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SURFACE MINING

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HEARINGS

BEFORE THE

SUBCOMMITTEE ON

MINERALS, MATERIALS, AND FUELS

OF THE

COMMITTEE ON

INTERIOR AND INSULAR AFFAIRS

UNITED STATES SENATE

Pursuant to S. Res. 45
A National Fuels and Energy Policy Study
NINETY-SECOND CONGRESS

FIRST SESSION

ON

S. 2777 and S. 3000

BILLS TO PROVIDE FOR COOPERATION BETWEEN THE
SECRETARY OF THE INTERIOR AND THE STATES WITH
RESPECT TO THE REGULATION OF SURFACE MINING
OPERATIONS, AND FOR OTHER PURPOSES

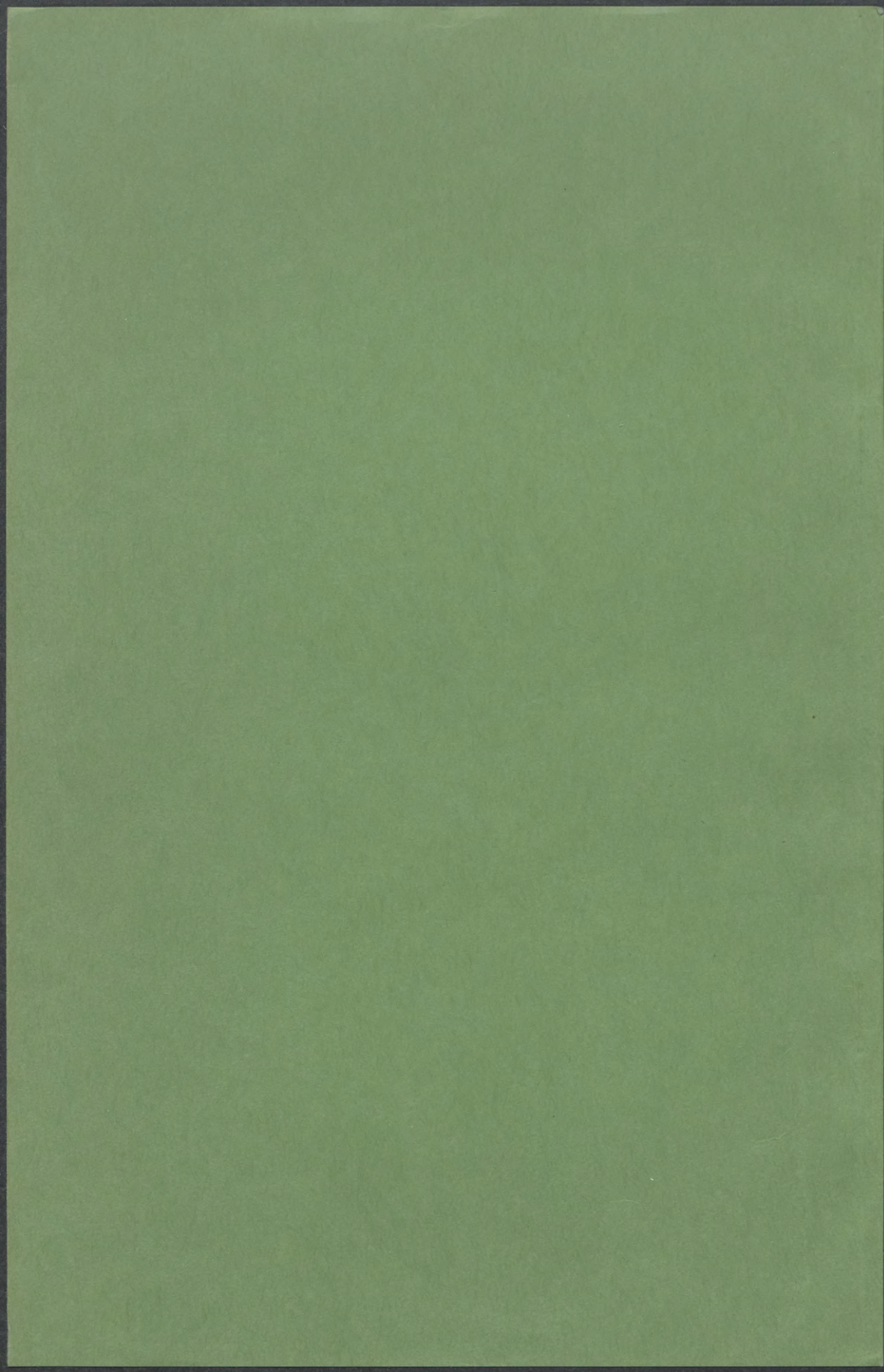
FEBRUARY 24, 1972

Serial No. 92-13

PART 3



Printed for the use of the Committee on Interior and Insular Affairs



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WASHINGTON : 1972

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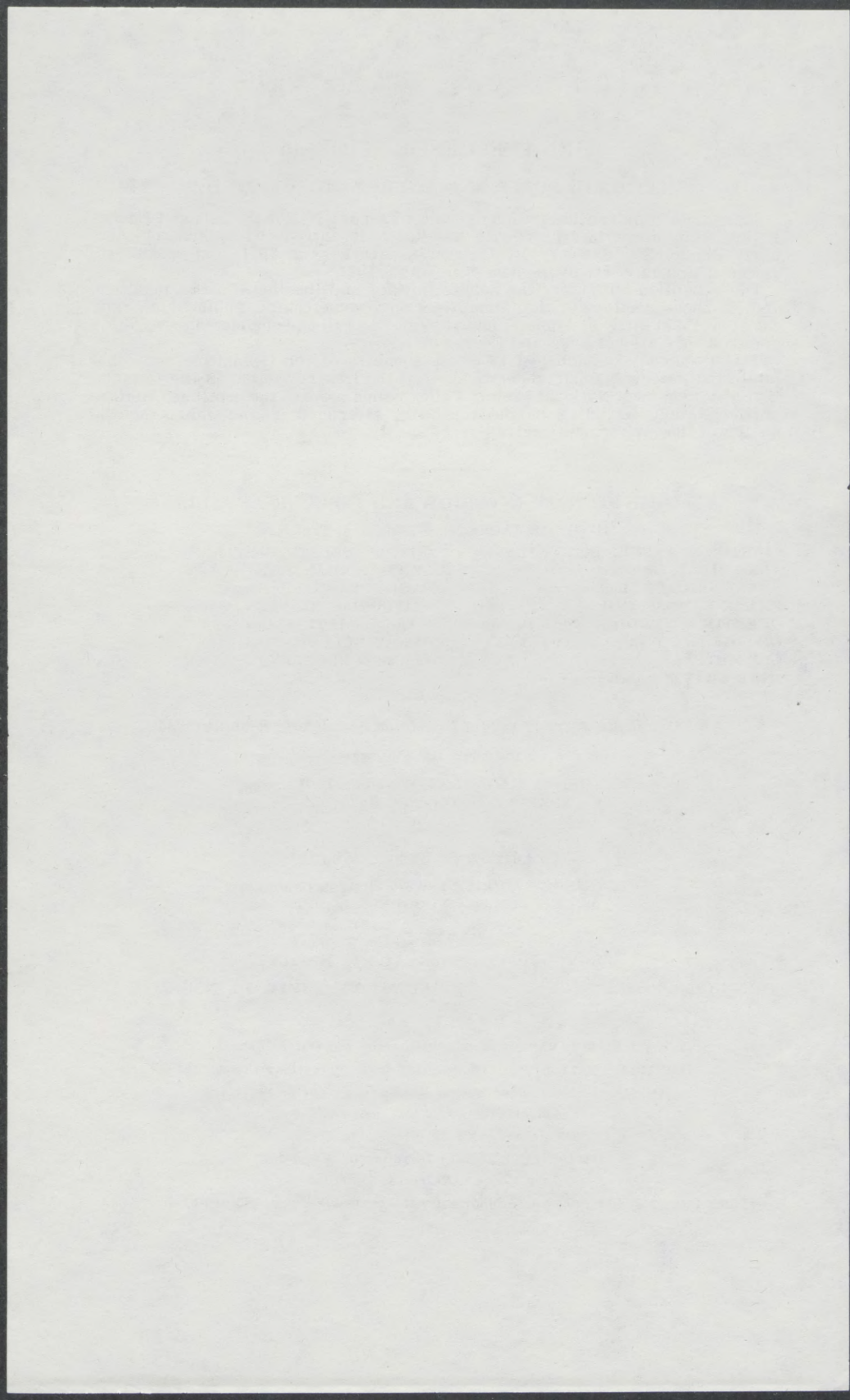
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SURFACE MINING

THURSDAY, FEBRUARY 24, 1972

U.S. SENATE,
SUBCOMMITTEE ON MINERALS, MATERIAL AND FUELS,
OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The subcommittee met at 9:30 a.m. in room 3110, New Senate Office Building, Hon. Frank E. Moss (chairman of the subcommittee) presiding.

Present: Senators Moss, Jordan of Idaho, Allott, and Bellmon.

Also present: Mary Jane Due, staff counsel; and Thomas Nelson, assistant minority counsel.

Senator Moss. The subcommittee will come to order.

This is the concluding day of hearings on the surface mining legislation pending before the Subcommittee on Minerals, Materials, and Fuels.

This hearing is aimed primarily at receiving testimony on S. 2777 and S. 3000, and we would hope to elicit from the witnesses to appear before us today testimony directed to the main issues around which legislation must be written.

These issues, developed from the 3 days of prior hearings on this subject, are:

First, what lands will be covered—Federal, State, Indian, and private.

Second, what minerals will be covered.

Third, what is the appropriate measure of responsibility between the Federal and State Governments and which agency or combination of agencies at the Federal level should have the administrative responsibilities.

Fourth, how shall we fund for enforcement and regulation. Suggested sources include appropriation, fines, fees, and forfeitures from permits, bonds, and sale of reclaimed lands.

Fifth, what reclamation standards and requirements should be written into the bills; should there be detailed provisions or general guidelines.

Sixth, should there be a total, partial, or outright banning of surface mining. Should there be prohibition of all surface mining of coal, or prohibition of coal mining underground in wilderness areas, or permissive mining in national forests at the discretion of the Forest Service.

Seventh, time schedule. When would the legislation be operable.

Eighth, what provisions should be made for administrative and judicial review of determinations and requirements under the act.

Ninth, what must be done about orphan and other unreclaimed lands.

It is my intention upon completion of this hearing to move this legislation through the subcommittee as rapidly as possible, and I have, therefore, called an executive session for March 3, to begin our work preliminarily to marking up a bill for control of surface mining.

The bill which the subcommittee reports out must recognize that this country is faced with an energy crisis. Surface mining of coal is approaching 50 percent of all U.S. coal production, and our coal reserves must play an essential part in meeting our energy needs. We must meet our energy needs, but we must also carefully guard the manner in which we proceed.

I consider the subject of surface mining to be one of the most critical to come before this committee in a long time. I commend the witnesses who will appear before us this morning for their dedication to the subject matter and for their presence.

I will order the printing in the record of those bills which are not already a part of the first 3 days of hearing and any reports which have come in since the December 2, 1971, hearing.

The committee has also received various communications from interested parties, and these letters will also be printed in the record in full.

(The documents referred to follow :)

92D CONGRESS
1ST SESSION

S. 2777

IN THE SENATE OF THE UNITED STATES

OCTOBER 29, 1971

Mr. GRAVEL introduced the following bill; which was read twice and referred to the Committee on Interior and Insular Affairs

A BILL

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

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "Strip Mine Control Act
4 of 1971".

5

DEFINITIONS

6

SEC. 2. As used in this Act—

7

(1) The term "operator" means any person en-
8 gaged in strip or auger mining in connection with the
9 extraction of minerals.

10

(2) The term "person" means any individual,

1 partnership, firm, association, company, society, joint
2 stock company, corporation, or other entity.

3 (3) The term "reclamation" or "reclaim" means
4 the process of restoring an area of land affected by strip
5 mining (including auger mining) to a condition where
6 its surface value is at least as great as it was prior to the
7 beginning of the strip mining and where it may be used
8 for the same purposes for which it was used prior to the
9 beginning of the strip mining. In any reclamation process
10 a prime consideration should be the maintenance of the
11 maximum ecological value.

12 (4) The term "commerce" means trade, traffic,
13 commerce, transportation, or communication between
14 any State, the Commonwealth of Puerto Rico, the Dis-
15 trict of Columbia, or any territory or possession of the
16 United States and any place outside the respective bound-
17 aries thereof, or wholly within the District of Columbia
18 or any territory or possession of the United States, or be-
19 tween points in the same States, if passing through any
20 point outside the boundaries thereof.

21 (5) The term "surface mine" means (A) any area
22 of land from which minerals are extracted from their
23 natural deposits by strip mining, (B) private ways
24 and roads appurtenant to such area, and (C) lands,

1 excavations, workings, culm banks, refuse banks, dumps,
2 spoil banks, structures, facilities, equipment, machines,
3 tools, or other property on the surface, resulting from,
4 or used in, extracting minerals from their natural deposits
5 by strip mining methods or the onsite processing of such
6 minerals.

7 (6) The term "Secretary" means the Secretary of
8 the Interior; and

9 (7) The term "strip mining" includes auger mining.

10 PERMIT FOR SURFACE MINING

11 SEC. 3. (a) On and after the effective date of this Act,
12 each surface mine, the products of which enter interstate
13 commerce or the operations of which affect interstate com-
14 merce, shall be subject to the provisions of this Act.

15 (b) On and after the effective date of this Act no
16 person shall engage in or carry out any activity with respect
17 to the extraction of minerals from a surface mine subject
18 to the provisions of this Act by strip mining methods, unless
19 such person has first obtained a permit from the Secretary
20 in accordance with the provisions of this Act.

21 (c) In furtherance of the policy of this Act, the Secre-
22 tary is authorized, whenever he determines that it would
23 effectuate the purposes of this Act, to cooperate and consult
24 with appropriate Federal and State agencies.

1 pleted or abandoned, enter upon such land for the pur-
2 pose of inspection and reclamation;

3 (6) the name and address of the owners of all sur-
4 face areas within five hundred feet of any part of the
5 proposed area of affected land;

6 (7) a statement of whether any strip mining per-
7 mits are held by the applicant and, if any, the numbers
8 of such permits;

9 (8) the name and address of every officer, partner,
10 director, or person performing a function similar to a
11 director, of the applicant, together with the name and
12 address of any person owning, of record or beneficially,
13 either alone or with associates, 10 per centum or more
14 of any class of stock of the applicant;

15 (9) a statement of whether the applicant, any sub-
16 sidiary, affiliate, or persons controlled by, or under com-
17 mon control with, the applicant has ever had a strip
18 mining license or permit, issued by any State, suspended
19 or revoked, or has ever had a strip mining bond, or
20 security deposited in lieu of bond, forfeited; and

21 (10) a complete plan of reclamation for the area
22 of land to be affected by the operation for which such
23 permit is sought, including, but not limited to, an ex-
24 planation of the method of strip mining to be used in
25 such operation, a description of the engineering tech-

1 nique to be used in such operation including information
2 with respect to the character and description of the
3 equipment to be used, a description of the system or
4 method to be used to prevent harmful surface water
5 drainage and water accumulation in the pit, a plan for
6 backfilling, grading, resoiling, and revegetation, and a
7 time schedule for completion of each of the phases and
8 an estimate of the cost per acre of the reclamation.

9 (b) The application for a permit under this section shall
10 be accompanied by a fee in such amount as may be prescribed
11 by regulations issued under this Act.

12 (c) During the term of the permit the operator may
13 apply to the Secretary for a revision of the permit. The Sec-
14 retary may grant the operator such revision if he finds that
15 such a change would protect the ecological value of the land
16 which is being strip mined.

17 APPROVAL OF APPLICATION FOR PERMIT

18 SEC. 5. (a) Upon the filing of an application under
19 section 4 of this Act, the Secretary shall investigate and may
20 approve or disapprove the application. No application for a
21 permit shall be approved if the Secretary finds, on the basis
22 of the information set forth in the application, or on the basis
23 of information available to him and made available to the
24 applicant, that the requirements of this Act, or standards and
25 regulations adopted thereunder will not be observed, that an

1 area of critical environmental concern or historical value
2 would be destroyed by the proposed strip mining, or that
3 there is probable cause to believe that the reclamation of the
4 area of affected land cannot be achieved.

5 (b) No permit application shall be approved unless the
6 plan of operation and reclamation required under section
7 4 (a) (10) of this Act is approved by the Secretary.

8 (c) The Secretary shall notify the applicant by regis-
9 tered mail within thirty days after the receipt of the com-
10 pleted application whether the application has been ap-
11 proved. If the Secretary fails to notify the applicant within
12 the prescribed period, the applicant may request in writing
13 a hearing before the Secretary. The hearing shall be held
14 within thirty days after receipt of the request.

15 (d) After the application is approved, but before the
16 permit is issued, the Secretary shall determine the amount
17 of bond per acre that the operator shall furnish. The amount
18 of the bond shall be determined on the basis of the antici-
19 pated costs of carrying out the reclamation plan, but in no
20 event shall the bond be in an amount less than \$1,000 for
21 each acre to be reclaimed, and in no case less than \$10,000
22 for any strip mine operation. The amount of bond shall be
23 stated in the notice of approval sent to the applicant.

24 (e) If the application is not approved, the Secretary
25 shall state the reasons for its unacceptability and may pro-

1 pose modifications in the plan, delete areas of land from the
2 proposed area of operation, or reject the plan entirely. If
3 the applicant disagrees with the decision of the Secretary,
4 he may request in writing a hearing before the Secretary.
5 The Secretary shall hold such hearing within thirty days
6 after receipt of the request.

7 (f) Any order or decision by the Secretary under this
8 section shall be subject to judicial review by the United
9 States court of appeals for the circuit in which the proposed
10 strip mine is located, or the United States Court of Appeals
11 for the District of Columbia circuit, upon the filing in such
12 court, within thirty days from the date of such order or
13 decision by the Secretary, of a petition by such applicant
14 praying that such order or decision be modified, or set aside
15 in whole or in part, except that the court shall not consider
16 such petition until such applicant has exhausted all adminis-
17 trative remedies available to him under this Act.

18 (g) The court shall hear such petition on the record
19 made before the Secretary. The findings of the Secretary,
20 if supported by substantial evidence on the record con-
21 sidered as a whole, shall be conclusive. The court may
22 affirm, vacate, or modify any such order or decision of the
23 Secretary, or may remand the proceedings to the Secretary
24 for such future action as it may direct.

PERFORMANCE BOND

1
2 SEC. 6. (a) After a permit application has been ap-
3 proved, but before a permit is issued, the applicant shall file
4 with the Secretary a bond for performance, on a form
5 prescribed and furnished by the Secretary, payable to him
6 as Secretary and conditioned that the operator shall faith-
7 fully perform all the requirements of this Act and regula-
8 tions issued pursuant thereto. The amount of the bond re-
9 quired for each permit shall depend upon the reclamation
10 requirements, and shall be determined by the Secretary as
11 provided in section 5 of this Act. Liability under the bond
12 shall continue for as long as strip mining is conducted at the
13 operation site described in the permit for which such bond
14 is posted and for a period of five years thereafter, unless
15 released sooner as provided in section 11 of this Act. The
16 bond shall be executed by the operator and a corporate
17 surety licensed to do business in the State where such opera-
18 tion is located. The operator may elect to deposit cash, nego-
19 tiable bonds of the United States Government or of any
20 State, or negotiable certificates of deposit having a par value
21 equal to, or greater than, the amount of the surety bond and
22 issued by any bank organized or transacting business in the
23 United States.

24 (b) Cash or securities so deposited shall be deposited

1 upon the same terms as the terms upon which surety bonds
2 may be deposited. If one or more negotiable certificates of de-
3 posit are deposited with the Secretary in lieu of the surety
4 bond, he shall require the bank which issued such certificate
5 to pledge securities of the aggregate market value equal to
6 the amount of such certificate or certificates in excess of the
7 amount insured by the Federal Deposit Insurance Corpora-
8 tion. Such securities shall be security for the repayment of
9 such negotiable certificates of deposit.

10 (c) Upon the receipt of the deposit of cash or securities,
11 the Secretary shall immediately place the deposit with the
12 Secretary of the Treasury, who shall receive and hold the
13 deposit in safekeeping in the name of the United States, in
14 trust for the purpose for which the deposit was made. The
15 operator making the deposit may, from time to time, demand
16 and receive from the Secretary of the Treasury, on the writ-
17 ten order of the Secretary of the Treasury, the whole or any
18 portion of the deposit if other acceptable securities of at least
19 the same value are deposited in lieu thereof. The operator
20 may demand of the Secretary of the Treasury and receive
21 the interest and income from the securities as they become
22 due and payable. When deposited securities mature, or are
23 called, the Secretary of the Treasury shall, upon the request
24 of the operator, convert the securities into other acceptable
25 securities.

1 (d) After the permit application has been approved, and
2 the bond or deposit filed, the Secretary shall issue a permit
3 to the applicant. Within ten days after such issuance, the
4 Secretary shall notify the State and the local official who has
5 the duty of collecting real estate taxes in the local political
6 subdivision in which the area of land to be affected is located
7 that a permit has been issued and shall describe the location
8 of the land.

9 STRIP MINING RECLAMATION FUND

10 SEC. 7. (a) There is hereby created in the Department
11 of the Treasury a revolving fund to be known as the Strip
12 Mine Reclamation Fund (hereinafter referred to as the
13 fund).

14 (b) There is authorized to be appropriated to the fund
15 initially the sum of \$100,000,000 and such other sums as
16 may thereafter be appropriated by the Congress.

17 (c) Moneys in the fund may be expended by the Sec-
18 retary for the purposes indicated in section 8 of this Act.

19 (d) Fines or fees which have been collected and any
20 bond or deposit which has been forfeited under this Act shall
21 be deposited in the fund.

22 (e) Moneys derived from the sale, lease, or rental of
23 reclaimed land shall be deposited in the fund.

24 (f) Moneys derived from any user charge imposed upon
25 reclaimed land used for recreation purposes, after expendi-

1 tures for maintenance have been deducted, shall be deposited
2 in the fund.

3 ACQUISITION OF RECLAIMED LAND

4 SEC. 8. (a) The Secretary may acquire by purchase,
5 donation, or otherwise, land, or any interest therein, which
6 has been affected by strip mining and has not been reclaimed.
7 Title to all lands acquired shall be taken in the name of
8 the United States, but no deed shall be accepted or purchase
9 price paid until the title thereof is approved by the Attorney
10 General. The price paid for land under this section shall
11 take into account the unrestored condition of the land.

12 (b) The Secretary shall prepare plans and specifications
13 for the reclamation of lands (including any culm bank)
14 acquired under this section. In preparing a plan of reclama-
15 tion the Secretary may utilize the specialized knowledge or
16 experience of any Federal department or agency which can
17 assist him in the development or implementation of the recla-
18 mation program required under this section. The Secretary
19 may, with the approval of the administrator of the depart-
20 ment or agency involved call to his assistance temporarily
21 any engineer or other personnel of any Federal department
22 or agency. The engineers and employees shall not receive
23 any additional compensation other than that which they
24 receive from the department or agency by which they are
25 employed, but they shall be reimbursed for their actual and

1 necessary expenses incurred while working under the direc-
2 tion of the Secretary.

3 (c) The Secretary shall reclaim the lands (including
4 any culm banks), according to the prepared plans, as mon-
5 eys become available to the fund.

6 (d) Administration of all lands restored under this
7 section shall be in the Secretary until disposed of by him
8 as set forth in this Act.

9 (e) The Secretary may use moneys from the fund for
10 the engineering, administrative, and research costs neces-
11 sary for reclamation of the lands.

12 (f) Money in the fund resulting from the forfeiture
13 of the surety bond, or from other securities deposited by an
14 applicant and not reclaimed by him as required by this Act,
15 the Secretary shall use such money first for reclamation of
16 the land covered by the forfeited bond or deposit.

17 (g) Where reclaimed land is deemed to be suitable for
18 industrial, residential, or private recreational development,
19 the Secretary may sell such land at a fair price under such
20 regulations as he may promulgate to insure that such lands
21 are put to a proper use, as determined by the Secretary.

22 (h) The Secretary may direct that reclaimed land may
23 be improved for water-based or other recreational purposes,
24 and that a reasonable user charge shall be imposed. Revenue
25 derived from such reclaimed lands shall be used first to

1 assure proper maintenance, and any remaining moneys shall
2 be deposited in the fund.

3 REVOCATION OF PERMITS

4 SEC. 9. (a) The Secretary may revoke any permit
5 issued under this Act if, after a public hearing, he deter-
6 mines that the operator has violated any provision of this
7 Act or any standard or regulation issued pursuant to this
8 Act.

9 (b) Upon petition by 40 per centum of the adult resi-
10 dents of the local government unit in which the strip mine is
11 located, the Secretary may, at his discretion, hold a public
12 hearing to determine whether or not the operator is comply-
13 ing with the terms of his permit and to determine whether or
14 not such permit should be revoked.

15 REGULAR REPORTS

16 SEC. 10. On or before the expiration of each six-month
17 period following the date of the enactment of this Act, the
18 operator of a strip mining operation shall file a report with
19 the Secretary, on a form provided by the Secretary, that
20 accurately states the number and location of acres of land
21 mined, and the number and location of acres of land re-
22 claimed. An annual report containing the same information
23 as the six-month report, plus maps detailing the progress
24 made on the reclamation plan, shall be filed with the Secre-
25 tary not later than the 25th day of January of each year.

RELEASE OF BOND

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SEC. 11. (a) Two full years after the completion of the planting of an area of land affected by strip mining, the operator may file a request, on a form provided by the Secretary, for the release of the bond required under this Act. The request shall state—

(1) the location of the area and number of acres;

(2) the permit number;

(3) the amount of bond; and

(4) the type and date of planting of vegetative cover and the degree of success of growth.

(b) An inspection and evaluation of the reclamation of the area shall be made within twenty days after the filing of the request. If the Secretary finds that the reclamation meets the requirements of this Act he shall send by registered mail to the operator a release of such bond or other security. He shall also at the same time send a copy of the release to the Secretary of the Treasury. Upon presentation of the release to the Secretary of the Treasury by the operator to whom it was issued, the Secretary of the Treasury shall deliver to the operator, or his authorized agent, the amount of such bond or other security.

(c) If the Secretary does not approve the reclamation performed by the operator, the Secretary shall notify the operator by registered mail within twenty days after the

1 filing of the request. The notice shall state the reasons for
2 such disapproval and shall recommend actions to remedy
3 the deficiencies.

4 (d) No bond shall be released until the provisions of
5 this section are met.

6

STANDARDS

7 SEC. 12. (a) Within six months following the date of
8 the enactment of this Act, the Secretary, in consultation
9 with the Strip Mining Advisory Commission established
10 under this Act, shall, in accordance with the procedures
11 set forth in this section, develop, promulgate, and revise
12 as may be appropriate, mandatory standards covering strip
13 mining operations subject to this Act, including reclama-
14 tion programs in connection therewith.

15 (b) In the development of such standards, the Secre-
16 tary and the Strip Mining Advisory Commission shall con-
17 sult with other interested Federal agencies, representatives
18 of State agencies, appropriate representatives of mining op-
19 erators and miners, other interested persons and organiza-
20 tions, and the interested Governors of the several States.

21 (c) Such standards shall be based upon criteria de-
22 veloped on the basis of research, demonstrations, experi-
23 ments, and such other information as may be appropriate.

24 (d) Such standards shall consider the nature of the
25 industry involved and any regional differences which would

1 require variations of applicable standards in order to insure
2 maximum ecological benefit.

3 (e) Such standards shall not become effective unless
4 the Secretary has first published such standards in the Fed-
5 eral Register and afforded interested persons a period of not
6 less than thirty days after publication to submit written data
7 or comments. Except as provided in subsection (f) of this
8 section, the Secretary may, upon the expiration of such
9 period and after consideration of all relevant matter pre-
10 sented, promulgate such standards with such modifications
11 as he may deem appropriate.

12 (f) On or before the last day of any period fixed for
13 the submission of written data or comments under sub-
14 section (e) of this section, any interested person may file
15 with the Secretary written objections to a proposed stand-
16 ard, stating the grounds therefore and requesting a public
17 hearing by the Secretary on such objections. As soon as
18 practicable after the period for filing such objections has
19 expired, the Secretary shall publish in the Federal Register
20 a notice specifying the proposed standards to which objec-
21 tions have been filed and a hearing requested.

22 (g) Promptly after any such notice is published in the
23 Federal Register by the Secretary under subsection (f) of
24 this section, the Secretary will issue notice of and hold a
25 public hearing for the purpose of receiving relevant evidence.

1 government, while performing Commission business, shall
2 be entitled to receive the daily equivalent of the annual rate
3 of base pay in effect for grade GS-18 of the General Sched-
4 ule for each day including traveltime during which he is
5 engaged in the actual performance of his duties as a member
6 of the Commission. While so serving away from their homes
7 or regular places of business, such members shall be paid
8 travel expenses and per diem in lieu of subsistence at rates
9 authorized by section 5703 of title 5, United States Code,
10 for persons employed intermittently.

11 **PENALTIES**

12 **SEC. 14.** (a) Whoever knowingly violates any provision
13 of this Act, or any standard or regulation issued pursuant
14 thereto, shall be fined not more than \$50,000, or imprisoned
15 for not more than two years, or both.

16 (b) Whenever a corporation or other entity violates
17 any such provision, standard, or regulation, any director,
18 officer, or agent of such corporation or entity who author-
19 ized, ordered, or carried out such violation shall be subject
20 to the same fines and imprisonment as provided for under
21 subsection (a) of this section.

22 **STATE ENFORCEMENT**

23 **SEC. 15.** (a) Upon petition by a State, and upon a find-
24 ing by the Secretary that the State law with respect to strip
25 mining is consistent with the provisions of this Act and that

1 State enforcement is adequate to insure compliance with the
2 law, the Secretary may delegate to the State the authority
3 to enforce the provisions of this Act in such State.

4 (b) The Secretary shall prepare and issue regulations
5 covering the delegation of authority set forth in this section.

6 Such regulations shall be published in the Federal Register
7 and comment shall be invited from all interested parties.

8 (c) Before the Secretary delegates the authority for
9 the enforcement of any sections of this Act to a State, he
10 shall make public his intention to do so and shall hold
11 a public hearing at a convenient location within such State
12 where interested parties may appear and present testimony
13 on the effect of such delegation.

14 (d) The Secretary shall maintain a close surveillance
15 over State enforcement of this Act and shall require, at
16 least annually, reports from such States which will permit
17 him to judge the effectiveness of such enforcement. When
18 on the basis of such reports, or on other evidence avail-
19 able to him, the Secretary finds that such enforcement is
20 not carrying out the intent of the Congress as set forth
21 herein, he shall promptly terminate such State enforce-
22 ment and he shall carry out such enforcement with Federal
23 personnel.

24 (e) The Secretary shall report to the Congress each

1 year on the effectiveness of State legislation with respect
2 to strip mining.

3

ANNUAL REPORT

4 SEC. 16. On or before February 15 of each year, the
5 Secretary shall file a detailed report with the Congress
6 covering the progress made in regulating strip mining and
7 providing for reclamation during the preceding calendar year,
8 together with his recommendations for such legislative or
9 administrative action he deems appropriate to carry out the
10 purposes of this Act.

11

PREEMPTION OF STATE LAW

12 SEC. 17. (a) No State law (or standard or regulation
13 established or issued pursuant thereto) in effect on the effec-
14 tive date of subsection (a) of section 3 of this Act, or which
15 may become effective thereafter, shall be superseded by any
16 provision of this Act, except insofar as such State law, stand-
17 ard, or regulation is inconsistent with the provisions of this
18 Act.

19 (b) The provisions of any State law (or standard or
20 regulation established or issued pursuant thereto) in effect
21 upon the effective date of subsection (a) of section 3 of this
22 Act, or which may become effective thereafter, which pro-
23 vides for more stringent control and regulation of strip mining
24 than do the provisions of this Act (including standards and

1 regulations established or issued pursuant thereto) shall not
2 thereby be construed to be inconsistent with this Act. The
3 provisions of any State law (including standards or regula-
4 tions established or issued pursuant thereto) in effect on the
5 effective date of subsection (a) of section 3 of this Act, or
6 which may become effective thereafter, which provide for the
7 control and regulation of strip mining for which no provision
8 is contained in this Act, shall not be construed to be incon-
9 sistent with this Act.

10

STAFF; AUTHORIZATION

11

SEC. 18. (a) The Secretary may establish within the
12 Department of the Interior a sufficient staff to carry out the
13 provisions of this Act.

14

(b) There are hereby authorized to be appropriated
15 such sums as may be necessary to carry out the purposes of
16 this Act.

17

EFFECTIVE DATE

18

SEC. 19. Subsections (a) and (b) of section 3, and
19 section 14 of this Act, shall take effect on and after one
20 hundred and eighty days following the date of the enactment
21 of this Act. All other provisions of this Act shall take effect
22 upon the date of enactment of this Act.

92^d CONGRESS
1st SESSION

S. 3000

IN THE SENATE OF THE UNITED STATES

DECEMBER 13, 1971

Mr. BAKER (for himself and Mr. COOPER) introduced the following bill; which was read twice and referred to the Committee on Interior and Insular Affairs

A BILL

To provide for a program for the regulation of surface mining of coal to protect the environment, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "Coal Strip Mine Control
4 Act of 1971."

5 The Congress finds that the practice of surface mining
6 for coal in the United States has resulted in the devastation
7 of vast areas of land, in substantial environmental degrada-
8 tion, in an economic and social hardship on the people of
9 these areas and in the loss of significant scenic and natural
10 resources.

1 The Congress further finds that a program of uniform
2 regulation of surface mining of coal must be enacted to insure
3 against these threats and that such regulation must permit
4 the surface mining of coal only when such mining can be
5 undertaken in a manner which will prevent environmental
6 degradation.

7 **TITLE I—FEDERAL INTERIM PROGRAM**

8 **REGULATION**

9 **SEC. 101.** (a) On and after the date of the enactment
10 of this Act, any coal surface mine the products of which
11 enter commerce or the operations of which affect commerce
12 shall be subject to the provisions of this Act.

13 (b) On and after the date of enactment of this Act no
14 person shall develop or open any new or previously aban-
15 doned site of operations for the extraction of coal or shall
16 significantly increase or accelerate operations in effect at the
17 time of enactment from any surface mine subject to the pro-
18 visions of this Act unless such person has first obtained a
19 permit issued in accordance with the provisions of this Act.

20 (c) On and after two hundred and seventy days from
21 the enactment of this Act, no person shall engage in or carry
22 out any activity involving the extraction of coal from a sur-
23 face mine subject to the provisions of this Act by surface
24 mining methods, unless such person has first obtained a per-
25 mit issued in accordance with the provisions of this Act.

1

CRITERIA

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SEC. 102. (a) Within one hundred and twenty days following the enactment of this Act, the Administrator of the Environmental Protection Agency in consultation with the Secretary of Agriculture and the Secretary of the Interior shall promulgate (and from time to time thereafter revise) such regulations as he deems necessary in connection with the surface mining of coal setting forth—

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1. the criteria for reclamation programs required in connection with the issuance of a permit to engage in the extraction of minerals by surface mining methods;

2. criteria on necessary procedures, methods and techniques to be followed in the operation of surface mining methods pursuant to a permit issued in accordance with the provisions of this Act;

3. criteria on land policy identifying zones where, due to physical characteristics areas within such zones cannot be adequately reclaimed, surface mining shall not be permitted;

4. criteria on procedures, methods and techniques to be used in connection with the use of explosives in strip mining operations subject to this Act; and

5. criteria on regulating road construction necessary in connection with surface mining operations subject to this Act.

1 (b) Such regulations shall insure, among other things,
2 that—

3 1. reclamation of the site will return said land to a use
4 and topographical conformance substantially as it existed
5 prior to commencement of operations or to a different use or
6 topographical conformance if proposed in the application for
7 permit if the Administrator determines that such alternative
8 plan meets the intent and purpose of this Act;

9 2. mining and reclamation operations will control or
10 prevent erosion, flooding, and pollution of water, release of
11 toxic substances, accidental land or rock slides, damage to
12 fish or wildlife or their habitat, or public or private property,
13 waste or mineral resources, destruction or loss of a valuable
14 scenic resource, and hazards to public health and safety; and

15 3. techniques employed in mining and reclamation un-
16 der this Act conform to the best practicable technology for
17 operations upon land of like nature and character.

18 (c) Any regulation issued by the Administrator under
19 this section shall be subject to judicial review in the District
20 Court for the District of Columbia upon the filing of a peti-
21 tion in such court praying that the regulation be modified or
22 set aside in whole or in part. The commencement of such a
23 proceeding shall not, unless specifically ordered by the court,
24 operate as a stay of the Administrator's decision.

PERMITS

1
2 SEC. 103. (a) On and after the date of enactment of
3 this Act and until a State regulatory program is in effect
4 under title II of this Act, permits for operations subject to
5 the provisions of this title shall be issued by the Administra-
6 tor pursuant to regulations issued under this section.

7 (b) Within ninety days following the enactment of this
8 Act the Administrator shall issue regulations specifying the
9 forms upon which applications for permits may be made.
10 Such regulations shall specify the information which the Ad-
11 ministrator shall require in order to make the determinations
12 necessary to insure compliance with the intent and purpose
13 of this Act, and shall include a map and plan of the proposed
14 operation, and complete plan of reclamation for the area of
15 land to be affected, including, but not limited to, the method
16 of strip mining, engineering technique, the character and
17 description of the equipment, prevention of harmful surface
18 water drainage, prevention of water accumulation in the pit,
19 backfilling, grading, resoiling, revegetation, a time schedule
20 for completion of each of the phases, and an estimate of the
21 cost of reclamation per acre.

RENEWAL

22
23 SEC. 104. (a) Any holder of a valid surface mining
24 permit issued pursuant to this Act who wishes to continue
25 the operation beyond the original permit shall make appli-

1 cation for said renewal within sixty days prior to the
2 expiration of said permit. Said application shall contain such
3 information as the Administrator may prescribe by regulation,
4 and shall include—

5 (1) a listing of any claim settlements or judgments
6 against the applicant arising out of or in connection
7 with its operation under said permit;

8 (2) written assurance by the person issuing the per-
9 formance bond in effect for said operations that said bond
10 continues and will continue in full force and effect for
11 any extension requested in said application.

12 APPROVAL

13 SEC. 105. (a) Upon the filing of an application in ac-
14 cordance with section 103 of this Act, or of an application
15 for renewal under section 104 of this Act, the Administrator
16 shall, after opportunity for public hearing, investigate and
17 approve or disapprove the application. No permit applica-
18 tion or renewal shall be approved if the Administrator finds
19 on the basis of the information set forth in the application, or
20 from information available to him, that—

21 (1) there is no probable cause to believe that the
22 reclamation of the area of affected lands covered by the
23 application can be achieved;

24 “(2) (A) the surface mining operations covered by

1 such application would pose undue hazards to adjacent
2 lands or waters; or

3 “(B) the strip mining would result in the destruc-
4 tion or loss of a scenic resource valuable to the area or
5 region; or

6 (3) the carrying out of the surface mining opera-
7 tions covered by such application would be in violation
8 of any provision of this Act or any regulation issued
9 pursuant thereto:

10 (b) No permit application shall be approved unless the
11 plan of operation and reclamation required under section 103
12 (b) of this title is approved. The Administrator may ap-
13 prove a plan of operation and a reclamation plan that com-
14 plies with the requirements of this Act and regulations issued
15 pursuant thereto. Nothing in this Act shall be construed
16 as prohibiting the Administrator from approving any recla-
17 mation plan which provides for the retention of certain access
18 roads.

19 (c) The Administrator shall notify the applicant by
20 registered mail within thirty days after the receipt of the
21 complete application whether the application has been ap-
22 proved. If the Administrator fails to notify the applicant
23 within the prescribed period, the applicant may request in
24 writing a hearing before the Administrator. The hearing
25 shall be held within thirty days after receipt of the request.

1 (d) If the application for permit or renewal is approved,
2 the Administrator shall determine the amount of bond per
3 acre that the operator shall furnish before a permit or re-
4 newal is issued. The amount of bond shall be stated in the
5 notice of approval sent to the applicant.

