in Lewis County, W. Va. The exposed seam of coal is drilled horizontally by augers. This one is about 36 inches in diameter. Some are as large as 6 feet in diameter. The overburden material removed to expose that outcropping seam of coal is visible in the right foreground.

(Slide 5.) This picture was taken in Anderson County, Tenn. It is an aerial photo of contour mining.

(Slide 6.) This is coal mining in the West. This is a Wyoming scene about 30 miles east of Laramie. The situation here is a deep overburden, 40 to 80 feet in thickness, and a very thick seam of coal, some 50 feet thick.

(Slide 7.) Another form of surface mining is the open pit. This one, south of Tucson, Ariz., is not one of the large copper pits, but

it is larger than you may imagine because there is a truck in that picture, down in the pit, and it is barely visible in this projection.

(Slide 8.) In the anthracite area of eastern Pennsylvania deep pits are quite common for recovery of anthracite and often they are associated with large population areas. This is Carbondale, Pa. These particular pits are about 150 feet deep. Many anthracite pits are deeper.

(Slide 9.) Another form of surface mining is the stone quarry. This happens to be a Kentucky scene, a limestone quarry. The wall there is 230 feet high, as you can realize from the shovel at the bottom.

(Slide 10.) Another type of operation is the dry pit for sand and gravel extraction. This is in Los Angeles County, Calif., and the pit is about 200 feet in depth.

(Slide 11.) This is a wet extraction for sand and gravel. It is dredging near Indianapolis, Ind.

(Slide 12.) The amount of land disturbed by surface mining up to January 1965 is shown in this slide which is reproduced from the Department's report. The total is 3.2 million acres up to January 1965. This shows, for instance, that coal has disturbed some 41 percent of the total acreage; sand and gravel, 26 percent; stone, 8 percent; gold, 6 percent; phosphate, 6 percent; iron, clay, and all others in smaller amounts.

(Slide 13.) This shows the nationwide distribution of the disturbed acres up to January 1, 1965. The columns represent the total of all minerals mined in each State.

(Slide 14.) This represents one form of reclamation or rehabilitation of lands after they are mined. This is a scene at Duquoin, Ill., southern Illinois. It was mined a number of years ago, and has been reclaimed for quite a number of years. That is the Southern Illinois State Fairgrounds. That is the scene now of the annual Hambletonian trotting race. That is reclamation to an extensive degree with quite flatland there, as you will notice.

(Slide 15.) Another form of reclamation. This scene is in Ohio, Harrison County area. That golf course was the final outcome of land that was mined for coal.

(Slide 16.) Here is a scene in Alabama, Tuscaloosa County. That was an iron ore mine. The major amount of work that was done there was simply bringing in the sand for the beach and creating the reclamation facilities. The water was there, already impounded. The result was a useful recreation area.

(Slide 17.) This is Polk County, Fla. That is a rehabilitated phosphate mine, now a citrus grove.

(Slide 18.) This is Ohio, reclaimed coal strip mines in Harrison County, now used for pasture. The area that was mined is in the rear of the photograph and you can determine where the mining operation occurred by those more or less horizontal lines across the hills.

(Slide 19.) This is an example of man's reclamation, the planting of conifers in Blair County, Pa. This was a coal mine. That is about a 6-year growth on relatively flatland. There isn't much cover on the ground and little brush cover for wildlife use, but there is a stand of conifers.

(Slide 20.) This another photograph in Pennsylvania, of a coal area. This is a mixed planting. The bank at the right was exposed by the min-

ing and now has cover on it. There is a thick brushy growth in the right center of the photograph, useful for wildlife, and grass and some grading on the left.

(Slide 21). This is a scene in Barbour County, W. Va. That is a reclaimed contour strip mine for coal. The high walls are still visible, of course, but the coal seam has been covered and the bench has been converted to useful pasture land.

(Slide 22). This is Long Island, N.Y., a reclaimed gravel pit high wall. That high wall is about 60 feet high. There is not too much to give you the scale there, but it is a rather high bank.

(Slide 23). This illustrates a process of reclamation. The dragline in the rear is removing the overburden and covering the dark-colored toxic material in the bottom. This was preplanned prior to mining. The mine was active at the time the photograph was taken. The small piles on the right of the photograph are stockpiled topsoil which will later be put on top of the land after the toxic material has been covered with overburden. That scene is Preston County, W. Va. The cost there, incidentally, was some \$300 to \$500 per acre to reclaim.

(Slide 24). This is reclaiming by hydraulic seeding. It is in Jefferson County, Ohio. Grading has been completed and now a mixture of water, mulch, fertilizer, and seed is being applied to the mined area. This was originally a coal mine.

(Slide 25). This is a scene in Virginia. It was a manganese mine. Very simple but effective drainage control has been applied there. You can see the ditches to control storm water runoff, plus the seeding.

(Slide 26). This is an active sand and gravel operation near Indianapolis. Reclamation is underway at the same time that the operation is proceeding. The left side of the photograph where the peninsula juts out into the water is the beginning of a reclaimed area which presumably will be developed for housing, as are other areas in the vicinity.

(Slide 27). This is Polk County, Fla. Very little reclamation has been done there. This was a phosphate mine. The water is fresh. It is useful; good fishing, good waterfowl country.

(Slide 28). This is Tuscaloosa County, Ala. This was an iron mine. It has not been reclaimed. The water is useful and has been of aid to the water table in the vicinity, but the banks are rather unstable and unsightly. This illustrates both some good and some bad.

(Slide 29). This is a scene in south central Illinois, an aerial photograph of area coal stripping. You can see that growth has been returned but that the peaks and ridges have not been smoothed. Those are quite steep. The bodies of water are not tied into a drainage pattern.

Much more could have been done here to develop something useful if the reclamation had been planned in advance of the mining.

(Slide 30). This is an example of man's reclamation that did not succeed. The toxic, acidic, soil was not sufficiently covered with material that would sustain plant growth. The trees that were planted did not succeed in growing. This scene in Noble County, Ohio, illustrates something is still lacking.

(Slide 31). On the other hand, this is a scene of natural reclamation. It is in the Juneau district of Alaska, placer mined for gold about 40 years ago. No one did anything with it but nature has reclaimed it after 40 years.

(Slide 32). On the other hand, nature cannot always reclaim. This is the Malakoff Workings gold area in Nevada County, Calif. It was mined in the 1880's, and it still looks this way today.

(Slide 33). This pie chart illustrates the extent of reclaimed and unreclaimed land that existed as of January 1, 1965. The green is that that had been reclaimed. About 46 percent of that was done by natural causes. Industry voluntarily did about 40 percent. About 11 percent was done by law requiring the industry to do it, and some 3 percent had been reclaimed by State, Federal, and local governments.

The unreclaimed lands, some 2 million acres in 1965, are about two-thirds the total.

(Slide 34). These slides illustrate some of the problems.

This is contour mining. It is in eastern Kentucky. The spoil, the overburden, was bulldozed over the rim of the bench. This picture was taken in the fall of 1965, some 2 years after the mining had been done at that site.

(Slide 35). Another scene in eastern Kentucky. This is acid water seeping out of the exposed coal seam. In the right rear you can just see where the coal is still exposed. The overburden has not sufficiently covered it and the water is coming through with acid and you are getting yellow precipitate on the bench.

(Slide 36). This is another scene of acid water, with the precipitate known as yellow boy. That is the Tygart River near Elkins, W. Va.

(Slide 37). This is a scene in Butler County, Pa., showing combined acid water and sediment from coal mining.

(Slide 38). This is near Elkins, W. Va. It shows a stream choked with sediment from coal strip mine operations.

(Slide 39). This is south-central Tennessee. This is an unreclaimed area strip mine that was mined for coal some 10 years before the photo was taken.

(Slide 40). This is Jackson County, Ala. It shows the unreclaimed spoils of an active coal mine. This was mined about a year before the photograph was taken and mining was still underway in the general area.

(Slide 41). This is an unreclaimed manganese mine in Virginia, showing the decrepit buildings. Mining ceased there about 10 years before the photograph was taken in 1965. It still had not been cleaned up.

(Slide 42). This is an unreclaimed bauxite mine, again in Virginia, Rockbridge County. This area was mined prior to 1940. It has now become an informal dumping ground for the area, which is often the fate of unreclaimed strip mines, and this illustrates one of the problems that can occur.

(Slide 43). Often in coal areas unreclaimed strip mines that are used for dumps catch fire and the fire spreads into the coal seam that may still be exposed, allowing the fire to creep underground. This is a scene in Wilkes-Barre, Pa. This is an anthracite strip pit and an underground mine fire.

(Slide 44). This illustrates the expected growth in unreclaimed acreage in the United States in the future. The portion at the left illustrates the 1965 situation. The orange or yellow column is the total amount of acreage mined, just over 3 million acres. The green is the amount reclaimed both by man and by nature.

The next columns illustrate the 1980 situation if we continue with the same ratio of man's reclamation to mining and with the same amount of disturbed acreage for mining, namely 150,000 acres of land per year.

It is expected that surface mining will increase, however. The third set of columns show the one possible increase. This is at the rate of 250,000 acres per year, instead of 150,000. With the same reclamation ratio, by 1980 the situation will be as illustrated by the green column.

If, on the other hand, by 1980 twice as much reclamation, about 62 percent, is undertaken by man, we will have the situation shown by the right hand set of columns.

(Slide 45.) This is a listing of the major provisions of S. 3132. I am sure the Secretary will get into these in more detail. That concludes the slides.

Mr. UDALL. Mr. Chairman, I thought this slide presentation was very effective and I therefore felt it would be worth the time of the committee to see some of the situations. I don't say this is representative or this is a cross-section of the total national picture, but we were particularly trying to show the different kinds of situations that exist, and this was the purpose of the slide presentation.

I should like to make a few general comments before getting into my prepared statement, Mr. Chairman. You can see both from the number of people who are here in the room and from the witness list the tremendous interest there is in this subject.

I want to make it very plain at the beginning, and I can say this with all candor and honesty because of my Department's very close tie with mining and mineral activities of this Nation, that this is a very vital industry, one that has been growing, thriving, and the question posed by this legislation is whether this activity can be carried on in such a way that we achieve the benefits to the Nation that we must have. We want a flourishing mining industry and at the same time we want to minimize to the highest extent possible the damage to other resources because, as you can see from viewing these slides, anything man does has side effects.

Mining has an impact on other things. For example, one of the worst forms of water pollution is the acid mine drainage which you saw here, as well as silt. We discovered in our study of the Potomac River, for example, that the worst pollution of the Potomac, the pollution causing the most difficult problem, is that which occurs near Washington—not from mining but from land developers who go in with a bulldozer and strip the land and then the silt pours down the first time there is a heavy rain.

So this does have a tremendous impact on our management of the other resources of the Nation. We are not here today to make a case because we would like to see the land look pretty. This isn't the thrust of this legislation.

I think that all of us would like to see, wherever possible, that our land be protected, but there is a soil conservation problem, there is a problem of water quality control, there is a problem really of seeing to it that as much of these lands as possible are returned to productivity so that where there was a mine there can be a forest, or where there was a mine there can be wildlife values. This is the type of approach that we are taking with this legislation.

I want to make two other main points, Mr. Chairman, with regard to this legislation. This legislation is prospective in its thrust. It is directed toward how we carry on our mining activity hereafter in the Nation at large. There has been, as was shown by the charts, over long years with mining under the old practices, a tremendous amount of destruction done to the surface of land in this country. The bulk of it, about two-thirds of it, has been unreclaimed either by nature or by man.

We took a great deal of pride and still do in this report on "Surface Mining and Our Environment" that I am sure the members of the committee have seen. One of our general conclusions is that there is an enormous task that must be undertaken at some point with regard to reclaiming these lands that already have been strip mined.

This, we estimate, is in terms of cost about three-quarters of a billion dollars and it is a problem that is larger perhaps and different from the problem we had with the dust bowl in the 1930's.

There is discussion between my Department and the Department of Agriculture as to who should have this responsibility in the long run, and whether the States should have some of it. I have always been convinced, myself, that this work will never be done unless the Federal Government does it as a national project and puts up the money, but the thrust of this legislation is to see that we don't confront some future generation with the same problem that we are confronted with today—a failure of conservation, a failure of management, and a tremendous bill of costs that is presented to the country to restore lands.

The final point I want to make is that in the drafting of this legislation, in its presentation here, we are drawing on what I think is the favorable experience we have had during the last 2 years—in terms of the type of legislation we are proposing here—with the water pollution control program which the Congress enacted in 1965. With that program the approach was that of having national legislation in order to put industry on equal footing as near as one can do because—and I will get back to this—there is tremendous gain to the Nation. In this program, too, we are putting the States in a position that if they want to provide the main leadership, if they want to draft adequate surface mine control programs, they will have the main responsibility. This approach does have the great gain to the Nation of having a piece of legislation like this, in which we have the national standards that are applicable, and we put industry on equal footing all over the Nation so that the economics are balanced out in terms of competition.

I think I should report to this committee, too, that at present, I have approved 30 out of the 50 State standards on the water quality control, and we haven't had occasion to take over from the States and set the standards at the national level. There may be two or three or a small handful of States where this will be necessary. It isn't clear yet, but the system is working very well. The States are cooperating and this is essentially the same approach that we propose for surface mining.

To move into my statement, Mr. Chairman, I am going to begin at the bottom of the first page.

It is fair to say that the reclamation of mined land has not been one of the great, long-term natural resource issues of this Nation in the past, but one of tremendous neglect. It is an issue to which most of us awakened only in recent years. This is a result of striking devel-

opments in mining technology, coupled with soaring demands for mineral commodities. We can expect a continuing great increase in surface mining activity in the years just ahead.

With shovels capable now of moving 185 cubic yards of earth and rock at one bite, it is not too surprising to find that, in 1965, 35 percent of our coal, 80 percent of our copper, and 90 percent of our iron ore came from surface operations.

This trend probably will be accentuated in the future.

What do we mean when we talk of surface mining?

In our Department we use the term to include such mining operations as coal strip and auger mining; sand and gravel pits; dredging for gold, gravel, and other mineral commodities; hydraulic mining; and deep pits for extraction of copper, iron, and other ores.

Surface mining is an essential part of the American industrial economy. It is going to continue. Overall, 80 percent of our mineral production tonnage comes from surface mines. It provides the highest efficiency in mineral recovery. It usually is more economically favorable than any alternative means of mining. It generally is safer for the mineworkers.

But surface mining has costs—costs which may not appear in the market transaction of the commodity. These hidden costs arise with the diminishing of the useful availability of land—with pollution and the hazards to human life, property, and wildlife—with the impairment of natural beauty—with the degradation of other natural values which occurs.

It is of interest that public attention has focused on surface mining in the last few years. It appears that surface mine reclamation is a policy issue whose time for resolution has arrived.

Let me make the record clear about our use of the word "reclamation." In the context of surface mining we do not consider reclamation to mean a restoration of the land to its original condition. Often this would not be as desirable as some alternative land condition. Rather, we use reclamation to mean that activity which avoids or corrects damage to the lands and waters of the vicinity and leaves the area in a usable condition. In some instances it can be more productive than it was originally.

In 1965, Congress enacted the Appalachian Regional Development Act, which recognized that adverse conditions resulting from surface mining were of national significance requiring a long-range comprehensive program for their elimination or alleviation, and called for a 2-year study.

Our nationwide report resulting from the study was issued last summer under the title of "Surface Mining and Our Environment" and that is the report I have in my hand and that members of this committee I am sure are familiar with. It is a pioneering study and I should like to compliment my people. I feel it is a balanced study and one which represents good use of resource analysis.

Leadership of the study was placed in the Assistant Secretary for Mineral Resources, and I should note that some of the photographs you have just seen were taken by Assistant Secretary Cordell Moore. He and his staff slogged through mud and dust to get on-the-spot knowledge of surface mining conditions. The day-to-day working responsibility for the study was assigned to the Bureau of Mines.

Our work demonstrated that this subject refuses to stay put in any one category. To some of our field inspection team members, surface mining was chiefly a problem of the unsightly mess that may result.

Others saw it as a problem of sediment and chemical pollution in streams and rivers. Still others were concerned with the resulting loss of wildlife habitat. Use of the land after mining was of prime concern to all.

Should it, for example, be used for recreation, agriculture, forestry, or industrial development? We saw some examples in the pictures a moment ago.

So it is that various people see surface mining as a conservation problem, as an economic problem, as an engineering problem, an environmental problem, a land use problem, or a public relations problem. There is one thing in common. They all see it as a problem.

A review of our study can serve to put surface mining into perspective. For example:

1. Every State has had some surface mining activity within its boundaries.

2. Only 14 States have laws relating specifically to the conduct of surface mining operations and the reclamation of surface mined areas, and five of these direct their attention only to coal mining. I think that is a very crucial point, Mr. Chairman, that only a few of the States do regulate it at this time.

I might say in passing that some of the more recent laws show real promise and have been effective. I went down to Kentucky 2 months ago to present my own Department's Conservation Service Award to former Gov. Ned Breathitt who pioneered the strong strip mining law that was passed in that State in 1966.

The interesting thing that came out while I was down there is that, while some of the industry people had violently opposed this law, saying that it was going to put them out of business, nevertheless under the operation of that law last year as I recall it there were 12,000 new acres of land that were stripped. There were 14,000 acres that were restored and reclaimed under the provisions of the new law, which shows that we can pass effective laws that are workable.

3. By January 1, 1965, surface mining had affected more than 3.2 million acres of land.

4. Despite all reclamation efforts by man and nature, and after the lapse of considerable time, about 2 million acres still need additional reclamation work—this is 3,125 square miles, or an area equal to the combined land area of the States of Delaware and Rhode Island.

5. In 1964 surface mining was biting off an estimated 153,000 acres annually. Only about one-third of the land disturbed that year was adequately reclaimed by man. By 1980 it is estimated, quite conservatively, that more than 5 million acres will have been affected. So that we see this as a long-term major problem and I think the time has come to look at it, to take the nationwide view, and to establish workable long-term policies so that the permanent benefits to the Nation at large can be achieved in terms of mining and in terms of the ultimate use of these lands.

This then is today's picture. Our first task is to insure that tomorrow's inventory of damaged lands is no longer. Once we are assured that the buildup is halted, we can turn our attention to past damage.

This is the primary reason that we feel at this time that S. 217 and S. 3126, which deal with the reclamation of the already damaged lands, are more appropriately subjects for later consideration.

We in the Department of the Interior believe that in many situations it is possible for society to benefit both from the use of the minerals of the land and from the use of the land itself after mining operations have been completed.

One of the essentials in this is a recognition that proper mining practice today includes reclamation—not that reclamation merely is some follow-up treatment after the mining is done.

This was not the general practice in the past. The Nation must be assured from now on that good mining practice is used and that the possibility of damage off the site of the mine itself also is taken into consideration in the mining operation. This was not, of course, the general practice in the past.

The public recognizes the need for mineral commodities, and that they do not occur in economic deposits everywhere. Good land use planning can enable mining to continue while providing protection and reclamation of other natural resources. With such foresight, many areas from which minerals are extracted will lend themselves to subsequent uses.

These concepts are not really new; what is new is that their validity has been confirmed by our nationwide study which gave attention not only to the ravage of past mining, but also to the assessment of current conditions and to the future possibilities.

As is evident to even the casual reader of our reports, it is recommended that a Federal surface mining program include the repair of past damage. But, in a time of hard priorities it becomes most important that we assure reclamation of future mined land.

As we note in the report, a public dollar spent to assure the prevention of future damage can be many times more effective than one spent on repairing lands already damaged. I think I have already made it plain, probably because I see no other way to get the job done, that the way we are going to repair the damage of the past—representing the old policy of, in effect, letting future generations pay the bill—is for the Federal Government to do that job.

Essentially, however, what we are proposing, if the states will cooperate and we can have a national program now, is that industry will do its reclaiming work and pass the cost on as part of the price of the product of acquiring these minerals for the Nation, so that we won't present some future generation with a big bill for the way we carry our mining activities today.

We believe that by means of the procedures proposed in S. 3132, we shall attain a method of determining the relative benefits of various land use alternatives, prior to mining. For a given mining site at a given time these alternatives might be:

- (a) surface mining without reclamation;
- (b) surface mining with reclamation;
- (c) underground mining only;
- (d) no mining whatsoever.

Based upon our national survey, we expect that instances will be found where surface mining should not be permitted at present because there is no technically feasible way of avoiding undue damage

to the surroundings. It also is probable that situations will be found where it is needless to require that any reclamation be undertaken.

Undoubtedly, some will say that enactment of this bill will inhibit the development of the mining industry and cause severe economic losses. We all heard this in connection with our national water and air quality standards legislation. But industry has responded to those standards. I read an article in "Business Week" this week that shows the tremendous increase in investment by American industry in water pollution control facilities.

Some said they wouldn't do it unless there were tax incentive. Well, they are doing it and I think they deserve credit for doing it and the figures that come in I regard as highly encouraging.

As I said the other day in connection with the water quality hearings in the House, if industry continues to move at the tempo it has recently, I think you are going to see some very significant improvement in our environment. Most members of industry know that the national sentiment strongly favors effective measures for the protection of our natural resources.

I think this is truly encouraging. Industry is not complaining the way it did recently. I think the enlightened people in industry realize if you put all of industry on the same footing, if all are put to the same cost of carrying out reclamation measures, that then this adds to the cost of doing business, it adds to the cost of the product, and the cost is borne by the Nation as a whole. This is a sound and economical way of doing our business.

S. 3132 proposes to step up this action by creating a State-Federal relationship through which States would develop programs promoting an appropriate balance between the extraction of minerals and the need to preserve and protect the environment. The goals sought are not punitive nor are they visionary.

On the contrary, we are offering a moderate, orderly, and practical approach, tailored to meet local needs and providing for detailed consideration of regional conditions. I would not suggest, for example, that the Bingham Canyon pit in Utah, or the Hull-Rust pit in Minnesota, be filled with earth and rocks when operations cease at those great metal mines.

May I say to the chairman that this also is not necessary or possible in the copper mines in Arizona or Montana, because of their size and because of the places where they occur.

We believe that Federal encouragement is needed to assure that all 50 States—not merely some as at present—regulate surface mining and that all forms of surface mining are covered. We further believe that some minimum basic requirements for such State action are required to serve the national interest and to assure some equity between States, and equity within industry.

Remember that surface mining is not confined to the States where some controls already exist. The thing that was fascinating to me about one of those charts just pictured was that every State in the Nation had some surface mining activity, and it was interesting to me how this was roughly balanced over the Nation as a whole.

You could see the coal mining States, particularly Ohio, Pennsylvania, West Virginia, and Kentucky. There has been more surface mining in them than in other parts of the Nation, but there is activity in all 50 States.

Sections 7 and 8 of this bill would coordinate Federal and State activities which, because of the wide diversity of climate, geology, topography, and land use throughout the United States, must recognize local conditions. We tried to draft the legislation to give that flexibility. We think this is wise.

We consider that a single set of national standards would be impractical and undesirable. We are aware that there has been some disappointment that S. 3132 proposes general criteria—not precise mining and reclamation requirements. We believe quite strongly, however, that to be more specific in this legislation would be a grave mistake. A number of factors bear on this problem.

This is not a local zoning plan nor a State law, it is a bill spanning a continent. It covers every form of surface mining, accentuated by manifold local variations.

Mining and reclamation technology is in a constant state of flux. Mining and reclamation which is impractical in some areas now may be quite feasible next year, because of some new development of technology.

Public requirements for the quality of environment for land use, for water quality, for scenic beauty, also are in ceaseless change. This is quite evident from the numerous revisions that have been made in State reclamation laws during the past 20-odd years. We want to avoid repeated appearances before the Congress to seek revision of the Federal law, and I imagine you are in sympathy with this.

Our national need for mineral commodities and other natural resources also changes over time, and we cannot clearly foresee what the exact pattern of priorities for use will be in 1970, 1980, or 1990.

Under S. 3132 each State would have the first opportunity—just as we provide with water quality control—to control mining and reclamation to meet the criteria of the bill, taking into account the specific conditions in that State or that region. Each State would be encouraged to develop reclamation standards appropriate to its own needs, with review and approval by the Secretary. Each State would be expected to hold public hearings—with the general public given a real chance to participate. This is the key.

I think the experience of the States has been that any mining instrument that doesn't have enforcement provisions and binding provisions really isn't worth the paper it is written on. If we are to avoid some of the problems encountered in the past, bonds must be posted by mining operators for a sum large enough to reclaim the land to the approved mining plan, in event of forfeiture by the operator.

To be acceptable, a State plan would have to provide adequate measures of enforcement, funding, and personnel.

We also provide technical and financial assistance, up to 50 percent of the cost, to the States for developing and administering regulatory plans.

The bill provides for Federal monitoring of the State's performance in establishing and enforcing regulations, again just as we are going to do and are doing in water pollution control.

The intent is to insure consistency and equity between States, without requiring uniformity.

Federal regulations would be imposed only in States that choose not to exercise this regulatory function to meet the Federal criteria. Again

I think you have a sound approach here to what we have called creative federalism.

Once adopted and approved, the State plan, including enforcement, would apply to Federal lands and Indian lands within the State. Federal regulations, if any, applicable to these lands would have to be at least equal to those established under the approved State plan. As the chairman and committee members probably know, after our report came out last summer we did publish proposed regulations for regulation of Federal lands so that the Federal Government could begin to set the pattern that we are trying to develop nationwide.

We had comments on these proposals that came in, terminating in December as I recall it. We are studying these comments and hope to come out with new proposed regulations in the very near future.

I am aware, Mr. Chairman of the delays built into S. 3132, but they are necessary delays which cannot be avoided if, in truth, we are to give the 50 States a fair opportunity to undertake surface mine regulation.

Many legislatures meet only in alternate years and, thus, a 2-year wait is necessary in order to assure that every State will have had opportunity to pass the necessary enabling legislation. We shall be in contact with each of the States during that 2-year period.

Hopefully, they will invite us to work with them.

In any event, it would be our expectation that before the 2-year period has run, we will know whether State X or State Y is likely to submit an acceptable plan for Federal approval.

In the event that some State does not appear to be moving toward that goal, we shall draft regulations for that State, consulting with one or more advisory committees, so that the Federal Government will be ready for early action once the 2 years have passed.

We have included in the bill provision for a 1-year extension period for the State to submit its plan. This is only for the purpose of avoiding duplication on the part of the Federal staff in those exceptional cases where we are certain that the State is moving effectively to formulate an acceptable State plan, but will not be able to meet the 2-year time limit.

If we do find it necessary to draft Federal regulations for a State unwilling or unable to submit an acceptable plan, we will consult with conservationists, industry people, and State officials before taking our action.

This bill does not address itself directly to the environmental problems of mineral exploration or to conventional oil and gas production. In our role as the major landlord of the Nation, however, the Department of the Interior is reviewing these problems and our authority to deal with them on lands under our jurisdiction.

We have reported to the President that there is no uniform Federal policy on reclamation of surface mined Federal lands. The executive branch can and should improve its overall position with regard to mined land management and to procurement of mined commodities; and we are proposing that we set the example for the States and for the Nation in this regard.

Mr. Chairman, to conclude, I would like to say that I think this has been one of the conservation problems that unfortunately has received the least attention of any in the Nation.

I think we are wealthy enough now as a country, I think we know enough about reclamation, about soil conservation, about water quality management, that we can carry out modern mining, using these marvelous machines that are available, and still minimize to the greatest degree possible the damage to the land, maximize its restoration, maximize its usefulness for the future. Knowing who is in the room here today, I would hope that the industry spokesmen and industry representatives will see the constructive potential for this industry if we can have a program of this kind.

I would hope that the State people who are here will see that we want them to provide leadership and initiative. This is encompassed within the concept of this bill and we hope again that they will see that the national approach is the soundest and wisest approach and that they will get busy and exert leadership at the State level.

This completes my statement. It always is a pleasure to appear before the committee.

Senator METCALF. Thank you very much for your very comprehensive and complete discussion of this problem, Mr. Secretary. Senator Nelson?

Senator NELSON. Mr. Secretary, about 3 years ago I spent 3 days flying over Tennessee, Kentucky, parts of Virginia and West Virginia, and a little bit of Ohio and also I have driven through fairly large sections of each of these States except Ohio. I saw more reclamation in your 10 minutes of photographs than I have seen in the numbers of days I have driven through the area, which tells me that this represents some very isolated but dramatic examples of what can be done rather than any typical display of what has been done.

However, I think the real tragedy here is that, in the management of all our resources—water, soil, forests, air, wilderness, scenic beauty—we never move until catastrophe has struck us. We are in that situation, as you well know, respecting the waters of America, and the air and the scenic beauty, and now we are in that situation respecting mining.

What troubles me about it is that, although this is certainly a good step forward, the bill, I think, is too little, too late. Maybe the Congress couldn't pass it all in one bill. I recognize and I believe that as Secretary of the Interior your record ranks among the most distinguished, if not the most distinguished, in regard to concern about our resources of any Secretary in the history of the country. I am not saying this in any way critical of you, because I don't know of anybody who has dedicated as much creative energy and effort toward solving our problems in the field of resources as you have, but this bill doesn't do anything about past damage.

There are about 1,300,000 acres of unreclaimed damaged land east of the Mississippi. The bill that I introduced, as you are aware, undertakes to cooperate with and give aid to local communities and States which own property that needs reclamation, as well as to private owners. It seems to me that, if not in this bill, at some stage right behind it we ought to have legislation that undertakes to do something about the land that has already been destroyed.

Now, if the reason for not making provision for the reclamation of already mined land in this bill is that it would be too expensive a package to pass all at once, then that is the only way I could justify passing legislation that is exclusively prospective in its effect.

My proposal is not exclusively prospective and I would hope we would get at that question and get at it this year.

In looking at the statistics I think the figures on reclamation are misleading in that, of the 34 percent of land restored, the figure presented in the slide, about half of that was natural restoration, but, as we all know, if you take a look at natural restoration it is really a kind of a green lie.

When you look closely it is crabgrass and quack grass and brush and there isn't much of any value in terms of human recreation and there isn't any value in terms of adequate resources for the survival of wildlife.

I have seen some English sparrows and some rodents, but that is about all that can survive in that land, so the natural restoration in most cases that I have seen really doesn't amount to anything except that there is some green growth and from a distance it looks all right. It doesn't have any recreation value for anybody, either recreation or economic value in terms of grazing.

The question I have here is, Why doesn't this bill include the Agriculture Department, with the Forest Service and the Soil Conservation Service, because, unless I am mistaken, almost all of the expertise in the Federal Government in terms of watershed management, forestry and soil reclamation, is in the Soil Conservation Service. In the past 5 years the Soil Conservation Service has worked with some 5,000 cooperators in about 500 districts in some 31 States and reclaimed 127,000 acres of mined land.

I am wondering why we don't include the Secretary of Agriculture and all of the expertise of that Department as part of a cooperative effort along with your Department in this program.

Mr. UDALL. Senator, let me answer your question in this fashion. I think the legislation you proposed, as is usually the case, is highly constructive.

I wish the overall budgetary picture were such that I could do battle successfully as I wanted to do downtown with regard to a program of this kind. I can't think of a better way to put the unemployed core at work in this country today—this is exactly what we did in the depression with replanting of forests and other things—than to restore the damaged lands, because then we are building back the capital base of the country. I hope that we can move on this front fairly soon.

Confronted with the situation that we have today, however, I think this legislation does represent a big step forward. With regard to the Department of Agriculture and its expertise, in soil conservation in particular, when we get to the problem of the restoration of these lands that need to be reclaimed because of the policies of the past, there is serious discussion within the administration as to where this responsibility should lie.

I don't want to detract in any way from the fact that I have the very highest regard for the Soil Conservation Service, and for the Forest Service, in terms of their conservation management.

We have expertise of our own in Interior, and all of us are going to have to decide at some point whether to work on this together—as we did on most aspects of the report—and where that lead responsibility should rest. I certainly feel, because of our own knowledge of the mining industry and its problems, of our own concern for water pollution and our responsibility for pollution control, of our overall

responsibility concerning natural resources, that the administration of this act should properly be in the Department of the Interior.

I think Agriculture certainly has a strong case that on the reclamation side they should have a major responsibility. I want to be frank enough to say that.

Senator NELSON. But their expertise isn't just in reclaiming the damaged land. I don't know what your Department has done in this field, but I don't think any department has come close to matching the efforts of the Soil Conservation Service in 5 years in reclaiming 127,000 acres of land in cooperation with over 5,000 private landowners.

The reason they are qualified to do reclamation is that they are experts in watershed management and work in it all the time. They are experts in soil management. The Department has the Forest Service, which has the expertise in forestry, and though your Department has people who understand mining; mining isn't the problem here.

Private enterprise has showed us how to get the coal and ore out and desecrated the landscape along the way. I am sure you have plenty of mining experts who understand how to get the ore out too, but the Soil Conservation Service has the expertise that understands watershed management, drainage problems, restoration of the soil, topsoil, proper use of the topsoil, and in every single area where there is a mine in America there is a soil conservation district. They have been at this for 40 years and everybody who is familiar with the work of the Soil Conservation Service, as I have been for 20 years, recognizes (1) that they have the expertise; (2) that they have the confidence of the local people with whom they have worked all these years, and they are there and on the spot. It seems to me a tragic omission to fail to include them in this cooperative effort. I don't know where your expertise is that matches theirs in this area.

Mr. UDALL. Senator, I don't want to be too modest about my own Department and I am certainly not going to indicate that simply because my Department regulates the development of resources we have any less concern with the quality of the environment than the Department of Agriculture does.

Senator NELSON. I don't think you do. I didn't say that.

Mr. UDALL. Indeed, what we have tried to do is to orchestrate the whole effort so that we carry out our total natural resources activities in a balanced way. I will concede that the Soil Conservation Service, which has a major responsibility, and that Agriculture, because of the fact that the highly successful Soil Conservation Service has been in that Department, have a special expertise. But when it comes to watershed management I won't defer at all to Agriculture.

I have the Geological Survey. I have the Water Pollution Control people. I have under my jurisdiction far more land than the Forest Service has in terms of the total lands of this country.

Nearly 30 percent of the land of this Nation is under the management of my Department, and so our competence runs rather large in this entire area. I want at the same time, because Ed Cliff is here, to indicate that I think the Forest Service is highly competent and that they do an excellent job and I wouldn't want to say even that we do better than they do. I have a high regard for their ability to do their

job, but I don't want you to disqualify my Department in this field at the same time.

Senator NELSON. Mr. Secretary, I wasn't suggesting disqualification. I was suggesting adding the expertise that is available throughout the Federal Government. Where, for example, in any one of these areas on the private lands do you have employees of your Department working?

Soil Conservation has experts in the area right now and they have been there for years and years—40 years—working in the area. You have all kinds of experts. An awful lot of them are here, but you have nobody that I know of in my State, save one, who is a first-rate fellow, top notch. But we have Soil Conservation men in every district in the State of Wisconsin. They are Federal employees and they are on the spot. That is my point. Why don't we use them? You don't want such expertise to be competitive but to be used.

Mr. UDALL. Senator, you are quite right in terms that the Soil Conservation Service is a national program and is in all of the States. We also have a "Soil Conservation Service," a very good one, that manages the Bureau of Land Management lands—they are mostly in the West.

We have a "Soil Conservation Service" in the Indian Bureau managing Indian lands, also, but the problem that we are going to face with this bill—I am talking now about Senator Jackson's bill, not your bill, and I differentiate between the two, as you can see—is that in terms of working out the type of standards that we are going to need, the type of national program with the States, I think Interior should use the expertise of Agriculture in drafting these as we did in carrying out our report.

They played an important role in that report, but I think that my Department is the proper one to manage this new national program with regard to the future because we are doing something very similar to this with the States in the water pollution control program. It is working very well, and I think with our intimate knowledge of the mining industry, because that gives us some insights that we would otherwise lack, we can do the job. I think part of my job, if I can do it, and I have tried to do it for 7 years, is to persuade the petroleum industry, and the mining industry, and the other use industries that they have heavy duties and responsibilities in terms of conservation, in terms of carrying out their activities, so that they do not do damage to the other resources of the Nation. I think we have made some real headway and I would say the coal industry, for example, has really turned around in the last few years.

It may be that many of the pictures we showed you are recent, and they are, because there wasn't much reclamation until a few years ago, but the industry is doing a lot voluntarily.

I still don't think it is enough and I would like to see it done on a national basis with equal footing for industry, but I think we can move the mining industry in the same direction that the water using industries are moving with water pollution control, if we act now.

Senator NELSON. Mr. Secretary, a couple of aspects about that. In the first place, if you hadn't been hitting them on the head at the State level and furnishing them guidelines a lot of them wouldn't have come up with water quality standards, anyway.

Secondly, most of the States that I am familiar with have a lot of expertise in water. They all have a conservation department and in any State where you have water you have people who have some expertise in this field.

My State doesn't have any expertise in the problem that you are talking about at all and the miners are in Black River Falls and are going to open up a big taconite operation. They are going to open another big taconite operation in northern Wisconsin later and if it is not properly controlled they will spill the water all over the place and desecrate the landscape.

Who do you have on the spot in my State who, at the time of developing programs, understands the preservation of the watershed? Is there anyone physically there who has the expertise to help set up these guidelines for mining at Black River Falls, for the mining in Ashland, Wis? I don't know of anybody, but the Soil Conservation Service has men there.

Mr. UDALL. Well, I don't want you to overlook the oldest and I think one of the best conservation agencies in the Federal Government, which is the Geological Survey, which is in your State and which is gathering data on not only mineral resources but on water.

One of the things I learned when I became Secretary was that as far as geologists are concerned water is a mineral and their approach to the environment is a complete one. It is not as though we don't have representation there in your State, but I will be quite frank with you now that you have brought the point up. I think the responsibility at the State level might very properly be placed with conservation agencies rather than letting their State mining resource agencies operate the program.

I think if they don't bring the State conservation agency, the State resource agencies—whatever title they give it—if they don't give them a major role in this we may find that most of the States are unable to formulate programs and we will find ourselves imposing a national law, and if the States won't act I am in favor of Federal action.

I am in favor of legislation of this kind just as I am with water because I think once we have a national goal and once we indicate that we are going to have national standards and a national approach, then everybody either has to get aboard or we will run the thing from Washington, and I think that is as it should be.

Senator NELSON. Well, I think maybe, again to satisfy whatever it is, whims of the Congress, so you put the States in.

I think you know and I know what that means. A few States will come up with some decent standards. Most of them won't and there will be a number of reasons for that.

The influence of the miners or the mining companies, and so forth, and so on, in the States would be important. You are going to need a national standard in any event because you have the same problem you have with water.

If the standards aren't fairly equal, as you well know, then the industries will say, "Well, we have competition in Mississippi," or Alabama or some other place, "and it costs us more to treat our water here and meet the water standards of this State than it does there. We will move."

So you really end up by having to come up with standards at the Federal level. What I think this really does, to be honest about it, is simply delay effective action for 2, 3, 4, 5 more years when the fact is we are eventually going to have to set the standards at the national level.

I don't want to push this point any further. I just say I am not satisfied, Mr. Secretary, with your answer in not including the Soil Conservation Service. But at the same time I am not critical of the people you have.

All I am saying is, why leave this remarkably able group of people, who have been on the spot for 40 years and know this field out from participation in this bill. I am not satisfied with the answer I have gotten.

Mr. UDALL. Senator, let's bring this thing in very sharp focus because if you were expressing the opinion that there should be language put in the bill giving them a responsibility and requiring that they work with the Secretary of the Interior on formulating standards and guidelines and approving State action, that would be one approach to it.

However, in my judgment this would not work well—to have two Secretaries and kind of a joint steering arrangement. There has to be one Secretary who has the final responsibility.

If you feel that the responsibility ought to be with the Secretary of Agriculture, and if you favor that approach, that is one answer. Frankly, with all due regard, I would feel that, balancing everything out, the responsibility would better lie with the Secretary of the Interior because of our broader responsibilities in the whole natural resources area, than with the Secretary of Agriculture.

When you get to the problem posed by your bill and the other bills of what do we do, how do we reclaim these several million acres that have been mined over the past 100 years and where the miners just walked away and left them—where they are damaging our water and they are reducing the productivity of our land—I think Agriculture might make out a case that they ought to run that program and that the Secretary of Agriculture ought to play the lead role, but I want you to understand that I am not averse to working with Agriculture on all this and I could work with them extremely well. I believe that Secretary Freeman and I have worked as well together as any two Secretaries holding these two jobs. But I do feel that the basic responsibility should be in one Secretary, and I think as far as this program and Senator Jackson's bill are concerned it should be the responsibility of the Secretary of the Interior.

Senator NELSON. I am not quarreling about that. What I am trying to say is that we are all taxpayers. We are paying the taxes to support the Soil Conservation Service, and the Interior Department, and Forest Service, and all the rest.

One of the problems in the Federal Government and one of the things that upsets people so much is that there is just endless duplication of effort and endless bureaucratic hiring of people to do things that could be done by expert employees who are in another department. But somehow or another we can never get around to doing that because they are two separate departments and somebody has to have the responsibility.

I don't see any reason in the world why, when you undertake to review a mining operation that is going to start, whether it be in Black River Falls, Wis., which worries me very much, or some other place, you cannot write into the legislation that the Soil Conservation people will be called in as advisers and consultants and that as to their work on this mine their direction comes from the Secretary of the Interior. They would be working under the Secretary of the Interior's responsibility. I don't see any reason in the world why they cannot do that.

The personnel are there. The expertise is there. They live there. They have worked in the State all these years and you have the live bodies right there without any additional expenditures. I don't see any reason why the law shouldn't be that when you ask the Secretary of Agriculture, he shall furnish the people he has in the Soil Conservation Service for the particular responsibility and the direction will come from the Secretary of the Interior.

What is wrong with that?

Mr. UDALL. Senator, I don't have any quarrel with that argument and in fact have no negative feeling at all if this is what you are talking about.

If you are proposing to oust me and put in another Secretary and give him the responsibility on this matter, I disagree. If you are proposing to require that we use the expertise of the Soil Conservation Service and you want to write this into the law and put it in the report on the bill I think it is most constructive.

Senator NELSON. I was never proposing to oust you. I was just proposing that we ought to use the assets that the Government has on the ground there. It bothers me to see all this bureaucratic haggling about how we can't use some of this personnel because they belong to another department.

Senator METCALF. Mr. Secretary, I think you have been over modest in selling your own Department. Of course the Bureau of Reclamation has reclaimed more land than any other agency in the Government, has taken one class of land and reclaimed it to another.

This is a problem of turning one land use to another, as you pointed out in the slide presentation and in your discussion. Maybe we won't return this land which was formerly agricultural to agriculture. Maybe the Fish and Wildlife Service will get in and make it a recreational area, so there are strong and persuasive reasons why the various branches that you have should administer this.

I have no hesitancy. I know that the Forest Service, which has done a superb job of administering our forest resources, has infiltrated your department. Ed Crafts came over to take over the Bureau of Recreation and Boyd Rasmussen is handling the Bureau of Land Management, both of whom came out of the Forest Service.

Mr. UDALL. If I may say so, one of the smartest things I have done as an administrator was to steal a few of Ed Cliff's best people. I will admit that.

Senator METCALF. I think you have probably robbed the Forest Service of some of their best, most expert administrators.

Mr. UDALL. I am not through yet.

Senator METCALF. Senator Jordan.

Senator JORDAN. Thank you, Mr. Chairman. I want to express my appreciation, Mr. Secretary, for your statement and the slides that

did show us that conditions are deplorable throughout the country, conditions which we hope can be forestalled by a little better foresight on the part of all of us.

First, let me say I am in hearty agreement with the basic purpose of the bill. I also concur that steps must be taken to stimulate and accelerate the efforts of responsible mining companies in developing effective programs to minimize the damage which your slides show to our land and other natural resources caused by surface mining operations. These steps must be taken by the higher echelons of government.

At the same time, Mr. Secretary, those responsible mining companies that are engaged in surface mining are concerned about any proposed legislation that impose controls at the Federal level and in the hope of clarification giving some clearer meaning to some of the sections of the bill, I have a few questions I would like to propound to you.

On page 3 of your statement you say :

In the context of surface mining we do not consider reclamation to mean a restoration of the land to its original condition.

That is a fair statement. You pointed out also that a lot of the pollution that occurs here in the Potomac was caused by subdivision developers who can break the surface of the land and when the rains come it washes the silt and clay into the river and we get pollution from that source.

So there must be a reasonable accommodation here of proper mining of the surface or development of the surface and still be able to live with conditions that may be imposed by the Federal Government.

I fail to find any section of the bill that says what you say in your statement here. Why doesn't the bill say that, in the context of surface mining, reclamation is not considered to mean a restoration of the land to its original condition. I don't find such language in the bill.

Mr. UDALL. Well, I think certainly the language in the bill and the language in the report of the committee will want to address itself to this total problem. On the basis of what I have seen the best result if you are going to carry out a particular mining operation oftentimes doesn't require restoring land to its previous condition.

Now, I have watched the National Coal Board of Britain with great interest. They usually take the topsoil off, do their mining, put it back on, and end up with more fertile fields than they had in the beginning.

You see some of this in southern Illinois and in some of the flatland areas where coal is mined. In southern Kansas I saw coal mine areas that are now excellent fish and wildlife recreation areas because fortunately the mining companies carried out their activity in such a way that they ended up with fresh water lakes. They created a series of lakes and the lakes are linked together.

If we could get industry to do more of this, to not just pile the overburden aside, and this reclamation is the end result achieved, you might wind up with a different environment. Out in the arid west—the desert country where I am from—not much grows on the land in any event, and when you scoop out a big open pit copper mine, well, unfortunately there is not much you can do when you get through. You couldn't get much to grow even if you had some topsoil, at least nothing that would be productive, and so we have all kinds of problems.

I think the legislation should take cognizance of the different problems and of the fact that there are many different solutions, and that we want and we would hope that the States would want their State conservation people involved in this, to get results which are as good as possible in terms of the long-term future.

Senator JORDAN. Would you think the criteria that is laid out in the bill is broad enough to take into account, for instance, the coal mining regions of the Appalachian area, where the rainfall is 40 inches or upward a year in a highly populated area, and the arid regions of the West where we have rainfall of 10 inches or less a year? Do you think the criteria is broad enough to encompass the use and development of all of these operations?

Mr. UDALL. Senator, we tried to make it that way. You will notice it on pages 8 and 9 of the legislation, and certainly the committee will want to give this some attention. We feel it does adequately cover the different alternatives and the different potentials that might be there.

We have a big diverse continent, a lot of different geography, different climates, and we have all kinds of different mining operations. Certainly this legislation has to encompass those differences.

Senator JORDAN. On page 8 of your statement you use this language:

Based upon our national survey, we expect that instances will be found where surface mining should not be permitted at present because there is no technically feasible way of avoiding undue damage to the surroundings.

Under the bill what standards are established, what criteria are set up, for determining when mining will not be permitted?

Mr. UDALL. At the bottom of page 7 I think is the pertinent provision you are interested in which states:

Provide that an adequate mining plan be filed with, and approved by, the State agency and a permit be obtained to insure, before surface mining operations are commenced or continued, that they will be conducted in a manner consistent with said mining plan.

This is the type of approach that we have included in the legislation.

Senator JORDAN. Are you saying by this language, Mr. Secretary, that before development of a surface mining property may proceed an adequate mining plan must be filed and approved by the State agency before digging commences on a surface mine?

Mr. UDALL. Well, the State plan would have to be satisfactory, would have to be approved, before the State could move forward to permit a particular mining operation.

A moment ago I wanted to give you an example. I was trying to think of an example of the situation where there shouldn't be mining and one just came to me. At least Secretary Freeman and I concluded this, in the area of the Kennecott Copper property in the northern Cascades in Washington where there is an important copper deposit.

We had our experts look at it and they didn't think it was very good, relatively speaking. There are a lot of other better ones, and this one is located right in a wilderness area. It was our view, considering the economics and the other values, and we tried to express this to the Kennecott people, that they ought not to conduct a mining operation. They apparently decided not to, at least for the time being, and this is an instance where the very location would seem to make other interests predominant.

Senator JORDAN. Yes, that is a good example. I attended those hearings out in Seattle on that project and I am familiar with the circumstances.

Would there be any means of compensating the landowner for his loss if for any reason surface mining would be denied under the terms of this bill?

Mr. UDALL. I don't think there are any provisions for this is the legislation. I think this would be a matter really of the regulatory authority of the State or of the act, much as we regulate by zoning certain types of activity, and therefore it might not be compensable.

Senator JORDAN. On page 10, Mr. Secretary, the paragraph in the middle of the page, you say:

We believe that federal encouragement is needed to assure that all 50 states—not merely some—regulate surface mining, and that all forms of surface mining are covered. We further believe that some minimum basic requirements for such State action are required to serve the national interest and to assure some equity between States.

My question is, What provisions in the bill establish or govern or define these minimum basic requirements?

Mr. UDALL. These provisions you find under the State plan requirement in the bill that begins on page 7 and on to the next several pages. They would really lay down the basic criteria that we would apply.

Senator JORDAN. Well, looking at these criteria on the top of page 8, "The control of erosion, flooding, and pollution of waters," you have already discussed the fact that subdivision development causes erosion and pollution of the water. Yet we don't propose in this bill to put a limitation on subdivision development, do we?

Secretary UDALL. Well, we don't consider that mining so we are not including it. I think the real solution to that problem is for counties and cities to require developers to immediately vegetate and to do this very thoroughly in much the same way that the highway people do.

You see the highway builders when they get their grades and prepare their right-of-way; they have these effective methods of planting grass to keep the soil in place. They have a soil erosion problem too. The public should make the developers do the same kinds of control as part of the cost of doing business.

Senator JORDAN. I agree with you. When I was Governor of my State we took the step of seeding the grass so it would prevent the very erosion you are discussing here. I know the mining people would be eager to cooperate in any kind of restoration and reclamation they can do provided they understand fully what the criteria are to start with and provided they understand too that the criteria will not change the Secretaries change, with the whims and caprices of one individual who may decide he has undue authority perhaps under the terms of language that is vague and capable of being interpreted in different ways.

I won't take more time at this time, Mr. Chairman. I appreciate the answers the Secretary has given to my questions.

Senator METCALF. Senator Hansen.

Senator HANSEN. Thank you, Mr. Chairman. Let me compliment you, Mr. Secretary, on having spelled out clearly the position your Department takes and disclosing as well what I suspect is your per-

sonal feeling of concern about a matter that I am certain is of interest to all of us in this country.

I would like to first ask, Do you have any misgivings as to the constitutionality of the Federal authority which I infer this bill would convey upon an agency of Government to exercise police powers over privately owned lands which so far, insofar as I know, have been lodged at the State level, not at the Federal level?

Mr. UDALL. Senator, I think I can say quite flatly that I believe if I asked my lawyers this question, and I would be glad to furnish an opinion if you want, that there is authority in the Constitution with regard to this type of legislation.

I am sure we wouldn't be proposing it if we thought there was a serious question. Just take one aspect, only one aspect. For example, there is a national responsibility for interstate waters and of course water runs off land and I think one of the main conservation reasons that we need a program of this kind is to protect water quality and I would cite this merely as one paramount interest that I think the Federal Government has.

Senator HANSEN. Do I infer from your response, Mr. Secretary, that your authority or at least one of the sources of your authority to control mining operations on privately owned land would be in recognition of the contribution that mining operations might make toward water pollution?

Mr. UDALL. Yes.

Senator HANSEN. Are there other sources of authority in your judgment?

Mr. UDALL. The effect on other resources, including wildlife, I would think would be another.

Senator HANSEN. Including wildlife.

Mr. UDALL. Including wildlife, yes.

Senator HANSEN. Are you saying that if it could be demonstrated that a mining operation on privately owned land affected wildlife it would be your judgment that the Federal Government would have the right to move in?

Mr. UDALL. This is a sensitive subject that I don't want to get into and I certainly think that the States in terms of their legal control of wildlife would certainly have a clear responsibility with regard to their authority to regulate. Putting the wildlife question aside for the moment, our authority certainly is very clear with regard to the water pollution aspect because I can say to you that the most deadly form of water pollution that I know of in their areas is this acid mine pollution that comes out of these old mines in Appalachia and that has polluted most of their rivers.

It is a tragedy because the Appalachian region should be the great playground of the east. These ought to be the finest fishing streams and many of them are dead streams right today—large stretches of some of the finest rivers in Appalachia.

Senator HANSEN. Would it be fair to ask if, in your judgment, your authority to control activities on privately owned land would have to relate to the matter of water pollution; that if it could be demonstrated that water pollution did result you would have the authority, if it did not result you would not? Is that what you are saying?

Mr. UDALL. My judgment would be that this is only one aspect. I think regulation of interstate commerce, under the commerce clause, would be another because, after all, most all of the products that are produced are moving in interstate commerce.

My lawyers would probably be citing that to you if I asked them for an opinion.

Senator HANSEN. I want to be sure I understand you. Your statement is that if the products produced from a mining operation moved in interstate commerce then it would be your feeling that you would have the right to control or to regulate the mining on privately owned land?