6 (e) If the application is not approved, the Adminis-
7 trator shall state the reasons for its disapproval and may
8 propose modifications, delete areas, or reject it entirely. If
9 the applicant disagrees with the decision of the Adminis-
10 trator, he may request in writing a hearing before the
11 Administrator. The Administrator shall hold the hearing
12 within thirty days after receipt of the request. Judicial
13 review of such decisions shall be in the United States
14 District Court for the district in which operations are
15 proposed.

16 BONDING REQUIREMENTS

17 SEC. 106. (a) After a permit application has been
18 approved, but before a permit is issued, the applicant shall
19 file with the Administrator the bond for performance, on a
20 form prescribed and furnished by the Administrator, payable
21 to the Administrator and conditioned that the applicant
22 shall faithfully perform all the applicable requirements of
23 this Act and regulations issued pursuant thereto. The amount
24 of the bond required for each permit shall depend upon the
25 reclamation requirements, and shall be determined by the

1 Administrator. Liability under the bond shall be for the
2 duration of surface mining at the operation and for a period
3 of five years thereafter, unless released sooner as provided
4 in section 111 of this title. The bond shall be executed by
5 the applicant and a corporate surety licensed to do business
6 in the State where such operation is located; except that
7 the applicant may elect to deposit cash, negotiable bonds
8 of the United States Government or such State, or bonds of
9 the United States Government or such State, or negotiable
10 certificates of deposit having a par value equal to or greater
11 than the amount of the surety bond and issued by any
12 bank organized or transacting business in the United States.
13 Cash or securities so deposited shall be deposited upon such
14 terms as the Administrator may prescribe.

15 (b) After the permit application has been approved,
16 and the bond or deposit filed, the Administrator shall issue
17 a permit to the applicant.

18 (c) Any permit issued pursuant to this title shall be
19 valid for a period of one year following its date of issuance.
20 No surface mining operations shall be carried out pursuant to
21 such permit unless such permit has been registered with the
22 Register of Deeds (or other comparable officer) in each
23 county or other political subdivision in which lands affected
24 by such permit are located. Such registration shall include the
25 name and address of the person to whom such permit was

1 issued and, if such person is a corporation or other entity, the
2 name and address of its registered agent, and a brief descrip-
3 tion of the lands upon which operations are permitted.

4 (d) The process of reclamation shall progress as the
5 surface mining progresses, at such a distance behind the
6 extraction of the minerals in accordance with regulations
7 promulgated by the Administrator in accordance with the
8 provisions of this Act.

9

NONCOMPLIANCE

10 SEC. 107. (a) In any case in which the Administrator
11 determines that any person holding a valid, unexpired permit
12 issued pursuant to this Act has failed or is failing to comply
13 with the provisions of this Act or any regulation issued pur-
14 suant thereto or the terms of any such permit, the Adminis-
15 trator shall notify such permit holder in writing that he is
16 in noncompliance and order the immediate termination of
17 any operation in violation of the provisions under which the
18 permit issued and that he shall have thirty days (or such
19 additional period as the Administrator in his sole discretion
20 may prescribe) within which to repair damages caused by
21 said operation. If upon the expiration of such period con-
22 tained in that notification such person has not so complied
23 or if he shall fail or refuse to terminate said operations as
24 ordered by the Administrator, the Administrator shall im-
25 mediately take action in accordance with the provisions of

1 section 110 of this Act, to revoke such permit. If the Ad-
2 ministrator determines that such person, prior to the date of
3 expiration of such period, is in compliance with the provisions
4 of this Act and such regulations and terms with respect to
5 which he was so notified, he shall take no action with respect
6 to revoking such permit and such noncompliance shall be
7 deemed not to be a violation for purposes of sections 105 and
8 110. The provisions of this section requiring notification of
9 noncompliance shall not apply in any case involving fraud
10 or any willful or knowing violation on the part of such permit
11 holder; in all such cases an order to cease operations shall be
12 issued and action be instituted under section 110 immediately.

13 REPORTS

14 SEC. 108. (a) On or before the expiration of each ninety
15 day period following the effective date of section 101 (c)
16 of this title, the operator of a surface mining operation
17 shall file a report with the Administrator on a form pro-
18 vided by the Administrator that accurately states the number
19 and location of acres of land mined, and the number and
20 location of acres of land reclaimed. An annual report with
21 the same type of information shall be filed with the Admin-
22 istrator not later than the first day of February of each
23 year for the previous year.

24 SANCTIONS

25 SEC. 109. (a) (1) Whoever knowingly violates the

1 provisions of this Act or obtains a permit or renewal thereof
2 pursuant to this Act through fraudulent means, shall be
3 fined not more than \$10,000.

4 (2) In addition to the fine authorized under paragraph
5 (1) of this subsection, and subject to the provisions of sec-
6 tion 107 of this title the appropriate court may impose fine
7 in an amount equal to not more than \$5,000 for each acre
8 of land stripped in violation of the provisions of this Act.

9 REVOCATION OF PERMITS

10 SEC. 110. (a) The Administrator may, subject to the
11 provisions of this Act, revoke any permit or renewal thereof
12 issued pursuant to this Act if he determines that—

13 1. the operator has violated any provision of this
14 Act or any regulation issued pursuant thereto; or

15 2. such permit or renewal was obtained through
16 fraud.

17 RELEASE OF BONDS

18 SEC. 111. (a) The Administrator may upon the appli-
19 cation of the operator release in whole or in part any
20 bond issued pursuant to this Act if it shall appear that said
21 bond or portion thereof may be so released consistent with
22 the requirements of this title.

23 (b) If the Administrator does not approve the reclama-
24 tion performed by the permittee, the Administrator shall
25 notify the permittee in writing within twenty days after the

1 request for release is filed. The notice shall state reasons
2 for said rejection and shall recommend actions to remedy
3 said failure, and shall afford the operator an opportunity for
4 leaving judicial review of any decision under this section
5 shall be in the United States District Court for the District
6 in which said operations are located.

7 TITLE II—STATE REGULATORY PROGRAM

8 ESTABLISHMENT

9 SEC. 201. (a) (1) Each State in which surface mining
10 for coal is conducted shall, after reasonable notice and public
11 hearings, adopt and submit to the Administrator, within
12 eight months after the promulgation of criteria and guide-
13 lines (or any revision thereof) under section 102 of this
14 Act, a program which provides for the regulation of surface
15 mining in such State.

16 (2) The Administrator shall, within four months after
17 the date required for submission of a regulatory program
18 under paragraph (1) of this subsection approve or disap-
19 prove such program or each portion thereof. The Adminis-
20 trator shall approve such program or any portion thereof, if
21 he determines that it was adopted after reasonable notice and
22 hearing and that—

23 (A) it provides a permit or equivalent program to
24 regulate the initiation and conduct of surface mining and

1 restoration following such mining which permit pro-
2 gram shall meet the requirements established for the
3 present program under title I of this Act;

4 (B) it provides for notice to the public of all appli-
5 cations for permits and an opportunity for a public hear-
6 ing on such application;

7 (C) it provides that any State (other than the per-
8 mitting State), whose land or waters may be affected by
9 the issuance of a permit may submit written recommen-
10 dations to the permitting State (and the Administrator)
11 with respect to any permit application and, if any part
12 of such written recommendations are not accepted by the
13 permitting State, that the permitting State will notify
14 such affected State (and the Administrator) in writing
15 of its failure to so accept such recommendations together
16 with its reasons for so doing;

17 (D) it provides that permits are fixed on terms
18 not exceeding two years;

19 (E) it provides that permits can be terminated or
20 modified for cause including, but not limited to, the
21 following:

- 22 (i) violations of any conditions of the permit;
23 (ii) obtaining a permit by misrepresentation, or
24 failure to disclose fully all relevant facts;

1 (iii) changes in conditions that require either
2 a temporary or permanent change, including cessa-
3 tion, in the permitted activity;

4 (F) it provides for inspection, monitoring, enter-
5 ing, and reports in a manner which will meet the require-
6 ments of section 203 of this Act;

7 (G) it provides for abatement of violations of the
8 regulatory program, including permits and permit con-
9 ditions, including civil and criminal penalties and other
10 ways and means of enforcement;

11 (H) it provides for the filing of restoration plans
12 and procedures, including restoration measures taken
13 during and after completion of surface mine operation;

14 (I) it provides for the posting of performance bonds
15 sufficient to insure restoration in compliance with the ap-
16 proved restoration plan and for public participation in
17 the determination of compliance prior to release of such
18 posted bonds;

19 (J) it provides for the designation of a single agen-
20 cy, or with the Administrator's approval, an interstate
21 organization upon which the responsibility for adminis-
22 tering and enforcing the program is conferred by the
23 State which will insure full participation of those agencies
24 responsible for air quality, water quality, and other areas
25 of environmental protection;

1 (K) it provides for funding and manpower are or
2 will be committed to the administration and enforcement
3 of the regulations sufficient to carry out the purposes
4 of this title;

5 (L) it provides for monitoring by the State agency
6 of environmental changes in surface mined areas and ad-
7 jacent lands and waters to assess the effectiveness of the
8 regulatory program; and

9 (M) it provides for revision, after public hearings,
10 of such program from time to time, but at least every five
11 years, as may be necessary to take account of revisions of
12 criteria and guidelines under section 102 of this Act.

13 (b) (1) After the effective date of any regulatory pro-
14 gram under this title, each State shall transmit to the Admin-
15 istrator a copy of any permit application received by such
16 State and provide notice to the Administrator of all actions
17 related to the consideration of such permit applications, in-
18 cluding all permits proposed to be issued by such State.

19 (2) No permit shall issue until the Administrator is sat-
20 isfied that the conditions to be imposed by the State meet the
21 requirements of this Act.

22 (3) The Administrator may, within thirty days after
23 receipt of any permit application, waive the requirements of
24 clause (2) of this paragraph as to such permit application.

25 (c) Whenever the Administrator determines after public

1 hearing that a State is not administering a program approved
2 under this section or section 202, in accordance with require-
3 ments of this section, he shall so notify the State and, if
4 appropriate corrective action is not taken within a reason-
5 able time, not to exceed ninety days, the Administrator shall
6 withdraw approval of such program.

7 (d) Copies of any permit application and any permit
8 issued under this section shall be available to the public, in
9 an appropriate place (1) in each State; (2) in the appro-
10 priate regional office of the Environmental Protection
11 Agency; and (3) with the Administrator. Such permit
12 applications or permits, or portions thereof, shall further be
13 available on request for the purpose of reproduction.

14 FEDERAL PROMULGATION

15 SEC. 202. The Administrator shall, after consideration
16 of any State hearing record, promptly prepare and publish
17 proposed regulations setting forth a regulatory program or
18 portions thereof, for a State if—

19 (a) the State fails to submit a regulatory program
20 within the time prescribed under section 201 of this title;

21 (b) the regulatory program or any portion thereof,
22 submitted for such State is determined by the Administrator
23 not to be in accordance with the requirements of section 201
24 of this title; or

1 (c) the State fails, within sixty days after notification
2 by the Administrator, or such longer period as he may pre-
3 scribe, to revise its regulatory programs as required pursuant
4 to a provision of its program referred to in section 201 (a)
5 (2) (M) of this title.

6 If such State held no public hearing on such regulatory pro-
7 gram (or revision thereof), the Administrator shall provide
8 opportunity for such hearing within such State on any pro-
9 posed regulation. The Administrator shall, within two months
10 after the date of disapproval of such program, or portion
11 thereof (or revision thereof), promulgate any such regula-
12 tions unless, prior to such promulgation, such State has
13 adopted and submitted a program (or revision) which the
14 Administrator determines to be in accordance with the
15 requirements of this Act.

16 INSPECTIONS, MONITORING, AND ENTRY

17 SEC. 203. (a) For the purpose (1) of developing or
18 assisting in the development of any State regulatory program
19 under this Act or any permit under this Act, or (2) of deter-
20 mining whether any person is in violation of any require-
21 ment of such a plan or any other provision of this Act—

22 (A) The Administrator may require any person
23 owning or operating any surface coal mine to (i) estab-
24 lish and maintain such records, (ii) make such reports,

1 (iii) install, use, and maintain such monitoring equip-
2 ment or method, and (iv) provide such other informa-
3 tion as he may reasonable require; and

4 (B) the Administrator or his authorized representa-
5 tive, upon presentation of his credentials—

6 (i) shall have a right of entry to, upon, or
7 through any surface coal mine or any premises in
8 which any records required to be maintained under
9 paragraph (2) (A) of this subsection are located,
10 and

11 (ii) may at reasonable times have access to and
12 copy any records, inspect any monitoring equipment
13 or method required under paragraph (2) (A) of
14 this subsection.

15 (b) (1) Each State may develop and submit to the
16 Administrator a procedure for carrying out this section or
17 portions thereof in such State. If the Administrator finds the
18 State procedure is adequate, he shall delegate to such State
19 any authority he has to carry out this section.

20 (2) Nothing in this subsection shall prohibit the Ad-
21 ministrator from carrying out in a State, at any time, the
22 authority granted under this section.

23 (c) Any records, reports, or information obtained under
24 this section shall be available to the public, except that upon
25 a showing satisfactory to the Administrator by any person

1 that records, reports, or information, or particular part
2 thereof, to which the Administrator has access under this sec-
3 tion, if made public would divulge methods or processes
4 entitled to protection as trade secrets of such person, the
5 Administrator shall consider such record, report, or informa-
6 tion, or particular portion thereof confidential in accordance
7 with the purposes of section 1905 of title 18 of the United
8 States Code, except that such record, report, or information
9 may be disclosed to other officers, employees, or authorized
10 representatives of the United States concerned with carrying
11 out this Act or when relevant in any proceeding under this
12 Act.

13 FEDERAL ENFORCEMENT

14 SEC. 204. (a) (1) Whenever, on the basis of any in-
15 formation available to him, the Administrator finds that any
16 person is in violation of section 201 or 202 of this Act, or
17 of any permit or permit condition under this title, the Admin-
18 istrator shall notify the person alleged to be in violation of
19 the permit or permit condition and the State in which the
20 permit or permit condition applies of such finding and
21 publish such finding. If such violation extends beyond the
22 thirtieth day after the date of the Administrator's notification,
23 the Administrator shall issue an order requiring such person
24 to comply with the requirements of such permit or permit

1 condition or he shall bring a civil action in accordance with
2 subsection (b) of this section.

3 (2) Whenever, on the basis of information available to
4 him, the Administrator finds that violations of a State regula-
5 tory program approved under section 201 of this Act are
6 so widespread that such violations appear to result from
7 a failure of the State in which such regulatory program
8 applies to enforce such program effectively, he shall so notify
9 the State. If the Administrator finds that such failure extends
10 beyond the thirtieth days after such notice, he shall give
11 public notice of such finding. During the period beginning
12 with such public notice and ending when such State satisfies
13 the Administrator that it will enforce such program (here-
14 after referred to in this section as "period of federally as-
15 sumed enforcement"), the Administrator may enforce any
16 permit or permit condition under such program with respect
17 to any person—

18 (A) by issuing an order to comply with such per-
19 mit or permit condition, or

20 (B) by bringing a civil action under subsection (b)
21 of this section.

22 (3) Whenever, on the basis of any information avail-
23 able to him, the Administrator finds that any person is in
24 violation of section of this Act, he shall issue an order
25 requiring such person to comply with such section, or he

1 shall bring a civil action in accordance with subsection (b)
2 of this section, requiring such person to comply with such
3 section.

4 (4) An order issued under this section shall take effect
5 immediately. A copy of any order issued under this section
6 shall be sent to the State in which the violation occurs. Any
7 order issued under this section shall state with reasonable
8 specificity the nature of the violation, specify a time for
9 compliance which the Administrator determines is reason-
10 able, taking into account the seriousness of the violation and
11 any good faith efforts to comply with applicable require-
12 ments. In any case in which an order or notice under this
13 section is issued to a corporation, a copy of such order shall
14 be issued to appropriate corporate officers.

15 (5) All notices or orders issued or the termination
16 thereof under this section shall be published in the Federal
17 Register.

18 (b) The Administrator may commence a civil action
19 for appropriate relief, including a permanent or temporary
20 injunction, whenever any person—

21 (1) violates or fails or refuses to comply with any
22 order issued under subsection (a) of this section; or

23 (2) violates any requirement of an approved State
24 regulatory program during any period of federally
25 assumed enforcement or violates any permit or permit

1 condition more than thirty days after having been notified
2 by the Administrator under subsection (a) (1) of this
3 section of a finding that such person is violating such
4 permit or permit condition; or

5 (3) violates section 101 of this Act; or

6 (4) fails or refuses to comply with any requirement
7 of this Act or any regulation issued hereunder.

8 Any action under this section may be brought in the district
9 court of the United States for the district in which the de-
10 fendant is located or resides or is doing business, and such
11 court shall have jurisdiction to restrain such violation and
12 to require compliance. Notice of the commencement of such
13 action shall be given to the appropriate State.

14 (c) (1) Any person who wilfully or negligently (A)
15 violates any requirement of an approved State regulatory
16 program during any period of federally assumed enforcement
17 or violates any permit or permit condition more than thirty
18 days after having been notified by the Administrator under
19 subsection (a) (1) of this section that such person is violating
20 such requirement, or (B) violates or fails or refuses to comply
21 with any order issued by the Administrator under subsec-
22 tion (a) of this section, or (C) violates section 101 of this
23 Act, shall be punished by a fine of not more than \$10,000
24 per day of violation. If the conviction is for a violation com-
25 mitted after the first conviction of such person under this

1 paragraph, punishment shall be by a fine of not more than
2 \$20,000 per day of violation.

3 (2) Any person who knowingly makes any false state-
4 ment, representation, or certification in any application, rec-
5 ord, report, plan, or other document filed or required to be
6 maintained under this Act or who falsifies, tampers with,
7 or knowingly renders inaccurate any monitoring device or
8 method required to be maintained under this Act, shall,
9 upon conviction, be punished by a fine of not more than
10 \$10,000, or by imprisonment for not more than six months,
11 or by both.

12 JUDICIAL REVIEW

13 SEC. 205. (a) (1) A petition for review of action of
14 the Administrator in approving a State regulatory program
15 or in promulgating any regulation under section 202 of
16 this Act, may be filed by any interested person only in the
17 United States Court of Appeals for the District of Colum-
18 bia. A petition for review of the Administrator's action in
19 issuing or denying any permit or permit condition under
20 section 201 or section 202 of this Act, may be filed by any
21 interested person only in the United States court of appeals
22 for the appropriate circuit. Any such petition shall be
23 within thirty days from the date of such determination,
24 approval, promulgation, issuance, or denial, or after such

1 date if such petition is based solely on grounds arising
2 after such thirtieth day.

3 (2) Action of the Administrator with respect to which
4 review could have been obtained under paragraph (1)
5 of this subsection shall not be subject to judicial review
6 in civil or criminal proceedings for enforcement.

7 (b) In any judicial proceeding in which review is
8 sought of a determination under this Act required to be
9 made on the record after notice and opportunity for hearing,
10 if any party applies to the court for leave to adduce ad-
11 ditional evidence, and shows to the satisfaction of the court
12 that such additional evidence is material and that there were
13 reasonable grounds for the failure to adduce such evidence
14 in the proceeding before the Administrator, the court may
15 order such additional evidence (and evidence in rebuttal
16 thereof) to be taken before the Administrator, in such man-
17 ner and upon such terms and conditions as the court may
18 deem proper. The Administrator may modify his findings
19 as to the facts, or make new findings, by reason of the ad-
20 ditional evidence so taken and he shall file such modified or
21 new findings, and his recommendation, if any, for the mod-
22 ification or setting aside of his original determination, with
23 the return of such additional evidence.

1 TITLE III

2 DEFINITIONS

3 SEC. 301. For the purposes of this Act, the term—

4 (a) "Administrator" means the Administrator of the
5 Environmental Protection Agency;

6 (b) "Commerce" means trade, traffic, commerce, trans-
7 portation, or communication between any State, the Com-
8 monwealth of Puerto Rico, the District of Columbia, or any
9 territory or possession of the United States and any other
10 place outside the respective boundaries thereof, or wholly
11 within the District of Columbia, or any territory or possession
12 of the United States, or between points in the same State,
13 if passing through any point outside the boundaries thereof;

14 (c) "Coal" includes bituminous coal, lignite, and anthra-
15 cite;

16 (d) "Surface mine" means any surface mine from which
17 coal is extracted, after removal of all or part of the over-
18 burden above, its natural deposits in the earth;

19 (e) "Person" means any individual, partnership, as-
20 sociation, corporation, firm, subsidiary of a corporation, or
21 other organization;

22 (f) "State" includes a State of the United States, the
23 District of Columbia, the Commonwealth of Puerto Rico,
24 Virgin Islands, American Samoa, Guam, Trust Territory of
25 the Pacific Islands, and Indian tribes; and

1 (g) "Site" means the land from which the overburden
2 or coal is removed by surface mining, and all other land area
3 in which the natural land surface has been disturbed as a
4 result of or incidental to the surface mining activities of the
5 operator, including but not limited to private ways and roads
6 appurtenant to any such area, land excavations, workings,
7 refuse banks, spoil banks, culm banks, tailings, repair areas,
8 storage areas, processing areas, shipping areas, and areas
9 in which structures, facilities, equipment, machines, tools or
10 other materials or property which result from, or are used
11 in, surface mining operations are situated.

12 (h) "Topographical conformance" means the shape and
13 form of the land on which and adjacent to which surface
14 mining is conducted. The phrase "return said land to a . . .
15 topographical conformance of operations . . ." as used in
16 section 102 (b) (1) of the Act and elsewhere in the Act,
17 shall mean the use of original spoil material to refill and
18 recover pits, benches, and high walls so that the original
19 slope and plane of the land is substantially restored to a
20 permanent and stable condition, except for the temporary
21 absence of vegetation. The phrase shall further mean that
22 no appreciable spoil material shall be permanently deposited
23 outside the bench or pit.

24 (i) "Surface mining" means all or any part of the
25 process followed in the production of minerals from a natu-

1 ral mineral deposit by the open pit or open cut method,
2 auger method, highwall mining method which requires a new
3 cut or removal of overburden, or any other mining process
4 in which the strata or overburden is removed or displaced
5 in order to recover the mineral; or in which the surface
6 soil is disturbed or removed for the purpose of determining
7 the location, quality or quantity of a natural mineral de-
8 posit, but shall not include excavation or grading when
9 conducted solely in aid of on-site farming or construction.

10 (j) "Spoil material" means all earth and other materials
11 which are removed to gain access to the mineral in the
12 process of surface mining.

13 (k) "Spoil bank" means the overburden as it is piled
14 or deposited in the process of surface mining, including re-
15 ject coal.

16 APPROPRIATIONS

17 SEC. 302. In addition to such fines as may be collected
18 pursuant to the provisions of this Act there is authorized
19 to be appropriated the sum of \$ for fiscal year 1973,
20 the sum of \$ for fiscal year 1974, and the sum of
21 \$ for fiscal year 1975, and thereafter such sums as
22 may be required for the purposes of this Act.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., February 23, 1972.

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

DEAR MR. CHAIRMAN: This responds to your request for the views of the Department on S. 2777, a bill "To provide for cooperation between the Secretary of the Interior and the States with respect to the regulation of surface mining operations, and for other purposes" and on S. 3000, a bill "To provide for a program for the regulation of surface mining of coal to protect the environment, and for other purposes."

We recommend against enactment of these bills and recommend instead the enactment of S. 993, the Administration's proposal, "To provide for the cooperation between the Federal Government and the States with respect to environmental regulations for mining operations and for other purposes."

The basic objective of S. 2777, S. 3000, and the Administration's bill is the same, namely to combat the adverse environmental effects of certain types of mining operations.

All three bills would establish a permit system to regulate mining operations in accordance with statutory criteria. Central to the system would be a reclamation plan which each mining operator would be required to file before commencing operation. The plan would show in detail how the operation would be conducted and the reclamation activity that would accompany it. All of the bills would require bonds to assure that the reclamation plan is complied with.

The following major differences between the bills form the basis for our recommendation favoring S. 993.

(1) SCOPE

The Administration's bill is broader in scope. It covers underground mines as well as surface mines, while S. 2777 is limited to surface mining and S. 3000 to surface mining of coal. Although the environmental damage caused by surface mining of coal has received, and probably deserves the most attention, other types of surface mining and underground mining also create potential environmental hazards which may be equally serious. While the technology for dealing with the problems of underground mining may not be as advanced as it is with respect to surface mines, it is important that the framework be established so that improvements in mining technology can be developed and applied to underground mining as rapidly as possible.

(2) FEDERAL-STATE RELATIONSHIP

The environmental problems stemming from mining operations are essentially land use problems. Such problems are under the Federal Constitution, primarily the responsibility of the States. Because of this and in keeping with the President's broad effort to return decision-making responsibility to State governments, the Administration's bill encourages the States to accept the responsibility for regulating mining operations within their borders. It offers Federal grants to cover up to 80% of the cost to the States of developing a program and a percentage of the costs of administering it during the first four years. Only if the State fails to act within two years will the Federal Government undertake to regulate mining within the State. S. 3000 is similar to the Administration's bill in this respect except that the time it allows for the States to act is shorter (one year maximum) and it does not provide any Federal grants. Without some Federal funding offered to the States we fear that many States will simply let the Federal Government do the job, even though the State may strongly resent the Federal interference, and may have been doing an excellent job on its own. The result will probably be an unnecessary erosion of State responsibility and a higher ultimate cost to the Federal Government.

S. 3000 provides an interim Federal permit program until the State programs become effective. Even if a Federal nationwide mining permit system could be established significantly ahead of the State programs, we question the justification of creating such a Federal program for an interim period.

S. 2777 gives primary responsibility for administering the regulatory system to the Federal Government including authority, which would be vested in the Department of the Interior, to charge fees, set bonds and issue or refuse to issue mining permits.

Section 15 of S. 2777 authorizes the Secretary of the Interior to delegate enforcement of the Act to any State which he finds has laws to insure compliance. It may be argued that this will produce the same effect as the Administration's bill, since the latter authorizes the Secretary to enforce mining regulations in any State which does not develop its own regulatory program meeting the requirements of the Act. We feel, however, that it is important to give the States every opportunity and encouragement to develop their own programs before the Federal Government intervenes.

(3) RESTORATION OF PAST MINING DAMAGE

S. 2777 establishes a strip mining reclamation fund with an appropriation of \$100 million to finance the acquisition and restoration by the Federal Government of lands damaged by mining operations. The problem of making reclamation a part of an ongoing mining operation and the problem of reclaiming land after mining has ceased are related but nonetheless separate. As stated in the letter transmitting the Administration's proposal, the solution to the problem of healing damage inflicted in the past is largely one of spending taxpayers' dollars, since the party responsible is typically not available for legal action and the value of the land reclaimed does not generally justify the cost. All available remedies must be exhausted before tax revenues are spent and care must be taken to avoid windfalls to private owners.

We feel that the first priority in mined area protection must be to arrest the on-going damage presently being inflicted on the land and that Federal funding to restore lands damaged in the past is a lower priority.

(4) REGULATORY CRITERIA

The Administration's proposal provides that the statutory criteria will be further elaborated by the Secretary through guidelines which will attempt to provide the operator of a mining operation sufficient flexibility to choose the most economically efficient means of meeting the requirements of the Act.

We feel that this provision of the Administration's bill which allows maximum latitude to the operator to select the best way for his particular operation to meet the environmental objectives is essential, particularly in those areas where the technology for environmentally safe mining is still being pioneered.

(5) FEDERAL LANDS

It is not clear whether under S. 2777 and S. 3000 the State would be given the delegation of enforcement authority over mining operations on Federal lands. Although we feel that Federal lands should be protected from environmental damage by regulations at least as stringent as those governing State and private lands, we feel that to subject mining operations on Federal lands to State control would be invasion of the Federal Government's proprietary interests. Therefore, the Administration's proposal excludes Federal lands from the State regulatory program but requires the land manager to impose environmental controls on mining operations under his jurisdiction as the State imposes on other lands within the State.

In view of these differences between the bills and for the reasons discussed above we recommend enactment of the Administration's proposal in lieu of either S. 2777 or S. 3000.

The Office of Management and Budget has advised that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely yours,

HARRISON LOESCH,
Assistant Secretary of the Interior.

EXECUTIVE OFFICE OF THE PRESIDENT,
OFFICE OF MANAGEMENT AND BUDGET,
Washington, D.C., February 23, 1972.

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

DEAR MR. CHAIRMAN: This is in response to your requests of January 21, 1972, for the views of the Office of Management and Budget on S. 2777, the "Strip Mine Control Act of 1971", and S. 3000, the "Coal Strip Mine Control Act of 1971".

The Department of the Interior has submitted a related bill, S. 993, the "Mined Area Protection Act of 1971" for Congressional consideration, and as stated in the Department's report on S. 2777 and S. 3000, it recommends enactment of S. 993 in lieu of these bills. Enactment of S. 993 would be in accord with the program of the President.

Sincerely,

WILFRED H. ROMMEL,
Assistant Director for Legislative Reference.

DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
Washington, D.C., February 14, 1972.

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

DEAR MR. CHAIRMAN: This is in response to your letter of January 21, 1972, requesting the views of this Department on S. 3000, a bill "To provide for a program for the regulation of surface mining of coal to protect the environment, and for other purposes."

This bill, the "Coal Strip Mine Control Act of 1971," would provide for the conservation and improvement of lands affected by surface mining operations.

The President's Environmental Message to the Congress, dated February 8, 1971, proposed a Mined Area Protection Act to establish Federal requirements and guidelines for State programs to regulate the environmental consequences of surface and underground mining. This proposal was submitted to Congress by the Secretary of the Interior and introduced on February 25, 1971, as S. 993.

While we concur with many of the objectives of S. 3000, S. 993 is broader in scope and applies to both surface and underground mining. Accordingly, we recommend enactment of S. 993.

The Office of Management and Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

J. PHIL CAMPBELL,
Under Secretary.

Senator Moss. The ranking member of the subcommittee is Senator Jordan from Idaho. I ask the Senator if he has any opening remarks he would like to make?

Senator JORDAN. Thank you.

I haven't anything at this time.

Senator Moss. Thank you very much.

Our first witness today is Hon. Jennings Randolph, senior Senator from the State of West Virginia, chairman of the Public Works Committee, and a man who has intimate and long expert knowledge on the matter before the committee.

His State is one of the great coal-producing States of the Union, and is one where strip mining is now a matter of considerable discussion and controversy.

Senator Randolph has further commitments, and we will ask him if he would like to proceed at once.

I have asked him to sit here with the committee. He joins us as an ex officio member on our general studies on fuels in any event.

We are glad to have you, Senator Randolph.

STATEMENT OF HON. JENNINGS RANDOLPH, A U.S. SENATOR FROM THE STATE OF WEST VIRGINIA

Senator RANDOLPH. Thank you very much, Mr. Chairman.

I am privileged to share with you and Senator Jordan and Senator Allott consideration this morning of the continuing commitment

which you and the members of your subcommittee and of the committee as a whole on Interior and Insular Affairs in the problems that are incident to surface mining in the United States of America.

Mr. Chairman, I appreciate the privilege of not only appearing, but having had, and hopefully I shall continue to have, the opportunity to work with you in well-reasoned legislation, the will of the Congress, hopefully of the American people.

As you have indicated, I am a Senator from an important coal-producing State. There has been perhaps some controversy, although it would not fall in that context as to whether West Virginia is the largest coal-producing State, but certainly it is in the forefront of the one or two or three States with the largest production.

It would be very wrong for me, Mr. Chairman, to have allowed the hearings to have come to a close without appearing personally, and in my capacity as a Senator from West Virginia, to discuss the problems associated with the surface mining of coal.

The members of this subcommittee know and I think the American people are increasingly aware of the demand for coal in the United States. It has been growing rapidly as we face increased energy requirements for a growing Nation from the standpoint of population and a highly industrialized society.

Mr. Chairman, in recent years, a larger proportion of the Nation's coal supply has been produced by surface mining methods. During 1972, surface mining may account for more than half of the coal—I am not sure of just the percentage—may account for one-half, perhaps more than a half, of the coal that is mined in the United States.

Now, accompanying this increase in surface mining activity has understandably been a heightened public awareness of the environmental impacts resulting from the extraction of coal by this method.

I speak of an awareness, but I associate with an awareness, and understanding of the problem, and also a desire for well-reasoned realistic and necessary action.

In West Virginia, surface mining is perhaps the most intensely debated public issue in our State. I can tell you that, my colleagues of the Senate.

In 1967, the State Legislature of West Virginia enacted new controls which were intended to improve the programs of surface mining. Not only would the coal be surface mined, but regulatory programs with penalties for a failure to reclaim the land were instituted.

Since that time, additional proposals have been made and there have been recommendations that all surface mining be banned entirely in West Virginia.

Mr. Chairman, I am sure that you and your subcommittee members have knowledge of the several proposals that are pending before your subcommittee that attempt to cope with this problem.

I can say to you that I have examined these legislative proposals very carefully. I think I can say to you also that members of our staff have studied this problem very, very carefully. We have held many, many conferences within our own office.

I have also gone over the problem, thinking in terms of a legislative proposal, with Members of the Senate, particularly those Members of the Senate who come from that tier of States that are concerned, Mr. Chairman, with the production of bituminous coal.

I find in, we shall say, all of these legislative proposals well considered recommendations.

I turn aside at this point to indicate that Senator Baker has just come into the hearing room. One of the proposals that I believe has been well considered is the legislative measure that he has introduced. I have talked about this problem with him many, many times.

Now, I present this proposal today, and my principal purpose in coming before you and counseling with you, not so much to inform you, because this subcommittee membership has been going into this problem, but I come to say that I shall introduce legislation on this subject, and it will be done within a very few days.

I intend that my statement today will be adequate testimony, because it will cover the principal points, Mr. Chairman, of the proposal.

This bill will be introduced, Mr. Chairman, so that you and the members of your subcommittee can consider the proposal that comes from me.

Senator Moss. May I assure the Senator that his bill will be considered along with the other bills we have before us.

Senator RANDOLPH. I thank you, Mr. Chairman.

Now, as you consider these several proposals, this is the legislative form that I believe may be of help to you, as the other proposals will be of help to you as you go into the executive sessions.

You have in your opening statement indicated today that you believe there is an urgency on this subject matter that you hope to move from the subcommittee to the full committee with recommendations.

Mr. Chairman, in many areas of the country surface mining has become, and understandably so, a highly emotional issue. I do not downgrade the emotional issue, because that is the part of a consideration of a problem.

I want, however, always if I can, to try to be realistic, to be well-reasoned, in connection with what I attempt to do.

I have been concerned, because, unfortunately a polarization of viewpoints in considerable degree has set in. Two viewpoints, wide diversions, this has developed.

I am not just sure that this was the best way, but that is what has happened. One side, Mr. Chairman, has advocated total abolition of surface mining.

The other side, in effect, insists that surface mining has produced mainly good results, some people say only good results.

I can understand, I can also have a certain sympathy with the feelings of both of these groups and the people within them, because people have seen the countryside ravaged by reckless mining have every right not only to be disturbed, but more importantly to be genuinely concerned.

At the same time, the responsible miner should not be victimized by the shortcomings of his less responsible associates as he attempts to provide these needed fuels, urgently needed fuel in America.

The legislation I will introduce and which I outlined today would establish a program of strict controls of surface mining operations, and it will require reclamation of the very highest quality.

It provides for neither abolition of surface mining nor its conduct without careful attention to the consequences.

I do not believe, Mr. Chairman, that irresponsible surface mining can be condoned. It should not be condoned, nor do I believe that total abolition is necessary to protect the environment.

In a study commissioned by the Legislature of West Virginia, and this study was made public after months of work, just a few days ago, it was estimated that approximately 8,000 persons—those persons now miners—not those that are indirectly, although there is a direct connection with surface mining—but 8,000 miners would lose their jobs in surface mining if it were prohibited in West Virginia.

That same report prepared during the past year by the Stanford Research Institute, also estimates that surface mining would affect between 1 million and 2 million acres of land, and produce about 10,000 miles of what we call “highwalls,” benches, and outcrops in West Virginia—we call them outcrops more properly—by the year 1980.

Now, these statistics, plus the growing need for coal should, I believe, guide you and the members of your subcommittee in the development and execution of what I believe to be well-reasoned surface mining control programs.

The legislation I have prepared and am finalizing will concern itself only with the surface mining of coal.

I recognize, Mr. Chairman, that you have legislation pending before your subcommittee that addresses itself to other fuels. I am limiting my proposal solely to coal, because its production and the attendant problems are those with which I am most familiar.

In addition, my responsibilities, as I indicated at the outset, as a Senator from a major coal-producing State, compel me to give priority consideration to the problems that surround this industry, which employs more than 40,000 persons in West Virginia.

I believe, however, that it would not be improper, Mr. Chairman, to include controls over the surface mining of other minerals in legislation reported from the subcommittee.

The objective of the bill I introduce will be to provide for the regulation of surface mining coal, so that the public health and welfare are protected, and that protection against environmental danger during operation and appropriate reclamation after operation are accomplished.

We have not had the careful operation, oftentimes the very uncared-for operation, and then the job of reclamation is really too big to take on.

Responsibility for developing and executing the plans for control of surface mining will rest, Mr. Chairman, with the States.

State plans, however, must conform to basic guidelines that will be developed and promulgated by a new Federal commission.

I know very quickly someone says, “Oh, another commission!” I, of course, had that thought, but each State, Mr. Chairman, will be required to submit a control plan to the commission which will then determine if the plan is in conformity with the intent of the law and the guidelines.

Once the State plans are implemented, administration of the Federal support program will be the responsibility of the Department of the Interior.

During the development of Federal guidelines and of the State enforcement plans, a moratorium, Mr. Chairman, on new surface mining is provided under certain conditions.

After promulgation of the Federal guidelines and of State enforcement plans, a moratorium on new surface mining is provided under certain conditions. I repeat that, because I believe that it is an important part of this legislative package.

After promulgation of the Federal guidelines, the moratorium on new mining would be imposed unless a State submits an interim control plan acceptable to the commission. This plan would govern operations until a permanent State plan would be developed.

If a State failed to submit a control plan at the end of 24 months, a moratorium would be applied on all surface mining in such a State.

Now, the primary thrust of the proposal is toward the assurance of proper surface mining techniques so that minimum environmental damage results, and the need for massive reclamation efforts is reduced.

Control over the process of mining—it is very important to remember here—can be almost the central core of our job. Control over the process of mining will certainly be aimed at eliminating erosion, siltation, acid drainage, earth slides, and other problems associated with surface mining, that I know, from a study of the problem in West Virginia, are associated with surface mining.

In two minutes I will conclude, Mr. Chairman, and I appreciate the consideration of you and your fellow members.

It is my belief that if the methods of surface mining operations are strictly regulated, the reclamation of the disturbed land, oftentimes the misused land, can be accomplished much more satisfactorily.

Proper mining and reclamation technology certainly exists today and is improving. It is our task, it is our job to see that this technology is fully utilized.

My legislation will specify areas to which the Federal guidelines should give particular attention, and would require a permit program as part of the mechanism of State control.

Each applicant for a permit would have to file a detailed plan for the mining operation—again, the mining operation—and subsequent reclamation. Bonds would be required to assure compliance with the permit conditions.

Any serious program of surface mining legislation will cause some local economic dislocation. I have looked into this point very carefully. I think that in those instances where the personal hardships result from the program, that we would provide for unemployment compensation, food, housing and these sometimes will be needed, relocation and other similar services.

Now, the Federal Government would carry out an expanded research and development program for mine technology which would minimize environmental damage and adverse effects on public health and welfare.

Mr. Chairman, these are the principal features of the bill. I will shortly present it to all of my colleagues in the Senate.

I believe the time has arrived—perhaps it is overdue—when the Congress must act. I mean the Federal Congress. Action has been taken at State levels. So that we can assure that there are surface mining

controls that permit the production of coal, but controls that do not destroy forever the earth from which the coal is taken.

It would result in no mining in some areas where it might otherwise have taken place, and properly executed mining and reclamation elsewhere.

I ask that the detailed outline, Mr. Chairman, of this legislative proposal be included as I bring to a close my statement. I also would like, if I may, to offer my services, if it could be helpfully given, to provide your subcommittee and possibly the committee with some of the background that we have assembled, some of the information that we have that has caused us to present for your consideration this surface mining legislation.

Senator Moss. Thank you very much, Senator Randolph.

The proposed legislation that you have discussed, and outlined will be placed in the record at the conclusion of your testimony.

We appreciate having you come and discuss this matter with us. We know the problem is urgent for you, because of the fact that your State is a great coal producer. I know the pressure on your time, and I will ask you just one question.

Will your proposed bill deal with the reclamation of orphan mined land as well as have prospective effects on new mining?

Senator RANDOLPH. Yes, it would.

Senator Moss. It will have some provision for that?

Senator RANDOLPH. Yes. We are working on that now, but it will have.

Senator Moss. As I flew over the Appalachian area on the subcommittee's field trip—it struck me how urgent it is to reclaim some of the old mined lands and repair the scars that were left there before there was any State regulation.

The States in that area have begun to regulate surface mining and hopefully this will bring us to a point where new mining can be controlled and the land reclaimed, but those old scars have to have something done to them, too.

Senator RANDOLPH. They do, and we recognize that, Mr. Chairman. That is a difficult job to do, but it is being done in many places in West Virginia, as well as other States, and being done effectively. The documentary evidence is there, not in the degree that we would like to have it, but it is present.

Senator Moss. We look forward to reviewing your bill, and as I indicated, it will be made part of this record and will be considered thoroughly when we discuss this matter.

We have a number of bills before us, and of course the committee, as you well know, has the task now of trying to select out of those bills the parts that we think are necessary and desirable, and by amendment and consolidation of the bills come up with something that we can recommend to the full committee.

Senator RANDOLPH. Mr. Chairman, might I comment on that point?

You will recall, and your colleagues, what a really difficult time we had in the Labor and Public Welfare Committee to bring forth a Coal Mine Health and Safety Act. This was a very complex subject, and this is also a complex subject, and yet within that committee we did bring forth, I believe, a well-reasoned bill, and I know that you can do that here and make a contribution, not only to the continuance

of a vital energy source, but under proper controls retain the environmental quality which Americans have a right to expect.

Senator Moss. Thank you.

My colleague, Senator Jordan?

Senator JORDAN. I have no questions.

My commendation to the Senator for a very fine statement. It seems to me he has accented the balance of use here without devastating the environment to accomplish that use.

Senator RANDOLPH. I thank you.

Senator Moss. Senator Allott?

Senator ALLOTT. I have no questions either. I think the Senator made a very fine statement.

I am glad to see also Senator Cooper and Senator Baker here this morning.

My chief concern in this matter is that we do not get a set of specific things that will apply only to one area of the country. And in this respect, probably the most difficult, if we pursue the plan that you suggest, is to write criteria which does not put in the hands of a commission the complete control, rather than leaving it in the hands of the State.

I think the chairman's own State and mine and the Senator from Idaho are completely cognizant of these problems, and want to retain a maximum of our beauty that we now have.

I remind the committee again that about a year ago the Senator from Colorado made a study to show what is possible in the field of rehabilitation, reclamation, reforestation, and things of that nature.

I believe the technology is here to do it, if we will do it. My only concern is that we do not leave in the hands of a few bureaucrats in Washington the sole control over the individual mining operations in our own States.

Mr. Chairman, I am informed by Senator Jordan—and I know it is true—he has a very important meeting in the Finance Committee, I have what is probably one of the most important meetings we have this year of the Appropriations Committee going on, and while I would like to listen to the rest of my colleagues this morning, I must leave, and I am informed by Senator Jordan that he must leave also at this time.

Senator RANDOLPH. Senator Allott, would you stay 15 seconds or 20, simply that I have the opportunity to express my appreciation for your comment in reference to my statement, but more importantly to share with you the concern, and there will be in this bill the recognition of the regional differences of which you are speaking. This must be observed, and it will be in the measure.

Senator ALLOTT. Thank you, Senator.

Senator Moss. Thank you, Senator Allott and Senator Randolph, we certainly do appreciate your statement.

I regret my colleagues have the pressure of their assignments that take them away from the subcommittee.

I know you have to leave, and I know Senator Baker has a commitment elsewhere.

(The prepared statement of Senator Randolph and proposed legislation referred to follow:)

STATEMENT OF HON. JENNINGS RANDOLPH, A U.S. SENATOR FROM THE STATE OF WEST VIRGINIA

Mr. Chairman, I appreciate this opportunity to appear briefly before your subcommittee today. As a Senator from our country's largest coal-producing State, I could not let these hearings end without discussing with you problems associated with the surface mining of coal.

As the committee knows, the demand for coal in the United States is growing to meet the rapidly increasing energy requirements of our Nation.

In recent years, a larger proportion of the Nation's coal supply has been produced by surface mining methods. During 1972, surface mining may account for more than half of the coal mined in the United States.

Accompanying this increase in surface mining activity has been a heightened public awareness of the environmental impacts resulting from the extraction of coal by this method. In West Virginia, surface mining is perhaps the most intensely debated public issue. In 1967, the West Virginia State Legislature enacted new controls over surface mining. Since then, additional proposals have been made and there have been recommendations that all surface mining be banned entirely in West Virginia.

Mr. Chairman, I am aware that this subcommittee has before it a number of legislative proposals relating to surface mining of coal. I have examined these carefully, and I find in them numerous well-considered recommendations. My principal purpose in appearing before you today is to inform the subcommittee that I intend to introduce legislation on this subject. I intend that my statement today will be adequate testimony on my proposal. I will introduce a bill so the subcommittee can consider this proposal in legislative form when it conducts its Executive sessions.

In many areas of the country, surface mining has become a highly emotional issue. Unfortunately, a polarization of viewpoints is developing with one side advocating total abolition of surface mining and the other, in effect, insisting that surface mining has produced only good results.

I understand and sympathize with the feelings of both groups. People who have seen the country ravaged by reckless mining have every right to be disturbed. At the same time, the responsible miner should not be victimized by the short-comings of his less responsible associates as he attempts to provide badly needed fuel.

The legislation I will introduce and which I will outline today would establish a program of strict controls of surface mining operations and requires reclamation of the highest quality. It provides for neither abolition of surface mining nor its conduct without careful attention to its consequences. I do not believe that irresponsible surface mining can be condoned or that total abolition is necessary to protect the environment.

In a study commissioned by the Legislature of West Virginia, it was estimated that approximately 8,000 people would lose their jobs if surface mining were prohibited in my State. The same report, prepared during the past year by the Stanford Research Institute, also estimates that surface mining would affect between one and two million acres of land and produce about 10,200 miles of highwalls, benches and outcrops in West Virginia by 1980. These statistics, plus the growing need for coal, should guide us in the development and execution of surface mining control programs.

The legislation I am preparing will concern itself only with the surface mining of coal. I recognize that legislation now pending before this subcommittee also addresses itself to other minerals. I limited my proposal solely to coal because its production and the attendant problems are those with which I am most familiar. In addition, by responsibilities as a coal-State Senator compel me to give priority consideration to the problems surrounding this industry, which employs more than 40,000 people in West Virginia. I believe, however, that it would not be improper to include controls over the surface mining of other minerals in legislation reported from this subcommittee.

The objective of the bill I will introduce will be to provide for the regulation of surface-mined coal so that public health and welfare are protected and that protection against environmental damage during operation and appropriate reclamation are accomplished.

Responsibility for developing and executing plans for control of surface mining will rest with the States. State plans, however, must conform to basic guidelines that will be developed and promulgated by a new Federal Commission.

Each State will be required to submit a control plan to the Commission which will then determine if this plan is in conformity with the intent of the law and the guidelines. Once the State plans are implemented, administration of the Federal support program will be the responsibility of the Department of the Interior.

During the development of Federal guidelines and of State enforcement plans, a moratorium on new surface mining is provided under certain conditions.

After promulgation of the Federal guidelines, the moratorium on new mining would be imposed unless a State submits an interim control plan acceptable to the Commission. This plan would govern operations until a permanent State plan is developed. If a State failed to submit a control plan at the end of 24 months, a moratorium would be applied on all surface mining in such a State.

The primary thrust of this proposal is toward the assurance of proper surface mining techniques so that minimum environmental damage results and the need for massive reclamation efforts is reduced. Control over the process of mining will also be aimed at eliminating erosion, siltation, acid drainage, earth slides, and other problems associated with surface mining.

It is my belief that if the methods of surface mining operations are strictly regulated, the reclamation of disturbed land can be accomplished much more satisfactorily.

Proper mining and reclamation technology exists today and is improving. It is our job to see that this technology is fully utilized.

My legislation will specify areas to which the Federal guidelines should give particular attention and would require a permit program as part of the State control mechanism.

Each applicant for a permit would have to file a detailed plan for the mining operation and subsequent reclamation. Bonds would be required to assure compliance with the permit conditions.

Any serious program of surface mining regulation will cause some local economic dislocation. In those instances where personal hardship results from control, my bill would provide for unemployment compensation, food, housing, relocation, and other similar assistance.

The Federal Government would carry out an expanded research and development program for mine technologies which will minimize environmental damage and adverse effects on public health and welfare.

Mr. Chairman, these are the principal features of the bill which I will shortly introduce in the Senate. I believe the time has arrived when the Congress must act to assure that there are surface mining controls that permit the production of coal but do not destroy forever the earth from which it is taken.

It would result in no mining in some areas where it might otherwise have taken place, and properly executed mining and reclamation elsewhere.

I ask that the detailed outline of my legislative proposal be included in the record at the end of my statement, and I offer any assistance that I can provide to this committee in the preparation of surface mining legislation.

PROPOSED SURFACE MINING LEGISLATION

A program for the regulation of surface mining might be structured in this way:

1. All surface mining of coal would be covered, including existing operations. The regulatory program should extend to all lands whether private, Federal, State, or Indian.

2. The objective of the program would be to provide for regulation of production of surface mined coal so that public health and welfare are protected and protection against environmental damage during operation and appropriate reclamation are accomplished.

3. State permit programs for all surface mining operations would be required to be in effect in accordance with Federal guidelines as outlined below within 20 months after the publication of Federal guidelines, but in no event later than 24 months after the date of enactment.

4. Beginning 6 months after enactment or upon the publication of the Federal guidelines, there would be a moratorium on all new surface mining operations unless a State submits an interim program of surface mining regulation which, at a minimum, the Commission determines to require permits for all surface mining operations which provide for protection from environmental damage dur-

ing operation and appropriate reclamation, the posting of a performance bond to assure reclamation, and statutory authority to abate violations. This moratorium would continue until a State program is in operation. A new operation is any disturbance of the surface not covered by a valid State permit in existence or effect on the date of enactment. If no State program has been submitted after 24 months, the moratorium would be extended to all surface mining operations involving any disturbance of the surface or other new excavation, whether covered by a previous State permit or not.

5. Federal agencies managing lands would have to comply on the same terms as States: a permit program would have to be submitted to the Commission and approved as consistent with the guidelines, and there would be a similar moratorium on new surface mining operations until then. Any such Federal agency would be required to comply within a State with a State statutory decision to prohibit surface mining of coal in all or any category of that State's lands, unless the President determines that the paramount interests of the United States requires otherwise, and the use of Federal lands after mining would have to be compatible with land use patterns on adjacent non-Federal lands.

6. State programs would have to conform to Federal guidelines which must be published within 4 months after enactment. If the Federal guidelines are delayed, States may submit programs on the basis of the statutory requirements after the 4 months have elapsed. State-submitted programs would go into effect automatically 60 days after submission unless the Federal Commission (as outlined below) finds that the program does not conform to the law and the guidelines if issued. There must be public participation in the adoption of a State program.

7. A Commission on Surface Mining Regulation would be established, with a full-time Chairman appointed by the President by and with the advice and consent of the Senate (at Level IV of the Executive Schedule), and two representatives each from the Department of the Interior, the Environmental Protection Agency, and the Department of Agriculture, at the Assistant Secretary or equivalent level. This would allow the different interests within each agency to be represented, such as the Bureau of Land Management and the Bureau of Mines within Interior and the Forest Service and the Soil Conservation Service within Agriculture.

8. This Commission would have the primary Federal responsibilities under the Act: (a) preparation and promulgation of the guidelines in consultation with the States and after comment by other Federal agencies; (b) review and approval of programs submitted by States and Federal land management services; and (c) authorization to enforce a State program Federally where the State fails to do so. The Commission would be required to report to the President and the Congress annually, with an interim report due within 6 months after enactment.

9. The program established by this Act and the guidelines promulgated by the Commission would be administered by the Department of the Interior, except for permit programs of other Federal land management agencies. These administrative responsibilities would include technical assistance to States and mine operators; matching grants to States to support their regulatory programs; the loan of Federal personnel to States; provision of equipment such as helicopters and monitoring instruments; and inspection and backup enforcement functions.

10. The guidelines would require that under every State program, no surface mining operation could begin or continue without a permit. Before a permit could be granted the State and local governments would have to consider the present use and character of the surface and the use to which the landowner proposes to put the surface after mining and reclamation. A permit could be granted only where adequately demonstrated technology exists to reclaim the lands in question for the intended use. Appropriate standards should be established so that the degree of reclamation required can be determined. "Reclamation" would mean, at a minimum, actions planned and performed before, during and after mining operations to shape and stabilize the topography of surface mined lands and appropriately revegetate, in order to achieve a productive use suitable to the soil, climate, vegetation, terrain and other conditions of the area.

11. Each applicant for a permit would have to file a plan for the mining operation and the reclamation to be undertaken. A permit (when granted) is then in effect a contract to carry out the approved plan. States should require from permittees a bond adequate to assure reclamation and compliance with permit conditions, as under West Virginia law. Such a bonding requirement would have to be fairly applied and access to bonding assured for small operators.

12. The guidelines should provide a description of:

(a) the minimum administrative information to be furnished by an applicant for a permit;

(b) the degree of reclamation required for particular uses and the extent to which technology has been demonstrated to accomplish that degree of reclamation for particular slopes, terrains, geologic conditions, and climate and meteorological conditions;

(c) surface mining and reclamation methods and techniques, integrating practices for restoration and reclamation into overall operating and materials handling procedures, including data on alternative technologies, methods, and operating procedures and their costs;

(d) regional physical conditions including slopes, terrains, vegetation, type climate, and meteorological conditions which of themselves or in combination with other factors may alter the public health and welfare and environmental effects of surface mining on the immediate and surrounding areas;

(e) the type and extent of the potential public health and welfare and environmental effects accompanying surface mining of coal, including dislocation of residences and businesses and effects on future beneficial uses of the land, surface and ground waters, air pollution, noise, seismic disturbances, flood control, soil erosion, forestry, agriculture, and other natural resources;

13. The guidelines should require surveillance and periodic reporting as part of each permit, as well as State agency supervision and technical assistance. Generally, the guidelines should outline criteria for granting permits and conditions on permits requiring that (a) the face of coal seams and disturbed areas generally be covered with material suitable to support vegetative cover; (b) revegetation appropriate to the future use of the land be accomplished within a reasonable time; (c) all debris, acid forming materials, toxic materials, or materials constituting a fire hazard be buried (in a manner preventing leaching into ground or surface waters); (d) a specified maximum bench width not be exceeded, and regrading where benches result; and (e) backfilling eliminating all high walls and spoil peaks, and not exceeding the original contour of the land be accomplished as the mining operation proceeds.

14. State programs would be required under the guidelines to provide adequate enforcement authority, including the power to order cessation of and enjoin operations without a permit and violations of permit conditions. To the extent any penalty is required by the guidelines it should be an economic penalty, such as the total profits derived as a result of unlawful activities, together with the cost of restoring the land to its original condition, rather than a criminal penalty.

15. In addition, the guidelines would prescribe the measures which the Commission determines necessary to protect the environment during the mining operations from siltation, acid runoff, and other problems, including slag and gob piles (which would be defined as disturbances of the surface). Where these could not be complied with, a permit would not be granted.

16. The guidelines would also indicate the best mining technology, reflecting regional characteristics, so that States can require to best available means of extraction to be used. An operator may use any other means which he can demonstrate to be equally effective in coal production, consistent with protection of the environment and appropriate reclamation. Such mining technology guidelines would have to address:

(a) the incorporation of environmental protection and reclamation practices into the mining cycle, including reasonable time limits for the completion of reclamation or the conducting of surface mining operations, which reflect the contribution of seasonal factors to potential adverse effects, planting seasons and delays beyond the control of the operator;

(b) operating procedures and materials handling techniques and methods which minimize potential effects on the environment and public health and welfare;

(c) procedures, methods and techniques for the use of explosives in surface mining activities; and

(d) the factors to be considered in constructing roads in connection with surface mining operations.

17. The Commission would be required to approve the program submitted by a State in whole or in part, unless it determines that the State program does not meet the requirements of the guidelines as spelled out above and, specifically, that does not:

(a) contain sufficient administrative, scientific, and technical data to evaluate the manner in which surface mining operations for coal will be conducted;

(b) require that the minimum administrative information described in the guidelines be furnished as a condition for a State permit;

(c) define those topographical, meteorological, or other physical conditions in which the State intends to prohibit surface mining because of potential adverse effects on the environment and public health and welfare which could not otherwise be avoided;

(d) require each applicant to file a detailed mining and reclamation plan which integrates reclamation into surface mining operations and procedures as a condition for a State permit;

(e) provide for the regulation of the use of explosives and road construction in surface mining operations;

(f) provide for a periodic review of all permits as to their continued compliance; including periodic reports by the permittee and agency supervision;

(g) require posting of performance bonds in accordance with the guidelines;

(h) require the filing, updating, and retention of engineering maps of all surface mining operations and of all inactive surface and underground mining operations for which engineering or other maps are available;

(i) provide for regular monitoring by the State of environmental changes in mined areas to assess the effectiveness of regulations for mining operations and the need to revise reclamation plans;

(j) designate a single agency with the responsibility for administering and enforcing State surface mining law and regulations which must insure full participation of the agencies responsible for air quality, water quality, and other areas of environmental protection;

(k) provide adequate authority, funding, and personnel to implement and enforce State law and regulations including, but not limited to, authority to deny permits where the area affected cannot be adequately reclaimed, and to order cessation of and to enjoin mining operations without a permit or which violate permit conditions; or

(l) provide for full participation of all interested agencies, groups, and individuals in the development and revision of regulations.

18. Any serious program of surface mining regulation will cause some local economic dislocation. There should be a program of individual assistance limited to those actually dislocated (including small operators) as a result of surface mining regulation in a particular geographic area or temporarily as a result of the moratorium. This assistance might include extended unemployment compensation, mortgage or rental payments for those facing eviction, retraining, employment services and relocation assistance, and food stamps and commodities for low-income households.

19. In order to address the problem of orphan and other reclaimed lands, the Federal government would be authorized to acquire unreclaimed lands and reclaim them. States would be encouraged to have such programs, perhaps funded out of permit fees from current operations (such as in West Virginia), by a matching Federal contribution for all land acquisition and reclamation costs. Some portion of these costs might be repaid out of benefits realized after reclamation.

20. The Federal government should also undertake an expanded research and development program for mining technology which will minimize environmental damage and adverse effects on public health and welfare, including techniques of extraction which incorporate reclamation into operating procedures and reduce the need for extensive subsequent reclamation. The Commission would be authorized to conduct such a program either through contracts or through the transfer of funds to the Department of the Interior, the Environmental Protection Agency, or the Department of Agriculture.

Senator Moss. Senator Baker is the senior Senator from Tennessee. He will be our next witness, and we certainly welcome Senator Cooper from Kentucky to come and sit with us.

He has been before the committee already talking about this subject matter

I had the opportunity last week of visiting the States Senator Baker and Senator Cooper represent and inspecting the surface mining which is the subject of our hearing today.

We will now hear from Senator Baker.

**STATEMENT OF HON. HOWARD H. BAKER, JR., A U.S. SENATOR
FROM THE STATE OF TENNESSEE**

Mr. BAKER. Thank you very much.

I have testified once before your committee and rather than give my statement, I wonder if the committee might be agreeable that I might submit it to the record.

Senator MOSS. It will be agreeable and be in the record in full.

Mr. BAKER. I want to say only these things.

One, I want to personally pay my respects and express my appreciation to you and the committee for taking their time to take a firsthand look at the situation in Tennessee and Kentucky. I think that you are doing an outstanding job of considering complex and difficult legislation very quickly, and I think that is essential because I want to reiterate what I said in my earlier statement that I really believe the hallmark of the challenge posted by strip mining is time.

I think we have got to do something to stop the proliferation of wasted lands. I think that if we don't, a whole mountain range between New York and Alabama is going to disappear.

I commend you for the expeditious way in which you are handling this. I commend Senator Randolph for his statement. There is much in it that is very, very good and much that is new.

For instance, I agree that something needs to be done to reclaim our lands, and I thank you, Mr. Chairman, for the chance to appear here today and participate in your proceedings.

Senator MOSS. Thank you, and of course you Senators are most welcome to stay whatever length of time you can spend with us.

I know of the conflicting commitments that exist, and we will hope that you can stay.

Senator COOPER.

**STATEMENT OF HON. JOHN SHERMAN COOPER, A U.S. SENATOR
FROM THE STATE OF KENTUCKY**

Senator COOPER. I, too, have to go. I appreciate very much the statement Senator Randolph has made. I am not surprised he has made it. His State, of course, is one which has great problems. I think there is some similarity between his approach and the approach of the bill of Senator Baker.

I still hope contrary to the judgment spoken by Senator Allott, as I understood him, that we must have some backup authority at the Federal level. Otherwise, I think it would maintain the situation which has not been very successful as far as States are concerned.

I would also support Senator Baker in what he said. I think time is of the essence. The movement toward strip mining is more pronounced every day and unless legislation is enacted, and the time limit is made the most important limit, I can see, as Senator Baker said, our mountains, particularly where contour mining is the rule, will disappear.

I would hope that you would report a bill in separately because there are different problems with other minerals.

It might be possible there is a distinction that could be worked out between surface mining and contour mining which is the practice

which is devastating those States which are mountainous or hilly and where the strip mining ruins the contour of the hill.

I want to thank you and your subcommittee for coming to Kentucky and Tennessee and for seeing at first hand the ravages that are taking place.

Senator Moss. Thank you very much, Senator Cooper and Senator Baker. The committee does sense the urgency, and that is the reason I indicated we will sit down very shortly and start consideration of the issues looking toward markup because it is a complex problem and it may take several meetings to finally get a consensus and bring out a bill.

I assure you we won't delay starting on the job and will get it out to you as rapidly as we can.

(Senator Baker's prepared statement follows:)

STATEMENT OF HON. HOWARD H. BAKER, JR., A U.S. SENATOR FROM THE STATE OF
TENNESSEE

Mr. Chairman, I want to take this opportunity to thank the Committee on Interior; its subcommittee on minerals, materials, and fuels; and you personally for your diligent work in investigating and studying the very troublesome problem of surface mining.

Your recent inspection trip to the mountain strip-mining country of eastern Tennessee and Kentucky is indication of your deep interest in the aspects of this situation peculiar to the Appalachian region—the situation which Senator Cooper and I have characterized as an emergency and which provides the genesis for S. 3000 under study today.

Your presence at the scene of this devastation is certainly encouragement to me; and I feel, to the people of Appalachia that legislation will be enacted this session of Congress to ameliorate this serious problem.

In the drafting of S. 3000, Senator Cooper and I have attempted to embody the fundamental philosophy that the economics of production in an increasingly complex and interrelated societal and environmental situation must take into consideration all costs and ramifications of the operation.

As I have said before, the extensive environmental insult to the Appalachian Mountains amounts to a subsidy on the power costs of the nation; and in view of the large exports of coal, the world.

It is my view that the only responsible approach to energy production is to internalize these costs—to make the consumer bear the full burden of environmentally sound production of power.

I don't maintain that S. 3000 is a perfect piece of legislation. It will, I hope, provide indication of the direction that this committee must go in response to this problem. I am sure that testimony here today will indicate ways the bill can be strengthened and improved.

But I will not belabor the basis of my support for S. 3000 further. The committee has graciously heard my testimony at length in previous hearings and my remarks at the introduction of the bill are a matter of record.

I am impressed by the letter from the subcommittee forwarded to the witnesses who will testify here today that the issues raised by S. 3000 and by S. 2777 and indeed by all the proposed bills on this subject have been fairly outlined and will, I am sure, receive incisive and constructive comment.

Let me in closing reiterate the gravamen of my earlier statement before you. The hallmark of the challenge posed by strip mining is time. We must do something to stop the proliferation of wasted lands immediately. The seams of coal viewed by this committee last week stretch almost uniformly from Pennsylvania to Alabama.

If we do not act, or if we act too weakly in response to this situation, we will be condemning an entire chain of mountains to destruction. The forces are already in motion, and I believe this committee and Congress alone have the power to stop them. Whatever we do here will determine the future for the regions of coal production throughout this nation.

Senator Moss. We will now hear from the Governor of a great coal-producing State, the Honorable William L. Guy, and I have asked

Senator Burdick, the Senator from North Dakota, to introduce his Governor before this committee and then have the Governor give his statement.

Senator Burdick is a member of the Interior and Insular Affairs Committee. We sit on these problems, and he is going to have a responsibility in helping us fashion the kind of bill we want to get out here.

**STATEMENT OF HON. QUENTIN N. BURDICK, A U.S. SENATOR FROM
THE STATE OF NORTH DAKOTA**

Senator BURDICK. Mr. Chairman, North Dakota, as you know, is second only to Wyoming in the size of its coal reserves.

These reserves are, however, substantially lignite coal—a mineral with low B.t.u. value per ton. This means that it would be economically difficult to utilize these deposits under any but the most inexpensive circumstances.

Private power groups, cooperatives, and research laboratories have indicated a strong desire to develop lignite to provide power and economic opportunities for the State and the Nation. Some have already done so. But this is a real and potential development which presents a dilemma to those of us who represent the State of North Dakota.

On the one hand, we have endeavored to establish social and economic stability in our region through the creation of sound opportunities and resource development. On the other, we face the very real possibility of laying waste to a vast section of our most scenic and historic lands.

It is the principal problem all conscientious citizens must face—how to achieve economic development, and at the same time, protect our natural heritage? The problem is not an easy one. But one fact is manifestly clear. If surface mining is to be allowed, and I think it should, sufficient safeguards must be built in the Federal law to insure that mining should not take place unless the land can be restored substantially to as great a use as that which it formerly had.

It would be disastrous for my State and the rest of the country to allow beauty and productivity to be stripped along with the coal.

With me today, Mr. Chairman, is a man who is not a stranger to the halls of Congress. Governor Guy, our Nation's senior Governor, brings to this committee the experience and expertise which I believe will be most helpful in the deliberations on the role of the States in surface mining regulations.

I present to you Gov. William Guy, of North Dakota.

Senator Moss. Thank you, Senator, and we do welcome you Governor, to the committee. We are fortunate that you are able to be in Washington and to appear on this occasion. We look forward to your testimony.

**STATEMENT OF HON. WILLIAM L. GUY, GOVERNOR OF
NORTH DAKOTA**

Governor GUY. Mr. Chairman, Senator Burdick, we are very pleased to be here to testify on this matter. The remarks that I make are not in printed form yet, but will be put in printed form and sent to your committee today.

Mr. Chairman, we have reached a point in the affairs of mankind where we must continually achieve the best possible accommodation between the development of our national resources to provide jobs, on the one hand, and the preservation and conservation of our national resources and environment to maintain for as many centuries as possible the highest quality of living for people.

Strip mining has moved into the category of development that must reach accommodation with a need to preserve and protect.

Even though North Dakota contains hundreds of thousands of acres overlaying from 250 billion to 600 billion tons of lignite coal, I am not one who is anxious to turn this nonreplaceable resource into cash.

Frankly, I am very concerned about the headlong, wasteful consumption of our nonreplaceable sources of energy. In the case of coal strip mining we consume and for the most part, nonreplaceable sources of energy. The coal itself and the energy producing top soil which caps the overburden. We have left the efficient recovery of most of our natural resources pretty much to the economic laws of profit and loss. And in so doing we have skimmed the cream and the profit only to leave the loss and waste to future generations.

We should do what we can now to eliminate waste of natural resources so that the legacy we pass on contains the least waste, or the least possible deferred cost, for the waste.

Strip mining laws should be a weapon in our national defenses against waste. I am not one to recommend giving up local and State government administration of the affairs of people. However, in this case, I recommend Federal law to regulate strip mining for these reasons:

One, uniformity of law should make it easier for developers to make their plans for conforming with law in all States.

Two, uniformity of law would bring the surveillance of a stronger Environmental Protection Agency at the Federal level and States can provide.

Three, it would tend to eliminate, that is, a Federal law would tend to eliminate, lowering of necessary standards of protection by States in order to compete for development.

Four, a significant danger from spoil banks in one State can damage water resources in another State through water pollution, siltation, and so forth.

Five, Federal administration strip mining laws would provide enforcement which should avoid weakness or undue pressure freely present in local law enforcement or regulatory agencies.

Six, our Nation's natural resources are a national concern and should not be regarded as a parochial possession of any locality or State and therefore the cost of enforcement should be a National or Federal responsibility.

Seven, Federal grants will be needed by all States to gain knowledge of spoil bank reclamation and this knowledge will differ from climate to climate, from soil to soil, from area to area. But the provision of Federal grants to gain knowledge for spoil bank reclamation should not be used as an excuse to slow or delay spoil bank control legislation at this time.

I would suggest that States should be allowed to exceed the Federal standards and soil bank control if they wish. They should be allowed to exceed the standards if their unique situation calls for exceeding those Federal standards.

There is one item that I think may stand out, one resource that may stand out as different from others, and that is gravel.

Gravel is the source of one of the basic components of the concrete that we use in our highways and in graveling our country roads. The deposits are small. They are not generally found over a broad area in many States and to have what would amount to Federal control over gravel deposits needed for the development of State services might cause an unnecessary delay and unnecessary bit of redtape to contractors seeking gravel deposits to build highways and so forth.

I would recommend that the Environmental Protection Agency not be given control of spoil bank law because to me it would seem this would make the EPA the prosecutor, the judge, and the jury, called upon to judge a Federal agency which might be a defendant in the protection of the top soil through strip mining.

I think to us in North Dakota, a State largely undeveloped in its coal resources, we can see the shadow that is being cast already by uncontrolled strip mining when we fly along the United States-Canadian border and see the same lignite beds on the Canadian side now in advance development but leaving a scene of desolation that perhaps can never return to a productive activity. So, I would urge you to place a high priority on strip mining legislation.

Senator Moss. Thank you, Governor.

Do you have any extensive spoil banks in North Dakota? You say it is not much developed. Do you have some?

Governor GUY. We have quite a few spoil banks, Senator.

North Dakota has the largest thermogenerating electric plants on the continent, some plants using over a million tons of lignite a year. And there are more huge thermogenerators in the planning and construction stage and some strip mining is very visible in North Dakota.

Senator Moss. Do you have a State law governing strip mining and reclamation at the present time?

Governor GUY. In 1969 the legislature passed a law to control to some extent strip mining and this law was extended somewhat in this last session.

However, in my judgment, it is not far-reaching enough and we do not have the resources for enforcement that are required in this matter.

Senator Moss. Your coal beds are generally beneath rolling and fairly level land, not on steep slopes, is that correct?

Governor GUY. Most of our coal reserves, which cover roughly one-third of the State's area, are under overburden from 1 to 2 feet to perhaps 50 feet on gentle rolling topography.

Senator Moss. I have not seen it personally, but I have seen the films of the Brown Coal Operation in Germany. I don't know if you have had an opportunity to see that or see the films.

In that area they have rather rolling terrain and have developed, it seems to me, a very adequate process for stripping the overburden over and then replacing it, also being selective as to which becomes the top soil when it is replaced so that they are then able to contour the land

and plant it immediately to crops and trees and even some little lakes and so on.

Have you experimented any with that kind of restoration?

Governor GUY. We have experimented with the planting of trees and bushes in order to make wildlife enhancement areas. We have had only limited success because of the acidity of the subsoil that is turned up, the steepness of the grades, the lack of rainfall to bring on much growth.

So, there is much research that we need to do in order to find out how best to reclaim these spoil banks.

Senator Moss. To what extent have your operators done a soil analysis before they stripped off the overburden?

Governor GUY. I doubt that the mines do any soil analysis before stripping the overburden and our top soil is so thin over the vast area underladen with coal that it is difficult to save that very thin film of top soil and replace it.

I think we are going to have to go to the type of research that would return nitrogenous elements to the soil and humus and make a permeable soil that would support brush and trees.

Senator Moss. Your lignite seems thick. What is the average thickness?

Governor GUY. They vary widely, but I would say they would run from 6 to 16 feet in thickness.

Senator Moss. Then if you had just a light cover after all the coal is gone, you would really have depressions there, wouldn't you, if you put the surface cover back?

Governor GUY. Yes, it would seem that you would have a depression, but on all of the strip mines the topography rises above the original level. Why, I am not too sure, maybe it is compaction that they don't have.

Senator Moss. Of course, we have had testimony to the effect that when you do have surface mining and strip off the top and then put it back, you have got a third more in volume to deal with by reason of its being stripped off and put back. So, you could fill more than you took out. But I wonder if your seams are that thick, if it might result in depressions, but as you say with rolling lands that could be controlled anyway, couldn't it?

Governor GUY. I would add in this vein that we have tried in decades past to mine lignite from underground mines. There is not enough supporting overburden to do that and those mines that were mined from underground shafts are sunk in a pockmarked area. They are very hazardous and I don't see underground mining as any solution at all.

Senator Moss. Would you think the general requirement of a permit in the first place, a Federal permit to operate the surface mine and posting of a bond to guarantee restoration would be acceptable from the point of view of your State?

Governor GUY. I believe that it would, at least I think this is a reasonable first step.

Senator Moss. In summary you indicate—and I am in agreement—that there must be a general Federal backup law to require all States to come to a certain standard in regulation of surface mining, but you want the power to remain in the State if it wishes to add condi-

tions to that to meet local circumstances. It seems to me that it is very desirable that the administration of the law would remain with the State in the first instance and only Federal backup to make sure that the law meets minimum requirements.

Governor GUY. The State of Minnesota had a sad experience in trying to protect its environment from nuclear contamination. They found that the Atomic Energy Commission had the dominant authority, and that the State could not add more stringent requirements in the protection of their environment in nuclear contamination. I would hate to see that sort of law passed which would take away from the States any chance to improve on the basic Federal standards.

Senator Moss. I am glad to have your viewpoint: because one thing we need is the greatest cooperation and coordination of the State governments with the Federal Government in trying to solve this overall problem which you have pointed out. It is a national problem, but it also directly affects various segments of our country where the States are dominant and have the police power to control their own mines. We have to make sure we don't preempt the States.

Governor GUY. There is another reason for Federal involvement in my judgment. The main stem of the Missouri River is quite well developed by dams to control flooding and navigation and so forth. The watershed of the Missouri River is underlain in vast areas by lignite coal and if there is not control of surface mining the filtration in those reserves is going to be much greater than otherwise.

Senator Moss. We appreciate your testimony, and we have your oral statement in full, but if there is anything you wish to add to it in writing you may send it in within the next 10 days, and it will be added in the record to your statement. If after what you have heard from some of the other witnesses and after further consideration, if there are things you would like to add, we will be glad to have them.

Governor GUY. Thank you.

Senator Moss. Thank you very much. We appreciate it. Thank you, Senator Burdick.

Dr. Elburt F. Osborn, Director of Mines, is listed as a witness. However, he was unable to be here. He has furnished the full text of his statement which will be placed in the record at this point as though read, and will be considered by the committee in our markup of the bills.

STATEMENT OF DR. ELBURT F. OSBORN, DIRECTOR, BUREAU OF MINES, DEPARTMENT OF THE INTERIOR

Dr. OSBORN. Mr. Chairman and members of the committee, as Director of a Bureau that has a direct Government mandate for developing solutions to mineral and fuel supply problems in this Nation, it is a pleasure to appear before you on behalf of the Department of the Interior to discuss policy issues regarding surface mining.

In view of the hearings this committee has already held on the subject of mining environmental regulation beginning November 16, 1971, I am quite sure that members of this committee have become well acquainted with the issues involved in this important legislation.

Assistant Secretary Hollis M. Dole has testified on behalf of the Department of the Interior on some of these issues. I will not repeat

that testimony, however, I would like to reemphasize three points brought out by Assistant Secretary Dole.

They are: (1) the declared policy of the Federal Government to support a strong domestic mining industry and, (2) the importance of surface mines in fulfilling our mineral and solid fuel needs, and (3) that both of these are possible without sacrificing a liveable, healthy environment.

Congress affirmed the need for a strong domestic mining industry in passing the Mining and Minerals Policy Act of 1970, Public Law 91-631 which declares:

* * * it is the continuing policy of the Federal Government in the national interest to foster and encourage private enterprise in (1) the development of economically sound and stable domestic mining, minerals, metal and mineral reclamation industries. * * *

The surface mining segment of our mineral industry provides the major portion of our domestic mineral supply upon which our total industrial economy is based. This segment will be called upon increasingly in the future to lessen our dependence on foreign sources of mineral raw materials and to prevent the existing gap in our balance of payments from significantly increasing. By the year 2000 the gap between domestic demand and production, estimated at \$9.2 billion in 1970 could exceed \$80 billion.

Surface mines produced 94 percent of our domestic production of all crude metallic and nonmetallic ores during 1970. Only six metal and nonmetallic commodities were mined entirely by underground methods, while 11 such commodities were mined entirely by surface methods. Surface production of crude ore, including sand, gravel, and stone, totalled 2.5 billion tons which far exceeds the 167 million tons of underground production. Surface coal mines, those receiving the most adverse criticism at these hearings, produced almost 44 percent of the total coal mined during 1970 and preliminary figures indicate that almost 47 percent was mined by surface methods in 1971. If this rate of growth continues, more than half of the coal mined in this country will come from surface mines within the next few years. Based on these two considerations, abolishing surface mining by legislative edict would have severe impact on the economy and general welfare of the Nation.

Considering coal surface mining alone, the transition to underground mining to meet energy demands could not be made without major restructuring of the coal industry if surface coal mines were abolished.

The investment capital required to open sufficient underground mines to supply the quantity of coal produced by surface mines in 1970 would range from \$3 billion to \$4 billion. The cost of capital equipment presently used in our surface coal mines would be lost.

More important than the replacement capital cost is the number of trained underground coal miners, engineers, and technicians required to operate these replacement mines. An estimated 80,000 additional men would be required, and I am not talking about mere numbers of men, I am talking about skilled mine equipment operators, mechanics, electricians, supervisors, technicians, and engineers.

Replacement of surface mines by underground mines would not occur overnight, but would require a minimum of at least 5 years to

bring these replacement underground mines to full production, if the needed capital and skilled manpower requirements were immediately available.

It is highly questionable that such a large number of trained men could be recruited to meet the requirements of these new mines in addition to meeting the trained manpower requirements of existing underground coal mines.

Costs of coal to the consumer would naturally rise because underground mining is a more costly method of production than surface coal mining. Surface mined coal had an f.o.b. mine value of \$4.80 per ton in 1970, whereas that for underground mined coal was \$7.40 per ton, or 54 percent greater.

Therefore, on the basis of new capital, and increased labor requirements for replacement underground mines, and resulting higher coal cost alone, elimination of surface-mined coal could cause a drastic realignment of our national energy supply patterns. The energy from surface-mined coal would have to be supplied by increased oil and gas production from finite domestic reserves or by increased imports.

Surface mining is a more efficient method of recovering those coal reserves that are accessible under the present state of our mining technology. Productivity for strip and auger mines during 1970 was 35.96 and 34.26 tons per man-day, respectively, while productivity for underground mines was only 13.76 tons. From a conservation standpoint, surface mining recovers those reserves of coal that often could not or would be prohibitively expensive to recover by underground mining methods. Recovery of coal by surface mines averages 80 percent while recovery by underground mines averages 57 percent.

Surface coal mining is an inherently safer method of mining than underground mining. In 1971, the number of fatalities for surface coal mines was 39 while that for underground coal mines was 142. Similarly, the number of nonfatal injuries was estimated at 1,105 for surface mines and 8,650 for underground coal mines.

Most important, however, surface mining is potentially less damaging to the environment than underground mining. If proper reclamation methods are employed, a surface mined area can be returned to a more productive and scenic state than before.

Having addressed question No. 7 in the committee chairman's letter of February 9, 1972, to Secretary Morton, I will now address the remaining eight policy issues enumerated in that letter.

1. All lands, State, Federal, and private should be covered by surface mining regulations, since all are equally vulnerable to environmental damage.