Mr. UDALL. Yes, the analogy would be with the Federal Fair Labor Standards Act and the other acts where you regulate labor conditions on private property in a local situation where the products move in interstate commerce. I think you have that aspect that is also present.

Senator HANSEN. I think, if I understand you, you suggested a possible new source of authority or the right to regulate and that would be if, in the judgment of the Department, the mining operation involved fair labor standards or failed to measure up to fair labor standards. Do I understand you correctly?

Mr. UDALL. No, I am saying the analogy in terms of where you would find Federal authority is that I think that you would have an analogous situation here, where regulation would be proper under the commerce clause with regard to the details of how the activity was carried out.

In the case of labor you are concerned with labor conditions. In this instance you are concerned with the effect on the other resources of the Nation of an activity that is carried out on private land, and thus we are back to water and the other resources.

Senator HANSEN. In some parts of the West, and with particular reference to my State of Wyoming, I happen to know as I am sure you do that private industry has been active. It has committed money to experimental work in order to find out what sort of treatment might most efficiently reclaim the largest amount of land.

Would this bill, in your judgment, permit some flexibility insofar as private industry is concerned in suggesting what types of treatment might be accorded public land and private land as well?

Mr. UDALL. Certainly, Senator, I think this is where we get down to point really of what is best for a particular region and I would think that there should be plenty of room for discussion as to the various techniques.

We saw in one of the pictures here where they were using one of these sprays, spraying seeds and fertilizer together, and I think that we would find the industries that are taking an interest are doing such things, and the soil conservation people in the Department of Agriculture and my people probably would readily agree. There should be plenty of room for consultation and discussion on what is best.

Senator HANSEN. Does this bill seek to establish some authority for the imposition of regulations or guidelines which would call upon the mining industry to propose, before their activities begin, the sort of reclamation treatment that they might bring about?

Mr. UDALL. Senator, I think what I would envision, if this works out the way that I hope it would, that most of the States would pass laws similar to, let's say, the laws that Pennsylvania and Kentucky have, which are some of the more recent good laws. A few of the States may not do anything, so that we probably will have to have Federal regulations for them. The pattern of the future you might see in Pennsylvania or Kentucky right today, where the mining company wants to mine a certain area for coal and they go in, sit down with the State people, and work out a reclamation plan. The plan is approved and then they go ahead.

I was really pleased to find the Kentucky Act, after all the controversy, working as well as it is. I was there with the former Governor and the new Governor and got word from both of them that the act seemed to be functioning properly and they were both going to support it.

Senator HANSEN. Generally speaking, the approach that those States have taken is to call upon industry to submit a reclamation plan before the mining operation actually begins?

Mr. UDALL. That is the approach. That is the approach that would be envisioned.

Senator HANSEN. In some of the mining operations we have in Wyoming I have the feeling that not until extensive core drilling has been done and they have actually gotten into their operation may they be aware of the problem and of possible solutions that would suggest themselves.

What latitude would this approach offer a mining company to make an assessment after they knew better what the facts were? I am thinking, if you are talking about bedding, that may be 30 degrees and you know precisely what the picture is or if the beds that are being mined are laid down perfectly horizontally I suspect that it would be relatively easy to talk about what sort of an operation would most meaningfully and efficiently be used to accomplish a certain desired end result. But some of the coal beds, or bentonite and trona, we have in Wyoming don't always fit the patterns that would lend themselves to this sort of operation. Won't there be need, if we are going to be realistic and practical about it, to give industry some elbow room so that it might find out what the situation is, what faulting has occurred, and that sort of thing before they will be able to know precisely what can best be done?

Mr. UDALL. Senator, I think you have a sound point in that you are going to have to have enough latitude that the commonsense approach can function. If a company files an initial plan and they find different conditions so that a different solution is necessary, or some new development comes along, they could change things. I think this is a matter of administration and of drawing the initial law broadly enough that you have such latitude. I found out in Kentucky—because I talked to them about how it works—that there is a very interesting interface between the State people who are the regulators, the conservationists, and the mining companies. They educate each other as they go back and forth, with regard to what is feasible and what can and can't be done and what new conservation techniques are being developed and so on. That is as it should be.

Senator HANSEN. I think your Department has demonstrated a lot of imagination over the past in encouraging research and experimentation. It occurs to me that there is a great deal yet that might be done because, as the earth's mantle is disturbed when you remove the overburden and you get down to a particular mineral deposit, you may expose a lot of different types of soil that have altogether different characteristics than those which were typical of the area before it was disturbed. Because of that it would seem to me that perhaps some exotic plants might lend themselves to a reclamation effort.

There are lots of things that could come about. I would hope that your Department would look with favor upon some research grants that might be made available in this regard so as to encourage as much imagination and scientific know-how as possible.

Mr. UDALL. I quite agree with you, Senator, and you will find some provisions for this type of research and grants to help the States set up good strong programs.

It just occurred to me, if I may make one other point here, that I would call the attention of the committee to a very interesting article that Dr. Walter Hibbard, the outgoing Director of the Bureau of Mines, wrote.

I happened to read it last week in one of the science journals. He wrote, in terms of looking far ahead with the mineral resources of the country, that the thing we are failing to do that would enormously enlarge our mineral base is to recycle and reuse, in a much more efficient way than we do, the minerals that we produce.

He was talking about deliberately manufacturing certain things like auto bodies and other items in such a way that they can quickly be put back into a cycle. His point was, that if we would do this, we would suddenly enlarge the mineral base of the Nation.

We would also clean up the countryside a little bit in the process, too.

Senator HANSEN. I heard him make that statement and I share your enthusiasm. I think it is a great idea. I have no further questions, Mr. Chairman.

Senator METCALF. Thank you very much.

Senator FANNIN.

Senator FANNIN. Thank you, Mr. Chairman and Mr. Secretary, I am sorry I was not here to hear your testimony. I have heard the answers you have given to these questions. I am concerned that we may adopt a program that could be very sound in one area of the country but very damaging in another. Because of the low-grade ore in Arizona we must have open pit mining if we are going to be competitive domestically and with the other countries of the world.

I am wondering how much atomic energy research is being conducted in connection with mining?

Mr. UDALL. Well, the Atomic Energy Plowshare program is of course in its infancy, as are other peaceful applications, but it is interesting to me that two of the early projects under Plowshare are directed toward mining and the better use of mineral resources. The Gasbuggy project in New Mexico, which was carried out a few months ago, may be able to increase the yield of natural gas 10 times; also Project Bronco is another project, in the oil shale area in Colorado,

to use nuclear energy, but it is really in its infancy. We don't know yet what applications this will have.

Senator FANNIN. I understand the Kennecott project near Safford is one that has great hope.

Mr. UDALL. This is another that I had forgotten about. I should remember my own State first and I apologize to the Senator.

Senator FANNIN. Yesterday I was talking to Mr. Shenhope of the Atomic Energy Commission in Arizona. He was telling me about the program to open up caverns for water storage with atomic blasts. Have you done any work in that regard?

Mr. UDALL. Yes; there are two aspects of this that are promising with regard to using nuclear devices as a tool. The one you have described is in an area that is arid, where water is absolutely vital if you are going to carry on a mining operation because water is scarce, so you might be creating in effect an underground aquifer.

Another good example of the use of nuclear devices, and this is Project Bronco, would be where there is oil shale with a heavy overburden, 600 to 1,000 feet of overburden. You would have to have an enormous disturbance of the earth, more so even than with some of the great copper pits, in order to get down to the oil shale if you were going to mine it by open pit. With Project Bronco you could have what is called the *in situ* process where you would create great underground caverns and carry on your extraction by a fire method that would liberate the shale oil so that you could extract it and not disturb the surface at all. So nuclear energy may be tremendously helpful to us in that regard.

Senator FANNIN. It is also utilization of chemicals, is it not? I notice that they pump chemicals down and back up again and float them down.

Mr. UDALL. That is right.

Senator FANNIN. So in other words, they are doing it right on the spot rather than to remove the ore and then have to dispose of it in some other way. I know that near Tucson, the mines are landscaping to prevent mined areas from being an eyesore.

Mr. UDALL. Even in the desert country, as you and I know, if you try to work with nature you can make things grow and you can stabilize banks. There are some of these areas, and I think eastern Kentucky probably is one example, where the slopes are so steep and the damage that can be done to other resources is very great, that you might decide to go to a different type of mining or not to mine at all. Or you might try to develop new machinery and new techniques that would leave the surface undisturbed. I think the mining industry is challenged by all of this, as well as the industries that produce machines, and if we continue to see the sort of technological development that has come along in recent years, we may find more and more situations where mining doesn't greatly disturb the surface.

We may get it out cheaper and more efficiently some other way. I would hope so.

Senator FANNIN. But as I understand it is your desire to in every way possible encourage the States, and not have the Federal Government take over any program if the States adopt a satisfactory one?

Mr. UDALL. The approach that we have suggested in this legislation

is if the States want to move in and have a vigorous active program they would run the program and we would merely provide some review and oversight from time to time. That would be the effect of it.

Senator FANNIN. Mr. Secretary, when you say vigorous active program—

Mr. UDALL. An adequate program.

Senator FANNIN. Yes, but you want a balance. From the standpoint of economics just a certain amount can be spent on a program this size and still make it possible for a mining company to operate and be successful. We have an obligation to do everything we can to permit these mining companies economic stability.

Mr. UDALL. Senator, when I say vigorous adequate program, what I mean is that the States have to be honest with us, if they are going to pass enabling legislation to vest authority in some agency or create a new agency to run this program the way Kentucky is doing right now, for example. I happen to be familiar with what Kentucky is doing.

The State has to have a qualified staff of people who are knowledgeable and who can carry out the State function and will do so honestly and vigorously and efficiently. We have found that the essence of the national approach in water pollution or in surface mining, or anything else, is that we do put industry on equal footing where industry can spend whatever money is necessary for reclamation and for storing and protecting these other resource values. This then becomes a common cost of doing business to all segments of the industry and somebody doesn't say, "Well, the heck with you. We are not going to mine our coal in Wyoming. We will go on down here where there are no conditions." With our proposal you get away from runaway industry and a double standard, at it were.

Senator FANNIN. Well, of course I have been concerned about the wholesale condemnation of some of the companies for their mining methods when in many instances it was necessary for them to mine on that basis.

I think a further study should be made of just what can be done in the different areas because if we adopt regulations that would fairly apply to one State it could be very derogatory to others.

Thank you.

Senator METCALF. Mr. Secretary, you have made a splendid presentation, I believe, of the problem. When I was in the legislature of Montana in 1937 I introduced a bill for restoration of the overburden on areas that were being dredged for gold.

Now in the gold dredging business you go up a valley and had we had such legislation as this I perhaps would have been successful in restoring that because I think some of those people argue very persuasively and probably correctly that the amount of gold in the area was such that they couldn't compete.

We now have of course one of the great open pits in America which is an entirely different situation. As I read the bill I was concerned, as was Senator Hansen, about the constitutionality and the validity of moving in on private land under a police power which is traditionally an area of State activity and so I hope that you will very carefully brief that for all of us who are concerned about the constitutionality of this legislation.

Mr. UDALL. Senator, I know you want your legal counsel to give you his views. Why don't I agree to provide you with a letter in which we set forth the legal basis as we see it? I think we should make a good record.

Senator METCALF. Please. I don't want to extend this hearing on a legal basis but I would like to have for the record the legislative history and the answer to some of the questions raised, your views about why you can go in on private land and insist that they not mine at all perhaps or that they have to do certain things that they haven't had to do heretofore, nor has any State required them to do.

(The opinion referred to follows:)

CONSTITUTIONALITY OF S. 3132, 90th CONGRESS (M-36748), AUGUST 8, 1968

CONSTITUTIONAL LAW

Federal regulation of future surface mining operations would be valid exercise by the Congress of the power conferred upon it by the Commerce Clause.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SOLICITOR,
Washington, D.C., August 8, 1968.

M-36748.

Memorandum To: Secretary of the Interior.

From: Solicitor.

Subject: Constitutionality of S. 3132, 90th Congress.

You have asked me for an expression of my views with respect to the constitutionality of S. 3132, a bill to provide for the cooperation between the Secretary of the Interior and the States with respect to the future regulation of surface mining operations, and for other purposes.

The question of constitutionality arose at hearings on S. 3132 before the Senate Committee on Interior and Insular Affairs on April 30, and May 1-2, 1968.

In my opinion the passage of the bill would be a valid exercise by the Congress of the power conferred upon it by the Commerce Clause.

S. 3132 would "provide a nationwide program to prevent or substantially reduce the adverse effects to the environment from surface mining, to assure that adequate measures will be taken to reclaim surface mined areas after operations are completed, and to assist the States in carrying out such a program" (section 3, subsection (f)). It would apply to "each surface mine, the products of which enter commerce or the operations of which affect commerce, and the surface mined area¹ thereof" (section 4).

Section 7 of the bill provides for the filing by a State with the Secretary of the Interior of a "State plan" for the regulation of surface mines and the reclamation of surface mined areas located within the State, and for the approval of the plan by the Secretary if he determines that the plan includes laws and regulations which meet the requirements and encompass the criteria set forth in subsection (a) (1) and that the plan includes adequate provisions for effective administration and enforcement.

Section 8 of the bill would authorize the Secretary (upon the expiration of two years after the passage of the bill) to issue regulations "for the operation of surface mines and for the reclamation of surface mined areas" in a State for which no State plan had been approved, and sections 12 and 13 of the bill would provide for the enforcement of such regulations. A State might submit a State plan after Federal regulations had been issued; if the plan were approved the Federal regulations would cease to be effective (section 9). The Secretary would be authorized to withdraw approval of a State plan if, after opportunity for a hearing, he determined that the State had failed substantially to comply with the plan or to enforce it adequately (section 7, subsection (b)).

I assume that no one would seriously characterize section 7 of the bill as an invitation to the States to take action precluded by the Federal Constitution.²

¹ Subsection (e) of section 2 of the bill provides that "'surface mined areas' means any area on which the operations of a surface mine are concluded after the effective date of a State plan or the regulations issued under section 8 of this Act, whichever is applicable."

² *Goldblatt v. Town of Hempstead*, 369 U.S. 590 (1962).

In the past, however, the only regulation of surface mining on private lands has been State regulation.³

Further, mining itself, has been held not to be interstate commerce.⁴

Neither the fact that the States may and do regulate surface mining nor the fact that surface mining "when viewed separately is local"⁵ insulates this activity from the power of the Congress under the Commerce Clause.

"* * * It is no objection to the assertion of the power to regulate interstate commerce that its exercise is attended by the same incidents which attend the exercise of the police power of the states. * * *

"* * * The power of Congress over interstate commerce is not confined to the regulation of commerce among the states. It extends to activities intrastate which so affect interstate commerce or the exercise of the power of Congress over it as to make the regulation of them appropriate means to the attainment of a legitimate end, the exercise of the granted power of Congress to regulate interstate commerce." *U.S. v. Darby*, 312 U.S. 100, 114, 118 (1941).

In *U.S. v. Darby*, the Court upheld the Fair Labor Standards Act of 1938 (29 U.S.C. secs. 201-219). This Act prescribes minimum wages and maximum hours for employees engaged in commerce or the production (as defined) of goods for commerce. It makes unlawful the shipment in interstate commerce of goods produced by employees as to whom the requirements respecting hours and wages were not observed and criminal penalties are provided for violation. The Act has been given wide application. For example, the following employees have been held to be covered by the Act:

operating and maintenance employees of the owner of a loft building, space in which is rented to persons producing goods principally for interstate commerce (*Kirschbaum Co. v. Walling*, 316 U.S. 517 (1942));

members of a rotary drilling crew, engaged within a State, as employees of an independent contractor, in partially drilling oil wells, a portion of the products from which later moved in interstate commerce (*Warren-Bradshaw Co. v. Hall*, 317 U.S. 88 (1942));

a night watchman employed in a plant in which veneer was manufactured from logs and from which a substantial portion of the manufactured product was shipped in interstate commerce (*Walton v. Southern Package Corp.*, 320 U.S. 540 (1944));

employees putting in stand-by time in the auxiliary fire-fighting service of an employer engaged in interstate commerce (*Armour & Co. v. Wantock*, 323 U.S. 126 (1944));

maintenance employees of an office building which was owned and operated by a manufacturing corporation and in which 58 percent of the rental space was used for its central offices, where its production of goods for interstate commerce was administered, managed and controlled, although the goods were actually produced at plants located elsewhere (*Borden Company v. Borella*, 325 U.S. 679 (1945));

the employees of an electrical contractor, locally engaged in commercial and industrial wiring and dealing in electrical motors and generators for commercial and industrial uses, whose customers are engaged in the production of goods for interstate commerce (*Roland Co. v. Walling*, 326 U.S. 657 (1946));

employees producing road surfacing materials in Pennsylvania for use in Pennsylvania on interstate roads or by Pennsylvania customers producing goods for interstate commerce (*Allstate Construction Co. v. Durkin*, 345 U.S. 13 (1953); *Thomas v. Hempt Bros.*, 345 U.S. 19 (1953)).⁶

Moreover, the extension by the Congress of the Act in 1961 to include State employees and to cover employees of certain "enterprises" engaged in commerce

³ West Virginia in 1939 enacted the first statute regulating surface mining. In addition to West Virginia, thirteen States now have such laws: Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Montana, Ohio, Oklahoma, Pennsylvania, Tennessee, Virginia. In no instance have the courts of a State held that the legislature is powerless to regulate surface mining. See *Dufour v. Maize*, 358 Pa. 309, 56 A. 2d 675 (1948). Compare, *Northern Illinois Coal Corp. v. Medill*, 397 Ill. 98, 72 N.E. 2d 844 (1947) and *Maryland Coal & Realty Co. v. Bureau of Mines*, 193 Md. 627, 69 A. 2d 471 (1949), setting aside the statute initially passed in each State.

⁴ *United Mine Workers v. Coronado Coal Co.*, 259 U.S. 344, 407, 408 (1922); *Oliver Iron Co. v. Lord*, 262 U.S. 172, 178 (1923). However, in *Coronado Coal Company v. United Mine Workers*, 268 U.S. 295, 310 (1925), the Federal Anti-Trust Act was held applicable to workers in coal mines.

⁵ *National Labor Relations Board v. Jones & Laughlin Steel Corp.*, 301 U.S. 1, 38 (1937).

⁶ See also, *Idaho Sheet Metal Works, Inc. v. Wirtz*, 383 U.S. 190 (1966).

or production for commerce (including enterprises operating hospitals and similar institutions and schools) was recently upheld in *Maryland v. Wirtz*, 390 U.S. 917 (1968). In upholding the "enterprise concept" the Court said:

"* * * [W]hile Congress has in some instances left to the courts or to administrative agencies the task of determining whether commerce is affected in a particular instance, *Darby* itself recognized the power of Congress instead to declare that an entire class of activities affects commerce. The only question for the courts is then whether the class is 'within the reach of the federal power.' The contention that in Commerce Clause cases the courts have power to excise, as trivial, individual instances falling within a rationally defined class of activities has been put entirely to rest. *Wickard v. Filburn*, 317 U.S. 111, 127-128, 63 S. Ct. 82, 90-91, 87 L. Ed. 122; *Polish Nat. Alliance of United States of North America v. National Labor Relations Board*, 322 U.S. 643, 648, 64 S. Ct. 1196, 1199, 88 L. Ed. 1509; *Katzenbach v. McClung*, supra, 379 U.S., at 301, 85 S. Ct., at 382. * * *"

The National Labor Relations Act (29 U.S.C. secs. 151-167) furnishes another example of the far reaching effect which an exercise of the power conferred by the Commerce Clause may have. That Act empowers the National Labor Relations Board "to prevent any person from engaging in any unfair labor practice [listed in the Act] affecting commerce." The Act was sustained by the Supreme Court in *National Labor Relations Board v. Jones & Laughlin Steel Corp.*, 301 U.S. 1 (1937), and that Act applies, beyond question to unfair labor practices in activities which might be regarded as intrastate or local when viewed separately.⁷ A more recent but equally persuasive exercise of the commerce power was the enactment of Title II of the Civil Rights Act of 1964 (42 U.S.C. secs. 2000a-2000a-6) prohibiting discrimination on the grounds of race, color, religion, or national origin at places of public accommodation the operations of which affect commerce. Title II of the Act was upheld in *Heart of Atlanta Motel, Inc. v. United States*, 379 U.S. 241 (1964) and (as to a restaurant) in *Katzenbach v. McClung*, 379 U.S. 294.

In the light of this constitutional background, it seems to me that surface mining operations dealt with by the bill are as much within the power of the Congress as are substandard working conditions or labor disputes or discrimination in places of public accommodation. In my opinion, the Commerce Clause clearly permits the Congress to protect Commerce from surface mining operations that burden and adversely affect it—

"by destroying or diminishing the availability of land for commercial, industrial, recreational, agricultural, and forestry purposes, by causing erosion and landslides, by contributing to floods and the pollution of waters, by destroying fish and wildlife habitat and impairing natural beauty, by counteracting efforts to conserve soil, water, and other natural resources, by destroying or impairing the property of citizens, and by creating hazards dangerous to life and property."

To that end, S. 3132 would provide for Federal regulation in the absence of adequate regulation by the States, and as I have said, its passage would, in my judgment, be a valid exercise of the power conferred by the Commerce Clause.

EDWARD WEINBERG, *Solicitor*.

Senator METCALF. Again I congratulate you, Mr. Secretary, on the presentation of a very important and far-reaching subject and thank you for coming.

Mr. UDALL. Thank you.

(The prepared statement referred to follows:)

⁷ See, e.g., *National Labor Relations Board v. Friedman-Harry Marks Clothing Co.*, 301 U.S. 58 (1937), manufacturer of men's clothing; *National Labor Relations Board v. Fainblatt*, 306 U.S. 601 (1939), processor of women's sportswear; *Howell Chevrolet Co. v. National Labor Relations Board*, 346 U.S. 482 (1953), retail automobile dealer; *Plumbers Union v. Door County*, 359 U.S. 354 (1959), alteration of a county courthouse; *National Labor Relations Board v. Reliance Fuel Oil Corp.*, 371 U.S. 224 (1963), distributor of fuel oil. See also, *Santa Cruz Fruit Packing Co. v. National Labor Relations Board*, 303 U.S. 453 (1938) in which the Court said at page 465, "With respect to the federal power to protect interstate commerce in the commodities produced, there is obviously no difference between coal mined, or stone quarried, and fruit and vegetables grown. The same principle must apply, and has been applied, to injurious restraints of interstate trade which are caused by the practices of manufacturers and processors."

STATEMENT OF HON. STEWART L. UDALL, SECRETARY OF THE INTERIOR

Mr. Chairman, it is a privilege to appear before this Committee to discuss S. 3132, the Administration's recommended bill to regulate all surface mining, which has been introduced by Chairman Jackson and Senators Anderson, Nelson, and Lausche. Also I want to pay particular tribute to Senators Lausche and Nelson, who have introduced separate bills as well. Their bills are S. 217 and S. 3126.

In discussing these measures may I emphasize the dual role of natural resources conservation and of natural resources development which we perceive in the Department of the Interior. We are concerned with preservation or enhancement of our lands and waters for a multiplicity of essential uses, and this interest of ours includes the wise use of land during and after mining. We also are concerned that the nation have an abundant supply of minerals, and that such minerals be produced efficiently and at the lowest possible cost. The bills before your Committee pertain to both of these facets of our responsibility.

It is fair to say that the reclamation of mined land has not been one of the great, long-term natural resource issues of this nation. Rather it is an issue to which most of us awakened only in recent years. This is a result of striking developments in mining technology, coupled with soaring demands for mineral commodities. We can expect a continuing great increase in surface mining activity in the years just ahead.

With shovels capable now of moving 185 cubic yards of earth and rock at one bite, it is not too surprising to find that, in 1965, 35 percent of our coal, 80 percent of our copper, and 90 percent of our iron ore came from surface operations.

What do we mean when we talk of surface mining?

In our Department we use the term to include such mining operations as coal strip and auger mining; sand and gravel pits; dredging for gold, gravel, and other mineral commodities; hydraulic mining; and deep pits for extraction of copper, iron, and other ores.

Surface mining is an essential part of the American industrial economy. It is going to continue. Overall, eighty percent of our mineral production tonnage comes from surface mines. It provides the highest efficiency in mineral recovery. It usually is more economically favorable than any alternative means of mining. It generally is safer for the mine workers.

But surface mining has costs—costs which may not appear in the market transaction of the commodity. These hidden costs arise with the diminishing of the useful availability of land—with pollution and the hazards to human life, property and wildlife—with the impairment of natural beauty—with the degradation of other natural values which occurs.

It is of interest that public attention has focused on surface mining in the last few years. It appears that surface mine reclamation is a policy issue whose time for resolution has arrived.

Let me make the record clear about our use of the word "reclamation." In the context of surface mining we do not consider reclamation to mean a restoration of the land to its original condition. Often this would not be as desirable as some alternative land condition. Rather, we use reclamation to mean that activity which avoids or corrects damage to the lands and waters of the vicinity and leaves the area in a usable condition.

In 1965 Congress enacted the Appalachian Regional Development Act, which recognized that adverse conditions resulting from surface mining were of national significance requiring a long-range comprehensive program for their elimination or alleviation, and called for a two-year study.

Our nationwide report resulting from the study was issued last summer under the title of *Surface Mining and Our Environment*, and it had an initial printing of more than 13,000 copies. As of one month ago the GPO stock was down to only 402 copies; consequently a second printing of 10,000 copies was ordered.

We had excellent cooperation in these efforts—from the States, from industry and from several other Federal agencies. Each State Governor appointed a liaison officer with whom we worked.

Leadership of the study was placed in the Assistant Secretary for Mineral Resources, and I should note that some of the photographs you have just seen were taken by Assistant Secretary Cordell Moore. He and his staff slogged through mud and dust to get on-the-spot knowledge of surface mining conditions. The day-to-day working responsibility for the study was assigned to the Bureau of Mines.

Our work demonstrated that this subject refuses to stay put in any one category. To some of our field inspection team members, surface mining was chiefly a problem of the unsightly mess that may result. Others saw it as a problem of sediment and chemical pollution in streams and rivers. Still others were concerned with the resulting loss of wildlife habitat. Use of the land after mining was of prime concern to all. Should it, for example, be used for recreation, agriculture, forestry, or industrial development? All of the men also were aware of the possible danger to public safety that may result from certain surface mining practices.

So it is that various people see surface mining as a conservation problem—as an economic problem—as an engineering problem, an environmental problem, a land use problem, or a public relations problem. There is one thing in common: It is a problem.

A review of a few of the findings of our study can serve to put surface mining into perspective. For example:

1. Every State has had some surface mining activity within its boundaries.
2. Only 14 States have laws relating specifically to the conduct of surface mining operations and the reclamation of surface mined areas, and five of these direct their attention only to coal mining.
3. By January 1, 1965, surface mining had affected more than 3.2 million acres of land.
4. Despite all reclamation efforts by man and nature, and after the lapse of considerable time, about two million acres still need additional reclamation work—this is 3,125 square miles, or an area equal to the combined land area of the States of Delaware and Rhode Island.
5. In 1964 surface mining was biting off an estimated 153,000 acres annually. Only about one-third of the land disturbed that year was adequately reclaimed by man. By 1980 it is estimated, quite conservatively, that more than five million acres will have been affected.
6. Despite the existence of State regulatory laws of some sort in the opinion of the experts 73 percent of the mined areas reclaimed under existing State regulations in Appalachia required further attention.
7. The adverse effects of surface mining are not confined to the site of the operation. Off-site effects also must be considered. These on-site and off-site effects include:

- (a) nearly 1.7 million acres of wildlife habitat damaged;
- (b) erosion from some spoil banks at rates up to 27,000 tons per square mile per year, compared with only 25 tons per square mile from similar areas of forest;
- (c) approximately 13,000 miles of streams and over 145,000 surface acres of natural lakes, reservoirs and impoundments adversely affected by sediment and acid;
- (d) more than 20,000 miles of highways remaining—hazardous to public safety, hindering wildlife movement, damaging otherwise attractive landscapes.

This is today's picture. Our first task is to insure that tomorrow's inventory of damaged lands is no larger. Once we are assured that the buildup is halted, we can turn our attention to past damage. This is the primary reason that we feel at this time that S. 217 and S. 3126, which deal with the reclamation of the already damaged lands, are more appropriately subjects for later consideration.

We in the Department of the Interior believe that in many situations it is possible for society to benefit both from the use of the minerals of the land and from the use of the land itself after mining operations have been completed. One of the essentials in this is a recognition that proper mining practice today includes reclamation—not that reclamation merely is some follow-up treatment after the mining is done. This was not the general practice in the past. The nation must be assured from now on that good mining practice is used—and that the possibility of damage off the site of the mine itself also is taken into consideration in the mining operation.

The public recognizes the need for mineral commodities, and that they do not occur in economic deposits everywhere. Good land use planning can enable mining to continue while providing protection and reclamation of other natural resources. With such foresight, many areas from which minerals are extracted will lend themselves to subsequent uses.

These concepts are not really new; what is new is that their validity has been confirmed by our nationwide study which gave attention not only to the ravages

of past mining, but also to the assessment of current conditions and to the future possibilities.

As is evident to even the casual reader of our report, it is recommended that a Federal surface mining program include the repair of past damage. But, in a time of hard priorities it becomes most important that we assure reclamation of future mined land. As we note in the report, a public dollar spent to assure the prevention of future damage can be many times more effective than one spent on repairing lands already damaged.

With the prompt support of the Congress in passing S. 3132, we can assure that the inventory of derelict acres soon will cease to grow larger.

Surface mine regulation is a national need, and it must have continuity beyond the changes that periodically occur in State and Federal administrations, and beyond the rise and fall of short-term agencies created for special purposes.

We believe that by means of the procedures proposed in S. 3132, we shall attain a method of determining the relative benefits of various land use alternatives, prior to mining. For a given mining site at a given time these alternatives might be:

- (a) surface mining without reclamation;
- (b) surface mining with reclamation;
- (c) underground mining only;
- (d) no mining whatsoever.

Based upon our national survey, we expect that instances will be found where surface mining should not be permitted at present because there is no technically feasible way of avoiding undue damage to the surroundings. It also is probable that situations will be found where it is needless to require that any reclamation be undertaken.

Undoubtedly, some will say that enactment of this bill will inhibit the development of the mining industry and cause severe economic losses. We all heard this in connection with our national water and air quality standards legislation. But industry has responded to those standards. They are reading the signs of the times. As I said the other day, in connection with water quality control hearings in the House, if industry continues to move at the tempo it has recently I think you are going to see some very significant improvement in our environment. Most members of industry know that the national sentiment strongly favors effective measures for the protection of our natural resources. I think this is truly encouraging. Industry is not complaining as much as some say. Industry wants to be partners in this effort—it's only good business.

It is gratifying to see the action that several States have begun in the past months to regulate some types of surface mining, or to strengthen existing regulations; but more needs to be done. Also, nearly three-quarters of the States have not yet moved.

S. 3132 proposes to step up this State action by creating a State-Federal relationship through which States would develop programs promoting an appropriate balance between the extraction of minerals and the need to preserve and protect the environment. The goals sought are not punitive nor are they visionary. On the contrary, we are offering a moderate, orderly, and practical approach, tailored to meet local needs and providing for detailed consideration of regional conditions. I would not suggest, for example, that the Bingham Canyon pit in Utah, or the Hull-Rust pit in Minnesota, be filled with earth and rocks when operations cease at those great metal mines.

We believe that Federal encouragement is needed to assure that all 50 States—not merely some—regulate surface mining, and that all forms of surface mining are covered. We further believe that some minimum basic requirements for such State action are required to serve the national interest and to assure some equity between States.

Remember that surface mining is not confined to the States where some controls already exist. Furthermore, both the physical effects of surface mining and the economic effect of such mining and its regulation pay no heed to State boundaries. Although some surface mining activity appears at first glance to influence only a small area of land, this may not be the case. Entire watersheds may be damaged if mining is undertaken without adequate recognition of the regional effects.

Sections 7 and 8 of this bill would coordinate Federal and State activities which, because of the wide diversity of climate, geology, topography, and land use throughout the United States, must recognize local conditions.

We consider that a single set of national standards would be impractical and undesirable. We are aware that there has been some disappointment that S. 3132 proposes general criteria—not precise mining and reclamation requirements. We believe quite strongly, however, that to be more specific in this legislation would be a grave mistake. A number of factors bear on this problem:

This is not a local zoning plan nor a State law—it is a bill spanning a continent. It covers every form of surface mining, accentuated by many-fold local variations.

Mining and reclamation technology is in a constant state of flux. Mining and reclamation which is impractical in some areas now may be quite feasible next year.

Public requirements for the quality of environment—for land use—for water quality—for scenic beauty—also are in ceaseless change. This is quite evident from the numerous revisions that have been made in State reclamation laws during the past 20-odd years. We want to avoid repeated appearances before the Congress to seek revision of the Federal law, and I imagine you are in sympathy with this.

Our national need for mineral commodities and other natural resources also changes over time, and we cannot clearly foresee what the exact pattern of priorities for use will be in 1970, 1980, or 1990.

Under S. 3132 each State would have the first opportunity to control mining and reclamation to meet the criteria of the bill, taking into account its specific conditions. Each State would be encouraged to develop reclamation standards appropriate to its own needs, with review and approval by the Secretary. Each State would be expected to hold public hearings—with the general public given a real chance to participate.

Among the essentials which must be met in every State is the requirement for adequate bonding and enforcement. If we are to avoid some of the problems encountered in the past, bonds must be posted by mining operators for a sum large enough to reclaim the land to the approved mining plan, in event of forfeiture by the operator. To be acceptable, a State plan would have to provide adequate measures of enforcement, funding, and personnel.

We also provide technical and financial assistance, up to 50 percent of the cost, to the States for developing and administering regulatory plans.

The bill provides for Federal monitoring of the State's performance in establishing and enforcing regulations. The intent is to insure consistency and equity between States, without requiring uniformity.

Federal regulations would be imposed only in States that choose not to exercise this regulatory function to meet the Federal criteria. Once adopted and approved the State plan, including enforcement would apply to Federal lands and Indian lands within the State, and Federal regulations, if any, applicable to these lands would have to be at least equal to those established under the approved State plan.

I am aware, Mr. Chairman, of the delays built into S. 3132, but they are necessary delays which cannot be avoided if, in truth, we are to give the 50 States a fair opportunity to undertake surface mine regulation. Many legislatures meet only in alternate years and, thus, a two-year-wait is necessary in order to assure that every State will have had opportunity to pass enabling legislation. We shall be in contact with each of the States during that two-year period. Hopefully, they will invite us to work with them. In any event, it would be our expectation that before the two-year period has run, we will know whether State X or State Y is likely to submit an acceptable plan for Federal approval. In the event that some State does not appear to be moving toward that goal, we shall draft regulations for that State, consulting with one or more advisory committees, so that the Federal Government will be ready for early action once the two years have passed.

We have included in the bill provision for a one-year extension period for the State to submit its plan. This is only for the purpose of avoiding duplication on the part of the Federal staff in those exceptional cases where we are certain that the State is moving effectively to formulate an acceptable State plan, but will not be able to meet the two-year time limit.

If we do find it necessary to draft Federal regulations for a State unwilling or unable to submit an acceptable plan, we will consult with conservationists, industry people and State officials. However, an advisory committee should not be permitted to become a device for delay. Accordingly, I emphasize that S. 3132 would not obligate the Department to await agreement by such an advisory group before the Department could take action.

We are not at this time requesting regulatory authority to deal with the surface problems caused by underground mines and by the various processing steps—washing, sizing, and concentrating—which minerals undergo. However, we shall submit to the President by April 1, 1969, a report on these matters and recommendations for appropriate measures to prevent or control their adverse effects.

This bill also does not address itself directly to the environmental problems of mineral exploration or to conventional oil and gas production. In our role as the major landlord of the nation, however, the Department of the Interior is reviewing these problems and our authority to deal with them on lands under our jurisdiction.

We have reported to the President that there is no uniform Federal policy on reclamation of surface mined Federal lands. The Executive Branch can and should improve its overall position with regard to mined land management and to procurement of mined commodities; and we in Interior are moving to do this. We have been at work since last summer on new Departmental regulations. We are following the President's directive to put our house in order. Much of this can be done under our present authority.

Within a few days we expect to publish a revision of the proposed Departmental regulations which first were published for public comment last July 20. These cover exploration and surface mining under the various mineral leasing and sales statutes. They need not await the passage of new legislation.

S. 3132 includes provisions for criminal penalties, and we have been asked why this is necessary. We believe these provisions will not be needed in dealing with the many responsible mining firms that already are making efforts toward reclamation. But some mining operations, notably in coal, sand, and gravel, can be undertaken by fly-by-night operators. In such cases, injunctions alone might not suffice to prevent a quick in-and-out operation. I should note that criminal penalties are not unusual—they are a feature of some existing State laws. They are just another tool in the effort to protect our natural surroundings.

There is one other comment which should be made. When it becomes national policy that land reclamation must be accomplished, the costs of this work will have to be met. There is no such thing as "a free ride" in mistreatment of our natural resources. Past failures to recognize reclamation as an integral part of mining and to include its costs in the price of the commodity should not be repeated. S. 3132 offers the means to take up this commitment to the future of the American land and the American people.

Senator METCALF. Our next witness is another old friend of this committee, the Honorable John A. Baker, the Assistant Secretary of the Department of Agriculture. We are delighted to have you here, Mr. Secretary, and will you go right ahead in your own way. Would you introduce the men with you?

STATEMENT OF JOHN A. BAKER, ASSISTANT SECRETARY, DEPARTMENT OF AGRICULTURE; ACCOMPANIED BY K. E. GRANT, ASSOCIATE ADMINISTRATOR, D. M. WHITT, DIRECTOR, PLANT SCIENCES, SOIL CONSERVATION SERVICE; E. P. CLIFF, CHIEF, R. G. FLORANCE, LEGISLATIVE REPORTING, AND BYRON BEATTIE, DIRECTOR, WATERSHED MANAGEMENT, FOREST SERVICE

Mr. BAKER. Mr. Chairman, I have with me Chief Ed Cliff of the Forest Service and Byron Beattie, the Associate Administrator of SCS, Ken Grant, Mr. Darnell Whitt and Mr. R. G. Florance, whom this committee knows extremely well. I would ask if I might, Mr. Chairman, that they appear at the table with me to respond to questions.

Senator METCALF. We are delighted to have them and to have their help, their counsel, and their guidance. As I understand it, we have not had a report from the Department of Agriculture on this legisla-

tion. I want to, as a preliminary question, ask you, is this presentation to be considered as a report from the Department?

Mr. BAKER. My statement should be regarded as our legislative report on all three bills.

Senator METCALF. Fine. Go right ahead.

Mr. BAKER. Thank you very much. We are glad to have the opportunity to appear before you on the matter of restoring to productive condition the lands and related resources affected by surface mining.

It is especially pleasing for me to see my old time friend and one whose work I have long admired, the distinguished gentleman from Montana, in the chair.

I have a brief prepared statement, Mr. Chairman. I am going to read all of this and then my colleagues and I will respond to any questions that members of the committee may have.

Unfortunately, Mr. Chairman, we don't have slides. I was going to suggest that the committee make it a part of their business to visit some of these areas that have been strip mined and the slides I hope will have stirred your interest sufficiently that you will still make that part of your business of your committee.

Senator METCALF. I want to say to my old friend that I think that every member of this committee is familiar with strip mining operations. We come from areas where we have observed strip mining and many of us have observed it in other States. We have been concerned about this as a former Governor to my left and a former Governor to my right in their States and as Senators from all the Western States.

Mr. BAKER. Mr. Chairman, I know that is true and it seemed to me that your revisiting these as a body might have some usefulness in bringing national attention to the undertaking in which your committee now is engaged.

Senator METCALF. I think that is a splendid suggestion.

Mr. BAKER. Both S. 217 and S. 3126 would provide a Federal-State program for the regulation of future operations. They would provide a grant-in-aid program for the restoration of previously mined lands—both privately and publicly owned—and would establish a grant-in-aid program for research and technical assistance. Both have provisions for Federal acquisition of previously mined lands under certain conditions.

Two basic differences, in addition to others, between these two bills are (1) S. 217 would apply only to coal mined lands, whereas S. 3126 would apply to all surface or strip mined lands, and (2) S. 217 would be administered entirely by the Secretary of the Interior, whereas S. 3126 would be administered in part by the Secretary of the Interior and in part by the Secretary of Agriculture.

S. 3132 was introduced by Senator Jackson. It was cosponsored by Members who also introduced S. 217 and S. 3126. It is the bill submitted by the Secretary of the Interior to carry out part of the program outlined in President Johnson's message of March 8, "To Renew a Nation."

The program which would be authorized by S. 3132 would be directed toward future surface mine operations only. It would be a Federal-State cooperative program and would be administered by the Secretary of the Interior.

A recent survey and study of surface mining operations which Secretary Udall described and in which the Department of Agriculture participated, found that in excess of 150,000 acres annually are being disturbed in the Nation by surface mining operations. Only about one-third of this is presently being reclaimed.

It is not possible to eliminate or avoid all damage from surface mining. But the needs to be supplied from surface mining operations can be met and the benefits from surface mining activities can be gained in ways to minimize the damages and restore the mined lands to productive condition.

If action is taken now we can avoid the constant increase in acreage in our derelict land. We can avoid further off-site damage, including contamination of the streams, from surface mining operations. We can hold down further blotches from this cause on the beauty of our countryside.

Mr. Chairman, we in the Department of Agriculture applaud and endorse the program proposed in S. 3132 and join in recommending its enactment.

We are pleased that S. 3132 recognizes in section 16 and in the final clause of section 5(a) and in section 7(a) and the second sentence in section 14 that Congress has already enacted certain programs such as those of the Secretary of Agriculture for activities related to the restoration of surface mined areas and we read section 5(a) and the other sections I mentioned to authorize, require, and direct that there be consultation and cooperation among the Federal agencies, including the Department of Agriculture, and the States in carrying out the provisions of this bill.

The Soil Conservation Service and the Forest Service of the Department of Agriculture have had long and successful cooperative experience with State and district soil and water conservation officials as Senator Nelson has already pointed out, State foresters, and farm and forest landowners and operators in land management and soil and water conservation work.

We would plan to cooperate fully with the Secretary of the Interior in making available to him and the States and State agencies the expertise and professional competence existing in the Department of Agriculture.

The on-going program of the Soil Conservation Service and the Forest Service include technical assistance to private landowners in the restoration of surface mined lands. These will be continued. This is part of the Department of Agriculture's vital concern for the beauty and the prosperity of the rural countryside of America.

For example, the Soil Conservation Service provided onsite technical assistance as Senator Nelson has already pointed out to 5,255 cooperators in 500 soil and water conservation districts in 31 States to reclaim 127,747 acres of surface mined land in the period 1960-64.

In the same period, State forestry agencies with cooperation from the Forest Service provided onsite technical assistance or supervision for the reclamation of 36,710 acres of surface mined land in 1,431 locations.

We recognize that these are only small bites at the 2 million acres of previously surface mined land needing varying degrees of treatment. These 2 million acres of substantially derelict, unrestored, and

unproductive lands have in certain cases adversely affected the environment, the people, and in many instances the whole economy of the areas concerned.

Within the limits of available appropriations and where there is demonstrated value in reclamation, we will continue our work to provide through cooperative arrangements the best technical assistance we can to reclaim lands previously damaged by surface mining.

We will also continue our efforts in restoring more and more acres of public lands under our administration.

In every case where we have taken action toward the restoration of these kinds of land the results of putting them to beneficial use have been most happy. We presently are working with others in the executive branch to develop the best possible program proposals for the more rapid restoration of previously surface mined land.

We look forward to the time when these proposals are ready and budgetary considerations will permit the recommendation of a broader and more extensive program.

Another part of the ongoing programs of the Department of Agriculture relating to the reclamation of surface mined land is that of research. Information developed through years of research by the Forest Service and Agricultural Research Service on vegetative cover is being widely applied. We will continue to increase our knowledge in these fields and help to apply that knowledge wherever it is useful.

I hope, Mr. Chairman, that this brief statement will illustrate the deep interest that we in the Department of Agriculture have in improving environmental and other conditions in the rural countryside.

We urge enactment of S. 3132. We stand ready to work with the committee to move the bill forward and to consider any amendments that you may wish to bring to our attention. We will be glad to respond now, Mr. Chairman, to any questions that the committee may have.

Senator METCALF. We are delighted to have you here and to have that very fine statement, Mr. Secretary, and of course we are pleased to have the chief forester and the other members of the group here to testify. Senator Nelson.

Senator NELSON. No questions.

Senator METCALF. Senator Hansen.

Senator HANSEN. I have no questions, Mr. Chairman.

Senator METCALF. Senator Fannin.

Senator FANNIN. How much of the reclaimed land is in coal mining areas? Isn't most of it in the coal mining area?

Mr. BAKER. Practically all, sir.

Senator FANNIN. That is the only question I have. Thank you.

Senator METCALF. Mr. Secretary, Senator Nelson raised some searching questions as to the advisability of including the Soil Conservation Service in this bill.

Are you satisfied that we do require and guarantee that there will be consultation with the Soil Conservation Service if this bill is passed, which gives the Secretary of the Interior the jurisdiction over the whole problem?

Mr. BAKER. Mr. Chairman, may I express, first, our deep appreciation for the complimentary remarks that I think are accurate that the Senator from Wisconsin made about the work of the Forest Service and the Soil Conservation Service.

Senator METCALF. May I say I completely concur.

Mr. BAKER. I think all the members of your committee do. You have supported us all these many years in the activities that we have undertaken, the research and operating, technical assistance work that has developed the expertise that Senator Nelson spoke of.

The bill as we read it says, and I made specially clear the specific places where it could be read to say, that the Secretary of Agriculture will participate in this undertaking. We agree fully with Senator Nelson in the point he made that expertise does exist in public land management in the Forest Service. Technical assistance, financial assistance, and educational activity with respect to private land management in this regard is now available in the agencies of the Department of Agriculture. The two that are represented here with me now, and Agricultural Research Service and Economic Research Service, certainly should be in the S. 3132 operation. I agree with Secretary Udall who said that the Secretary of Agriculture would have a case for the predominant part in the restoration of previously mined areas whenever the opportunity permits us to undertake that.

Senator METCALF. Senator Nelson.

Senator NELSON. As I understand the bill, it states in various places, including section 5 (a) that:

The Secretary is authorized, whenever he determines that it would effectuate the purposes of this Act, to cooperate with other Federal agencies.

The point I want to make is that between the present two Secretaries that may work very well. I don't know.

But in my judgment it ought to be in the bill that the Soil Conservation Service expertise shall be used. I call Senator Fannin's attention to this. We are talking about the question, Senator, that they may use other Federal agencies.

In a hearing before the labor committee just a week or 10 days ago Senator Fannin raised this exact point as to duplication of effort between the Defense Department and the Civil Rights Commission in enforcing the law on discrimination in defense contracts.

I believe it was he who raised it.

Senator FANNIN. Yes.

Senator NELSON. The Civil Rights Commission comes in and says, "You must do this," and then the Defense contracting department comes in and says, "This is the policy," and they are in conflict. It is total nonsense that such conflicts arise and it infuriates every sensible person in America. It seems to go on endlessly in the Federal Government.

I am satisfied that if you pass this law the way it is that within the next 5 years expertise would build up in the Interior Department that is totally unnecessary because it presently exists on the spot in our States.

It is just inevitable. That is what is going to happen. It has happened in every agency I have ever looked at that got any authority. Even though you have authority elsewhere within the Government they don't communicate with each other. They are jealous of exercising the authority they have and when they have the authority they have to have somebody to exercise it.

So they have a lawyer interpret their authority. Then they have some enforcement people go out and see that the authority they have is en-

forced. It seems we have such a senseless bunch of nonsense in the Federal Government, with the duplicating bureaucracies, that you could fire a good percentage of the personnel and get a better job done. That is just a hard cold fact of the matter.

I don't know what experience Senator Fannin had as Governor, but know in my State I have watched that Soil Conservation Service and it has been working for many years. All the local people have confidence in it. They are there on the spot, available for advice and consultation with our farmers and others. They do a very good job and not to require that the expertise that is there be used in the areas in which they have knowledge is just a lot of nonsense because we will have another layer of bureaucracy on top of it. It may not be less two Secretaries but it will happen to some of them because it always does. I don't know of any exception in my 20 years of government experience and that is why I think this committee ought to be saying, "You shall use it and you shall not duplicate where you have the resource there."

Now, if it is necessary, I don't see any reason why you cannot do this. If it is the type of project, and the authority rests with the Secretary of the Interior, he should be directed to notify the Secretary of Agriculture that, "We are now exploring a proposed mining operation and out there in the field you have people who understand soil restoration, watershed management, and all the rest of this," and use the necessary personnel.

They are there. It should not be necessary to hire other people to go out and do the job that these Federal people on the job can do. That is my only point about this.

Senator FANNIN. Mr. Chairman, I certainly agree with the Senator from Wisconsin that we often pass legislation here that duplicates existing programs. I give as a good example what happened with our mine safety bill. Originally the mine inspector was to be responsible for barrow pits and supposedly it was just going to pertain to these loading areas and for gravel and sand areas, but the legislation now covers even pits along the highways.

That legislation creates an impossible enforcement problem. Too often we see a need that exists and, instead of trying to get some co-operation from the States and working with the States, we enact overlapping legislation which only creates a duplication of effort and cost. Such legislation is not beneficial to the industry or to the people of this country.

Mr. BAKER. Mr. Chairman, if I may respond to the gentleman—

Senator METCALF. Please do.

Mr. BAKER (continuing). If I remember correctly, Secretary Udall testified very strongly to the considerable capabilities of the various agencies in the Department of Agriculture with regard to conservation.

He testified that it was his intention to utilize these services in the administration of S. 3132.

I have testified that we propose to make this expertise and these services available. The bill is less than as explicit as the Senator from Wisconsin has suggested it should be, that they will be used. It is our purpose that they be so used.

Senator METCALF. My colleagues have made a very eloquent argument for a Department of Natural Resources. I hope when the hearings on Senator Moss' and my bill come up they would be as forceful. Do you have any statement?

Mr. BAKER. I come nearer agreeing I think with part of Senator Nelson's comments than I do with your bill.

Senator METCALF. I wouldn't be surprised. Do you have any statement, Mr. Cliff?

Mr. CLIFF. I would like to just say a few words. The Forest Service has been involved in restoration of surface mined areas for quite a few years on the lands that we administer. Our public domain lands are subject to mineral leasing under the 1920 Mineral Leasing Act. The acquired lands are subject to mineral leasing under the Mineral Leasing Act for acquired lands. There has been considerable mining under the mineral leasing acts. We have the authority to require restoration of these surface mined lands under these acts.

We have had experience in restoration of thousands of acres of lands that have been mined on the national forests under the Mineral Leasing Act. In the West under the 1920 Mineral Leasing Act as it applies to the national forests derived from the public domain we don't have the final authority, but we have authority to recommend to the Department of the Interior the stipulations on surface mining under the Mineral Leasing Act applying to the western lands.

We do have experience in restoration work. We have some notable examples in Idaho on phosphate mines where we are really pioneering on restoration under semiarid conditions.

We have had 30 years of experience in research directed at surface mine restoration in our research organization. Our research started in 1937. For the first half of this period we have devoted about 6 scientist years to research in surface mining and restoration.

We are now spending about 12 scientist years on this kind of research. Most of it has been done in cooperation with the mining industry and most of it in the Central States, in Ohio, Kentucky, and the surrounding States.

So we do have a backlog of expertise through our research and our experience in working in this area. We are primarily responsible for the work that is done on the national forest land. We are fairly current in keeping up with restoration in the Eastern United States.

We have some 108,000 acres of disturbed lands that are not restored. Eighty percent of this is in the West where the mining is done under the general mining laws where we didn't have the kind of authority that we would need to require restoration.

So there is some backlog of work to be done on the national forests in restoration. I just wanted to add that to round out the picture as to where we fit. We have the State cooperative forestry programs and we have cooperated with the State foresters in restoring privately owned forest lands that have been strip mined.

Mr. BAKER. It might be useful now, Mr. Chairman, if we may, to ask Mr. Grant to explain a little bit about what these 500 soil and water conservation districts have done on surface mine restoration and how that works.

Mr. GRANT. Thank you, Mr. Baker. Mr. Chairman, it certainly has been gratifying to listen to the statements regarding the expertise

in the U.S. Department of Agriculture and the Soil Conservation Service, the agency which I represent.

We are, of course, deeply concerned, as are all of the soil conservation districts, with critical areas, whether they be roadbanks, streambanks, strip mine areas, that are contributing sources of pollution and sediment to our streams and also adversely affecting ongoing farming operations.