Under the proposed Mined Area Protection Act of 1971, S. 993, the State regulations would not cover Federal lands but Federal agencies are authorized and directed to assure the same degree of environmental protection and reclamation as is required by laws and regulations established by State programs approved by the Secretary of the Interior.

Control of surface exploration, mining, and reclamation on public and Indian lands is presently provided in regulations promulgated by the Department of the Interior, 43 CFR 23 for public lands, and 25 CFR 177 for Indian lands. These regulations, however, apply only to leases issued subsequent to approval of these codes. Older leases

are revised to comply with these regulations when they are renewed every 10 years for Indian lands and every 20 years for public lands. In addition, U.S. Geological Survey operating regulations, 30 CFR 211 and 30 CFR 231, are being revised with special emphasis on environmental control and reclamation.

These regulations apply to all leases and permits, new and old, involving public and Indian lands. They also apply to underground as well as to surface mines, and to lands where the surface is privately owned with minerals reserved to the Government. The administration's proposal would cover all minerals but not all methods of extraction.

2. This bill would cover all minerals produced by surface or underground methods with the exception of minerals extracted in a liquid or gaseous state by means of wells or pipes unless the process includes in situ distillation or retorting. All mining activity affects the environment in our mining areas to a certain degree dependent upon the size, method of extraction, and life of mine. To consider legislation that covers only coal mining would be to overlook the environmental effects of lands disturbed by mining and processing sand and gravel, copper, and phosphate whose cumulative production far exceeds the tonnages of coal produced in recent years.

3. Cooperation between Federal and State governments for the establishment of equitable mined area environmental regulations is a vital point of the administration's proposed Mined Area Protection Act.

This legislation would require the States to submit mining environmental regulations to the Secretary of the Interior for approval within 2 years after enactment. The State's proposed regulations would have to meet criteria set forth in the act and the Federal guidelines for their implementation. These guidelines would be developed by an inter-departmental advisory committee comprised of the Departments of Agriculture and Commerce, the Environmental Protection Agency, the Tennessee Valley Authority, and the Appalachian Regional Commission, and other representatives as the Secretary may designate. If a State fails to submit regulations or fails to submit approvable regulations, the Secretary would set forth Federal regulations for that State that would remain in effect until the State submits approvable regulations.

The Department of the Interior, whose function is the formulation and administration of programs for managing, conserving and developing our natural resources, is the appropriate agency for administering mining environmental legislation. My own bureau, the Bureau of Mines, has conducted research and action programs in mined land reclamation and elimination of environmental hazards resulting from mineral extraction and processing. The Geological Survey has been classifying mineral lands since 1878, and has supervised private industry operations on mining, oil, and gas leases on Federal and Indian lands since 1925. Management functions of the Bureau of Land Management for over 20 percent of the Nation's total land area include issuance of mineral leases on much of the public lands administered by other Federal agencies, leasing of mineral deposits on the outer continental shelf and sale of federally owned mineral materials. The Fish and Wildlife Service not only has actively participated in re-

gional and national surveys of the effects of surface mining on fish and wildlife, but administers an ongoing nationwide grant-in-aid program which has been used to restore habitats on surface mined lands.

Also involved with certain aspects of mined land reclamation and utilization are the Bureau of Reclamation, the National Park Service, the Bureau of Outdoor Recreation. These agencies would contribute their specialized talents to the overall administration of a Federal mining environmental program by the Department of the Interior.

A particular pertinent provision of the administration's Mined Area Protection Act allows the Secretary of the Interior to utilize the services of the Secretary of Agriculture in extending technical assistance to States, inventorying mined areas to evaluate the effectiveness of mining environmental regulations, and in enforcing Federal regulations issued for reclamation of surface mined areas.

4. To aid States during development and implementation of approvable State mining environmental programs, provisions of S. 993 authorize the Secretary of the Interior to make grants to the States on a sliding scale system for a 5-year period. The scale grants begins at a level of 80 percent of program development costs during the year preceding approval of the State's program after which the scale declines from 60 percent to 15 percent during the next 4 years following approval by the Secretary.

In addition to grants to the States, the Department would be authorized to conduct and promote research and training programs in the field of mining environmental improvements through "inhouse" programs as well as through contracts. Technical assistance would be provided to the States for training administration and enforcement personnel as well as to assist in preparing and maintaining a continuing inventory of mining operations and mined areas in each State to aid in evaluating the effectiveness of the individual State programs.

Costs of administering and enforcing the Federal programs as proposed in S. 993, would be funded by appropriations from Congress. The total costs of the proposed program during the first 5 years are estimated at \$75 million, which includes costs of administration, grants to the States, and research, both inhouse and contracts.

5. The basic principle that should be embodied in mining environmental regulations is that the entire mining operation from initiation to completion should be conducted so as to prevent adverse downwind, downslope, and downstream effects on adjacent air, land, and water resources and to return the disturbed area to a usable condition. Consistent with these needs, guidelines, as proposed in S. 993, should have sufficient latitude to accommodate variations of climatic, topographic, hydrologic and geologic conditions that would affect the nature of the mining operation and the types of reclamation that would be achieved concurrent with and following mining operations.

Furthermore, the guidelines developed in cooperation with other agencies would include specific requirements including a reclamation plan. This reclamation plan would require the mine operator to describe the method of mining, the acreage to be affected annually, the controls to be used to prevent environmental damage to adjacent lands off the permit area, and the method of returning the land to a usable condition concurrent with and after mining. The reclamation

plan requirements are enumerated in greater detail in the draft guidelines that were submitted to this committee on November 16, 1971.

6. Specific provisions have not been set forth in S. 993 for reclamation of past mined or "orphan" lands. This does not imply any lack of awareness that a serious problem exists in this respect, or that this problem can long be avoided. Rather, it is a realistic appraisal of the needs and resources of today, and the recognition that the control of present and future mining activity deserves a higher priority than the launching of a major effort into the complicated and expensive job of repairing past mining damages.

7. As proposed in S. 993, the law would become operative within 30 days after enactment of this bill. Guidelines would be issued for development of State regulations which would be submitted for the Secretary's review and decision within 2 years after enactment. This 2-year schedule recognizes the realities of timing variations in State legislative sessions.

8. Continuing evaluation and review of the effectiveness of State programs, as proposed in S. 993, would be a major responsibility of the Secretary of the Interior. The Secretary would be authorized to withdraw approval of State regulations if the State fails to enforce the regulations adequately, the State's regulations require revision, or if the State fails to comply with the purpose of the act. The Secretary would be authorized to make inspections and investigations of mining operations and mined areas to evaluate the administration and enforcement of any State's regulations. Federal assistance would be provided for the States to inventory mining operations and mined areas to evaluate the effectiveness of mining environmental regulations, to identify needs for changes in State programs, and to provide effective solutions to particular mining environmental problems. According to specific criteria spelled out in section 201 (a) of S. 993, State regulations would provide for regular review and updating, and for public notice and an opportunity for public participation in their revision. Thus, three levels of review are incorporated in the system, Federal, State, and public.

The mining industry has demonstrated its capacity for working within the confines of regulations directed toward environmental improvement. Positive action by segments of the industry is improving the image of the industry. Although complete acceptance would be beyond the realm of reality, environmental improvement by the mining industry could possibly open some of the restrictive doors that have sterilized some of our mineral resources and would prevent other doors from being closed in the future.

Equitable solutions to the problems involved in mining operations must be developed to allow the domestic mining industry to continue to provide the minerals and fuels essential to the welfare of this Nation's citizens. I believe that the provisions of the Administration's Mined Area Protection Act, S. 993, are vital to solving these problems.

Senator Moss. Our next witness is Louis Clapper, Director of Conservation, National Wildlife Federation.

We are very pleased to have you sir, and we will look forward to hearing your testimony.

STATEMENT OF LOUIS S. CLAPPER, DIRECTOR OF CONSERVATION,
NATIONAL WILDLIFE FEDERATION

Mr. CLAPPER. Good morning, Senator. Thank you.

My colleague, Joe Pickelner testified earlier when you held hearings last year and I would also like permission, Mr. Chairman, to associate with our statement the Wildlife Management Institute, the American Forestry Association, the Sport Fishing Institute, the North American Wildlife Foundation, and the National Audubon Society.

Senator Moss. That may be done. Those very important and able organizational groups will be included, and we note that you are speaking for all of them.

Mr. CLAPPER. Thank you. They may wish to file separate statements for the record.

Senator Moss. That will be allowed.

Mr. CLAPPER. Mr. Chairman, we are, of course, concerned about strip mining and most conservation organizations would be pleased and gratified if all surface mining in the United States, for coal and other minerals, could be terminated completely.

One need only travel through or fly over many parts of this country to find ample evidence of the severe environmental damage being created by surface mining methods through great scars on the landscape, of the torn up and unproductive lands, and stream which are silted and contaminated with acid mine runoff and seepage.

The problems of strip mining have been so well documented before committees of the Congress in previous years that we see little or no need to emphasize the difficulties in this testimony.

Even though most organizations in the conservation movement would like to see all strip mining terminated, we appreciate the reality that this worthy objective likely cannot be achieved in the immediate future, at least for coal, due to the Nation's energy needs. We are hopeful that new breakthroughs soon can develop alternate sources of energy and believe the nuclear breeder reactor, fission, and solar methods offer exciting potentials.

However, until these alternate means are developed on a practical basis, we feel it is necessary to do the best job possible in regulating surface mining in such a way that adverse impacts on the environment will be held to an absolute minimum. It is in this context that we comment upon S. 3000 and S. 2777, believing these are the most important strip-mining proposals currently before the Senate.

As we read it, S. 3000, cited as the "Coal Strip Mining Control Act," provides a somewhat new and novel approach to regulating strip mining for coal moving in interstate commerce. It would have the Federal program administered by the Environmental Protection Agency along Federal-State "partnership" procedures currently effective with respect to the Clean Air Act and the Federal Water Pollution Control Act.

We believe the approach outlined in S. 3000 has much merit. The EPA would appear to be a logical agency because it deals with the impacts of all types of operations upon the environment, including air, water, and solid waste disposal. These, of course, are interrelated in many respects with strip mining operations.

Title I of S. 3000 establishes a Federal interim program which would prohibit surface mining for coal without a permit for 270 days after enactment and also imposes a moratorium on new startups during this period. This length of time would allow the Administrator of the EPA time to develop regulations designed to deal with all aspects of mining and reclamation and insure that the operations do not create environmental hazards.

He would also require restoration of the mined areas to their original use and, substantially, the same topographical conformance. And, the Administrator could prohibit strip mining where adequate reclamation cannot be performed. Section 102 directs EPA to promulgate regulations based upon criteria touching almost all aspects of strip-mining operations in a manner to insure environmental protection. We congratulate the authors of S. 3000 for developing such a comprehensive approach.

After the interim period, S. 3000 requires that strip-mining operations be conducted under permit which will insure the conformance with regulations based upon the criteria previously outlined.

In a State regulatory program, each State in which surface mining is conducted shall develop a program for regulation of surface mining. EPA will administer the program unless the States concerned develop programs meeting the Federal standards or exceeding them. This is outlined adequately in title II of S. 3000.

Title II also provides for Federal enforcement. Title III is devoted to definitions.

To summarize, Mr. Chairman, we consider S. 3000 to be a "tough" bill that can be the foundation for a vigorous approach to control of a problem which long has merited firm control.

S. 2777, cited as the "Strip Mining Control Act," also has much merit. It provides for Federal-State cooperation, but would have the program administered by the Secretary of the Interior. Broader in scope, it relates to all minerals, not just coal.

S. 2777 also affects each surface mine which is mined by strip-mining operations, the products of which enter into interstate commerce. It, too, requires a permit—this from the Secretary of the Interior.

We would suggest, Mr. Chairman, that the committee consider language or legislative history to clarify in greater detail what is defined as surface or strip mining, as well as minerals. Is there a differentiation between "strip mining" and "open pit mining" methods which are practiced in some areas in the extraction of copper and phosphate? Would the act apply to rock quarries or gravel pits?

Section IV of S. 2777 requires that an applicant for a strip mining permit provide a comprehensive listing of information, including a complete plan of reclamation for the area to be affected, as well as a description of methods of operation to be employed. This bill would direct the Secretary of the Interior to reject applications for permits when standards and regulations will not be observed, or where an "area of critical concern or value would be destroyed."

Like S. 3000, S. 2777 requires a performance bond, a procedure which we think has much merit. Section 12 of S. 2777 also provides that the Secretary of the Interior shall develop standards to cover strip mining operations and reclamation programs which would "insure maximum

ecological benefits." The Secretary of the Interior would have the counsel of an advisory commission and, like S. 3000, allows a State to issue permits if they meet Federal standards.

In our opinion, Mr. Chairman, S. 2777 contains a provision which merits serious consideration by the committee. This is in the establishment of a Strip Mining Reclamation Fund to be financed by an initial sum of \$100 million. This revolving fund would be used to acquire and reclaim areas which have been previously strip mined and abandoned. After reclamation, the land would be used for a wide variety of beneficial purposes, including some of those in economically depressed areas.

In fact, we would be hopeful that a program of this sort could attract people to areas which are now suffering out-migrations. We think that this fund would come under the proper responsibility of the Department of the Interior.

Finally, we hope that the committee will give serious consideration to one additional principle: operators be required to reclaim areas as they strip them. Perhaps the regulations could require reclamation as close as one-fourth of a mile, or 10 acres, behind the stripping operations. In this manner, damages could be held to a minimum. Also, an operator would not be faced with an overwhelming reclamation task after an area is mined out. This process is provided for in subsection 106(d).

To summarize, Mr. Chairman, we believe that:

The strip mining situation is so serious that a bill coming from this committee should cover all lands: Government and privately owned.

That the Federal Government should have the prime responsibility for controlling strip mining, with delegations to the States when they conform or exceed with Federal regulations.

That all minerals should be covered.

That reclamation of strip mined areas should be a financial responsibility for mining operators, who would pass costs along to consumers.

A reclamation plan should return the land to a use and topographical conformance substantially the same as it existed prior to strip mining.

So-called orphan or abandoned lands should be reclaimed by a special fund. We recommend that the committee give consideration to severance tax, with the revenue going into a trust fund to reclaim previously stripped lands.

While there should not be a total prohibition on all surface mining, certain areas should be excluded from this practice because of the extremely adverse environmental impacts. Some organizations would favor a total ban and the committee may wish to consider additional hearings to hear them.

We believe that new legislation should be made operative as soon as suitable regulations can be developed.

Judicial review should be available to all interested parties, including conservation and/or environmental organizations and concerned individuals.

Thank you again for the opportunity of making these remarks.

Senator Moss. Thank you for your thoughtful and realistic view expressed for the various organizations which subscribe to those views.

It is an attainable goal. It is a matter of realism that, of course,

we can't just cut off all strip mining. We need coal as part of our energy future, at least in the foreseeable future.

There may come a day when we have energy enough without coal but that is not here now.

Mr. CLAPPER. We can hope, though.

Senator Moss. Yes; I think we all would hope we can get there, that we would have an energy source that would no longer require us to utilize coal because even if we did away with strip mining and went totally to underground mining of coal, we still have some danger done to our lands, hillsides. We have drainage from the mines and dumps, things of that sort. We could hope we would come to the time when we didn't have to dig the coal out, but now we do.

It is not only an energy need, but it is a source of livelihood for many people now, too. S. 2777 and 3000 both have penalties for violation of the act.

Do you think that criminal penalties contained in these bills are appropriate?

Mr. CLAPPER. We haven't given that as much consideration as the principals. I would hope only that whatever penalties are involved would be sufficiently severe as to deter violations of this sort.

I am not prepared to say whether it should be criminal or civil, but we want it to be severe enough in order that they can provide deterrents to violations.

Senator Moss. Do you think we should provide for citizen suits to enforce the act?

Mr. CLAPPER. Yes, sir; I tried to infer that when I was speaking about the judicial review. We believe citizen suits are a useful tool and we have been pleased it is in the act, and we are hopeful that an overall citizen use bill can come out of the Congress. If not, we hope it will be applied to this particular legislation, too.

Senator Moss. I do thank you for your fine statement, and we will give it careful consideration.

Thank you.

Mr. CLAPPER. Thank you, sir.

(Subsequent to the hearing the following material was submitted by the National Audubon Society referred to by Mr. Clapper:)

NATIONAL AUDUBON SOCIETY,
OWENSBORO, KY., March 6, 1972.

SENATOR FRANK E. MOSS,
Chairman, Subcommittee on Minerals, Materials and Fuels, Senate Interior Committee, Senate Office Building, Washington, D.C.

DEAR SENATOR MOSS: On February 24, Mr. Lou Clapper of the National Wildlife Federation presented a statement on behalf of various conservation organizations including the National Audubon Society. We asked to be associated with this statement and also requested that we be allowed to submit additional testimony for the record in regard to our position on strip mining.

Attached to this correspondence is the policy statement of the National Audubon Society. We respectfully request that this policy statement be included in your committee's record.

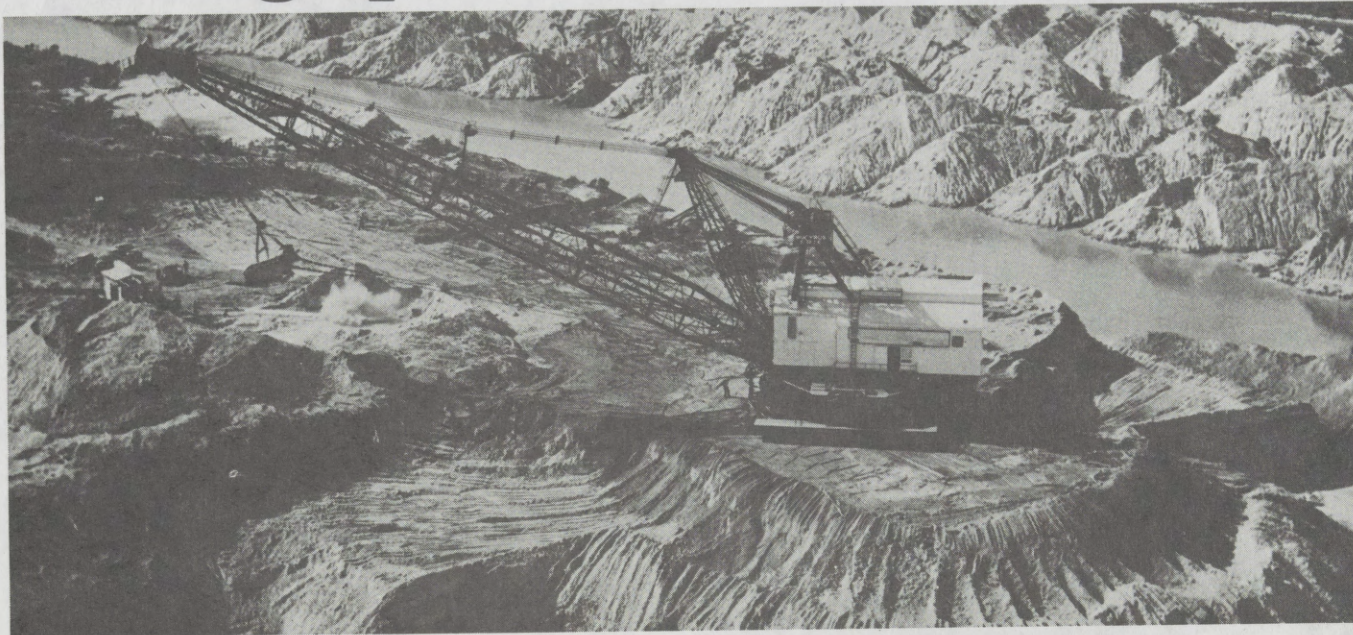
We appreciate your consideration.

Sincerely,

JOHN L. FRANSON,
Central Midwest Representative.

Senator Moss. Mr. Donald Whitehead, Federal cochairman, Appalachian Regional Commission. We are very pleased to have you, sir,

The high price of strip-mined coal.



We don't mean the dollars and cents price. We mean the full price. And that includes the crippling payments that strip-mining has been exacting for years from the people and the land of Appalachia: murdered mountains and rivers, lost homes and a shattered ecosystem.

The cost of stripping spreads further than the land surfaces that are ripped apart and swallowed by the giant shovels; it spreads as far as the dust flies, as far as the mud slides down the hillsides to engulf homes and choke valleys, as far as the acid-poisoned streams flow. The cost spreads down the roads and highways that are chewed up by the shuttling trucks. Human effects can be felt still farther away when people driven from their homes flee with their families to the cities where there are no jobs for them.

There are other costs that can accrue when coal is mined in the wrong place or in the wrong way:

Waterways:

Water pours off denuded mountains after heavy rains, flooding creeks and rivers. These may then wash out highways and bridges, leave deposits of silt on farmlands and in reservoirs, smother stream life, and carry life-destroying chemicals into distant rivers and lakes.

Natural Beauty and Human Enjoyment:

When the surface of the land is stripped away anywhere, natural beauty, wildlife, and the enjoyment of most outdoor activities are lost permanently unless the landscape can be and is restored. And in most of Eastern Kentucky—as in much of Appalachia—the landscape is too steep to be restored!

The Ecosystem:

One of the richest and most scientifically valuable associations of plant forms in the entire world is found in the wooded areas of Eastern Kentucky and West Virginia! These lands, now being bulldozed away acre by acre, evolved relatively undisturbed for 50 million years. By-passed by the glaciers, they alone preserved the plant life that later spread out to reclothe the continent when the ice retreated. The only comparable forests are in Eastern China. And only in a few tropical areas are there as many different varieties of plant life. If the rich diversity of plant and animal life in these ancient forests of ours is permitted to be destroyed by stripping, it will be impossible for man ever to restore it!

THE BALANCE SHEET

Great expanses of Appalachia have already been destroyed or degraded for the foreseeable future—land that gave mining companies a profit for a few years, but which will now bring little tax revenue, little human enjoyment, little value of any kind for generations to come. The time has come to set the balance straight, to ask: *Is mountain strip-mining worth the price?*

Coal, and the jobs that mining can bring, are important to the economy. But strip-mining creates *fewer*, not more, jobs than deep-mining. When we count up the real costs, the full costs, of strip-mining on slopes that are too steep, the price is far too high.

Even in areas where genuine reclamation is practicable, the land hasn't been reclaimed—in case after case. Therefore, unless there are ironclad, enforceable and enforced guarantees of reclamation, the price of stripping is again too high. Strip-mining companies claim they want to be responsible corporate citizens. Why, then, shouldn't they be made responsible?

America needs coal, yes. But we must use common sense in supplying that need!

It is estimated that of our coal that

could be mined by surface techniques, about two thirds lies in areas which *could* be stripped without permanent damage to the environment. (Generally, this is in areas where the coal-bearing slope is less than 20 degrees; there are of course topographical, ecological, geological, and land-use factors to be considered in specific cases.) Such areas *could* be mined in such a way that no damage occurs outside the stripped area during the mining operation, and they *could* be restored to productive use afterward, all at an economic cost feasible for the mining companies and the consumer. But the other one-third should not be touched!

The National Audubon Society believes:

- That strip-mining must be *confined* to areas that can truly be reclaimed;
- That effective controls must be established *during* the mining operation;
- That full reclamation must be enforced *afterward*.

If these conditions are not met, strip-mining will be much more loss than gain and must be stopped!

and look forward to hearing your testimony. You have a problem right up and down your whole jurisdictional area.

**STATEMENT OF DONALD W. WHITEHEAD, FEDERAL COCHAIRMAN,
APPALACHIAN REGIONAL COMMISSION; ACCOMPANIED BY
DONALD A. CRANE**

Mr. WHITEHEAD. I have Mr. Crane with me today.

I appreciate the opportunity to appear before you today as Federal cochairman of the Appalachian Regional Commission to discuss the need of control of mining and its effects on the environment. The Appalachian Commission is a joint Federal-State agency, comprised of members from the 13 States and the Federal cochairman. Coal is produced in eight of the member States, and the region contains virtually all of the Appalachian coal basin and the eastern anthracite fields.

The improved control of surface mining has been of considerable interest to the member States of the Appalachian Commission for some time. Since 1965, when the Appalachian Act was enacted, all the major mining States in our region have enacted control legislation.

Since becoming Federal cochairman last March, I have traveled several times in the Appalachian States for the specific purpose of learning about the problems associated with surface and underground mining. These trips have involved on-the-site inspection of all types of surface mines—large, small, independent and captive, active and abandoned—and several underground mines.

These trips have made me aware of the impact that present mining practices are having on the region, some of which are:

- preempts alternative and future land uses;
- creates air and water pollution, often on a continuing basis;
- destroys public and private property;
- creates esthetically unattractive landscapes;
- destroys wildlife habitats;
- reduces the types of employment and investment opportunities;
- and
- creates depressing social environments.

It is not too much to say that the past uncontrolled environmental abuses of mining contribute substantially to Appalachia's present economic and social difficulties. Two of the States, Maryland and Pennsylvania, have passed major bond issues for the repair of past mining damages. In addition, Congress has made funds available under the Appalachian Regional Development Act for the same purpose.

However, these bond issues, State laws, and other activities and programs, are not sufficient to deal with the environmental problems being created by surface and underground mining.

Many areas of Appalachia have been devastated by widespread strip mining. Many miles of streams have been substantially polluted by acid draining from underground mines and waste piles.

Your recent inspection tour of the mountain mining areas in Tennessee and eastern Kentucky has provided the opportunity to make firsthand observations about surface mining and its impacts. The type of mountain strip mining in that part of the region extends over a much larger area, including portions of Virginia, West Virginia,

Maryland, and Pennsylvania. Most strip mining in southeastern Ohio is of the area-mining type, similar to that of western Kentucky.

Mountain stripping has an impact extending far beyond the actual site mining and land disturbance. Lands affected by mountain stripping include: (1) those areas isolated above strip mines and cut off from use; (2) those lands directly below the disturbed areas which are subject to landslides and continued sedimentation; and (3) those lands directly opposite the strip mine which are affected in an esthetic sense. This latter category is quite important in the region, since these mountain hollows are people's backyards and the condition of the land and the surroundings directly affects the outlook of the individuals living there.

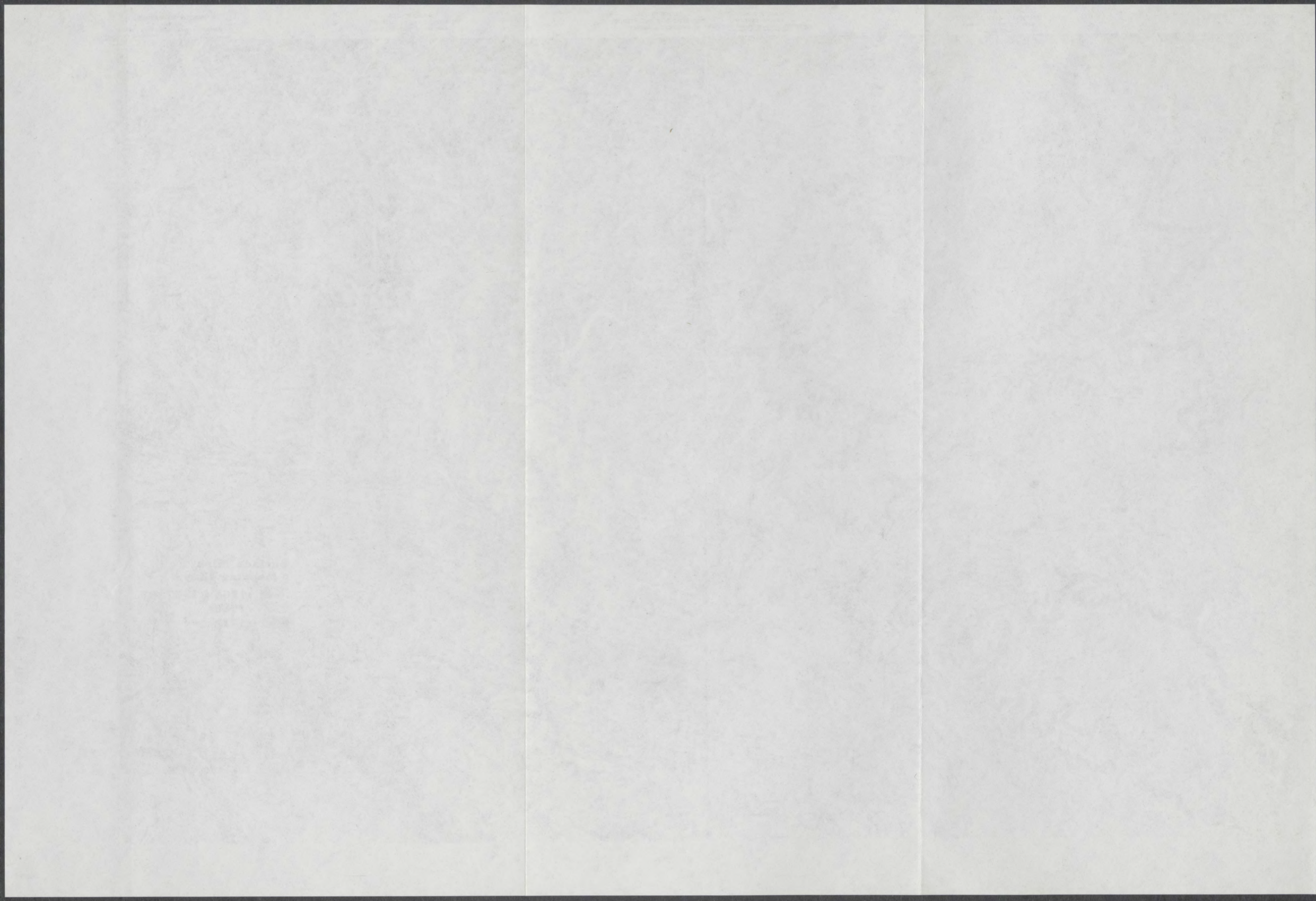
Figure 1 is an aerial photograph taken last November of a representative portion of strip mine lands in southwestern Virginia. The photo is almost centered on the town of Appalachia. The area north of Stone Mountain, the major east-west mountain, is about 103 square miles. The land disturbed by strip mining in this portion of the photograph represents 7 percent of this land area.

However, since mountain stripping is not concentrated in a specific area, but rather is a ribbon of mining activity banding the mountains, we estimate that an additional 69 percent of the land area is affected.

Thus we find that this community is virtually hemmed in by mines with nearly 76 percent of the land area affected by mining. The future development of this area has to include the adjustment in one way or another to the near-permanent scars of strip mining which are evident in the photo. Such scars might well constrain or prevent continued growth.

Contrasting this aerial photograph with the USGS topographic maps for this same area (fig. 2) allows additional observations. First, the spread of mining over the years can be noted. When original maps were prepared in the period of 1955 and 1957, a small amount of strip mining which had occurred up until that time was shown. These maps were then updated in 1969, showing the strip mining which had occurred in the interim. The Commission's aerial photography of this area updates maps to the end of last year. It is evident over a 16-year period that surface mining in the area increased dramatically and has virtually occurred on every hillside. Recent stripping opens up the remaining new areas as well as extending the ribbon of existing mines around the mountains and in and out of the hollows. In some instances the older mining operations are reworked. In addition, it should be noted that all of the strip mining shown here is within the boundary of the Jefferson National Forest. Recent newspaper accounts, which I am submitting now for the record, indicate that strip mining operations are beginning in the Monongahela National Forest, W. Va., and without adequate regulation it could easily result in devastation like that which you see on this map. By comparing specific sites between the map and the aerial photograph, one can gain an understanding of the amount of revegetation which has occurred on the strip mine sites over the years. Trees showing any substantial growth will appear in the photograph as they do on the nonstripped areas, while grasses or other such stabilizing vegetation will have a reddish tinge similar to that seen on the other side of Stone Mountain in the photograph.





Few of the strip mine sites show any evidence of significant revegetation.

If Appalachia is to be restored as an area where people can live and work in economic and social conditions comparable to the rest of the country, we must have greater capability to control present mining than we presently have. This is a matter of both additional legislation and of better enforcement of the legislation we already have.

BASIC FEATURES OF THE ADMINISTRATION BILL

The administration bill (S. 993) represents a sound framework, containing a number of basic provisions essential for an adequate Federal law directed at the control of surface mining and reducing environmental and other damaging impacts from such mining.

The bill is quite complete in that it covers both surface mining and the surface effects of underground mining. This is an important provision, especially for areas such as the Appalachian region where the damaging impacts of surface mining are combined with damages from underground mining. It also pertains to all lands; lands in private ownership, lands in State or local government ownership, and lands in Federal ownership. The bill also provides coverage of all commodities mined, rather than just one or several, since environmental damages occur from all mining operations. In addition, the bill looks to the future by including potential future mining activities such as the in situ distillation of oil shales.

The mining impacts that are to be controlled would set a national standard for all laws. For instance, there are specific provisions for the protection of public and private property. Off-site damages to property, from such aspects of mining operations as blasting, are usually uncontrolled and State laws, excepting the West Virginia law enacted early this year, generally do not impose requirements on mining operators to be responsible for off-site damages.

In addition, the bill covers the full range of environmental impacts: State and interstate air and water quality standards, erosion and flooding, release of toxic substances, subsidence of undermined lands, rock and landslides, mine fires, and damage to fish and wildlife.

It also should be noted that the bill specifies that mining is to be prohibited where impacts or the areas affected cannot be adequately reclaimed.

The administration bill also fits squarely into the President's concept of strengthening State governments and reinforcing the opportunity for the States to assume greater responsibility in shaping and controlling economic and social activities conducted within their confines. First, primary responsibility for the regulation and control of mining activities is placed at the State level, with the Federal law and its resultant regulations providing guidelines for such action. Federal guidelines are needed to assure a minimum uniform control across the country so that it does not appear that one area is being constrained to the benefit of other areas. Only in the absence or insufficiency of State activity does the Federal Government assume a regulatory role. Second, under State programs approved by the Secretary of the Interior, individual States can establish mining control and reclamation standards which exceed the Federal minimum requirements, and these State standards will be controlling on Federal lands within their boundaries.

Third, the bill also provides financial assistance to States for the development, implementation, and enforcement of State programs for mining control. The importance of this assistance cannot be over-emphasized. One of the principal failings of existing State programs is in their enforcement.

The States suffer from a money problem. Many State surface mining control laws require that funds for enforcement be tied to license and permit fees from mining operations, and such fees have been set at too low a level to provide adequate revenues for enforcement. Frankly, I question whether the required funds at the State or Federal level should be tied directly to revenues earned in this manner. Provision of Federal funds, even on a matching basis and declining over a 4-year period, hopefully will help State agencies to mount an adequate level of activity for the appropriate enforcement of mining control laws and loosen their dependency on fees resulting from the issuance of permits for mining. We must recognize that such dependency could ultimately operate as a disincentive to stringent control of mining in some areas. The States need to explicitly address the question of sources of revenue to find the adequate administration of this program and make suitable provision for its continuation.

This bill was drafted and introduced last February 25, before my appointment as Federal cochairman. Since that time, it has become apparent to me that careful interpretation and implementation of the bill is required if we are to meet the objectives of the administration and the protection of the environment.

The pace and scale at which surface mining is expanding in the United States is extremely rapid. In the decade of the sixties, strip mining for coal has increased more than 63 percent, and by next year, conservative estimates are that more than 50 percent of the coal produced will come from all types of strip mines.

Much of the thinking and experience which has gone into the development of State mining control laws and some Federal proposals reflects mining control and reclamation laws and practices geared to a rate of growth in the extent and scale of surface mining substantially less than what has actually occurred. Thus, we are finding that provisions and resources thought reasonable and sufficient in one year, are shown to be inadequate in the next year as more information becomes available about the full range and extent of impacts of mining on the environment.

In the light of this developing knowledge, I believe the interpretation and implementation of the administration program should allow and encourage the following:

LAND USE PLANNING

First, mining control and reclamation requirements are in effect land use decisions.

Mining and reclamation should be done within the context of present and potential future land uses for an area larger than just the mining site. This would require the identification of the total possible extent and timing of mining for the broad area under consideration. Such an area can be defined in various ways relevant to the State or Federal regulatory agency, either as an area in one "hollow" or valley, a single watershed, cirque or mountain, or in the case of large-scale, area-type

mining, it might consist of all the contiguous lands to be mined in the foreseeable future.

Land use planning would also provide the opportunity for Government and landowners to use the mining operation to reshape land, on a systematic and planned basis, for anticipated land uses. Such an approach would result in reduction of the duration and intensity of environmental impacts since it would allow an area to be mined once, and then permanently reclaimed. Present administration of mining and reclamation activities tend to result in the treatment of annual mining operations as discrete mining enterprises, generally unrelated or uncoordinated with each other even though 10 years of operations of a firm might be on contiguous lands. Reclamation efforts of one mining operation are often offset or actually disturbed by the initiation or reinitiation of mining on the same, adjacent, or nearby sites. Such sequential mining prevents an area from attaining a new ecological equilibrium based on the reclamation.

Mined lands, appropriately reclaimed, can be put to many different uses. The Commission has aided in the reclamation of lands for: intensive recreational development, including the creation of water bodies and school and industrial park sites. In addition, mined lands have been used for the development of airports and housing tracts. We recognize that a substantial number of mining operations will be located in areas, or on sites, whose land use in the near postmining period will be the same as it was prior to mining. The recognition of this in the context of land use management will allow for reclamation to be directed toward returning the land to the appropriate topographical conformance for such land uses.

An approach of regulating mining and reclamation in a land-use context, though, requires: (a) establishing an appropriate group capable of determining land uses in advance of mining and of assuring that such plans are carried out; and (b) the development of land use plans for the areas affected by mining and for the proposed postmining land uses.

TECHNICAL AND ECONOMIC CRITERIA

The implementation of land use and mining regulation decisions includes many different types of considerations, not the least of which are technological and economic in nature. I am deeply concerned that we are not encouraging sufficient development of alternative approaches to mining in order to meet environmental protection and postmining land use objectives. Often, the implementation of present laws reduces the probability that a wide range of alternative actions, for example, changes in production factors, consumption patterns, mining technology, or mining sites, are adequately considered by private and public individuals involved. Generally, the mining and reclamation control practices in a number of States are based on the premise that environmental protection standards are adjusted to the mining technique and the site chosen by the operator, rather than the operator's activities (or prohibition thereof) being adjusted to necessary environmental controls for the particular area. In short, the basic question is who adjusts to whom?—the public officials implementing the environmental regulations to the proposed mining technique, or the technique and operator to the environmental protection requirements?

In addition, I recognize that there exist various active mining operations in the region that should not be carried on because of the environmental setting or adjacent land uses.

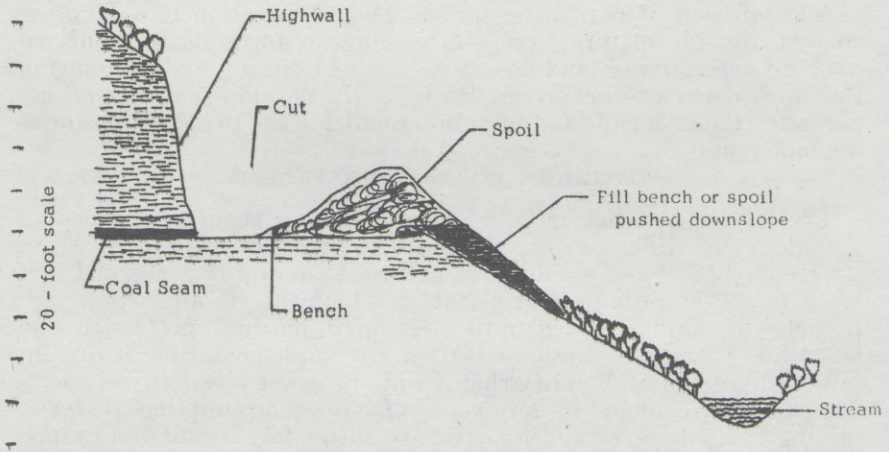
The implementation of the administration's program should make it clear that if economic and technological considerations of a mining operation are unfavorable, that this does not relieve the obligation to refrain from mining, or to reclaim to meet adequate environmental standards.

ENVIRONMENTAL STANDARDS FOR STEEP SLOPE MINING AND ALTERNATIVE APPROACHES TO MINING

The encouragement for the development and use of alternative mining and reclamation techniques in order to reduce environmental impacts, can be aided by providing performance standards in the regulations which will be promulgated under this bill after enactment. Such standards might well have to be regional in nature, reflecting differences in geology, topography, rainfall, et cetera, in various parts of the Nation. Two such performance standards relevant to the Appalachian region are discussion here.

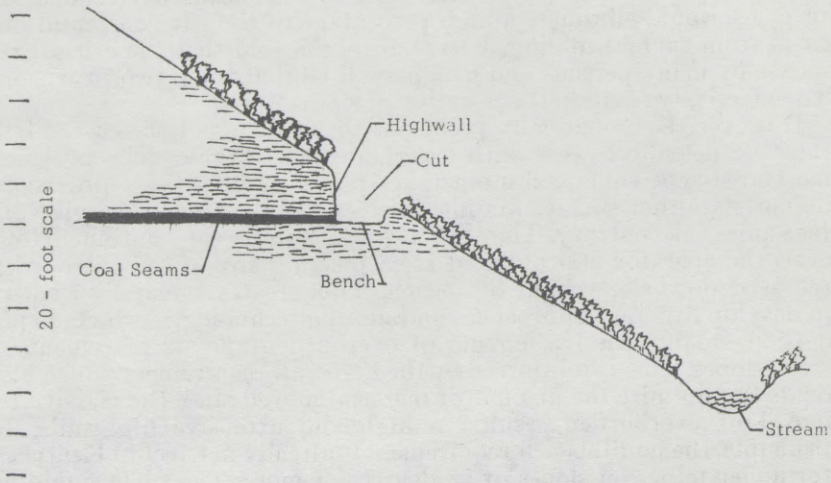
The first specifies that for mining on slopes greater than 12 degrees, fill benches not be allowed. Please see the following two diagrams—

Fill Bench Method of Strip Mining on Slopes



Excavated spoil material is placed on outer slope and the bench. Downslope area of spoil is unstable and is a major source of sediment and landslides.

Area disturbed by this mining is quite large, due to creation of large highwall and material downslope.

No-Fill Bench Method of Strip Mining on Slopes

Excavated spoil material has been removed from mining site.

Downslope area is undisturbed, and natural tree growth helps screen the operation.

Most coal from this operation will be removed by mining machines located on the Bench

one of a typical surface mine as now exists, and the other of a mine without a fill bench. In effect, a "non-fill bench" requirement eliminates: (1) the source of landslides; (2) substantial and continuing erosion and sedimentation of streams; (3) a significant portion of the visual degradation of the operation since the downslope trees and vegetation still remain; and (4) a significant amount of land area which needs to be revegetated. By not allowing fill benches to be created, the mining operator is required to haul all overburden removed from the mine bench along the access road. This creates a significant incentive to develop and use surface mining techniques not requiring the massive removal of overburden and large wide benches.

The second critical requirement specifies the condition in which the operator is allowed to leave the highwall after mining and reclamation. Operators should not be allowed, on slopes greater than 14 degrees, to leave a residual highwall unless such a highwall will weather to the angle of natural repose in less than 25 years, or, if highwalls are left they will be no greater in terms of height and length than those which naturally occur in the area of mining, and such that they do not appreciably increase the frequency of occurrence of natural highwalls. It should be noted, that once a highwall has weathered to such a slope, then the natural succession of vegetation which would occur in the area will probably take place. In those instances where it is necessary to backfill against the highwall, this should be done with the spoil

material which has been removed during the mining process rather than by "knocking down" the highway above the mining bench and thus disturbing a greater amount of land.

Implementation of these two provisions, especially the "non-fill bench" requirement. I have been told by the heads of reclamation agencies, would eliminate a high percentage of the environmental impacts from surface mining. I have also been told that the critical response by many persons and groups will be that these two provisions will effectively result in the cessation of strip mining.

However, I emphatically point out that this is not the case. First, these do not affect areas with less than the 14-degree slope in which most area-type surface mining takes place. Second, these provisions do not state that surface mining on steep slopes cannot take place, in fact quite the contrary. They specify that mining can continue. However, the operator is prohibited from pushing any of the overburden removed downslope from the bench. This creates a major incentive to develop different approaches and mining technologies which do not depend on the massive moving of overburden and its placement on steep slopes. This is reinforced by the highwall requirement which also tends to minimize the amount of material moved since the massive removal of overburden results in high and extensive highwalls. In principle, the no-fill bench requirement is already in effect in Kentucky for auger mines on slopes of 28 degrees or more. The surface mining technology capable of performing within this constraint has been developed, but not extensively used.

One such machine is the improved auger which allows greater recovery of coal and can be placed on a narrow bench. A second type of machine uses conventional continuous miners and virtually total recovery of the coal is achieved after the pillars are removed. A third machine is similar to a long-wall miner, used underground, which removes all of the coal as the machine advances through the seam, along with a set of automatic advancing jacks that hold the mine roof up immediately behind and parallel with the cutting bits. These machines do require greater capital investment on the part of the operators than is now the case. For instance, the long-wall type miner would probably cost as much as \$1.5 million. However, these costs are also offset by the advantages such as: (a) high rate of production; (b) high recovery rate of coal; and (c) some gains in safety by reducing or eliminating the amount of man-hours required to be next to dangerous highwalls and having to be underground.

I understand that the remaining principal "bug" which needs to be worked out in this long-wall type miner is an improved guidance system for the machine, so that the cutters can be directed better and the full demonstration of using the self-advancing jacks. I am suggesting that perhaps this machine was not perfected because there was not the regulatory or economic pressure to do so.

However, I believe that the existence of this type of very practical technology is indicative of the fact that the surface mining industry should be asked to substantially and rapidly improve its technology to virtually eliminate some of the severe environmental impacts we presently experience. The mining industry in the past has shown a remarkable capability to develop and utilize technology and approaches which maximize mineral production with a minimum of labor. Much

of this innovation has been done by independent operators in the field. I am confident the same ingenious operators will meet environmental objectives by technological innovation if so required or given sufficient incentive.

STRENGTHENING ENFORCEMENT IN THE STATES

As mentioned previously, the administration bill recognizes the need for reinforcing the enforcement of State mining control laws by: (1) Cost-sharing the administration and enforcement of approved State laws for a 4-year period; and (2) requiring the Secretary of the Interior to monitor, on a continuing basis, State regulatory activities.

Each of the Appalachian State mining regulatory laws provides for some degree of judicial remedy, at the State level, of practices and procedures of the State agency involved. A Federal program should clearly not prohibit the appropriate development and use of judicial steps at the State level to help assure that State mining control programs are being carried out. For instance, the present Kentucky statutes relating to strip mining and reclamation specifically provide for:

1. Judicial review of decisions by the Division of Reclamation and the Reclamation Commission upon petition by any person aggrieved by a final order of the Commission (KRS 350.032); and

2. Any citizen of the Commonwealth having knowledge that provisions and regulations of the strip mining and reclamation law are deliberately not being enforced has the right to bring an action of mandamus in the circuit court in order to have the Government officials enforce their public duty as required by the State statutes (KRS 350.250).

Providing for such remedies at the State level augments the intention to have such issues resolved and enforced on the State and local level rather than by a Federal agency. It should be noted that this specific approach is consistent with the administration's position with respect to means of judicial enforcement as presented to Congress by the Council on Environmental Quality in testimony before the Senate Subcommittee on the Environment, Committee on Commerce, on April 15, 1971, and the House Subcommittee on Fisheries and Wildlife Conservation, Committee on Merchant Marine and Fisheries, on June 9, 1971.

The regulations issued to implement this program should allow the full consideration of such judicial procedures in the States in the preparation of the State mining and reclamation plan to be submitted to the Secretary of the Interior.

In summary, much of what has been said focuses on the question, Who should bear the full cost of strip mining, and at what point in time? The Appalachian region and residents and landowners in the mountain areas are now faced with bearing a significant portion of the costs of past stripping. In many instances, these individuals benefited little, if at all, when the coal was mined. Society also bears the social cost of these past practices to the extent that the extensive amount of environmental degradation from past strip mining is now an albatross around the region's neck. Strip mining damages are but a current addition to the social and economic legacy in which the

central portion of the region was caught in its downward spiral of fortune relative to the rest of the Nation. In 1965 Congress enacted a special regional program for Appalachia in order to substantially improve its internal transportation, travel links with mid-America and the eastern seaboard, and to increase the public facilities in growth areas—facilities which are taken for granted in other parts of the country. A substantial portion of this work has been completed or is underway.

However, is it realistic to expect that urban America and private capital will flow as rapidly as anticipated into the central portion of the region if at the same time the landscape is being laid bare and permanently scarred by strip mining? I judge not. It is my opinion that much of the anticipated benefit from the Appalachian regional development program could be offset if future strip mining proceeds under the same rules that governed much of the past strip mining.

Implicit in my testimony is the need to make the current costs of strip mining equal to its real costs. I think that much of this will occur if stringent regulations are adopted and enforced, and if a change in the approach and technology of strip mining is required. This may well increase costs to operators, but these costs should be rightly passed on to the consumers of coal and users of coal-derived energy.

In closing, I want to thank the committee for allowing me to appear and present my views. Your courtesy toward me, especially considering that I am not an expert in mining technology but only a new entrant in the field, is greatly appreciated.

Senator Moss. Thank you, Mr. Whitehead, for a very comprehensive and complete statement. We do appreciate having your views for the record.

I wonder, you feel that the administration bill 993 is the best one now before the committee, but doesn't that have a delay period that is quite a bit too long?

Mr. WHITEHEAD. Yes; the administration bill specifies a 2-year period. If it were possible to shorten that period I would be in favor of it. However, I point out that the States should fairly be given some time to enact legislation to bring them up to standard.

Senator Moss. Would you favor a Federal permit requirement and a high bond immediately while the States were developing their regulations?

Mr. WHITEHEAD. I would not oppose it, Mr. Chairman.

Senator Moss. If you don't have such requirements, do you think that stripping might increase in this interim period while they were waiting for the State regulations to come out?

Mr. WHITEHEAD. As I demonstrated on that chart, strip mining is rapidly accelerating throughout the region.

Senator Moss. Did you have an opportunity to examine S. 2777 and S. 3000 prior to putting your testimony together?

Mr. WHITEHEAD. Yes.

Senator Moss. And you didn't find those superior to S. 993?

Mr. WHITEHEAD. No, Mr. Chairman.

Senator Moss. Your map there and the photograph, of course, are very dramatic and show areas that are similar to what we observed. I wonder, Mr. Crane, you were along with us on our inspection trip, do

you think we saw typical areas of eastern Tennessee and Kentucky when we made our trip over there?

Mr. CRANE. Yes, sir. I think that your staff put together a very reasonable and compact inspection tour. The purpose of presenting this information, the photograph, the map, was to just provide you with, hopefully, in part, the firsthand experience that what you saw in eastern Tennessee and Kentucky does also appear in the sister State to the north. You couldn't spend a week out there looking at all this and a good job was done within a very short time.

Senator MOSS. Thank you and, of course, it is valuable to have this because all of the members of the committee couldn't go on the tour, but I just wanted your opinion whether those of us who were able to go got a representative look at strip mining there.

It seems to me you have touched on the many problems and considerations that we must bear in mind in trying to draft a bill. We are pressed from both sides from many imperatives that must some way or other be accommodated, one to the other, and in your position as cochairman of the Appalachian region area, of course, you have the problem right on your doorstep fully right now.

My colleague, Senator Bellmon, was also on this visit that we made and knows a great deal about the problem of surface mining and he represents a State that does have a large amount of coal so I would ask him if he has any questions or comments?

Senator BELLMON. Thank you, Mr. Chairman. Mr. Whitehead, I am impressed by your testimony and some of the very practical observations you have made.

I would like to ask you a couple of general questions. You have been in Appalachia for how long? Are you a native?

Mr. WHITEHEAD. No, sir; I was born in upper New York State and raised in New Jersey. I came to Appalachia via Massachusetts. I have been with the Commission for 2 years now, a year as general counsel and a year as Federal cochairman.

Senator BELLMON. So you are a fairly neutral observer?

Mr. WHITEHEAD. That's right.

Senator BELLMON. In your opinion, if this Congress or if the State governments of the areas involved were to take action that stopped or substantially reduced strip mining, what would happen to the economic and social conditions of Appalachia? You mention this on page 5 of your statement. How would they make a living if they stopped strip mining?

Mr. WHITEHEAD. I don't think it is necessary to stop.

Senator BELLMON. What if we did?

Mr. WHITEHEAD. The immediate impact would be very severe. There are thousands of men in the region whose families depend totally upon their employment in strip mining and there is no question that the economic impact of a flat prohibition would be terribly severe to the region.

Senator BELLMON. Do they have alternatives, can they make a living doing something other than mining?

Mr. WHITEHEAD. Frequently not. Frequently they can. It depends on the age, the education, the health and level of skill of the man involved, and exactly where in the region he resides. There are many places in the region where as a practical matter alternative employ-

ment is not readily available to most men who are now active strip miners. They do not have the readily transferrable skills to get into other employment or other employment is not generally available in their neighborhood, so that closing down the strip mining would have a terribly severe effect on such men.

Senator BELLMON. Is there a movement of industry into the area that is providing alternative sources of employment or is there an opportunity to develop, for instance, recreational kinds of endeavors what would give jobs?

Mr. WHITEHEAD. Yes, industry is moving generally into the region and new jobs are being created, most of them along the developmental highway corridors which the Congress has funded since 1955, and which have been constructed under the aegis of the Commission, but that takes some time.

Senator BELLMON. And you feel that even with the jobs that are coming in and with the development of recreation opportunities that strip mining still is an essential activity in the area as far as economics are concerned?

Mr. WHITEHEAD. No, I wouldn't say it is essential, Senator. I would say it is not essential, but it is very important. But I am not calling for a cessation of strip mining. I am not asking for a prohibition, except in those areas where it is obviously impossible to restore the land to its original contour or where the future land use contemplated for the area makes stripping obviously inappropriate because of its inevitable effects.

Senator BELLMON. In your statement and in the photographs you have presented to the committee, you point out environmental degradation that occurs when strip mining takes place in an unregulated way. You are principally concerned with what kind of environmental degradation?

Mr. WHITEHEAD. Such things as siltation of mountain lakes and streams, sedimentation into the lakes and streams and landslides, it is a very real practical problem, the problem of living below in a house clinging to the side of a hillside below an area which has been stripped above you.

Senator BELLMON. What about the effect on the landscape?

Mr. WHITEHEAD. It is devastating. Even the esthetic impact is devastating. However, all such things must be balanced and must be held in true perspective because I think it is also fair to state, Senator, that there are portions of the region which I have visited where as we stood on a hillside and looked across the mountain at a cut or score in the mountain, I wasn't sure whether I was seeing a strip mining operation or a new highway.

Senator BELLMON. A new highway?

Mr. WHITEHEAD. A new highway, which also cuts into the sides of a mountain, so I say this is not a simple question. It is a very tough question of balancing interests at specific times and places and under specific conditions. Sometimes the overriding social interests in developing the land for highways or some other purpose, but virtually any development has negative environmental impact. Our job, it seems to me, is to plan to set in motion the machinery that will enable us to plan and develop land use policies so that our growth will be on a rational basis rather than hit or miss, and rather put us in a position

where we wake up years later and find to our distress that we have allowed activity to take place that has created an untenable social cost.

Senator BELLMON. From the standpoint of the aesthetic degradation, these photographs you had are very dramatic. These were taken, of course, from the air. There aren't too many who fly over the area, of course. Do you have any observations about the effect so far as the appearance from the ground of the landscape is concerned? Is that similar or worse?

Mr. WHITEHEAD. Devastation is in the eye of the beholder and I myself have found the aesthetic degradation of the scenery in Appalachia, particularly in central Appalachia, devastating and most distressing.

Senator BELLMON. From the ground?

Mr. WHITEHEAD. Yes, from the ground.

Senator BELLMON. What about after the areas have been revegetated?

Mr. WHITEHEAD. It depends on what kind of revegetation, what site and by whom. One of the things that unfortunately is demonstrated in that photograph which can be more clearly seen under a magnifying glass, is the fact that natural revegetation has not occurred to any appreciable degree and unfortunately Appalachia has thousands upon thousands of acres of orphaned land which has been mined in the past and left in a way that has been described as a lunar landscape.

Senator BELLMON. What about areas in—we visited Kentucky and flew over some of the strip mining areas which have been revegetated with grass. How long does this take in your opinion, what is the net result when the revegetation has been accomplished?

Mr. WHITEHEAD. That can be done, there is no question about it. It can be done when the slope permits, when the steepness of the high-wall does not—there are instances where the steepness of the high-wall does not permit such revegetation. I myself have seen plenty of places where revegetation, both of grasses and trees, has been accomplished very adequately, but what is true in one area of the region and one State, Senator, is not necessarily true in other sections of the region.

Senator BELLMON. Why is that?

Mr. WHITEHEAD. For two reasons. First of all, variances in State law, and second, variances in the intensity of enforcement of State law.

Senator BELLMON. I want to get to that point. Some of the States apparently have what we would consider to be adequate or stern laws and some are very inadequate laws that are weakly enforced. Do you have in mind a State law that seems to be doing the job?

Mr. WHITEHEAD. I would say, from what I have seen, Pennsylvania is doing an excellent job of reclamation. There, I think the basic concept is that the activity of mining in its conception includes reclamation and, I think, that is a good point to start. I think Pennsylvania and its citizens have shown tremendous public concern for this problem. They raised a \$500 million bond issue a few years ago to pay for some of the past devastation resulting from mining, indicating tremendous public concern over the problem. That is important because it affects the atmosphere in which the State law is enforced.

First of all, it leads to conditions under which more stringent State laws may be enacted and second, it creates an environment more friendly to vigorous enforcement, than is sometimes the case.

Senator BELLMON. In Pennsylvania where the law is strong and apparently there is public support and strict enforcement, what is the effect on the environment of strip mining under those conditions?

Mr. WHITEHEAD. Since enactment of the major piece of legislation in Pennsylvania in 1964, there has been a very increasingly adequate job of reclamation, in my opinion. Nevertheless, the law has been continuously modified and amended and tightened since the foundation was laid in 1964, and recent changes have gone into effect just in January of this year.

But it is also, it should be stated, it is not completely fair to cite Pennsylvania as an example to all of her sister States in the region because so much of the Pennsylvania topography is much more rolling and gentle and does not contain the steep ridges, sharp ridges and narrow hollows and the level of local relief, that is the height of the mountain side, that is true in eastern Kentucky, southern West Virginia, and eastern Tennessee.

Senator BELLMON. After the passage of the strip law in Pennsylvania, and without similar strict laws in other States, was there a reduction in the level of mining in Pennsylvania?

Mr. WHITEHEAD. Not really. I am informed that when the law was first enacted, 1964, Pennsylvania was issuing roughly 450 permits to operators a year, excuse me, licenses. The immediate initial impact of the new legislation in its requirements resulted in a drop in the number of licenses issued to about 300. The smaller, more marginal operators, as I understand it, the fellows with essentially nothing more than a backhoe and dump truck, did not qualify for licensing.

Since 1964 the number of licenses has steadily and slowly increased until it is averaging now about 360 a year, so some operators went out of the business and did not return. The industry is quite sensitive to changes in economic conditions. As the price of coal, for instance, has risen in recent months, some more operators have come back into the business in Pennsylvania, I understand.

Mr. CRANE. May I add something. In terms of coal production, Pennsylvania also stated when the 1964 law was implemented, it leveled off but then it continued to increase, this is bituminous production. So it supports the thesis that if you set the standards and you tell them they have to live with it, there are shifts within the industry, smaller operators combined with bigger ones or combined with each other, but that the total level, so to say, of economic activity isn't significantly hit.

Senator BELLMON. It also leads me to the conclusion that perhaps the cost of reclamation is not as prohibitive as some make it appear?

Mr. WHITEHEAD. That's right. I talked to several operators in Pennsylvania recently who were in business both before and since the 1964 legislation, and they independently all told me about the same story. Initially the industry was quite fearful of the new legislation and its impact on their operations, but over a period of time the industry developed new techniques to be able to live within the new requirements, and they found they could do so economically, and they also developed, and this I think was a very interesting point, the industry

in Pennsylvania, at least portions of that I have come in contact with, is quite proud of Pennsylvania's reclamation program. The operators themselves boast, "you should see my job that I did over in such and such a county. I did a better job in so and so." They are proud of what they have done, the way they have mined and the condition to which the land has been restored.

I am not saying this characterizes all of them. I have talked to some and I think that is a remarkable sense of pride.

Senator BELLMON. You stated in Pennsylvania a bond issue was voted to revegetate orphan spoil pits. Do you feel other States are going to be able or willing to use local funds for this task or do we need to provide some Federal funds?

Mr. WHITEHEAD. I think they need Federal help. The Pennsylvania bond issue, even though it is \$500 million, is not sufficient to do the job. It is a one-shot proposition and provides no mechanism for continued funding.

West Virginia has provided a new legislation which they have created a revenue system for reclamation. They have a flat fee of \$40 an acre that is soon to be raised to \$60 an acre to be charged coal operators for every acre involved at current or new surface mining permits. These funds go into a State reclamation fund to be used only for the reclamation of abandoned lands. This is in addition to State requirements for reclamation and pollution abatement.

In the last 5 years the State of West Virginia has collected approximately \$4 million from the operators for this work. But that is obviously inadequate.

States do not have present capital, I think they are going to need help.

Senator BELLMON. If the Federal Government provides funds to reclaim these areas, who, then, should have title to those lands?

Mr. WHITEHEAD. That is a very difficult question. Obviously, we all want to avoid creating any windfall profits to private owners whose lands are restored. I don't know quite how to draw the line, Senator, on using public funds to reclaim private lands. Obviously, it should only be done where there is a strong public interest in the reclamation. I think that, perhaps, the answer lies in creating a lien or attachment, some sort of legal burden on the land so that when it passes from the ownership of the man who owned the fee at the time the land was reclaimed, the Federal Government may recapture the cost of land reclamation for the enhanced land value. I think some such mechanism as that would be necessary to prevent windfall profits.

Senator MOSS. I wanted to intervene and ask the witness what would you think of the proposition of the Federal Government or the State government acquiring the lands and reclaiming them and then selling them again and any moneys would go into the revolving fund; is that a possible way?

Mr. WHITEHEAD. Yes, it is, Senator MOSS, and in a very small way this is what we are doing with funds provided by Congress in the Appalachia Regional Commission. We do have a small reclamation program that is restricted to public lands but where we can afford to do so we can buy the land from private ownership, put it into public ownership, and reclaim it. That does work.

Senator Moss. It seems to me that might be a way around this wind-fall difficulty.

Senator BELLMON. I would like to ask our witness about the statement he made on page 7. You say "provision of Federal funds, even on a matching basis and declining over a 4-year period, hopefully will help State agencies to mount an adequate level of activity for the appropriate enforcement of mining control laws and loosen their dependency on fees resulting from the issuance of permits for mining."

I used to be mixed up in State government and I had the experience of the Federal Government saying, we are going to start this program and you can pay for it after we get it going. What happens is it's a great program. You create an industry on the part of the citizens for the program and the Federal Government withdraws the support and the State is holding the bag.

Do you feel after 4 years the State can pick up the cost of adequate enforcement of mining control laws and reclamation generally?

Mr. WHITEHEAD. It would be my hope that there would be sufficient public support for such a program to make it possible for the States to find the money. The first place to look, I think, is not the taxpayer but the mining industry.

Senator BELLMON. What you are saying is the consumer of coal?

Mr. WHITEHEAD. That's right. Well, no, first the initial impact is on the operator who, eventually, quite properly passes that cost along to the consumer. The consumer of energy.

Senator BELLMON. So you feel that the price of coal should reflect the cost of mining and enforcement of laws and reclamation?

Mr. WHITEHEAD. That's right. The real cost, and I was saying that ideally the industry should pay for its own reclamation rather than have that fall on the back of the general taxpayer, the problem that we have noticed and that I comment on in my testimony, is that this hasn't always worked, although it may be an ideal theory, it doesn't always work in practice. Frequently the level of funds from permits and fees of licensing and so on, do not support an adequate enforcement effort.

Senator BELLMON. You show two methods of strip mining. I am very impressed with your so-called non-fill bench method. Do you happen to have any idea about the comparative cost of producing a ton of coal under these two methods?

Mr. WHITEHEAD. No, sir: I don't. First of all, this was an idea that grew out of discussions with many people, including some of our staff, and I wasn't sure whether, to what extent it had practical value.

Until I saw it operating in the field, much to my surprise, I have seen the essence of this idea in operation today in western Pennsylvania. And there, I understand, that in some circumstances operators find it a more efficient way of stripping than previous practices.

In other words, having been forced by State regulations to find a way to strip the coal without throwing all the over-burden downhill, the industry developed a technique of strip mining and excavation of coal around the mountain that they call cut-benching which actually they have found more efficient than the old way of doing things, because they have to handle the overburden less than under the old method and I have seen instances where this technique is being employed on slopes as high as 24 degrees and where the land was

being put back to original contour, had been put back to original contour, but no, I don't have any precise figures on the differences in cost.

Senator BELLMON. One final question. Senator Moss and I were in the mining areas of Tennessee and Kentucky and it occurred to me that many of those areas, before mining operations began, were relatively inaccessible and perhaps even totally inaccessible. It seemed to me, after the mining operations had begun that the ability for individuals who might wish to come into the area for recreational purposes might have been enhanced if the roads were properly built and maintained and left when its operation was over.

Do you have any feeling as to whether or not there is a method of utilizing some of these desirable but relatively remote areas so far as the public is concerned?

Mr. WHITEHEAD. Yes; I think it is a very desirable objective to be strived at. I think you put your finger on something very important. That is, we must look at strip mining as we do any development activity, not in and of itself but in terms of its impact on all other conditions surrounding a certain area or region. We must—that is why I—that is what I meant when I was talking about developing land use policies and land use plans where we deliberately set aside certain areas for wildlife, recreation, hunting, fishing, set aside areas for industrial development, where we rationally determine in advance where our schools should be, where our hospitals should be, what sort of outlying health facilities a community should have, what types of activities are allowable with what kind of restraints in what regions. All of these are factors and considerations for the development of land use policies.

Now, in establishing a land use policy I don't mean that some bureaucrat in Washington or at the State level is going to sit down and write on a piece of paper this area is for recreation and this area is for industrial development. Obviously, such decisions cannot be arrived at that way.

We have to create legal machinery and make it accessible to men who honestly differ in opinion so that they have a formula with which to contest their conflicting interests and by such machinery I mean such things as the legislature considering here today, also State statutes, local zoning ordinances and administrative decisions by regulatory bodies. We need a mixture of all kinds of inputs from people with conflicting interests and contrary points of view to develop out the kind of hard choices that are necessary as to what future uses are to be made of the land in this country.

Senator BELLMON. Thank you very much.

Senator MOSS. Thank you Senator Bellmon, and thank you Mr. Whitehead and Mr. Crane. We do appreciate your testimony.

I don't know that I ordered the editorial placed in the record, but it will be in the record at the point where you referred to it and made it available to the committee. We are very glad to have your discussion.

The legislation we are talking about on surface mining is on protection, but we do have bills on land use planning and you are right, the input has to be together.

Thank you very much.

(The editorial referred to follows:)

[Editorial from the Pittsburgh Press, Feb. 20, 1972]

STRIP MINERS INVADE W. VIRGINIA WILDERNESS

(By Fred Jones)

Stretching southwest for more than 100 miles from the Maryland-West Virginia border is one of the most wildly beautiful areas of the eastern United States.

There in the Monongahela National Forest are heavily wooded mountain slopes laced with icy clear streams filled with trout . . . back country glades and bogs seemingly untouched by man and his civilization . . . abundant wildlife.

It is one of the last remaining segments of the vast wilderness that began to vanish when the earliest colonial settlers crossed over the Allegheny Mountains.

Protected by the rugged terrain and a lack of roads, this small portion of the great wilderness that once extended unbroken from Maine to the Gulf of Mexico still remains much as it always was.

However, this last vestige of the American wilderness is about to vanish.

Bulldozers are pushing up the narrow valleys, gouging out stream beds, rooting out the trees, opening the way for giant power shovels and mining equipment to remove the millions of tons of coal underlying the forest.

Clear streams soon will run black with silt and hot with acid.

Green hillsides will be dotted with grimy tipples and blackened coal preparation plants and the isolated glades will give way to coal refuse banks.

Worst of all, there isn't much anyone can do to protect this unique area.

From the beautiful Dolly Sods area in the north, southwest through the lovely valley of Shavers Fork and the Cranberry Back Country to Briery Knob in the south, mines are beginning to appear.

Although much of the surface is owned by the United States and managed by the U.S. Forest Service, the mineral rights are owned by railroads, corporations and coal companies under the infamous so-called "broad form" deeds.

The deeds, dating back to the beginning of the century and earlier, give the owner of the mineral rights the privilege of removing the coal without regard for what happens to the surface.

The companies can take as much of the surface land as they want to erect all sorts of mining structures, miners' homes, air shafts, roads, railroads, coke oven and haulways.

The deeds also provide that all these things can be done without the companies being held liable for any damage to the surface "or to anything therein and thereon or to any watercourse."

F. A. "Tony" Dorrell, supervisor of the Monongahela National Forest, is doing what he can to protect the forest but he's operating under some severe handicaps.

In the first place, of 1,620,000 acres inside the forest boundary, the government owns only 829,000. The remaining 791,000 acres are privately owned and not subject to forest supervision.

This divided ownership leads to problems in many areas, particularly where the government owns the lower reaches of a stream valley and the headwater is privately owned.

This is the case in the valley of Shavers Fork, a tributary of the Cheat River, and one of the most attractive sections of the forest.

Here the Forest Service acquired ownership of the lower reaches of the stream north of U.S. Route 250. South of the highway, the 35-mile upper reach of the stream remained in private ownership.

"We have a number of strip mines operating on the upper section of the stream and there isn't much we can do about that," Dorrell said. "If we start getting silt and acid pollution from the headwaters, we're whipped."

Even in the lower section of the valley, Dorrell has problems. When the government acquired the land, the original owners retained ownership of underlying minerals.

"Consequently, they are free to come into this area and mine the coal under the valley," Dorrell said.

In areas such as this, mining is subject to regulations laid down by the secretary of agriculture. However, these regulations are weak and largely ineffective.

"They are not consistent with the multiple use concept of national forest management," Dorrell said.

This is particularly true in areas acquired prior to 1937 when the rules then in effect were very lenient so far as mining was concerned.

In the case of Shavers Fork, more than 58,000 acres are underlain by coal.

About half the subsurface in the watershed is owned by the Mower Lumber Co., a subsidiary of the Grace Co.

The company already has one coal-producing mine in the valley, plans two more in the immediate future and eventually intends to have 15 deep mines operating.

The biggest danger spot in the Monongahela Forest is the southwestern section in a quadrangle between Webster Springs, Slaty Fork, Mill Point and Richwood.

Here the mineral rights already were reserved to third parties when the government purchased the surface.

Most of the coal is owned by the Mid-Allegheny Corp., a subsidiary of the Baltimore & Ohio Railroad.

However extensive mineral rights in the area also are held by the Georgia-Pacific Corp.

Most of these mineral holdings are covered by the broad form deed which gives the mineral owner the right to do almost anything he pleases to remove the coal.

"However the deed situation is not as black as it might seem," Dorrell said.

"The government has taken the position that at the time these deeds were drawn, strip-mining was not a common method of extracting minerals and consequently not an allowable practice," he explained.

The argument has been upheld in several court cases involving proposed strip-ping in the forest area.

Senator Moss. Mr. Hamilton Kean of the Natural Resources Defense Council will be our next witness.

You may proceed.

Mr. KEAN. In the interest of saving time, I would be happy to submit this 12-page statement and summarize it, if you would prefer.

Senator Moss. That would be most acceptable to us. We will be glad to do that. The statement in full will be placed in the record and we will ask you to summarize it, or highlight it, as you care to do so.

STATEMENT OF HAMILTON S. KEAN, NATURAL RESOURCES DEFENSE COUNCIL

Mr. KEAN. We appreciate this opportunity to appear before the committee.

The Natural Resources Defense Council is a national group of attorneys, scientists, and laymen throughout the country which works on environmental problems, particularly on environmental legal problems.

We heartily applaud the evidence of interest in the problem of abuses from strip mining which the present activity in the Congress indicates.

You have asked us to look at S. 2777 and S. 3000, and we have looked at them and we have answered nine questions which you have asked which appear in the statement which I have presented.

First of all, I think I could say we would like to see all strip mining of coal on lands everywhere banned. We don't think this is going to happen at the moment.

We particularly would like to see contour mining stopped. We feel that contour mining presents reclamation problems which are almost impossible in most instances, erosion and pollution problems.

We think that an appropriate legislative provision can be drafted which will effectively end the practice of contour mining.

There is a section in Senate bill 3000 which obliquely permits the administrator to choose areas where contour mining might be abolished. This is section 102(a) (3).

We don't think this goes far enough. We think the Administrator will be subject to all kinds of pressures as administrators are. We would like to see a stronger congressional mandate on the area of contour mining.

If strip mining is not going to be abolished, then we favor a regulatory scheme such as these two measures contemplated.

We would prefer to have almost exclusive Federal regulations. We are skeptical of the role that the States will play here.

We believe that Pennsylvania is the exception, and not the rule. The record is pretty bad.

We also view this provision that the administrative agency on a Federal level can take over if the State isn't enforcing the provisions, or if the State's program suddenly becomes inadequate in some ways as a rather impractical one.

We think it would be very difficult from the evidentiary point of view, all kinds of political overtones. We don't think it would be conducive to good Federal-State relations, so we tend to lean toward the idea that the Federal Government should regulate strip mining, without substantial State activity as far as that program is concerned.

We would favor leaving the States the opportunity, and we hope they would enact more stringent regulations in many respects.

West Virginia has declared a 2-year moratorium on strip mining in a few counties.

If there are going to be State programs of the sort contemplated in these bills, then we recommend strongly a continued strong Federal presence and a strong set of Federal directives to the States.

We applaud the provisions that provide that the Federal permit program starts immediately without waiting for State programs which have to be approved which experience has shown in other environmental areas has not always been successful, or not speedily, certainly.

We think this is something that should be attacked immediately, regulated immediately, and the only way to do it is to start on the Federal level.

Second, we believe that there should be strong detailed criteria for the State procedures under their programs, and the criteria of S. 3000, we think, are quite good in this respect.

There is opportunity for hearing, public participation at various stages.

Third, we think that there should be Federal guidelines, and there should also be detailed standards recognizing that the States may also adopt standards which in some instances may be stricter, and we recommend that that be incorporated into the legislation, and particularly in view of the recent experience in the Clean Air Act when, as you know, there has been some controversy as to whether Montana should enact standards stricter than Federal standards.

I think it should be made absolutely clear that the State can enact stricter standards than Federal ones.

Fourth, we likewise applaud the provisions of S. 3000 which emulate the clean air provisions with regard to civil enforcement, even after a State program exists.

We would add to this, however, civil fines. We think fines are often a desirable alternative to criminal prosecution.

We would also add provisions for citizen suits for enforcement. We believe that the citizen suit is a viable way of making sure that the act is enforced.

Finally, we would prefer to see the Environmental Protection Agency, the Federal agency administering the act. This is for a number of reasons. I suppose chiefly because this is the Federal agency which is primarily charged with the protection of our environment, and it has the experts and expertise you should have to do this job, which will tie in with many other jobs that have been done and will be done.

We believe that these bills can be strengthened in many particulars. I would mention one respect where we feel that it is particularly important to strengthen the bills and that is in the areas of the standards of reclamation. We feel there should be a general standard spelled out which indicates that the sites surrounding areas should be expeditiously returned to their prior condition, contour, esthetics, and, without a strong mandate such as this, we feel the Administrator is going to have the same trouble he had in many other areas where he is pushed around and he finds it very difficult to do his job, and Congress can help him here, we feel.

Second, with regard to reclamation also, in the area of the alternative use and condition, here we are a little worried. S. 3000 provides that reclamation can be for normal use. This has worked very well in Europe, particularly where their reclamation techniques have been considerably in advance of ours in most instances. But until there are land use bodies, we feel that such a provision might be used simply to avoid more stringent requirements.

So that if such a provision is in there, we would like to see a provision that says that you can only change it to a different use if you upgrade it.

Third, with respect to bonding, we believe that the approach of these bills in relating it to the estimated cost of reclamation is a correct one. Too often the statutes throughout the country are inadequate. However, we would prefer to see, we think that the language might indicate to the Administrator that he is to always tie it precisely to the estimated cost of reclamation, and we think that a larger amount is often indicated, and we would prefer to see Congress fix a larger amount.

I believe double might be a good amount. This is what was introduced in Pennsylvania this year. I am not sure if it was passed or not.

I think that this takes care of the situation where there is unexpected damage, where costs come up. It also serves as a deterrent to forfeiture.

Incidentally, I suppose it will bring in a little revenue to the Federal Government.

Second, we feel the term should be longer than 5 years. You can't always tell within 5 years that reclamation has been successful. In

some cases, it takes a lot longer, and we would prefer to have a longer term for the life of the bond.

Finally, on the question of orphan mines which is the other major question, we feel that essentially, of course, it is the responsibility, should be the responsibility of the industry that caused the damage.

There isn't any legal way, of course, to make the people that caused it pay for it individually.

We do, however, feel that a tax on the strip mining is an appropriate way, or any other methods whereby the industry would be charged with the cost of repairing what has been a bonanza to it, repairing the damage which has resulted from what has been a bonanza to it.

We feel as far as what sort of program should be adopted, we feel very strongly that this should be a Federal-State cooperative program, that this is an area where the Federal Government can stimulate activity in purchasing lands.

We don't think that it should be exclusively Federal purchase of lands as S. 2777 provides, I believe. I think this is land within a State, the concern of the State.

We feel, therefore, that it should be a joint program in which the expectation, the granting of Federal funds and technical help perhaps stimulates State activity.

This has certainly been the case with regard to highways and many other Federal-State programs and we think this is; the problem of orphan mines is tailor made for this.

I listened with interest to the questions you asked the last witness, and I don't have an answer about the legal question which you raised.

We have, our thought had been to do it through a purchase program, but I think the States can play and should play a big role in this area.

In summary, these are the highlights of our statement, and I want to thank you very much for inviting us again, and I hope we can help you.

Senator Moss. We appreciate your coming to testify for us, Mr. Kean, representing the important group that you do, and we notice you have given a great deal of careful consideration to your recommendations.

So, we will look very carefully at what you recommend in your statement.

I notice you endorsed citizen suits to enforce the act.

Do you believe that citizen groups ought to also be required to put up a bond if they by their action stop the mining operations while the suit is being tried?

Mr. KEAN. Well, I think if by putting up a bond it effectively prohibits citizen actions of this kind, I would say they should not be required to put up a bond; no, sir.

Senator Moss. Some individuals have expressed fear of scores of citizen suits just more or less indiscriminately could stop the mining operations while each one was litigated, whatever length of time it took.

Mr. KEAN. I think in order for a court to grant relief, the usual findings would have to be made, and I don't think the criteria in citizen suits would be any different from the enforcement criteria the admin-

istration agency would use. The citizen suit is basically a device to make sure the legislation is in force, the program is enforced if the agency supposed to be doing it are not.

I don't think citizen suits need be harassing mechanisms. Citizen suit legislation was introduced and passed 2 years ago in the State of Michigan, and there was a tremendous hue and cry about the possibility, that the courts would be inundated with citizen suits, and they would be used to harass worthy people.

Since the act has been in operation, which I think now has been 14 months, there have been 13 suits filed. So, I don't think the citizen suit is a frightening thing. It is a safety valve.

Senator Moss. There is a place for equitable relief. I think the court could make an appropriate order then anyway.

Mr. KEAN. You would have to make the appropriate finding, yes.

Senator Moss. Thank you very much for coming.

Senator Bellmon?

Senator BELLMON. I have one question I would like to put to Mr. Kean.

On pages 9 and 10, you come out in favor of abandoning strip mining and state that:

We are, however, in favor of a ban on strip mining which is the major subject of the two bills you have asked us to consider. Certainly the coal presently being contour and area mined can be effectively mined by other means, such as deep mining. . .

Do you feel the committee and Congress in considering this type of legislation should be concerned with the relative safety of miners?

We have known several rather serious deep mine disasters. In fact, this Congress within the last 2 years has passed a rather strict deep mine coal miners safety act.

What weight do you think we should give to the relative safety of these two mines when considering the legislation?