The soil conservation districts within their present capabilities and authorities have, as has been pointed out, made a very substantial effort to get on top of this problem by working with their own individual cooperators to restore lands wherever possible to a productive use. In many cases these lands have been put back to cropland, pastureland, or planted with trees. In some cases they have been devoted to other uses such as reclamation for industrial development.

We treat this problem as we do all problems on individual landowners' properties. That is, in attempting to decide with the landowner, recognizing his final decision and recognizing that he has to put the major share of the financial input into the project, those uses which will contribute the most to not only his particular operation, but in many cases to the improvement of the entire community and State.

District supervisors in those 500 districts previously mentioned, and in fact all districts, are very much concerned about the rate at which this is accomplished. In my own knowledge they have devoted a great deal of time to attempt to find ways of speeding up how they can actually restore some of these lands to a more productive use.

There is no doubt but what we would be extremely happy to make this expertise available, not only in terms of problems that relate to the future, but we also are, of course, concerned about the restoration of lands which have been previously strip mined. Thank you.

Senator METCALF. Senator Nelson?

Senator NELSON. No questions.

Senator METCALF. Thank you for an excellent presentation. You are already aware of the high regard that your agency has with all of us here. Do you have any further statements, Mr. Secretary?

Mr. BAKER. No, sir; I believe not, thank you. We appreciate very much the fine statements that have been made here by members of the committee. I only hope that we have deserved them and our future work will deserve them. We appreciate it deeply.

Senator METCALF. I suspect some of the slides that Mr. Finch showed were the results of the activity of the Soil Conservation Service and the Forest Service in restoring and reclaiming some of this land. So you don't need a photographer. You have people who recognize your capacity already.

Mr. BAKER. Thank you, Mr. Chairman.

Senator METCALF. Thank you very much, Mr. Secretary.

(The text of Publication No. 1082 of the Department of Agriculture follows:)

RESTORING SURFACE-MINED LAND

By the U.S. Department of Agriculture

INTRODUCTION

A power shovel as big as an office building bites into the earth, piling up row on row of rock and soil to get a vein of coal. . . .

An auger with 7-foot bit bores into a hillside, and coal works its way out like wood shavings. . . .

A floating barge dips its big chain-bucket into a streambed for a load of sand and gravel. . . .

An ore-laden train snakes its way out of a giant open pit. . . .

Through these and other operations man carries on the big activity of surface mining. He gets many minerals, fuels, and building materials that help our Nation grow and that provide jobs in rural America.

In the process, the land is changed—laid bare, rearranged into parallel ridges, or scooped out like a soupbowl. Properly treated and managed, it can be returned to safe and productive use, even become a greater asset to the community than it was before mining. Left alone, it may produce only stream-fouling sediment and acid and ugliness.

For many years the U.S. Department of Agriculture (USDA) has been helping private-land owners restore their surface-mined land as part of their regular programs of wise land use and conservation treatment. USDA also has done restoration work and research studies on the public land it administers. Its experience and skills range all the way from preplanning mining to prevent offsite damage to development of a mined area for highly intensive uses.

Through studies and experience and through participation in the 2-year National Surface Mine Study under Public Law 89-4, USDA has gathered a great deal of information about surface-mined land conservation progress and needs. In this report highlights of the data are given as well as ideas for future action, suggested by research and experience, that can speed restoration of the surface-mined land that is intermingled with farm, ranch, forest, and other land in rural and suburban America.

Surface-mined land—by States.—An estimated 3.2 million acres of land—some in every State—had been disturbed by surface mining by January 1, 1965 (tables 1, 2).

TABLE 1.—LAND DISTURBED BY STRIP AND SURFACE MINING IN THE UNITED STATES, BY COMMODITY, JAN. 1, 1965¹

[In thousands of acres]

Mineral	Strip mining			Into hillside	Quarry-open pit below ground level	Total	Dredge, hydraulic, and other methods	Grand total ²
	Contour	Area	Total					
Coal ³	665	637	1,302					1,302
Sand and gravel.....	38	258	296	82	371	453	74	823
Stone.....	6	8	14	100	127	227		241
Gold.....							191	203
Clay.....	10	26	36	22	44	66	7	109
Phosphate.....	28	49	77	13	93	106		183
Iron.....	7	31	38	30	96	126		164
All other.....	11	12	23	59	81	140		163
Total.....	765	1,029	1,794	307	815	1,122	272	3,188

¹ Acreage by method of mining estimated from random sampling survey.

² Compiled from data supplied by U.S. Department of the Interior; from Soil Conservation Service, U.S. Department of Agriculture; and from estimates prepared by the field study group.

³ Includes anthracite, bituminous, and lignite.

TABLE 2.—CONDITION OF SURFACE-MINED LAND, BY STATE, JAN. 1, 1965

[In thousands of acres]

State	Land needing treat- ment ¹	Land not needing treat- ment ¹	Total land disturbed ²	State	Land needing treat- ment ¹	Land not needing treat- ment ¹	Total land disturbed ²
Alabama.....	83.0	50.9	133.9	Nebraska.....	16.8	12.1	28.9
Alaska.....	6.9	4.2	11.1	Nevada.....	20.4	12.5	32.9
Arizona.....	4.7	27.7	32.4	New Hampshire.....	5.1	3.2	8.3
Arkansas.....	16.6	5.8	22.4	New Jersey.....	21.0	12.8	33.8
California.....	107.9	66.1	174.0	New Mexico.....	2.0	4.5	6.5
Colorado.....	40.2	14.8	55.0	New York.....	50.2	7.5	57.7
Connecticut.....	10.1	6.2	16.3	North Carolina.....	22.8	14.0	36.8
Delaware.....	3.5	2.2	5.7	North Dakota.....	22.9	14.0	36.9
Florida.....	143.5	45.3	188.8	Ohio.....	171.6	105.1	276.7
Georgia.....	13.5	8.2	21.7	Oklahoma.....	22.2	5.2	27.4
Hawaii ³				Oregon.....	5.8	3.6	9.4
Idaho.....	30.7	10.3	41.0	Pennsylvania.....	229.5	140.7	370.2
Illinois.....	88.7	54.4	143.1	Rhode Island.....	2.2	1.4	3.6
Indiana.....	27.6	97.7	125.3	South Carolina.....	19.3	13.4	32.7
Iowa.....	35.5	8.9	44.4	South Dakota.....	25.3	8.9	34.2
Kansas.....	50.0	9.5	59.5	Tennessee.....	62.5	38.4	100.9
Kentucky.....	79.2	48.5	127.7	Texas.....	136.4	29.9	166.3
Louisiana.....	17.2	13.6	30.8	Utah.....	3.4	2.1	5.5
Maine.....	21.6	13.2	34.8	Vermont.....	4.2	2.5	6.7
Maryland.....	18.1	7.1	25.2	Virginia.....	37.7	23.1	60.8
Massachusetts.....	25.0	15.3	40.3	West Virginia.....	5.5	3.3	8.8
Michigan.....	26.6	10.3	36.9	Washington.....	111.4	84.1	195.5
Minnesota.....	71.5	43.9	115.4	West Virginia.....	27.4	8.2	35.6
Mississippi.....	23.7	5.9	29.6	Wisconsin.....	6.4	4.0	10.4
Missouri.....	43.7	15.4	59.1	Wyoming.....			
Montana.....	19.6	7.3	26.9	Total.....	4,040.6	1,147.2	3,187.8

¹ Compiled from data supplied by Soil Conservation Service, U.S. Department of Agriculture.² Compiled from data supplied by U.S. Department of the Interior; from Soil Conservation Service; and from study-group estimates.³ Less than 100 acres.⁴ Does not include 108,000 acres of national forest land needing treatment.

Distance from population centers.—Surface-mined-land conservation is a rural opportunity. More than four-fifths of the mined land surveyed is at least a mile from communities with a population of more than 200. More than half are more than 4 miles from town. And 40 percent of the mined land cannot now be seen from any U.S. highway or passenger railroad. Most areas were close enough to communities, though, for a family to reach for an afternoon recreation outing. No urban growth was evident around two-thirds of them, which suggests that these areas are likely to continue in agricultural and related uses.

Ownership.—Ownership of the land and its minerals hold the key to use and conservation of these resources. Since most surface-mined land is privately owned, opportunity for improvement lies largely in local assistance programs of mutual interest and value to landowners and their neighbors—the kind of program already being carried on by the Nation's 3,000 soil and water conservation districts and by State forestry agencies with USDA help. Increased assistance through these going programs could do the job. And since the mining industry owns more than half of the surface-mined land, it has a challenge to restore its property to a useful state and to prevent offsite damages.

A survey of 693 surface-mine sites¹ in 1966 showed that many were scattered small acreages best treated as part of the total conservation management of the farm and other areas with which they are intermingled. Nearly 80 percent of the sites were in forest, farm, or grassland or reverting to forest at the time of survey. These same uses were being made of land adjacent to 86 percent of the sites. Less than 2 percent of the acreage had been set aside solely as outdoor recreation or wildlife areas usually these are compatible with other uses of the land.

Surface-mined land—by commodities.—More than 50 minerals are produced by surface mining in the United States. About 95 percent of the acreage disturbed by 1965 was for seven commodities: Coal, about 40 percent; sand and gravel 25 percent; stone, gold, clay, phosphate, and iron 30 percent. On two-thirds of the

¹ Sites were selected at random from mined land throughout the Nation to represent the surface-mining situation. Of the total, 180 sites were mined for coal; 149 for sand and gravel; 100 stone; 49 clay; 49 iron; 48 gold; 40 phosphate; and 78 for eight other commodities.

areas surveyed, the mineral deposit being mined was over 9 feet thick. This means great value from an acre but difficulty in reshaping the land to its original contours. Grading enough to satisfy intended land use is more practical. Some thin deposits might better have been left unmined where restoration costs would be proportionately high.

Age of surface mines.—Of the 693 sites sampled in 1966, 10 were mined more than a century ago. But most spoil banks and other disturbances are less than 10 years old, indicating a rapid rise in surface-mining activity. The acreage mined has more than doubled in the last 20 years.

Duration of surface mining.—More than half of the sites sampled were quarries or pits that had been operated for more than 10 years. Only a third of the sites had been operated for less than 5 years. Most were active long enough to have a significant economic impact on the community, and usually other surface-mining operations began later within the same watershed or drainage area.

CHARACTERISTICS AND PHYSICAL CONDITION

Of the 3.2 million acres disturbed by surface mining, about a third needs no further treatment to prevent sediment or other damage to adjacent land and water. About 46 percent of these 1.1 million acres that need no treatment was stabilized by nature over a period of years; 51 percent was treated through efforts of the mining industry and individual landowners; and the rest was treated by government at some level.

On the other two-thirds, newness of the disturbed area, distance from natural seed sources, or other problems make establishment of protective plants slow or difficult. Steep or unstable slopes, acidity, or stoniness are problems in some areas. These are susceptible—in varying degrees—to erosion and may contribute sediment and other pollutants to streams that drain them.

Spoil banks

In surface-mining operations the layers of soil and rock above the mineral deposit are shoveled out and piled up in "spoil" banks. These banks are a mixture of soil, subsoil, and unweathered rock that is far from resembling a soil formed in nature. Their characteristics vary greatly among mines, and even within the same mine. Prediction of site suitability thus is best done with the help of professional soil scientists, agronomists, foresters, and other specialists.

Texture.—Spoil texture influences the amount of moisture available for plant growth. In general, spoil composed largely of sand has good aeration but is apt to be droughty. Clay banks compact easily and crust over during dry periods. Loams and silty shales usually have enough fine material to hold moisture. On about 80 percent of the surface-mined land, spoil texture is adequate for growing adapted grasses and legumes for quick erosion control and to supplement tree or shrub plantings. Rock content on about three-fourths of the banks, however, restricts the type of equipment that can be used in revegetation. On about one-fourth of the banks the spoil is suitable for farm crops.

Acidity.—Acid problems are associated largely with coal mining. They are caused when minerals left exposed to air and water react to form toxic or corrosive substances.

By itself, acidity does not directly influence plant growth. But it affects the availability of soil nutrients—dissolved minerals—and the number of soil microorganisms. Strongly acid soils may, however, dissolve enough elements to injure or destroy plants that absorb them. More than half of the sites have acid soils; 20 percent are acid enough to be a limiting factor in establishing plant cover; only 1 percent is so acid that plants will not grow. Acidity usually is reduced through weathering and leaching of the acid-forming materials.

Slopes.—More than 2 million acres (about 75 percent) have been mined on areas with original slopes of less than 20 percent—in the small watershed projects with which USDA has been working most of the mined areas have slopes of less than 10 percent. Only about 8 percent of the mined areas were on hill-sides with slopes of more than 40 percent.

Four-fifths of the affected areas were on side slopes, ridgetops, or isolated knobs from which storm-water flows need to be guided into defined stream channels—with grass waterways or chutes, for example. The other one-fifth were on valley floors close to rivers and subject to local flooding.

Climate

About four-fifths of the surface-mined land is in areas where rainfall and temperatures are adequate for plant growth. With adequate spoil conditions and proper preparation, plant establishment and growth should be possible. On the other one-fifth, plants grow slowly because of too little or too much moisture, high temperatures, or unfavorable evapotranspiration ratio. Here special treatments and plants are needed to offset poor ecological conditions.

Erosion

About 2 million acres have evidence of sheet erosion. Some erosion is inevitable on fresh spoil banks, as it is on any bare soil. How severe it is depends on steepness and length of slope, extent of freezing and thawing, amount and intensity of precipitation, and how water is concentrated on the spoil. Thus, the quicker a plant cover is established to protect against erosion the better.

Forty percent or 1.2 million acres have eroded enough to form rills and small gullies. On 12 percent or 400,000 acres, gullies more than a foot deep have formed: these seem to be associated with long slopes created by grading.

Sheet erosion is not a serious problem in either area stripping or dredging since most of the soil movement is between spoil banks and little leaves the mine area. Sheet erosion is more serious in contour stripping.

Erosion danger is greatly increased at the point where storm water drains from a surface mine because of the concentrated force of water.

Slides.—On about 3,600 miles of slopes left by contour and area stripping (called outslopes), massive slides are a problem—especially where the subsoil is unstable. Slides may enter streams and even block channels. Their stabilization or removal would be costly and would involve geology, soils, engineering, hydrology, and forestry skills. Slides of this size occur on about 10 percent of the total mileage of outslopes.

Access roads.—Mining haul roads are responsible for much erosion, especially in mountain areas. About 1,650 miles of these roads have eroded so badly they need major repairs. Another 3,300 miles are moderately eroded. Access roads for most mines surveyed were under 7 miles in length, and many were of half a mile or less. Many would best be revegetated rather than kept as roads. The rest need careful management after hauling stops.

Plant cover

For newly mined land, the great need is to establish plant cover as quickly as possible. Adequate plant cover reduces erosion and siltation in almost all cases, but it takes time. There is no "instant cover." Examination of sites capable of supporting vegetation showed that 32 percent had plant cover of 40 percent or more. About 28 percent of the sites had less than 40 percent cover at the time but, in the judgment of the survey team, would develop adequate protective cover naturally in time. The other 36 percent of the sites will require seeding, planting, fertilizing, and other attention to develop adequate protective cover.

It was estimated that three-fourths of the vegetation had occurred naturally on ground with more than 10 percent plant cover, and one-fourth through the efforts of man. Variations in vegetation appear to be associated with climatic conditions, spoil characteristics, nearness to natural seed sources, and age of the spoil banks. Half of the banks are less than 10 years old.

Water quality and streamflow

Surface mining in some areas is a source of water pollution, mainly sediment and to a less extent acid. Of the sites surveyed, 56 percent showed no pollution; 23 percent showed some intermittent pollution; and 21 percent produced considerable pollution. The survey team estimated that about a third of the surface-mined land needing conservation treatment, or about 665,000 acres, needs some action to reduce offsite water pollution.

Of the streams receiving direct runoff from surface-mined sites, 31 percent of those examined contained noticeable amounts of mineral precipitates. Water discoloration, suggesting chemical or physical pollution, was noted in 37 percent of the streams. Natural seepage from unworked coal and other pyritic material—from both surface and deep mines—causes limited local pollution. Access roads built of pyritic waste material also may be sources of acid water.

Sediment is a problem where inadequate plant cover permits erosion and water is allowed to run off the site from roads, terrace outlets, outslopes, or slides. It is particularly severe in areas of high-intensity storms and steep slopes.

Sediment generally was not present in small streams more than 2 miles from the mine area. But of 14,000 miles of stream channels affected by surface mining, half have had their water-carrying capacity reduced; along 4,500 miles capacity was moderately reduced, and along 2,500 miles capacity had been affected only slightly.

Self-contained mining sites—quarries, dredged areas, and some area-stripped sites—do not have enough runoff to warrant costly storm-water controls. Contour-stripped areas can be used to manage runoff in much the same way as broad-based terraces. But on 98 percent of the surface-mined land studied in Appalachia—where most contour stripping is done—storm-water runoff control was not adequate to prevent erosion, sediment, or flooding.

On these areas, vegetative and mechanical measures or a combination are needed. An example is the need for grading within some surface-mine pits to control storm runoff. About 75 percent of the sites need some grading, and only 45 percent have received any. Grading too much or on the wrong soil material, though, may make matters worse; special care and technical assistance are needed. In some areas of the West, minor reshaping of some banks is adding to the beauty of the landscape.

Ponds

Many surface-mined areas have ponds or depressions, especially where area stripping has been done. Forty-two percent of the ponds are smaller than an acre, 40 percent or 1 to 10 acres, and 18 percent are larger than 10 acres. Two-thirds are more than 5 feet deep.

Acidity is a problem in some ponds—one-fifth of those studied had a pH rating of less than 4.5. The other four-fifths are less acid and include the larger and deeper ponds that have greater potential use. Some are being used even for municipal water supplies.

Animal life was present in four-fifths of the ponds, but scarce in the acid ponds.

Effect on wildlife

Disturbing land and water for mining naturally disrupts wildlife habitat. State fish and game commissions reported to U.S. Bureau of Sport Fisheries and Wildlife that nearly 2 million acres of wildlife habitat had been damaged by surface mining—68 percent of it east of the Mississippi River. Most damage resulted from:

- Stream widening, affecting water temperature and depth of spawning beds.
- Lake draining.
- Burying or removing spawning gravels.
- Diverting surface flow.
- Sediment.
- Chemical changes in soil and water quality.
- Removing food, nesting, and escape cover plants.
- Forming high walls that limit animal access or movement (a problem on about one-fourth of the high wall mileage studied).

Where proper restoration measures have been taken, fish and wildlife habitat has improved and often is better than before mining. Since the same kinds of wildlife use the mined site and adjacent lands, there is opportunity for managing both areas together for wildlife habitat on private and public property.

Safety

One-third of the mined areas studied had some safety hazard, usually water. On 22 percent of the inactive areas there was evidence of abandoned buildings, equipment, debris, or rubble—some hazardous and nearly all unsightly. Ten percent had one or more deep-mine openings—without shaft sealing. Restoration measures, well planned and carried out, reduce the danger to public safety.

ACCOMPLISHMENTS

USDA's participation in surface-mined-land conservation began in the 1930's. The Forest Service then began research on revegetating mined land and keeping acid and sediment out of streams. The Soil Conservation Service at the same time began helping landowners improve their soil and water resources and solve many land use and land treatment problems, among them surface mining.

During one 5-year period, 1960-64, more than 5,000 land owners and operators in 500 local soil and water conservation districts in 31 States applied conservation measures to nearly 128,000 acres of surface-mined land with USDA help (table

3). The survey team noted that the conservation districts considered restoration of mined areas as part of the total conservation job on individual properties or whole watersheds and not a separate or special activity.

TABLE 3.—SURFACE-MINED-LAND TREATMENT BY COOPERATORS WITH SOIL AND WATER CONSERVATION DISTRICTS, 1960-64

State	Area (acres)	Landowners participating	State	Area (acres)	Landowners participating
Alabama.....	931	88	Missouri.....	2,546	33
Arizona.....	1,000	3	Montana.....	4	1
Arkansas.....	809	66	Nebraska.....	1,896	194
California.....	3,246	116	New York.....	824	93
Colorado.....	557	38	Ohio.....	23,613	433
Florida.....	6,326	89	Oklahoma.....	5,866	232
Georgia.....	970	252	Pennsylvania.....	13,043	306
I Idaho.....	268	22	South Carolina.....	8,441	140
Illinois.....	6,367	94	South Dakota.....	2,945	77
Indiana.....	848	68	Tennessee.....	1,830	42
Iowa.....	122	18	Texas.....	1,110	26
Kansas.....	1,515	73	Virginia.....	10,102	58
Kentucky.....	13,784	1,139	West Virginia.....	11,890	887
Louisiana.....	1,038	127	Wisconsin.....	725	165
Maryland.....	403	16			
Michigan.....	1,378	130			
Mississippi.....	3,350	229	Total.....	127,747	5,255

During the same 5-year period State foresters, through Federal-State cooperative programs, provided technical help to more than 1,250 ownerships in replanting about 37,000 acres to trees.

Industry

Many mining firms are giving increased attention to the challenge of surface-mined-land conservation. Reclamation associations formed in a number of States have their own professional staff to foster restoration work. Individual firms and their associations have restored many mined acres, conducted demonstrations projects and experimental plantings, carried on substantial research work, and in general promoted effective conservation treatment of surface-mined land.

For example, reclamation associations in the Appalachian region have done reforestation and seeding on 74,000 surface-mined acres. The National Sand and Gravel Association's members rehabilitated 52 percent of the acreage they mined in 1965, compared with only 25 percent just 2 years earlier. Phosphate mining firms in Florida, between 1961 and 1966, voluntarily restored 75 percent of the acreage mined during that period. Where mines are near urban areas, many phosphate miners have made plans *before mining* for later development of the site as residential, commercial, or recreation areas. And surface-mine operators in 22 States have formed the Mined Land Conservation Conference to promote restoration of mined land for useful purposes.

Many other firms and commodity groups have yet to follow these examples and respond to the challenge of surface-mined-land conservation.

Government

Fourteen States have laws requiring restoration work, most enacted fairly recently. Their provisions are compared in table 4, with three exceptions. Georgia and Kansas enacted laws that call for establishment of State boards to license and regulate surface mining and enforce restoration. Montana's law authorizes its Bureau of Mines and Geology to enter into contracts with coal stripmine operators. Amounts spent for restoration work can be credited against the coal license tax. No bond is required. A restoration-plan map is called for that includes covering exposed seams, grading ridges that are near highways, constructing earthen dams, and planting recommended species for later forest or grazing use of the mined area. Work usually must be completed within 3 years after mining.

In addition, Iowa, North Carolina, and North Dakota have established advisory boards or committees to suggest restoration program. In Colorado, coal-mining firms and the State's Department of Natural Resources have a voluntary contractual agreement dealing with restoration. This arrangement will be watched with interest.

A few other States have some control over surface mining through water-pollution-control statutes. State funds have been made available to universities and foundations for research and demonstration activities.

Some local governments have used zoning regulations to control mining and require restoration of the land.

Beyond assistance to private-land owners, the Federal Government also has made some headway in restoring surface-mined areas on public land and is engaged in research work.

Research

USDA is the recognized leader in basic research on surface-mined-land conservation. Most research now underway in government and industry is in six categories:

(1) *Revegetation*—developing plant species that will provide quick cover or permanent growth and comparing various combinations of seedings.

TABLE 4.—STATE SURFACE-MINING LICENSURE, BOND, AND RECLAMATION REQUIREMENTS

State	Minerals covered	License or permit	Bonding requirement
Illinois	All	Required. \$50 for 1st acre, plus \$5.50 to \$11.50 per additional acre depending upon quantity.	\$200 per acre with a minimum of \$1,000. \$600 per acre with a minimum of \$3,000 for gob which cannot be vegetated.
Indiana (new law effective Jan. 1, 1968). Administered under policies of natural resources commission.	Coal, clay, and shale	\$50 plus \$15 per acre	Minimum \$2,000 at the rate of \$300 per acre. \$225 per acre is released on completion of grading requirements.
Iowa	Coal, gypsum, clay, stone, sand, gravel, or other ores of mineral solids for sale or processing.	Original license, \$50. Renewals annually, \$10 per year	Equal to the estimated cost of rehabilitating the site as required in sec. 17 of the act.
Kentucky	Coal, clay (except ball clay)	Required. \$50 per year, plus \$25 per acre. Approved reclamation plan before issuance of permit. Map accompanying request for permit must be certified by a registered professional engineer.	\$100 to \$500 per acre, with a minimum of \$2,000.
Maryland	Coal	Required to register with Bureau of Mines, and \$100 1st year and \$10 renewal each year.	\$200 per acre for land affected with a minimum of \$1,600. Cash deposit is acceptable.
Ohio	do	Required. \$75 per year, plus \$15 per acre.	\$300 per acre, with a minimum of \$2,000. Cash deposit is acceptable.
Oklahoma	All	Permit. \$50 per year flat fee	\$50 per acre or assessed value of the land the preceding year, whichever is lesser. Cash or government securities acceptable.
Pennsylvania	Anthracite and bituminous coal	License or permit. \$300 per year flat fee. Mining and backfilling plans required before permit issued.	In any case not less than \$500 per acre, but regulating agency may bond to \$1,000 per acre if conditions warrant. Minimum bond \$5,000.
Tennessee	All solid materials in natural deposits except limestone, marble, or dimension stone.	Required. Fee of \$250 per year plus \$25 per acre, not to exceed \$750.	Not less than \$100 nor more than \$200 per acre, as determined by State commissioner of conservation.
Virginia	Coal only	Required. \$150 initial fee. Permit approval based on approved reclamation plan and initial bonding of \$75 per acre, based upon number of acres of land the operator estimated will be distributed by strip mining during next ensuing year, with minimum of \$2,500, before issuance of permit. In approving plans of reclamation and issuing rules and regulations, soil and water conservation district supervisors may be asked to advise, assist, and provide local facilities.	Within 30 days following anniversary date of issuance of permit, operator shall post additional bond in amount of \$50 per acre for each additional acre of land estimated by him to be disturbed during the next year following anniversary date of permit.
West Virginia	Coal, clay, manganese, iron ore	Prospecting permit. \$150 per acre for area disturbed during prospecting Permit to surface mine: \$100 initial fee, \$50 annual renewal. Special reclamation fee: \$30 per acre for land disturbed.	Minimum \$3,000. \$100 to \$500 per acre disturbed. Director of department of natural resources will set rate per acre.

State	Reclamation required	Refuse	Substitution of sites
Illinois-----	Conditioning to make suitable for productive use including forestry, grazing, cropping, wildlife, recreation, and building sites, according to a plan. Ridges to be struck off a minimum of 10 feet for forestry, 18 feet for pasture, and graded to allow use of farm machinery for cropland. Plant species to be used must be approved by the department of conservation. Acid-forming material must be covered by 4 feet of water or other material capable of supporting plant life. To be completed within 3 years following the permit year except planting will be delayed where weathering is needed to establish plants. Grade to a rolling topography to reduce erosion and permit best land use. Acid materials in final cut to be covered with water or earth. Establish satisfactory vegetative cover prior to bond release. Submit plan of reclamation prior to mining. Roads constructed to minimize erosion. Damming of final cut to form lakes.	Slurry to be confined in depressions or by levees and screened with border plantings. Inertible gob to be covered by a minimum of 4 feet of productive material. To be reclaimed within 1 year after active use.	Subject to approval of department of conservation.
Indiana (new law effective Jan. 1, 1963). Administered under policies of natural resources commission.		Remove or bury all metal, lumber, and other refuse resulting from operation.	Subject to approval of regulating agency. Substitute site must be an equal area previously mined by the operator requesting such substitute.
Iowa-----	Spoil bank when feasible. Avoid acid-forming materials on surfaces of spoil. Grade spoil banks to regular slope of not over vertical rise of 1 foot for 3 feet horizontal except when original slope was greater. Control drainage. Cover acid-forming materials with 2 feet of earth. Spoil grading concurrent with operation and reclamation completed within 12 months of permit expiration. Stand percentage complete prior to bond release. Coverage of acid-producing material.	No specific provisions.	No specific provisions.
Kentucky-----		Remove or bury all metal, lumber, and other refuse resulting from operation. No depositing refuse or spoil material into public roads, streams, lakes, subterranean waters, or other public property.	Allowed with respect to planting only, subject to approval of division if investigation shows that revegetation of original site may not be successful.
Maryland-----	Rules and regulations of Bureau of Mines. Spoil graded to minimize erosion, depressions, and steep slopes. Overburden graded to cover final pit. All openings from underground mining sealed off. Impoundments approved by department of water resources.	No provisions.	No provisions.
Ohio-----	Grade to rolling topography to reduce erosion and permit logging or grazing. Grading of isolated peaks. Access roads and fire lanes. Construction of earthen dams in final cut. Reclamation complete 2 years from completion of stripping. Substitution.	Loose coal, mine refuse, and other debris to be graded so as to reduce the piles of such material and make possible its submergence in water. If not covered by water, material shall be covered with overburden.	Subject to approval of division of reclamation. Affected area to be substituted must be equal acreage to the original area affected.
Oklahoma-----	Grading to rolling topography. Cover acid material with at least 2 feet of soil. Fire lanes will be built in forested areas.	No provisions.	Subject to approval of department of mines and mining.
Pennsylvania-----	Bituminous—Original slopes 12 degrees or less, backfill to original contour. Original slopes more than 12 degrees, terrace, high wall backfilled to 45 degrees angle. Stream pollution from acid drainage not permitted. Anthracite—Pits near roads and buildings must be completely backfilled. Peaks and ridges must be rounded off. Backfilling to be completed within 6 months after end of operation. Disturbed areas to be planted to trees, shrubs, or grass within 1 year after completion of mining operation, or forfeit \$100 per acre.	No specific provisions.	No statutory provisions; however, the operator may option not to plant and to pay \$100 per acre to State instead.

TABLE 4.—STATE SURFACE-MINING LICENSURE, BOND, AND RECLAMATION REQUIREMENTS—Continued

State	Reclamation required	Refuse	Substitution of sites
Tennessee	Coal.—Covering of exposed coal, drainage, and water control. Grade to preserve existing roads and provide favorable conditions for revegetation. Minimum crest of spoils 20 feet wide. (If restored for normal cultivation, operator relieved of further rehabilitation.) Other materials.—Minimum crest of spoils 15 feet wide. Plant trees, shrubs, grasses, and so forth up to \$25 per acre, one time. Operator may pay full estimated cost of revegetation and be relieved of further responsibility. (If restored to permit normal cultivation, operator relieved of further rehabilitation.) Regrade the area in a manner to be established by rules and regulations which provide the following: 1. All surface deposits of removal overburden will assure a surface of gently rolling topography. 2. Preservation of existing access truck roads and needed roads for recreation or forest fire protection. 3. Plant vegetation upon parts of areas where revegetation is practicable. 4. No water impoundments can be built by operator for wildlife, recreation, or water supplies without prior approval. Cover the face of coal. Bury all toxic material, roof coal, pyritic shale, and material determined to be acid producing. Seal off any breakthrough of acid water caused by the operator. Impound, drain, or treat all runoff water. Plant species adopted to site as prescribed in a planting plan, within 1 year after mining is finished unless the planting is deferred by the director of the department of natural resources. Operator may satisfy the requirement for reclamation by contracting with local soil conservation district or a private contractor.	Remove or cover all metal, lumber, and other refuse except vegetation.	No provisions for substitution. Act appears ambiguous: One section states operators obligation not discharged until revegetation meets commissioner's standards; another that maximum planning expenses of \$25 per acre shall be required.
Virginia		Remove metal, lumber, and other debris resulting from mining operations. Grade loose coal, refuse, and other debris on bottom of last cut so as to reduce the piles of such material in accordance with good conservation practices.	Subject to approval of department of conservation and economic development.
West Virginia		Remove or bury all metal, lumber, equipment, and other refuse resulting from the operation.	None.

(2) *Chemistry of overburden and spoils*—identifying soil and rock mixtures, soil and water characteristics, and effects of fertilization and weathering.

(3) *Hydrology*—studying water and drainage effects, sedimentation, and ground-water movement and storage.

(4) *Earth movement and placement*—finding new or adapted equipment and methods for mining and more economical restoration.

(5) *Haul roads*—designing better and safer access roads as well as better hauling equipment.

(6) *Land use potentials*—making guidelines for finding the best use for a mined area consistent with the community land use pattern and needs, characteristics of the mined land, and cost-return factors.

There are many areas of study in which more research is needed to improve both surface mining and the reuse of the mined areas:

Comprehensive knowledge of physical and chemical characteristics of spoil materials is needed, as well as interpretations or rating of surface-mined-areas land use potentials or limitations.

Better methods are needed for lifting, moving, piling, and relocating overburden, especially on sloping land.

More knowledge is needed about the responses of many different plants and about their usefulness for landscaping, screening, protective cover, wildlife habitat, and soil building.

Improved methods of preparing surface and subsurface water storage are needed to make effective onsite water use and prevent pollution and excess runoff.

Potential and challenge

Properly planned, treated, and developed to blend with adjacent land use patterns, most surface-mined areas have great potential (table 5). Thirty-two percent of the areas surveyed provide an outstanding view of mountains, valleys, or lakes. Haul roads can open up many areas to visitors for the first time. Ponds can give an area greater economic value than it had before mining. And most areas can be kept in private ownership.

With today's growing land use demands, particularly farm and forest recreation, these opportunities deserve attention. The challenge to USDA is to assist in developing resource uses in surface-mined areas that will be compatible with one another and with uses of adjacent land.

A similar challenge is to make sure that the optimum benefit—both to the landowner and the community—is derived from each dollar spent in mining and land restoration. Some shallow deposits would better be left unmined where restoration costs would be prohibitive. Some mined sites would best be treated to prevent offsite damage but not developed. In some areas, mined land can be treated and managed for intensive use.

TABLE 5.—POTENTIAL MULTIPLE AND ALTERNATIVE USES OF SURFACE-MINED AREAS IN SEVERAL STATES¹
[In percent]

State	Cropland	Pasture land	Rangeland	Woodland	Wildlife habitat	Ponds and reservoirs	Farm and forest recreation	Residential, institutional, industrial	Other unspecified
Arizona.....	0.5	0.5	19.7	0.2	17.6	2.4	9.6	6.4	49.8
Arkansas.....	0.3	6.2	14.7	44.4	15.5	10.0	6.8	1.1	1.3
California.....	0.5	8.6	26.9	17.8	62.5	5.2	46.2	10.4	7.3
Florida.....	2.8	10.8	42.6	48.4	46.6	14.9	53.2	6.1	3.7
Illinois.....	15.2	49.6	0.9	27.3	31.8	9.0	28.9	7.3	3.0
Indiana.....	2.4	15.9	(3)	55.3	49.2	12.7	47.5	12.9	6.0
Kansas.....	1.3	14.7	(3)	28.2	37.1	5.8	11.7	3.0	3.7
Louisiana.....	2.2	7.8	(3)	59.3	30.5	21.7	25.2	1.7	3.3
Michigan.....	3.3	7.0	1	34.4	24.8	5.6	12.3	3.7	13.6
Missouri.....	3.2	38.1	5.8	42.0	39.9	8.8	18.1	2.2	17.6
Nebraska.....	1.3	13.0	23.1	33.2	37.3	30.1	49.7	8.9	3.4
Oklahoma.....	4.4	56.8	32.4	3.2	50.6	10.4	25.6	14.1	1.7
Pennsylvania.....	10.0	20.0	(3)	80.0	92.0	2.0	12.0	13.0	5.0
West Virginia.....	9.0	5.0	(3)	73.9	10.0	.1	34.0	.5	.5
Average.....	3.4	17.8	13.3	39.2	38.6	9.9	27.2	6.5	8.6

¹ The percentages exceed 100 for individual States and the national average because more than 1 potential use may apply on some areas. ² Less than 0.1 percent.

PRINCIPLES FOR A NATIONAL SURFACE-MINED-LAND CONSERVATION EFFORT

The mining industry, conservation districts, and all levels of government should work together to put practical principles into surface-mining operations at every site:

Preplanning.—Make good mine housekeeping and practical restoration measures an integral part of plans for the site—before any mining activity begins. Include a plan for both interim and final land use where practicable.

Stabilization.—While mining is going on, take steps to control erosion on the site and on haul roads, including establishing quick-growing plants. Plant permanent cover to protect the area after mining, and reseed or replant where previous revegetation has failed.

Storm-water control.—Plan control of surface runoff on a watershed basis to fit stream capacities and prevent harmful sediment deposits.

Water quality.—Place highly toxic spoil material only where it can be covered with other overburden or a permanent body of water. Seal off auger holes and any breakthrough to former underground mines. Control drainage from sites and haul roads to keep toxic substances and sediment out of adjacent streams.

Water storage.—Create as many lakes as practicable, to aid water control and increase potential use of the mined site. Dams and ponds should be designed properly to guard against failure.

Air quality.—Help prevent offensive noises and air contamination by controlling use of explosives, fire, and motorized equipment.

Natural beauty.—Plan operations so they have a minimum impact on the landscape. Make treatment work practical and pleasing to the eye.

Health and safety.—Take steps before, during, and after mining to minimize hazards from equipment, structures, and water areas.

Mined land should be devoted to the highest and best possible uses compatible with the use patterns of adjoining land and with the geographic location, topography, and other site characteristics.

Information

Those involved in surface mining and restoration of the areas—and those who use the products—must be kept abreast of social, scientific, and economic developments that affect their efforts.

Education in both the program responsibilities and scientific aspects should be fostered by the Federal Government. Universities and colleges provide formal knowledge in this field; the less formal is supplied by trade schools, correspondence courses, field days and workshops, and on-the-job training.

Lectures, field demonstrations, and onsite guidance in solving mined-land problems—the how-to-do-it—would aid in extending new ideas, new methods, and new techniques.

Field trials or tests should be expanded to follow through on basic research in plants, techniques, and methods and to demonstrate their effectiveness. USDA offices located in nearly every county in the Nation can fill many of these information needs in their everyday dealings with local citizens and groups.

Leadership and assistance

Federal and State agencies should make use of experience gained in activities closely related to surface mining as guides to assistance in surface-mining operations and conservation.

For example, USDA has leadership in developing and interpreting soils information and in helping land operators make effective use of it. This information with interpretations specifically for surface-mined land would have great value both in finding potential sources of surface-mine deposits and in restoring surface-mined land to safe, productive use.

Since the problems and opportunities concerning surface-mined land are largely on private rural property, USDA has a major responsibility to provide Federal leadership and assistance in its restoration.

The 186 million acres of National Forest under USDA jurisdiction are managed for mineral resources as part of overall resource management. Since much National Forest land is intermingled with privately owned land, the use and management of one is coordinated with the other to provide maximum private and public benefits.

USDA works closely with private landowners and with State and local governments. Its assistance on private land is channeled through soil and water conservation districts, State foresters, and State and county extension programs.

Each conservation district has a program that fits its local problems and is a central source of help in solving these problems. Most surface-mined land is in a soil and water conservation district.

USDA endorses the type of national mined-land conservation effort outlined in these pages. It is a use of the same principles USDA has followed for years in its cooperative work with private landowners. Accomplishments already made by soil and water conservation district cooperators, the mining industry, and Government show that such a program can do the job.

CONCLUSIONS

Proper treatment of surface-mined land is an integral part of the total resource conservation effort on private and public land. To this end, USDA recommends as a four-point course of action:

1. *That Federal agencies demonstrate leadership by restoring their surface-mined land.* Each agency managing public land should develop a plan for completing the job within 10 years. Each agency should establish adequate safeguards to prevent harmful effects from surface mining on its land in the future.

2. *That treatment of old mined areas be accelerated.* The Federal Government should participate with States, counties, municipalities, the mining industry, associations, conservation districts, private individuals, and others in developing long-range, comprehensive restoration programs—designed on a watershed or drainage-area basis. Federal technical and financial aid should be on a long-term contract basis.

3. *That to deal with the problem of future rehabilitation of surface-mined land, Federal agencies extend their knowledge and assistance to States and producers of the 50-odd commodities involved.* Technical information should be disseminated as it is developed. Federal agencies should study existing State statutes on mined-land restoration (table 4) and develop model statutes. The goal should be the blending of knowledge and trust between all levels of industry and government in the interest of mining with a minimum of adverse effects.

4. *That Federal research programs, studies, and field demonstrations be expanded.* Many problems of treating mine spoils have not been solved and many opportunities remain unrealized. Present research efforts are inadequate. The problems examined in this report need specific attention.

Senator METCALF. I am going to recess the hearing at this time until 2 o'clock. At 2 o'clock, out of order, the first witness will be Mr. Harry Caudill who has a problem of having to get out of town and then we will start in the regular order on the witness list with Mr. Abdnor and so forth right on down the list.

(Whereupon, at 12:43 p.m., the committee recessed to reconvene at 2 p.m., the same day.)

AFTERNOON SESSION

Senator METCALF. The committee will come to order.

Our first witness this afternoon is Mr. Harry M. Caudill, chairman of the Congress for Appalachian Development.

We are glad to have you here. You are accompanied by another great friend of mine, Mr. Gordon K. Ebersole from Montana. I know from personal experience he has a great deal of knowledge about the needs for the development of these areas with which we are concerned.

Mr. Caudill, you have a prepared statement and you may go ahead in your own way.

STATEMENT OF HARRY M. CAUDILL, CHAIRMAN, CONGRESS FOR APPALACHIAN DEVELOPMENT, GROUP TO SAVE THE LAND AND PEOPLE, AND THE SIERRA CLUB; ACCOMPANIED BY GORDON K. EBERSOLE, EXECUTIVE DIRECTOR, CAD

Mr. CAUDILL. I would like to say Mr. Ebersole is the executive director for the Congress of Appalachian Development and my appearance here today, in addition to being on behalf of the Congress for Appalachian Development, is also for the Sierra Club and the Appalachian Group to Save the Land and People. The latter is made up of groups from Appalachia and other parts of the coal fields who have banded together in this organization to resist the destruction of their land by strip mining.

For a dozen years I have earnestly hoped to see the day when a committee of the U.S. Congress would inquire into the ravages inflicted on the American earth by surface mining. During those years we have seen industrial devastation spread like a gargantuan cancer across hundreds of thousands of acres and marveled that a democratic society could care so little about its future as to calmly destroy the land its descendants will inherit and inhabit.

During those years we have seen once-sparkling streams turn yellow and their channels choke with silt. We have seen valuable stands of second growth timber plowed under by bulldozers and broad and fertile fields reduced to desolate wastes. We have seen hundreds of families routed from their homes by mining corporations which blast and tear coal from under woodlots and orchards and, in at least one incredible instance, from beneath the resting places of the dead.

And we have seen deepening despair etched in the minds and hearts and faces of a multitude of once sturdy people—a people who even today sink with a dying land. And like many others, I have wondered—as I do now—whether the Nation is slipping into a self-devouring madness which visits the same ruin upon its own land that it once reserved for that ruled by its arch-enemy, Adolph Hitler.

Please accept my gratitude for this opportunity to testify in behalf of all my fellow mountaineers who are voiceless here, but are saddened by those vast forces which are wrecking so much of America the Beautiful. Let me express also, the alarm of the Sierra Club, whose 60,000 members are the organized conscience of the Nation in the conservation field and who, increasingly, are militantly determined that this Nation shall survive in beauty as well as in strength. The Sierra Club has a long and honorable tradition of defending the land from those grotesque assaults modern industrial man seems impelled to make upon it. It is my pleasure and privilege to declare the club's resolve to see our needs for raw materials and our need for a decent environment brought into harmony.

There are two great crises in America today. One is a crisis of people, white and black, who are impoverished and embittered and who, in their frustration and hatred threaten to burn down our cities, ruin our ancient political institutions, and bring down upon our necks the yoke of totalitarianism. The crisis could have been dealt with successfully a century ago when the slaves were newly freed and when great areas of new lands and huge economic expansion offered opportunity for the skilled and energetic. But for decades now the National Gov-

ernment has dallied and delayed and many opportunities have slipped away unused. Today we face a dilemma that baffles our best minds and intentions, and may prove insoluble short of catastrophe.

The other great crisis deals with the American land—a land cluttered with tumbledown structures any self-respecting European country would have razed decades ago; a land sown with junk and trash and drained by filthy streams; a land from which multitudes of people flee; and saddest of all, a land torn and racked by industrial processes which treat it with a contempt unworthy of civilized men.

This crisis, too, is far advanced. Neglect in dealing with it has already caused irreparable injury but if we act boldly and imaginatively now we can assure that our inventory of man-made desolation does not grow and that many old scars will heal. Let us frankly recognize that the earth is just as important as the people who inhabit it and that the right to be free is matched by a responsibility to preserve freedom's land. Liberty in a wasteland is meaningless.

There is reason to believe that the American farmer has learned the essential lesson that unless the soil survives he and his country will perish. There was a time 30 years ago when misuse of our crop and grasslands had brought the Nation up short on the yawning brink of disaster. Since then Government programs have worked long and patiently to teach farmers in all the States that the land must be neither overcropped or overgrazed, that cover crops must be sown, and that many areas should be returned to timber. But despite this progress our priceless land base is still in mortal danger.

While our farmers have learned much there is reason to doubt that our industrial managers have learned in proportion, if anything. If the blue-overalled farmer is often the guardian of the earth, the blue-suited executive is often its destroyer. Today it is the businessman who threatens the land we hold in trust for our descendants, buying short-term corporate profits at the cost of long-term national interests.

Nearly a year has passed since the Congress received the Interior Department's report on surface mining. Its figures were out of date and erred on the cautious side, but the document leaves no doubt that the problem is vast, the damage severe and the need for remedial action urgent. To the beginning of 1965 more than 3,187,000 acres of American land had been turned upside down by miners digging coal, copper, iron ore, phosphate rock, clay, gravel, gold, silver, sand and other minerals. One would suppose that as a matter of commonsense and simple gratitude people who profit from the mineral riches of our mother earth would willingly and eagerly heal what they had scarred—bringing to restoration the same zeal and technological genius they devote to extraction. But with a few notable exceptions they have treated their mineral lands with unparalleled greed, resisting even those gentle measures suggested by Secretary Udall. Expressing industry's lamentable attitude, Clyde E. Weed, chairman of the executive committee of the Anaconda Co. and president of the American Mining Congress, has called Secretary Udall's proposals "Emotional, hasty, and ill-conceived."

In a letter to the Secretary he acknowledged that strip mining "in certain areas may involve undesirable side effects" but asserted that strip-mining companies are reclaiming ravaged land wherever they deem it "feasible and practical."

This Nation cannot afford to leave reclamation to industry's discretion. It is doubtful that there is any land in America that we can afford to sacrifice for its minerals. If reclamation cannot be assured stripping should not be permitted.

The Nation's lust for minerals is both insatiable and interminable. As long as civilized men inhabit America they will quarry stone and dig for ores and fuels. The ever-growing need for electricity is virtually certain to assure the extraction of fossil fuels on a colossal scale for many decades. Since our descendants must inhabit, cultivate, and rest upon the same land we now mine, a decent regard for their well-being makes effective reclamation of each damaged acre an absolute imperative. The English, Czechs, and Germans have demonstrated that total reclamation of strip-mined lands can be achieved. For generations they have stripped away overlying soil and stone to remove the minerals their economic well-being requires, but their restoration has been so prompt and effective that today it is often impossible to tell where mined lands begin and undisturbed areas end. And anything the English, Czechs, and Germans can do, Americans can do also. In fact, I believe we can do it better.

Scarcely a State in the Union today is without its problem in this vital respect. As William Greider reported in April 14, 1968, issue of the Louisville Courier-Journal, strip mining is spreading westward and soon the world's biggest pits will operate far beyond the Mississippi. Streams cross State lines and carry with them mud from spoil heaps. The mud settles in the beds of rivers or, overflowing, is deposited on croplands. This choking sediment must be endlessly dug away by the Bureau of Reclamation, the Corps of Engineers, or some other Federal agency. Failing this, the rivers must be leveed to restrain the growing threat of floods. A strip mine on the headwaters of a stream adversely affects the entire watershed, which may lie within parts of several States. Too, loosened soil becomes a victim of the wind which may cross State lines. And the products move in interstate commerce. It follows that since the industries and their problems are national in scope they require Federal solutions.

While all surface mining procedures esthetic damage disrupts ecologies, and necessitates eventual reclamation, it is the coal industry that presents the most urgent challenge. At present most of our coal is mined in areas of heavy rainfall and near population centers. The terrible blight produced by the surface mining of this fuel is swelling by the thousands of acres annually. A flight across the mountains of southern Appalachia, western Kentucky, and broad areas in Indiana, Illinois, and Ohio reveals a land churned into ruin by bulldozers, power shovels, and highlifts. The Governors and legislators of these ravaged States have talked for years about the ills that flow so ominously from the strip pits and have passed numerous little laws to curb the abuses. These laws have been amended and modified and tightened in many of the States. But during all the orgy of legislating—and we have been through it to the full in Kentucky—the orgy of mining continues while precious little reclamation occurs. Simply put, the States have failed woefully in their efforts to restrain the industrial juggernaut that is devouring your land and mine.

Large parts of southern Appalachia are threatened with extinction in West Virginia, western Maryland, western Virginia, western Penn-

sylvania, eastern Kentucky, northeastern Tennessee and northern Alabama more than 700,000 acres to date have been practically obliterated. Here stripping generally follows the contours of steep and rugged mountains. Either the hill is decapitated and turned into a mesa or it is flayed along the outside contour of the coal. In any event, the rubble, the dirt, the rock, the broken timber are shoved down the mountainside. Natural drainageways are choked. Boulders crash onto lower slopes and level bottoms. When the mining has passed a silence falls as even the birds forsake the bleak and desolate acres.

In Italy during World War II, I saw the mountains of that unhappy country pounded mercilessly by bombing aircraft and shellfire. Those ranges were battered by every deadly device the technology of the time could produce. Since then, in the hills of my own native State, I have seen American land attacked by great corporations digging coal for other great corporations and for the Tennessee Valley Authority, ironically an agency established to heal land. And I can tell you that the mountains of eastern Kentucky have suffered more in cold blood and in a time of peace than did the mountains of Italy in history's most savage war. Strange to say, the United States spent sizable sums to help Italy heal its blasted land, but has spent not a single penny to heal eastern Kentucky or to abate its affliction. As a nation are we slipping into madness? Is it not insanity to ruin our own land more thoroughly in peace than we do that of any enemy in war, then to leave our land dead and forsaken while healing that of our foe? It is seriously questionable whether a nation that fosters such policies deserves to survive.

I am grateful to each Senator who has sponsored strip mining legislation. However, candor requires me to respectfully declare that none of the pending bills come near to meeting the challenge. Please permit me to suggest that this committee report to the Senate legislation that will undertake as a matter of national policy to do three things. Years of study, observation, and experience have convinced me that unless these three goals are achieved our land troubles will grow to unmanageable proportions.

In our lifetime they may threaten our nationhood as the race crisis does now.

(1) The legislation should forthrightly outlaw strip mining in such areas as southern Appalachia where the slopes are so steep and the rainfall so great that reclamation and restoration of the land to its former utility is impractical or impossible. Unless this is done, and done speedily, there will be no southern Appalachia. It will have been reduced to a ruined jumble. The people will have to move to the already overgrown and mutinous cities and the desolate mountains will plague the Nation with gigantic flows of mud to congest the Ohio, the Mississippi, and the Cumberland for generations to come.

I might add at this point that a very careful study of two watersheds in the Kentucky mountains which was reported in 1962, the study was made by a number of State and Federal agencies, and carefully measured the siltation escaping from the two watersheds. They put dams across the stream and caught it and found that the unstripped valley yielded about 28 tons of silt a year and the stripped portion yielded about 38,000 a year. That is how the amount was determined.

The stake of the taxpayers in this proposal is tremendous. And since natural beauty is beyond price and stripping and beauty are incompatible, such mining ought to be banned in areas of significant scenic loveliness and in important wildlife habitats. Nor should it be authorized in heavily populated territories where important human values will be disrupted.

(2) It should authorize strip mining for minerals only where total reclamation of the land can be carried out promptly and effectively. It should require that the topsoil be scraped off and saved with the subsoil and the rock strata being similarly lifted out of the pits and segregated. When the minerals have been removed the rock should be restored to the pit first with the subsoil following its natural order. The subsoil should be compacted and coated with the original topsoil and, where there is enough rainfall to sustain vegetation, the surface should be treated with fertilizer and limestone, planted with trees and sowed to suitable grass or leguminous cover. All these things are done now routinely in Germany, England, and Czechoslovakia.

(3) The Federal Government should commence a massive program to purchase, reclaim, and revegetate lands already stripped. The inventory of ravaged earth is growing daily. It already exceeds, I believe, the whole land area of the State of Connecticut. It is enough to make a swath a mile wide extending from Times Square to the Golden Gate and back again almost to the border of Nevada. In 10 years an area the size of West Virginia will have been ruined. In the name of all that is just and sensible let us use some of the money we are now devoting to the destruction of Vietnam to reconstruct stricken portions of our own country.