In other words, is the safety of the miner important?

Mr. KEAN. Oh, yes, the safety of the miner is very important. As you state, legislation has been passed which presumably has improved the situation with regard to deep mining.

I am not an expert on deep mining, and I don't know how hazardous it is now. I would suspect that the extent to which it is carried on and the fact that there has been a hue and cry over the years over this issue. my feeling would be that the question of the health and safety of the miner is outweighed by the other factors that we have discussed in connection with the damage to the environment.

Senator BELLMON. I have trouble with this. For instance, black lung disease killing 20,000 or 30,000 deep miners right now. I am curious to know how much more important it is that we keep a pretty landscape rather than try to avoid these kinds of disasters in the future.

Mr. KEAN. Well, in the first place, I don't think it is a simple tradeoff between those two forms. I think there are other terms that can be used, other minerals for fuel.

Senator BELLMON. You might favor stopping all kinds of coal mining?

Mr. KEAN. Not on the information I have now, no, sir, because as I stated, I am not an expert on the question of deep mining.

Senator BELLMON. Are you an expert on strip mining?

Mr. KEAN. That is a question I would prefer not to say. I am not an expert on strip mining in the sense that I am an expert on the technical aspects of strip mining, no.

Senator BELLMON. Thank you.

That is all.

Senator MOSS. Thank you very much, Mr. Kean.

(The prepared statement of Mr. Kean follows:)

STATEMENT OF HAMILTON S. KEAN, NATURAL RESOURCES DEFENSE COUNCIL

Mr. Chairman, members of the Committee:

My name is Hamilton Kean. I am an attorney working with the Natural Resources Defense Council on whose behalf I appear today. I am also Adjunct Professor at the New York University School of Law conducting a clinical program in Environmental Law.

The Natural Resources Defense Council is a national organization of lawyers, scientists and private citizens who seek to protect our natural resources and the human environment from encroachment and destruction. To achieve its objectives, Natural Resources Defense Council has a permanent professional staff of attorneys in both New York City and Washington, D.C. and works closely with environmental lawyers and scientists across the country.

The Natural Resources Defense Council has exhibited a special interest in the environmental effects of strip-mining operations, particularly in the Appalachian region. It has conducted extensive studies, surveys, and interviews with Federal, State, and local officials of that region, as well as private citizens and other environmental organizations who share its deep concern about the deleterious effects of strip-mining.

In March, 1971, Natural Resources Defense Council filed a complaint, along with the Environmental Defense Fund and the Sierra Club, in the United States District Court of the Southern District of New York, against the Tennessee Valley Authority, the largest purchaser of strip-mined coal in the Appalachian region, seeking primarily compliance with the requirements of the National Environmental Policy Act of 1969 in connection with T.V.A.'s contracts with companies supplying them with strip-mined coal. We are still engaged in this suit, as well as pursuing discussions and studies relating to the subject of strip-mining generally.

In inviting us to testify, you have asked that we give special attention to Senate Bills Nos. 2777 and 3000. You have requested that we address ourselves to nine specific questions which we propose to do in the order in which you have presented them to us.

(1) First, you have asked what lands should be covered. It seems to us that the ownership of lands, whether by government, mining or other private interests, should not constitute a basis for omitting areas from the regulation of or a ban on strip-mining. The destructive effects upon our natural environment are of course particularly devastating on lands which are now enjoyed by the public or are part of our vanishing wilderness. However, strip-mining on private lands, in addition to the ecological havoc wreaked on those lands, can seriously contaminate water and lands beyond those mined.

It is, of course, possible to base distinctions on topography. Contour mining has been the most destructive form of strip-mining. However, we strongly urge that the damage wrought by area mining requires action by this Congress as well.

(2) Secondly, you have asked what minerals should be covered. Clearly coal is the most important mineral, both from the point of view of acreage which has been and is being damaged and the anticipated expansion in demand, particularly by the electrical utilities. Our work has been concerned with the mining of this mineral. However, we note that there are other minerals currently being mined which also devastate substantial amounts of acreage. The Department of the Interior euphemistically employing the expression "acreage disturbed," estimated that of the acreage which had been disturbed by strip mining by 1965, 28% had been disturbed as a result of mining for minerals other than coal.

It appears to us then that there may be justification for their inclusion in legislation regulating or banning strip mining so long as such inclusion would not in any significant way weaken or delay legislation dealing with coal strip mining, the highest priority item.

(3) You have asked what the measure of responsibility between the federal and state governments should be and what agency or combination of agencies should have the Federal administrative responsibilities. We should point out at the outset that the experience to date indicates that most state regulation and enforcement has been woefully inadequate. We think it unrealistic to expect that the states generally will substantially improve this record on their own in the near future. The pressures of competition with other states for the coal producers' business as well as various economic and political pressures are a real hindrance to effective state action. For this reason we feel that passage of legislation of the type contained in these bills would be an important step forward.

However, we do not have confidence in the ability of all states to take over effective enforcement of the program in conformity with the intent of Congress. Also we believe that many considerations are regional rather than determined by state boundaries. Thus we recommend that the administration and enforcement of the Act be vested in the federal government, provided that opportunities are given for public participation in the decision process such as are provided in Title II of S3000 dealing with the State Regulatory Program. We believe that the provisions contained in both bills that the federal government shall withdraw approval of a program if the state fails to enforce the law adequately constitute an impractical safeguard. The determination would be a difficult one to make, both from the point of view of gathering evidence and politically, and the process would not be good for federal-state relations. We are not suggesting that the federal government preempt the field; we would trust that in some instances states would adopt more stringent regulation or even prohibit strip mining absolutely.

If the states are to have standard setting and enforcement obligation, the scheme of the present bills, which provides for an immediate federal program prior to approval of state programs is much preferable to any system which would merely require the states to set up federally approved programs. We would suggest the additional requirement of a hearing by the federal agency before state programs are approved.

We heartily endorse the enforcement provisions of S3000 which are similar to the provisions of the Senate bill to amend the Federal Water Pollution Control Act and to the 1970 amendments to the Clean Air Act. These provide a strong, simple mechanism whereby the federal government can move swiftly against violators, even after the adoption of state programs. We would suggest, however, that civil fines be specified in the Act. Often this is a preferable alternative to criminal proceedings. The fines could also serve to enlarge any reclamation fund. We would suggest that provisions be added for citizen suits to enforce compliance.

We also heartily endorse the provisions of Title II of S3000 providing for public participation in the permit approval decision and in the determination of compliance prior to release of a performance bond.

We suggest that any federal regulatory permit system should be a function of the Environmental Protection Agency. This agency is the federal body entrusted with the protection of the environment and this is its primary concern. In exercising this responsibility it can draw on its experts and expertise in its many other roles as a guardian of the environment. It has experience in setting up and administering permit programs in other major areas. Finally, it was intended to be an independent agency. As such it may be better suited to resist the various pressures that may be brought to bear upon it.

The Administrator should, of course, consult with the Department of the Interior and the Department of Agriculture on aspects where these departments have particular experience or competence.

(4) You have asked what provisions should be made for funding the reclamation and enforcement program. We believe that the operator should bear all reclamation costs of future strip mining projects. This cheap method of extraction has been at the cost of our environment, and thus society.

The best method of funding, because it also contributes to enforcement, is adequate bonding. State bonding provisions have been characteristically inadequate in amount, or fixed at a specified dollar amount per acre, when in fact the cost of proper reclamation can vary, depending on the project and terrain. Both S. 2777 and S. 3000 properly base the amount of the bond on the reclamation requirements of the project. However, we are fearful that these provisions might be construed as fixing the amount at the estimated reclamation cost. A better

approach, we believe, would be one that sets the amount of the bond at a fixed percentage above the estimated cost of reclamation, perhaps double. Such an approach would take care of unexpected costs such as environmental damage, of increases in estimated costs, and would serve as an added deterrent to forfeiture.

Incidentally, we would question whether liability under the bond should be limited, as it is in both bills, to five years following strip mining. It can very well take longer to determine that reclamation has been successfully performed.

Permit fees, civil fines levied for violations, and appropriations, could contribute to funding the program. Partial federal funding of state programs might be well in order.

(5) You have asked what factors should be considered in the reclamation plan and whether they should be detailed provisions or guidelines.

In general, the minimum aim of reclamation should be to return the site and surrounding areas expeditiously to the approximate condition, including contours, aesthetics, ecology and productivity, that they enjoyed prior to the operation. This should be spelled out further. We feel that the language of Section 102A 5(b) of S. 3000, although not strong enough, is preferable to that of Section 2(3) of S. 2777 in this regard. It has been suggested that as an alternative the land may be changed to a different condition and use, and S. 3000 provides this where it is consistent with the purposes of the bill. Such changes or improvements have been successfully employed in other countries such as Great Britain and Germany in cooperation with regional planners, who ensure that such changes conform to the land use patterns. In this country, however, such regional planning authorities are not now generally available, and care must be taken that this alternative is not employed as a device for avoiding more adequate and expensive restorative reclamation. Thus we would suggest that the language of S. 3000 be amended to permit reclamation to a different condition and use only when this would be an upgrading of the property from its previous condition and use.

The reclamation plan submitted by the applicant must contain information sufficient to enable the Agency to determine whether the plan of reclamation will, if carried out as stated, almost certainly achieve the objects specified in the Act. To judge this, the Agency will have to know in considerable detail:

(1) The existing condition of the site, including topography, composition, and so forth;

(2) A description of the proposed mining operation, including steps used to prevent environmental damage, engineering methods, and its effect on site and surroundings.

(3) A description of how the site is to be reclaimed, including a description of methods to be used for such items as backfilling, grading and revegetation, an estimate of cost, and a timetable.

Both bills seem to provide adequate provisions in this regard.

We would prefer stronger language than that of Section 105(a)1 of S. 3000 which concerns the administrative standard in approving reclamation plans. We believe that the Administrator should be required to be "reasonably certain" that reclamation can be achieved prior to granting a permit. We believe that stronger language here as elsewhere can help protect the Administrator against pressures on him.

In its regulations, the Agency would use guidelines in some instances, in others, definite standards will be desirable. These should be detailed and strict. The experience under the Clean Air Act of 1967 where only guidelines were provided the states should not be repeated. Undoubtedly there will be instances where, because of local conditions or otherwise, the states will want to superimpose their own standards on the federal standards. In view of the recent Montana experience under the Clean Air Act, we suggest that a provision be added explicitly permitting states to adopt standards which are more strict than those of the federal government.

(6) You have asked what provision should be made for orphan mines. The Department of the Interior Report of 1967 gives some indication of the scope of the problem, and we believe that Congress should begin to deal with it.

One approach is that provided by S. 2777 providing for acquisition by the federal government of lands which should be reclaimed from appropriated funds as well as from bonds and other money realized from the various sources provided in that bill. Another possible source of revenue would be a tax on new strip mining.

We would recommend consideration of provisions which would give encouragement, both technical and financial, to the states to acquire lands which should be

reclaimed. An orphan lands program is one in which the federal government and the states might well cooperate. Federal contribution of a large part of the costs, as in highway and other programs, might stimulate a good deal of desirable state reclamation activity.

(7) You have asked whether surface mining should be banned. We would not be in favor of a ban on all surface mining in the broadest meaning of the term without further study of costs and benefits. Open pit mining of certain minerals, for example, can mine a large quantity of minerals for each acre disturbed. We are, however, in favor of a ban on strip mining which is the major subject of the two bills you have asked us to consider. Certainly the coal presently being contour and area mined can be effectively mined by other means, such as deep mining, although these may often cost the operator more. We believe that when the external costs are added to the economic cost of strip mining, the real costs to society are greater than the costs of other extraction methods or alternate materials.

We do not feel that reclamation practices in this country have progressed to a point where the result is generally satisfactory from the point of view of remedying the damage of strip mining. In this respect, the Europeans are ahead of us. Even where reclamation practices of area mining are completely successful, there is the temporary devastation to the landscape. Furthermore, mining practices themselves create a substantial risk of environmental damage.

We recognize that the most damaging form of strip mining is contour mining. Erosion and sediment damage to streams are an almost invariable consequence. Furthermore, it generally presents difficult or impossible reclamation problems. Properly administered, Section 102 A 3 of S 3000 would ban the worst contour mining, but we prefer a more explicit and stronger mandate. We believe that legislative provisions can be drafted which would ban contour mining while leaving area mining to be permitted subject to regulation.

(8) You have asked within what time schedule any proposed law should be operative. A ban on contour mining should clearly require all present operations to terminate in a few months and prevent any new or increased operations. A ban on strip mining generally probably could likewise be effective in a reasonably short time without causing critical problems.

Any federal regulatory system should begin immediately, and it is encouraging that S 2777 and S 3000 both so provide. The sad experience with the modern permit program under the Refuse Act, in which only about 20 permits have been issued to date, demonstrates the wisdom of the framers of these bills in setting up a federal permit program which will be applicable immediately, without intervening state action. We would endorse Section 101(b) of S 3000 preventing new or significantly increased operations without a permit as of the date of enactment of the Act. We also endorse the provision of Section 102(A) of that bill requiring adoption of regulations by the Administrator within 120 days of the enactment of the Act, and the provision of Section 103(b) that the Administrator issue regulations concerning permit application forms within 90 days of enactment. We would urge, however, that the bill be amended to require a shorter time period than 270 days after enactment in which a plan of reclamation must be filed and bond posted in the case of continuing operations.

(9) You have asked for our opinion about administrative and judicial review. If the program is going to be administered exclusively at the Federal level, then the Administrator of the Environmental Protection Agency or the Secretary of the Interior should institute their own intra-agency provisions for review. Final decision should be in that agency. If regulation is turned over to States, we would favor mandatory contemporaneous review by the Federal agency of permit applications and reclamation plans.

Judicial review of orders or decisions might appropriately be in the Court of Appeals for the Circuit in which the mine is located or the United States Court of Appeals for the District of Columbia. Judicial review of Federal regulations should be in the United States Court of Appeals for the District of Columbia.

Senator Moss. The Chairman of the Tennessee Valley Authority, Mr. Aubrey J. Wagner, will be our next witness.

Sorry to have kept you so long, Mr. Wagner.

We remember with pleasure your courtesies and assistance when we were out to see the mines in Kentucky and Tennessee, and we are certainly glad to have you before the committee today.

STATEMENT OF A. J. WAGNER, CHAIRMAN OF THE BOARD, TENNESSEE VALLEY AUTHORITY; ACCOMPANIED BY ROBERT MARQUIS, GENERAL COUNSEL; THOMAS RIPLEY, DIRECTOR, DIVISION OF FORESTRY, FISHERIES AND WILDLIFE DEVELOPMENT; AND JAMES A. CURRY, SUPERVISOR, FOREST AND HABITAT REVEGETATION SECTION

Mr. WAGNER. Thank you very much, Mr. Chairman.

We enjoyed and, I hope, profited from listening to the testimony this morning.

I have with me this morning Mr. Robert Marquis, our general counsel, Mr. Tom Ripley, Director of the Division of Forestry, Fisheries and Wildlife Development, and Mr. Al Curry, who supervises the activity.

In case your questions get too detailed, I may need to call on them for assistance.

Senator Moss. We are glad to have all of you here with us.

Mr. WAGNER. Mr. Chairman, we appreciate this opportunity to appear before your committee to present TVA's views on proposed legislation for the regulation of surface mining.

TVA's concern with the problems of surface mining goes back many years. In the 1940's we developed reclamation techniques for TVA's own phosphate mining operations and we also cooperated with several landowners in Virginia and Tennessee in experimental work in the reforestation of stripped coal lands.

We joined with the Tennessee Department of Conservation in 1959 in a strip mine survey in Tennessee, and since that time we have worked closely with the responsible officials in all the coal-producing States of the Tennessee Valley region in trying to get effective State legislation to regulate surface mining.

At the national level, we joined with the Department of the Interior and others in a 2-year study authorized by the Appalachian Regional Development Act of 1965 which produced the 1967 national report, "Surface Mining and our Environment."

We have also conducted and are continuing to carry out a number of tests and demonstrations of reclamation methods, and we have financed research by others relating to the rehabilitation of spoil banks.

Since 1965 we have included in our coal purchase contracts increasingly rigorous provisions governing the operations of strip mines producing coal for TVA's use and the restoration of areas affected by such operations.

As a result of this long-term interest and experience, largely with coal and phosphate, we feel that we have developed substantial understanding of the problems and needs relating to surface mining. Our agency recognizes the following principles relating to the surface mining of these minerals with which we are familiar:

Use of the coal extracted by surface mining methods is vital to the national well-being. These minerals represent natural resources essential—now or later—to support the Nation's and the world's population. The need for their ultimate recovery and use is certain.

With careful planning beforehand and proper use of improved mining practices, including restriction of such mining to appropriate land areas and slopes, the land areas disturbed by surface mining can be adequately reclaimed and can be made at least as useful in the future as they were in the past—in some cases more useful. Such reclamation is essential.

The total expense of reclamation is a proper business cost of producing surface mined minerals. That cost must, of course, be reflected in the cost of goods or services that the minerals help to produce.

Surface mining and reclamation activities must be carefully regulated through comprehensive and basic legislation that is strongly and fairly enforced.

Each State should adopt and vigorously enforce strip mine laws and regulations tailored to its own particular needs. Federal legislation should recognize State responsibilities but should provide broad guidelines or standards that will insure overall environmental protection.

Also, looking to the future, the Federal Government should begin to give attention to the need for some type of program dealing with the restoration of areas stripped before reclamation laws were enacted, to the orphan lands.

Regulation of surface mining must be subjected to continuing review and evaluation as to adequacy and strengthening amendments adopted as needs dictate and improved technology permits.

In our view, the most satisfactory arrangement would have been for the several States to adopt and enforce their own laws for the control of strip mining.

However, since many of the States have failed to enact and enforce adequate controls, we believe the time has come for the Federal Government to step in with legislation on the subject.

We favor legislation which would still permit the respective States to have primary responsibility for regulating strip mines, provided that such regulations meet the Federal standards.

Since State regulations have not been fully adequate in the areas from which TVA gets its coal, we have since 1965 included mining and reclamation requirements in our coal purchase contracts to assure that the operations are conducted in a manner that protects the surrounding area and that the disturbed lands are properly reclaimed.

The basic aims are to prevent landslides, eliminate acid drainage and siltation, establish vegetation, protect esthetic values, and restore the area to a usable status.

TVA has already upgraded its mining and restoration provisions twice since 1965. And now we are about to issue a new invitation for bids on coal for our steam plants which includes new requirements that are still stronger in protecting the environment from the effects of surface mining. Those invitations for bid go out March 1.

Inclusion of such environmental protection requirements has, of course, increased the price we must pay for coal and the price we must charge for power. But this is a burden which the power consumers should and must bear.

We would like to assure this committee that we recognize the need for alternatives to the use of surface-mined coal as a power source.

One of the obvious alternatives, of course, is to restrict the production of coal to that mined underground.

However, we do not believe that reliance solely on deep mines for coal is the final or even a desirable alternative.

A great variety of environmental problems also result from deep coal mining, such as acid mine drainage, surface subsidence, fire, waste dumps, and most important of all, continued jeopardy of miners' health and safety in this most hazardous of occupations.

We also recognize that as a nation we should be working through study and research toward methods of utilizing the energy in our extensive coal resource in a way that will avoid damage to the environment, either in its mining or in its combustion.

There seems to be some promise in processes such as gasification. However, for the near future, coal—including surface mined coal—must help meet the Nation's energy needs through the direct fueling of steam power generation plants.

This makes it very important, we think, that the Congress act promptly in providing adequate controls of surface mining.

Mr. Chairman, this completes my formal statement.

Mr. Smith, one of my colleagues on the TV Board has asked that I distribute to the subcommittee a brief supplemental statement which he wanted you to have, and we have several copies which I now give to you.

Senator Moss. We are pleased to have that and to include it as part of the record in this case. It is certainly of importance to us.

(The document referred to follows:)

SUPPLEMENTAL STATEMENT OF FRANK E. SMITH, DIRECTOR,
TENNESSEE VALLEY AUTHORITY

I believe very strongly that effective reclamation measures, taken before, during, and after surface mining, can in most cases restore disturbed land to a quality as high as before mining, and possibly to a higher quality in some areas. I believe TVA now has in effect a generally very satisfactory reclamation requirement as part of its coal supply contracts, and I regret very much that other utilities over the country do not enforce such reclamation requirements.

At the same time, however, I feel an obligation to put out some personal differences with the official TVA statement that is being presented to the Committee.

TVA's reclamation requirements limit surface mining to slopes of 28 degrees or less. I believe that the limitation should be 24 degrees, to provide more assurance against permanent damage and for the protection of aesthetic values. If in some areas it is apparent that slopes up to 28 degrees could be mined with no risk, such mining could be authorized by specific action of the TVA Board of

I have never believed that state controls would be the most satisfactory arrangement to regulate strip mining. The failure of many states to enact satisfactory laws, and of others to enforce them, is sufficient evidence of the need of a strong federal law with standard requirements. Allowance can be made for significant geologic and geographic differences within the states. Strong state laws should be encouraged, but they are not the full solution to this problem.

In the past I have refrained from calling public attention to my reservations about TVA reclamation policy because I believed that improvements could be best achieved without such action. Under existing circumstances, however, I believe that I should publicly indicate these reservations.

Senator Moss. I, of course, have been aware, and the committee has been aware of the practice of the TVA of putting in its purchase contract requirements for reforestation of lands, and I do commend the directors of the Tennessee Valley Authority for that foresighted measure that you have instituted because some of the States have been rather slow in getting any kind of meaningful regulation.

Hopefully, they will be coming on, but as you say, perhaps the Federal Government is going to have to step in and at least have a minimum requirement that all States have to meet, and then if they wish to tighten up regulations still further that will be a State problem.

Unfortunately, States are sort of in competition with one another in attracting industry, and they are inclined to perhaps relax a little bit to induce industry into their State.

Mr. Whitehead, one of our earlier witnesses, was talking about the no-fill bench methods. Have you considered that at all?

Mr. WAGNER. If I understand what he means, it is an arrangement whereby the spoil or as much as will go there is put back on the bench, instead of being spilled over the side of the bench. We have not included that in our contract provisions.

We have made a study of this and have written some specifications and hope very soon to conduct some tests on just how this will work in our particular area where the slopes are steeper than in Pennsylvania, as he was describing them. We want to see how it works and what the cost will be.

Senator Moss. I was wondering about the practicability of the cost because it seems to me you would have to handle the spoil, pick it up and lift it some place, then pick it up again and bring it back.

The spoil bank method we observed out there did, I think, include bringing some of the spoil back in, but a lot of it stayed on the outslope.

Mr. WAGNER. There is a substantial outslope in our present process. A substantial amount is brought back to the bench to grade the remaining bench towards the highwall so the drainage is controlled.

We were confident that the cost of this method that we are going to try as an experiment will be substantially more than the present methods. We don't really know how much more, and it will depend, I suppose, on how much of the fill you actually put back on the bench.

As Mr. Osborn remarked earlier this morning, when you remove the material, the overburden material, it swells considerably, 25 to 30 percent, so you can't put all of it back where it was. Some of it must go over the sides or else you have to find a separate spoil area to dispose of it.

We would like to see how this works, whether it really is an improvement over present methods or not, and what the costs would be.

Senator Moss. In your contract requirements, you require seeding of the area after the mining has been done, I take it.

Do you have a requirement of how much grass or how many trees, or do you have regular standards that have to be met?

Mr. WAGNER. Yes, that is spelled out. The amount that must be applied and the growth rates that must be achieved.

If you are interested in the figures, Mr. Curry can give them to you.

Senator Moss. What percentage requirements do you require of your tree growth, for example, and how close must the trees be?

Mr. CURRY. On tree planting, we require that they plant 900 seedlings per acre. At the end of one growing season, they must have 600 limbs well distributed.

Senator Moss. So, two-thirds of them have to grow or they must replant?

Mr. CURRY. Right. They have to be well distributed.

Senator Moss. Do you designate the type of tree that has to be replanted?

Mr. CURRY. Yes, we spell out in our provisions the types of trees that they may select from, and they make their selection and they will put in a mining and reclamation plan to be approved.

If they wanted to go with some exotic species that was not in that list, we would give due consideration to it, but we do list both the grasses and trees that we normally expect in our area.

Senator Moss. I see.

So, the way it works is they must submit a plan to you before the contract is awarded, and you must be satisfied with that?

Mr. CURRY. They must submit an approved plan before they can even bid.

Mr. WAGNER. This is a new requirement, Senator, and our first invitations will go out on this basis the first of March, and the bidders will be required to submit a plan and the plan must be acceptable before we will accept a price bid.

Senator Moss. How do you assure that the plan will be carried out after the coal has been mined off and you have the coal? How do you assure that they follow through on what they agree to do?

Mr. WAGNER. We follow up with almost continuous inspections, and under the new provisions we withhold 2 percent of the gross that we would pay them the first year, and in a fund, and if they don't reclaim to our satisfaction, we would do it with these funds.

Senator Moss. So, you withhold 2 percent to be assured that the plan is carried out, and not until you are satisfied that it has been carried out do you pay off the final 2 percent, is that right?

Mr. WAGNER. That is correct, but as the mining proceeds, if there were violations of our requirements, we would stop the operation until it was straightened out.

Senator Moss. What is the average cost of reclamation per acre of land under your coal compact?

Mr. WAGNER. Under the procedure we are currently following it varies greatly, but we think about 50 cents per tons, that would run perhaps \$500 per acre. It depends on the thickness of the seam and so on. It varies widely from one area to another, but those are average figures.

Senator Moss. I see.

If the State or the Federal Government went to a bonding requirement, they would gear the bond, I suppose, to what would be calculated as the average cost.

Mr. WAGNER. I presume that would be correct.

Senator Moss. I believe you said that the degree of slope would be considered and that there are certain areas where strip mining should not be allowed at all?

Mr. WAGNER. Yes, sir; that is correct.

In our current requirements in our contracts, we do not permit mining on slopes steeper than 28°, and that is a maximum. If there are special problems on particular flatter slopes, we would prohibit stripping there.

In addition to that, we prohibit stripping within close reach of roads, streams, scenic areas, and that sort of thing. This is a part of the process of approving each plan.

Senator Moss. What is the double-box technique?

Mr. WAGNER. Well, I think the double-box technique is what Mr. Whitehead was talking about. I forget what he called it, but it is basically the process of keeping the spoil all on the bench, or as much as you can. You don't spill it over the side as is normally done now. You haul it.

Senator Moss. I didn't know the term. I was curious about what that was.

Mr. WAGNER. I think these terms get invented to suit the taste of each individual.

Senator Moss. Do you think we should attempt to eliminate the highwall, that is the fill right back up to the highwall, or can we tolerate some highwall?

Mr. WAGNER. I think we can tolerate some highwall. In many instances the highwall will in a reasonably short time collapse by itself, and it will revegetate.

In some cases it is desirable to push some of the spoil material back against it to minimize the height. It depends on just where you are.

The highwalls, given enough time, will normally be covered or hidden by tree growth.

I have seen some of the areas—well, I mentioned here that we worked with some landowners and miners in the 1940's and I recently looked at one of those areas. All that was done there was to plant trees on the spoil area, and from across the valley, not too far, you don't see the highwall. You can hardly see a break in the tree line, so I think this is a matter that again needs individual attention at each site.

Some highwalls should be obliterated, and others, perhaps don't need to be.

Senator Moss. Would the approval of a plan depend to some extent whether there were natural highwalls in the area; at some places of course there are ledges that are just there naturally.

Mr. WAGNER. I suppose it might. We would want to be sure the area was left in what we consider to be esthetically acceptable.

One thing, Senator, about a highwall, if you leave a highwall, you also leave a fairly wide, level bench, and in many of those mountain areas level land is at a premium. It can be used in the future. Haul roads can be used to get timber out, access for hunting or hiking or fishing, and in some areas close to town, of course, it has a higher use, housing developments, schools, airplane landing strips, and so on.

Again, I think this is something that you have to look at in each case, and it fits into the definition that Mr. Whitehead gave of land use planning. When these quantities of earth are moved, you ought to use foresight and move them and leave them in ways that will provide the greatest usefulness to people who live in those areas in the years ahead of them, and I mean the long years ahead.

I am not thinking about 5 or 10 years, but maybe 50 or 100, or even more.

Senator Moss. I recall seeing one place where the whole hilltop had been leveled off and was then being used for crops by apparently the landowner.

Would you approve of that kind of a plan if that is what the landowner and miner presented to you?

Mr. WAGNER. Yes, we would. In some instances, the landowner actually requested that we do that. The land that you saw, I believe, was in pasture, and there are several instances where level areas have been grazed and where now it is possible to raise livestock, and this is a form of income for the people who live there.

Also, as many people have pointed out, these open areas in the woods edges where the forest joins these open spaces are ideal for wildlife and much better than solid woods.

Senator Moss. Well, we certainly appreciate your testimony, and we did appreciate your taking us on that inspection trip through your area, and the briefings we had from professionals on your staff. It was most enlightening to our committee.

We appreciate your presence here. If any of you have anything more you want to say before you leave, you are invited to do so.

Mr. WAGNER. We are glad you could come, Senator. I would say that most of the areas you saw on this trip, were the so-called orphan lands. A great majority of the strip mining that you see and which causes so much concern is the orphan lands, and this is one reason we think it is important that they should be reclaimed.

Senator Moss. The area that really worries me a lot is the orphan lands, and how we can get financing to treat those lands now so they will not remain as a permanent scar as they are now.

Could you make any recommendation as to how we get funds for the orphan lands?

Mr. WAGNER. We have not, but we would be glad to see a reasonable severance tax to be used as a fund to reclaim them.

Senator Moss. To be put into a fund to be used for that purpose?

Mr. WAGNER. Yes, I think it is a cost that the users of coal ultimately ought to pay.

Senator Moss. Society has to do something. We didn't move quickly enough to regulate the strip mining, and now we have to repair some of the damage that we permitted.

Mr. WAGNER. This is why it is so important that legislation be enacted promptly, so we don't create more of those orphan lands.

Senator Moss. Thank you very much. We do appreciate your coming today.

The next witness is Louise C. Dunlap, assistant legislative director of Friends of the Earth.

STATEMENT OF LOUISE C. DUNLAP, ASSISTANT LEGISLATIVE DIRECTOR, FRIENDS OF THE EARTH

LOUISE DUNLAP. My name is Louise C. Dunlap. I am assistant director of Friends of the Earth.

We appreciate this opportunity to testify before you today and we are very pleased that your subcommittee has held further hearings on the bills introduced recently.

Although we had put in a request to testify several months ago, we, unfortunately, were not put on the witness list until yesterday and we will, therefore, respond in writing to the questions of most particular interest to you and your committee.

We hope you do look at our testimony because it represents not only the Friends of the Earth's position, but it is the position of a number of other conservation groups, totaling nearly 20, including the Coalition Against Strip Mining, which includes the Federation of Western Outdoor Clubs, and just today we would like to present to you for inclusion in the hearing record our report entitled "Stripping the Land for Coal," which contains State and county projections in 15 States, what land areas would be affected if stripping is allowed to continue. And after receiving our written statement, we hope that we can be available to you and your committee for further questions.

(Subsequent to the hearing Mrs. Dunlap submitted a supplemental statement which is in the appendix.)

Senator Moss. Well, thank you very much. This is a very detailed, well worked out document and we are pleased to have this and place it in the record in full with the data that you have supplied and we will be most pleased to receive your written responses to the nine questions that we referred to, and any other comments that you care to make on behalf of the organizations that you represent.

If the answers to the questions elicit further questions, we would ask if we could write to you and have written responses to them too.

LOUISE DUNLAP. I think it is particularly important, in light of the fact that we understand that the committee may begin executive sessions in early March, and the committee will not be able to travel to Western States until the end of May, and the western members of our coalition are most anxious that you do look over the comments that we will be making.

Senator Moss. We will certainly do that and although we intend to start early, I suspect we are going to have several weeks of deliberation because this is a difficult and complex problem. We have about 12 bills before us that we must consider and determine what we think is best and feasible to do, and this is going to take a little consideration. We are going to start as early as we can to address ourselves to the problem because we are convinced, and I think nearly every witness has testified, that speed is urgent in this case.

Stripping is going on and if we are going to do anything about it, we can't temporize too long or the lands will be ruined.

Mrs. DUNLAP. We certainly are encouraged by the committee's priority on this problem and we would certainly urge legislation as soon as possible. However, we hope that all possible approaches are considered because, as you know, as a legislator, once a law is enacted it takes several years to amend it.

If there are problems in the administrative ability of the law, so we look forward to your careful consideration of our comments.

Senator Moss. Thank you very much, we appreciate it.

(The document referred to follows:)



Stripping the Land for Coal —

Only the Beginning

State and County Projections

February 1972

COALition Against Strip Mining—Friends of the Earth

STRIPPING THE LAND

FOR COAL -

Only the Beginning

State and County Projections

prepared by

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February 1972

cover credit:
Earl Dotter

By 1965 more than 1.3 million acres - 2050 square miles - of the United States had been gouged by strip mining in the seemingly endless quest for coal. Even with strip mining capturing nearly 50 percent of the total coal production in 1971, the stripping is just beginning.

All the land damaged by coal stripping until January 1965 represents only 19.5 percent, or one-fifth, of the area yet to be stripped. And this percentage reflects only those 15 states, out of 25 states where stripping is current or potential, for which adequate data is available.

It is very difficult to appreciate the relationship between tons of coal produced by strip mining and land areas damaged during and after the stripping process. The tonnage stripped and land damaged relationship is contingent upon the depth of the overburden, thickness of the seam, and type of terrain. Contour stripping in hilly and mountainous areas typically accelerates the destructive effects more rapidly than area stripping in rolling and relatively flat areas. Acidity of the soil, aridity of the climate, and proximity to streams, rivers and subsurface waters are all critical factors in establishing the stripable production-damage ratio.

If stripping is allowed to continue, in the 15 states surveyed, 36 billion tons of coal will be produced at the expense of 8455.1 square miles of land, not including spoil bank and off-site damage. The stripable reserves of these 15 states constitute only 4.8 percent of the total recoverable coal reserves in this nation. Yet, the pursuit of this 4.8 percent will create a wake of devastated lands equivalent to a path $2\frac{1}{2}$ miles wide from New York City to San Francisco.

Total U.S. coal resources are estimated between 1.5 and 1.6 trillion tons in place by the U.S. Bureau of Mines and the U.S. Geologic Survey. Approximately 57 percent, or conservatively 750 billion tons, are considered to be economically recoverable. In a recent open file report the Bureau of Mines estimates that stripable coal resources total 119 billion tons, while stripable reserves, or those reserves considered economically stripable using present technology, total only 45 billion tons. This lower estimate does not seem to take into account the industry's expanding capability to recover coal from deeper seams by stripping, rather than by deep mining, with use of more sophisticated and mammoth earth moving equipment. This study focuses on only 36 billion tons of stripable reserves in 15 states, or 4.8 percent of the total recoverable coal reserves.

States included in this study:

Illinois	Kansas	Montana	Ohio	Virginia
Indiana	Kentucky	New Mexico	Oklahoma	West Virginia
Iowa	Maryland	North Dakota	Pennsylvania	Wyoming

States not included in this study, with current or potential coal stripping, which have not reported adequate data to Bureau of Mines:

Alabama	Arizona	Colorado	Tennessee	Utah
Alaska	Arkansas	Missouri	Texas	Washington

Environmental damage is sparked long before the coal is lifted from its seam when the site is first prepared for strip mining. If the site was previously forested, clear-cutting, in itself a controversial land management practice, is a prerequisite. Yet, the devastation of clear-cutting is but a lick of icing from the cake. Long before the giant shovels take their first scoops of overburden the wildlife have disappeared along with their lost habitats. And soon the people are not far behind the wildlife in seeking refuge elsewhere.

The chain of reactions seems interminable, on-site and off-site.

- Blasting of the overburden.
- Tension cracks.
- Acid and mineral seepage into the water table.
- Redistribution of subsurface waters.
- Soil bank slippage. Loss of soil stability.
- Landslides. Mountain slides.
- Continual cutting-and-filling erosion cycles.
- Siltation.
- Lower water retention capacities of watersheds.
- Flash floods.
- Reduced storm-carrying capacities of rivers.
- Excessive silt pavements on streambeds. Spawning areas lost.
- Loss of oxygen.
- Loss of aquatic invertebrates.
- Avalanches of rock and mud.
- Houses washed down hillsides. Cars covered by debris.
- Soil sterility.
- Exposed saline sub-soils. Exposed shales baked and impervious.
- Topsoils lost at the bottom of spoil banks.
- Exotic and vulnerable plant species artificially induced.
- Sparse vegetation.
- Replacement of diverse rich hardwood forests by fast-growing but vulnerable monocultures.

These are but a few of the documented effects of strip mining. This study concentrates on the relationship between tons of coal projected to be strip mined and the land areas to be affected, if strip mining of coal is allowed to continue.

METHODS OF CALCULATION

The following figures are an attempt to approximate the potential land surface area that would be disrupted in each county of these 15 states if the strippable coal reserves, now considered economically strippable by the U.S. Bureau of Mines, were extracted using current surface mining techniques.

In 1969 the Bureau of Mines requested certain information on surface mining from each state bureau of mines. Of the 25 states where land is being stripped for coal, only 15 states included "acreage disrupted" figures, representing surface acres damaged by strip mining in 1969. Using Bureau of Mines coal surface mining production figures for 1969, it is possible to calculate a "tons per disrupted square mile" ratio for each state. By dividing the Bureau of Mines "strippable reserve" figure for each county by the state's tons/disrupted square mile ratio, a "potential area disrupted" figure can be calculated for each county.

This "potential area disrupted" figure is only an approximation. It assumes that each state's tons/disrupted square mile ratio holds in each county. In fact, however, it will vary from county to county as it does from state to state (though within a more limited range), depending on thickness of the coal seam involved, depth of overburden, type of terrain, and other factors. However, individual county figures are not available, and as an average this figure is useful. Definitions of "acreage disrupted" also vary from state to state, and no uniformity was imposed by the Bureau of Mines. Many states, therefore, do not include in these figures land covered by spoil piles, disruption caused by access roads, and other facilities ancillary to strip mining.

LIMITATIONS OF THIS STUDY

This study, while projecting potential areas disrupted by coal stripping, applies only to 15 states out of 25 states where stripping is practiced.

The total strippable reserves for these 15 states approximate 36 billion tons of coal. This represents only 4.8% of the total recoverable coal reserves. Yet, extraction of this 4.8% of all the coal available will require on-site damage covering approximately 8455.1 sq. miles. The potential land disruption caused by coal stripping in those 10 states which have not reported data to the Bureau of Mines is not reflected in this study.

These figures do not reflect off-site damage done to streams by mine-produced siltation and acid drainage. The survey does not include land disruption caused by access roads and ancillary facilities, and unless otherwise noted, spoil banks are excluded.

Potential land area disrupted calculations in this study include only figures since January 1968.

Sources:

U.S. Bureau of Mines, Form O.M.B. No. 42-S70014

Ibid. Minerals Yearbook, 1969

Ibid. "Strippable Reserves of Bituminous Coal and Lignite in the United States," Open File Report, July 1971

POTENTIAL ON-SITE LAND DISRUPTION BY COAL STRIP MINING

	STRIPPABLE RESERVE (Thousand Short Tons)	POTENTIAL AREA DISRUPTED (Square Miles)	CONGRESSIONAL DISTRICTS
ALABAMA:	DATA NOT REPORTED		
ALASKA:	DATA NOT REPORTED		
ARIZONA:	DATA NOT REPORTED		
ARKANSAS:	DATA NOT REPORTED		
COLORADO:	DATA NOT REPORTED		
ILLINOIS:	3,300,000 tons/disrupted sq. mi. :		
Adams	54,500	16.5	20
<u>Brown*</u>	37,100	11.2	20
<u>Bureau</u>	73,900	22.3	18
<u>Calhoun</u>	1,600	0.5	20
<u>Cass</u>	30,300	9.2	20
Fulton	330,200	101.0	19
Gallatin	48,300	14.6	21
<u>Greene</u>	74,100	22.5	20
Grundy	46,300	14.1	15
<u>Hancock</u>	3,600	1.0	20
<u>Henderson</u>	5,100	1.5	19
<u>Henry</u>	112,100	33.8	19
Jackson	96,400	29.1	21
<u>Jersey</u>	28,100	8.3	20
Kankakee	3,200	0.9	17
Knox	188,400	57.0	19
<u>LaSalle</u>	39,300	11.9	15
<u>Livingston</u>	8,800	2.6	17
<u>Macoupin</u>	46,100	13.9	23
<u>Madison</u>	134,900	40.9	23,24
<u>Marshall</u>	20,400	6.1	18
<u>McDonough</u>	58,400	17.7	20
Mercer	9,000	2.7	19
<u>Monroe</u>	1,300	0.4	21
<u>Morgan</u>	111,000	33.6	20
Peoria	355,100	108.0	18
Perry	291,700	89.0	21
<u>Pike</u>	10,400	3.1	20
Randolph	108,500	32.9	21
<u>Rock Island</u>	5,000	1.5	19
Saline	78,000	23.6	21
St. Clair	395,000	119.0	24

*No stripping officially reported in counties underlined

POTENTIAL ON-SITE LAND DISRUPTION BY COAL STRIP MINING

	STRIPPABLE RESERVE (Thousand Short Tons)	POTENTIAL AREA DISRUPTED (Square Miles)	CONGRESSIONAL DISTRICTS
ILLINOIS:			
<u>Schuyler*</u>	91,600	27.8	20
<u>Scott</u>	27,100	8.2	20
<u>Stark</u>	94,000	28.6	18
<u>Tazewell</u>	24,300	7.4	18
Vermillion	not available	not available	17
<u>Warren</u>	39,300	11.8	19
<u>Will</u>	3,100	0.9	14,17
<u>Williamson</u>	161,100	48.8	21
TOTAL:	3,246,600	983.8	
INDIANA: 3,420,000 tons/disrupted square mile:			
<u>Clay</u>	160,057	46.8	7
<u>Davies</u>	68,521	20.0	8
<u>DuBois</u>	2,128	0.6	8
<u>Fountain & Warren</u>	16,273	4.7	7
<u>Greene</u>	103,223	30.5	7
<u>Knox</u>	71,143	20.8	8
<u>Martin</u>	41,386	12.1	7
<u>Owen</u>	25,389	7.4	7
<u>Parke</u>	4,769	1.4	7
<u>Pike</u>	119,907	34.9	8
<u>Spencer</u>	26,412	7.7	8
<u>Sullivan</u>	154,622	45.2	7
<u>Vermillion</u>	22,998	6.7	7
<u>Vigo</u>	127,072	37.2	7
<u>Warrick</u>	152,554	44.4	8
TOTAL:	1,096,454	320.4	
IOWA: 3,337,500 tons/disrupted square mile:			
County unnamed	180,000	53.9	
KANSAS: 782,000 tons/disrupted square mile:			
<u>Atchison</u>	2,054	2.6	2
<u>Bourbon</u>	60,955	77.8	5
<u>Brown</u>	4,568	5.8	2
<u>Cherokee</u>	80,565	106.0	5
<u>Coffey</u>	1,371	1.7	5
<u>Cowley</u>	1,015	1.3	5
<u>Crawford</u>	94,409	122.0	5
<u>Franklin</u>	402	0.5	3
<u>Leavenworth</u>	6,258	8.0	2

*No stripping officially reported in counties underlined

POTENTIAL ON-SITE LAND DISRUPTION BY COAL STRIP MINING

	STRIPPABLE RESERVE (Thousand Short Tons)	POTENTIAL AREA DISRUPTED (Square Miles)	CONGRESSIONAL DISTRICTS
KANSAS:			
<u>Linn*</u>	100,100	128.0	5
<u>Osage</u>	23,776	30.3	5
TOTAL:	375,473	494.0	
KENTUCKY-EAST: 2,348,000 tons/disrupted square mile:			
Bell	26,484	11.2	5
Boyd	14,583	6.3	7
Breathitt	57,634	24.6	7
Carter	28,052	11.9	7
Clay	11,650	5.0	5
Clinton	678	---	
<u>Elliott</u>	10,267	4.4	7
Floyd	31,285	13.4	7
<u>Greenup</u>	9,996	4.3	7
Harlan	71,079	30.2	5
Jackson	10,982	4.7	
Johnson	28,961	12.3	7
Knott	43,194	18.4	7
Knox	14,040	6.0	5
Laurel	6,728	2.9	
Lawrence	16,475	7.0	7
Lee	2,455	1.0	
Leslie	47,421	20.3	5
Letcher	30,034	12.8	7
Magoffin	20,228	8.7	7
Martin	85,021	36.2	7
McCreary	6,292	2.7	5
<u>Menifee</u>	71	---	7
Morgan	10,230	4.4	7
<u>Owsley</u>	316	---	5
Perry	78,831	33.9	7
Pike	97,272	41.5	7
<u>Powell</u>	17	---	6
Pulaski	1,037	0.4	5
<u>Rock Castle</u>	6,658	2.8	5
Wayne	3,814	1.6	5
Whitley	6,869	2.8	5
<u>Wolfe</u>	2,176	0.9	
TOTAL:	780,830	332.6	

*No stripping officially reported in counties underlined

POTENTIAL ON-SITE LAND DISRUPTION BY COAL STRIP MINING

	STRIPPABLE RESERVE (Thousand Short Tons)	POTENTIAL AREA DISRUPTED (Square Miles)	CONGRESSIONAL DISTRICTS
<u>KENTUCKY-WEST: 2,348,000 tons/disrupted square mile:</u>			
Butler	39,000	16.7	1
<u>Christian*</u>	7,000	2.9	1
<u>Crittenden</u>	7,000	2.9	1
Daviess	69,000	29.5	2
<u>Edmonson</u>	9,000	3.9	2
<u>Grayson</u>	1,000	0.4	2
<u>Hancock</u>	14,000	6.0	2
Henderson	165,000	70.5	1
Hopkins	152,000	65.2	1
<u>McLean</u>	43,000	18.3	1
Muhlenburg	258,000	109.0	1
Ohio	161,000	69.0	2
Union	25,000	10.7	1
Webster	27,000	11.6	1
TOTAL:	977,000	420.5	
<u>TOTAL KENTUCKY:</u>	<u>1,757,830</u>	<u>753.1</u>	
<u>MARYLAND: 2,612,500 tons/disrupted square mile:</u>			
Allegany	6,600	2.5	6
Garrett	14,700	5.7	6
TOTAL:	21,300	8.2	
MISSOURI: DATA NOT REPORTED			
<u>MONTANA: 19,900,000 tons/disrupted square mile:</u>			
<u>SUBBITUMINOUS:</u>			
Big Horn	1,009,000	50.9	2
<u>Custer</u>	64,000	3.2	2
Powder River	1,405,000	70.6	2
Rosebud	922,000	46.3	2
TOTAL:	3,400,000	200.0	
<u>LIGNITE:</u>			
Custer	347,000	17.3	2
<u>Dawson</u>	180,000	9.6	2
<u>McCone</u>	410,000	20.6	2
Powder River	1,245,000	62.5	2
Richland	109,000	5.5	2
<u>Roosevelt</u>	204,000	10.0	2
Rosebud	80,000	4.0	2
<u>Sheridan</u>	460,000	23.2	2
<u>Wilbaux</u>	462,000	23.2	2

*No stripping officially reported in counties underlined

POTENTIAL ON-SITE LAND DISRUPTION BY COAL STRIP MINING

	STRIPPABLE RESERVE (Thousand Short Tons)	POTENTIAL AREA DISRUPTED (Square Miles)	CONGRESSIONAL DISTRICTS
MONTANA:			
TOTAL:	3,497,000	175.9	
TOTAL MONTANA:	6,897,000	375.9	
NEW MEXICO: 9,080,000 tons/disrupted square mile:			
<u>San Juan*</u>	2,370,000	262.0	2
<u>McKinley</u>	104,000	11.4	2
TOTAL:	2,474,000	273.4	
NORTH DAKOTA: 8,940,000 tons/disrupted square mile:			
<u>Billings</u>	66,000	7.4	2
Bowman	213,000	23.8	2
Burke	61,000	6.8	2
<u>Burleigh</u>	12,000	1.3	2
<u>Dunn</u>	41,000	4.5	2
<u>Golden Valley</u>	224,000	25.0	2
<u>McLean</u>	24,000	2.7	2
Mercer	312,000	34.8	2
Oliver	121,000	13.6	2
<u>Slope</u>	594,000	66.8	2
Stark	286,000	32.2	2
Ward	4,000	0.4	2
Williams	117,000	13.2	2
TOTAL:	2,075,000	232.5	
OHIO: 1,976,000 tons/disrupted square mile:			
Athens	43,100	21.8	10
Belmont	66,900	33.8	18
Carroll	39,600	20.0	18
Columbiana	31,300	15.8	18
Coshocton	50,500	25.5	17
Gallia	37,100	18.8	10
Guernsey	35,800	18.2	17
Harrison	48,500	24.6	18
Hocking	71,000	36.0	10
Holmes	9,700	4.9	17
Jackson	40,800	20.7	10
Jefferson	81,600	41.2	18
Lawrence	51,000	25.8	6
Mahoning	8,000	4.1	16
Meigs	22,900	11.6	10
Monroe	600	---	10
Morgan	20,700	10.5	10

*No stripping officially reported in counties underlined

POTENTIAL ON-SITE LAND DISRUPTION BY COAL STRIP MINING

	STRIPPABLE RESERVE (Thousand Short Tons)	POTENTIAL AREA DISRUPTED (Square Miles)	CONGRESSIONAL DISTRICTS
OHIO:			
Muskingum	47,400	24.0	17
Noble	86,400	43.8	10
Perry	82,500	41.8	10
<u>Scioto*</u>	1,200	0.6	6
Stark	35,000	17.8	16
Tuscarawas	79,900	40.5	17,18
Vinton	27,200	13.8	10
Washington	13,300	6.7	10
Wayne	1,000	0.5	17
TOTAL:	1,033,100	522.8	
OKLAHOMA: 662,000 tons/disrupted square mile:			
<u>Atoka</u>	3,320	5.1	3
<u>Coal</u>	5,460	8.2	3
Craig	21,142	31.9	2
Haskell	15,590	23.6	3
<u>Latimer</u>	4,850	7.3	3
LeFlore	11,680	17.7	3
<u>McIntosh</u>	1,090	1.6	2
Muskogee	990	1.5	2
<u>Nowata</u>	21,543	32.4	2
Okmulgee	3,526	5.3	2
<u>Pittsburg</u>	4,298	6.5	3
Rogers	11,823	17.9	2
<u>Sequoyah</u>	2,573	3.9	2
<u>Tulsa</u>	1,852	2.8	1
<u>Wagoner</u>	925	1.4	2
TOTAL:	110,662	167.1	
PENNSYLVANIA: 1,208,000 tons/disrupted square mile:			
Allegheny	18,700	15.6	14,18,20,27
Armstrong	66,300	54.9	22
Beaver	26,000	21.6	25
Butler	100,000	83.4	25
Cambridia	27,400	22.8	22
Clarion	71,100	59.1	22
Clearfield	87,600	72.9	23
Fayette	44,100	36.7	21,26
Greene	35,300	29.4	26
Indiana	32,100	26.7	22
Jefferson	38,000	31.5	22
Lawrence	14,400	12.0	25

*No stripping officially reported in counties underlined

POTENTIAL ON-SITE LAND DISRUPTION BY COAL STRIP MINING

	STRIPPABLE RESERVE (Thousand Short Tons)	POTENTIAL AREA DISRUPTED (Square Miles)	CONGRESSIONAL DISTRICTS
PENNSYLVANIA:			
Mercer	30,900	25.7	24
Somerset	56,500	47.0	12
Washington	81,700	67.9	26
Westmoreland	22,200	18.5	21
TOTAL:	752,300	625.7	
TENNESSEE: DATA NOT REPORTED			
TEXAS: DATA NOT REPORTED			
UTAH: DATA NOT REPORTED			
VIRGINIA: 1,432,000 tons/disrupted square mile:			
Buchanan	98,300	68.8	9
Dickenson	45,300	31.8	9
Lee	17,800	12.6	9
Russell	14,200	9.9	9
Tazewell	15,900	11.2	9
Wise	66,000	46.2	9
TOTAL:	257,500	180.5	
WASHINGTON: DATA NOT REPORTED			
WEST VIRGINIA: 791,300 tons/disrupted square mile:			
Barbour	53,600	67.8	2
Boone	310,800	400.0	3
Braxton	38,700	48.9	3
Brooke	7,200	9.1	1
Cabell*	7,300	9.2	4
<u>Calhoun</u>	1,600	2.0	1
Clay	52,500	66.5	3
Fayette	148,700	188.0	5
Gilmer	6,800	8.6	1
Grant	7,200	9.1	2
Greenbrier	14,600	18.6	2
Hancock	4,000	5.1	1
Harrison	44,800	56.8	1
Kanawha	284,100	359.0	3
Lewis	45,800	58.0	2
Lincoln	34,100	43.2	4
Logan	142,400	180.0	4
Marion	29,000	36.7	1

*No stripping officially reported in counties underlined

POTENTIAL ON-SITE LAND DISRUPTION BY COAL STRIP MINING

	STRIPPABLE RESERVE (Thousand Short Tons)	POTENTIAL AREA DISRUPTED (Square Miles)	CONGRESSIONAL DISTRICTS
WEST VIRGINIA:			
Mason	1,400	1.8	4
Marshall	300	---	1
McDowell	84,100	107.0	5
Mercer	12,700	16.1	5
Mineral	6,200	7.8	2
Mingo	165,800	208.0	5
Monongalia	35,700	44.9	2
Nicholas	91,700	115.0	3
Ohio	13,200	16.8	1
Pocahontas	11,500	14.6	2
Preston	17,000	21.4	2
Putnam*	3,400	4.3	3
Raleigh	112,800	142.0	5
Randolph	48,400	61.3	2
Roane	1,500	1.9	3
<u>Summers</u>	1,200	1.5	5
Taylor	16,500	20.8	2
Tucker	4,300	5.4	2
Upshur	46,900	59.4	2
Wayne	33,000	41.8	4
Webster	119,400	151.0	2
Wyoming	57,500	72.9	5
TOTAL:	2,117,700	2682.7	
WYOMING: 17,920,000 tons/disrupted square mile:			
Campbell	12,160,000	680.0	AL
Carbon	101,000	5.7	AL
Converse	253,000	14.1	AL
<u>Johnson</u>	800,000	44.6	AL
Lincoln	140,000	7.8	AL
Sheridan	114,000	6.4	AL
Sweetwater	403,000	22.5	AL
TOTAL:	13,971,000	781.1	

*No stripping officially reported in counties underlined

NATIONAL DATA:

15 STATES: ILLINOIS, INDIANA, IOWA, KANSAS, KENTUCKY, MARYLAND, MONTANA, NEW MEXICO, NORTH DAKOTA, OHIO, OKLAHOMA, PENNSYLVANIA, VIRGINIA, WEST VIRGINIA, WYOMING.

Total Strippable Reserves: 36,365,919,000 short tons
 Strip Coal Production, 1969: 195,538,000 short tons
 Disrupted Area, 1969: 105 square miles
 Calculated Tons/Disrupted Sq. Mi. ratio, 1969: 1,862,266 tons/d. sq. mi.
 Average of State Tons/D. Sq. Mi. ratios, 1969: 5,180,260 tons/d. sq. mi.

Most Reliable Estimate,

Total Potential Area Disrupted: 8455.1 sq. mi.

Other Estimated Totals: 7020.0 sq. mi.

19,527.7 sq. mi.

THREE TOTALS AND METHODS OF CALCULATION:

Since the tons/disrupted square mile ratio determines the potential area disrupted figure in each instance, some care must be used in arriving at a total potential area disrupted figure for the United States. Since only 15 states of the 23 where surface coal mining was done in 1969 reported acreage disrupted figures in 1969, the totals here represent only these states. All figures used in this study assume that surface mining techniques used to produce the 1969 data will be used in the future.

At least three methods of calculating a total can be used:

1. COMPUTATION USING AVERAGE OF 1969 STATE TONS/DISRUPTED SQUARE MILE RATIOS:

7020.0 Square Miles

Averaging state ratios produces a national average of 5,180,260 tons/disrupted sq. mi., which is then divided into the reserves figure to compute the total potential disruption. Since this method gives equal weight to each state ratio, the effect of certain states (Montana, 19,900,000 tons/d. sq. mi.; Wyoming, 17,920,000) is exercised out of proportion to their relatively low 1969 strip coal production (Montana, 995,000 tons; Wyoming, 4,481,000 tons). In future years, if surface mining moves increasingly westward, where reserves are most extensive, production in these states will increase, and an equal-weight average method will become more reliable. Since this method ignores changing geographic production patterns, however, it becomes completely accurate only when all states produce equal tonnage.

2. COMPUTATION USING CALCULATED 1969 NATIONAL TONS/DISRUPTED SQUARE MILE RATIO:

19,527.7 Square Miles

This method produces the highest total since it utilizes the lowest national tons/disrupted square mile ratio: 1,862,266. This ratio is unsatisfactory, however, since it is based on 1969 data alone, which are not likely to be typical of surface coal mining as production moves westward. As western production increases, the national tons/d. sq. mi. ratio will also increase, lowering any total U. S. potential disrupted area figure calculated by this method. Like the first method, it ignores changes in production patterns over the years, and is valid only if the 1969 pattern of low western production is typical of the future. This is unlikely.

3. ADDITION OF STATE TOTALS:

8455.1 Square Miles

This method assumes that the tons/disrupted square mile ratio for each state in 1969 will continue to hold in the future. It seems likely there would be little variation from year to year, since the chief determinants of these ratios--thickness of seam, depth of overburden, type of terrain--will remain constant for each area, and are not affected by changes in total state production over the years. (As usual, it is assumed that surface mining techniques remain constant.) Since this method involves the least variation over time, it may produce the most accurate estimate. (All figures in this study are estimates, based on limited data, the only data available at this time.)

In 1969 some states (Iowa, Kansas, Maryland, Montana, Oklahoma), mostly west of the Mississippi, where strip mining is relatively new, reported production of less than 2,000,000 tons. Their tons/disrupted sq. mi. ratios may consequently change when production increases in future years.

METHODS OF CALCULATION

1. State Tons/Disrupted Square Mile ratio: Tons of coal extracted by surface mining methods for each square mile of land reported disrupted by coal surface mining operations, 1969. Found by dividing strip coal production, 1969 (U. S. Bureau of Mines Minerals Handbook, 1969) by the number of square miles disturbed by coal surface mining operations, 1969, as reported to the Bureau of Mines in form O. M. B. No. 42- S70014.
2. Strippable Reserve: Thousands of short tons of coal that can be economically removed by current and foreseeable future surface mining methods. "The recoverable resource adjusted to conform to the current economic conditions, and further reduced by the amount of coal that for various other reasons cannot be mined." U. S. Bureau of Mines Open File Report Strippable Reserves of Bituminous Coal and Lignite in the United States, July, 1971.

3. Potential Area Disrupted: Square Miles of land surface area that would be disrupted if the strippable reserve were completely removed using current techniques. Found by dividing #2 above for each county by #1 above.

STANFORD RESEARCH STUDY

A recent and controversial study of strip mining in West Virginia, prepared by the Stanford Research League of Menlo Park, California, for the West Virginia legislature, contains further information on the "area disrupted" aspect of surface mining. A "Final Progress Report" was delivered to the Joint Committee on Government and Finance of the West Virginia legislature on December 14, 1971, including several sections of the final study itself. By using a hand-mapping technique from low-flying airplanes, the researchers surveyed surface mining sites in the state, and concluded that the state average is 0.00076 acres disrupted per ton of coal produced. (1970 production figures were probably used in their calculations; 1969 figures are used throughout this report.) This works out to a state tons/disrupted square mile ratio of 844,454, as compared to the 791,300 tons/d. sq. mi. ratio calculated in this study from the 1969 data--a difference of 53,154 tons/d. sq. mi., or 6.7%. The per acre figures are still closer: 0.00076 (Stanford) to 0.00081 (1969 Bureau of Mines data). While the methods and calculations of portions of the Stanford study have been called into question, it is informative to note the relative agreement in this area.

The Stanford figures on area disrupted result from their technique of surveying only the mine site itself; they do not reflect land surface disturbance caused by access roads or other ancillary facilities; nor do they reflect land surface area covered by spoil piles. The study estimates that about three to five times more land than the "coal acres" surveyed (the sites themselves) were covered by spoil. Since many of the states covered by the National Coal Stripping Survey similarly do not include off-site disruption under their reports of "acreage disrupted" as made to the Bureau of Mines, it can be said with certainty that the estimates in this survey are conservative.

Land Disruption by Coal Strip Mining, 15 States

STATE	[a] Strippable Reserve as of Jan. 1, 1968 (Tons)	[b] Known Land Disrupted as of Jan. 1, 1965 (Sq. Miles)	[c] Potential Disrupted Area (Sq. Miles)	Total Area Disrupted (Sq. Miles)	% of Counties With Strippable Reserves	% of Total State Area
Illinois	3,246,600,000	198.5	983.8	1182.3	5.3	2.1
Indiana:	1,096,454,000	149.0	320.0	469.4	7.2	1.3
Iowa	180,000,000	17.2	53.9	71.1	[1]	0.1
Kansas	375,473,000	71.2	494.0	565.2	8.1	0.7
Kentucky	1,757,830,000	186.2	753.1	939.3	5.3	2.1
Maryland	21,300,000	3.4	8.2	11.6	1.7	0.1
Montana	6,897,000,000	2.3	375.9	378.2	1.3	0.3
New Mexico	2,474,000,000	1.8	273.4	275.2	2.5	0.2
North Dakota:	2,075,000,000	12.0	232.5	244.5	1.3	0.3
Ohio	1,033,100,000	332.5	522.8	855.3	6.7	2.1
Oklahoma	110,662,000	36.8	167.1	203.9	1.8	0.3
Pennsylvania	752,300,000	462.0	625.7	1087.7	9.1	2.4
Virginia	257,500,000	46.5	180.5	227.0	8.4	0.6
West Virginia	2,117,700,000	300.0	2682.7	2982.7	16.3	12.4
Wyoming	13,971,000,000	1.5	781.1	782.6	2.1	0.8

[a] "Strippable Reserves of Bituminous Coal and Lignite in the United States", U. S. Bureau of Mines.

[b] "Surface Mining and our Environment", U. S. Dept. of Interior

[c] "Stripping the Land For Coal", Friends of the Earth, February 1972

[1] County area percentage unavailable for Iowa.

According to [a], 27 states have strippable coal reserves. In 1969, 22 reported strip coal production. Area data is available for 15.

COUNTIES WITH POTENTIALS FOR LAND DISRUPTION
BY COAL STRIP MINING OVER 10% OF TOTAL LAND AREA

As many as 112 counties in 11 states will lose more than 10% of their total land areas if strippable coal reserves are extracted using current surface mining techniques, according to data compiled from U.S. Bureau of Mines statistics. Nineteen of these 112 counties will suffer losses over 50% of their total land area.

Initial figures developed in this study reveal that disruption on the site of the mining operation alone, excluding damage by spoil banks, access roads, ancillary facilities, and stream and river pollution, will account for more than 10% of the land area of 43 counties in 8 states. This assumes that the total strippable coal reserves in those states, now considered economically recoverable by the Bureau of Mines, are removed by present stripping technology.

A recent study by the Stanford Research League of Menlo Park, California, for the West Virginia legislature estimates that in that state, on-site figures would have to be multiplied by three to five times to reflect land covered by spoil banks alone. A similar multiplier could be found for each county and state if there were enough data available. A reasonable approximation of spoil bank area damage can be calculated by using a multiplier of three, although the spoil bank area will vary greatly from state to state and does not reflect total land damage caused by the strip mining operation.

Only 19.5% of the total potential damage to the land in these 15 states had occurred by January 1968. The figures in this study reflect potential land damage after January 1968. These percentages do not include land disruption caused by access roads or damage to streams by mine-produced siltation and acide drainage.

COUNTIES WITH POTENTIALS FOR LAND DISRUPTION
BY COAL STRIP MINING OVER 10% OF TOTAL LAND AREA

COUNTY	PERCENT OF TOTAL AREA DISRUPTED (EXCLUDING SPOIL BANKS)	PERCENT INCLUDING SPOIL BANK MULTIPLIER (3 times)	COUNTY	PERCENT OF TOTAL AREA DISRUPTED (EXCLUDING SPOIL BANKS)	PERCENT INCLUDING SPOIL BANK MULTIPLIER (3 times)
<u>ILLINOIS:</u>			<u>KENTUCKY-East:</u> (continued)		
Brown	3.6 %	10.9 %	Martin	15.7 %	47.1 %
Fulton	11.5	34.5	Perry	9.9	29.7
Gallatin	4.4	13.3	Pike	5.3	15.9
Greene	4.1	12.4	<u>KENTUCKY-West:</u>		
Henry	4.2	12.6	Butler	3.8 %	11.3 %
Jackson	4.8	14.4	Daviess	6.4	19.1
Knox	7.8	23.5	Henderson	16.3	48.9
Madison	5.5	16.6	Hopkins	11.8	35.4
Morgan	6.4	19.2	McLean	7.1	21.4
Peoria	17.3	51.9	Muhlenburg	22.6	67.8
Perry	20.1	60.3	Ohio	11.6	34.8
Randolph	5.5	16.6	Webster	3.4	10.2
Saline	5.3	15.9	<u>NORTH DAKOTA:</u>		
St. Clair	17.7	53.1	Mercer	3.3 %	10.0 %
Schuyler	6.4	19.2	Slope	5.5	16.5
Stark	9.8	29.4	<u>OHIO:</u>		
Williamson	11.4	34.2	Athens	4.3 %	12.9 %
<u>INDIANA:</u>			Belmont	6.3	18.9
Clay	12.9 %	38.7 %	Carroll	5.1	15.4
Davless	4.6	13.9	Coshocton	4.5	13.6
Greene	5.5	16.7	Gallia	4.0	11.9
Knox	4.0	12.1	Guernsey	3.4	10.3
Martin	3.5	10.5	Harrison	6.2	18.6
Pike	10.4	31.2	Hocking	8.5	25.6
Sullivan	9.9	29.7	Jackson	4.9	14.8
Vigo	9.0	26.9	Jefferson	9.9	29.7
Warrick	11.4	34.2	Lawrence	5.7	17.0
<u>KANSAS:</u>			Muskingum	3.7	11.0
Bourbon	12.2 %	36.6 %	Noble	11.0	33.0
Cherokee	18.1	54.3	Perry	10.2	30.6
Crawford	20.2	60.6	Tuscarawas	7.1	21.4
Linn	21.5	64.5	Vinton	3.4	10.1
Osage	4.3	12.9	<u>OKLAHOMA:</u>		
<u>KENTUCKY - East:</u>			Craig	4.2 %	12.5 %
Boyd	4.0 %	11.9 %	Haskell	3.9	11.7
Breathitt	5.0	14.9	Nowata	6.0	18.1
Floyd	3.6	10.8			
Harlan	6.4	19.3			
Johnson	4.6	13.9			
Knott	5.2	15.5			
Leslie	5.0	14.9			
Letcher	3.8	11.3			

COUNTIES WITH POTENTIALS FOR LAND DISRUPTION
BY COAL STRIP MINING OVER 10% OF TOTAL LAND AREA

COUNTY	PERCENT OF TOTAL AREA DISRUPTED (EXCLUDING SPOIL BANKS)	PERCENT INCLUDING SPOIL BANK MULTIPLIER (3 times)	COUNTY	PERCENT OF TOTAL AREA DISRUPTED (EXCLUDING SPOIL BANKS)	PERCENT INCLUDING SPOIL BANK MULTIPLIER (3 times)
<u>PENNSYLVANIA:</u>			<u>WEST VIRGINIA:</u> (continued)		
Armstrong	8.4 %	25.3 %	Nicholas	17.9 %	53.7 %
Beaver	5.0	14.9	Ohio	15.8	47.4
Butler	10.5	31.5	Raleigh	23.5	70.5
Clarion	9.9	29.7	Randolph	5.9	17.7
Clearfield	6.4	19.2	Taylor	11.9	35.7
Fayette	4.6	13.7	Upshur	16.9	50.7
Greene	5.2	15.5	Wayne	8.1	24.4
Jefferson	4.8	14.5	Webster	29.4	88.2
Mercer	3.8	11.5	Wyoming	14.5	43.5
Somerset	4.4	13.2			
Washington	7.9	23.8			
<u>VIRGINIA:</u>			<u>WYOMING:</u>		
Buchanan	13.5 %	40.5 %	Campbell	14.3 %	42.9 %
Dickenson	9.5	28.5			
Wise	11.2	33.6			
<u>WEST VIRGINIA:</u>					
Barbour	19.9 %	59.7 %			
Boone	79.9	240.7			
Braxton	9.6	28.8			
Brooke	10.3	30.9			
Clay	19.4	57.2			
Fayette	28.4	85.2			
Hancock	6.1	18.3			
Harrison	13.6	40.8			
Kanawha	39.6	118.8			
Lewis	14.8	44.4			
Lincoln	9.8	29.4			
Logan	39.4	118.2			
Marion	11.8	35.4			
McDowell	20.1	60.3			
Mercer	3.9	11.6			
Mingo	49.2	146.6			
Monongalia	12.3	36.9			

CONGRESSIONAL DISTRICTS AFFECTED BY COAL STRIP MINING

The following list is composed of those congressional districts with counties where coal is currently produced by strip mining or where strippable coal reserves are subject to future mining.

Listed are those Senators and Congressmen whose constituents are directly affected by strip mining for coal. The symbol (*) indicates those who are co-sponsors of the Nelson bill (S. 1498) in the U.S. Senate and the Hechler bill (H.R. 4556) in the U.S. House of Representatives, identical bills providing for a ban on all coal strip mining within six months after enactment.

Counties followed by the symbol (#) can expect more than 10 % of their total land areas to be disrupted by coal stripping. These percentages do not reflect land damage prior to January 1968, estimated to be less than one-fifth as extensive as the potential disruption yet to take place. Counties listed more than once fall in two or more congressional districts.

ALABAMA:

(Area percentages not available)

Senators: John J. Sparkman (D)
James B. Allen (D)

District 4: William Nichols (D)

Counties: Jefferson
St. Clair

District 5: Walter Flowers (D)

Counties: Bibb
Jefferson
Shelby
Tuscaloosa

District 6: John H. Buchanan, Jr. (R)

Counties: Jefferson

District 7: Tom Bevill (D)

Counties: Blount
Cherokee
Cullman
Etowah
Fayette
Franklin
Marion
Walker
Winston

District 8: Robert E. Jones (D)

Counties: Jackson

ALASKA:

(Data not reported)

Senators: Ted Stevens (R)

Mike Gravel (D)

At-Large: Nicholas J. Begich (D)

ARIZONA:

(Area percentages not available)

Senators: Paul J. Fannin (R)

Barry M. Goldwater (R)

District 3: Sam Steiger (R)

Counties: Navajo

ARKANSAS:

(Area percentages not available)

Senators: John L. McClellan (D)

J.W. Fulbright (D)

District 2: Wilbur D. Mills (D)

Counties: Pulaski

District 3: John P. Hammerschmidt (R)

Counties: Crawford
Franklin
Johnson
Logan
Scott
Sebastian

District 4: David Pryor (D) *

Counties: Dallas
Quachita
Saline

COLORADO:

(Area percentages not available)

Senators: Gordon L. Allott (R)

Peter H. Dominick (R)

District 3: Frank E. Evans (D)

Counties: Fremont

District 4: Wayne N. Aspinall (D)

Counties: Delta Moffat
La Plata Montrose
Mesa Routt

CONGRESSIONAL DISTRICTS AFFECTED BY COAL STRIP MINING

ILLINOIS:

Senators: Charles H. Percy (R)
Adlai E. Stevenson (D)

District 14: John N. Erlenborn (R)
Counties: Will

District 15: Charlotte T. Reid (R)
(Seat Vacant)
Counties: Grundy
La Salle

District 17: Leslie C. Arends (R)
Counties: Kankakee
Livingston
Vermillion
Will

District 18: Robert H. Michel (R)
Counties: Bureau
Marshall
Peoria #
Stark #
Tazewell

District 19: Thomas F. Rallsback (R)
Counties: Fulton #
Henderson
Henry #
Knox #
Mercer
Rock Island
Warren

District 20: Paul Findley (R)
Counties: Adams
Brown #
Calhoun
Cass
Greene #
Hancock
Jersey
McDonough
Morgan #
Pike
Schuyler #
Scott

District 21: Kenneth J. Gray (D)
Counties: Gallatin #
Jackson #
Johnson
Monroe
Perry #
Randolph #
Saline #
Williamson #

District 23: George E. Shipley (D)
Counties: Macoupin
Madison #

District 24: Melvin Price (D)
Counties: Madison #
St. Clair #

INDIANA:

Senators: Vance Hartke (D)
Birch Bayh (D)

District 7: John T. Myers (R)
Counties: Clay #
Fountain
Greene #
Martin #
Owen
Parke
Sullivan #
Vermillion
Warren
Vigo #

District 8: Roger H. Zion (R)
Counties: Daviess #
Dubois
Knox #
Pike #
Spencer
Warrick #

IOWA:

(Area percentages not available)

Senators: John R. Miller (R)
Harold E. Hughes (D)

District 1: Fred Schwengel (R) *
Counties: Van Buren

District 4: John H. Kyl (R)
Counties: Mahaska
Marion
Monroe

KANSAS:

Senators: James B. Pearson (R)
Robert J. Dole (R)

District 2: William R. Roy (D)
Counties: Atchison
Brown
Leavenworth

District 3: Larry Winn, Jr. (R)
Counties: Franklin

District 5: Joe Skubitz (R)
Counties: Bourbon #
Cherokee #
Coffey
Cowley
Crawford #
Linn #
Osage #

* Co-sponsor

20

Over 10% county stripplable

CONGRESSIONAL DISTRICTS AFFECTED BY COAL STRIP MINING

KENTUCKY:

Senators: John Sherman Cooper (R)
Marlow W. Cook (R)

District 1: Frank A. Stubblefield (D)
Counties: Butler #
Christian
Crittenden
Henderson #
Hopkins #
McLean #
Muhlenberg #
Union
Webster #

District 2: William H. Natcher (D)
Counties: Edmonson
Davless #
Grayson
Hancock
Ohio #

District 5: Tim L. Carter (R)
Counties: Bell
Clay
Harlan #
Knox
Leslie #
McCreary
Owsley
Pulaski
Rock Castle
Wayne
Whitley

District 6: William P. Curlin, Jr. (D)
Counties: Powell

District 7: Carl D. Perkins (D)
Counties: Boyd #
Breathitt #
Carter
Elliott
Floyd #
Greenup
Johnson #
Knot #
Lawrence
Letcher #
Magoffin
Martin #
Menifee
Morgan
Perry #
Pike #

MARYLAND:

Senators: Charles McC. Mathias, Jr. (R)
J. Glenn Beall, Jr. (R)

District 6: Goodloe E. Byron (D)
Counties: Allegany
Garrett

MISSOURI:

(Area percentages not available)

Senators: Stuart Symington (D)
Thomas F. Eagleton (D)

District 4: William J. Randall (D)
Counties: Barton
Bates
Henry
Johnson
Lafayette
Pettis
Saline
St. Clair

District 6: W.R. Hull, Jr. (D)
Counties: Carroll
Chariton
Livingston
Putnam
Ray
Schuyler
Sullivan

District 7: Durward G. Hall (R)
Counties: Cedar
Dade
Jasper

District 9: William L. Hungate (D)
Counties: Adair
Audrain
Callaway
Macon
Monroe
Montgomery
Ralls
Randolph

MONTANA:

Senators: Michael J. Mansfield (D)
Lee Metcalf (D)

District 2: John Melcher (D)
Counties: Big Horn
Custer
Dawson
McGone
Powder River
Richland
Roosevelt
Rosebud
Sheridan
Wibaux

* Co-sponsor

Over 10% county stripable 21

CONGRESSIONAL DISTRICTS AFFECTED BY COAL STRIP MINING

NEW MEXICO:

Senators: Clinton P. Anderson (D)
 Joseph M. Montoya (D)
 District 1: Manuel Lujan (R)
 Counties: Colfax
 District 2: Harold L. Runnels (D)
 Counties: McKinley
 San Juan

NORTH DAKOTA:

Senators: Milton R. Young (R)
 Quentin N. Burdick (D)
 District 2: Arthur A. Link (D)
 Counties: Adams
 Billings
 Bowman
 Burke
 Burleigh
 Dunn
 Golden Valley
 Grant
 McLean
 Mercer #
 Morton
 Oliver
 Slope #
 Stark
 Ward
 Williams

OHIO:

Senators: William B. Saxbe, Jr. (R)
 Robert Taft, Jr. (R)
 District 6: William H. Harsha (R)
 Counties: Lawrence #
 Scioto
 District 10: Clarence E. Miller (R)
 Counties: Athens #
 Gallia #
 Hocking #
 Jackson #
 Morgan
 Noble #
 Vinton #
 Washington
 District 16: Frank T. Bow (R)
 Counties: Mahoning
 Stark
 District 17: John M. Ashbrook (R)
 Counties: Coshocton #
 Guernsey #
 Holmes
 Muskingum #
 Stark
 Tuscarawas #
 Wayne

* Co-sponsor
 # Over 10% county
 stripable

OHIO: continued

District 18: Wayne L. Hays (D)
 Counties: Belmont #
 Carroll #
 Columbiana
 Harrison #
 Jefferson #
 Tuscarawas #

OKLAHOMA:

Senators: Fred R. Harris (D) *
 Henry L. Bellmon (R)
 District 1: Page Belcher (R)
 Counties: Tulsa
 District 2: Ed Edmondson (D)
 Counties: Craig #
 McIntosh
 Muskogee
 Nowata #
 Okmulgee
 Rogers
 Sequoyah
 Wagoner
 District 3: Carl B. Albert (D)
 Counties: Atoka
 Coal
 Haskell #
 Latimer
 Pittsburg

PENNSYLVANIA:

Senators: Hugh Scott (R)
 Richard S. Schweiker (R)
 District 6: Gus Yatron (D)
 Counties: Schuylkill
 District 10: Joseph M. McDade (R)
 Counties: Lackawanna
 Sullivan
 Susquehanna
 Tioga
 District 11: Daniel J. Flood (D)
 Counties: Carbon
 Columbia
 Luzerne
 District 12: J. Irving Whalley (R)
 Counties: Bedford
 Huntingdon
 Somerset #
 District 14: William S. Moorhead (D) *
 Counties: Allegheny
 District 16: Edwin D. Eshelman (R)
 Counties: Dauphin
 District 17: Herman T. Schneebeli
 Counties: Lycoming
 Northumberland

CONGRESSIONAL DISTRICTS AFFECTED BY COAL STRIP MINING

PENNSYLVANIA: continued

- District 18: H. John Heinz, III (R)
 Counties: Allegheny #
- District 20: Joseph M. Gaydos (D)
 Counties: Allegheny #
- District 21: John H. Dent (D)
 Counties: Fayette #
 Westmoreland
- District 22: John P. Saylor (R)
 Counties: Armstrong #
 Cambria
 Clarion #
 Indiana
 Jefferson #
- District 23: Albert W. Johnson (R)
 Counties: Centre
 Clearfield #
 Clinton
 Elk
 Venango
- District 24: Joseph P. Vigorito (D) *
 Counties: Mercer #
- District 25: Frank M. Clark (D)
 Counties: Beaver #
 Butler #
 Lawrence
- District 26: Thomas E. Morgan (D)
 Counties: Fayette #
 Greene #
 Washington #
- District 27: Seat Vacant
 Counties: Allegheny

TENNESSEE:

(Area percentages not available)

- Senators: Howard H. Baker, Jr. (R)
 William E. Brock, III (R)
- District 2: John J. Duncan (R)
 Counties: Claiborne
- District 3: Lamar Baker (R)
 Counties: Bledsoe
 Hamilton
 Sequatchie
- District 4: Joe L. Evins (D)
 Counties: Campbell
 Cumberland
 Morgan
 Pickett
 Putnam
 Roane
 Scott
 Van Buren
 White

TEXAS:

(Area percentages not available)

- Senators: John G. Tower (R)
 Lloyd Bentsen (D)
- District 1: Wright Patman (D)
 Counties: Bowie
 Camp
 Cass
 Cherokee
 Franklin
 Harrison
 Hopkins
 Marlon
 Morris
 Panola
 Rusk
 Shelby
 Titus
 Wood
- District 2: John Dowdy (D)
 Counties: Anderson
 Angelina
 Henderson
 Houston
 Nacogdoches
 Trinity
 Walker
- District 4: Ray Roberts (D)
 Counties: Gregg
 Rains
 Van Zandt
- District 6: Olin E. Teague (D)
 Counties: Brazos
 Freestone
 Grimes
 Leon
 Madison
 Washington
- District 10: J.J. Pickle (D)
 Counties: Bastrop
 Burleson
 Caldwell
 Fayette
 Lee
- District 11: William R. Foage (D)
 Counties: Milam
 Robertson

* Co-sponsor

Over 10% county stripplable

CONGRESSIONAL DISTRICTS AFFECTED BY COAL STRIP MINING

UTAH:

(Area percentages not available)

Senators: Wallace F. Bennett (R)

Frank E. Moss (D)

District 1: K. Gunn McKay (D)

Counties: Emery
Garfield
Kane
Sevier
WayneVIRGINIA:

Senators: Harry F. Byrd, Jr. (I)

William B. Spong, Jr. (D)

District 6: Richard H. Poff (R)

Counties: Montgomery

District 9: William C. Wampler (R)

Counties: Buchanan #
Dickenson #
Lee
Russell
Tazewell
Wise #WASHINGTON:

(Area percentages not available)

Senators: Warren G. Magnuson (D)

Henry M. Jackson (D)

District 1: Thomas M. Pelly (R) *

Counties: King

District 2: Lloyd Meeds (D)

Counties: King

District 3: Julia B. Hansen (D)

Counties: Lewis
Thurston

District 6: Floyd V. Hicks (D)

Counties: King

District 7: Brock Adams (D)

Counties: King

WEST VIRGINIA:

Senators: Jennings Randolph (D)

Robert C. Byrd (D)

District 1: Robert H. Mollohan (D)

Counties: Brooke #
Hancock #
Harrison #
Marion #
Ohio #WEST VIRGINIA: (continued)

District 2: Harley O. Staggers (D)

Counties: Barbour #
Grant
Greenbrier
Lewis #
Mineral
Monongalia #
Preston
Randolph #
Taylor #
Tucker #
Upshur #
Webster #

District 3: John Slack (D)

Counties: Boone #
Braxton #
Clay #
Kanawha #
Nicholas #
Putnam
Roane

District 4: Ken Hechler (D) *

Counties: Cabell
Lincoln #
Logan #
Wayne #

District 5: James Kee (D)

Counties: Fayette #
McDowell #
Mercer #
Mingo #
Raleigh #
Summers
Wyoming #WYOMING:

Senators: Gale W. McGee (D)

Clifford P. Hansen (R)

At-Large: Teno Roncallo (D)

Counties: Campbell #
Carbon
Converse
Johnson
Lincoln
Sheridan

* Co-sponsor

Over 10% county strippable

Senator Moss. As I indicated before, the record will remain open for a reasonable time for the submission of additional information, such as I was just discussing with the witness here, but we do not contemplate further open, public hearings unless some matter comes up that would indicate that we should have it.