The task of repairing our mutilated lands will prove to be difficult and frustrating as well as expensive. The reassembling of dismembered mountains should be assigned to engineers and conservationists rather than farmers. In many areas, if acceptable results are to be achieved, enormous quantities of dirt will have to be dragged back up the hillsides by machines which have yet to be invented.

Vast tonnages of stone may have to be crushed to release their nutrients for new crops of timber. Other stone will have to be buried. Lavish quantities of fertilizer and limestone will have to be applied, perhaps by giant helicopters designed and built for the purpose. Historic experience has indicated that the Bureau of Reclamation in the Department of the Interior is best suited to accomplish this gigantic undertaking.

As an Appalachian mountaineer, I hope the task of reclaiming my shattered homeland will be assigned to the Bureau. I know that an objection will be raised that the Bureau does not operate in eastern America, that its mission has traditionally been restricted to the West. But this is no argument at all. Its experience and whole orientation has been in reclamation, in bringing life to barren land. It has successfully handled giant projects over broad regions, as countless verdant acres now attest.

In the millions of acres in our orphan banks the Bureau of Reclamation can find a new challenge worthy of its best men and greatest traditions. It is the logical organization in the Federal Government to combine the expertise of the Fish and Wildlife Service, the Bureau of Outdoor Recreation, the National Park Service, Bureau of Mines,

Southeastern Power Administration, and the Federal Water Pollution Control Administration, all within the Department of the Interior, as well as other Federal agencies whose skills and talents would be needed for this historic undertaking.

Some day the taxpayers of the Republic will have to assume the cost of restoring, insofar as possible, the lands we have already plundered. We cannot undo history, but we can undo some of the harm history has done. It will cost billions of dollars. The \$750 million indicated by Secretary Udall's report is likely to fall woefully short of the mark. No true patriot could object to the financing of this essential undertaking and I hope Congress will not hesitate to appropriate the funds to get the work started.

But the general taxpayer should not be called upon to bear the whole burden of rehabilitating our industrially maimed land. The industries that rip up our soil and their customers who share directly in the benefits of such mining should carry most of the load. Otherwise, we will have capitalized the profits while socializing the losses—an increasingly popular arrangement with a very large part of the Nation's industry.

Let me suggest that the Congress finance such reclamation out of a trust fund supported by a special levy on extractive industries. Senator Lee Metcalf has introduced a bill to impose a Federal severance tax on all minerals taken from the American earth. It is sensible legislation and the States would benefit enormously from its enactment. Each State in which large-scale extraction occurs suffers from a lack of funds caused in part by the importation of people to work in the extractive industries which simultaneously lowers the tax base by damaging the land. Senator Metcalf's bill would compel huge and thriving corporations to leave behind for schools, libraries, and hospitals some of the money they now take out in such astonishing amounts.

In my opinion the levy proposed by Senator Metcalf is too small insofar as it pertains to surface miners as distinguished from subterranean miners. Five percent is not enough. It should be 10 percent and half of that amount should go into a reclamation trust fund. The trust fund should pay for the fitting together of shattered mountains, the smoothing and seeding of ravaged prairies and plains, the cleaning of polluted air and silted streams, and for research on how best to accomplish these desirable ends.

I urge that you view with caution and skepticism industry claims that present State laws are working well and that voluntary efforts are handling the problems satisfactorily. It is probable that more money has been spent advertising "Operation Green Earth" than Peabody Coal has spent on the project itself. The land is its own best spokesman.

Finally and most important, I urge the Senators to hold field hearings in eastern Kentucky and in other parts of the Nation where strip mining has taken place; hear the opinions of local people who have seen mountains come tumbling down and whole counties subjected to the threat of dissolution. Then go look for yourselves and there amid the whirling dust and the roaring machines, by the dead streams, jumbled plains, and murdered mountains, make up your minds as to the dimensions and urgency of the problem, and whether we can afford to waste another day in coming to grips with it.

Senator METCALF. Thank you for your statement, sir.

Senator JORDAN.

Senator JORDAN. Mr. Caudill, you speak with some knowledge and authority on conditions in Appalachia. With some of your conclusions I have no quarrel, but I wonder if you are familiar with the open pit mining in some of the lands of the West, the great copper mines of Arizona and Utah, for instance? Have you visited them and do you know the situation there?

Mr. CAUDILL. I have seen some of the pits; yes.

Senator METCALF. Would you yield a minute?

Senator JORDAN. Yes, sir.

Senator METCALF. Mr. Ebersole, who is accompanying Mr. Caudill, is a former neighbor of mine in Helena, Mont., and I know he is thoroughly familiar with our open pit mines in Montana, such as Ruby Gulch and some other areas with which you are concerned.

Senator JORDAN. My question is whether criteria that are applicable to the Appalachian region can be applied across-the-board to every other region in the United States with equal authority. Let me quote what the Secretary of the Interior said this morning. He said, "Let me make the record clear about our use of the word 'reclamation.' In the context of surface mining we do not consider reclamation to mean a restoration of the land to its original condition. Often this would not be as desirable as some alternative land condition. Rather, we use reclamation to mean that activity which avoids or corrects damage to the lands and waters of the vicinity and leaves the area in a useable condition."

Do you disagree with what the Secretary said in his statement this morning?

Mr. CAUDILL. I would agree generally. I used words saying, "Restored to its former utility." I might have added "to a comparable usefulness."

Senator JORDAN. You admit a comparability rather than restoration to its original state?

Mr. CAUDILL. Yes, to something approaching its original utility. If land was originally forestland I think it should go back in the main to forest. If it was farmland in Kansas or Iowa it should be restored to such condition as to grow corn again, I think we can do that.

Senator JORDAN. If it was grazing land it might be satisfactory to restore it to a status to where it was grazing land again?

Mr. CAUDILL. Yes, sir. And if it is desert land, that of course has to be considered.

Senator JORDAN. Thank you.

Senator METCALF. Mr. Caudill, you made a very eloquent and forceful presentation. I am grateful to you for mentioning my proposal for an incentive tax, which is based on the same theory and principle as this bill is based, that we should try to equalize the impact of these things on the various people in the States. My tax bill would provide that 100 percent of the 5-percent tax for mining would go back to the States.

This bill would provide for a Federal program and, if the State puts in a qualified State program, they would take it over. We have done some of that in the mine safety bill, both the coal mine safety bill and safety bills for other hard rock mines.

It would seem to me as if this is the way to get State activity and equalize the burden and at the same time give the flexibility that Senator Jordan, Senator Hansen, Senator Fannin and others have suggested we need as comparable from the Montana coal mines or the copper mines of western Montana, and the coal mines of Kentucky or West Virginia.

I am aware of your concern and I have the same concern for the ravaged areas that have already been mined and stripped and left desolate and destroyed. I wish we could do something about it. I have long advocated doing something. I had hoped the Appalachia bill we passed a few years ago would do something more than just build roads into areas. The streams are polluted, the coal refuse from strip mining has been left on the ground. Any tourist going there would be appalled and refuse to come back.

As President Kennedy said on that memorable day on the steps of the Capitol when he was inaugurated, "These things take time. Maybe they won't be done in our generation but let us begin." It would seem to me that this bill might be the first step.

Mr. CAUDILL. We are delighted to see this committee holding these hearings and, on behalf of these three organizations I represent here today, I would like to reiterate a request or suggestion I made in my prepared remarks, and one I heard earlier this morning, that is, that the committee come and look at some of these lands. Each member may be familiar with the kind of stripping that has occurred in his own State or area of the country but it is different in other areas.

I think the greatest damage is being done in the steep mountains of the Appalachian coal fields. In Kansas or Iowa we may be able to undo the damage because we have relatively gentle rainfall in these areas. In central Appalachia we have probably the highest rainfall in the Nation with the exception of the Pacific Northwest. This means damage is much greater there than anywhere else and that vegetation is destroyed from the mountains and they are left unvegetated.

In a short period of time we have rapidly come to a situation such as we have in the Mediterranean areas where timber has been gone for centuries. I think it would be extremely beneficial if the members of the committee could come and visit various areas and perhaps hold field hearings which would focus attention on the situation.

Senator METCALF. I have sent for my tax bill, which is before the finance committee. It is a severance tax program but, since Mr. Caudill has mentioned it, I will, without objection, have it inserted at the end of your remarks.

Senator JORDAN. No objection.

Senator METCALF. I know of many of your outstanding achievements but you are also Director of the Conservation Service. You were in the room this morning and heard the discussion with Senator Nelson.

Do you have any comments about inclusion of the Soil Conservation Service or the failure to put the Department of Agriculture in this bill at greater length?

Mr. CAUDILL. I am sure we should use all the expertise available on the subject regardless of the Bureau or Department in which it may be found. In areas such as the west, where the Soil Conservation Districts are genuinely strong and effective, I would think in Ohio, Indiana, Kansas, or Iowa, for example, reclamation efforts would be

very effective. Due to the very unusual circumstances we have in our own region, I think the Bureau of Reclamation, with its skill and background, is simply better prepared to cope with the very terrible problems we have.

I don't think that the problems of reclaiming our ruined mountains is one with which the Soil Conservation Districts can effectively cope. I presume they could do a fine job in Iowa, for example, and certainly their knowledge of how to handle these problems ought to be utilized in every possible way.

Senator METCALF. I don't think that you have to make a case to most of the members of this committee, who are largely westerners, as to the expertise and superb accomplishments of the Bureau of Reclamation.

Do you have anything to add, Mr. Ebersole?

Mr. EBERSOLE. You may remember, when the Congress for Appalachian Development was testifying previously, Luce Smith was retiring from the organization and had a prepared statement. If it please the committee, perhaps this can be made a part of the hearing.

Senator METCALF. Without objection that will be incorporated in the record.

(The document to be supplied had not been received at the time of going to press.)

Mr. EBERSOLE. The Courier Journal in 1964 ran a Sunday Supplement entitled "Kentucky's Ravaged Land, Its People and Its Hope". For this publication they won the Pulitzer prize. In 1967 they ran a second article, "Kentucky's Still Ravaged Lands." These are two important documents that deal with this subject that might be made a part of the record.

Senator METCALF. They will be incorporated in the file of the committee for its use. Thank you.

Thank you, Mr. Caudill, for your splendid testimony.

Mr. CAUDILL. Thank you, Mr. Chairman.

(The bill previously referred to follows:)

[S. 2934, 90th Cong., second sess.]

A BILL To assist the States in raising revenues by making more uniform the incidence and rate of tax imposed by States on the severance of minerals

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That subtitle D of the Internal Revenue Code of 1954 (relating to miscellaneous excise taxes) is amended by adding at the end of thereof the following new chapter:

"CHAPTER 42—SEVERANCE TAX

"SEC. 4941. IMPOSITION OF SEVERANCE TAX ON MINERALS.

"(a) IMPOSITION.—There is hereby imposed on the severance of minerals from a mineral property located within the United States an excise tax equal to 5 percent of the gross income from the property during the taxable period.

"(b) LIABILITY FOR TAX.—The tax imposed by this section shall be paid by the person who holds the working interest in the mineral property.

"SEC. 4942. DEFINITION AND RULES.

"For purposes of this chapter—

"(a) MINERAL PROPERTY.—The term 'mineral property' has the same meaning as the term 'property' has for the purposes of section 613 (relating to the allowance for percentage depletion), and any election made under section 614 to treat

several mineral properties as a single property, or to divide one mineral property into separate properties, shall be effective for purposes of this chapter.

"(b) GROSS INCOME FROM THE PROPERTY.—The term 'gross income from the property' means the gross income from the property derived by the holder of the working interest during his taxable period, computed in accordance with the provisions of section 613 subject to the following modifications:

"(1) There shall not be excluded any amount on account of rent or royalties or bonuses paid in respect of the property.

"(2) There shall be included in computing such gross income from the property an amount equal to any amount paid to the holder of a production payment in satisfaction or reduction of the production payment.

"(3) There shall be excluded in computing such gross income from the property any amount received from the sale of a production payment. The provisions of paragraphs (1) and (2) shall not apply with respect to any amount paid to the United States, or to any State or political subdivision thereof.

"(c) WORKING INTEREST.—The term 'working interest' in a mineral property includes only an interest which is an operating mineral interest as defined in section 614(d).

"(d) TAXABLE PERIOD.—The term 'taxable period' means, with respect to any mineral property, the taxable year (as defined in section 7701(a)(23)) of the person who holds the working interest in such property.

"(e) PERSON.—The term 'person' includes a trust, an estate, and a partnership (including a joint venture whose members have made the election provided for in section 761(a)).

"(f) STATE.—The term 'State' includes the District of Columbia.

"SEC 4943. CREDIT AGAINST TAX.

"(a) SEVERANCE TAXES PAID TO A STATE OR POLITICAL SUBDIVISION.—

"(1) The taxpayer may, to the extent provided in this section, credit against the tax imposed by section 4941 with respect to any mineral property the amount of severance taxes paid by him to any State or political subdivision as severance taxes with respect to such mineral property.

"(2) The credit shall be permitted against the tax for the taxable period only for the amount of severance taxes paid with respect to such period. The tax imposed by section 4941 on the gross income from one mineral property shall in no case be credited with severance taxes paid with respect to another mineral property.

"(3) The credit against the tax for any taxable period shall be permitted only for severance taxes paid on or before the last day upon which the taxpayer is required under section 6071 to file a return for such period; except that credits shall be permitted for severance taxes paid after such last day, but such credit shall not exceed 90 percent of the amount which would have been allowable as a credit on account of such severance taxes had they been paid on or before such last day.

"(4) For purposes of this section the term 'severance tax' includes a tax based on the gross income from the property (as defined in section 4942(b)) derived by the holder of the working interest in such property, but such term does not include—

"(A) any tax based on the severance of minerals from a mineral property located outside the territorial boundaries of the State or political subdivision imposing the tax,

"(B) any tax imposed on the severance of timber, or of any crop grown on the surface of the mineral property, or of any mineral with respect to which an allowance for percentage depletion is not allowable under section 613,

"(C) any tax imposed generally on gross sales or gross receipts,

or

"(D) an income tax applied generally to income from all or most sources.

"(5) Any severance tax paid by the holder of a royalty or other non-operating mineral interest with respect to production from a mineral property shall be treated, for the purposes of paragraph (1), as having been paid by the holder of the working interest.

"SEC. 4944. INFORMATION TO STATES.

"The Secretary or his delegate shall, upon the request of any official of a State or political subdivision thereof lawfully charged with the administration of a severance tax imposed by such State or political subdivision, furnish to such official a copy of any schedule or statement filed by any taxpayer, with respect to the taxes imposed by chapter 1, which discloses the amount claimed by the taxpayer under section 613 as his gross income from a mineral property located within such State. The information so obtained may be used only for the administration of the severance tax imposed by such State or political subdivision."

SEC. 2. The amendment made by this Act shall apply only to the severance of minerals after December 31, 1968.

Senator METCALF. The next witness is Mr. Joseph S. Abdnor, assistant to the president of Pickands Mather & Co., representing the American Mining Congress. We are pleased to have you.

**STATEMENT OF JOSEPH S. ABDNOR, ASSISTANT TO THE PRESIDENT,
PICKANDS MATHER & CO., REPRESENTING THE AMERICAN
MINING CONGRESS**

Mr. ABDNOR. I am sure the Mining Congress reciprocates your expression.

Having in mind the admonitions of the the chairman, I think it is safe to say there will probably be no repetition between my statement and the last one presented.

Senator METCALF. I doubt it.

Mr. ABDNOR. I will proceed with my statement, then.

Mr. Chairman and members of the committee, I am Joseph S. Abdnor, assistant to the president of Pickands Mather & Co., a corporation extensively engaged in iron ore production with its main offices in Cleveland, Ohio. I appear before you today on behalf of the American Mining Congress, a national trade association composed of U.S. companies that produce most of the Nation's metals, coal, and industrial and agricultural minerals. Its membership also includes more than 200 companies that manufacture mining and mineral processing equipment and supplies as well as financial institutions interested in the relationship between the mining industry and the financial community.

We appreciate the opportunity to appear before you today and present our views regarding the surface mining reclamation legislation before you. The American mining industry fully appreciates the problem of mined-land reclamation. This industry has been actively engaged for years, on its own initiative and in cooperation with State and local governments, to minimize to every practicable extent the undesirable side effects of mining operations. Where land reclamation is desirable and feasible, the concerted efforts of our industry are increasingly directed to programs designed to bring about land reclamation for such uses as may be appropriate.

Based on the mining industry's awareness of the economic factors involved, its experience in the diversity of the problem and the engineering techniques of land restoration and its analysis of the problem on a national basis, the American Mining Congress is opposed to the legislation before you today. I want to make very clear that by opposing this legislation we are not denying our industry's obligations to its neighbors.

As our country fills with more and more people, the natural buffer zones between their various activities diminish at an increasing rate and must be replaced with manmade efforts to insure that conflicts between the rights—personal and property—of all citizens are minimized. Mining reclamation is one aspect of that picture, and we all recognize that.

But the legislation before you is an exceedingly heavyhanded approach with grave potential for restricting the healthy development of our industry wholly out of proportion to the size of the problem. We do not believe Federal legislation is called for; we oppose it as unnecessary, undesirable, and impractical.

It is unnecessary because no plausible case exists for global Federal regulation producing a conflict of jurisdiction over the myriad local conditions which apply to the reclamation of surface-mined lands.

It is undesirable, in that—despite disclaimers to the contrary—this legislation would effectively take over the field of oversight of surface mining for the Federal Government. It would depress and could kill off any incentive or opportunity for the widely diversified courses of action which State and local governing bodies may deem appropriate to their own balanced set of State and local requirements.

It would unnecessarily subject mining operations, vital not only to the Nation's prosperity but also to local economies, to control by a distant department in Washington, with resulting unwarranted costs imposed both on industry and on the Federal Government as well.

It is impractical because it would attempt to apply Federal regulation to an infinite variety of special circumstances which exist throughout the mining industry in the United States.

In discussing this subject, it is important to consider the nature of mining and the economic factors involved. We are gratified to note that subsection 3(a) of the administration bill, S. 3132, proposes as a congressional finding that "extraction of minerals by surface mining is a significant and essential industrial activity and contributes to the economic potential of the Nation." Indeed, this fact cannot be overemphasized. As pointed out in the Department of the Interior's report on "Surface Mining and Our Environment," surface mining in 1965 accounted for approximately four-fifths of the total ore and solid fuels produced in this country.

Open pit mining is often the most practical and generally the only economic way to mine the low-grade deposits which now comprise a major portion of our resource base. The mining industry now relies on mechanization, handling large tonnages of overburden and ores, and large surface plants in order to keep costs down so that these low-grade deposits may be mined, treated, and sold at realistic prices competitive with foreign enterprise.

The average grade of ore for many of our vital mineral products gradually is decreasing over the years, making it necessary for producers to find increasing cost economies to permit the mining of even lower grades. Much of our gold reserves even now cannot be mined because of the unfavorable balance between costs and price.

The mining industry serves the public interest by making available from domestic sources the raw materials basic to our economy and our national welfare. We cannot choose the locations for our production facilities. We must locate our facilities where the minerals are found. Thus, the contribution by the mining industry to the economy

is limited by the fact that it is necessary to produce all raw materials from their natural deposits. If we are to maintain and increase the supply of minerals required by our national economy, these minerals must be found and developed.

In an appearance before this committee on March 21, Dr. Walter Hibbard, then Director of the Bureau of Mines, stated:

Today the United States is the largest consumer of metals and fuels in the free world. It maintains this position by being the largest producer of minerals and fuels in the free world. Over the years it has maintained this production leadership, even in the face of the necessity for using lower and lower grade resources and rising labor costs, by an aggressive program of exploration and new discoveries and in advancing technology which has reduced the overall costs of extracting and processing these lower-grade ores.

Dr. Hibbard also drew attention to a situation that is emerging which appears to threaten both the adequacy and dependability of our supply of minerals and mineral fuels. He pointed out that if the present trends continue "our capability to produce minerals from domestic sources may not only remain static, but in some cases disappear because they cannot be maintained in competition costwise with foreign production." He went on to emphasize that technology has the inherent power to improve the competitive position of domestic mineral resources.

What has this to do with mined land reclamation? Certainly such reclamation is a cost factor and, if reasonable, a legitimate and fully accepted one by the mining industry. The mining industry should not, nor should any other segment of our society ruthlessly destroy beneficial environmental conditions. But the economic impact of the legislation before you must be recognized. The problems of maintaining appropriate environmental quality are such as to require the most delicate balancing of interests—interests that include the public's vital need for mineral resources.

One of the major objections to the legislation is that, in its approach, it does not make clear the necessity for reasonableness. It fails to reflect a proper regard for practicability and economic feasibility. It exposes mining operations to the imposition of arbitrary requirements by Government officials responsible for issuing permits under the law. In our judgment, the placing of Federal controls over surface mining will not only prove to be a large and unnecessary drain on the Federal Treasury, but could easily become such an economic burden to the domestic mining industry as to seriously weaken it as it faces a dangerous competitive situation in relation to foreign mineral resources.

As I stated earlier, the American Mining Congress has analyzed the problem on a national basis. At least one of the bills before you, S. 3132, was inspired by the Department of Interior's special report on "Surface Mining and Our Environment."

Having worked on the problem of mined land reclamation for years and having examined this publication, we are convinced that the information and the various data presented in the report do not lead to the conclusions drawn either as to the scope of the problem or the remedial actions recommended. There are serious problems referred to in the report. But these problems have been recognized and are being dealt with by the States in which they exist. There is no indication that additional controls are needed. The most serious problems are old ones. Such problems are not being caused by presently

operating mines utilizing current mining practices. Our position was so expressed at a meeting with Department of Interior officials at the American Mining Congress Convention in Denver last September.

The Interior Department report states that an estimated 3.2 million acres of land in the Nation have been disturbed by surface mining. One would assume from a casual glance at table 1 on page 110 of the report that this was "as of January 1, 1965," or in other words, of recent origin. In actual fact, this tabulation goes back perhaps to the beginning of our Nation. It is doubtful that any observer could see, today, where gold was mined in Virginia or where iron ore was mined in Ohio. Yet such acreages are included in the report.

Leaving aside for the moment the validity of the statistics, the report states that, of this 3.2 million acres, 95 percent is attributable to but seven commodities: coal, 41 percent; sand and gravel, 26 percent; stone, gold, phosphate, iron, clay, together, 28 percent; "all others" combined, 5 percent.

Although other witnesses representing specific commodities may scrutinize these percentages in more detail, it is helpful, in narrowing and defining the problem, to place these figures in proper perspective.

Coal, the report says, is responsible for 41 percent of the land disturbed by surface mining, 1.3 million acres of the total of 3.2 million acres. Fifteen States have statutes regulating surface mining.

An additional State, Colorado, has a Government-industry contractual program for mined land reclamation. Coal is surface-mined in 14 of these States. Based on 1964 production figures, these 14 States cover 93.6 percent of all the coal production by surface mining in the United States. The Interior report indicates satisfactory compliance with the enforcement of surface mining laws in these States. What then is the urgent need for additional regulatory controls? This is not to say that the total problem is eliminated, but it is to say that the States in which it exists have assumed the responsibility for adequate control.

Sand and gravel, according to Interior, account for 26 percent of the total acreage disturbed, and stone for 8 percent. It should be noted that the sand and gravel industry takes issue with these statistics, reporting them to be overstated by at least 100 percent. Sand and gravel, in common with crushed stone, are "local" products, used primarily in all types of construction.

Most of these materials are produced within 30 miles of the point of consumption. Literally thousands of these operations are located throughout the country. They are located in or adjoining nearly every community in the Nation. Most are tightly controlled by local zoning ordinances which prescribe in detail how the operation must be conducted and how reclamation must be performed. As the Interior report admits, much of this land is reclaimed already and sold at premium prices.

Because it is already controlled locally and because, in large measure, this land is already being reclaimed or put to some other use needed in the community, it is both unnecessary and unwise to superimpose Federal control on this extremely scattered segment of the mining industry. Indeed, except by creating a large new force of Federal employees, such Federal control is, as a practical matter, impossible.

We now find that coal, sand and gravel, and stone, representing

almost 75 percent of the problem, as characterized by Interior, are under stringent State and local control. What of the other 25 percent?

In the case of phosphate and clay, 20 percent of clay production and 13 percent of phosphate production are under State control. According to the report, the largest land disturbance from phosphate mining is in Florida, which accounts for 72 percent of the national production. Yet the report also states that "a large portion of the land mined for phosphate is being developed for citrus groves, building sites, parks, and other uses. Thus, except for possible loss of wetlands for wildlife use, the mining operations apparently are not seriously detrimental to the environment."

Hard mineral mining represents, we assume, 5 percent of the reported disturbance, gold an additional 6 percent. But the largest domestic gold mine is underground and, with the exception of the open-pit Carlin mine in Nevada, the balance of gold production is mostly byproduct, and again we must conclude that the statistics for gold are primarily of historic interest only.

Hard mineral mining includes the great open-pit copper mines of Utah, Arizona, Nevada, New Mexico, and Montana; the uranium mines of New Mexico, Wyoming, South Dakota, Utah, Colorado, and Texas; a molybdenum property in New Mexico, and small open-pit zinc mines in Washington and New Mexico.

These properties typically have a long life—the Bingham Canyon copper mine in Utah has been in continuous operation for some 60 years already and has produced a pit which is one of the engineering wonders of the world. These properties, as well as others, are distinctive in that essentially the entire mining operation is continuously in use throughout the life of the property. Thus, reclamation work cannot be done while the mine is in active operation.

To depart from my prepared statement for a moment, it appears that the land claimed to require rehabilitation or reclamation in the Department of the Interior's report includes the present mining operations of this Nation. That is a vast amount of land, a vast proportion of the land claimed to be in need of reclamation.

You cannot reclaim the Bingham pit mine.

I should like to comment on statements I heard that this law would be prospective only. It is clear in this law that it applies to any present mining operation. My company has a part of the world's largest iron ore pit that you heard about today. Operations began at that pit 72 years ago.

Assume there are 5 years left of mining in that pit, if this law goes into effect, we can expect there will be demands imposed upon us with enactment of the law for certain reclamation plans for that world's largest pit, representing some 77 years of mining by that time. We must determine whether the cost of mining that pit for the next 5 years will justify imposition of reclamation demands on us.

Under the provisions of the bill, S. 3132, as it is presently written, we could be required to restore the results of the mining operation back before the turn of the last century. This certainly, in a sense, denies the fact this is entirely prospective in its application.

A number of these open pit hard mineral mines are prime tourist attractions in the areas in which they operate. They cannot be called "natural" beauty, but are awesome and attractive. No one has seriously

suggested that these pits be "restored" to the natural condition of the land before their development and they do not cause the hazards to their surroundings that this legislation contemplates. What reason, then, to subject them to Federal legislation?

Noting that the hard mineral operations were included within the scope of the Interior report, the mining congress asked for information as to the identity of hard mineral surface mining operations which were deemed not to meet the standards of surface mining which the officials of the Department might have in mind. What should be done at these properties that is not now being done?

To date, the Department has not identified any current problem situations at any of these properties—another circumstance that indicates that the request for comprehensive Federal legislation applying to all surface mining is unnecessary.

The Interior report indicates that only 5 percent of the land claimed to be disturbed can be attributed to iron mining. What has been said about the hard minerals is essentially true of the iron ore mines. For the most part, these are large open pit mines which have their own unique grandeur of form and color so much so that they are prime attractions in their area. The governments of the States in which they are located are well informed on iron mining problems. In Minnesota, for example, the State is by far the largest single owner of mineral lands, and the State has received many millions of dollars in royalties. All of these States are developing a growing vigilance to the problems of mined land disturbance.

In this review of the various mineral commodities involved, we have attempted to place the problem in its proper perspective. Of the 3.2 million acres reported by Interior as disturbed land, the Interior report states that 1 million acres have already been reclaimed. Of the balance of the so-called disturbed lands, a substantial portion of such lands is being actively mined today. In many cases little, if any, reclamation can be accomplished while mining operations are underway.

Objectively, we should look at the extent to which mining is responsible for land disturbance and realize that only 0.14 percent of the total land of the United States is even claimed to have ever been disturbed by surface mining. We hope that the emotionalism sometimes attached to mining will not let us overlook the disturbance of land essential to our society. Vast proportions of the total land of this Nation are in a real sense disturbed by highway construction, farming, new housing projects, industrial developments, and many other programs essential to our Nation.

With this review of the problem, it can readily be seen that two things are happening—and both are persuasive arguments against the legislation now before you.

First, reclamation has become an important and expanding part of mining industry operations.

Second, reclamation does not present a uniform problem across the Nation. It varies by State and local area, as indeed it varies by segments of the mining industry. Where the problem is more pronounced, the States have acted and are continuing to act energetically to meet and correct that problem. In addition to those States with laws already on the books, others are considering regulatory programs where the need is justified.

Therefore, the American Mining Congress believes that global Federal control is unnecessary, undesirable, and impractical. This is so because where the problem exists, the States, local communities, and industry are moving to correct it. Also, because State, local, and private effort should be encouraged—not discouraged—in meeting a problem which, by its very diversity, simply does not lend itself to any practical or sensible attempt at Federal regulation from Washington.

Let us look at the specific legislation before you. Mr. Chairman, I speak as a mining man and not as a constitutional lawyer. However, I sincerely believe that this legislation raises serious constitutional questions. The Department of Housing and Urban Affairs, in a recent appearance before the Public Land Law Review Commission, stated that "under the Constitution, control of the uses of land is rather clearly one of the residual powers that was left to the States * * *." The damage to privately owned or State lands and any impairment of their natural beauty by surface mining does not produce interstate effects as does the flow of water and the shifting of air. The enforcement of Federal controls over such land use would be a remarkable extension of Federal power.

Section 7 of S. 3132 requires all States, if their State plans are to be approved, to issue State permits before any surface mining operation may be commenced, or if now operating, may be continued. Such a permit system would be imposed by the Federal Government under section 8 if a State failed to adopt a plan or if a State plan was not approved.

No such vast power is contained in other Federal environmental quality statutes, such as the Air and Water Pollution Control Acts. Permit systems require the establishment of an administrative bureaucracy and place the power of absolute control in the hands of Government officials. A Federal permit system for private land use is an extraordinary assertion of Federal authority. Consistent with our tradition, it should require a very strong determination of the need for such a system before its creation is seriously considered.

We recognize that a number of the eastern coal States have adopted permit systems under the conditions prevailing in those States where particularly difficult operating and reclamation problems are present. However, this does not mean that such a system should be imposed in all other States. The risks of unacceptable environmental damage are by no means comparable, for example, in the desert States of the Southwest or in certain of the Eastern States where essentially the only surface mining concerns gravel and stone, most of which are already subject to county and municipal zoning requirements.

In such States, if any legislation can be justified at all, surely it should take the form of the enactment of statutory requirements, with enforcement left to injunction and abatement proceedings in the local courts. In this way, the burden of showing that a particular operation fails to meet the standards of sound mining practices declared in such a law would rest with the State.

S. 3132 would establish criteria upon which State controls or Federal controls would be based. The heart of any regulatory system is the definition of the standards to be applied. The American Mining Congress accepts the concept that surface mining should be carried on so as not unreasonably to damage other resource values on mineral lands. But what is reasonable and what is unreasonable?

As to surface mining, the establishment of guidelines or standards is especially difficult because every mining operation is to some extent unique, and what would be consistent with good mining practices in the desert country of the sparsely settled areas of the West might be unacceptable in the East where rainfall and the nature of alternative land uses create far different conditions. Indeed, subsection 3(d) of S. 3132 recognizes that "because of the diversity of terrain, climate, biologic, chemical, and other physical conditions in mining areas, the establishment on a nationwide basis of uniform regulations for surface mining operations and for the reclamation of surface-mined areas is not feasible."

This recitation adds weight to the point that Federal standards would have to be defined in very general terms. Although S. 3132 provides that regulatory plans should "promote an appropriate relationship between the extent of regulation and reclamation that is required and the need to preserve and protect the environment," it does not require that, in determining whether such an appropriate relationship exists, such factors, for example, as technical and engineering requirements, economic feasibility, and the relationship between costs and benefits should be considered.

S. 3132 demands that State plans "provide adequate measures for enforcement" including criminal and civil penalties for failure to comply with applicable State laws and regulations. This is wielding a big stick. Why?

Of the 15 States which have enacted surface mining laws to date, two-thirds of them rely on civil procedures. The bill also calls for criminal and civil penalties in States where direct Federal regulation is in force. It is significant to note that the Federal air and water pollution statutes rely on injunction suits, which are far better suited for the enforcement of this type of legislation.

In a suit for injunction, the requirements of the law as applied to a particular operation are spelled out in the injunction issued by the court after a full hearing. This places the burden of establishing the inadequacy of existing practices with the enforcing agency where it should be.

S. 3132, while purporting to engage the cooperation of the States, in our judgment, would place substantially all authority in the Secretary of the Interior. Section 7 provides for State regulatory plans which must have Federal approval. If the Federal Government does not approve a State plan (and the States are given no opportunity for judicial review of the Secretary's decision), the bill then provides under section 8 for direct Federal regulations.

In essence the Secretary would decide what requirements to impose, irrespective of whether these regulations are issued under a State or Federal label.

All of this, of course, is incompatible with any notion that the States will have an individualistic role to play in such a Federal-State cooperative scheme. Indeed, subsection 3(c) provides that regulation will in fact be "by the Secretary" and cooperation by the States as contemplated by the act will be merely the extension of the regulatory arm of the Federal Government.

This approach reflects one of the mistaken assumptions upon which S. 3132 is based. If the Secretary establishes the regulations and if

State cooperation is mere adherence to Federal standards, all to be "judged" by the Secretary, then there is no practical latitude or incentive for individual State action.

In essence, the Federal Government would command all the States—regardless of the need of the particular State—to adopt a specific plan for the regulation of surface mining, all based upon the issuance of permits and enforced through criminal penalties.

It would be a serious mistake to attempt Federal regulation of such a diverse industry under any circumstances. It would be a particularly serious mistake when that regulation assumes the form and approach outlined in S. 3132.

In opposing this legislation, we do not dismiss the Federal interest in the problem. The Federal Government has an appropriate role to play in mined land reclamation and that is in the field of research. As the Interior report states:

A modest amount of research has been conducted by agencies of State and Federal Governments, universities, industry, and conservation groups. However, a more thorough coordinated research effort is needed * * *

The Department of Agriculture, in its report on "Restoring Surface-Mined Land," issued just last week, urges that Federal research programs, studies, and field demonstrations be expanded.

We agree with this proposition. Research efforts by the Federal Government to aid and supplement the research of the mining industry will far better serve the public interest than the vast system of Federal regulatory control as envisioned in S. 3132. Cooperative research is an appropriate use of Federal resources. Such an approach makes infinitely more sense and will prove far more beneficial than a massive Federal regulation and control program, a program certain to bog down in a morass of costly, inefficient, and unreasonable direction—direction which should be left to the skills and wisdom of the State and local people who know and understand the real nature of the problem in their own areas.

In summary, Mr. Chairman, we are opposed to this legislation because we do not believe it is needed, and because it could impede production of vitally needed mineral resources in our country. We are opposed to this legislation because the costs to the Federal Treasury, even with financial contributions by the States, will be staggering and far out of proportion to the benefits derived, and because such a contemplated extension of Federal control to land use raises serious constitutional questions.

The States, the local communities, the mining industry are fully aware of the problem. The effectiveness of these efforts will continue to increase.

Thank you.

Senator METCALF. Thank you very much, Mr. Abdnor, for a persuasive, forceful, and vehement statement.

Senator JORDAN.

Senator JORDAN. Thank you, Mr. Chairman.

I appreciate getting the views of the American Mining Congress. The statements, I think, are significant here.

You say that the high-grade ores generally are mined first. As the mining goes forward throughout the Nation, we are more and more required to use low-grade ores which call for the handling of increased

volume in getting the concentrate from which the minerals, themselves, are derived. It seems to me that this indicates that we are going to have to look more and more toward open-pit mining in order to handle this volume. Is that a fair statement?

Mr. ABDNOR. Yes, sir. I consider it to be fair. I think, in the first place, the statement I made was a quote from Dr. Hibbard but our own experience backs that up entirely for the most part.

Senator JORDAN. You quoted Dr. Hibbard again. I think you said, "Our capability to produce minerals from domestic sources may not only remain static but in some cases disappear because they cannot be maintained in competition costwise with foreign production."

I remember when Dr. Hibbard made that statement. I think that is a fair statement and one that should give us some concern because I hope this Nation never becomes wholly dependent on foreign minerals for the requirements of our industrial and defense needs.

Mr. ABDNOR. I certainly agree with you, sir. This is our total domestic industry about which we speak and I had a sense this morning that there might be some disregard for this basic factor in some of the expressions that were heard.

Senator METCALF. Senator, I wonder if we can suspend here and go over and vote on the new regulations for the Senate Office Building. As soon as we can, we will return and you will continue your interrogation.

Senator JORDAN. Yes.

Senator METCALF. Thank you very much.

(A brief recess was taken.)

Senator METCALF. The committee will be in order.

Senator Jordan.

Senator JORDAN. Thank you, Mr. Chairman.

When we were so rudely interrupted by the buzzer, we were talking about the importance of domestic production of strategic minerals and metals to meet the defense requirements and the expanding needs of our industrial economy.

I would ask you, Mr. Abdnor, what percent of our strategic minerals and metals are now imported? Do you have an idea?

Mr. ABDNOR. I am sorry, sir, I don't. I think I can get the figure and I will be happy to send it for the record.

Senator JORDAN. Will you, for the record?

Mr. ABDNOR. Yes.

(The information requested is as follows:)

METALS

[Definitions: s.t.—short tons; l.t.—long tons; NA—not available]

Commodity	U.S. consumption, 1966	U.S. imports for consumption, 1966	Imports as percent of consumption
Antimony.....	45,682 s.t.	19,712 s.t. (general).....	43.2
Arsenic.....	NA	18,856 s.t.	NA
Bauxite.....	14,083,941 l.t.	11,529,000 l.t.	81.9
Beryllium (11 percent BeO).....	6,026 s.t.	2,147 s.t. (general).....	35.6
Bismuth.....	3,199,321 lb.	1,681,472 lb. (general).....	52.6
Cadmium.....	14,780,000 lb.	3,358,000 lb. (metal).....	22.7
Chromite (44.5 percent Cr ₂ O ₃).....	1,461,000 s.t.	1,864,000 s.t.	100.0
Cobalt.....	14,205,000 lb.	18,823,000 lb.	100.0
Columbium.....	3,873,237 lb. (Cb content).....	9,278,000 (concentrate).....	100.0
Tantalum.....	1,393,361 lb. (Ta content).....	2,143,000 (concentrate).....	100.0
Copper.....	2,359,954 s.t.	583,507 s.t. (general).....	24.7
Gold.....	6,062,000 troy oz. (industry and arts)	1,200,000 troy oz. (general).....	19.8
Iron ore.....	134,047,000 l.t.	46,259,000 l.t.	34.5
Lead.....	1,323,877 s.t.	356,441 s.t.	26.9
Manganese ore (35 percent or more Mn).....	2,369,923 s.t.	2,651,921 s.t.	100.0
Mercury.....	72,033 flasks	31,364 flasks	43.5
Molybdenum.....	75,476,000 lb.	5,000 lb.	(1)
Nickel.....	187,833 s.t.	141,000 s.t.	75.1
Platinum group.....	1,675,795 troy oz.	1,435,017 troy oz.	85.6
Rare earth oxides.....	5,740 s.t.	1,775 s.t.	31.0
Selenium.....	1,131,000 lb.	286,000 lb.	25.3
Silver.....	183,696,000 troy oz. (industry and arts)	63,032,000 troy oz. (general, excludes coinage)	34.3
Tellurium.....	215,000 lb.	18,000 lb.	8.4
Tin.....	85,486 l.t.	46,071 l.t.	53.9
Titanium:			
(a) Ilmenite concentrate.....	962,706 s.t.	186,539 s.t. (general).....	19.4
(b) Rutile concentrate.....	135,883 s.t.	151,482 s.t. (general).....	100.0
Tungsten.....	17,710,000 lb.	4,298,000 lb.	24.3
Uranium (U ₃ O ₈ content).....	10,180 s.t. (AEC stocks).....	2,049 s.t. (concentrate).....	20.1
Vanadium.....	5,481 s.t.	72 s.t. (ore and concentrate).....	1.3
Zinc.....	1,806,543 s.t.	676,682 s.t.	37.5
Zircon.....	34,000 s.t. (excludes foundries).....	57,976 s.t.	100.0

NONMETALS

Asbestos.....	805,391 s.t. (apparent).....	726,459 s.t. (unmanufactured).....	90.2
Barite (primary).....	1,417,000 s.t.	699,000 s.t.	49.3
Boron.....	74,700 s.t.	12,000 s.t.	16.1
Clays.....	55,765,000 s.t.	139,000 s.t.	(1)
Diatomite.....	515,000 s.t.		0
Feldspar (crude).....	685,592 l.t. (apparent).....		0
Fluorspar.....	1,065,124 s.t.	878,546 s.t.	82.5
Graphite (natural).....	48,400 s.t.	56,700 s.t.	100.0
Gypsum.....	15,088,000 s.t.	5,479,000 s.t.	36.3
Kyanite.....	NA	3,405 s.t.	NA
Lithium.....	NA	9,260 s.t.	NA
Magnesite.....	2,100,000 s.t.	172,588 s.t.	8.2
Mica:			
(a) Block and film.....	2,813,000 lb.	3,538,000 lb.	100.0
(b) Splittings.....	7,100,000 lb.	6,797,000 lb.	95.7
Perlite.....	394,000 s.t.		0
Phosphate rock.....	27,382,000 s.t. (apparent).....	178,000 s.t.	(1)
Potash (K ₂ O equivalent).....	3,999,000 s.t.	1,487,000 s.t.	37.2
Pumice.....	3,500,000 s.t.	269,028 s.t.	7.7
Salt.....	38,280,000 s.t. (apparent).....	2,479,000 s.t.	6.5
Strontium.....	5,490 s.t.	5,490 s.t. (estimated).....	100.0
Sulfur and pyrites.....	9,157,822 l.t. (apparent).....	1,514,000 l.t.	16.5
Talc, soapstone and pyrophyllite.....	824,000 s.t.	21,000 s.t.	(1)
Vermiculite.....	253,000 s.t.	17,000 s.t.	(1)

1 Negligible.

Note: Data based on 1966 Minerals Yearbook, vol. I and II, Metals, Minerals and Fuels, U.S. Bureau of Mines, U.S. Bureau of Mines' Commodity Statements (supplement to Bureau of Mines' Strategic Plan), January 1968, and U.S. Bureau of Mines' Commodity Data Summaries, January 1968.

Senator JORDAN. Mr. Abdnor, do you believe the enactment of this legislation would possibly jeopardize the ability of the mining industry of this country to produce the strategic minerals and metals we need for defense and expanding of the industrial economy?

Mr. ABDNOR. Senator, I think the scope of the authority that would be given to the administrator, particularly at the Federal level, would be such that it could conceivably create a situation that would be entirely uneconomic. I don't say this is going to happen, but I say that the authority granted is so broad in this legislation, without any right of appeal to the courts, without any recourse, simply what rests in the judgment of a man, will be imposed upon the mining industry, and some of this will depend upon what the eyes of that man see: Is it beautiful or is it not beautiful?

This is the wide-open approach that gives us such great concern and particularly because this legislation makes no reference to economic feasibility or practical feasibility.

Senator JORDAN. I think you make a good point when you say that there is no opportunity for judicial review of the Secretary's decision, whatever that may be and whoever the Secretary may be.

Mr. ABDNOR. Precisely, sir.

Senator JORDAN. Could not you people in the mining industry suggest amendments to this bill, if you have to have a bill, and I assume that you probably are going to have to have a bill?

What amendments would you suggest that would provide for judicial review, would provide for some of the things that you think this bill lacks? Have you gone into that?

Mr. ABDNOR. No, sir. We have not gone into that at this point. If I were convinced that we had to have a bill, I am confident that we could furnish amendments which would vastly improve this bill as written. However, the problem inherent in Federal legislation is that it encounters the diversity that exists in the total mining industry in all of the States involved. It is these inherent problems that we address ourselves to at this time. Certainly, sir, there could be amendments to vastly improve the bill, but we don't think it would make it a good bill.

Senator JORDAN. So you have not addressed yourselves at this point to any amendment that might make the bill more palatable to your industry?

Mr. ABDNOR. Not specifically. We have pointed out a number of areas which, as I say, I think are inherent in the Federal approach to the problem but there are other areas here such as the one you noted on the matter of lack of judicial review, which obviously could be reflected by corrective amendment.

At an appropriate time, I am sure that upon inquiry of this committee we as an association would be glad to present such information to you. Nevertheless, I again say that at this point we take a position of opposition to the total concept of Federal control.

Senator JORDAN. I understand.

Again I repeat, if a bill is going to be enacted, it might be helpful to this committee if you offered some amendment which in your mind was constructive and would obviate some of the evils you see here.

Mr. ABDNOR. I think we understand that, sir, and certainly it will be brought to the attention of the American Mining Congress for whom I speak.

Senator JORDAN. Thank you.

Mr. ABDNOR. Thank you, sir.

Senator METCALF. I am very grateful to my colleague from Idaho for bringing up this question of judicial review.

I feel that in almost every instance there should be some judicial review and I hope that you will come up with some suggestions. If you come up with some legislation, I would suggest that maybe you would remember that for many, many years I have fought for judicial review in the appropriate district court, rather than requiring Montanans to travel more than 1,000 miles to San Francisco from Butte. So, I am in complete accord with that.

In your principal discussion, Mr. Abdnor, and your responses to Senator Jordan, you said that this might make us less competitive with foreign production. In other words, if we made the Anaconda Co. or the Kennecott Co. do something about the pit—and I don't think this bill does that—if we did that, Chilean production or something would be more competitive and would put some of our Montana miners or all the miners out of work.

Mr. ABDNOR. I think that is elemental, sir.

Senator METCALF. Then you really didn't mean this was a global bill, did you?

Mr. ABDNOR. I meant global in a sense that you might use the word general or generic applying to the total of the United States under control. Perhaps it was an unfortunate word. In the statement I read, global meant generic throughout the United States.

Senator METCALF. If we had global jurisdiction that would not be a problem, would it?

Mr. ABDNOR. If we could control some of the fellows in the other countries, I think that would be different.

Senator METCALF. I think I mentioned that more than 30 years ago I was a member of the Montana Legislature.

Mr. ABDNOR. Yes, sir.

Senator METCALF. And had introduced similar legislation for gold dredgers who were going down the valleys and the streambeds and were destroying farmland that was much more valuable than some of the land we are discussing today. And the representatives of the American Mining Congress and the mining people came in and opposed that legislation because they didn't want State control.

It would seem to me that you consistently whipsaw us in this business of trying to get some control. Believe me, I want to compliment many of the mining institutions for some of the forward-looking operations that they have had in the 30 years that have elapsed since I introduced that legislation.

You go into the State legislatures and you say you cannot be competitive and the legislature cannot put this sort of law in Montana because the miners cannot compete with the price of copper in Utah and Arizona.

You go into the coal areas and you say that if Kentucky passes, a bill for reclamation and restoration of strip mining, look what it will do for us in the Four Corners Region of Oklahoma and Kansas and so forth. It would seem to me that this approach, where we are trying not to make it Federal but we are trying to encourage equitable State

regulations, that business of a lack of competition or a flight of industry or something is unfounded.

Now, you folks really go to the State legislatures and discourage and oppose the same sort of legislation at the State level; isn't that true?

Mr. ABDNOR. I cannot reject or deny, and it would be foolish to do so, some of the inconsistencies perhaps that you outline, Senator.

Yet, I would like to address myself briefly to what I think is a very basic proposition. It seems to me that whether you are in industry or in legislative action in the Halls of Congress or in the State legislatures that you are essentially obliged to respond to the public demand.

I think it is a demand of people that furnishes the initiative and the motion for accomplishment. With all due respect to what you are saying, obviously you were ahead of your time in your first bill in Montana 20 years ago or whenever it was.

Senator METCALF. Thirty.

Mr. ABDNOR. And I think 30 years was even more further ahead of times. I think perhaps it was not too many years ago that it was still ahead of the times because there was still not an awareness, a need, a demand for it.

Now, I think that essentially as a result of what has happened in the coal mining areas—and, let's face it, this is where the big problem lies and the coal people have acknowledged it; they have State laws covering it—this problem has existed and it is not going to be cured in a day by State laws.

If the problem is moving ahead toward solution in those areas where it has first arisen and first became paramount in the eyes of the people who demanded solution, then I say they are on the right track.

Now, today, speaking only for my own industry in Minnesota, I am sure the representative of the State will confirm the fact that my industry came forward to him and to the State government. I confess it was after this thing stirred in Denver last year that we knew of this Federal move and knew that we were obliged to take a position that certainly some authority is going to act, so we came forward and said, we will work with you.

Now, at least the proposal for Federal legislation is in itself saying that if you don't do the job we are going to do it, but I do not believe that the States need to be forcefully directed at this point to do the job in the manner in which they are told to do the job. I say, let the States do the job if they will. This is not, I think, the appropriate time for the Federal Government to impose its rules on the States because I think they are moving into it very, very well.

Senator METCALF. What if the States will not do the job?

Mr. ABDNOR. I don't think that has yet been demonstrated.

Senator METCALF. Well, for the record, I would like to insert some statistics on surface mining of coal and lignite in 1966. Now, as you point out that is a different proposition; they are not nonferrous ores. There are non-State-regulated areas where there is substantial coal production—Alabama, Missouri, Wyoming, North Dakota, New Mexico—all of which have coal production greater than some of the regulated areas such as Virginia, Tennessee, and Colorado.

They have not done the job and it seems to me as if we should encourage States such as Kentucky and Illinois and Ohio, which put

through some of these programs, to continue to work in that direction and at the same time make the industry in their State competitive with these other States which are not regulated.

If this is going to be a burden on anybody, then there is a strong argument that the States should not do it by themselves, because you put the States' industry in a noncompetitive position.

Mr. ABDNOR. Well, let me say first—

Senator METCALF. I would like to put these statistics in the record at this point.

Senator JORDAN. Without objection.

(The document referred to follows:)

SALIENT STATISTICS FOR SURFACE MINING OF BITUMINOUS COAL AND LIGNITE IN 1966¹

State	Number of mines			Production (tons)		
	Strip	Auger	Total	Strip	Auger	Total
State regulated:						
Kentucky.....	111	128	139	32,151,169	5,191,722	37,342,891
Illinois.....	49	—	49	36,112,742	—	36,112,742
Ohio.....	274	63	337	28,545,829	1,735,629	30,281,458
Pennsylvania.....	618	60	678	24,796,639	826,241	25,622,880
West Virginia.....	179	100	279	12,285,443	4,919,899	17,205,342
Indiana.....	38	—	38	15,465,433	—	15,465,433
Subtotal.....	1,269	351	1,620	149,357,255	12,673,491	162,030,746
Virginia.....	66	65	131	3,640,580	2,178,952	5,819,532
Tennessee.....	49	10	59	2,276,395	301,721	2,578,116
Colorado.....	6	1	7	1,616,459	5,337	1,621,796
Kansas.....	5	—	5	1,121,546	—	1,121,546
Oklahoma.....	10	1	11	834,171	3,037	837,208
Maryland.....	27	2	29	772,142	20,785	792,927
Iowa.....	15	—	15	761,322	—	761,322
Montana.....	4	—	4	328,936	—	328,936
Subtotal.....	182	79	261	11,351,551	2,509,832	13,861,383
Total (State Regulated).....	1,451	430	1,881	160,708,806	15,183,323	175,892,129
Non-State regulated:						
Alabama.....	61	6	67	5,203,174	115,369	5,318,541
Missouri.....	13	—	13	3,580,604	—	3,580,604
Wyoming.....	9	—	9	3,547,094	—	3,547,094
North Dakota.....	25	—	25	3,542,839	—	3,542,839
New Mexico.....	3	—	3	2,363,854	—	2,363,854
Alaska.....	4	—	4	927,145	—	927,145
Arkansas.....	4	—	4	172,203	—	172,203
South Dakota.....	1	—	1	9,500	—	9,500
Washington.....	1	—	1	2,944	—	2,944
Total (non-State regulated).....	121	6	127	19,349,357	115,369	19,464,726
Grand total.....	1,572	436	2,008	180,058,163	15,298,692	195,356,855

¹ Source: Minerals Yearbook, 1966 Edition, Published by The Bureau of Mines, U.S. Department of the Interior.

Mr. ABDNOR. The next people I think to appear before you are the coal people who are better qualified and more knowledgeable. I would point out, however, that this statement that I have presented, shows that 93.6 percent of the coal production by surface mining in the United States, based on 1964 production, was in coal-producing States where there is presently State regulation, some 14 of them.

Senator METCALF. I have the statistics but I didn't add them up because my mathematics is very poor, as the Internal Revenue Service always reminds me after I turn in my income tax. The statement will speak for itself.

Mr. ABDNOR. Very good, sir.

Senator METCALF. Thank you very much for your very helpful testimony. Do you have anything more?

Mr. ABDNOR. Nothing more, Mr. Chairman.

Thank you.

Senator JORDAN. Thank you, sir.

Senator METCALF. The next witness is another old friend of this committee's, a man who has appeared before us many times and furnished us counsel and advice and constructive suggestions, Mr. Joe Moody, president of the National Coal Policy Conference. Joe, we are glad to have you here.

Mr. MOODY. Thank you, Mr. Chairman.

Mr. Chairman, in an effort to try to cut down this duplication and to get the story told in one spiel, I wonder if you would mind if I called up my conferees here so that we have them at the table and then we will just go through our presentation from one end to the other without interruption except for questions and discussion with you.

Is that agreeable?

Senator METCALF. Thank you very much, Mr. Moody. We will be delighted to have your colleagues with you. You may bring them up and identify them and then proceed.

Mr. MOODY. All right.

Mr. Edwin R. Phelps, vice president of the Peabody Coal Co., will follow me. He is a technician of technicians, by the way, of the largest strip mine in the country.

He will be followed by Mr. George Sall, who will give you the history on the statistics of this problem in the coal industry, the director of the Mined Land Association and also director of Mined Land Reclamation for the National Coal Association.

He will be followed by James Reilly. Jim Reilly is with the Hanna Coal Co. which is, of course, a member of the family and has done a great deal of actual strip mining and reclamation in Ohio.

We had anticipated that maybe our old friend, Senator Lausche, would be here and we are rather disappointed that he is not. We thought Jim might be helpful under the circumstances and also because they have done a tremendous amount of reclamation in Ohio, as you know.

Senator METCALF. I think he will be helpful, in any event.

Mr. MOODY. Then we have Mr. Robert E. Lee Hall, senior vice president of the National Coal Association, who will make his statement and summarize the points that we are trying to make. You know, as the minister said, "You tell them and then you tell them what you told them and then you tell them what you intended to tell them." That is the way we are.

Senator METCALF. We are delighted to have all of you here. You are welcome.

Mr. MOODY. I have accumulated a certain amount of odds and ends during the day here.

The statement that I am presenting is really in two parts. One is a direct statement of the situation as I see it and then there is what I have termed a supplemental statement. The supplemental statement, however, covers a review of the legislation, Senator Jordan,

along the line that you were inquiring as to our interest in the legislation.

It is not presented, however, as an amendment or as a rewrite of the legislation. As you probably know in the air pollution area we were active in trying to have certain parts of it considered and discussed and handled in that way.

We have not, in this particular instance, made that as a suggestion but it is quite possible that this supplemental statement, which I will not read but I would like to have in the record as part of my statement, will remedy that.

STATEMENT OF JOSEPH E. MOODY, PRESIDENT, NATIONAL COAL POLICY CONFERENCE; ACCOMPANIED BY EDWIN R. PHELPS, VICE PRESIDENT, PEABODY COAL CO.; GEORGE SALL, DIRECTOR, MINED LAND ASSOCIATION AND NATIONAL COAL ASSOCIATION; JAMES REILLY, VICE PRESIDENT, HANNA COAL CO.; AND ROBERT E. LEE HALL, VICE PRESIDENT, NATIONAL COAL ASSOCIATION

Mr. MOODY. My name is Joseph E. Moody, and I am president of the National Coal Policy Conference, Inc., which represents the diverse groups comprising the industrial federation built around bituminous coal—coal-producing companies, the industry's great union, the United Mine Workers of America, coal-carrying railroads and barge lines, coal-burning electric utilities and manufacturers of coal mining machines and equipment.

With the indulgence of this committee and its staff, we have arranged to present testimony from the representatives of coal as a coordinated group, with spokesmen for various segments of the industry presenting parts of the whole picture.

We felt this would avoid unnecessary duplication, at the expense of the committee's time, but still make certain that the several aspects of this most important proposed legislation, insofar as it may affect the fuels and energy of this country, as well as the jobs and economic strength of those involved with coal production, transportation, and consumption, are adequately presented.

Although I have been rather closely associated with the coal industry for more than 20 years now, I cannot claim that I have ever actually mined a ton of coal, or been responsible for the technology by which it is mined.

Thus, I will leave testimony of mining operations and techniques to those whose daily responsibility is involved in the realm of the practical and cost-price balance sheet of the possible.

I believe I can lay claim, however, to having absorbed some knowledge of the broad picture of coal and its interrelationship with other fuels, with the intensely competitive energy market both among our own domestic fuels and between indigenous fuels and foreign supplies and, finally, in the broad aspects of national energy demands, supplies and potentials. And these matters are at the heart of the legislation we are considering today.

Since the relationship of fuels and their use to our environment began to be a matter of national concern a few years ago, the National Coal Policy Conference staff and its members have become

deeply immersed in seeking ways in which coal and other fuels can continue to meet their tremendous obligations to national growth, within the framework of national aspirations for a cleaner and more attractive environment.

A shrewd observer once remarked that humankind was sometimes less than astute in its collective logic. All too often, he noted, we were prone to follow the reasoning:

"A horse is white; therefore, everything white is a horse."

I am afraid we have been guilty of some such associations of ideas in regard to strip—or surface—mining of fuels, metals, and minerals. In some instances, strip mining has marred the beauty of nature and its site has been left unreclaimed once the mineral removal was completed. Therefore, this type of reasoning would proceed: All surface mining is an abomination and, regardless of the national need it fulfills, should be banned.

I submit that this is neither factual nor sensible.

It reminds me of a story that was told one time by a general during—not the last war; I cannot remember which one it was; the Second World War, I think they label it. General MacSherry, who is associated with me, one day thought that I had completely lost my buttons, I guess, by being rather sharp in my comments concerning something that had happened. He said, "Joe, I want to tell you a story."

He said, "You know, in a little town that I lived in we used to hang around the drugstore and as the girls went by we did our girl watching. There was always some itsy, bitsy comment. There was one girl that was pretty good looking but not exactly beautiful from standards that ordinarily are applied. As she went by this afternoon, one of the boys said, 'Lord, her face would stop a clock.'"

All of you who are old enough—and you may be, Senator—remember buggy dashing and the shed back behind the church in the small towns. It seems that that evening the general, with a gal, went into the shed and parked and noticed that in the buggy alongside was this young lady who had gone past the drugstore and whose face supposedly would stop a clock. He said, much to his amazement, he heard her companion say, "Eloise, your beauty would make time stand still."

So, lots of times you know when you think that maybe a high wall and a strip mine is ugly, remember somebody got a lot of benefit out of it somewhere. We had low-cost power that gave us a chance to produce what we needed; it kept us in competition.

By the very nature of ore and other mineral deposits, land terrain, location, and economic competition, a great deal of our mining operations must necessarily be of the surface extraction type today. And we simply cannot afford to do without the fuels, metal and nonmetal ores, and other basic substances recovered by this method for our ravenous industrial, agricultural, and social needs.

The fact is, however, that regulations which unduly hamper-surface mining operations and add production costs which make domestically mined products noncompetitive with the same or substitute products produced abroad, could very well hasten a further decline in our self-sufficiency of many fuels, metals, and mineral ores.

We believe you gentlemen will agree that it should be the responsibility of the Congress to encourage a strengthening of our domestic industrial economy and that, while recognizing the need for essential protection of the health and welfare of all citizens, caution must be used to avoid unjustified injury to America's industrial might.

For a number of years, there has been general recognition that America must maintain its self-sufficiency of a number of essential raw materials as a simple fact of national security. Political or military crises could—and have—shut off our supplies of oil, tin, natural rubber, sugar, and many other essential commodities in the past, and this Nation cannot afford to be in a position where another such event could deprive us of things necessary both to our life and strength.

I could talk for hours on this point—in fact, if all I have said to various committees of the Congress since 1959 on the national security dangers of excessive imports of residual fuel oil were made a part of this record the Government Printing Office probably could not have it ready for publication before the Congress adjourns.

I will only cite the most recent warning I have seen, from a responsible, concerned, high Government official.

Speaking of crude oil, but in a context that is equally applicable to any other essential fuels, metals or raw materials, Assistant Secretary of the Interior J. Cordell Moore told the Rocky Mountain Oil and Gas Association on March 27 that it is essential “that the United States have an assured, plentiful supply at the lowest practical cost.

“—Plentiful, because we will need to find at least $4\frac{1}{4}$ billion barrels of new oil each year just to replace what we take out of the ground.

“—Assured, because we cannot afford to be dependent upon sources which might be denied us through war or political instability.”

Now, to this compelling national security factor has been added a new—and, to us, unprecedented—reason for self-sufficiency of essential supplies. We no longer can afford to purchase more and more of them abroad, which we, nevertheless, are doing each year.

That is, perhaps, a drastic way of saying that we have to curtail our spending for overseas purchases of things we can produce, or substitute for, at home. But it is basically true. Anyone who has watched the dwindling of our gold reserves, the continuing deficit of our foreign payments balance sheets, and the steady inroads into our domestic market of critical minerals and fuels by foreign supplies cannot help but be alarmed.

I don't want to go too far afield here, and I certainly recognize that the foreign trade and balance-of-payments situation involves much more than purchases of fuels and other raw materials. Nevertheless, I think they are legitimate and crucial factors when we are considering the wisdom of adopting new restrictions which may further weaken the competitive position of domestic supplies vis-a-vis those in other countries.

I likewise fully recognize the desirability of maintaining substantial trade with other nations, with the legitimate interests of each trading nation properly accepted and protected. Because of our technical and industrial development, our trade balance, as contrasted to our payment balance, remains favorable, and this was written 10 days ago and they tell me since the first quarter of this year there is a deficit, too, some two and three-tenths billion.

But that does not mean we should let ourselves become dependent on "sources which might be denied us," in Secretary Moore's words, for essential materials which form the very basis of our civilization and industrial might.

We are reaching a point where these policies cannot continue.

In 1949, the United States possessed \$24.6 billion in gold reserves, or 70 percent of the world's total. Today, that has dropped to \$10.7 billion—or 25.3 percent.

Not since 1956, when the Suez crisis opened up extraordinary foreign markets for United States fuel, have we shown a plus in our balance of payments. The liquidity balance in 1967, as recently estimated by the Federal Reserve Bank of St. Louis, was a minus \$3.4 billion.

It seems quite clear to me, Mr. Chairman, that these facts convincingly prove that, even though there may be an enticing desire to further promote the esthetic beauty of our countryside, America cannot afford actions which would add still further unnecessary costs to our own domestic production of essential minerals, metals, and fuels, and results in still greater demands for imports of these necessary materials from abroad. And passage of legislation which would add materially to the cost of surface mining of our natural resources could do just that.

Now, there is another compelling reason, besides the plaguing problems of gold reserves and balance of payments, for us to be very wary of increasing our dependence on foreign sources for our essential minerals, fuels, and metals. And that is, if we do not continue to encourage development and utilization of our own mineral resources, we may all to soon find that we are too late to do so. There are various statistics which warn that we already may have gone dangerously far in this direction. Let me cite my own industry as a partial example of what is happening as a result of a Government policy to encourage dependence on foreign, rather than domestic, resources. As we all know, our tremendously increased demand for energy fuels has resulted in a steady increase in fuel consumption in recent years, including coal, for electrical utility plants.

What is not generally realized, however, is that in one vital, highly industrialized, heavily populated section of the country—the northeastern part of the United States, consisting of New England, New York, and New Jersey—domestic coal is actually losing its utility market to imported residual oil.

While this hearing is not concerned with oil imports, per se, it is concerned with proposals and regulations which could further weaken coal's ability to compete both with domestic alternative fuels and with fuels imported from foreign sources. This, of course, affects the future strength of our industry just as does an increased dependence on foreign sources for essential metals and minerals.

Although probably most of the coal which has traditionally moved into the northeastern market has been from deep mines, rather than surface mines, any circumstances which can erode this major consumption area as a consumer of coal necessarily has an important impact on the production of coal in all sections, since coal pushed out of this market must compete in markets further from the coast.

To give you an example how this ties in, last Friday there were two things that happened at TVA where they had announced two coal plants; a couple months ago they announced two atomic reactors. Even in the face of their statement that the atomic reactors had become, price-wise, noncompetitive. At the same time, they issued a release—I will read the beginning of it, and this is the TVA release:

The Tennessee Valley Authority has reached agreement with its two largest suppliers of surface mined coal for sharing increased production cost resulting from more stringent strip mine reclamation requirements. TVA's share of the extra cost will amount to more than five million dollars with Peabody Coal Company and Kentucky Coke Mining Company for 100 million tons of coal for 20 cents a ton their share.

So you figure that they must figure that it costs 40 cents a ton.

Now, maybe there is nothing but coincidence in the fact that TVA decided that in their statement 2 months ago the reactors were not competitive but along with this announcement went the announcement that, because they had purchased the two reactors, they would no longer consider the addition of a coal plant at Bull Run.

Now, this is where these ramifications go.

Senator METCALF. Will you explain that? You say that reactors are noncompetitive?

Mr. MOODY. The TVA said that the reactors had reached a point where they were not competitive with coal plants in that area and they purchased two coal plants. So, we anticipated that we had done a good job, that somehow we cut our prices down and that the coal was being offered in volume great enough to take care of these monster plants they were building.

But the coincidence of switching from the coal plants to reactors and gave notification that they no longer considered the coal plant at Bull Run and also a voluntary adjustment on their contracts of 20 cents a ton, saying that this is their share and the producer has to take up the rest of the slack, indicates how we are dealing in the competitive relationships of what we are talking about, and I will now go into that.

It must be recognized that utilities buy fuel or build generating plants designed to use various fuels, including uranium, on the basis of costs per million B.t.u.'s and, recently, decisions have been made on an extremely narrow cost differential. Sometimes as much as a fraction of a mill per kilowatt hour for power costs, a standard proportion of which is the fuel cycle costs, determines whether a new plant will be designed for nuclear power, coal, or fuel oil.

Thus, it is significant that when the residual oil import controls program was loosened and virtually eliminated 2 years ago, prices of imported oil dropped several cents a barrel and oil began to take over more and more of the northeastern market. In fact, between 1965 and 1967, the annual use of coal by utilities from New Jersey northward declined by 2,644,000 tons. During this same period, the use of fuel oil by utilities—and 82 percent of all fuel oil used on the east coast is now imported—increased by the equivalent of 8,463,000 tons of coal.

Coal's share of the market in these States declined from 62.2 percent to 50.2 percent. In contrast, utility consumption of coal on the rest of the east coast increased by about 13 million tons and coal's share of the market from Pennsylvania southward remained unchanged at about 84 percent.

Any action taken to further increase production costs of domestic coal cannot fail to further weaken coal's competitive position in markets where even a few cents per ton might swing a decision for or against one fuel.

The same argument holds true for other domestic extraction industries which must compete on both domestic and world markets, and where an inability to so compete inevitably results in a weakening of our domestic metals and minerals resources position.

There are already examples of U.S. production losing out to foreign sources in several fields and, while that may not result from cost differentials, certainly they are significant in assessing our ability to remain self-sufficient for vital raw materials in the future, and certainly any Federal action which would increase domestic production costs would tend to add to this already apparent trend.

Between 1951 and 1966, domestic production of iron ore decreased from 118.4 million tons to 90 million tons, while imports increased from 10 million tons to 46.3 million tons. This meant an increase of about \$400 million in our balance-of-payments deficit.

In the same period, our production as a percent of world production dropped from 40.4 to 14.6 percent. Thus, while U.S. production of iron ore was declining almost 28 million tons, total annual world production was increasing by 325 million tons.

You probably saw in the paper where the Yamada and Fuji steel companies of Japan are merging and will be the largest steel company in the world.

In 1951, we produced 1,878,000 tons of bauxite, the raw ore for aluminum, and imported 2,830,000 tons. In 1966, we were still producing less than 2 million tons, but we imported 11,529,000 tons. Thus, the growth of our aluminum raw material ore consumption was all from foreign production. It might be noted that the cost of the 1966 imports was \$147.3 million, compared to about \$20 million as the value of our domestic production.

The U.S. production of crude petroleum was 2,245 million barrels in 1951, or 52.4 percent of world production. In 1966, it had increased to 3,027,763,000 barrels but world production had multiplied about six times, to almost 12 billion barrels, and U.S. production by then was only 25.3 percent of world production. Meantime, crude petroleum imports had grown from 8 percent of domestic production to 14.7 percent.

Perhaps the clearest warning that has been issued against the growing dependency of foreign sources of metals, minerals, and fuels came from Dr. Walter Hibbard, then Director of the U. S. Bureau of Mines, on March 21 of this year. I know he has been quoted once before but I think it is worth emphasis.

Dr. Hibbard told the Subcommittee on Minerals, Materials, and Fuels of this Senate Interior Committee that a long-range study which he had had the Bureau make had revealed, and I quote his words:

... a situation that is emerging which appears to threaten both the adequacy and dependability of our supply of minerals and mineral fuels.

Mr. Chairman, these are startling words coming from the Government official charged with primary responsibility for compiling factual information on minerals, fuels, and other mining products. They

simply cannot be ignored by the Congress, or any other branch of Government.

Dr. Hibbard pointed out that as readily available, supplies of any resource become more scarce, the extraction costs increase, and admitted that how long our "important domestic capability" to supply our own mineral needs, as well as supply a great variety to world markets, "can be maintained is open to considerable conjecture."

The Mines Bureau Director noted that already U.S. mining interests are turning to foreign material sources, and that we now import—

Forty percent of our iron ore;
 Nearly 40 percent of our zinc;
 More than 25 percent of our lead;
 Almost 20 percent of our copper; and
 Eighty-five percent of our bauxite.

He did not state, although he might well have, that we also import 82 percent of all the residual fuel oil used in the Atlantic seaboard States in competition with domestic coal and other fuels.

I will not dwell further on Dr. Hibbard's very important testimony, except for one more very pertinent quotation:

If current trends continue—

He warned—

our capability to produce minerals from domestic sources may not only remain static, but in some cases disappear because they cannot be maintained in competition costwise with foreign production.

Any new regulations adding to the burdens and cost of, and further discouraging production of, domestic fuels, minerals, and metals is certainly going to augment our already substantial dependence on foreign sources, a few examples of which I have cited above.

Mr. Chairman, I have addressed myself to the broad picture of the Nation's fuels, metals, and energy needs, supplies and capabilities, balanced against costs and world competition.

Several of my associates will testify more specifically to the fact that almost all of the coal-mining States where surface mining is conducted in areas where it may temporarily affect the beauty of the countryside now have reclamation laws which their legislatures feel are sufficient to protect the esthetic qualities of the scenery.

They will also comment more specifically on both technical, production, and marketing problems for coal which could result from the superimposing of Federal reclamation programs on top of such State regulations and they will supply you with facts about the surface mining of coal—why it is necessary under certain conditions and in certain areas and why restrictions which make it uneconomic would not only be a serious blow to the economy in many sections of the Nation, but would also seriously impair our ability to provide a secure and low-cost fuel to utilities and other users in many areas.

My testimony has emphasized that we cannot afford at this time new regulations which further hamper our ability to supply our own needs for fuels, minerals, and metals. I sincerely hope the committee will agree with me, and that S. 3132 and other proposed legislation on this subject will be rejected by this committee in this session.

Members of the coal industry, as ordinary good citizens, are honestly concerned with the maintenance and improvement of the en-

vironmental quality of the Nation. But it has to be recognized that there are limits to the costs and problems which can be imposed upon it without serious consequences to the industry's strength and to the national economy and fuel security.

Not very long ago, the Water Quality Act was passed, creating widespread new problems in controlling and eliminating acid mine drainage. The industry is still seeking to find ways to comply with national policy in this field.

Last year, the industry recognized that in some cases air pollution is becoming a serious problem and cooperated with the Congress in support of a control program. We endorsed the passage of the Clean Air Act of 1967, even though we recognized that a great deal of damage to coal as a competing fuel in the marketplace could result. We are still trying to find the answer to air quality improvement without severe injury to our industry.

With these two problems still facing us and demanding solutions, it seems to me that only the most serious emergency would justify the imposition of still further restrictions and higher costs on mining at this time. I do not believe a case can be made to show that such an emergency exists today.

Because I am hopeful that this committee will agree that there is no pressing need for this legislation and that this is not the time, considering all the other national problems we face, to take the action called for here, I have purposely refrained from specific comments on this bill.

There are, of course, some who disagree with me. They feel such legislation is necessary and are urging its passage. Even if Federal reclamation control legislation was needed, there are certain provisions of S. 3132, as drawn, which would render it completely unacceptable and compound to a serious degree the undesirable consequences against which I have warned.

For whatever value it may be to you in your deliberations, and with the hope that it will demonstrate why S. 3132 should not be approved at this session, I have prepared several specific comments on these provisions which, with your permission, I would like to submit at a supplemental statement to my text. In the interests of time, I will not read it, but I hope it will be read and will be accepted for the record.

Thank you for your courteous attention and the opportunity for myself and my colleagues to present the viewpoint of the coal industry on this matter.

May I put this in the record, as if read?

Senator METCALF. The supplemental statement will be included as part of the record, and I assure you that it will be read with a great deal of interest, both by the staff and those members of the committee who are concerned about this legislation.

Mr. MOODY. Well, Mr. Chairman, you know if there is something in it that does not sound just like good English, why, you may change it. (The statement referred to is as follows:)

SUPPLEMENTAL STATEMENT OF JOSEPH E. MOODY, PRESIDENT, NATIONAL COAL
POLICY CONFERENCE, INC.

The following comments are offered to point out what we believe are the principal faults of S. 3132 as introduced. They are not intended to be exhaustive and, indeed, if there seems to be an intention on the part of the Committee to rec-

commend Federal mined land reclamation legislation at this session, *we would urgently request an opportunity to submit additional testimony*, elaborating on these points and discussing other provisions of legislation being considered. These points, however, do suggest our overall reaction to S. 3132 in its present form.

(1) The definition of surface mined areas in Section 2 seems unrealistically broad and particularly Section 2(e), page 2, line 19, which could be interpreted to mean that if operations of a particular surface mine are still underway, although parts of some "surface mined area" might have been mined over years before, the entire area would be subject retroactively to provisions of this legislation. This would create an impossible situation in many instances and could add costs which would be completely intolerable for the continued economic mining of the area.

(2) There are several places throughout the legislation in which wording is so general as to allow almost any arbitrary interpretation by enforcement authority, even if such interpretations are completely unrealistic and far beyond control envisioned by the Congress. For example, in Section 3(b), page 3, in listing the findings of the Congress, it sets forth certain operations which allegedly "burden and adversely affect commerce by destroying and diminishing the availability of land for commercial, industrial, recreational, agricultural and forestry purposes by causing erosion and land slides, by contributing to floods and the pollution of water, by destroying fish and wildlife habitat and impairing natural beauty" among other things. It further states in Section 3(c) that regulations by the Secretary and cooperation by the states, as contemplated by this Act, must be appropriate to prevent and eliminate such adverse effects. Further Section 7(a)(1)(A) gives the Secretary power to disapprove a state plan if in his "judgment" the plan does not provide "an appropriate relationship between the extent of regulation and reclamation that is required and the need to preserve and protect the environment." This combination of provisions gives such a broad definition of the environment to be protected and such sweeping discretion to the Secretary as to the adequacy of a state plan, that for all practical purposes there is no legislative standard.

It is no secret that much land which is surface mined for its minerals, fuels or metals is so located as to have no value for commerce, industry or recreation. Particularly in such circumstances, it makes much better sense to leave the discretion as to the adequacy of the regulation to the individual states which can far better take account of the situation in their own areas and in the various sections of their state, and thus, determine what restrictions are necessary in the public interest. This philosophy is recognized in Section 3(d), which pointed to the diversity of terrain, climate, biologic, chemical, and other physical conditions in mining areas, which make the establishment of a nationwide basis of uniform regulations for surface mining operations and for the reclamation of surface mined areas not feasible. For this reason, in Section 3(e), it is stated that the legislation would leave initial responsibility for regulations with the states. That statement, however, is not accurate in view of the unlimited discretion the legislation would vest in the Secretary.

The provision of Section 7(a)(1)(C) where eight specific criteria are listed which it says must be met for a state plan to be acceptable, do not improve this situation. These criteria are very broad, with no statutory definition or measure other than the Secretary's "judgment". As a matter of fact, these provisions could, and as a practical matter probably would be used by the Secretary to set up a rigid structure which must be adhered to by all states and which would have the effect of creating nationwide uniform standards in contradiction to the stated purpose of the Act. Certainly there is a strong invitation to the Secretary, for ease of administration, to move toward a single regulatory pattern.

(3) Section 5(a) refers to developing and administering state plans for "the regulation of surface mines", as well as reclamation of mined areas. It seems to me it should be made very clear that this Act does not intend to authorize either Federal or state interference in surface mining operations, except insofar as these operations very clearly affect the public interest or might interfere with the ability to carry out sound reclamation practices at the conclusion of mining operations.

(4) Section 8(a) seems to grant a great deal of unilateral power to the Secretary, without any recourse by a state or its citizens, to override a proposed state plan or to force on a state a plan even if the citizens of that state are convinced that their plan is adequate or that one is not necessary. At least some

protection of state rights in this instance would be provided if the bill were changed to provide for a public hearing board or appeals board if a state requested an appeal of the Secretary's ruling. This would be consistent with the Air Quality Act of 1967, which provides that if a state fails to act to set up standards for air quality, or if the Secretary of HEW determines that the standards are not acceptable, or if the Governor of another affected state petitions for revisions of such standards, and HEW develops standards to be applied to that region (after calling a conference to include representatives of all interested agencies and parties) the state may then petition for a review of such standards and HEW is required to call a public hearing board consisting of representatives of affected states, HEW and other interested Federal agencies, with HEW not having a majority. Such hearings are to be held in or near the affected region after at least 30 days notice to parties concerned and at the hearing, state and local officials, industry and other parties are invited to present testimony and evidence. The Board's decision then is binding.

We believe a similar provision should be included in S. 3132.

(5) This legislation also fails to make clear a situation in a state which already has an existing mining reclamation law. Under Section 7(a), line 5, page 7, it appears that a state may submit its plan for the regulation and reclamation of surface mining "after public hearings". Does this mean that a state which already has a law in effect would have to hold public hearings on this law and then submit it as its proposed plan? And if the Secretary rejects the state law as its plan, and the state refuses to repeal it in order to accept a Federal alternative, does the Federal government really wish to override the legislative action and supersede local control despite the proposed provision that primary responsibility lies with that state? Should this be solely a matter of the Secretary's "judgment"? Perhaps part of this problem could be obviated by the inclusion of a grandfather clause which would excuse a state which already has a mined land reclamation law which it believes is working satisfactorily, from being subject to this provision.

(6) Perhaps most important of all, the proposed legislation provides no recognition whatsoever that there are considerations vital to the national economy and local economies that must be reflected in any regulation of surface mining. Unlike the Air Quality Act of 1967, where maximization of the use of our industrial resources is reflected in dealing with a major environmental problem, and air quality regulations is required to be consistent with economic and technological feasibility, this proposed surface mining legislation provides no such objective and no such standard. While we do favor natural beauty, surely economic realities also must be taken into account.

There are many more specifics I could mention. I believe the legislation as now proposed is an unsatisfactory bill which should be carefully reviewed if it is to be considered at all. As I said at the outset, if further consideration is to be given to this legislation, I would like an opportunity to submit more detailed comments.

Mr. MOODY. I would like now to call on my colleague, Mr. Ed Phelps, who will tell you what strip mining really is.

Senator METCALF. We are honored to have you here. Go ahead, Mr. Phelps.

STATEMENT OF EDWIN R. PHELPS, VICE PRESIDENT OF ENGINEERING, PEABODY COAL CO.

Mr. PHELPS. Thank you, Mr. Chairman.

Mr. Chairman and members of the committee, my name is Edwin R. Phelps, and I am vice president of engineering for Peabody Coal Co. I am an engineer and I have been employed for 30 years in the industry and have served in several operating, engineering, and management positions for strip coal mining companies. I can qualify as an expert simply from the standpoint of experience; as I have lived with the problem ever since graduating from college.

I feel confident that many on this committee are not too familiar with surface mining of coal and its attendant reclamation, and since

you are being required to make important decisions affecting this industry, I feel it is not presumptuous on my part to give a short description of our portion of the surface mining industry, particularly strip mining of coal. Of first interest would be the question why strip mining? Why not other methods? Some of the reasons for this are as follows:

The geological condition of many seams and their surroundings prevent their recovery by any other method. If the seam is under 30 inches in thickness, it is too thin to mine by underground methods and can only be recovered by strip mining; because mining equipment that must be built with a maximum height of less than 30 inches is almost impossible to design and, if manufactured, would have a very low production rate. You can also visualize the problem of men working in a room with a ceiling height of 30 inches or less. The only way to move around is to crawl on hands and knees, which is enough said.

Mr. MOODY. You should see me in 30 inches of coal, it is something.

Mr. PHELPS. By the same token, if the seam is over 10 feet thick, it can best be recovered by strip mining; because, in underground mining, the only way to support the roof is to leave a portion of the top coal for roof or leave larger pillars for support, and both result in low recovery of coal. If the seam is irregular in thickness it is next to impossible to choose underground equipment that will be capable of effective and efficient mining. If you choose machines to clear the low roof, they will not be efficient when the seam thickens.

Steeply pitching seams cannot be mined with present underground mining systems and equipment. When the pitch is steeper than 20 percent, the underground equipment now available will not negotiate the grades; whereas, strip mining equipment which is not limited to physical dimensions, as the underground is, can be built with surplus horsepower. In addition, since the strip mining is performed in the open, it is always possible to work on the strike, rather than up and down the pitch, so that you in effect work on the level.

If there are varying bands of impurities separating the seam into benches, strip mining permits the bench loading of coal which is impossible in other methods. By bench loading I refer to the practice of loading out the first layer of coal in the seam. Then loading out and disposing of the layer of impurities or "no coal" and continue the process of mining the next layer of coal.

If there is a lack of sufficient roof strength in the formations overlying the coal it is impossible to mine by the underground method. Poor roof can be caused by insufficient thickness as well as poor stability of the overburden, and both of these conditions actually are advantageous to strip mining.

Strip mining is generally the lowest cost method of mining coal and this in turn provides the most economic fuel for the customer who, of course, is the general public. The lower costs are the results of lower labor and lower maintenance costs. Both of these advantages stem from the use of larger equipment than the necessarily compact units required in underground mining. The larger capacity equipment furnishes more production per man-hour of labor. In addition, the larger equipment permits the use of oversize bearings, gears, and support structure which in turn results in lower maintenance costs.

You hear a lot of stories about the big equipment that the coal mines

use. I think it is all relative. It reminds me of a story of a fellow driving down a road in Kentucky and the road was winding and he could not get in front of the truck. The truck had a big canvas cover and the truckdriver would get out and just beat the side of the truck, jump in and go down the hill to the bottom of the next one and do the same thing.

Finally, after the third time he did this, and the fellow still could not get by, he said, "Say, Buddy, what are you doing?" He said, "Well, it's very simple. You see, this is a one-and-a-half-ton truck and I have 2 tons of canaries in here, and I have to keep half of them flying all the time."

Historically, strip mining is much safer due to the less dangerous conditions in the mining areas. I refer to the danger of roof falls, the problems of air circulation, water removal, explosions due to gas, and so forth.

Strip mining meets the requirements of natural resource conservation because of almost 100 percent recovery of the minerals against only 50 percent recovery by other methods.

Strip mined coal is easier to prepare or process because the mining produces less fine coal and the fines are the most expensive portion of the product to clean. This also tends to reduce cost and aids in conservation as less coal is lost in the preparation and processing.

There are additional beneficial effects of surface mining which even the U.S. Department of Interior's special report to the Nation, "Surface Mining and our Environment" states and I refer to desirable hydrological effects from the strip areas in the retention of rain which tends to diminish the dangers of flood, diminishes the amount of erosion, augments the ground water table, levels off the stream flows during dry weather, and forms lakes and ground water sources where none existed before.

The mining access roads to the strip areas when made available after mining is completed can be of considerable value to the public for the multiple land use of the area. The fact that most of the abandoned strip pits form ponds or lakes which provide all types of water recreation spots such as swimming, boating, skiing, and fishing gives an added benefit to the public.

I sincerely feel the above 11 reasons or advantages of strip mining over other types of mining adequately prove the need for strip mining of coal.

The second item to discuss would be the types of surface mining. I have a couple of illustrations here I might show and I will go through them hurriedly. I realize there are only a few here.

I know you two gentlemen are pretty conversant with the open pit mining but the open pit mining that we use in coal is a little different and I would like to at least give you a quick story about it.

This illustrates the open pit mine which you are familiar with where you have an ore body in the middle and you bind a pit, take the overburden out along the side and this continues down in the same area and benches as you have to enlarge the body and enlarge the mine. Now this mine could be 600 or 700 feet in diameter, it might be a mile in diameter. Some of the pits, as you know, have been in the same location for 60 to 70 years or more. This is strictly a separate kind of open pit mining.

Then you come to what we call an open cut mine and strip mining which sounds the same but is considerably different. In this case I have the ground line here, the coal bed lying here. We start out along the outcropping of the coal where it is either thin due to poor cover or due to lack of stability of cover and open, what we call the first cut here. That would be this area here.

We pile the dirt out here and the machine comes down through and takes the coal out. The stripping machine is then ready to start on the second cut. That is this area right in here. He takes this dirt out and piles it here on the second cut.

The loading shovel follows through, takes the coal out and so forth. Then you just keep continuing across up and down the pit as you advance. This could cover a considerable area, depending of course on the thickness of the coal seam. Most of the coal seams average out around 5 feet or so in thickness. This is just a plan of the same thing. As I told you, I hurried through it.

Here is the stripping shovel back here doing the stripping. He is uncovering this portion of the overburden. He is sitting on the coal because this is a shovel. He is taking this dirt and piling it here. Behind him is the coal.

Now if you can visualize, he has been through once. Up here ahead is the loading shovel taking out the coal that he had uncovered with the stripper of the pit before and he leaves a trough here in the coal so that the stripping shovel can then dump into the next cut as that shows you, and just advance along there. When you get to the end you turn around and come back the same way in one pit after another.

This could go into several details if you had two seams or three seams, and so forth. This is an artist's conception of one of our pits. You have seen the large shovels which have gotten a lot of publicity. If I had the gift of words that some of them have here, I could go into the beauty of the machine, but it is an engineering masterpiece. It is 200 feet from the top of the boom to the ground. The bucket, as they say, will move 140 yards of dirt, which is around 190 tons at a swing. The shovel runs along on the coal, and takes the overburden off, puts it in the area where the coal has been loaded before. So you see there is 100 percent recovery of the coal. The overburden is moved from this pit over to here in much the same way as you would plow one furrow to the next, you uncover one furrow to the next. When you get to the last cut you have what the farmers call the dead furrow. This is the open pit that is left at the end.

Almost all of your coal formations in the United States have fire clay under them. This fire clay is impervious to water. When you leave this last pit open, the impervious bottom, you get lakes formed. In many areas all over the country you can see the lakes that are formed from the strip mine pits.

Now I just wanted to go over this hurriedly to show you the differences in the strip mining of coal and the strip mining of other minerals. There is considerable difference but even in the strip mining of coal there is considerable difference.

For example, we operate in 36 strip mines in different States. The coal varies from 15 inches in thickness to 12 feet in thickness. The pitch of the seam varies from zero degrees, or flat, to more than a 20-percent pitch. The quality varies from less than 10,000 Btu per pound to more than 13,000 Btu per pound.

The overburden overlying the coal varies from 40 feet to 140 feet, so you can see that although various combinations of these forms a strip coal mine almost every mine has different conditions and different requirements for mining equipment, mining procedures, and of course for reclamation procedures. This is just in the areas we operate in.

To further explain, the variances in not only the operating but also the economics, let's compare the difference between 15 inches of coal and 12 feet of coal. If we uncover an acre of coal in the first instance we would have available to us 1,870 tons of coal, whereas in the second instance we would have 18,000 tons of coal. In other words, if the coal were of the same value we would have 10 times as much value in the second instance as in the first, and this amount of difference, as you can readily understand, greatly affects the overall economics.

I explained to you before how the opencut mining operation proceeded and since the spoil areas I referred to will also vary in composition according to the formations of which they are composed, and will vary in size and shape according to the size and type of equipment that has mined them, it is easy to see that the type of reclamation work that is required will also vary.

You remember I stated we operated in eight States and six of these States already have State strip mining reclamation laws which we are operating under and the remaining two have proposed laws under study at the present time by their respective legislative bodies. Both the mining companies and the State officials feel the present laws are accomplishing the reclamation results required for the conditions in that State. These requirements are not all uniform, and they must be different, due to the extreme variation in the condition of the areas to be reclaimed and the results expected as explained above.

There is an extreme difference in this. As you have heard, some States have changed their conditions as they go along, trying under actual conditions to determine what is the best results that we can obtain.

As you know, even the yard in an expensive new house is unsightly and unacceptable to the public until the shrubbery and grasses that are planted have a chance to grow, and we feel that this makes a good comparison to the conditions in many of our mining areas at the present time.

As proof of this statement I could take you to areas that were mined 30 years ago on which no reclamation work whatsoever was performed and I would challenge you to distinguish these areas from adjacent nondisturbed areas. We don't propose letting nature do it alone, but even man also might be given time.

One of the early original factors that made this country the most outstanding in the world was our abundance of all types of minerals and our technical ingenuity and ability to mine these at a cost which permitted us to be independent of all other countries. I feel that a Federal law such as the proposed S. 3132 will result in increasing the cost of which will lower our competitive position in the world market. In addition, due to the law's necessary broadness to permit it to apply to all types of surface mining throughout the varying mining conditions across the entire Nation, it will result in the mining limitation

of some areas and hence cause us to lose some of our valuable minerals.

When it is broad it will meet conditions that will not meet the requirements and then we are going to lose some of our valuable minerals. I want to point out this fact and I am sure others will repeat it. It is important enough to bear repeating and that is that a large percentage of the strip mining areas are being reclaimed now, but the results of this work are lost in emotional type publicity and literature which do not tell the whole story.

I take exception to Mr. Udall's story about our green earth program and I ask you to come down and see where this machine has been strip-ping, the reclamation work we have done. We are proud of it and we are ready to show it to you or anybody else that comes down.

Thank you.

Senator METCALF. Mr. Moody, I wonder if you will yield to me for a moment.

The men at the table will be the last witnesses today. We are anxious to accommodate everyone. I am going to convene the committee at 9 o'clock in the morning, and our first witness will be Mr. Frawley, who is No. 12, Mr. John W. Frawley, who has informed us he has another engagement. Then we will continue with Mr. Johnson and so forth down the line, from 9 o'clock on. We will try to accommodate as many as possible tomorrow and we will get through and we will hear you all on this very controversial and vital subject.

Go ahead, Mr. Moody. Thank you.

Mr. MOODY. Mr. Sall.

STATEMENT OF GEORGE SALL, DIRECTOR, MINED LAND CONSERVATION CONFERENCE, NATIONAL COAL ASSOCIATION

Mr. SALL. Mr. Chairman, I am George Sall. I am a mining engineer presently employed as associate director of Government relations for National Coal Association which represents the principal commercial bituminous coal producers and sales companies throughout the Nation.

In the interest of saving time I plan to abridge my statement considerably. Unfortunately, two or three of the pages I am leaving out contained invitations to the committee to see strip mining also.

Senator METCALF. We are grateful to you. Your statement will be printed in full at the end of your remarks.

Mr. SALL. Some of my presentation, gentlemen, is that as a measure of what the coal industry is doing to reclaim strip-mined land, these six States, Illinois, Kentucky, Ohio, Pennsylvania, Indiana, and West Virginia, last year started the reclamation process on 45,828 acres by planting trees and grasses, making water impoundments, and developing land for recreational uses. This figure is all the more significant when it is compared to the 45,576 acres of land affected in the six States by surface coal mining in the same period.

Gentlemen, more land was planted than was mined last year in these six States.

I wish we could say that if you inspected this land today you wouldn't know that coal has been mined there. But that just isn't so. There is no such thing as instant reclamation—it takes time to establish a carpet of grass or a stand of trees. Given that time, though, the scars left by mining will be healed.

These six States, all of which have reclamation laws, contain 81 percent of the surface coal mines—strip and auger—in the Nation, and were responsible for 83 percent of the coal produced from surface mines in 1966.

Thirteen of the 23 States in which coal is now being surface mined have reclamation legislation on the books and an additional State has a voluntary reclamation agreement between State conservation authorities and strip mine operators. A total of 90 percent of the auger and strip mine coal produced in 1966 came from these 14 States; and 94 percent of the auger and strip mines in this country are located therein.

In addition, three States, Alabama, North Dakota, and Missouri, are now considering reclamation laws. When these three States enact such laws, it will mean that 99 percent of the country's surface coal mines and over 96 percent of surface coal mine production are covered and regulated under State law. The bulk of the remaining production is on public and Indian lands in the West where the Secretary of the Interior had responsibility.

If there is one thing that my experience with Mined-Land Conservation Conference has shown, it is that there can be no single comprehensive national blueprint of reclaimed land use. Topography, soil climate, and the surrounding environment must all be taken into consideration in developing productive and useful land reclamation programs.

Thus, what is feasible and appropriate in reclaiming strip mined land in one area may be impracticable, inappropriate, or even impossible in another.

For example, a reclamation plan for a strip mine in the arid areas of the West would hardly resemble a reclamation plan for a strip mine east of the Mississippi River where 40 inches of rainfall make revegetation easier.

We are pleased to see that this fact is recognized in paragraph (d), section 3, of S. 3132.

We concur wholeheartedly with that portion of paragraph (e) of the same section which states, "* * * responsibility for developing, authorizing, issuing, and enforcing regulations for surface mining operations and for the reclamation of surface mined areas should rest with the State."

As we have pointed out, States which produce 90 percent of the coal mined by surface methods now have reclamation laws, and other States are acting. We believe that the States are doing an effective job and, insofar as coal is concerned, that there is no need for Federal surface mining legislation at this time.

Thank you for the opportunity to tell you a little bit about what the coal industry is doing to reclaim the land it disturbs in the surface mining of coal.

Senator METCALF. Thank you very much for a very persuasive and illuminating statement, Mr. Sall. Your prepared statement will be included at this point.

(The statement referred to follows:)

STATEMENT OF GEORGE W. SALL, ASSOCIATE DIRECTOR, GOVERNMENT RELATIONS,
NATIONAL COAL ASSOCIATION

Mr. Chairman and Members of the Committee, My name is George Sall. I am a mining engineer presently employed as Associate Director of Government Relations for National Coal Association which represents the principal commercial bituminous coal producers and sales companies throughout the nation.

In addition, I serve as director of the Mined-Land Conservation Conference, a division of National Coal, which was formed in 1963 to promote more emphatically the effective reclamation of surface-mined coal lands. We are proud that the report which generated the administration's bill now being considered by this committee had this to say about our efforts: "The Mined Land Conservation Conference has been particularly instrumental in promoting mined land reclamation programs among its members."

Members of NCA and MLCC are responsible for two-thirds of the coal produced in this country by surface mining methods.

Mr. Moody has described the impact of strip mining on the economy of the Nation and stressed the broad aspects of national energy demands, supplies and potentials. Mr. Phelps has explained why and how coal is strip mined. My purpose here today is to discuss and shed some needed light on what surface coal mine operators throughout the country are doing to reclaim strip mined land.

If, in the next few minutes, I seem to be accentuating the positive side of the reclamation story, please understand that it is not because we fail to recognize the need for continuing efforts in mined-land reclamation. It is rather because the negative aspects of the subject have been so greatly emphasized in recent years.

Were this not the case, your committee would not now be considering the legislation at issue.

Our public relations problem, insofar as reclamation is concerned, is really a two part problem: (1) when we do our job well, we don't get credit for it because no one realizes that land now producing a crop of timber, for example, was once harvested for a crop of energy. (2) The coal industry has simply lacked the funds and facilities to provide the public with all the facts about what is being done to reclaim mined land.

Recently, however, we have engaged in a modest advertising campaign which is beginning to produce results. Moreover, we have just completed a motion picture that vividly illustrates what is being done by the coal industry to reclaim strip-mined land. Called "The Reclaimers—A Story of Coal, Land and People," the film is being widely circulated. We extend a cordial invitation to members of this committee to view "The Reclaimers" at your convenience—either individually, or as a group.

Even better, of course, would be for you to visit some strip mines to see first hand what is being done. Should your various schedules allow, we would be especially pleased to arrange for such a visit—again, individually or as a group.

It is generally agreed that planned reclamation of strip-mined coal land began 50 years ago, in 1918, when surface coal miners in Indiana planted peach, apple, and pear trees on a mined area in Clay County.

Because Indiana is a pioneer state in the field of surface mining and land reclamation, it offers an excellent example of how the coal mining industry has been meeting its land conservation responsibilities over the years.

Statistics show that up to June 30, 1967, some 91,238 acres of coal land had been affected by strip mining in Indiana. Of this amount, some 75,911 acres have been reclaimed to forest and pasture land, including 23,318 acres which have been converted into state forest and other recreational areas, as well as private home sites. An additional 10,727 acres have been converted to lakes.

Thus, only 4,600 acres of all the land strip mined for coal in Indiana remained unreclaimed in mid 1967. And most of that can be attributed to land recently mined and still in the process of being reclaimed.

Turning to the State of Ohio, the Ohio Division of Forestry and Reclamation and the Ohio Department of Natural Resources have jointly reported that all of the land strip mined in the state from 1948—the year of the first Ohio strip mine law—through 1955 has been reclaimed. (See Table I.)

TABLE I.—STATISTICAL RECLAMATION REPORT, LICENSES ISSUED, ACRES AFFECTED, ACRES RECLAIMED

Year ¹	Number licenses	Acres affected	Trees	Forage	Other ²	Acres reclaimed, 1967	Total reclaimed ³	Percent reclaimed
1948.....	273	6,882	3,432	2,933	526	-----	6,882	100.0
1949.....	267	8,539	3,805	3,919	815	-----	8,539	100.0
1950.....	356	10,087	4,375	4,596	1,116	-----	10,087	100.0
1951.....	358	9,781	4,537	4,357	887	-----	9,781	100.0
1952.....	338	9,981	5,675	3,604	702	-----	9,981	100.0
1953.....	367	10,057	5,790	3,611	656	-----	10,057	100.0
1954.....	322	9,469	5,703	3,356	410	-----	9,469	100.0
1955.....	309	10,817	6,766	3,679	372	1	10,817	100.0
1956.....	4 257	11,178	7,417	3,373	352	0	11,142	99.7
1957.....	250	10,599	6,887	3,464	230	19	10,581	99.9
1958.....	254	10,247	6,442	3,562	144	10	10,148	99.0
1959.....	272	11,023	7,251	3,465	154	48	10,870	98.5
1960.....	263	10,162	6,890	2,869	149	69	9,908	97.5
1961.....	247	9,414	6,445	2,169	306	397	8,920	94.7
1962.....	240	9,807	6,193	2,402	123	758	8,718	88.9
1963.....	237	9,858	5,604	2,167	43	773	7,814	79.1
1964.....	222	10,712	5,960	1,923	80	3,091	7,963	74.3
1965.....	242	10,938	2,122	585	4	2,194	2,711	24.5
1966.....	194	9,699	60	60	60	60	60	6.0
Total State licenses.....	5,268	189,250	101,285	56,034	7,069	7,360	164,388	86.9
Federal permits ⁷		4,236	3,426			149	3,426	80.9
Ohio total.....	5,268	193,486	104,711	56,034	7,069	7,509	167,814	86.7

¹ Calendar year during which the strip mine operator's licenses listed opposite were effective.

² Ponds, stockpiles, airstrips, area reaffected and reclaimed by a subsequent operator; or toxic (unplantable).

³ Grading of the area affected has not been included in these totals.

⁴ The strip mine law effective Oct. 13, 1955, permitting amendments of increases in amount of estimate of affected acreage and/or amendments of additional lands to be affected to an existing strip mine license, reduced the number of strip mine licenses issued during a year.

⁵ This figure is incomplete in that all of the actual acreage affected has not yet been reported. These acreages encompass abandoned operations, forfeitures, and findings to be made by the division.

⁶ Due to changes in the strip mine law, no completed reclamation has been reported for licenses issued in 1966.

⁷ Permits issued on Wayne National Forest lands. The totals reported by the Federal Service are compiled to June 30, 1967.

The declining percentage since 1955 can be explained by the natural lag in reclamation work. That is, land disturbed in any one year might not be reclaimed for a period of years because of physical and chemical conditions of the overburden—and because extensions of the time limit to complete reclamation have been granted in some instances where mining operations have been interrupted pending the introduction of new mining machines.

Ohio coal operators graded 10,464 acres, planted forest seedlings on 6,103 acres and seeded grasses and legumes on 97 acres in 1967.

In Kentucky, where the state strip mine reclamation law was overhauled in 1966, land reclamation kept pace with mining last year. Kentucky coal operators and the Kentucky Reclamation Association which they sponsor, graded more than 12,000 acres—as much as was mined—and planted some 14,000 acres—2,000 more than was mined. In doing so, they planted more than 1,400,000 trees.

Last year Illinois coal operators graded and planted 447 acres of strip mined land for forage and small grain crops, and 2,382 acres for permanent pasture. Three hundred seventeen acres were reforested, and 303 acres were developed for recreational use.

In Pennsylvania, which has over 39 percent of the strip mines in the United States, more than 8,000 acres of land was graded last year. Some 9,400,000 trees were planted on 7,856 acres, and 2,146 acres were seeded with mixtures of various grasses.

During 1967, West Virginia coal operators graded more than 21,000 acres and planted some 9,700 acres. Essentially all the remaining land graded last year is being planted this spring.

In sum, gentlemen, as a measure of what the coal industry is doing to reclaim strip-mined land, these six states—Illinois, Kentucky, Ohio, Pennsylvania, Indiana, and West Virginia—last year started the reclamation process on 45,828 acres, by planting trees and grasses, making water impoundments and developing land for recreational uses. This figure is all the more significant when it is compared to the 45,576 acres of land affected in the six states by surface coal mining in the same period. (See Table II.)

TABLE II.—COAL ACREAGE MINED, PLANTED AND RECLAIMED IN 6 STATES IN 1967

State	Acres affected	Acres planted	Acres reclaimed (released from bond) ¹
Illinois ²	7,145	3,449	3,450
Kentucky ³	11,711	14,000	8,165
Pennsylvania ⁴	9,712	10,002	12,384
Ohio ⁵	10,000	7,077	7,509
Indiana ⁶	3,011	1,600	2,948
West Virginia ⁷	4,997	9,700	7,393
Total	45,576	45,828	41,849

¹ All States require the successful establishment of vegetation 1 or more years after planting before release of performance bond.

² Source: Illinois Department of Conservation, Open Cut Land Reclamation Division.

³ Source: Kentucky Department of Natural Resources, Division of Strip Mining and Reclamation.

⁴ Source: Pennsylvania Department of Mines and Mineral Industries, Bureau of Conservation and Reclamation.

⁵ Source: Ohio Department of Natural Resources, Division of Forestry and Reclamation.

⁶ Source: Indiana Department of Natural Resources.

⁷ Source: West Virginia Department of Natural Resources, Division of Reclamation.

I wish we could say that if you inspected this land today you wouldn't know that coal had been mined there. But that just isn't so. There is no such thing as instant reclamation—it takes time to establish a carpet of grass or a stand of trees. Given that time, though, the scars left by mining will be healed.

These six states, all of which have reclamation laws, contain 81 percent of the surface coal mines—strip and auger—in the nation and were responsible for 83 percent of the coal produced from surface mines in 1966.

Thirteen of the 23 states in which coal is now being surface mined have reclamation legislation on the books and an additional state has a voluntary reclamation agreement between state conservation authorities and strip mine operators. A total of 90 percent of the auger and strip mine coal produced in 1966 came from these 14 states; and 94 percent of the auger and strip mines in this country are located therein.

In addition, three states, Alabama, North Dakota and Missouri, are now considering reclamation laws. When these three states enact such laws, it will mean that 99 percent of the country's surface coal mines and over 96 percent of surface coal mine production are covered and regulated under state law. The bulk of the remaining production is on Public and Indian Lands in the West.

Statistics make dry testimony—and I don't want to be accused of playing a "numbers" game. A tabulation of the information we have just gone over is included in greater detail in Table III.

TABLE III.—SALIENT STATISTICS FOR SURFACE MINING OF BITUMINOUS COAL AND LIGNITE IN 1966¹

State	Number of mines			Production (tons)		
	Strip	Auger	Total	Strip	Auger	Total
State regulated:						
Kentucky.....	111	128	139	32,151,169	5,191,722	37,342,891
Illinois.....	49	-----	49	36,112,742	-----	36,112,742
Ohio.....	274	63	337	28,545,829	1,735,629	30,281,458
Pennsylvania.....	618	60	678	24,796,639	826,241	25,622,880
West Virginia.....	179	100	279	12,285,443	4,919,899	17,205,342
Indiana.....	38	-----	38	15,465,433	-----	15,465,433
Subtotal.....	1,269	351	1,620	149,357,255	12,673,491	162,030,746
Virginia.....	66	65	131	3,640,580	2,178,952	5,819,532
Tennessee.....	49	10	59	2,276,395	301,721	2,578,116
Colorado.....	6	1	7	1,616,459	5,337	1,621,796
Kansas.....	5	-----	5	1,121,546	-----	1,121,546
Oklahoma.....	10	1	11	834,171	3,037	837,208
Maryland.....	27	2	29	772,142	20,785	792,927
Iowa.....	15	-----	15	761,322	-----	761,322
Montana.....	4	-----	4	328,936	-----	328,936
Subtotal.....	182	79	261	11,351,551	2,509,832	13,861,383
Total (State regulated).....	1,451	430	1,881	160,708,806	15,183,323	175,892,129
Non-State regulated:						
Alabama.....	61	6	67	5,203,174	115,369	5,318,541
Missouri.....	13	-----	13	3,580,604	-----	3,580,604
Wyoming.....	9	-----	9	3,547,094	-----	3,547,094
North Dakota.....	25	-----	25	3,542,839	-----	3,542,839
New Mexico.....	3	-----	3	2,363,854	-----	2,363,854
Alaska.....	4	-----	4	927,145	-----	927,145
Arkansas.....	4	-----	4	172,203	-----	172,203
South Dakota.....	1	-----	1	9,500	-----	9,500
Washington.....	1	-----	1	2,944	-----	2,944
Total (non-State regulated).....	121	6	127	19,349,357	115,369	19,464,726
Grand total.....	1,572	436	2,008	180,058,163	15,298,692	195,356,855

¹ Source: Minerals Yearbook, 1966 edition, published by the Bureau of Mines, U.S. Department of the Interior.

So far I have discussed the coal industry's reclamation efforts in quantitative terms. Yet in considering the problem of strip mining and land reclamation, your Committee is also interested in the qualitative measure of such mined land reclamation programs.

There are striking and dramatic examples of coal industry success in reclaiming surface mined lands. For example—

1. The Lynnville, Ind., community reservoir was once land which was mined by Peabody Coal Co. Lynnville suffered a chronic water shortage, and hauled in much of its supply by truck, until the coal company's community-minded planning created a lake four miles long and 50 feet deep, holding more than 400 million gallons, and donated it to Lynnville.

2. The Pittsburg & Midway Coal Mining Co.'s award-winning Kansas conservation program represents a 30-year company investment in reclamation planning and experimentation. P&M has developed not only fruit and walnut orchards, vineyards and pasture areas, but the strip mine lakes it has created provide some of the finest fishing in Kansas and are the cornerstone of a thriving tourist and recreation industry. The Kansas Wildlife Federation presented the company its "Soil Conservationist for 1965" award.

3. A three-county, 100,000 acres "outdoorsman's paradise" was created by Ohio Power Co. on its strip-mined lands in cooperation with the State Division of Wildlife. More than 300 lakes and ponds, loaded with a variety of fish, dot a wilderness that shelters deer, beaver, waterfowl and other wildlife. Over 2,500 visitors a month from all over the Nation take advantage of these facilities.

As I stated earlier, my purpose in citing these examples is simply to balance the scales somewhat regarding public understanding of the coal industry's strip mine reclamation efforts.

These projects are not, of course, the universal rule, but they do demonstrate the substantial progress that has been made and is being made by our industry in this field.

Over the years, coal companies and their associations have shown foresight in developing and subsidizing reclamation research programs conducted by universities and agricultural services. As a result, the agricultural and forest uses of reclaimed mined land have expanded and diversified with time and successful experimentation.

It is not uncommon for a company engaged in surface mining to have an agricultural division or subsidiary to manage the land—both before and after mining operations. Such groups are involved in programs as varied as: growing berries for a processor of jellies and jams; fattening cattle on their way to market; growing and harvesting pulp wood; raising hay and grain crops, and developing orchards, to name a few.

Incidentally, Christmas trees grown on reclaimed coal mine land in Kentucky, Ohio and Indiana have been cut and shipped to Washington to be featured in the White House Christmas Pageant of Peace for the past three years, under a program initiated by the American Mining Congress. Next year they will come from Pennsylvania.

If there is one thing that my experience with MLCC has shown, it is that there can be no single comprehensive national blueprint of reclaimed land use. Topography, soil, climate and the surrounding environment must all be taken into consideration in developing productive and useful land reclamation programs.

Thus, what is feasible and appropriate in reclaiming strip mine land in one area may be impracticable, inappropriate or even impossible in another.

For example, a reclamation plan for a strip mine in the arid areas of the West would hardly resemble a reclamation plan for a strip mine east of the Mississippi River where 40 inches of rainfall make revegetation easier.

We are pleased to see that this fact is recognized in paragraph (d), Section 3, of S. 3132.

We concur wholeheartedly with that portion of paragraph (e) of the same Section which states, "... responsibility for developing, authorizing, issuing and enforcing regulations for surface mining operations and for the reclamation of surface mined areas should rest with the state."

As we have pointed out, states which produce 90 percent of the coal mined by surface methods now have reclamation laws, and other states are acting. We believe that the states are doing an effective job, and, insofar as coal is concerned, that there is no need for Federal surface mining legislation.

Thank you for the opportunity to tell you a little bit about what the coal industry is doing to reclaim the land it disturbs in the surface mining of coal.

Mr. Moody. Mr. Reilly, please.

STATEMENT OF JAMES REILLY, VICE PRESIDENT, CONSOLIDATION COAL CO. OF PITTSBURGH

Mr. REILLY. In the interest of saving time, I am going to ask to file my statement, but I am going to indulge, if I may, just a minute or two to explain my viewpoints on this particular legislation.

Senator METCALF. Let me repeat, all statements will be accepted and printed in the record and the Chair will from now on enjoy hearing a summary such as you have, Mr. Reilly.

Mr. REILLY. I would not impose upon you.

My name is Jim Reilly. I am a vice president of Consolidation Coal Co. I happen to be an immigrant miner to the United States. I would like to say that I am awfully proud to be a part of this industry. I would like to say that before I ever strip mined any coal that I had the pleasure of taking my bulldozer from an underground mine and making some beautiful lakes and some wonderful recovery of lands because I happen to believe in this sort of thing.

I would like to give you my thoughts on why it is important that we allow the ingenuity of the American mining engineer, the man who works in reclamation and the man who is running these coal mines. I can assure you that my friends say, Why do you oppose legislation? Your company and your mines are considered the tops—and I want you to come and see them, what we did.

My answer is simply this: that I want to be a part of America's secret weapon. I want to be a part of the group who has developed these machines that make this reclamation possible and a part of the group who has developed seedlings that have been brought in here from Switzerland, for example, that are covering thousands of acres of our land and actually helping our problem that our Secretary referred to this morning.

We are the great exporters of the crownvetch seed that the Federal Government is using to hold the banks that keep slipping on both State and Federal highways. Some of it is down here in the District, I bring some of it with me for my friends. Every time I come I bring some to help hold these difficult banks.

The person who does the job of really bringing on reclamation is the man in the field. I want to give you a couple of the things that hurts and impedes. When you have many layers of authority and you preplan a job and you are working on it and then you have different authorities to deal with in getting this job done in the most economic and in the most advantageous way in the future of our Nation, when there is more than one layer of the authority there is jealousy as to who is going to do what, and how you are going to do it.

I submit the dialog had here this morning between two Federal groups is what I am talking about.

Now if you were working in a mine and here is a State man saying you should do it this way, and you have a Federal man over here saying you should do it this way, and more than likely at different times they both work for you and they are now experts, but the truth of the matter is they didn't have the capacity in many cases to hold a job but they are telling you how to do it.

Now I believe sincerely as a reclaimant that the progress that the United States particularly has made in the last 3 to 5 years is phenomenal and I would like to indulge this group to give us an opportunity to prove what we can do voluntarily and under State controls. I think you will be real proud of it. I would like to add one thing that has been mentioned here, what England has done several times.

Now, bless England's heart, I am emigrated from there and I don't want to go to Australia because of Federal controls, but the money came out of that mine in Fort Knox known as Fort Knox, Ky., that subsidized most of the socialistic recovery that you have in England and in Germany. We poured \$10 billion in there trying to make that program work and it didn't work, man.

I am not ashamed of what happened with the acid mine draining the old mines in Pennsylvania. They made it possible for my daddy to have a three-room house to put me in when I came to this country and develop this Nation, and hardly anyone that did that work in those days could even read or write. Sure, they left us some problems, but we can overcome them.

I better be careful, I will get to singing that song.

I can really do it. I can honestly do it, the way I feel about the job we can do as miners. I mean we can do it, we are doing it, and please take a good look at us. Remember when you see one of our baddies, you have the problem with Adam, you have the Senators from people in other places, doctors have problems, lawyers have to disbar people once in a while. There are some who are not exactly the finest people in the world, and you know that goes on. But we are doing a job. Selfishly we ought to ask to make everybody do what we are doing. When you see what we are doing, you will know why I say that. But I know that is not the way to do it, that is not what made America great. We will whip this problem, believe me.

I said I was going to file this statement in an effort to save time. Well, I am getting carried away so I will answer any questions you have and shut up.

Senator METCALF. Thank you, Mr. Reilly.

(The prepared statement referred to follows:)

STATEMENT OF JAMES REILLY, VICE PRESIDENT, CONSOLIDATION COAL CO.

Mr. Chairman and members of the committee, my name is James Reilly. I am vice president of Consolidation Coal Company of Pittsburgh. I have been involved in the coal strip mining industry for more than twenty years. Most of my career in coal mining has been spent in Ohio, although I am generally familiar with strip mining in other parts of the country.

It happens that the first mined land reclamation in this country took place fifty years ago, in 1918, in Clay County, Indiana. Peach, apple, and pear trees were planted on that mined land and some of them are still bearing fruit. In 1967, the reclamation experts of Indiana's bituminous coal strip mining industry planted their fifty millionth tree. They have reclaimed more than 95 per cent of the land disturbed since stripping operations began in Indiana 50 years ago. We think that is a pretty good average.

Actually, very little strip mining was done between World War I and World War II, but during World War II the tremendous demand for coal brought many who had had no previous experience in coal mining into the strip mining field. There were road contractors, bulldozer operators and just about anyone else who thought he could make a fast buck by strip mining coal. Many of them returned to other occupations immediately after the war ended and as the demand for coal began to slack off a bit. The fact that these outsiders did very little reclamation created problems which still haunt those of us in the strip mining business today.

We are sometimes asked why we strip mine at all. Well, for one thing, strip mined coal is usually cheaper to produce. It is estimated that if all 1966 coal production had come from underground mines—if there had been no strip mining—American consumers would have paid some \$250 million in added fuel costs that year.

In addition, there is always the geological factor to consider. When special topographical conditions in an area make underground mining impractical, then lifting the roof of the soil becomes the only feasible way to recover the coal.

The industry today has the technical and engineering staffs to reclaim strip mined land—and they are doing the job—emphatically so! Remarkable progress has been made in the art of land reclamation in the last few years. This progress has been made under local and state supervision, and it is now in good hands.

Let me describe for you some of the techniques now used in land reclamation by the responsible coal strip mining companies. First, there is soil testing. It is extremely important that the land be put to its best possible use once the coal has been removed. In our company, and in most of the other major coal strip mining companies, we test the soil before the land is strip mined. Then as mining proceeds, reclamation plans are developed to reclaim the land to its best possible use. In some cases, it is necessary to make adjustments as mining proceeds. This is because we may encounter different soil conditions than we had originally anticipated, or because of other geological factors which develop as the land is **stripped and mined**.

Soil tests will tell us how moisture may best be captured and held, instead of running off. This will help to prevent erosion, and it will enable us to build up the water table of the area.

Let me give you one example out of our experience. As some of you may know, some years ago we operated a coal pipeline from our strip mining area near Cadiz, Ohio, to one of the large generating stations of Cleveland Electric Illuminating Company, a distance of about 108 miles. To pipeline the coal, we made a slurry by mixing the coal with water. One of our problems then was to get an adequate water supply.

We first arranged to secure water from one of the water conservation districts in Ohio. However, we found that because of our strip mining operations, the water table had risen to the point that we could get all the water we needed from our mining area. Therefore, we were able to cancel the plans we had made with the water conservation district.

Now this water was not available until we started strip mining, and not until we brought the water table up by holding the water there instead of allowing it to run off and, in the process, taking a lot of the top soil along with it.

We have also conducted a number of experiments with different methods of reclaiming land. For example, in some areas we have found that we have excellent results with reforestation. We have experimented with various types of trees and have adapted ourselves to those which would grow best in the areas we were mining. Soil conditions many times dictate the types of trees which will flourish in a given area, and soil conditions vary widely. Sometimes a tree which will grow well in one locality will not do so well only a short distance away. The precise type that will do best under all circumstances must be determined experimentally before planting is undertaken.

One of our most successful plantings on reclaimed strip mined banks has been Pennngift crown vetch. This perennial legume is a native of Europe and has adopted well to growth in the eastern part of the United States. Dr. Fred Grau first found it growing on a field in Berks County, Pa., and developed the technique of culture and seed harvesting.

Crown vetch has many advantages over other legumes and grasses for reclamation. It is longer-lived, adds nitrogen to the soil, even though the original stand may appear sparse, and spreads slowly until it forms a complete and dense ground cover. It is not easily affected by insects. Once an area is completely covered with an established stand of crown vetch, then erosion is no longer a problem. From the first of April through May it is a mass of pink flowers and presents a spectacular panorama. It is green from April through November. The only drawback we have found in it is that it does take three or four years to get 100 percent cover.

Crown vetch also is an excellent animal food. We have grazed as many as 1,500 head of beef cattle on it and have found that they have made phenomenal progress. Crown vetch has a high protein content which enhances its forage value.

Many, many recreational areas also have been developed on strip mined lands. We are sometimes asked why all strip mined areas are not turned into recreational projects. Well, for one thing, the economics will not permit this. For another, not all areas have a need for the recreational developments that may be particularly suitable in some places.

There are some notable examples of recreational areas developed after strip mining. For example, the Fairgrounds State Park near DuQuoin, Ill., the site of the Hambletonian, which is the Kentucky Derby of harness racing, is on land once strip mined for coal. The United Electric Coal Companies have successful farms and a commercial peach orchard on reclaimed lands in that same area.

Ohio has many, many lakes and recreational spots that have been developed as a result of strip mining. Numerous sportsmen's clubs and outdoor groups use these lakes. They are stocked with bass, blue gill, and channel catfish.

But recreational development is not limited to lakes. There are picnic areas, wildlife preserves and even golf courses on reclaimed strip mine land. We have a golf course in my own section of Ohio that is on land we mined.

In addition to agricultural and recreational use, some surface mined areas now provide sites for private homes and churches, schools, theaters, shopping centers, industrial parks, and even air strips. Reclamation work has been limited only by man's ingenuity and imagination.

We sincerely believe, gentlemen, that a Federal law which would place an additional layer of paper work on top of that we already have to do, not only

for our own companies but for local and state officials, under the mining regulations of local and State agencies, would only impede progress. It would cut down on the imaginative work now taking place, and in the end serve no useful purpose.

I mention the creative aspect of mined land reclamation. You may be interested to know that some of the seeding now is done by airplane, some by helicopter. The airplanes fly only a few feet off the ground. They can do in three days what it once took a ground crew forty days to accomplish. Aerial seeding is now being done even in the mountainous country of Kentucky and West Virginia, whereas it once was limited to the flatlands of Ohio, Indiana, and Illinois. Aerial seeding can be an especially effective way of getting ground cover quickly.

In addition to aerial seeding, we now have what is known as hydro-seeding. The hydro-seeder is mounted on a truck; it mixes the seed, fertilizer and water, then sprays the mixture over the planting area. This technique has proved especially successful in revegetating steeply-sloping mined areas.

Recently we have branched out into test-tube seedlings to try to find better ways of making the plants survive. This has been one of our major problems over the years—the mortality rate of seedlings and transplants, just as you may have trouble with the shrubs you transplant in your own yards. At the moment we are experimenting with the tubeling, or test-tube baby tree seedling. The tubeling is grown in six weeks in a three-long plastic or cardboard tube packed with native soil.

Unlike the conventional seedling, which spends a year in a nursery bed before being uprooted and replanted, the tubeling stays in a restricted area which contains its own microclimate. Thus the initial shock of transplanting, which accounts for most seedling failures, is minimized. Forestry experts say that these tubelings then can be planted throughout the entire growing season. Currently, seedling methods are limited to spring and fall planting.

In Ohio, mined land reclaimers are trying a suspended vegetation process to minimize plant losses which occur when the delicate roots of seedlings dry out during shipping, storage and field planting. By coating the seedling roots with a protective clay, we are finding that the hair roots can be kept moist, and they have a much better chance of survival.

We also are continuing to experiment with equipment to get the best possible use out of it in land reclamation. For example, we use different types of bulldozer blades, so that we can do the most effective job in the most economical way. We have to lay out each job independently because no two are alike. We are also experimenting with the use of draglines, so that they will deposit topsoil in the right places as they swing around. For the first time we are using rock-pickers to get the large rocks out of reclaimed areas. Then the seeds and ground cover will have a better chance to grow.

Needless to say, those of us who are deeply committed to reclamation can go too far. We could bankrupt a company by spending more money on reclamation than it's worth to get the coal out of the ground. We therefore must proceed with caution and planning. We have to consider not only cost, but the season, and the most important factor of all—time. Progress cannot be made overnight. We must have time to reclaim the land and to get it back into the best possible shape.

Adding another layer of authority, as I have mentioned before, is not going to do the job. In fact, it can only impede the progress we are making. As has already been pointed out, most states where there is strip mining of any consequence, already have their own laws. State officials are acquainted with local topography and local conditions. They are in the best position to deal with what we concede to be a problem—one that requires the best efforts of all of us. It is far simpler to change state regulations as we improve our techniques. This is the proper and orderly way to proceed.

Where one layer of authority is imposed on top of another, then jealousy and conflicting regulations inevitably result. In many cases those who are trying to enforce the regulations simply have not had the experience to deal with the problem. We maintain that progress only can be made if those who have had the experience and know the techniques are permitted to do the job. We must have flexibility to deal with the problems as they come up.

Gentlemen, it is to our interest to restore the land to productive use, rather than be saddled with acres of taxable but useless and unsaleable property. As the land is restored, it will continue to benefit all of our citizens.

I am a coal miner, not a legislator. I have my own ideas about some of our

national and international problems, but I do not presume to be in possession of all the facts on which to base decisions. I think that is what you gentlemen are here for. I sympathize with you as you try to deal with some of the great issues that confront you.

But I must say this, that just as you are better equipped to deal with broad national and international issues than I am, those of us who are engaged in coal mining and in strip mine reclamation are in a much better position to judge the effectiveness of our programs than you might be. It is our considered judgment that a Federal law would only slow down the progress we're now making.

Granted that we may have made some mistakes in the past, we feel that we are now making great progress. The State laws under which we are now operating are working out quite well. For verification of that, ask the State officials Kentucky, Ohio, Illinois, Pennsylvania and the other states where strip mining is going on. I believe they will tell you that it would be a mistake to impose a Federal strip mining law. We are making progress—let's stay on that road.

Thank you very much.

Mr. MOODY. Mr. Robert Hall.

**STATEMENT OF ROBERT E. LEE HALL, SENIOR VICE PRESIDENT,
NATIONAL COAL ASSOCIATION**

Mr. HALL. I am Robert E. Lee Hall. I have been introduced.

I am not going to read my statement. I am going to commend Mr. Reilly as an able advocate of black power in a different form, you might say.

I am going to make the committee a gift of time which is man's most precious possession. Besides, I feel somewhat in the position of Richard Burton, or Barbara Hutton's seventh husband—what I had in mind has already been done perhaps better before, anyway.

I will say that the first five pages of my statement are devoted to raising the constitutional question in the dialog, Mr. Chairman, that you and Senator Hansen had this morning with Secretary Udall. I feel the question was adequately raised. As John L. Lewis once said, "I don't propose to answer the question, I only pose the question." I am sure your committee will look into it. I believe it is important.

In the second half of my testimony, I point out something that has not been but lightly touched upon, and this is the cost of the administration of the proposed legislation.

Secretary Udall, I noticed this morning, mentioned the budget problem inherent in taking care of past sins of omission in the reclamation field. Well, I submit that the cost of the administration of the proposed legislation would be prohibitive. It must be carefully assessed and weighed in the light of the new priorities for Federal funds posed by the needs for housing, for construction, for jobs, in short, in the present national emergency that I feel now exists.

I will not labor the committee further with the arguments. The chairman has said that these statements will be carefully read and evaluated both by the committee members and the staff. With that I will end by thanking you, Mr. Chairman and Senators and the staff, for hearing us out. I know it was at some personal sacrifice; it is very much appreciated. Thank you.

Senator METCALF. Thank you, Mr. Hall.

(The prepared statement referred to follows:)

STATEMENT OF ROBERT E. LEE HALL, SENIOR VICE PRESIDENT, NATIONAL COAL ASSOCIATION

Mr. Chairman and Members of the Committee: My name is Robert E. Lee Hall. I am senior vice president of the National Coal Association. The membership and functions of the association were described by my colleague, George W. Sall, in his testimony previously. In brief, however, we are the nationwide trade association of the bituminous coal industry, representing two-thirds of the commercial production of coal and about the same portion of the strip-mine output of coal.

I endorse the testimony of previous coal industry witnesses who have explained the importance of the surface mining of coal to the Nation. They also have referred to the effective work of the land reclaimers and the progress being made in the art of restoring mined coal lands to useful purposes. Our witnesses have undertaken to show that the principal surface coal mining operators are meeting the obligation to reclaim the land. Moreover, it appears that 14 States where 89 percent of the surface-mined coal is produced have effective laws controlling such operations. Valid objections to the legislation under consideration here have been cited. In short, therefore, you have before you reliable evidence to support the conclusion that there is no need for Federal intervention to control the surface mining of coal.

A national imperative for Federal controls over the surface mining of coal certainly cannot be distilled out of the suprisingly low-keyed treatment this problem received at the hands of the President when he sent his conservation message to the Congress in March of this year. It betrayed no compelling urgency for Federal controls over surface mining. To me it is significant that the message laid most of its emphasis on "scars" that can be observed by air travelers over America. While there is a later reference to the "blight" on beauty, there is, nevertheless, a notable absence of any substantive showing to offset the case for voluntary reclamation and reliance on adequate State laws where needed. A clear-cut basis for Federal intervention or entrance into the field is missing. We sincerely believe that, given additional time and encouragement, industry performance under these circumstances will further reduce the basis for Federal controls.

Gentlemen, we are opposed to the legislation but we are not opposed to natural beauty.

"Beauty" is a relative term—and is relative in value. It has popularly been said to exist "only in the eye of the beholder!" Nor should this axiom be summarily dismissed as inapplicable in considering our problem here. For example, surface mining in Rock Creek Park, in an area specifically set aside for beauty, recreation, or the aesthetic pleasure of the general populace, might draw justifiable objections in the absence of an imperative national need to mine such an area. On the other hand, the same operation somewhere else may well be more than tolerated because of its vital contribution to the economy of the region as a supplier of an essential material to the Nation—a necessary and vital source of jobs and income. In such an area, by contrast, it could even be characterized as a "thing of beauty and a joy forever!"—provided, of course, that reasonable reclamation practices are effectively undertaken on a voluntary basis or pursuant to an adequate State law where needed.

As the anchor man for our testifying team, I respectfully ask careful attention to the facts, figures and contentions which have been advanced by my colleagues. However, I have the special purpose in my concluding remarks to emphasize that there are other reasons why your Committee is entirely justified in laying aside this legislation at this time. These reasons have to do with the constitutional questions that remain unanswered and the predictable adverse impact on the Federal budget if the Federal government undertakes to supervise and control surface mining in the United States.

I have been a lawyer in Washington long enough to know that it is predictably futile to question the constitutionality of government controls once the Congress has acted. The Supreme Court understandably hands down liberal interpretations of the scope of Federal power, particularly in view of the rapid growth of this country and the vast national problems this growth has created. However, in the case of S. 3132, at least a question of "philosophical constitutionality" arises. Let's say, for the sake of argument, that Federal power to control surface mining wholly within a given State may exist, or may be fashioned from a broad interpretation of the welfare or interstate commerce concepts—yet must a power always be exercised simply because it is there? Sure—

ly the philosophy of the Tenth Amendment to the Constitution, which reserves to the States powers not subject to national authority, is intended to mean that States' rights and State responsibilities should be encouraged in the absence of a compelling need for Federal action?

This legislation contemplates a certain degree of exercise of police powers with the Federal government. Section 7 of S. 3132 would authorize the Secretary of the Interior to approve or disapprove State surface mining plans, apparently based on consideration for the public health and safety as indicated by the Congressional finding in Section 3 of the bill.

The police power is unquestionably reserved to the states—not held by them at the sufferance of the Federal government. The Supreme Court said in 1944, "The United States lacks the police power, such power being reserved to the State by this amendment."¹

We question whether the Federal Government has the prerogative to determine whether a State power is properly or improperly wielded, and whether the Federal government can impose its own authority just because it is "unhappy" with the way a State is exercising its powers.

When control of interstate commerce and exercise of police powers are passed back and forth between the Federal Government and the States like a basketball, this surely violates this Nation's concept of the separation of State and Federal powers. In fact, the Supreme Court has said that uniform operation of a Federal law is a desirable end, but it cannot be achieved at the cost of establishing overlapping authority over the same subject matter in State and Federal governments, nor by precluding state authority from executing State laws in a normal manner within state power.²

Even if we assume the Federal government may infringe on, or overlap, the powers of the State as this legislation proposes, a second major constitutional question arises. S. 3132 gives the Secretary of the Interior almost unlimited discretion to approve or disapprove State reclamation programs, and to formulate regulations in lieu of them. Section 7 of the bill binds the Secretary of the Interior only by such broad, loose terms as "adequate" and "inappropriate."

Under the bill, the regulations promulgated by the Secretary in lieu of State plans would have the force of law. Since the Constitution grants the power to legislate solely to the Congress, it is not unreasonable to assume this could be an unconstitutional delegation of power to the executive branch.

It would occur, moreover, in an unneeded cause. The States are doing an increasingly effective job of controlling the surface mining of coal, so far as that control is necessary, and their efforts should not be impeded by the unnecessary intrusion of the Federal Government.

With respect to the issue of the unconstitutionality of S. 3132, I will fall back on a phrase often used by John L. Lewis when president of the United Mine Workers of America:

"I do not propose an answer—I merely pose the question!"

By this I mean that I will not attempt to masquerade as a qualified constitutional lawyer by any categorical declaration with respect to the unconstitutionality of this legislation. I only hope that this question will receive the serious consideration of your committee and the Congress it deserves before going further down the legislative road to enactment.

The absence of demonstrated need to extend Federal control over surface mining raises further questions which have special meaning and significance for Congress and the Nation. These questions are:

What will be the cost of administration?

What manpower and personnel will be required?

What economic waste is inherent in the overlapping jurisdictions between State and Federal control agencies?

How much should the pursuit of "beauty" needlessly drain funds from the Federal treasury in the face of the higher priorities of housing, education, jobs, and the urgent problems facing both the cities and agricultural communities?

Since there is no overriding need for a Federal program to control surface mining, we believe that these questions must be answered.

We submit that the Congress has a high duty to assess and weigh the impact of the added costs of the enactment of S. 3132 on the already over-extended

¹ *U.S. v. Renken*, D.C.S.C. 1944, affirmed 147 F. 2d 905, cert. denied, 66 S. Ct. 44, 326 U.S. 734.

² *Davies Warehouse Co v. Bowles*, 64 S. Ct. 474, 321 U.S. 144, 1944.

Federal budget. You may be sure that the proposed nationwide administration of S. 3132 will be prohibitively high. We further submit that such cost alone is a basis for rejection of the legislation at this time due to the higher priorities. The cost of government has skyrocketed in recent years. In the past five years the price tag on the operation of the United States Department of the Interior has risen \$700 million and here we have another proposal which will require manpower, experts, fieldmen, administrators, supervisors, administrative personnel, and many more here undefined. We have reason to believe that Interior cannot administer such a new law with present personnel and that there must be substantial additions throughout the departmental system here in Washington and in all of the States of the Union. In other words, we have no reason to believe that Parkinson's Law will be repealed if, as, and when the Federal Government is given another massive control responsibility.

The experience with Interior's acquisition of the Federal water pollution control program is proof positive that the cost of this legislation should be an important factor in your deliberations. From modest beginnings, the Federal water pollution control program has burgeoned into a \$356 million a year program according to 1969 budget estimates. The interstate aspects of the flow of water are more clearly defined than the local disturbance of the earth in the several States and it can be argued that the entrance of the government in the water field is justified. By the same token, it cannot be denied that it is extremely costly—and so will be the control necessary to switch over to Federal preemption or control of surface mining activities.

In summary, we believe that your Committee can and should lay aside S. 3132 and similar legislation at this time. I believe we have shown several reasons why the public interest does not require enactment of such a law:

First, there is no overriding demonstrated need for it.

Second, the cost of administering the program would be substantial and impossible to justify in the face of higher-priority demands for Federal funds.

Third, the legislation raises important unanswered constitutional questions.

Fourth, the States are doing an effective job, in the main, of solving their problems of land reclamation; they should be allowed to continue.

And finally, the coal industry is learning more each year about effective reclamation. It learns by experience, by trial and error, and by research. It recognizes its responsibility, and is meeting it.

The coal industry therefore opposes S. 3132. While I recognize that industry groups are sometimes subject to criticism for outright opposition, let me say for the record that we do not always oppose on every proposal for Federal controls as such. The coal industry in 1967, for example, recognized the need for the Air Quality Act of 1967 and actively supported its objectives and contributed substantially to its amendment and subsequent enactment. With equal sincerity, therefore, we say that there is not the same need for S. 3132, and we urge therefore to lay it aside.

Senator METCALF. Senator Jordan.

Mr. PHELPS. I have just one comment. You have heard black power now so this should be a good time to end it.

Senator JORDAN. Thank you, Mr. Chairman.

I shall be very brief, because we have had a very thorough discussion of the problem of the coal people with respect to this legislation.

May I say I am pleased to serve on the Public Lands Law Review Commission and there Robert E. Lee Hall is a member of the advisory committee, I know him better than I do these other gentlemen here before us.

Mr. Moody, I would ask you this: You have been priced out of the market by the import of crude oil into the New England States. You are being priced out of the market in your dealings with the TVA for supplying fuel for generation. I assume from your statement you think you could not stand one single regulation or control that would add cost to your production. Is that a fair statement?

Mr. MOODY. Senator Jordan, there is no way of knowing where the last straw is. There is no way of knowing where one addition or an-

other addition will cause a breakdown in the competitive relationship of fuel. For that reason, I cannot say this bill or some other bill, but it does seem like we have had a heavy load in coal.

Now we are doing the best that we know how. You know the history of the coal industry where the pipeline came in and the gas took away one of our markets, the diesel engine took away another market and we were pretty low down and pretty flat on our backs in 1958 or 1959, and we have come a long way since then. We are hopeful that we can continue to do that.

Mr. Hall quoted Mr. Lewis. I will quote him again. He once said, "Joe, I have never reached the end of the ingenuity of the management of the American coal mines, and Lord, I hope I never do."

Well, we hope we never do. The Jim Reillys, the George Salls, the Bob Halls and the whole industry is made up of wonderful people who, when everybody in the world knew that the coal industry of America was dead, was sick, was dying and everybody except the coal people knew it did not give up. That kind of an active reaction is the same one that is taking place now. We are just saying that it is getting awful thick and we hope that this committee won't impose another one at this time.

Senator JORDAN. Now I take it from all of the testimony here that you are against this bill and you are against it with a great deal of conviction that you don't need any regulations at all. Is that the substance?

Mr. MOODY. I think we are working pretty hard at this job and I think there has been a lot of accomplishment made. It is a tremendous job. We don't say we can defend everything that has been done by a stripper anywhere, we are not saying that. We are just saying that the major companies at the present time, and the industry as a whole, are all convinced that we have to do this job and we are trying to do it. We are asking for that opportunity.

Senator JORDAN. I was impressed by the statement that Mr. Sall made that more land was planted last year than was mined last year, which would indicate that you are moving in that direction.

Getting back to this legislation, you are against it and there is nothing good about it that you can see, as you examine these three bills. Is that a fair statement?

Mr. MOODY. Certainly at this time we don't see the need for it, sir. We hope that you won't report it out of the committee. We hope that it will be held here. Maybe there will be a future time when we can see some method by which it can be useful.

Senator JORDAN. By what line of reasoning did you finally decide that you could accommodate your operations to get around to endorsing the passage of the Clean Air Act?

Mr. MOODY. I think an evaluation by us that there was going to be a bill. We were not convinced that this one has to be passed at this time. I think that the proof of our judgment was the fact that both the Senate and the House passed the Clean Air Act unanimously, indicating that our judgment in that matter certainly was justified. We don't feel that that is the same situation here.

Senator JORDAN. When you say the Clean Air Act was inevitable, you decided to get on with it. Is that a fair statement of your position?

Mr. MOODY. Well, I think that human beings generally react along that line.

Mr. HALL. Senator, may I respond briefly to that?

Senator JORDAN. Yes.

Mr. HALL. This comes from not reading all of my statement. In my conclusion I said we evaluated the imperatives that made the Clean Air Act necessary in the public interest and found them to be valid. I said the test of our sincerity is that we make the same test and do not find the same imperatives presently with respect to surface mining.

Senator JORDAN. You do not see the same validity that you finally discovered in the Clean Air Act?

Mr. HALL. That is correct, and it was not any impression, Joe, really that we went only because it was coming. I remember, early in the State—

Mr. MOODY. We were in, right in the beginning.

Mr. HALL. That is right.

Mr. MOODY. We thought there was a conviction on the part of the people of this Nation that if someone created a mess he had to clean it up.

Senator JORDAN. So, is there any likelihood that you might have a change of heart, that you might go home and reread this legislation and find that fragments of it are agreeable to you and possibly suggest some amendments that would make it more palatable and then come back here at later day and say, "We misjudged it in the first instance, and now we are ready to figure with you a little more favorably?"

Mr. MOODY. I think anything is a possibility, Senator. I hope that that does not have to happen, not within the foreseeable future.

Senator JORDAN. All right. That is all, Mr. Chairman.

Senator METCALF. Thank you very much, Senator Jordan.

You know, Mr. Moody, that the coal industry—you and John L. Lewis and my old friend from Montana, Tony Boyle—taught us how to do this in the old Mine Safety Act. We passed that act and got the States to pass the mine safety provisions and it worked so well that perhaps we have been applying the same sort of medicine to some of these other things.

I compliment all of you in the advancement that you have made in recent years on reclamation of some of this land. I am very glad to hear Mr. Sall's testimony and Mr. Reilly's statement about his conviction of the need for restoration. But really, for example, the passage of this bill would not increase the cost a nickel in the State of Kentucky, isn't that true?

Mr. MOODY. Well, I waive that.

Mr. PHELPS. We don't know what the requirements are going to be from the Federal Government.

Senator METCALF. Well, you heard the Secretary praising the activities of Kentucky, for example, and the activities of some of these other States who have this kind of legislation. Where it will increase the cost will be in the States where they have failed to act and those States it will merely restore the competitive position of your people in the States where you do have laws such as in Kentucky and Illinois.

Mr. Reilly.

Mr. REILLY. Well, I think this is one of the misfortunes of the horseback approach. I heard the statement the Secretary made. By the same token, I also heard the statement that he made that we would run this law from Washington. I think that is in the record.

Senator METCALF. If in the event that there were failure on the part of the States to act in compliance with the law and proceed, as the legislature would do.

Mr. REILLY. And he would decide it.

Senator METCALF. And it was the coal industry before even I came to Congress that put through a mine safety law. Then you went out to the legislatures and passed the law and most of it is being enforced at the State level. I think that is a pretty good way to do it. I think that putting the whole coal industry on an equally competitive basis in enforcing safety provisions probably has saved some lives and at the same time helped the people who were forward looking, who did have a desire to create safety conditions. It has helped them in their competitive position against the miner who would pay or against the operator who would take a chance.

Mr. REILLY. You won't get discouraged with me, I happen to have one of the best safety records in the industry as a manager.

The point I want to make is this, that when the Secretary makes the statement about the excellence of the Kentucky law, per se, it is being misunderstood in many cases because a law has certain provisions in it. That has not proven what they will do, they are new. I think the best laws in the United States on reclamation are not necessarily in Kentucky or Pennsylvania just because they are the most expensive. Their approach to it is more expensive than it should be, but that does not make it the best. Because something costs the most does not make it the best. I don't believe we want to leave any impression here that we agree that the Pennsylvania law and the Kentucky law are good laws, because I don't think they are. I don't think they get the job done efficiently. I think they cost too much for what they get. That is one man's opinion who is in the field.

Senator METCALF. It is my opinion, however, that Kentucky and Illinois and others—the statistics are in the record twice now—are among the States which have these laws on the books now.

The passage of this bill will not change the competitive position of the people in those areas, but the passage of this bill will change the competitive position of the people in the areas where they have no laws.

Mr. MOODY. Mr. Chairman, any time that we can have 91 percent of this problem covered by State law, certainly if you put another layer of bureaucracy on top of it it is going to cost a lot more money. We are taxpayers and it does cost money. The problem of trying a second blow at the same time in other words, to make both your State operator happy and your Federal operator happy, certainly this morning's little discourse that took place here is indicative of the problem. To my mind your question is almost self-answered. We are saying that 91 percent of this production is covered in the coal industry. We are saying that as long as that is so, give us a chance; don't load some more laws on us at this time.

Senator METCALF. Mr. Hall.

Mr. HALL. I would not want to leave the impression, either, that the only test is the economic impact on coal competition. There is enormous cost to the Government which I was not able to cover in detail.

Senator METCALF. It was well raised.

Mr. HALL. I certainly feel that Federal legislation which cannot be shown to be needed in an overwhelming manner ought to be forgone at this time but there is the additional possibility that Federal legislation would discourage the efforts of self-help; that is, the work of States and the producers themselves.

Here is another feature. It is not just the economic impact on the price of coal alone. There are so many unknowns ahead. It has been our unhappy experience that the first step over control is never the last, and just to say that this bill might be less severe than one might expect is not to answer the whole question in the future.

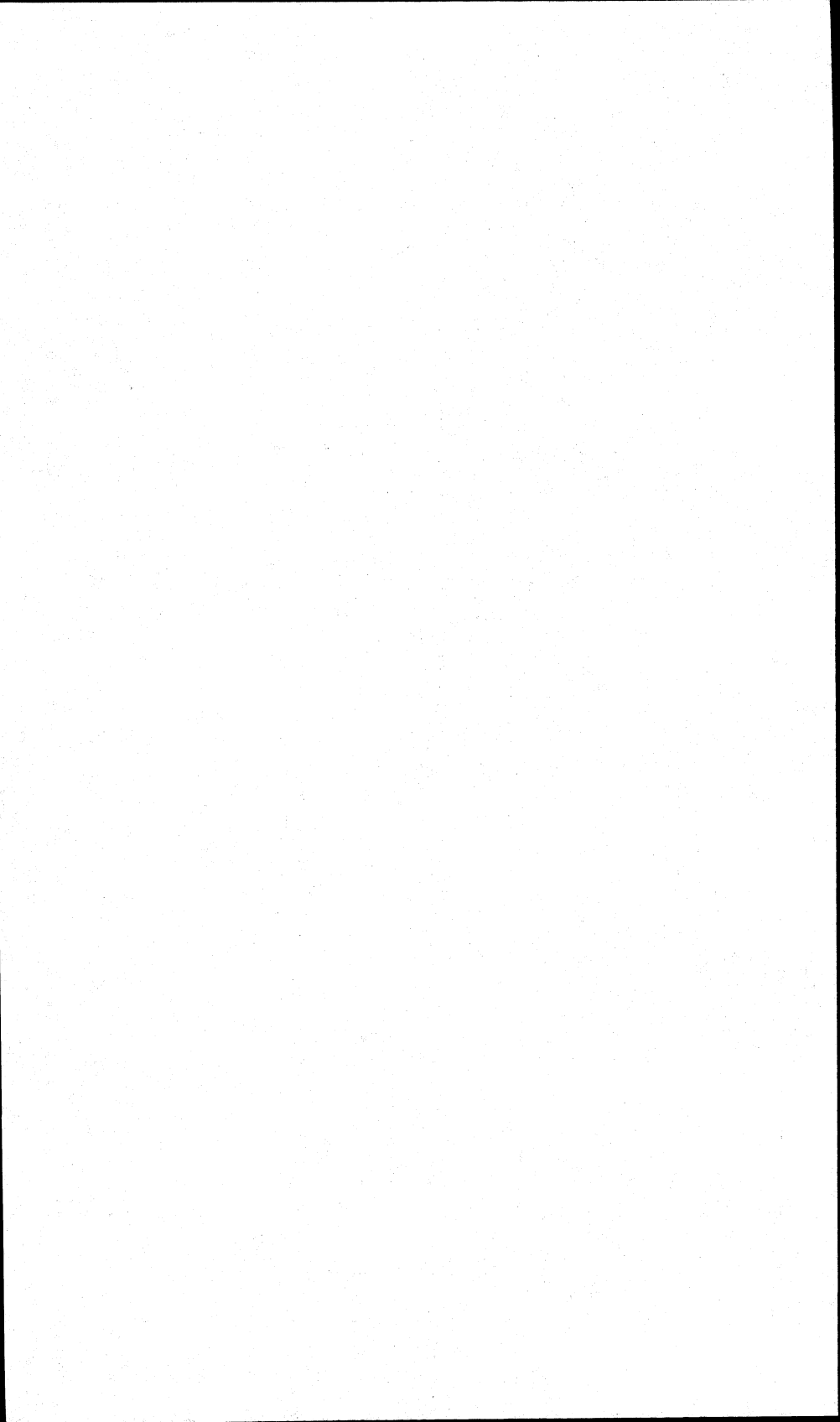
Senator METCALF. Gentlemen, you have been most persuasive, you have been most helpful. I think that your full statements in the record will be additionally helpful. I know that I am grateful, the whole committee is grateful for your appearance.

Mr. MOODY. We thank you for the courtesy extended to us. We are available 24 hours a day from here on to help you.

Senator METCALF. Our past experience has demonstrated that.

The committee will be in recess until 9 o'clock tomorrow morning.

(Whereupon, at 5:15 p.m. the committee recessed, to reconvene at 9 a.m., Wednesday, May 1, 1968.)



SURFACE MINING RECLAMATION

WEDNESDAY, MAY 1, 1968

U.S. SENATE,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The committee met, pursuant to recess, at 9 a.m., in room 3110, New Senate Office Building, Senator Lee Metcalf presiding.

Present: Senators Anderson, Church, Burdick, Metcalf, Allott, and Jordan of Idaho.

Also present: Jerry T. Verkler, staff director; Stewart French, chief counsel; and Porter Ward, professional staff member.

Senator METCALF. The committee will be in order.

This is a continuation of the hearings on S. 3132, S. 217, and S. 3126, surface mining bills. The first witness this morning is Mr. John P. Frawley, Appalachian Stone Division of the Martin Marietta Corp. Mr. Frawley.

STATEMENT OF JOHN P. FRAWLEY, APPALACHIAN STONE DIVISION OF MARTIN MARIETTA CORP.; ACCOMPANIED BY WILLIAM CARTER, EXECUTIVE DIRECTOR, AND CHARLES BUCY, COUNSEL

Mr. FRAWLEY. Mr. Chairman, I would like to be accompanied by two colleagues here, Mr. Bucy and Mr. Carter.

Senator METCALF. We are very pleased to have them.

Mr. FRAWLEY. Mr. Chairman and members of the committee, my name is John P. Frawley. I am a vice president of the Martin Marietta Corp.'s Appalachian Stone Division with my office in Harrisburg, Pa. I have been engaged in either the crushed stone industry or the closely related construction industry for approximately 25 years.

During that time, I have been actively involved in the consideration of reclamation matters and State regulatory programs in Pennsylvania as chairman of both the Pennsylvania Stone Producers Association legislative committee and the Combined Mining Industry Legislative Committee in that State.

I am also a member of the reclamation committee of the National Crushed Stone Association, a nonprofit trade association whose members engage in the quarrying of rock and the processing of the rock into numerous crushed stone products in all sections of the United States.

I appear before you today on behalf of National Crushed Stone Association in opposition to S. 3132 and any similar proposal which would provide for detailed Federal regulation of operations and reclamation practices within the surface mining industry.

With me are Mr. William Carter, executive director of the association, and Mr. Charles Bucy, from the law firm of Gall, Lane & Powell, counsel for the association. These gentlemen will be pleased to assist in answering any questions which you may have of us.

You have received copies of the association's formal statement of position. That statement sets forth in detail the reasons why National Crushed Stone Association, on behalf of its members and the industry, is opposed to these proposals.

This morning, I would like to discuss with you the two principal reasons why our association is opposed to these proposals. Briefly, those reasons are:

1. These proposals are ostensibly designed to carry out the recommendations developed by the Secretary of Interior's study concerning reclamation in the surface mining industry. However, as drafted, these proposals go far beyond the recommendations of the report and, indeed, the expressed intent of Congress in authorizing the study, by proposing nothing less than the detailed Federal regulation of every aspect of surface mining operations, whether related to reclamation in any way or not; and

2. These proposals ignore express congressional direction that any proposed reclamation requirements must take into consideration their cost impact upon the operators' competitive postures and could, if enacted, make it impossible for stone producers to be effective competitors.

Before discussing these principal reasons for NCSA's opposition to these proposals, we believe that it would be helpful to describe the respects in which stone quarries and their products are different from other types of surface mining operations.

An appreciation of those unique characteristics will, we believe, enable you to better understand not only why our operations are particularly best suited to local regulation but also why the reclamation requirements which these proposals would authorize are, as applied to quarries, both economically unrealistic and disastrous in their impact upon stone producers' competitive postures.

Unlike the more typical strip or surface mine which follows a relatively narrow seam or vein of mineral across the countryside, stone quarries are stationary and large quantities of stone are obtained within a very small area.

In many instances the only limitation upon the depth at which quarrying operations can be conducted is the cost involved in hauling the stone to the surface and, as a result, quarries normally remain in operation for extremely long periods of time.

Indeed, a recent survey conducted by NCSA disclosed that, on a nationwide basis, the average total operational life of the industry's current quarries is estimated to be 81 years with some quarries expected to continue in operation for as long as 250 years.

As a result of this unique characteristic, stone quarries disturb very little of the surface land in relation to the vast tonnages of useful stone which are removed.

Indicative of this fact is that, according to the Secretary's report, stone quarries have accounted for only 8 percent of the total land area which has been disturbed by surface mining operations.

Moreover, while NCSA cannot disprove this assertion, we would suggest that the 8-percent figure is much too high and we would be most interested in learning how the total acreage figures upon which it is based were determined.

As the industry's nationwide association, we know that a stone quarry involving as much as 30 acres is considered to be a very substantial operation and most quarries are even smaller.

A second distinctive feature of the typical stone quarry is the fact that the amount of overburden and other nonsalable material which is excavated, and which, presumably, would be available for reclamation purposes, is extremely small in proportion to the quantity of stone which is removed and sold.

In this respect, the response to the industrywide survey conducted by NCSA indicated that, nationwide, an average of more than 84 percent of the total material excavated results in a salable product.

In many instances, the amount of nonsalable material was so small as to not be susceptible of percentage comparison with the amount of stone which was removed and sold.

Finally, crushed stone products, in common with sand and gravel, are notable for their low value, high volume and heavy loading characteristics. Statistics developed by the Bureau of Mines disclose that the average sales price of our industry's aggregates is only \$1.42 a ton.

This has required that stone be produced as close to the sites of the construction which it intends to supply as possible and has resulted in stone producing operations being concentrated in and near urban areas.

At this point I would note that in recent years this fact has caused quarries by and large to be subject to strict zoning and municipal laws.

These unique characteristics of stone quarries and their products make at least three general conclusions quickly apparent as follows:

1. The extremely long productive life of typical stone quarries makes before-the-fact planning of reclamation at least highly unrealistic and any attempt to estimate the cost of reclamation impossible;

2. At best, only a very small amount of overburden and other material resulting from quarrying operations will be available for reclamation purposes. I would interject here that, even in those quarry operations which do produce any significant amount of such nonsalable materials, the high cost of storage makes it impossible for the operator to retain the material the 80 years or so until reclamation would begin;

3. Because of the extremely low price of our products, proposals whose cost impact upon our industry's operations can be measured in any significant number of cents per ton plainly would have the direct effect of causing a significant increase in the costs of all construction.

For example, highways would cost more because concrete, black top, and base course would cost more, dams and other structures would cost more because concrete would cost more, steel would cost more because limestone would cost more and on and on and on.

Other conclusions will become apparent in our discussion of our basic reasons for opposing these proposals. To those reasons we now turn.

1. BLANKET REGULATION OF OPERATIONS IGNORES CONGRESSIONAL INTENT

The legislation authorizing the conduct of the study upon which these proposals are ostensibly based limited the study to "reclamation and rehabilitation" matters.

It in no way contemplated the detailed regulation of aspects of surface mining operations which are in no way related to such matters. Moreover, the Secretary's report did not discuss nor did it recommend that such detailed regulation of the industry even be contemplated.

These proposals, however, would provide for nothing less than absolute, complete and detailed Federal regulation and control of each and every aspect of surface mine operations.

Thus, mine operators, in order to either begin new operations or to continue existing operations, would be required to secure a permit either from the Secretary or, where the Secretary has approved the State's program, from the State agency.

The issuance of the permit would be contingent upon, among other things, the operator first having filed and secured the approval of an adequate mining plan.

Thereafter, operations would have to be conducted in strict accordance with the approved plan lest the permission to operate be withdrawn.

The bill does not define nor would it place any restriction whatever upon the Secretary's discretionary authority to decide just what would constitute such an adequate mining plan which, we note, would be separate and distinct from the reclamation plan which the operation would also be required to file and have approved.

As a result, operators, under threat of having permission to operate withheld or withdrawn could be compelled to adhere to suggestions as to what type of equipment to use, the number and type of employees to be hired, the precise methods to be used in mining the deposit and, indeed, whether to mine the deposits or portions of it at all.

The possibilities for purely arbitrary and, indeed, capricious action which would be created are limitless. We would suggest that no system of such detailed governmental regulation of an industry has ever been seriously proposed without including, in addition to protection against arbitrary action, detailed provisions designed not only to protect the regulated industry against competition but also to either subsidize the industry or guarantee a specified minimum rate of return on its investment.

We would also suggest that these proposals would, by authorizing the Secretary to arbitrarily determine not only when and how mine operations are to be conducted but, indeed, whether they are to be conducted at all would plainly constitute a sufficient "taking" of the owners' property rights to at least give rise to serious constitutional questions.

Finally, we would also suggest that insofar as these proposals would require mine operations to be conducted so as to control air and water pollution, isolate toxic materials, prevent landslides, protect fish and wildlife, and prevent health and safety hazards, they would by and large be duplicative of existing State and Federal regulation.

Moreover, except possibly for air pollution, these are problems which simply do not arise in the operations of typical stone quarries.

2. PROPOSALS IGNORE IMPACT UPON OPERATORS' COMPETITIVE POSTURES

Section 205(c)(6) of the Appalachian Development Act expressly directed the Secretary of the Interior, in conducting his study of reclamation and rehabilitation matters in the surface mining industry to include, and I quote:

Specific consideration of (A) the extent, if any, to which strip and surface mine operators are unable to bear the cost of remedial action within the limits imposed by the economics of such mining activity, and (B) the extent to which the prospective value of lands and other natural resources, after remedial work has been completed, would be inadequate to justify the landowners doing the remedial work at their own expense: * * *.

With respect to the crushed stone industry at least, these express congressional directions were given extremely cavalier treatment in the study report, and in these proposals, the problems of competition and economics with which Congress was concerned are completely ignored.

The only mention of these problems in the study report is contained at page 90 where reference is made to a table contained in the appendix which sets forth what are represented to be average per-acre costs for reclaiming land which has been disturbed by quarrying and other surface mining operations.

The report immediately goes on to say, however, that:

Details are lacking as to the exact type, or degree, of reclamation represented by the costs reported by the mineral industries, but the level was probably influenced by legal requirements of the States.

In other words, after setting forth an impressive looking table of average per-acre reclamation costs for stone and other minerals, the report says "We don't know what these figures mean."

Moreover, no consideration is given by the report of what effect even these figures would have upon operators' competitive postures in the industries affected. We would note in passing that the average "cost" shown for stone is nearly four times that shown for sand and gravel, a commodity with which stone is in severe price competition in many markets.

The nature of the proposals before the committee makes plain that no consideration was given to their potential effect upon competition within (and between) the various surface mining industries or whether reclamation would always be economically feasible or possible.

Thus, S. 3132 would authorize the Secretary of the Interior, without review by other authority, to establish reclamation requirements. Mine operators would be required to file a plan providing for the "reclamation" of their operations and such plan would have to be approved before the operator would be permitted to commence new operations or to continue existing ones.

Given these important requirements, it would seem that the term "reclamation" would be defined in considerable detail. S. 3132, however, provides merely that "reclamation means the reconditioning or restoration of an area of land or water, or both, that has been adversely affected by surface mining operations."

"Reconditioning" and "restoration" both strongly imply "return to original condition." As applied to typical stone quarries, such a requirement would not only be unreasonable, it would, as a matter of

simple economics, be impossible for stone producers to comply with and still remain competitive in the pricing of their products.

First, given the extremely long life of the typical stone quarry, it is plain that no meaningful plan for the reclamation work can be developed before operations are commenced.

Yet, under these proposals, stone producers would be required, not only to develop such a plan and have it approved, they would also be required to post a performance bond in an amount "adequate to insure the land is reclaimed."

I would say here that just how any bonding company, in these circumstances, could be persuaded to issue such a performance bond completely eludes us.

Second, given the extremely small amount of overburden and other nonsalable material which remains after production at the typical quarry, it is obvious that to require the land on which the quarry is located to be "returned to original condition," would place an impossible economic burden upon the operator.

The cost implications of such a requirement cannot reasonably be estimated.

Plainly, however, they would be staggering, particularly when it is considered that this cost impact would have to be borne by a product which, at present, sells on the average for approximately \$1.42 a ton.

This cost impact would place crushed stone at a severe and probably impossible disadvantage with other materials with which it is strongly competitive in many markets. Those other materials are normally obtained by either dredging operations or surface mining operations of a relatively shallow nature which would not give rise to such substantial reclamation costs as would be the case with stone.

The extremely severe and disproportionate cost impact which these requirements would have upon stone producers' operations would be greatly magnified, moreover, in their application to currently existing operations.

Thus, a typical quarry which had been in operation for 60 years and which had a remaining productive life of another 20 years would have to recover the cost for reclaiming the results of 80 years of excavation from the sales for 20 years of production. As a result, one effect of the enactment of these proposals would undoubtedly be to cause the premature closing of many existing operations so as to avoid being subject to these requirements.

Such premature closings of existing operations not only would cause many employees to lose their jobs; it would also cause a severe diminution of the available sources of stone which can meet the increasingly stringent specifications which are being imposed by Federal and State agencies as well as by the private construction industry.

Accordingly, all Government-sponsored construction activities such as highway programs, dams, bridges, and airports as well as private construction would be confronted by shortages and delays in obtaining their supplies of stone, base course, concrete, and other building materials, not to mention increases in the prices of those essential supplies.

These effects which these proposals would have upon the crushed stone industry make plain that they have been developed without any consideration whatever being given to the impact which they would

have upon competition and the economics of operation within our industry.

We very respectfully suggest that, in view of the fact that the Congress expressly directed that specific consideration be given to these precise questions, the failure to do so requires that these recommended proposals be returned to the Department of the Interior for compliance with the congressional mandate.

In any event, whether this is done or not, we submit that examination of these questions demonstrates plainly that stone quarries cannot be subjected to the type of reclamation regulation visualized by these proposals and still survive as viable competitive businesses.

These then are the reasons why NCSA is opposed to the enactment of these proposals. They demonstrate, we believe, why these proposals would not be a realistic or a desirable method of securing the reclamation of mined land and why they would have a disastrous impact upon the crushed stone industry.

Thank you very much for this opportunity to testify before your committee. If there are any questions, we will do our best to answer them.

Senator METCALF. Do you have a statement, Mr. Carter?

Mr. CARTER. No, I do not.

Senator METCALF. Mr. Bucy?

Mr. BUCY. No, sir.

Senator METCALF. Senator Anderson.

Senator ANDERSON. I take it you are not wildly enthusiastic about this bill, are you?

Mr. FRAWLEY. No, sir.

Senator ANDERSON. In your statement you say:

I would say here that just how any bonding company, in these circumstances, could be persuaded to issue such a performance bond completely eludes us.

Have you discussed this with the bonding industry?

Mr. FRAWLEY. Yes, sir, this was discussed with bonding companies in connection with the consideration of reclamation legislation in Pennsylvania. Their answer is this: "How can we bond something that will not be reclaimed until 20 or 30 years from now?"

Senator ANDERSON. Is reclamation a new concept to the stone industry?

Mr. FRAWLEY. The kind proposed in this bill is new to the stone industry, sir.

Senator ANDERSON. Don't you have to comply with any laws such as those that govern the coal mining industry?

Mr. FRAWLEY. I don't know about the coal mine phase of it, sir.

Senator METCALF. If the Senator will yield, in many States you have to get a bond to guarantee recapping of oil wells and drilled water wells and sometimes the recapping would be 10 or 20 years in the future.

Mr. FRAWLEY. Yes, sir. However, with respect to stone quarries, the bonding companies say, "Well, just how are you going to back-fill? Where are you going to get the material to fill this big hole?"

Senator METCALF. Mr. Frawley, if the Senator will yield to me, I think that you have stretched your statement to the ridiculous. You know, and I know, and every person in this room knows that reclamation of an open pit mine or a rock quarry does not mean

that you are going to have to fill it up again and turn it back to pasture land, grazing land, or farmland as it was before.

Now, you say the pictures that Secretary Udall presented showing how they took some of these areas and made a series of lakes, used them for fish and wildlife development, or for swimming pools or things of that sort, and you know and I know that no one in America contemplates that we will fill up the Bingham pit or the Butte open pit or any of these rock quarries. Now let's just not talk about a ridiculous situation.

Senator ANDERSON. That is why I asked the question. I think I have had some experience in bonding company requirements. It is not a particularly difficult subject. You say you discussed the bonding matter. What firms have you talked to? Where is your home office?

Mr. FRAWLEY. Pennsylvania, sir, Harrisburg, Pa.

Senator ANDERSON. Well, have you talked to bonding companies up there?

Mr. FRAWLEY. Yes, sir.

Senator ANDERSON. And they said they couldn't possibly issue this type of bond?

Mr. FRAWLEY. In this particular case we were discussing a Pennsylvania State bill. We defined reclamation up there in more detail than is done by S. 3132, by defining the term to mean "to return the land to a useful purpose."

Senator ANDERSON. Do you see that in this bill?

Mr. FRAWLEY. Sir, the way I read the bill it strongly implies restoring to original condition and I was delighted to hear the chairman's remarks.

Senator ANDERSON. Why don't you read some of the sections in the bill you think do that? Do you find language in the bill that you think does that?

Mr. FRAWLEY. On the bottom of page 12, sir, in my statement.

Senator ANDERSON. Are you talking about the bill, or your statement?

Mr. FRAWLEY. I was talking about my statement, sir. I don't have a copy of the bill in front of me.

Senator ANDERSON. What part of the bill says that you should fill these holes?

Mr. CARTER. I don't have a copy in front of me. May I comment, Senator, on that please?

Senator ANDERSON. I will be glad to have you, but he introduced the statement. He knows it, doesn't he?

Mr. CARTER. Yes, he does.

Senator ANDERSON. You may reply.

Mr. FRAWLEY. I don't have a copy of the bill in front of me, sir.

Senator ANDERSON. We will give you a copy of the bill. Who prepared your statement for you?

Mr. FRAWLEY. My statement, sir?

Senator ANDERSON. Yes.

Mr. FRAWLEY. It was prepared by a committee of our members who are intimately familiar with both the day-to-day operations as well as the long-range planning and reclamation of quarries.

Senator ANDERSON. Point out the section in the bill that you think suggests that you must refill all open pits and quarries.

Mr. FRAWLEY. On page 1 of the bill, sir; definition of reclamation, section 2(b).

Senator ANDERSON. I keep on asking the question, but I just don't understand how you can tell what the bonding companies may do.

Mr. FRAWLEY. The problem arises, sir, because the way "reclamation" is now defined by the bill, it might someday be defined to mean and require "return to original condition."

Senator METCALF. Senator Burdick.

Senator BURDICK. No questions.

Senator METCALF. I assure you, Mr. Frawley, that I don't interpret the word "reconditioning," which is the alternative, as a requirement for complete restoration. However, there may be some valid reasons why the crushed stone industry should not be included in this kind of legislation, I think that most of the *reductio ad absurdum* in your statement hasn't made a very strong case for you for exemption, but we will carefully look at this legislation in view of the fears that you have expressed. If there is any ambiguity as to these various propositions you raise, certainly the committee will try to make it plain both in the legislation and in the report.

Thank you very much.

Mr. FRAWLEY. Thank you, Mr. Chairman.

(The statement referred to follows:)

STATEMENT OF NATIONAL CRUSHED STONE ASSOCIATION

The National Crushed Stone Association is a nonprofit trade association whose members engage in the quarrying of rock and the processing of the rock into numerous crushed stone products in all sections of the United States.

The crushed stone industry is an important one. Bureau of Mines statistics indicate that the annual production of crushed and broken stone in the United States approximates 780 million tons. Without our aggregates, as they are called, most construction would very quickly come to a halt. Our industry's products, in the form of concrete mixtures, "blacktop," base course and other critical supplies, are absolutely vital to the construction of roads, dams, bridges, and airports and to all types of commercial construction. In addition, the steel, lead, glass, paint, agricultural and other so-called "basic industries" require our industry's products in order to produce their own.

In addition to being absolutely critical to the construction and other basic industries, crushed stone products are notable for their low value, high volume and heavy loading characteristics. Statistics available from the Bureau of Mines disclose that the average sales price of our industry's aggregates is only \$1.42 a ton. As a result of this extremely low price, proposals whose cost impact upon our industry's operations can be measured in any significant number of cents per ton plainly would have the direct effect of a significant increase in the costs of all construction.

The returning of worked-out quarries to a useful purpose has been a matter of continuing concern to stone producers who have long recognized that it is nothing more than good business to be a "good neighbor" to their surrounding communities. This concern led to the formation within National Crushed Stone Association of an active Reclamation Committee. That committee is comprised of operating personnel of NCSA's members who are intimately involved in both the day-to-day operations and the long-range planning of stone quarries and who have considerable personal experience in working with state and local governments in the development of effective and realistic programs for the regulation of reclamation practices within the surface mining industry.

That experience has made clear that, because of variations in climate, physiography, geographic location, vegetation, land values and other features, surface mining operations and their reclamation are matters which can be effectively and realistically regulated only at the state and local level where due regard can be given to the different circumstances and factors present in each area.

That experience has also made clear that any attempt, even on the state level, to regulate reclamation practices in the surface mining industry on a uniform,

across-the-board basis without taking into consideration the unique characteristics of stone quarries would result in costs being imposed upon stone producers which would be so out-of-line with those imposed upon the producers of competitive materials as to make it impossible for stone producers to sell their products.

The proposals contained in S. 3132 and similar bills would impose direct and very detailed Federal regulation, not only of reclamation practices but also of all aspects of operations within the surface mining industry. Such regulation, moreover, would be imposed in apparent utter disregard of the unique characteristics of stone quarries or other surface mine operations which might also require special consideration in order to avoid disastrous cost and competitive consequences.

The association's position

National Crushed Stone Association, on behalf of its members and the industry, vigorously opposes the enactment of S. 3132 or any similar proposal designed to authorize Federal regulation of operations and/or reclamation practices within the surface mining industry.

In support of this position, NCSA submits that—

1. These proposals seek to impose Federal regulation in an area which, by its very nature, can be effectively and realistically regulated only at the state and local level;
2. While ostensibly designed to carry out the recommendations of the Secretary of the Interior's report of the study conducted by him concerning reclamation in the surface mining industry, these proposals go far beyond the recommendations of the report and, indeed, the express intent and direction of the Congress in authorizing the study;
3. These proposals ignore express Congressional direction that proposed reclamation requirements must take into consideration their cost impact upon operators' competitive postures; and
4. These proposals would give to the Secretary of the Interior unprecedented discretionary authority to exercise life-and-death power over the businesses of mine operators and the jobs of their employees without imposing any restrictions whatever upon that discretion by way of either legislative standards or procedural safeguards.

Effective and Realistic Regulation Possible Only at State and Local Levels

The area of surface mine operations and reclamation is one which, by its very nature, can be effectively and realistically regulated only on the state or local level. This fact was expressly recognized by Mr. Julian Feiss, Office of the Assistant Secretary for Minerals, Department of the Interior, in his April 13, 1964, address before the Conference on Surface Mining called by the Council of State Governments in Roanoke, Virginia. Mr. Feiss stated:

"In evaluating mine operational problems, I suggest that they be analyzed in terms of your own local land, economy and conservation programs. May I stress the word *local*. A vast open pit operation in the deserts of our Southwestern states is quite different from surface mining operations in Appalachia. Northeast stone quarries which have integrated into both the economy and the scenery for well over 100 years, cannot be compared to gravel pits, temporarily established to furnish road materials for a new superhighway. The degree of destruction, if and when it occurs, and the degree of its duration, is dependent upon climate, physiography, geographic location, vegetation, land values, and other economic aspects which may or may not make rehabilitation desirable; water and stream pollution may be a serious problem in one region; in another, they may not be problems at all."

NCSA wholeheartedly agrees with Mr. Feiss' statement. Surface mine operations and reclamation can be effectively regulated only by the individual state and local governments since only they are in the position of being able to give realistic consideration to the different circumstances and conditions in their own areas.

It is clear, moreover, that state and local governments are well aware of and are increasingly fulfilling their responsibilities in the area of surface mine operations and reclamation practices. Indeed, the conference at which Mr. Feiss made the above remarks was called by the Council of State Governments for the express purpose of reviewing the progress which the various states had made in this area and to coordinate future efforts. At its conclusion, the conference unanimously adopted a resolution which stressed that the regu-

lation of surface mine operations and reclamation practices is a state responsibility.

This statement of belief, moreover, has been followed by action. Since the close of that conference regulatory programs have been expanded or established or are under consideration in Colorado, Iowa, Kentucky, Maryland, Oklahoma, Pennsylvania, Virginia, and West Virginia, among others. These developments, coupled with existing programs in Illinois, Indiana and Ohio plainly indicate that the states which are substantially affected by surface mining operations are undertaking to provide for effective regulation.

Stone producers have also been subjected to ever-increasing and more restrictive regulation by local governments. This has been caused by the fact that stone, because of its low value, high volume and heavy loading characteristics, must, in order to be competitive, be produced as close to the sites of construction activity which it intends to supply as possible. This has resulted in stone producing operations being concentrated in or near urban areas where in recent years particularly, they have been subjected to stringent municipal zoning ordinances and other restrictions. An indication of just how stringent these restrictions can be is to be found in the decision by the United States Supreme Court in *Goldblatt v. Town of Hempstead*.¹ In that case, the Court upheld the validity of a municipal ordinance notwithstanding that its effect was to force a very substantial and long-established sand and gravel producing operation out of business.

In light of this record of increasing state and local action, NCSA submits that the Federal regulatory scheme contained in these proposals is not only inappropriate, it is unnecessary.

Blanket regulation of operations ignores congressional intent

Notwithstanding its caption as a "Mined Land Reclamation Act," S. 3132 proposes nothing less than absolute, complete and detailed Federal regulation and control of each and every aspect of surface mine operations whether related in any way to reclamation requirements or not.

Mine operators, in order to commence operations at a new facility or, for that matter, to continue operations at an existing facility, would be required to secure a permit either from the Secretary of the Interior or where the Secretary has approved the state's program, from the State agency. The issuance of the permit would be contingent upon, among other requirements, the operator having first filed and secured the Secretary's or the State agency's approval of an "adequate mining plan." Thereafter, operations would have to be conducted in strict accordance with the approved plan lest the permission to operate be withdrawn.

The bill gives absolutely no guidance as to what would constitute such an "adequate mining plan" except to make clear that it would be separate, distinct and in addition to the reclamation plan which the operator would also be required to file and have approved before permission to commence or continue operations would be granted. Moreover, the bill places absolutely no restrictions on the Secretary's purely discretionary authority to pass judgment upon what sort of a plan would be adequate nor does it afford any opportunity for independent review of the Secretary's decisions in these respects.

Thus, by virtue of his absolute power to withhold approval of "mining plans," the Secretary would be able to effectively regulate and control each and every aspect of surface mining operations whether related in any way to reclamation or not. Operators, under threat of having permission to operate withheld or withdrawn would be forced to adhere to "suggestions" as to what type of equipment to use, the number and type of employees to be hired, the precise methods to be used in mining the deposit and, indeed, whether to mine the deposit or portions thereof at all!

The possibilities for purely arbitrary and, indeed, capricious action which would be created are limitless. We know of no system of such detailed governmental regulation of an industry which has ever been proposed without also including, in addition to protection against arbitrary action, detailed provisions designed not only to protect the regulated industry against competition but also to either subsidize the industry or guarantee a specified minimum rate of return upon its investment.

These proposed powers on the part of the Secretary are even more startling when it is considered that, while S. 3132 is ostensibly designed to implement, in

¹ 369 U.S. 590 (1962).

part, the recommendations of the Secretary's report "Surface Mining and Our Environment"; that report contains not a hint and most certainly does not recommend that such detailed regulation of the industry even be contemplated. Moreover, in proposing these powers, the bill goes far beyond and, in effect, completely ignores what was intended by the Congress when it authorized the study to be conducted in the first place. Section 205(c) of the Appalachian Development Act expressly limited the study to "reclamation and rehabilitation" matters and in no way contemplated the detailed regulation of all aspects of surface mining operations which these proposals would authorize.

In addition to ignoring Congress' intent, these proposals would, by authorizing the Secretary to determine not only when and how mine operations are to be conducted but, also, whether they are to be conducted at all would plainly constitute a sufficient "taking" of the owners' property rights to at least raise serious Constitutional questions.

In addition, the authority which would be given to the Secretary to regulate matters such as air and water pollution and safety would be completely duplicative of existing regulation of those matters both at the Federal and State levels.

Finally, we would note that the Secretary's report indicates that there are currently in excess of 18,000 separate surface mining operations in the United States. The detailed regulation of that number of operations would require a veritable army of new Federal employees who would have to be fully qualified and well-experienced in mining operations. Even were the Congress disposed to authorize the creation of such a huge new bureaucracy, such numbers of qualified persons simply do not exist.

Reclamation requirements ignore impact upon Operators' competitive postures

Section 205(c) (6) of the Appalachian Development Act expressly directed the Secretary of the Interior, in conducting his study of reclamation and rehabilitation matters in the surface mining industry to include:

"(S)pecific consideration of (A) the extent, if any, to which strip and surface mine operators are unable to bear the cost of remedial action within the limits imposed by the economics of such mining activity, and (B) the extent to which the prospective value of lands and other natural resources, after remedial work has been completed, would be inadequate to justify the landowners doing the remedial work at their own expense; . . ."

With respect to the crushed stone industry at least, these express Congressional directions were given extremely cavalier treatment in the study report and, in these proposals, the problems of competition and economics with which Congress was concerned are completely ignored.

The only mention of these problems in the study report is contained at page 90 where it is stated that:

"The amount that surface mining operators can afford to pay for reclamation varies widely among industries and individual operations. In effect, reclamation merely superimposes an additional charge upon variable cost structures that have already been largely determined by the economics of doing business."

After discussing how detailed average per acre reclamation costs were developed for coal, the report then states:

"These data, plus comparable information on clay, sand and gravel, stone, and phosphate rock are shown in Table 5, Appendix I."

The report immediately goes on to say, however, that:

"Details are lacking as to the exact type, or degree, of reclamation represented by the costs reported by the mineral industries, but the level was probably influenced by legal requirements of the states."

In other words, after setting forth an impressive looking table of average per acre reclamation costs for stone and other noncoal minerals, the report says "We don't know what these figures mean"! Moreover, absolutely no consideration is given by the report of what effect even these meaningless figures would have upon operators' competitive postures in the industries affected. We would note in passing that the average "cost" shown for stone is nearly four times that shown for sand and gravel, a commodity with which stone is in severe price competition in many markets.

While the problems of economics and effect upon competition which concerned Congress were, to the extent they were considered at all, given cavalier treatment by the report, they are completely ignored by the proposals before the Committee. The nature of those proposals makes plain that absolutely no consideration was given to their potential effect upon competition within (and

between) the various surface mining industries or whether reclamation would always be economically feasible or, for that matter, desirable.

Thus, S. 3132 would authorize the Secretary of the Interior, without review by other authority, to establish "reclamation" requirements for surface mine operations. Mine operators would be required to file a plan providing for the "reclamation" of their operations and such plan would have to be approved before the operator would be permitted to commence new operations or to continue existing ones.

Given these important requirements, it would seem that the term "reclamation" would be defined with considerable specificity. The only definition contained in S. 3132, however, is found in Section 2(b) which provides that "reclamation" means the reconditioning or restoration of an area of land or water, or both, that has been adversely affected by surface mining operations." The bill contains no other provision which would either guide or restrict the Secretary in the development of the requirements which would be imposed upon operators.

The terms "reconditioning" and "restoration" both strongly imply and could well be construed as meaning "return to original condition." In light of the peculiar characteristics of typical stone quarries, the imposition of such a requirement upon stone producers would not only be unreasonable, it would, as a matter of simple economics, be impossible for stone producers to comply with and still remain competitive in the pricing of their products.

Unlike the more typical strip or surface mine which follows a comparatively narrow seam of mineral across the countryside, stone quarries are comparatively stationary and large quantities of stone are obtained within a relatively small area. Indeed, in many instances, the sole limitation upon the depth at which quarrying operations can be conducted is the cost considerations involved in hauling the stone to the surface. As a result, quarries normally remain in operation for extremely long periods of time.

That typical stone quarries remain in production over extremely long periods of time was amply demonstrated by a recent survey which NCSA conducted throughout the industry. In that survey, industry members were requested to furnish the date on which operations began in each of their currently active quarries and to estimate the number of years which each quarry would continue in operation. The response to that survey, covering a total of over 200 quarries located throughout the country, indicates that the average total operational life of current stone quarries is estimated to be 81 years with some quarries expected to continue in production for as long as 250 years.

A direct effect of this unique feature of typical stone quarry operations is the fact that quarries disturb very little of the surface land in relation to the vast tonnages of useful stone which are removed. Indicative of this fact is that, according to the Secretary's report, stone quarries have accounted for only 8% of the total land area which has been disturbed by surface mining operations. Moreover, while NCSA cannot disprove this assertion, we would suggest that the 8% figure is much too high and we would be most interested in learning how the total acreage figures upon which it is based were determined. As the industry's association, we know that a stone quarry involving as much as 30 acres is considered to be a very substantial operation and most quarries are even smaller.

A second distinctive feature of the typical stone quarry is the fact that the amount of overburden and other nonsalable material which is excavated is extremely small in proportion to the quantity of stone which is removed. This fact is also amply demonstrated by the response to NCSA's survey of current quarry operations. That response indicates that nationwide, an average of more than 84% of the total material excavated results in a salable product.

These unique characteristics of the typical stone quarry make several conclusions respecting the potential application of the proposals contained in S. 3132 readily apparent. First, given the extremely long life of the typical stone quarry, it is plain that no meaningful plan for the reclamation work to be performed on the facility after operations are concluded can be developed before operations are commenced. Yet, under the proposals contained in S. 3132, stone producers would be required not only to develop such a plan and have it approved in order to commence operations, they would also be required to post a performance bond in an amount "adequate to insure the land is reclaimed."² Any doubt that this amount

² How any bonding company, in these circumstances, could be persuaded to issue such a performance bond completely eludes us.

cannot be realistically determined in advance with respect to the typical quarry should be dispelled by consideration of how unrealistic an amount determined in 1887 to be adequate for the reclamation of a quarry which was commencing operations then would appear today when, assuming the quarry's productive life to be the industry average, its operations would be concluded.

Second, given the extremely small amount of overburden and other nonsalable material which remains in the typical quarry in proportion to the total amount of material which is removed (16% on the average, but which in many quarries approaches zero percent), it is plain that to require the land on which the quarry is located to be "returned to original condition," would place an impossible economic burden on the operator. Assuming that such vast amounts of fill would be available (an extremely questionable assumption in many parts of the country), it would still have to be loaded, transported to the quarry and unloaded, spread and compacted. The cost implications of such a requirement cannot reasonably be estimated. Plainly, however, they would be staggering, particularly when it is considered that this cost impact would have to be borne by a product which, at present, sells on the average for approximately \$1.42 a ton.

This cost impact would place crushed stone at a severe and probably impossible disadvantage with other materials with which it is strongly competitive in many markets. Those other materials are normally obtained by either dredging operations or surface mining operations of a relatively shallow nature which would not give rise to such substantial reclamation costs as would be the case with stone.

The extremely severe and disproportionate cost impact which these requirements would have upon stone producers' operations would be greatly magnified, moreover, in their application to currently existing operations. Thus, a typical quarry which had been in operation for 60 years and which had a remaining productive life of another 20 years would have to recover the cost for reclaiming the results of 80 years of excavation from the sales for 20 years of production. As a result, one effect of the enactment of these proposals would undoubtedly be to cause the premature closing of many existing operations so as to avoid being subject to these requirements.

Such premature closings of existing operations not only would cause many employees to lose the permanent and well-paying jobs which they would otherwise have, it would also cause a severe diminution of the available sources of stone which can meet the increasingly stringent specifications which are being imposed by Federal and state agencies as well as by the private construction industry. Accordingly, all government-sponsored construction activities such as highway programs, dams, bridges, and airports as well as private construction would be confronted by shortages and delays in obtaining their supplies of stone, cement, and other aggregates and building materials, not to mention increases in the prices of those supplies.

These potential effects upon the crushed stone industry make plain that these proposals have been developed without any consideration whatever being given to the impact which they would have upon competition and the economics of operation within the industry.

NCSA very respectfully suggests that, in view of the fact that the Congress expressly directed that specific consideration be given to these precise questions, the failure to do so requires that these recommended proposals be returned to the Department of the Interior for compliance with the Congressional direction. NCSA submits that examination of these questions will demonstrate plainly that many surface mining operations, most particularly including stone quarries, cannot be subjected to the type of reclamation regulation visualized by these proposals and still survive as viable competitive businesses.

Proposals lack adequate legislative standards and procedural safeguards

S. 3132 is utterly lacking in any meaningful legislative standards or procedural safeguards which would tend to limit the vast amount of discretionary authority which would be granted to the Secretary of Interior or which would tend to afford operators at least a modicum of protection against the possibility of completely arbitrary action by the Secretary.

Accordingly, any regulatory proposals which might be forthcoming following examination of the questions concerning the impact of reclamation requirements upon the economics and competitive structure of each of the different segments of the surface mining industry should be directed to include:

1. A precise definition of the term "reclamation";

2. Provision for a meaningful advisory board procedure which would insure adequate operator representation in the development of all requirements which would be imposed upon their individual segment of the industry;

3. Provide for meaningful and independent review of all decisions by the Secretary which affect the rights and/or obligations of mine operators and the individual states; and

4. A requirement that inspectors be qualified, both by education and practical mining experience, to capably carry out any responsibilities which might be entrusted to them.

If the Committee wishes, NCSA would be pleased to furnish the Committee or its staff with further details as to these more technical and procedural aspects in which we believe these proposals to be deficient.

CONCLUSION

For the foregoing reasons, National Crushed Stone Association is vigorously opposed to the enactment of S. 3132 or any similar bill which would provide for Federal regulation of stone producers' operations or reclamation practices.

(Subsequent to the hearing, the following additional information was received:)

NATIONAL CRUSHED STONE ASSOCIATION,
Washington, D.C., May 1, 1968.

Re hearings on S. 3132 and similar bills.

Hon. LEE METCALF,
Senate Committee on Interior and Insular Affairs,
U.S. Senate, New Senate Office Building, Washington, D.C.

DEAR SENATOR METCALF: In the questioning which followed NCSA's testimony this morning, interest was shown in our position concerning the difficulty of securing the performance bond which S. 3132 would require operators to post as one of several conditions for permission to either commence or continue operations.

This difficulty arises from the fact that the bill, as drafted, does not make clear what is meant by the term "reclamation." Indeed, the limited definition which is provided could be construed to mean "return to original condition." The costs of such a requirement, particularly as applied to stone quarries, would not only be completely out of any reasonable proportion to the price which stone producers receive for their products, they would be impossible of any reasonable estimate prior to the fact. Since the costs of performing the reclamation work could not be estimated prior to the fact, bonding companies would clearly not be willing to give financial assurance that the work would be performed.

We recognize, of course, that Secretary Udall and members of the Committee have indicated that it is not intended that "return to original condition" would always be required. This intention, we submit, should be carefully spelled out in the bill itself so as to clearly preclude attempts being made at some future time to impose such a requirement upon stone producers.

We trust that this explanation satisfactorily answers the questions raised by Senator Anderson, and we would request that this letter be placed in the record at the conclusion of our testimony. If you wish, we would be pleased to develop these points in more detail.

Very truly yours,

JOHN P. FRAWLEY.

NATIONAL CRUSHED STONE ASSOCIATION,
Washington, D.C., May 24, 1968.

Subject S. 3132 and similar bills.

Hon. LEE METCALF,
Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR SENATOR METCALF: At the conclusion of National Crushed Stone Association's testimony before the Committee, you indicated that the Committee might give consideration to the possibility of exempting stone quarries and other deep pit operations of a similar nature from the provisions of the legislative proposals contained in S. 3132 and similar bills.

This letter is intended as a summary for your convenient reference of the reasons why we believe the application of the requirements proposed by these bills to stone quarries is not only unnecessary and unfeasible but would produce consequences so undesirable as to require that exemption be granted.

The factors underlying these reasons were discussed at length in NCSA's testimony before the Committee. They may be summarized as follows:

1. Stone quarries are relatively small and disturb very little surface land in relation to the vast amounts of essential stone which are removed. In addition, stone quarry operations do not give rise to problems of water pollution or toxic materials nor do they disturb fish and wildlife or their habitat. Hence, stone quarries simply do not make any significant contribution to the problems of extensive land disturbance and spoilation which these proposals are intended to remedy.

2. Stone quarries typically remain in operation for extremely long periods of time—81 years on the average according to a nationwide survey conducted by NCSA. Moreover, reclamation work typically cannot be started until quarrying operations are concluded. Thus, it is apparent that no meaningful "reclamation plan" could be developed prior to the beginning of quarrying operations as would be required by these proposals. How realistic or satisfactory would a reclamation plan developed for a quarry in the Rockville, Maryland area in 1887 be today? It is equally plain that no reasonable estimate of the costs of reclamation can be made so far in advance as to permit the posting of the performance bond which would be required.

3. Stone quarries differ from all other types of surface mining operations in that, at most, only a very small amount of overburden and other material is available at the conclusion of mining operations for reclamation purposes. It is plain, therefore, that the costs of "reclamation" whatever that term may mean since it is not meaningfully defined by these proposals, would be substantially greater for stone producers than for producers of competitive materials which are secured by dredging or surface mining operations of a comparatively shallow nature. Thus, even the Secretary's own report Surface Mining and our Environment indicates at page 113 that the reclamation costs for stone would be over four times as great as those for sand and gravel and we have every reason to believe that the actual disparity on a per ton basis would be much greater. As a result, not only would there be a substantial increase in the cost of our industry's products which are absolutely essential to the construction, agricultural and other basic industries, stone producers would be placed in an impossible competitive position.

4. As drafted, these proposals would in effect attempt to provide for detailed regulation of the more than 18,000 separate surface mining operations in the United States. This would require a veritable army of new government employees who would have to be fully qualified and experienced in mining operations. Even were the Congress disposed to authorize the creation of such a huge new bureaucracy, such numbers of qualified persons simply do not exist. Plainly, in this context, the goal of better reclamation would be best served by limiting the application of these proposals to those operations which do contribute significantly to land disturbance and spoilation.

5. Finally, because of the low cost, high volume and heavy loading characteristics of stone products, quarries are typically located close to urban areas where they are subjected to increasingly stringent local regulation. Hence, exemption from Federal regulation would not mean that quarries and their reclamation would be unregulated. Rather, it would mean that they will be regulated at the government level where consideration can best be given, not only to the peculiar geophysical and other natural characteristics of the area, but also to such purely local considerations as land values and the necessity to provide for adequate supplies of stone products and employment opportunities for local labor.

The foregoing summarizes the reasons why special consideration must be given to stone quarries and similar operations and why the National Crushed Stone Association believes that these operations should be exempted from the proposals contained in S. 3132 and similar bills.

Before closing, we would like to take this opportunity to again register our most vigorous opposition to the proposed "adequate mining plan" requirement contained in these bills. As Secretary Udall's testimony before the Committee made very clear, this proposed requirement would give the Secretary of the Interior unlimited and nonreviewable discretionary authority to regulate every aspect of mining operations (whether related in any way to reclamation or not) and, indeed, to control whether individual operations can be conducted at all.

Such power on the part of the Secretary plainly was not contemplated by the Congress when it authorized the study which underlies these proposals. The exercise of this power, moreover, plainly would constitute a sufficient "taking" of the owners' property rights to at least raise serious Constitutional questions.

We trust that this letter will be helpful to you and to the Committee in your deliberations on this critical matter. If we may be of further assistance to you or the Committee, we would welcome and be most appreciative of the opportunity.

Cordially,

W. L. CARTER,
Executive Director.

Senator METCALF. The next witness is Mr. Hugo E. Johnson, president of the American Iron Ore Association, and he also is accompanied by a group. We will be glad to have you bring your group forward, Mr. Johnson.

STATEMENT OF HUGO E. JOHNSON, PRESIDENT, AMERICAN IRON ORE ASSOCIATION; ACCOMPANIED BY JOHN D. BOENTJE, JR., PRESIDENT, PITTSBURGH PACIFIC CO.; AND S. W. SUNDEEN, GENERAL MANAGER, RESEARCH AND DEVELOPMENT, CLEVELAND-CLIFFS IRON CO.

Mr. JOHNSON. Thank you, Mr. Chairman. Mr. Chairman, members of the Committee on Interior and Insular Affairs, I am Hugo E. Johnson, president of the American Iron Ore Association. I am a registered professional engineer and for the past 15 years, I have been on the staff of the American Iron Ore Association where, for the past 10 years, I have had the honor of serving as president.

The member firms of the American Iron Ore Association mine over 95 percent of the iron ore mined in the United States.

We appear here today in opposition to Senate bill, S. 3132, Surface Mining Reclamation Act of 1968. We oppose the adoption of this legislation because we feel that it is unnecessary and unwarranted and that the request for such legislation is based upon inaccurate and exaggerated statements in the report entitled "Surface Mining and Our Environment," which are not representative of the actual facts.

Before we proceed with our statement, we would like to point out that we have followed closely the work of the American Mining Congress in connection with this important legislation and we endorse the statement presented here yesterday by their representative, Mr. J. S. Abdnor.

In the interest of giving to you and your committee a firsthand report on how this proposed legislation, S. 3132, may affect iron ore mining operations and why we oppose this legislation, we have asked representatives of two of our member firms to present their views to this committee.

Both of these gentlemen are well qualified to discuss this important legislation and to give to this committee the views of two important firms whose operations in mining iron ore are substantially different, yet would be seriously affected by this legislation.

On my left is Mr. John D. Boentje, Jr., who has been actively engaged in the iron ore mining industry for over 20 years. Trained as a mining engineer, he started his career in iron ore mining shortly after his service in the U.S. Navy. Today he serves as president of Pittsburgh Pacific Co. in Minnesota.

On my right is Dr. S. W. Sundeen of the Cleveland-Cliffs Iron Co. Dr. Sundeen has been active in research, in planning, and in operations for over 25 years. Today he serves as general manager, research and development, for the Cleveland-Cliffs Iron Co.

With your permission, Mr. Chairman, I will ask these gentlemen to present their statement and then I will close our appearance with my remarks.

First we will hear from Mr. Boentje, the president of Pittsburgh Pacific Co.

Mr. BOENTJE. Mr. Chairman and members of the committee, I am John Boentje, Jr., a graduate mining engineer. I have worked in mining operations for over 30 years, of which the past 20 years have been on the Mesabi and Cuyuna Ranges of Minnesota in open pit iron mining. For the past 5 years, I have been president of Pittsburgh Pacific Co., a small independent iron ore producer.

Our company is currently operating mines and concentrating plants on the Mesabi and Cuyuna Iron Ranges in northern Minnesota. We sell our products on the open market to blast furnace operators in the area tributary to the Great Lakes in competition with other United States and foreign iron ore producers.

The mineral properties we operate are held under lease from the owners. The properties we have operated in the past and those we hold today fall into three general categories. They are properties which have been "exhausted" of ores in the past, measured by the economics and technology of the period in which they are mined, or they contain too little ore to have been attractive to larger operators, or they contain lean ore stockpiles, materials which prior operators were unable to process economically because of existing technology so as to produce a usable product. We have been able to operate these properties successfully by employing modern equipment and concentrating techniques.

In the past 10 years, our company has produced an average of over 600,000 tons per year of usable iron ore products which have been sold in the United States and Canada. This figure may seem small compared to total U.S. iron ore consumption or to the production of some of the large companies, however, it does represent about 1¼ percent of the production from Minnesota in this 10-year period. The delivered value at lower lake ports exceeds \$6 million per year.

During the past 5 years, payments to and on behalf of our employees have averaged over \$1½ million per year. State and local taxes paid during the past 5 years have averaged over \$450,000 per year. Our company does have an impact upon the communities in which our operations are conducted.

I have read and attempted to understand S. 3132 from the standpoint of the possible effects upon our company if it should become law, and I have several concerns.

My first concern is that it may not be generally recognized that iron ore is produced by other than the extremely large mining companies. We, as small operators, continue to serve a useful function. In one sense we are conservationists in that our principal work is extracting materials left behind as uneconomic or undesirable by previous operators and converting them into usable and saleable products. In doing this we provide a public benefit in that we create wealth which is distributed to our employees; our suppliers; the local, State,

and Federal Government; the property owners; and to the investors in our company.

My second concern is that it would be required that all operations would be conducted in accordance with detailed plans submitted by the operator and approved by a governmental body prior to continuance or commencement of a surface mine operation. The nature of our operations is such that many times we can make no mining plans in advance. In many properties the potential economics will not support a detailed exploration program. We may move our equipment in and explore with our power shovel as we mine, paying close attention to quality of product, overall costs, and safety of our employees. If we don't find what we expected, we move on to the next property.

In many cases we have moved into properties and begun operations within hours of notification that a lease had been agreed upon. In some cases our operations have been completed under verbal agreements before we have received executed lease documents.

Our existence has depended to a great extent upon our ability to be flexible and mobile and to accommodate changes as opportunities were presented or as conditions dictated. I am fearful that the detailed plan, governmental approval, and permit routine would stifle our ability to perform the role that we have developed for ourselves. We don't have the leadtime nor, in many cases, the need nor the knowledge to develop plans which could be submitted for review.

My third concern is that it is proposed that a performance bond adequate to assure reclamation of the land be posted. I am quite sure that a large operator would have little difficulty in obtaining a bond. However, I am afraid that our company might have trouble in finding a company willing to supply this coverage. And certainly the cost of bonding becomes an extra financial burden.

Our company can and does insure against many contingencies. For these things, an insurance company is able to arrive at proper premium rates through experience. But how would a bonding company arrive at a charge for a bond to cover land reclamation in our type of operations? Certainly any initial plans developed would be changed during the operation. It is also possible that the reclamation regulation standards could be changed between the start and the completion of an operation. It would seem that a bonding company would have to hedge so much in many cases because of the unknowns that their charge would be prohibitive.

My fourth concern has to do with the allocation of liability to reclaim areas. Nearly all of our operations are on properties which have been operated by others in the past. If the regulations which would be developed under this act were to require that the active operator must reclaim the area and that he would be responsible for the entire area, we could have some insurmountable problems.

We currently have leases on properties from which tens of millions of tons of ore have been removed by other operators. We hope to mine in some cases thousands or, in other cases, a few hundred thousand tons. But if we were to inherit substantial reclamation obligations, there could be many cases when we would not be able to consider an operation because of these potential obligations.

As I review my concerns, I can think that maybe our company shouldn't be allowed to continue operating if we are destroying more value than we are creating. But, what are we destroying, if anything?

The Department of the Interior special report to the Nation entitled "Surface Mining and Our Environment" deals with several items in the chapter "Impact on Environment."

In connection with the effect of surface mining on reshaping the surface, the comment is made that the piles of low-grade ore "may either be considered an attractive feature in an otherwise monotonous landscape or as unsightly, depending upon one's viewpoint."

We also read that "the minerals in the formation are chemically inert and the terrain is flat; thus the mining operations cause little or no water pollution."

Furthermore, "* * * surface mining, per se, cannot be considered a major contributor to air pollution." We do not find anything directly describing the effect on vegetation of operations on the iron ranges; however, dumps and pits which have been unused or inactive for a period of time begin growing grass, brush, and trees and, if left undisturbed, take on the appearance of the surrounding area. When I really look at the whole picture, I wonder why Federal legislation is needed.

In general, good mineral conservation practices have been followed on the Minnesota iron ranges. As mines were opened, waste materials were removed and placed where they would not interfere with future operations.

The State of Minnesota, as a fee owner, is one of the stricter landlords in this regard. Low-grade materials were segregated and stockpiled for future possible use. Our company has processed large quantities of these materials using the tools and technology available to us today to produce usable concentrates.

As pits were exhausted of economic ores, they were generally left so that they could be reentered with minimum cost and effort. These practices contributed to the ability of the iron mining industry to expand operations at an incredible pace during World War II.

As to the appearance of the countryside, last summer some 80,000 tourists were counted at the viewstand overlooking the Hull-Rust Mine at Hibbing, which is the largest open pit iron ore mine in the world. Our Congressman, John A. Blatnik, succeeded a few years ago in having a new four-lane highway between Hibbing and Chisholm routed across one of the large open pits, recognizing that this would be an attraction for tourists.

There is essentially no water pollution from surface mining. Our company has worked closely with the Minnesota Water Pollution Control Commission in designing dikes and water handling systems. The two largest communities on the Mesabi Range obtain all or part of their water supplies from adjacent active open pit mines.

There is essentially no air pollution. At times there is windblown dust from active operations; however, our company, as have others, has planted vegetation to abate these problems where they are objectionable and where it is practical.

It seems to me that this act would unnecessarily burden the iron mining industry in Minnesota and could very well bring my company's operations to an end. If this were to happen, it would affect the some 250 families which our operations directly support, and would have

an indirect effect upon those who serve our industry and those who live in our communities. It would also place a burden on the people of Minnesota who would be required to bear the cost of the administration of the law.

It is easy for me to see the probable harmful effects this act would have upon our area and our industry if it were to become law, but it is difficult for me to see what real benefits would be derived.

Thank you for the opportunity to appear here before you to present my views in opposition to this important legislation.

Mr. JOHNSON. Thank you, John.

I am pleased to present the general manager of research and development of the Cleveland-Cliffs Iron Co., Dr. S. W. Sundeen.

Dr. SUNDEEN. Mr. Chairman and members of the Committee on Interior and Insular Affairs: I am Dr. Stanley W. Sundeen of research and development for the Cleveland-Cliffs Iron Co. I hold a doctor's degree in geology and have been associated with the iron ore mining industry for 32 years, which I guess is more than the 25 which Mr. Johnson mentioned.

My experience has included both operating and research responsibilities, from mine superintendent to my present position of general manager of research and development.

The Cleveland-Cliffs Iron Co. has a corporate history of 118 years and through predecessor companies can go back to the beginning of iron ore mining in the Lake Superior District.

At the present time Cleveland-Cliffs owns or operates five pellet plants, four open pit mines, and one underground mine on the Marquette Range in Michigan; three open pit mines on the Mesabi Range in Minnesota; and one pelletizing plant and open pit mine in Ontario. In 1967 the shipments from our operations in the United States was 10,854,000 long tons, or 13 percent of the total shipments of iron ore in the United States.

During its 118 years the company has had operating experience which covers the gamut of underground and open pit mining of natural ores to modern concentrating and pelletizing operations. This experience in iron ore mining is representative of the larger iron mining companies in the United States. Cleveland-Cliffs occupies a position as a leader in the development of beneficiating and pelletizing operations for iron ore.

I find it very difficult to acknowledge—in fact, I challenge—the premises which have been used as the basis for the proposed legislation now before this committee for consideration. I respectfully submit to you that the iron mining industry does not create the magnitude of problems which have been depicted for you.

It is our contention that the iron mining industry does not, contrary to the statements in S. 3132, "adversely affect commerce by destroying or diminishing the availability of land for commercial, industrial, recreational, agricultural, and forestry purposes by causing erosion or landslides, by contributing to floods, and the pollution of water, by destroying fish and wildlife habitat and impairing natural beauty, by counteracting efforts to conserve the soil, water, and other natural resources, by destroying or impairing the property of citizens, and by creating hazards dangerous to life and property."

I propose to discuss each of these alleged destructive effects separately in this statement.

AVAILABILITY OF LAND

In the State of Michigan and Minnesota, iron mining operations to date have affected a very small part of the total acreage in those States. The Secretary of Interior, in his report "Surface Mining and Our Environment," shows on page 110 that 2,200 acres in Michigan and 67,700 acres in Minnesota have been disturbed by iron ore mining.

In relation to the 37,300,000 acres in Michigan there has only been 0.006 percent of the total area of the State involved in iron ore surface mining, and of Minnesota's 53,800,000 acres, only 0.12 percent has been affected.

The report "Surface Mining and Our Environment" indicates that the annual increment of acreage involved in mining metallic minerals is not known exactly but that it can be calculated roughly as 8,000 acres annually. Iron ore is only part of the metallic minerals mined and contributes a small portion of this increased use of the land each year. The increase in Michigan and Minnesota is negligible.

In both of these States iron mining has been and is presently being carried on in sparsely populated areas. In the four counties of Michigan in which the iron ore mining operations are located, there is an average of 25 persons per square mile; and in those counties in Minnesota in which the iron ore mining operations are located, there is an average of 30 persons per square mile.

These figures contrast with population densities, for example, of 137 people per square mile for Michigan, 237 in Ohio, and 806 in New Jersey. The light population densities in these mining areas documents the fact that there is no great demand for land, and therefore the iron mining industry is not withdrawing land from use that is needed for other purposes.

The iron mining industry is the largest industry and the prime employer in each of these mining areas in Michigan and Minnesota. Many of the other businesses support and serve the mining industry and its employees.

There is little competition for other commercial or industrial uses of the land in these areas. Soil and climate make the Michigan and Minnesota mining districts marginal for agricultural purposes.

In addition, the areas involved in iron mining surface operations are of low-quality for recreational uses. This fact, coupled with the vast acreages held by the State and Federal Government which are available for recreational purposes, argues that there is no significant diminution of recreational land.

For forestry purposes, the areas which have been involved in iron ore surface mining in Michigan are very insignificant. It is my observation that the second growth on the Mesabi Range has been scrub timber of low value. Moreover, in both Michigan and Minnesota mining is the highest value use that can be made of the land.

EROSION AND LANDSLIDES

There has never been a problem of any measurable proportions involving either erosion or landslides related to iron ore mining operations in Michigan and Minnesota.

FLOODS AND POLLUTION

Floods are unknown in the iron ore mining areas of Michigan and Minnesota and therefore there have never been any problems of this nature related to iron ore mining. The report, "Surface Mining and Our Environment," states on page 52 in regard to the Mesabi Range "the minerals in the formation are chemically inert and the terrain is flat; thus the mining operations caused little or no water pollution."

The conditions in Michigan are similar with respect to the absence of chemical pollution. Pollution by solids in suspension is regulated by Federal and State laws for the control of water quality. The fact that these regulations are effective is borne out by the report of the Michigan Water Resources Commission, "Industrial Pollution Status," which lists open pit iron mining operations with the best rating. We in the iron mining industry maintain that water pollution is adequately controlled and that there is no need for additional legislation.

Air pollution is not a sizable problem associated with iron ore open pit mining. The report, "Surface Mining and Our Environment," makes reference to air pollution, stating that "surface mining, per se, cannot be considered a major contributor." There can be at times airborne dust that occurs during heavy winds but this condition occurs over all kinds of land areas from virgin ones to city streets. The stack emissions from modern pelletizing operations are controlled by State and Federal regulations, and again no further legislation is required.

FISH AND WILDLIFE HABITAT

State water pollution control agencies are keenly aware of the interest of sportsmen and conservation groups in protecting the habitat for fish and have included in State regulations controls which protect them. The relatively small areas which are actually involved in iron mining operations do not have a significant impact on wildlife habitat, considering the great acreage of open land available in these areas.

CONSERVATION OF SOIL, WATER AND OTHER NATURAL RESOURCES

Loss of soil does not occur in the iron mining areas through erosion and flooding. The withdrawal of land and soil from other uses by mining does not create a problem in Michigan and Minnesota because the mining areas are so marginal for recreation or agriculture.

In modern beneficiating and pelletizing operations, water plays a very important role. We need it. Therefore the conservation of water is of primary value to the iron ore mining industry.

DESTRUCTION OR IMPAIRMENT OF PROPERTY AND HAZARDS

Any impairment of the property of others adjacent to the iron ore mining operations of Michigan and Minnesota is limited to such incidental effects as dust or noise from the operations and does not in our judgment constitute a hazard requiring further legislative controls.

Our experience indicates that there have been virtually no incidents involving hazards to the public where surface mining operations are located.

IMPAIRMENT OF NATURAL BEAUTY

This is perhaps one of the most controversial allegations. The apparent changes to the landscape which are caused by iron ore surface mining operations are the creation of open pits, rock or "lean ore" piles and tailings basins.

The report, "Surface Mining and Our Environment," speaking of the Mesabi Range in Minnesota, states "the tremendous piles of low-grade or 'lean ore' that dot the countryside may either be considered an attractive feature in an otherwise monotonous landscape or as unsightly, depending upon one's viewpoint."

Such a statement is equally applicable to the appearance of the open pits. The view of the Hull-Rust pit on the Mesabi Range in Minnesota to some degree inspires the same emotion of awe as the Grand Canyon.

The local chambers of commerce consider the pit as a unique tourist attraction as measured by the 80,000 or so tourists who visit the Mesabi Range each summer. It is our viewpoint that the residents of the iron mining areas in Michigan and Minnesota do not consider the views of the pits and piles unsightly and it is obvious that visitors are drawn to those areas by the presence of these outstanding features.

In Michigan the iron ore surface mining operations are scattered in remote areas and therefore are not readily seen by a viewer.

During the active years of iron ore operations there is not much that can be done with the tailings basins, but when the operations have been complete it is our contention that the basins will revegetate naturally or will yield to seeding.

Cleveland-Cliffs and other companies are at the present time engaged in research efforts to ascertain the types of and rate of revegetation. It is of interest to point out that even in the active tailings basins, wild ducks nest and raise families each summer.

The reaction to views of pits and rockpiles can be as varied as the techniques of photography which have been used to illustrate these features. On page 22 and 32 of the report, "Surface Mining and Our Environment," there are pictures of iron ore open pits. These have been taken and printed under conditions that portray the subject in its most favorable light.

MINING PLAN REQUIREMENT

One of the most objectionable features of S. 3132 is the requirement of a mining plan and the granting of a mining license. The preparation of a mining plan in advance of mining will be most burdensome because of the extended life of an iron ore surface mining operation.

The report "Surface Mining and Our Environment" comments as follows:

"Another distinctive feature of open-pit mining is the length of time that mining is conducted" and "some open pits may be mined for many years—50 or more; in fact, a few have been in continuous operation for more than a century."

To illustrate this longevity, the famous Hull-Rust open pit in Minnesota was opened in 1895 and still can be considered an active operation.

In Michigan the Empire Mine was originally opened in 1907 and operated until 1926; it was reopened in 1963 and is now a part of the present operation which has an estimated life in excess of 50 years. These properties are typical of most iron ore mines which last so long that their operations are altered and extended by advances in technology.

No miner has more than a beginning knowledge of the ore body he is going to mine before mining commences. He gains most of that **knowledge as mining progresses and exposes the ore body.**

Yesterday morning, I believe, Senator Hansen alluded to a concern that the proposed law would be too inflexible to cover the unknown conditions. During this same time the miner will be subjected to and influenced by advances in mining and beneficiating technology.

The lack of relatively full knowledge of the ore body and the influence of continuing technological change makes it difficult, even impossible, to foresee the conditions which will be encountered during mining and the conditions which will exist at the completion of mining.

Therefore, it is impossible to develop an adequate mining plan to be filed and approved before surface mining operations are commenced that will fit actual conditions at the end of the operation. The requirement of a mining plan in advance of mining and of posting a performance bond during possibly 50 to 100 years of a mine's life is in our judgment entirely unsuited to the characteristics of this type of mining.

The authority given to the Secretary of the Interior in the proposed legislation to establish regulations and from time to time to revise those regulations creates a very dangerous situation for an operation with a long life such as an iron ore mine.

A mining company would not know when the regulations would be changed or what conditions its mine would face at the end of its life and therefore many uncertainties would be created concerning the profitability of an operating mine and the calculated return on investment on a new mine.

In any event, the result of these regulations would be the addition of costs which would render the situation less competitive with foreign mines. Modern iron ore mining, treatment and pelletizing operations require very large investments which in the case of one or two such mines have exceeded \$300 million.

The heightened risk that unknown costs of large magnitude might occur as the result of these regulations could discourage investment in iron ore properties in the United States and even encourage domestic companies to invest in foreign iron ore ventures.

It is our conclusion that the conditions created by iron ore mining in Michigan and Minnesota are not such as to require the kind of regulation proposed in S. 3132; that the longevity and changing technology of iron ore mining make it impossible to plan reclamation in advance which is reasonably adapted to the end conditions; and finally, that the prerogative of the Secretary of the Interior to establish regulations for reclamation and to change them at any time imposes unknown costs on a mine operator that will make him less competitive with foreign iron ores.

Mr. Chairman, thank you very much for the privilege of appearing before you.

Senator METCALF. Thank you, Mr. Sundeen.

Mr. JOHNSON. Mr. Chairman and members of this committee, I would like to close our presentation here today by pointing out to you with all the emphasis I can command so that you fully understand the reasons why we object to this type of legislation.

1. The type of operations carried out by the iron ore mining industry are of a localized and extremely long-lived operation totally unlike the coal mine and reclaim operation that characterizes modern-day mining technology seen in the eastern part of our country.

2. Iron ore mining operations today, particularly with their new lean ore and taconite breakthrough, do not and cannot lead themselves to legislation such as proposed in S. 3132.

3. Such legislation would hamper and interfere with the ability of the iron ore mining industry to serve the Nation as it has historically done in the time of emergency.

4. The report, "Surface Mining and Our Environment" does not accurately reflect the mining industry.

The Secretary's report "Surface Mining and Our Environment" in his statement on page 52, confirms the fact we wish to emphasize, that iron ore mining is of a localized type of long-lived duration when he says:

Iron ore open pits extend over large areas and usually reach considerable depths. The Mesabi Range of Minnesota is an iron ore formation 120 miles long and about 3 miles wide. In the next 100 years the range could become a giant canal or lake. The minerals in the formation are chemically inert and the terrain is flat; thus the mining operations cause little or no water pollution.

Many of the pits have steep highwalls which, in places, are dangerous and impede the movement of wildlife and humans. The tremendous piles of low-grade, or "lean" ore that dot the countryside may either be considered an attractive feature in an otherwise monotonous landscape or as unsightly, depending on one's viewpoint.

His statement is illustrative of iron ore mining operations and his emphasis on the fact that we cause little or no water pollution is an important point.

Further, his emphasis on the beauty or lack of beauty of the low-grade or lean ore stockpiles is of special interest. These are a result of what we believe to be good mining practices and an important conservation policy but we wish to point out that they must be preserved in an orderly fashion and segregated from other materials since they represent iron ore reserves of the future when economic and technology permit their use.

Major iron ore deposits rarely show any sharp line of demarcation between presently economic iron ore and uneconomic iron ore. This is different from many other mineral deposits which show a sharp line of demarcation and which lend themselves to development and completion in a predictable manner.

The iron ore mining industry has many mines—and I emphasize "many"—which had been mined for 40 or 50 years. These are now being reopened for the purpose of mining and upgrading the lean ores remaining. This is a characteristic of iron ore mining which we wish to strongly emphasize.

We now see a completely new iron ore mining industry developing in the United States because of this important fact. For example, in

Minnesota, we see rapidly developing the taconite industry which was most recently endorsed by the people of Minnesota when they voted to approve the "taconite" amendment to their State constitution. Eighty-seven percent of the people voting on the State constitution issue favored the issue designed to attract more mining development. The result has been to extend the iron ore mining industry in Minnesota beyond the foreseeable future. How can one make advance plans for reclamation to obtain permits to mine when we know the operation will continue for 50 to 100 years in the future?

This has also happened in other areas of the United States as has been pointed out for Michigan. It has also happened in California, Missouri, Pennsylvania, and Wyoming.

All of this comes from the utilization of materials that might have otherwise been lost to our country if we had been required to "reclaim" the mines, within the meaning of the bill, when they had originally become uneconomic. The cost of reopening the mines may have been prohibitive and the huge investments would never have been justified.

To further illustrate that iron ore mining is a localized and long-lived operation, let me briefly review some of the highlights in the history of our industry.

Iron ore was first mined in Virginia in 1619, in New York and in New Jersey about 1750. In Pennsylvania, the Cornwall Mine was opened in 1740 and is still in continuing operation, 228 years later. This is an underground operation so it does not come under the provisions of S. 3132 but it does emphasize what we are trying to point out, the localized and long-lived aspects of the iron ore mining industry.

An example pertinent to our discussion today is the world renowned Hull-Rust-Mahoning mine located near Hibbing, Minn. This mine, operated by several companies, was opened in 1895—73 years ago—as an underground mine. In 1905, it was opened as a surface mining operation. Up to and including 1966, 500 million tons of iron ore had been removed from this mine.

Today, even as the natural ores are still being removed, mining companies are planning the development of a new taconite operation that would utilize the "taconite" in the bottom and in the walls of the Hull-Rust-Mahoning mine that will expand this man-made grand canyon.

The fact that the Hull-Rust-Mahoning mine and others like it were on a standby basis and not "reclaimed," as may be required under this bill, was an important factor in the iron ore mining industry being able to provide iron ore for the Nation during World War I, World War II, in the Korean war and in our recent emergency.

In the Second World War, we were able to increase our production from the Great Lakes area alone from 19 million tons in 1938 to 93 million tons in 1942. In the Korean war, we went from 69 million tons in 1949 to 94 million tons in 1951.

Without the provisions that may exist in the proposed legislation, we were able to meet the tremendous requirements for the steel industry during these emergencies and during the present conflict. We sincerely hope that legislation will not be enacted now which would restrict our ability to supply the Nation's requirements in a future hour of need.

You have already heard some of the reasons why we feel that the report "Surface Mining and our Environment" in many respects does not present a representative picture of the iron ore mining industry.

I refer to table 1 and table 2 of appendix 1. Copies are attached to my statement for your convenience. Under the column entitled "Iron Ore," we note that iron ore mining is said to have disturbed 164,225 acres. Regrettably, in table 2 we are not told the land disturbed by iron ore mining that needs reclamation. In view of this, we endeavored to locate some of this acreage that may require restoration.

Because of its proximity to our office, we started in Ohio where 4,000 acres were said to have been disturbed. We did locate the counties where the mining had been done but since no mining had been done since 1924, the areas "disturbed" were now reforested or used for grazing land with one exception.

We found several hundred acres of this land said to have been disturbed by iron ore mining, are now being mined for coal and are also included in the acreage said to be disturbed by coal.

In Virginia, where 7,700 acres were said to have been disturbed, we were able to locate the counties but except for some mining of "paint rock" or "pigment," we were unable to locate the 7,700 acres referred to in the report. If, as we are led to suspect, they included all disturbed land since iron ore mining in Virginia began in 1619, this could be a close estimate but we believe it totally unrealistic.

We found several hundred acres of this land, said to have been disturbed, in Louisiana where another 50 acres were said to have been disturbed, and in Massachusetts where 1,100 acres, half as much as had been disturbed in Michigan, were reported as disturbed. We even went back in the records of the U.S. Department of the Interior but found no iron ore mined during the past 40 years attributed to these and several other States listed.

Gentlemen, we oppose this legislation because:

1. The type of operations carried out by the iron ore mining industry are of a localized and extremely long-lived operation totally unlike the cast mine and reclaim operation that characterizes modern-day mining technology generally seen in the eastern part of our country.

2. Iron ore mining operations today, particularly with their new lean ore and taconite breakthrough do not and cannot lend themselves to legislation such as proposed in S. 3132.

3. Such legislation would hamper and interfere with the ability of the iron ore mining industry to serve the Nation as it has historically done in the time of emergency.

4. The report, "Surface Mining and Our Environment," does not accurately reflect the mining industry.

If S. 3132 were to be recommended by this committee, and subsequently became the law, it would place an unnecessary economic burden of administrative costs and rehabilitation costs on a society that is fast costing itself out of a competitive posture with the free world economy especially as far as iron ore is concerned.

The conclusion of damage from disturbed land appears to be exaggerated and completely unwarranted especially since any related problems of air and water pollution to our environment are adequately comprehended in both existing Federal and State regulations.

The unwarranted powers this bill gives to the Secretary of the Interior would necessitate a complete reconsideration of future plans as far as the iron ore mining industry is concerned.

We urge you to let us proceed in our plans for the future without additional Federal regulations and we are certain the future will show that the problems of concern to the Secretary of the Interior are adequately covered by existing Federal and State regulations now in effect.

Thank you for the opportunity to appear before you today on this important legislation.

(Information referred to follows:)

APPENDIX I
TABLE 1.—LAND DISTURBED BY STRIP AND SURFACE MINING IN THE UNITED STATES AS OF JAN. 1, 1965, BY COMMODITY AND STATE

[Acres]

State	Clay	Coal (bituminous, lignite, and anthracite)	Stone	Sand and gravel	Gold	Phosphate rock	Iron ore	All other	Total
Alabama ¹	4,000	50,600	3,900	21,200	100	—	52,600	1,500	133,900
Alaska ¹	—	—	—	2,000	8,600	—	—	—	10,600
Arizona ¹	2,700	—	1,000	7,200	1,200	—	—	20,300	32,400
Arkansas ²	—	10,100	—	2,600	—	—	100	8,500	22,400
California ²	2,700	20	8,000	19,900	134,000	—	900	8,500	174,020
Colorado ¹	2,000	2,800	6,200	15,500	17,100	—	25	11,400	53,025
Connecticut ¹	—	—	100	16,100	—	—	—	100	16,300
Delaware ²	200	—	200	5,200	—	—	100	—	3,700
Florida ¹	13,200	—	25,300	3,900	—	143,600	—	2,800	188,800
Georgia ¹	31,300	330	36,800	31,200	—	—	3100	12,000	121,700
Hawaii ¹	—	—	—	—	—	—	—	—	—
Idaho ²	500	—	700	11,200	21,200	3,100	35	4,200	40,935
Illinois ²	1,400	127,000	5,700	9,000	—	—	—	—	143,100
Indiana ²	1,500	95,200	10,200	18,000	—	—	—	400	123,300
Iowa ¹	1,300	11,000	12,200	17,600	—	—	6	2,300	44,506
Kansas ¹	11,100	245,600	17,500	15,100	—	—	—	4,200	293,500
Kentucky ¹	12,400	119,200	13,900	11,700	—	—	—	1,500	127,700
Louisiana ¹	900	—	100	29,700	—	—	50	—	30,750
Maine ¹	400	—	4,400	28,200	—	—	100	1,700	34,872
Maryland ¹	21,200	2,200	12,200	18,800	—	—	1,100	1,800	43,200
Massachusetts ¹	700	—	1,200	36,400	—	—	—	900	40,300
Michigan ²	600	—	7,700	25,200	—	—	2,200	1,200	36,900
Minnesota ¹	600	—	3,900	41,600	—	—	67,700	1,600	115,403

Mississippi ²	2,700	400	26,500			30	29,630
Missouri ²	6,600	8,400	3,800			200	59,400
Montana ²		1,500	23,700		100	10	28,920
Nebraska ²	900	4,300	5,500				28,900
Nevada ¹	100	1,600	8,000			600	32,900
New Hampshire ²		2,000	27,400				33,800
New Jersey ²	1,400	12,500	42,200		40	1,000	6,483
New Mexico ²	1,700	6,000	18,400		5	700	57,705
New York ¹	5,800	23,300	128,100		2,200	100	36,810
North Carolina ¹	1,800	27,700	128,100				276,700
North Dakota	10,200	212,800	32,500			14,000	3,410
Ohio	100	23,500	1,300		6,300	1,400	370,202
Oklahoma ²	10,400	230,400	123,800		12	18,800	3,620
Oregon ²	10,900	2,900	10,400		200	100	32,700
Pennsylvania	2,700	29,300	28,000				34,200
Rhode Island ¹	6,800	2,900	122,300		27,000	5,300	100,900
South Carolina ¹	600		14,000		10	300	166,300
Tennessee ²	1,100	29,800	113,100				5,510
Texas ¹	300	192,000	5,700		1,600	127,700	6,700
Utah ²	100		26,400		400	20	8,820
Vermont	123,500	21,000	12,200		5	49	195,504
Virginia							35,550
Washington ²							10,400
West Virginia ²							
Wisconsin ²							
Wyoming							
Total	108,513	1,301,430	241,430	823,300	203,167	183,110	164,255
							162,620
							3,187,825

¹ Data obtained from Soil Conservation Service, U.S. Department of Agriculture.² Data compiled from reports submitted by the States on U.S. Department of the Interior form 6-1385X.³ Estimate.

TABLE 2.—STATUS OF LAND DISTURBED BY STRIP AND SURFACE MINING IN THE UNITED STATES AS OF JAN. 1, 1965, BY STATE

[Thousands of acres]

State	Land requiring reclamation ¹	Land not requiring reclamation ¹	Total land disturbed ²	State	Land requiring reclamation ¹	Land not requiring reclamation ¹	Total land disturbed ²
Alabama.....	83.0	50.9	133.9	Nebraska.....	16.8	12.1	28.9
Alaska.....	6.9	4.2	11.1	Nevada.....	20.4	12.5	32.9
Arizona.....	4.7	27.7	32.4	New Hampshire.....	5.1	3.2	8.3
Arkansas.....	16.6	5.8	22.4	New Jersey.....	21.0	12.8	33.8
California.....	107.9	66.1	174.0	New Mexico.....	2.0	4.5	6.5
Colorado.....	40.2	14.8	55.0	New York.....	50.2	7.5	57.7
Connecticut.....	10.1	6.2	16.3	North Carolina.....	22.8	14.0	36.8
Delaware.....	3.5	2.2	5.7	North Dakota.....	22.9	14.0	36.9
Florida.....	143.5	45.3	188.8	Ohio.....	171.6	105.1	276.7
Georgia.....	13.5	8.2	21.7	Oklahoma.....	22.2	5.2	27.4
Hawaii.....	(³)	(³)	(³)	Oregon.....	5.8	3.6	9.4
Idaho.....	30.7	10.3	41.0	Pennsylvania.....	229.5	140.7	370.2
Illinois.....	88.7	54.4	143.1	Rhode Island.....	2.2	1.4	3.6
Indiana.....	27.6	97.7	125.3	South Carolina.....	19.3	13.4	32.7
Iowa.....	35.5	8.9	44.4	South Dakota.....	25.3	8.9	34.2
Kansas.....	50.0	9.5	59.5	Tennessee.....	62.5	38.4	100.9
Kentucky.....	79.2	48.5	127.7	Texas.....	136.4	29.9	166.3
Louisiana.....	17.2	13.6	30.8	Utah.....	3.4	2.1	5.5
Maine.....	21.6	13.2	34.8	Vermont.....	4.2	2.5	6.7
Maryland.....	18.1	7.1	25.2	Virginia.....	37.7	23.1	60.8
Massachusetts.....	25.0	15.3	40.3	Washington.....	5.5	3.3	8.8
Michigan.....	26.6	10.3	36.9	West Virginia.....	111.4	84.1	195.5
Minnesota.....	71.5	43.9	115.4	Wisconsin.....	27.4	8.2	35.6
Mississippi.....	23.7	5.9	29.6	Wyoming.....	6.4	4.0	10.4
Missouri.....	43.7	15.4	59.1				
Montana.....	19.6	7.3	26.9	Total.....	2,040.6	1,147.2	3,187.8

¹ Compiled from data supplied by Soil Conservation Service, U.S. Department of Agriculture.² Data compiled from reports submitted by the States on U.S. Department of the Interior form 6-1385X, from Soil Conservation Service U.S. Department of Agriculture, and estimates.³ Less than 100 acres.

Senator METCALF. Thank you, Mr. Johnson, for your statement. Senator JORDAN.

Senator JORDAN. Thank you, Mr. Chairman. You three witnesses for the American Iron Ore Association, I must say, have made a very convincing case for your opposition to this legislation.

Mr. JOHNSON. Thank you.

Senator JORDAN. What, may I ask, economic use is made of these lands before you move in to remove the iron ore? I am speaking now of the Minnesota and Michigan areas about which you have testified for the most part.

Mr. JOHNSON. Would you undertake that?

Mr. BOENTJE. The movement into this area was before I arrived in the area. However, this area in Minnesota was originally opened up by those who were seeking timber. Then, shortly after these people arrived it was recognized there was iron ore there. I feel that the people who directed exploration in the early days did a fantastic job in delimiting the iron ore areas, especially on the Mesabi Range.

To answer your question, maybe I can mention what use is being made of the area immediately south and immediately north of the Mesabi Range. Immediately south there are extremely large areas which are spruce and tamarack swamps, which have essentially no use because the area immediately north begins to enter into different types of vegetation, different types of area.

It is used for recreation. It is used for timber cutting, logging. Because of the climate in our area, farming is a very difficult industry. There is some dairy farming. There has been the beginning of some cattle raising. Really the area that we live in—if we could transport

you people up there and let you see from an airplane the area south of this Mesabi Range and then to see the range and see the activity, the people living there, the industry that is there, the wealth that is being created, the people that are being supported, and fly north of there and see the recreational areas which are being undisturbed by our industry, but which are being supported by the people living there—

Senator JORDAN. Let me clarify it. What I am leading up to is to get a contrast, if I can, between the economic uses of the area before mining was started, the value of the products taken out in the mining process, and the economic value of the land after the mines have removed the ore and turned the land back to its natural state or to whatever state in which it is used. I think this is important for the record.

Mr. BOENTJE. The economic value of the area in which the Mesabi Range is located, I would say, would be similar to the area to the south of the range. This is a very difficult area to make a living in, but people do live there. There are some who exist on a slight amount of dairy farming, some pulpwood industry. The value of the land is relatively small. It certainly cannot be measured by the values of the land in southern Minnesota. On the Cuyuna Range, which is another important range, this gets into an agricultural area.

However, again the quantities of land which are involved in the iron ore mining are relatively small. The value of the land in the surrounding area is relatively small. Farming productivity is relatively small.

Senator JORDAN. Someone gave us a figure that 500 million tons of iron ore have been removed from this area. What is the economic value of that? Do you have figures on that?

Mr. JOHNSON. I do have specific figures on the value of the iron ore if you will give me the broad sense, the 500 million tons, but we will take all of the iron ore mined from 1900 through 1967, Senator Jordan. The value was \$20,244,000,634.

Senator JORDAN. Thank you.

Mr. JOHNSON. That is the value since 1900.

Senator JORDAN. Since 1900.

Mr. JOHNSON. Of iron ore mined in the United States.

Senator JORDAN. Now I would like some testimony as to whether the economic value of the land surface has been diminished by the mining activity; that is, the land after you are through with the mining, if you are through with it. Is it worth less or more than before you started mining, and, if less, how much less?

Dr. SUNDEEN. Senator Jordan, perhaps I can comment by an illustration with respect to our Empire Mine in Michigan. The Empire Mine covers perhaps three-quarters of a square mile of area. The actual pit outlines will ultimately encompass about three-quarters of a square mile.

Before this was stripped of trees and the very thin cover, it did have a forest growth that had some nominal value—hardwood timber which was second growth in character.

I can't give you a precise number as to the value per acre of that timber, but I would venture a guess that it wasn't more than from \$200 to \$300 an acre in value. Cutover lands in Michigan are selling for

anywhere from \$8 to \$12 an acre, lands which could grow timber but from which the timber has been harvested.

Once the mine has been completed and we have removed all of the ore from it the exposure in the sidewalls and the bottom of the pit will be essentially barren rock and it will take a long time before there will be any soil developing in the floor.

Ultimately these pits will fill up with water in any event, so the value after mining would only be in relation to recreational uses.

Senator JORDAN. Or wildlife.

Dr. SUNDEEN. Or wildlife or fish.

Senator JORDAN. But you are starting with land that has a surface value of \$8 to \$10 after the trees are removed?

Dr. SUNDEEN. Right. Our projections are that this mine will produce somewhere in the neighborhood of 150 million tons of ore, in lower lake values roughly \$15 a ton. That is \$2.25 billion worth of material as delivered to the lower lakes.

Senator JORDAN. The overall area has produced a wealth of over \$20 billion?

Mr. JOHNSON. That is correct.

Dr. SUNDEEN. Right.

Senator JORDAN. And the land after you remove the ore is worth but very little less than it was before you started your mining operations.

Dr. SUNDEEN. In some respects I think perhaps it may be worth more. It might make a real good fishing lake.

Senator JORDAN. Thank you. That is all I have.

Senator METCALF. Thank you, Senator Jordan. Senator Allott.

Senator ALLOTT. I have no questions. Thank you, Mr. Chairman.

Senator METCALF. Thank you.

Mr. Johnson, I am grateful to you and to your colleagues for a very comprehensive presentation of the workings of your industry in both the large and the small mines and the problems that this legislation would raise. We are aware of some of the conditions in the Mesabi Range. I think all of us have been there. I have been up there on mine safety hearings, and it was my privilege to attend one of those party celebrations for my friend John Blatnik. I think you have succinctly summarized the problems.

Thank you very much for your appearance.

Mr. JOHNSON. Thank you, Mr. Chairman, it has been a pleasure to have been here.

Senator METCALF. Senator Allott.

Senator ALLOTT. Mr. Chairman, I think the next witness is to be Mr. John B. Rigg, Jr., executive secretary of the Colorado Mining Association. I hadn't been able to locate him in the room.

Mr. Chairman, I am particularly happy to be able to introduce a man we know as Jack Rigg—I don't think very many people call him John—who for many years was an officer of the Colorado National Bank in Denver and whom I have known personally for a long time.

Last year he was induced to accept the executive-secretaryship of the Colorado Mining Association and I only want to say that the convention of the Colorado Mining Association this year was, I think, the most successful meeting that people who are interested in mining business in this country have had in a long time.

Under his leadership it has shown a new vitality and, Jack, I want to congratulate you on the part that you have played in that. I must say for the sake of the record, Mr. Chairman, as I just showed you, I have five committee meetings this morning and there were some questions which I had prepared to ask Mr. Rigg and I will stay as long as I can until I get called to the next meeting, but I don't think I will be able to stay through it. I have asked Senator Jordan if he will be so kind as to propound these questions to you, Jack, in the event I have to leave before you finish.

It is nice to have you here.

Senator METCALF. Mr. Rigg, you come under very distinguished auspices. We welcome you to the committee and you have a prepared statement. Go right ahead.

STATEMENT OF JOHN B. RIGG, COLORADO MINING ASSOCIATION

Mr. RIGG. Yes. Thank you, Mr. Chairman and Senator Allott; you are too kind. I appreciate it. I shall not read my entire statement.

Senator METCALF. Thank you.

Mr. RIGG. Mr. Chairman and members of the committee, I am John B. Rigg, manager of the Colorado Mining Association, a voluntary organization representing over 1,100 mineral operations and mineral fuel locations employing 16,000 persons and producing at an annual local market value of \$366 million in Colorado.

We appreciate the courtesy this committee extends in allowing us to present our thoughts on S. 3132 and the supporting data compiled prior to the introduction of this legislation pertaining to the control of surface mining and reclamation of mined lands.

We have reviewed the publication "Surface Mining and Our Environment," prepared by the U.S. Department of the Interior, which presents an analysis of data on land disturbances. We were concerned about the Colorado figures so we obtained copies of directives from the U.S. Department of Agriculture Soil Conservation Service authorizing the compilation of figures.

Also, we received copies of the directive from the Colorado State conservationist. These are attached as exhibits 1 and 2. We obtained the exact acreages cited as disturbed in each Colorado county (exhibit 4).

We take exception to the Colorado figures compiled to support S. 3132 because the acreages cover the majority of our underground mining operations. For example, Summit County supposedly has 1,208 acres disturbed by surface gold mining. Our figures indicate the county has had 287 acres disturbed by placer mining in the streambeds and on the benches; all the rest is underground mining.

Another example is the 350 acres of Clear Creek County disturbed by molybdenum mining. This is underground mining again.

The discrepancy of the figures is not recited as criticism but shown to demonstrate the logical sequence of the directive from Washington (exhibit 1) which states on page 2:

The acreages disturbed by mining since its beginning for each of the minerals should be estimated . . . This county report should be as reliable as possible without a field survey.

A report compiled in the office that involves engineering data available only by field survey is an insult to the men compiling the data and to the persons who are supposed to read the data.

We believe Colorado is doing an excellent job of regulation on its surface mined land and the attached resolution of the board of directors of the Colorado Mining Association (exhibit 3) reaffirms our belief in local control of mining. We can handle our own problems.

The coal operators in Colorado reclaimed and reseeded 476 acres in 1967 disturbed by strip mining on a volunteer basis and the resultant vegetation is better cover for wildlife and better feed for cattle and sheep than adjacent range land left undisturbed.

This volunteer program has reclaimed substantially all the land strip mined for coal in the State. However, we cannot expect that \$400 per acre be spent to fix up land costing \$40 per acre so the choice of trees and seedlings and the grade and contouring of the land should be based only on local conditions, not national directives.

Sand and gravel operations in Colorado are usually near our metropolitan centers and zoning by counties or political subdivisions assure that these operations are neat and clean and that they do not present a hazard to the public.

Also, this assures that these mineral resources are not preempted for other surface use. In turn, the gravel operators have reclaimed the land for agriculture by distributing top soil over graded reject areas. They have also stabilized the land for end uses such as parks, ponds, industrial, home and business sites and as sanitary land fills.

Upgrading of the land following the production period has increased the value of sand and gravel land many times its raw acreage value and put it to a better end use than would have been possible if the production period had not been assured.

We believe S. 3132 section 3(b) is not a statement of fact but is a condemnation of the mining industry of Colorado and we object to its inclusion in the bill. Pollution of water is covered by very sound practices of the Colorado Department of Health; land is improved for other uses and is not destroyed; we do not counteract efforts to conserve natural resources; and we certainly do not destroy the property of citizens.

We object to section 4 as retroactive legislation. We believe section 5 contemplates expenditures by the Federal and State agencies far in excess of any amounts needed for a reasonable economic land stabilization program. We believe section 5 allows the Secretary of Interior to unnecessarily enter into the affairs of our State.

Section 6(a) puts persons opposed to mining on the advisory committee. Section 7(1)(A) does not protect mineral resource development which we believe should be the basic criteria for any regulatory agency.

Section 7(1)(C)(v) indicates that a State plan must contain criteria relating to the maintenance of access through mined areas. Does this mean the mine operator must open his property for a public road by a directive from a Federal employee or be liable as stated in section 7(1)(F) for criminal penalties?

Our position on S. 3132 is very simple: Problems of surface mining in Colorado are the problems of many years ago. Our current operators are diligent, they recognize their responsibilities and they are reclaiming the lands. Our underground miners also are good citizens for they stabilize and maintain mine dumps and tailings ponds.

And this work, involving thousands of dollars, is done without Federal interference. We know that minerals are found in less than one-tenth of 1 percent of the earth's surface and that these resources are usually in the coldest, the hottest, and the most isolated, or the most densely populated areas.

No property is at a location convenient for economical operation, for access, for beautification or for reclamation, because mineral deposits are simply where they are. We appreciate the nature of our industry and hope that you do also.

If this committee follows its own previous objectives, it should encourage mining on both private property and public domain. You authorized the Public Land Law Review Commission to thoroughly investigate the mining industry and we are cooperating in that endeavor. Why not wait until their recommendations are prepared and distributed before any new laws affecting mining are enacted? And, contrary to the intent of S. 3132, insist that any legislation be based on a national minerals policy affirming the fact that the United States must be self-sufficient in minerals.

We are proud of our ability in Colorado to produce metals sorely needed for national defense; we are not receptive to legislation that prevents self-reliance. Our support of the statement by the American Mining Congress is wholehearted because they believe S. 3132 is not needed.

Our opposition to this bill is firm because the bill condemns and restricts when it should enhance and encourage the mining industry.

Thank you.

(Information referred to follows:)

EXHIBIT 1

U.S. DEPARTMENT OF AGRICULTURE,
SOIL CONSERVATION SERVICE,
Washington, D.C., May 24, 1966.

Advisory Inter-11.

From: D. A. Williams, Administrator.

Re study of surface and strip mining.

NOTE: DEADLINE OF SEPTEMBER 1, 1966

The Appalachian Regional Development Act of 1965 directed the Department of Agriculture to cooperate in the National study and survey of strip and surface mining in the United States. The purpose of this study is to present recommendations to the President, and he in turn to the Congress, for a long-range comprehensive program for reclamation of such areas.

One of the immediate needs in the conduct of this study is to determine the extent of strip and surface mining activities in the United States. Knowing the acreage of these areas will be helpful to us for other uses also. Among these uses are to assist Soil Conservation Districts in the development of their short- and long-term conservation programs and to supplement the information to be obtained in updating the Conservation Needs Inventory.

Some of these acreage data have already been developed and transmitted to the Working Committee for the Strip and Surface Mine Study by the liaison representative appointed for this purpose by the State Governor. We know that some of you worked with the liaison representative on these data. For a number of States, however, data on *surface mined areas* are either *unavailable* or *incomplete*. Some members of the Working Committee have discussed with us here this fact and the manner in which we may be able to assist in providing more adequate information. Accordingly, we are requesting that you do the following:

1. Contact the Governor's liaison representative (see Mr. Corgan's letter) and

determine the extent to which the information requested on the attached form is available by counties.

2. In those instances where the needed information has been transmitted to the Chairman of the Working Committee either of the following may be done:

a. Arrange with the liaison representative to obtain the information for use in the State and transmission to this office, or

b. Request this office to obtain the information from the Working Committee for transmission to you.

3. In States where the information is incomplete by counties,

a. Discuss with the Governor's liaison representative our interest in these data and the effort we will make to obtain them.

b. Use the attached form to provide the information requested for each of the counties in which it is known that surface mining has been done. The State Conservationist is requested to provide a list of counties in which surface mining has not occurred.

The acreages disturbed by mining since its beginning for each of the minerals should be estimated. The estimates should represent the combined, and best informed, judgments of work unit staff and any other local information sources. This country report should be as reliable as possible without a field survey.

All areas disturbed by surface mining for these minerals, irrespective of present use or conditions of vegetative cover should be recorded. For example, building sites, cultivated fields, pastures, and wooded areas, formerly surface mined, should be included.

One copy of each county report should be sent to D. M. Whitt by September 1, 1966.

This Advisory may be discarded after the indicated action has been taken.

D. A. WILLIAMS.

EXHIBIT 2

U.S. DEPARTMENT OF AGRICULTURE,
SOIL CONSERVATION SERVICE,
Denver, Colo., June 14, 1966.

Advisory Intera Colo-43

To: Work unit conservationists designated as county representatives.

From: F. A. Mark, State conservationist SCS, Denver, Colo.

Re Study of surface and strip mining.

NOTE: DEADLINE DATE—AUGUST 1, 1966

We have been requested to assist in determining the extent of strip and surface mining activities in the United States. This information will be helpful in assisting soil conservation districts develop their short- and long-term conservation programs and to supplement information being obtained to update the conservation needs inventory.

Use the attached form to provide the information requested. Two copies of the form are provided for each county and both should be returned to this office. If there is no activity in the county write "None" on the form and return the copies.

The acreages disturbed by mining since its beginning for each mineral involved should be estimated. The estimates should represent the combined, and best informed, judgments of work unit staffs and any other local information sources. Reports should be as reliable as possible without any field checking.

All areas disturbed by surface mining irrespective of present use or conditions of vegetative cover should be recorded. For example, building sites, cultivated fields, pastures, and wooded areas that have been disturbed should be included.

Minerals known to have been surface mined in Colorado include: coal, clays, gold, peat, feldspar, mica, perlite, pumice, sand and gravel, stone, uranium, and vermiculite—and possibly others.

F. A. MARK.

EXHIBIT 3

RESOLUTION

Whereas the Colorado Mining Association represents the men and firms engaged in mineral extraction from over 200 surface mines, quarries and placers in Colorado; and

Whereas the State of Colorado wisely and conscientiously administers the reclamation of the surface mined lands by appropriate regulations and agreements through its agencies and departments and by the zoning regulations of its political subdivisions; and

Whereas the Federal Government, through the Department of the Interior, proposes to regulate mined land reclamation without recognition of Colorado's capability to regulate and administer: Now, therefore be it

Resolved by the board of directors of this association, That any necessary regulation of mined land reclamation should occur at the state level, should be adopted only after a careful technical and economic evaluation, and should be consistent with the encouragement of mineral development, the competitive economics of mining operations and with the needs of other land uses. Further, all members of the State of Colorado delegation in Congress be and are hereby urged to support continued state regulation of mined land reclamation.

Adopted unanimously by the board of directors on April 19, 1968.

JOHN B. RIGG,
Manager.

EXHIBIT 4
TABULATION FROM REPORTS SUBMITTED (ACRES) COLORADO SOIL CONSERVATION SERVICE, 1966 STUDY OF SURFACE AND STRIP MINING

County	Clay	Coal	Stone	Sand and gravel	Gold	Iron	Peat	Beryl	All other	Total	Comment
Adams.....				2,600						2,600	
Alamosa.....				135						200	
Arapahoe.....				900				5		900	
Archuleta.....				50						52	
Baca.....		2	20	70						90	
Bent.....			10	40					5	55	5—bentonite.
Boulder.....			200	700				100	20	1,050	20—feldspar.
Chaffee.....		30	750	320		100		326	200	1,696	200—feldspar.
Cheyenne.....				1,200						1,200	
Clear Creek.....			25	100	5,250		300		850	6,570	350—molybdenum; 150—feldspar, 300—uranium.
Conejos.....										0	
Costilla.....				15	20				40	75	40—pumice.
Crowley.....				32						32	
Custer.....				15						15	
Dalla.....				20						20	
Denver.....										0	
Dolores.....			25	28					20	25	20—feldspar.
Douglas.....		35	10	100	50				600	98	500—gypsum, 100—silver and lead.
Eagle.....										750	
Elbert.....		10	6	32						48	
El Paso.....		40	60	200	30				10	340	10—uranium.
Fremont.....		500	800	20		10			275	1,650	100—gypsum, 100—feldspar; 15—mica, 30—vermiculite; 30—dolomite.
Garfield.....				20						41	1—gypsum.
Gilpin.....				50	5,000		2,750	200	550	8,550	200—feldspar, 150—mica; 50—tungsten, 150—uranium.
Grand.....				50						50	

Gunnison	100	100	900	1,000	uranium.
Hinsdale	100	100	20	1,120	
Huerfano	200	200	130	630	100—fluorspar; 30—uranium.
Jackson	150	250	790	3,951	250—feldspar; 100—mica;
Jefferson	1,278	200	250	600	290—Earth; 150—uranium.
Kiowa	400	400	640	2,280	640—molybdenum.
Kit Carson	320	1,000	440	8,370	240—gypsum; 100—feldspar;
Lake	50	1,860	20	0	40—mica; 60—uranium.
La Plata	50	1,860	20	0	
Larimer	50	1,860	20	0	
Las Animas	50	1,860	20	0	
Lincoln	50	1,860	20	0	
Logan	50	1,860	20	0	
Mesa	50	1,860	20	0	
Mineral	50	1,860	20	0	
Moffat	50	1,860	20	0	
Montezuma	50	1,860	20	0	
Montrose	50	1,860	20	0	
Morgan	50	1,860	20	0	
Otero	50	1,860	20	0	
Ouray	50	1,860	20	0	
Park	50	1,860	20	0	
Phillips	50	1,860	20	0	
Pitkin	50	1,860	20	0	
Prowers	50	1,860	20	0	
Pueblo	50	1,860	20	0	
Rio Blanco	50	1,860	20	0	
Rio Grande	50	1,860	20	0	
Routt	50	1,860	20	0	
Saguache	50	1,860	20	0	
San Juan	50	1,860	20	0	
San Miguel	50	1,860	20	0	
Sedgwick	50	1,860	20	0	
Summit	50	1,860	20	0	
Teller	50	1,860	20	0	
Washington	50	1,860	20	0	
Weird	50	1,860	20	0	
Yuma	50	1,860	20	0	
Total (63)	2,170	2,838	5,989	15,792	56,578

Senator METCALF. Thank you very much, Mr. Rigg.

Senator Allott?

Senator ALLOTT. Mr. Chairman, I thank you.

Jack, I notice in the latter part of your statement a remark that you think that legislation should be based upon a national minerals policy affirming the fact that the United States must be self-sufficient in minerals.

I am sorry I didn't have a chance to write this, because I would have written it in for you. You are aware, of course, that the bill offered by the senior Senator from Colorado to establish a national minerals policy has been lying dormant in the Congress now for some 7 or 8 years, and I think you are further aware that, although this was recently approved affirmatively by Dr. Hibbard, who has just retired, this bill now languishes in the hands of the Secretary of the Interior awaiting his pleasure.

Mr. Rigg. Yes, I am aware of this.

Senator ALLOTT. How many acres have been disturbed by surface mining for oil shale in Rio Blanco County?

Mr. Rigg. Although the Soil Conservation Service data that is attached states that 2,000 acres have been disturbed by oil shale mining, I don't think any have. I will give you 50 acres at the outside, but all of our oil shale mining is underground mining.

Senator ALLOTT. Do you know of any stripping of oil shale in Colorado? I do not.

Mr. Rigg. None that I know of.

Senator ALLOTT. Exhibit 4 shows 640 acres disturbed by molybdenum surface mining in Lake County. Is this correct?

Mr. Rigg. No. This is the world's largest underground mine.

Senator ALLOTT. And there is a development of molybdenum proposed on the East Range, and could you state generally the efforts that have gone on and the cooperation between the Forest Service and the Department of the Interior to be assured that the tailings from that mine are adequately taken care of?

Mr. Rigg. The background work they are doing on this new molybdenum deposit is costing millions of dollars just in the development of the capability to place the tails in an area where they will not be unsightly and to prepare them in a manner so that they will never affect adversely the surrounding terrain.

Senator ALLOTT. I notice a number of Colorado counties show on the exhibit that uranium mining has acreages disturbed. Is this surface mining?

Mr. Rigg. Again no. We checked this with the Soil Conservation people and it appears that these acreages that they claim are disturbed by surface uranium mining are discovery pits to meet the requirements of the mining law.

However, we in Colorado changed our law in 1961 so that you did not have to dig a discovery pit and not unnecessarily bother the surface.

Senator ALLOTT. Are counties continuing to control land uses so that mining is encouraged?

Mr. Rigg. Yes. Basically the counties are doing a very good job and they are also cooperating with the Bureau of Land Management, and advisory committees, to rezone land.

However, we do believe that the BLM is acting prematurely in some of their reclassifications and they should wait for the Public Land Law Review Commission report and in the meantime classify land only for multiple use.

Senator ALLOTT. Does local reclassification have any hazards for the mining industry?

Mr. Rigg. We think it does. You can have land withdrawn from mineral entry and then, if a miner makes a discovery in the land, he has to get Federal approval for reclassification to allow mining, and we know of no instance in which this has been done.

Senator ALLOTT. The delicate question always comes up between mining and the wilderness areas and I think my views on this have been well known but has anything been done about the wilderness areas in Colorado recently?

Mr. Rigg. Yes; 230,000 acres of the San Juan primitive area and 560,000 acres of the upper Rio Grande primitive area are now being studied by the U.S. Forest Service for classification for wilderness. They are going to hold hearings this fall in various towns in Colorado and we propose to make a statement at that time. Our statement will be based on the fact that the wilderness area program is contrary to what we believe is more important, this national minerals policy.

Senator ALLOTT. Do you believe that wilderness areas are needed?

Mr. Rigg. Yes, I do, but I think that they can and must be maintained with mining allowed so that we can have our self-sufficiency.

Senator ALLOTT. You, of course, know the concept of wilderness which is that, and I think I quote the statute, "the land must be and remain untrammelled by man" and so forth. Your emphasis, I gather, is that we should not lock up this land irrevocably without determining the needs prior to that that this land might have for our national minerals and the development of our mineral resources in the country.

Mr. Rigg. That is right.

Senator ALLOTT. I want to thank you very much, Jack, for coming here. You have sat patiently through 2 days and we are happy to have you with us. Thank you, Mr. Chairman.

Mr. Rigg. Thank you.

Senator METCALF. Senator Jordan?

Senator JORDAN. No questions. Thank you.

Senator METCALF. If there are no questions, Mr. Rigg, I too thank you for your appearance here and your presentation of the case of the mining interests of Colorado which are very much like those in Montana.

Mr. Rigg. Thank you very much.

Senator METCALF. The next witness is Mr. James L. Cox.

We are pleased to have you before the committee, Mr. Cox.

STATEMENT OF JAMES L. COX, GENERAL MANAGER, INTERNATIONAL MINERALS & CHEMICAL ASSOCIATION, REPRESENTING PHOSPHATE COUNCIL OF FLORIDA; ACCOMPANIED BY ROBERT L. KOOB, DIVISION VICE PRESIDENT, INTERNATIONAL MINERALS & CHEMICAL CORP.

Mr. Cox. Thank you, Mr. Chairman, Senators. I am James L. Cox, general manager of Florida operations for International Minerals &

Chemical Corp., and the current president of the Florida Phosphate Council, Inc.

Mr. Robert Koob, vice president of International Minerals & Chemical, and our Washington representative, is here with me.

The statement I would like to make is made in behalf of the Florida Phosphate Council, Inc., a trade association representing the 12 firms who either mine or chemically process phosphate rock in Florida: Agrico Chemical Co.; Armour Agricultural Chemical Co.; Borden Chemical Co.; Central Farmers Fertilizer Co./Central Phosphates, Inc.; American Cyanamid Co.; Farmland Industries, Inc.; W. R. Grace & Co., Agricultural Products Division; International Minerals & Chemical Corp.; Mobil Chemical Co., Agricultural Chemicals Division; Occidental Corp. of Florida; F. S. Royster Guano Co.; and Swift & Co.

This membership includes most of the phosphate companies in Florida.

Mr. Koob, I believe, has handed you some photographs for the committee's files. I am sorry I don't have very many copies, but they will perhaps be useful.

Senator METCALF. This will be quite all right. They are beautiful photographs and they will be included in the file of the committee for the consideration of the committee.

Mr. Cox. Thank you. The principal areas of operation are Polk and Hillsborough Counties in the central part of the State and in Hamilton County in north Florida.

Phosphate, one of Florida's greatest natural resources, is the basis for one of the State's largest industries, contributing handsomely to the economic importance of the State and its people, providing jobs, payrolls, and business activities which add more than \$200 million a year to the economy of the State.

In order to utilize this valuable mineral—one of the three major components in fertilizer and an important additive in animal feed—it must be recovered from beneath the earth's surface.

Florida's phosphate deposits are found from 5 to 35 feet below the surface and the matrix—ore bearing body—usually measures between 5 and 30 feet in thickness.

Due to the shallow depth involved, the uniform method of mining phosphate rock in this State is through the use of electric draglines in surface mining operation.

Since the purpose of this hearing is to collect information for your use in determining the advisability of invoking statutory measures regarding reclamation of surface mined areas, the remainder of my remarks will be directed generally toward that subject.

Since there are no State laws in Florida now governing reclamation of phosphate mining lands, I will attempt to describe some of the accomplishments of my industry which came about as a result of voluntary, self-disciplined action in this field.

During the 30 or 40 years prior to 1961, reclamation and restoration of mined-over phosphate land had been undertaken from time to time by various companies, but usually with a specific project in mind. However, in 1961, members of the industry who were actively engaged in phosphate mining agreed that a more progressive approach to this matter should be developed. After a great deal of study, a joint statement of policy was approved, which stated:

We are pledged to the planning of mining activities, where practical, so that the land involved shall help meet the esthetic and practical needs of the community.

That declaration was a signal for the phosphate industry, collectively, and individually, to meet the challenge of land restoration.

Thus began a concerted effort by the industry to formulate plans before mining, to make reclamation more feasible, to find better methods of reclamation, and to seek ways of making reclamation economical.

Adhering to this self-governing policy, phosphate miners embarked on a widespread land reclamation effort that has earned the industry compliments from throughout the Nation, and brought envy from other surface miners in other parts of the country. The sincerity displayed in carrying out this pledge is demonstrated by the dramatic results. During the 6-year period between 1961 and 1967 the phosphate industry reclaimed or restored to beneficial use more than 15,000 acres of mined-over phosphate land. This figure represents reclamation or restoration of land equal to nearly 70 percent of the land mined during that entire period.

These figures do not include hundreds of acres purchased and reclaimed by private developers, nor do they include large acreages donated or leased on nominal terms to the Audubon Society and other conservation groups.

In many instances these tracts were left in rough condition purposely for the benefit of fish and wildlife propagation. Ducks and other waterfowl abound in the lakes and pit areas resulting from mining.

This outstanding effort by the phosphate industry has not gone unnoticed.

The New York Times on Sunday, March 5, 1967, identified the Florida phosphate industry's land reclamation program as an "industry miracle" and proclaimed that the "phosphate companies in Polk County, Fla., mend their ways; reclaim blighted areas for recreation: beautify land."

The same article went on to say that the phosphate mining industry has pursued a program of land reclamation and landscape engineering that possibly has had few, if any, equals in any other mining areas of the United States.

Not only have community relations been greatly improved but the area also has become a pleasanter and more attractive place for both residents and visitors.

In July 1967 the nationally known McGraw-Hill publication, *Engineering and Mining Journal*, devoted six pages and a color photo cover to the Florida phosphate industry reclamation effort.

Engineering and Mining Journal labeled the industry's voluntary reclamation approach as "Mining's Green Thumb" and went into detail about preplanned mining, and said that reclaiming of phosphate is more economical, creates usable land from what once was considered useless swamp, and develops property for housing, recreation, conservation, food production or forest products.

The journal commented on the industry's tremendous economic contribution to the area and then noted what is not commonly appreciated, the additional dividends contributed by the industry in the

form of land for housing developments, for crops, for wildlife refuges, and for recreational activities.

These added benefits are all possible because of a voluntary program of reclaiming phosphate land after it has been mined.

Florida Trend magazine, one of the ranking business and professional publications in the State, directed a segment of its January 1967 issue to the phosphate industry's conservation and reclamation movement.

Referring to the industry reclamation, the publication reported this land conservation program has resulted in dramatic changes being made in the face of the earth in central Florida.

Scars of mining—and there is no practical way to get the phosphate ore out of the ground except by digging—frequently exist only briefly. In some cases, the same dragline which digs the ore smooths the mounds of overburden as it moves along, leaving attractive lakes surrounded by land which needs only bulldozing to be restored to use condition.

It takes time. Phosphate companies cannot immediately reclaim all the land they mine, even if this were economically feasible. The industry's system of conserving water requires that some of the land be used for settling areas, an important part of the water recirculation system.

I submit to this committee that these are the findings of respected publications, following in-depth studies of the phosphate industry and its operations.

We in the Florida phosphate industry firmly believe that the voluntary program of land reclamation which we have adopted and followed is exceptional in that it was fostered within the industry, is conducted within the industry and, above all, has produced outstanding results.

The success of this program demonstrates what can be accomplished when an industry tackles a problem at the grassroots level, as opposed to waiting for Government intervention.

Reclamation projects can be grouped in three basic categories: agricultural, recreational, and development. The latter designation covers development of industrial, commercial and residential projects.

Due to the location of many of our mining operations—remote from population centers—a great deal of our reclaimed land has been devoted to agricultural use.

For example, experiments have revealed that citrus is exceptionally adaptable to reclaimed phosphate land and several thousand acres are now under cultivation.

Secretary Udall's slides earlier this week showed such an orange grove in Polk County, Fla.

Improved pasture also thrives well on reclaimed land and sizable acreages have been utilized in this manner. Other areas are being utilized for truck crops, grain crops—rye and oats—legumes, and large acreages have been placed under supervised timber management programs.

Recreation enthusiasts have reaped substantial benefit from the phosphate industry's land reclamation and restoration program which provides numerous picnic and park facilities throughout the area. Several phosphate pools have been developed into public beach areas, while some tracts have been left in rough condition for the hiker and nature lover to enjoy.

The Florida Game and Fresh Water Fish Commission, an official agency of the State of Florida, has reported that fresh water bass and other species of fresh water game fish grow and reproduce at accelerated rates in the water areas resulting from mining.

Fish and wildlife management under the direction of that commission is an important part of the cooperative program now underway between the phosphate industry and the public. Fish management programs have been instituted in 25 different pools and some 20 additional pools are scheduled for stocking.

Golf course development on reclaimed phosphate land has proven successful in several instances. Three courses in the area have utilized reclaimed land almost totally for 18-hole layouts and a fourth has expanded due to the availability of reclaimed land.

Projects involving commercial, industrial, and residential development have and will continue to be one of the highest and best uses of reclaimed land, but this, of course, depends largely on the location of the land and its proximity to urban areas. Nonetheless, a number of residential developments have taken place on reclaimed land throughout the phosphate mining areas. Some have resulted from reclamation efforts by the companies involved and others through private development after purchase of the mined-over lands.

A major example of reclamation for residential purposes is a 3,000-acre tract near Lakeland in Polk County, Fla., which was formerly a marshy, swampy, unusable area and has now been mined and completely reclaimed. City planners have predicted that the highly desirable tract will provide homesites for an estimated 15,000 residents in the future.

I could cite numerous other examples of low-lying, swampy areas that provided little benefit to anyone prior to mining that have been reclaimed to a useful condition following phosphate mining. However, I will not take your time to elaborate on these.

In light of the progress and accomplishments which have resulted under the present voluntary system of reclamation, members of the Florida Phosphate Council can see no need for Federal land reclamation regulations. To enact legislation that would place the phosphate industry under such controls would be an unnecessary and wasteful expansion of Government control in the phosphate mining industry.

Through this voluntary action, the phosphate industry has acknowledged the importance of reclaiming mined-over lands and restoring them to beneficial use. Our reclamation efforts are continuing and research is being done on more effective techniques.

Through this point, I have described the tremendous progress which our industry has made in the field of reclamation. In so doing, I do not intend to imply that we have no problems, for that is not the case.

We have one major operational problem, and a report covering reclamation in the Florida phosphate industry would be incomplete without describing it to you.

It is a unique problem inherent in the phosphate recovery process. When the phosphate ore-bearing matrix is sent to the beneficiation plant, it consists basically of one-third sand or tailings, one-third colloidal clay particles, and one-third phosphate ore.

In the beneficiation process the ore is separated from the sand tailings and clays. The sand tailings do not have great moisture holding capacity and may be readily used in reclamation projects. The ore, of course, is utilized to make salable products. The colloidal clays, however, create a very major problem.

In order to conserve and reuse process water to the greatest extent, the suspended clays are circulated through a settling system and the better water is then withdrawn from the system for reuse.

It is the ultimate disposal of these suspended clays which creates our difficulty. Many acres of land must be devoted to water recirculation systems and settling out the clays.

However, there is an ionic attraction between the very small clay particles and the water in which they are suspended. This attraction causes the suspended materials to settle out very slowly. It usually takes 20, 30, or even 40 years after the area ceases to be used for water recirculation purposes for the suspended particles to become sufficiently consolidated to support even ordinary farm animals and equipment.

Thus, such areas are not even candidates for reclamation for several decades.

It is due to this problem that, at least according to present technology, the phosphate industry can never reclaim 100 percent of the land mined. The process water must be conserved and reused. The colloidal clays must be settled out and deposited somewhere, and, it will be recalled, they constitute approximately one-third of the ore body.

If some technological breakthrough could be found which would allow the suspended particles to be compacted into firm ground at a much more rapid rate, the phosphate industry could make even more significant strides in reclamation.

It is precisely in this area that the Federal Government could be of tremendous assistance. Our industry would welcome a grant of Federal funds, or any other Federal assistance, in helping to solve this complex problem.

If this were accomplished, industry and Government could work together in a constructive partnership which would allow us to produce even more notable reclamation results and better fulfill our stewardship of the land. We have lately been working on this problem in a cooperative effort with the Bureau of Mines, but the results so far are quite meager due to lack of funds.

In summation, the uniform Federal regulations as contemplated in the proposal now pending before you might be acceptable in some areas, but would be impossibly restrictive in others.

We believe that tax funds could be most advantageously spent in assisting us with our technological problem of colloidal clay disposal as I have described. However, if additional regulation is deemed necessary—and we do not believe it is—it can best be accomplished at State and local levels where specific solutions can be tailored to fit the unique problems of industry in the local area.

In support of my presentation I would like to place in the record a number of photographic exhibits, complete with captions, which describe in detail the work being accomplished in land reclamation and restoration by the Florida phosphate industry.