Thank you very much, we are now adjourned.

(Whereupon, at 12:50 p.m., the hearing was adjourned, subject to the call of the Chair.)

APPENDIX

(Under authority previously granted, the following statements and communications were ordered printed:)

STATEMENT OF HON. FRED R. HARRIS, A U.S. SENATOR FROM THE STATE OF OKLAHOMA

STRIP MINING SHOULD BE BANNED

Mr. Chairman, on February 23 I spent the day in east Tennessee looking at the actual conditions of strip mining there and talking with a great number of people, both for and against.

I believe strip mining should be completely banned. I'm a co-sponsor of legislation, of which Representative Hechler is the principal author in the House, which would accomplish that result. I also believe that the Congress should prohibit, in the meantime, the Tennessee Valley Authority from purchasing strip-mined coal.

I visited five counties in east Tennessee. Campbell County is typical. Despite the fact that Campbell County has great riches in natural resources, its people are some of the poorest in the Nation. It ranks in the lower 10 percent, economically, of all counties in America. Campbell County—and east Tennessee generally—contain some of the most beautiful and scenic hills and valleys that exist anywhere in the world. Yet, at an accelerated pace, those hills are being ravaged, the streams are being polluted and silted in, fish and other wildlife are being destroyed and the trees are being pushed down the hillside or killed by leaching acids. For private gain, huge land owners and profiteering strip miners are destroying forever a part of America's great natural heritage.

This is not hearsay. I saw it. I did not see it from the air. I saw it from the ground. I drove the backroads. I logged up and down the ripped-off hills and along the ruined streams.

I spent a great deal of time with some wonderful people there who are members of a new organization, Save Our Cumberland Mountains. I ate in their homes; I listened to what they had to say. I looked from their front porches to hillsides ruined forever, roads closed by rockslides caused by strip mining, houses ruined by flash floods down silted-in streambeds. I heard their justified fears of new floods, not just theoretical fears, but fears expressed, for example, by the mother and grandmother of a young man who had died in the last one in one holler.

I walked along streams with an old deep miner who told me that five or six years ago he had caught small-mouthed bass and other game fish in that stream, where, because of leached acids from the surrounding hills, gutted by strip mining, no living thing now survives.

I talked to nine union officials who have seen their workers put out of jobs by the huge machines.

I went to strip mine sites and saw closeup the incredible damage done to the countryside for such small seams of coal.

I talked to people whose houses have been jarred and faulted by huge strip mine explosive charges.

I was shocked and amazed that this kind of injury could be done to people and to the land and to the streams with complete impunity in the last third of the twentieth century in America.

But I didn't just talk to one side. I met also with representatives of the large landowners and the stripminers. They had no defense against the charge of *ecocide*. They admitted that those slopes, at almost any degree of grade, cannot be restored to their natural condition—or anything near it. Without exception,

no large landowner or strip miners was able to direct me to any strip mine operation where reclamation had taken place. The topsoil in these hillside strip mining operations has gone down the slope, generally destroying the stream below. It cannot be reclaimed or put back. The silted streambeds—some actually completely covered up—cannot be repaired. The trees and fish killed by acids are gone forever. Even on level ground in the valleys, strip mines have destroyed the ecology forever. They look like mountains on the moon.

The large landowners and strip miners have no real defense to the charge that, because they pay no severance tax on mined coal and the land is assessed too low and mining equipment is not assessed at all, generally, they pay only a small percentage of their fair share of local taxes.

Much of the land in these five counties is owned out of state. Some of it, particularly that owned by the British Corporation—interestingly enough known as the American Association—is foreign owned. Land reform is urgently needed. Some communities can't even get a little bit of land for a school building. Others are denied land for a housing project. "The only thing wrong with these hills", one manager of a large land company is reported to have said, "is people". The strip miners do not want to be bothered with the people. They are pushing them off as rapidly as they can.

There's no way to stop this immoral wasting of human and natural resources except to *stop* it. Strip mining must be banned. We could, then, calmly examine energy needs and alternative sources. Among these would obviously be—with proper safety and other safeguards—expansion of deep mining of coal, with a resultant increase in employment.

We should also, in the meantime, prohibit the Tennessee Valley Authority, for which we have some responsibility, from buying stripmined coal. The late Senator George Norris and all other original sponsors of the Tennessee Valley Authority and its fundamental concepts—flood control and conservation, in particular—would be saddened if they were alive today and could see the results of TVA's policies. In order to buy cheap coal for its steam generating plants, the Tennessee Valley Authority is a principal purchaser of strip-mined coal. Some of its own lands are being strip-mined. The Tennessee Valley Authority purchases nearly half of the strip-mined coal produced by the five east Tennessee counties I visited. The result is the ruining of streams, destruction of the environment and greatly increased flooding—the kinds of things the Tennessee Valley Authority was set up to prevent.

If the Tennessee Valley Authority were prevented from purchasing strip-mined coal, we could make a major advance in halting this kind of willful violation of basic flood control and conservation principles.

True, the Tennessee Valley Authority makes certain requirements about strip-mining. But they don't work. They either are unenforced, or are unenforceable or are unacceptable. I do not believe that any kind of strip mining leaves a situation which can be reclaimed. This is most true on slopes and hillsides—whatever the degree of grade. But it is true everywhere, too.

No compromise is acceptable. We must *stop* strip mining.

I intend to visit, by invitation, strip mining areas in West Virginia and Kentucky soon. There are some differences there, and I will report to the Committee and to the Senate additionally. But I'm confident the basic circumstances and principles are the same everywhere.

State law cannot do the job. There are serious barriers to full enforcement of any State law passed. And differences in State laws would inevitably cause lands in some States to be ravaged in competition with lands in States with more restriction.

The only solution is a *Federal* law uniformly applied throughout the country. And the only workable Federal law is one which does not attempt to work out acceptable levels of ravage and destruction, but simply prohibits this outrageous wasting of the environment, which belongs to us all, and exploits our people.

ENVIRONMENTAL POLICY CENTER

324 C Street, S.E., Washington, D.C. 20003

(202) 583-8800

2 March 1972

COAL STRIP MINING LEGISLATION
POLICY ISSUESLouise G. Dunlap
Washington Representative

Senate Interior and Insular Affairs Committee

The Environmental Policy Center appreciates this opportunity to respond to several policy questions raised by the Subcommittee on Minerals, Materials, and Fuels of the Senate Interior and Insular Affairs Committee.

At a time when increased energy demands are applying unprecedented pressures to the management of our natural resources and patterns of land use, radical and extensive shifts from deep mining to strip mining by the coal industry in the last decade have focused national attention on the increasingly controversial issue of surface mining. Between 1920 and 1970 the total demand for coal increased by six percent, while the demand for strip mined coal increased by 2600 percent in the same period. Strip mined coal production jumped 23 percent between 1969 and 1970, and by 1971 strip mined coal constituted nearly one-half of the total coal produced.

A recent study by the COALITION Against Strip Mining has found that in order to mine the 36 billion tons of strippable coal reserves in 15 states, of 25 states bearing rich strippable reserves, that the on-site damage would cover 8455.1 square miles, or an area equivalent to a path 2½ miles wide between New York and San Francisco. This projection of on-site damage caused by coal stripping did not take into account surface damage by spoil banks, access roads, ancillary facilities, or by acid mine drainage to streams and rivers.

The fifteen states included in this study are Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Montana, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania, Virginia, West Virginia, and Wyoming. The 1965 Interior Department report on surface mining estimated that by 1965 more than 1.3 million acres - 2050 square miles - of the United States had been gouged by strip mining for coal. Yet that cumulative area represents only 19.5 percent, or one-fifth, of the area yet to be stripped in 15 of the strippable coal bearing states. Significant is the fact that the 36 billion tons of coal reserves, if strip mined, will consume 8455.1 square miles by on-site damage to produce only 4.8 percent of the total recoverable coal.

The dilemma in shaping a national policy on strip mining of coal is that the nation is experiencing an unprecedented and immediate dependency on fossil fuels while public awareness is growing to recognize that the environmental and social costs of extraction by strip mining are reaching intolerable dimensions. Neither reality can be ignored. Yet certain assumptions should not be made. While strip mined coal production constituted nearly one-half of total coal production in 1971, strippable coal reserves represent only one-sixth of the total recoverable coal in the United States, assuming only 57 percent of in place coal reserves are recoverable by deep mining methods. The vast deep mine coal reserves allow this nation to shape a coal policy which continues to supply the nation's energy needs, although more rational consumer patterns could be encouraged, while minimizing environmental and social costs of strip mining and deep mining. The legislative issue is not whether or not extraction of coal is in the national and public interest, but, rather what forms of coal extraction and under what situations certain methods of extraction are desirable and should be allowed. Finally, while it is appealing to deal only with extraction by surface mining methods in legislation, any legislation will have an impact on the entire coal industry, accelerating and decelerating segments of production. In no case are we allowed the luxury of assuming that legislation to abolish or regulate strip mining will not have a significant impact in the deep mining segment of the industry. For this reason S. 1498, Section 6, is relevant in dealing with both strip and deep mining methods within a single industry.

Lands Covered. The Environmental Policy Center favors this legislation establishing its purview over all lands -- Federal, State, Indian and private, as provided for by S. 1498. While S. 2727 is restricted to Federal lands, such purview could be clarified in a strip mining bill by category of ownership. It seems only equitable that a single agency assume primary authority, so that uniform requirements could be imposed throughout the coal industry, despite different categories of land ownership. In the west, for example, where 47 percent of U.S. coal reserves under less than 6000 feet of overburden are found in Colorado, Wyoming, New Mexico, Utah, and Montana, and where lignite reserves in North Dakota would raise the reserve figure to 63 percent, a great imbalance could occur without a single agency assuming primary authority over methods of extraction despite ownership. In the first five states, 70% of the coal is on Federal lands, 5% on Indian lands, 6% on state lands, and 19% on private lands according to a 1970 U.S.G.S. study. While most reserves are clearly on Federal lands, regulations which might be significantly more stringent than regulations on other lands could discourage or retard extraction on Federal lands for several decades.

Environmental damage caused by strip mining is not a factor of political jurisdiction or land ownership unless each represents a different regulatory apparatus. Off-site damage is more likely to be uniformly minimized with a single regulatory agency. Primary authority should be at the Federal level.

Minerals Covered. While the Administration bill favors this legislation applying to all minerals, the Environmental Policy Center endorses legislation which applies to coal only. The diversity of technologies, choices of extraction, and regional differences suggest that a bill regulating the extraction of all minerals would serve only to homogenize regulatory choices and not necessarily in a manner equitable to all industries. Pennsylvania, considered among the most effective in mineral regulation, provides a good precedent, where bituminous coal was first regulated, followed by legislation last year extending to anthracite and non-metallic minerals. Environmental endorsement of this legislation would require application to coal only at this time.

Federal-State Relationships. The Clean Air Act and current amendments to the Water Quality Act provide valuable precedents for this regulatory legislation. The Federal-state relationships must be placed in a different frame of reference if this legislation focuses on coal only. Air and water legislation each focus on a natural resource and its preservation and management as it relates to all industries. A bill before this committee would reverse the focus by regulating a single or several specific extraction processes with respect to existing air and water quality legislation. Here the extracting process would be the primary target of regulation. Not unlike the air and water quality legislation, any legislation emerging from this committee will most immediately affect air, water and soil. The first two resources come clearly under the purview of the Environmental Protection Agency, while most soil quality problems come under the Secretary of Agriculture. While the Bureau of Mines has traditionally assumed responsibility for regulation of mineral extraction processes, its mandate is Janus-faced, promotion-production and protection. The Environmental Protection Agency, on the other hand, is singular in its Executive Order mandate to focus on regulation and protection of natural resources. The Environmental Policy Center supports total primary authority at the Federal level, with the states serving only as designated agents.

EPA, as the primary Federal agent, would clearly rely on the expertise of the Soil Conservation Service within Agriculture and the Department of Interior, but, it seems most appropriate that the primary Federal authority be vested with a strictly regulatory agency. Such a proposal would not interrupt the legislative authority of the House or Senate Interior Committees over mineral operations, as the EPA is currently reporting to seventeen authorizing committees. It would change the appropriating jurisdictions, however.

Advisory Committees, if properly balanced in structure and appointment could contribute positively to the promulgation of this legislation. Specific requirements must be included in the legislation to insure balanced and constructive recommendations.

Funding. Strip mined legislation should provide for funding in two main areas of need - regulations-enforcement and unreclaimed lands. The main funding mechanisms should be appropriations, permit fees, forfeitures, and a reclamation revolving fund. Funding of regulations and enforcement would rely primarily on appropriations with certain revenues from permit fees helping to defray the costs of enforcement, if strip mining is allowed to continue. A reclamation revolving fund would need initial and continuing appropriations, but could rely in part on revenues from fees and forfeitures if stripping is regulated not abolished. A severance tax applied to minerals extracted is urgently needed but would require consideration by another committee.

The importance of manpower requirements as they relate to the effectiveness of any regulatory approach to strip mining cannot be overestimated. In nearly all of the twenty-eight states with strip mine legislation, low appropriations and subsequent inadequate manpower constitutes a major obstacle in enforcement even when there exists a serious intent to regulate stringently. If this committee's legislation regulates rather than prohibits strip mining, the Administrator, or primary responsible official, should not be allowed to approve more permits than can be regulated and inspected as specified by the criteria and regulations. The most effective inspection requirements constitute a mandate for inspectors to visit sites twice-monthly on an irregular, unannounced and rotating basis.

If strip mining is allowed to continue, the Administrator should be required to determine the costs of this type of regulation and inspection on a state-by-state basis with an estimate of existing and new operations. Upon enactment this estimate could be made after promulgation of the criteria and regulations. If the Administrator is not appropriated the funds necessary to inspect all sites in accordance with the regulations of his agency, then permits should not be allowed to be granted beyond the available funding capability.

Reclamation. Central to the reclamation controversy is the dispute over an acceptable definition of reclamation and whether or not it can be achieved. The basic difference between the legislative approaches to regulate or to abolish strip mining is that the first assumes that reclamation can be achieved and the latter assumes that in nearly every situation reclamation cannot be achieved. By assuming that restoration of the land can be achieved only under rare situations, the abolition bill, S. 1498, offers as an alternative an increased dependency on deep mined coal reserves

which out number strippable coal reserves six-to-one.

The most comprehensive definition of reclamation before this committee can be found in S. 2777, which calls for restoration of the land to its original use or original potential use. Reclamation efforts do not suggest that restoration to original use or original potential use can be achieved on most strip mined sites particularly in contour stripping, or stripping on slopes of more than 12 degrees.

Any regulatory legislation must make a clear distinction between restoration to original use and "reclamation" attempts by vegetative camouflage, restoration to original contour and alternate use. Environmental support for S. 1498 is based on the fact that for environmental, economic or political reasons reclamation has not and will not be achievable by the coal industry on a broad scale. With the immediate availability of more expensive deep mine reserves, support for S. 1498 is based on the commitment that this nation should establish a national coal policy placing first priority on extraction of deep mine reserves. Concomitantly, research funds should be authorized to examine the environmental recovery capability of areas bearing strippable coal reserves. Criteria for such research and area classification should be based on aridity; acidity of soil; full disclosure of types and quantities of all minerals; depth of overburden; width of coal seam; presence of other economically strippable minerals; maps and descriptions of subsurface and surface waters; assessment of any impact from blasting; and land use patterns on-site and off-site.

Areas of unique environmental or scenic value, including historic sites, wilderness areas, and National Forests, should be included in area classification.

If this committee is willing to make the assumption that successful reclamation is achievable on a broad scale, despite limited scientific evidence and industry documentation certain parameters for reclamation criteria would remain essential.

The burden of proof should rest with the operator, not with the off-site landowners or general public, to demonstrate that the purposed mining site would be restored to original use, original potential use, or alternate use. Any reclamation plan must insure the avoidance of any adverse off-site damage. Commencement of reclamation during the mining process must be required. Any reclamation plan must provide detailed information on aridity; acidity of soil; presence and quantity of all minerals to be affected; maps and descriptions of subsurface and surface waters; depth of overburden; width of seam; analysis of effects of blasting on subsurface, surface waters and off-site properties; full description with maps and analysis of the impact of ancillary facilities, including access roads and tonnage capacities of trucks to be used. A land use analysis of on-site and off-site areas must be included with full disclosure of any unique environmental, scenic, historic values, including wilderness and National Forest identification. The reclamation plan must call for a detailed description of the mining process, including preservation of soil profile and methods of restoring original contour. Revegetation plans must include full description of existing vegetation, estimated total recovery time, and specific plans to revegetate with a balanced variety of native species, avoiding exotic species and monocultures. Minimum bond

requirements should be \$1000 per acre or the cost per acre to the public of reclaiming the land in the event of forfeiture, whichever is higher. The operator should be required to estimate the cost of reclamation on a per tonnage and acreage basis, as well as a proposed period of liability.

Any regulatory legislation must preserve opportunities for the public to comment on reclamation plans before the permit is approved. Upon application for a permit the operator should be required to give public notice in at least two local newspapers in the area to be affected. The Administrator should be required to make available to the public, upon request, the reclamation plan.

In addition, opportunity for a public hearing should be provided at the point at which the operator requests release from bond. Periods of liability should reflect the environmental recovery capability of the region, not the convenience of the operator. A minimum period of five years after the first growing season should be required uniformly before any bond can be released. Successful planting after two growing seasons is no indication that the same area will be considered successfully revegetated five years later.

The National Coal Association's position that the future use of the land should be determined by the operator only, as stated in testimony before this committee is unacceptable. The inevitable environmental, economic and social effects of strip mining operations on a locality, if not on a whole region, constitute a public not a private issue.

Precedents for public hearings before a permit is approved and before bond is released abound in local land use decisions.

Unreclaimed Lands. By 1965, two-thirds of all lands strip mined for coal, or more than one million acres, remained officially unreclaimed. Those lands classified as officially reclaimed, but known to be unsuccessfully reclaimed are not included in these figures.

Successful reclamation is an expensive proposition and it is understandable that there is resistance to committing the Federal government to such a massive effort. More resistance should exist, however, to supporting any legislation which allows any new lands to be strip mined if there is any probable cause that the lands cannot be completely reclaimed.

Orphan lands should not be confused with all unreclaimed lands, as they represent lands whose ownership has been forfeited. The coal industry still owns vast acreage of unreclaimed lands which may be "re-affected" at some future time. Provisions for Federal assistance in reclamation efforts of unreclaimed lands should be limited to those lands which upon enactment were in public ownership and those privately owned lands where the owner of the surface received no royalties from the extraction of the coal, or where the Federal government has condemned or purchased unreclaimed lands for restoration purposes.

Time Schedule. No bills before this provide for a reasonable time schedule for their implementation plan.

The Nelson-McGovern bill, S. 1498, which calls for a total ban on

all coal strip mining within six months should be amended to require no new coal stripping upon enactment, with provisions to de-escalate and phase-out all existing contour and auger stripping on slopes greater than 12 degrees within six months.

All existing area strip mining should be phased out within 18 months of enactment. Such a timetable would allow for accelerated production and opening of new deep mines. It would allow reasonable time for those electrical utilities, dependent on strip mined coal, to purchase deep mined coal or to convert to oil and gas. This proposed timetable to phase-out all strip mining could be achieved without any significant loss of electrical generating capacities.

The timetable for implementation of S. 993, S. 1176, and particularly S. 630, would create an irresistible incentive to accelerate strip mining before states submit plans to the Federal government two years after enactment. Even then operators are given the green light under these bills to accelerate stripping for perhaps three to five years before new regulations can be applied to their operations.

Under any regulatory plan areas should be designated unsuitable to be stripped prior to approval of any new permits or renewal of any existing permits. The timetable in S. 3000 should be amended as follows: Section 101(c) from 270 days to 360 days; Section 102(a) from 120 days to 180 days; and Section 103(b) from 90 days to 270 days.

Judicial Review. The public, as well as the coal industry, should be given the right of judicial review. Citizens should have the right to appeal an order regarding a permit or the substance thereof just as well as the industry. In no case, however, should the Administrator be required to approve or reject a permit application or bond release request in less than 60 days.

Citizens should be given standing to sue for equitable, as well as legal release, against the government or against a coal operator. Provision should be made for the payment of court costs and legal fees in cases in which the result of the suit is favorable to the plaintiff. Provision for awarding costs and fees to the plaintiff, in certain cases even if the termination is unfavorable. The experience of the state of Michigan where citizens have been given standing to sue provide documentation that indiscriminate use of the court system has not resulted from granting citizen standing to sue.

Legislation should provide for civil and criminal penalties for the violation of either the Federal legislation or a permit pursuant to which mining operations would be conducted. Criminal penalties should include fines up to \$100,000 and a year imprisonment. Civil penalties should be commensurately high. Legislation should allow citizens a qui tam provision to recover 50 per cent of any criminal or civil fine levied and upheld on appeal. Civil fines should be levied automatically and at that time collected. In the event of a dispute over the fine, the operator should be required to pay the fine and place an appeal.

Prohibition. While there exists broad-based support for S. 1498, legislation which attempts to regulate rather than abolish strip mining should prohibit strip mining under certain conditions and give the Administrator authority to designate areas unsuitable to strip prior to granting any new permits in an area under consideration. The Administrator should also be

given authority to revoke permits.

Regulatory legislation at this time should in no case allow strip mining under conditions where environmental or economic factors under similar conditions have prevented successful reclamation in the past. Experience and documentation suggest the need to prohibit contour strip mining on slopes greater than 12 degrees.

Strip mining and deep mining should be prohibited in proposed and existing wilderness areas, and strippable reserves in National Forests should be placed under immediate moratorium.

In no event should new strip mine operations be given permits or existing operations be expanded prior to complete consideration and designation of areas unsuitable to strip mine by the Administrator.

TENNESSEE CITIZENS FOR WILDERNESS PLANNING,
Oak Ridge, Tenn., February 22, 1972.

Senator FRANK E. MOSS,
Committee on Interior and Insular Affairs, U.S. Senate, Senate Office Building,
Washington, D.C.

DEAR SENATOR MOSS: We are grateful for your Subcommittee's work on a federal stripmine bill, and particularly for the time and effort spent by you and Senator Bellmon in viewing stripmines in Tennessee last week. We also appreciate the effort that was made by your staff to keep the field trip and briefing clear of what they considered to be the two opposing points of view: stripmine operators on the one hand, and citizen conservationists and local residents on the other. Unfortunately, as you know, this effort was thwarted by the operators (see also enclosed article by Carson Brewer, one of the reporters who was on the trip).

Even had this not happened, however, the points of view to which you were exposed constantly—during the briefing session Sunday night and the helicopter flight Monday—were, we feel, very much on *one* side of the controversy. Both TVA and the State of Tennessee have taken the official position that mountain stripping should continue, and both made an eloquent case for this, both directly and indirectly, during the Sunday evening presentations, slides, and film, as well as during the Monday field-trip commentary. During the entire visit, you were *not* exposed to the points of view of Tennessee conservation groups, mountain residents, and other citizens who have become convinced that mountain stripping, as it is done now, must be stopped; some feel that coal stripping in Tennessee must be banned altogether. Such bills are, in fact, pending in the Tennessee legislature, but were not mentioned when Conservation Commissioner Jenkins talked on proposed legislation during the briefing. As far as the Conservation Department's own pending bill is concerned, you may be interested in a widely circulated newspaper comment (copy enclosed) that indicates that this will be biased in favor of stripmine interests.

We are sorry that you did not get to see more of what was happening *below* the stripmines in terms of ruined streams and boulders rolled into schoolyards. The best current technology does allow reclamation of the tops of benches, but this is not the major problem in these mountains. And we also regret that, while the operator Jack Walls could wait for you on his stripmine bench, it was not made possible for you to be welcomed *below* the benches by the area residents who have had their wells ruined and their homes cracked. If nothing else, we feel that this type of situation illustrates the strong necessity for including the opportunity for public hearings (as, e.g., specified by S. 3000) in any bill that is marked up by the Subcommittee. Such hearings would make it possible for enforcement of the law to focus on possible effects on citizens as well as on technical points.

Our final regret is that two of the three mining operations on which the helicopters landed in Tennessee were TVA *model* reclamation jobs, namely the Obed and the A. B. Long pit. So much outcry was raised two years ago over the fact that TVA was stripping on the Obed, a river in the study category of the National Wild and Scenic Rivers Act, that TVA agreed to do an extra special job on reclamation there: the highwall was reduced in several places, experimental grass plots were established, and balled-and-burlapped trees of considerable size were planted in various areas. The cost of this reclamation (which we commend) is presumably a considerable multiple of that done under the pertinent contract requirements. The A. B. Long operation, as you of course know, is an experimental one on which only the best presently known techniques are tried. If you were able to derive the impression from these two visits and from some of the aerial views that were presented to you that this East Tennessee region was a favorable one for stripmining because the high rainfall made the vegetation grow, we should like to point out to you that you were not shown the disastrous effects of this same high rainfall: the stream siltation, the landslides, and all the dirt that the rain washes *down* the mountains, but can't wash up again.

Again we urge you strongly, as we did in our testimony, to prohibit surface mining where it would result in placement of spoil material on slopes steeper than 15° from the horizontal. We should like to ask that this letter and the two enclosed newspaper articles (Carson Brewer and Dana-Ford Thomas) be made a part of the official hearing record.

We have every confidence in your wisdom and are hopeful that a good bill will be reported out of your committee.

Sincerely yours,

LIANE B. RUSSELL, Ph. D.,
(For the TCWP Stripmine Committee).

[From the Knoxville News-Sentinel, Feb. 20, 1972]

THIS IS YOUR COMMUNITY

(By Carson Brewer)

JACK WALLS WAITS FOR SENATORS

Anti-stripminers in the Morgan-Anderson-Campbell County area are irked. They say that ever time state or Federal officials come to look at the effects of stripmining, they get close-up looks at the best sites, not the worst ones. They say also that the stripmine leaders usually get a chance to speak their pieces, but those opposed to stripping don't.

The tour early last week by U.S. Sens. Frank Moss (D-Utah) and Henry Bellmon (R-Okla.) is an example.

Anti-strippers asked to go on the tour and express their point of view. No, they were told, they could not go. But neither could the strippers. That sounds fair enough.

But what happens?

At the second spot where the helicopters bearing the senators touched ground for their cargo to have a close-up look at a stripmine, there stood Jack Walls, on a coal pile, ready to answer any questions.

Stripper and coal broker, Mr. Walls, probably more than any other person, is recognized as a leader of the stripminers. He's a personable, effective talker. He spent lots of time in Nashville during the 1971 legislative session, when no effective stripmine reclamation legislation was passed.

When Gov. Winfield Dunn toured the stripmine country last year, Mr. Walls was one of those in the car with him.

Last week, here he was again, on top of the coal pile, getting in his licks, on the tour that was supposed to include neither strippers nor anti-strippers.

No, he didn't go on the tour. He was waiting for it. He owns a piece of the mine. He had a right to be there. But those facts do not mollify the people on the other side who did not get the same chance to present their case.

OTHER SIDE IS SELDOM HEARD

For a minute or two, Mr. Walls seemed to be presenting their case for them. Sounding like a convert to the environmental movement, he said, "We believe there has to be a much improved way of doing this reclamation. The public will pay for it, I think. They want the job done. It's time for it to be done. It's got to be done."

Then he said that some of the reclamation legislation now proposed will add \$2 a ton to the cost of coal and put half the coal operators out of business.

Maybe he's sincere. Maybe he's right on all counts. Certainly, he has a right to be heard. And he has been heard. For years.

Another group, those who live in the coal country but don't make money on coal, think they should be heard, too. They are those who claim debris from mining blasts knocks the shingles off their houses, and that mine silt has made the creek water unfit for their cattle to drink.

I'm not saying they're right. I haven't watched a cow turn up her nose at silty creek water. I haven't been in a house when rocks banged down on the roof. But I've listened to people tell these and other stories just as bad.

State and Federal lawmakers will have to decide for themselves whether these people are reasonable in wanting Senators and Representatives to come and see the effects of stripmining that concern them.

[From the Knoxville News-Sentinel, Feb. 20, 1972]

STRIPPERS GET OWN BILL

(By Dana-Ford Thomas)

NASHVILLE.—The state administration has before the Legislature a measure which has been held up as a major improvement over existing law in the control of strip mining and the reclamation of stripped land.

Gov. Winfield Dunn, on at least two public occasions, one of them being his state-of-the-state address to the state's editors and publishers no longer than last month, said the enactment of this legislation into law would give Tennessee "the best strip mine law in the United States."

The truth is that this controversial piece of legislation was written by stripminers, for stripminers, and the lobbying effort on Capitol Hill is being paid for with money from stripminers.

The governor's staff, some of whom helped put the legislation together, and Conservation Commissioner William Jenkins, are well aware that there is nothing in the bill before the lawmakers that the stripminers did not first approve. Nearly all of this was done with the full knowledge of the commissioner, and no doubt, took place in his office.

ECOLOGIST IGNORED

In all fairness, it should be mentioned that conservation did have a lengthy report from a Vanderbilt ecologist, setting out what he felt should be included in a strong bill. The administration ignored most of the recommendations.

A stripmine operator told this writer that people in conservation told him many months ago that ecologists in the state were making so much noise about the damage done by stripping, that it was necessary that the administration come up with a strong bill.

This miner said he and others from East Tennessee met several times with the commissioner and members of the department, and that it was out of these discussions that the legislation was put together.

"There's nothing in that bill that we have not already agreed to," he said. "They wanted our agreement on most all that's there. I don't mean it's all that good, but we can live with it."

This raises the question of whether "the best law in the United States" on any subject that is supposed to be in the interest of, and for the general welfare of all the people, should be, in effect, written by the special interests the proposed law is designed to control.

The cold truth is that the vast majority of the people of Tennessee have, up to this point, been duped by slick, Madison Avenue techniques thought necessary to cover up the inadequacy of this piece of legislation.

The most glaring thing wrong with the legislation has been pointed out not only by conservationists, ecologists, members of the public with no political axes to grind, and even by some state employes in the Department of Conservation. These people have questioned, and continue to do so, the fact that under the administration bill no land reclamation efforts would begin until after all mining has ceased in a particular area.

As has been mentioned in just about every public meeting held on the subject of strip mining for the past several years, the greatest eyesore in East Tennessee today is that of the gouged, eroded, bald, barren lands, thousands of acres, left by strip miners of years past. Only a strong law which has the necessary legal machinery to force miners to reclaim land simultaneously with the mining will do the job.

THE BAIRD BILL

Under another bill sponsored by Sen. Ray Baird (D-Roane) this would be done.

The Baird bill would also open the way for the reclamation of all the scarred lands left by miners of the past, as mentioned above. These lands are referred to in the Baird legislation as "Orphan Mines."

The administration bill also permits cutting and mining on slopes which reach as much as 28 degrees in grade. With such a grade, engineers say it would be impossible to control slides and erosion if the length of the cut was more than a few feet in length.

Now, the reason the 28-degree provision in the administration bill is that the mine owners and operators prevailed upon the Conservation Department to write it this way, arguing that with anything less than this most of their mining lands would be taken away.

The Baird bill provides that the maximum grade on a slope to be mined be 15 degrees.

TOTAL CONTROL

The strip miners have almost total control of a number of lawmakers on Capitol Hill, so far as the mine legislation is concerned. The miners have extended

their grasp far beyond those legislators who come from the five major coalmining counties of East Tennessee, drawing a number of Middle Tennessee lawmakers into their fold in order to assure enough votes to pass the legislation they helped write.

However, they may have worked too hard. It may be that they have angered some legislators with their tactics. They may even find that some members of the Knox County delegation, if not all, will be working toward and voting for stronger laws than those proposed by the administration.

Further, they may find that legislation will be offered which would ban strip mining for coal, but not for other minerals.

Statement of HARRY M. CAUDILL
Whitesburg, Kentucky

GENTLEMEN :

My name is Harry M. Caudill. I reside at Whitesburg, Kentucky and am an attorney-at-law. I appear before you as a private citizen and not as a spokesman for any organization. I am grateful that at long last there is some small evidence that the Congress may begin to meet its responsibility to the American land and people and develop a comprehensive, tightly-enforced national policy regulating surface mining in the United States. Unless this is done soon I am convinced that as a nation and a people we are headed into unmitigable calamity.

I was born in 1922 in the very heart of the Appalachian mountains and have been surrounded all my life by coal mines, coal miners and coal companies. For as long as I can remember I have been profoundly distressed by the ruinous impact of the coal industry on the people who depend upon it and the land from which its product is wrested. As a member of the Kentucky Legislature in 1952 I voted for Kentucky's first strip mining law. That law was "improved and tightened" in 1956 and I supported the changes. In 1960 I sponsored the Reclamation Act that, as amended, went on the books that year. I have maintained a constant interest in my state's laws and regulations in the sincere hope that they would protect its western plains and its beautiful, timber-covered eastern hills. It is with sadness that I tell you Kentucky's seventeen year struggle has been a failure and that the ruin of its land continues unabated.

These experiences led me long ago to conclude that only federal legislation of the sternest character can be effective. A number of circumstances now coincide to make national action in the near future an absolute imperative.

In the first place, the American land is richly endowed with solid fuels and other minerals. The ancient Appalachian range is one of the richest natural resource regions in the world and the dozen states across which it runs contain vast deposits of bituminous coal, thick ledges of limestone and silica-rich sandstone, huge deposits of marble, talc and granite, some copper and lead, and important quantities of gibbsite, grahamite, gneiss and other important but little known

substances. Across our western plains in Kentucky, Illinois, Indiana, Ohio, Iowa and Kansas lie tremendous deposits of coal, and huge veins of it lie in Arkansas, Oklahoma, Texas, Arizona, Utah, Colorado, Oregon, Washington, Alaska and small areas in California. The Dakota wheat-fields grow above extensive tracts of lignite. Texas is underlain with great beds of iron ore, as are Minnesota and Alabama. In Florida there are valuable deposits of phosphate rock and in Georgia kaolin and other commercial clays. Arizona, Utah, Nevada and California contain copper, silver and gold. Sand and gravel are practically ubiquitous, and are always in demand. There are literally dozens of other minerals in our soil, all of which will some day be sought by miners.

The second factor is a vastly accelerated demand. The nation's population now is about 210,000,000 and its appetite for minerals is insatiable and fast growing. Its consumption of electricity increases at nearly 10% annually and most of it is generated in coal fired furnaces. Americans alone may be expected eventually to consume all the resources within their landscape as a colony of bacteria will consume the apple that harbors them. But Americans are not alone in exerting pressures against the American land. The Japanese industrial colossus is almost without mineral reserves in its homeland and must extend its tentacles throughout the world in search of raw materials. The Common Market and other industrially advanced states must reach out by ship and pipeline for the fuels and ores that keep them going. Our disastrous national economic policies have piled up billions of dollars in Japan and Europe and they are now coming home in exchange for our minerals and wood. If my sources of information are accurate foreign countries are now getting more timber out of our national forests than do Americans -- and this at a time when nearly a third of the nation is still poorly housed.

The third factor in the new threat is modern earth-moving technology. From the Sumerians down to about 1950 the almost universally accepted way of recovering solid-state minerals from the earth was by tunnel and pillar mining. Entries were driven into a hillside or a deep shaft was sunk into a plain and men dug their way to the deposit of coal or lode of metal. Then they bored into it by alternating tunnels and pillars. Enough of the deposit was left in place to hold up the top until the miners could work their way to the outer limits of their territory. Sometimes as they mined back toward the portal they would remove the pillars and take out nearly all of the mineral. Obviously, this method of mining is very costly. It requires large numbers of workmen. It is dangerous and men are killed and others are injured in cave-ins and explosions. Dead men, crippled men, widows and orphans accumulate around every mine mouth and this has been true for thousands of years. Only surface mining can do more harm to men, women and children than traditional subterranean operations.

With roaring speed this has all changed. The diesel engine has given us the bulldozer and it has grown to gigantic size. We have developed the highlift, surely one of the most remarkable tools to come from the human mind. Our scientists and technicians have

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assembled immense shovels that tower above hills and plains like iron Titans. The biggest of these machines is as tall as a twenty-two storey building. With these machines have come a host of complementary, though lesser ones, including drilling devices and numerous rubber-tired and very agile carriers of overburden. A huge auger with a crew of three or four can drill directly into the exposed face of a coal seam and drag out the fuel at a rate which could not have been equalled by a hundred miners working in a similar vein in 1940. Of equal importance is the development of a cheap new explosive. Petroleum and fertilizer are mixed and the soupy paste can blast a mountain apart with all the violence and a third of the cost of dynamite.

In a mere instant of historic time these technological developments have rendered the old tunnel and pillar mining obsolete. Industrialists naturally want to take advantage of new efficiencies and, consequently, half of all our coal is now recovered by stripping, and half of all our strip mining is done for coal. Company by company they discharge the miners on their pay-rolls, lock the doors of company towns and disassemble the industrial structures on which the nation has relied for a century. Then a few men with the new machines take mountains apart layer by layer for the coveted coal, copper or iron ore. Or they go to the prairies of the Dakotas, peel back the earth and lift out the lignite to power Los Angeles. The hills and plains of Ohio, the plains of Indiana and Illinois, the phosphate fields of Florida -- every place where commercially valuable minerals lie in the earth -- have been or will be assaulted in this manner. No such place is sacrosanct none is likely to escape. A mining company can now tear a mountain apart for its minerals almost as easily as a child can rip up a pile of sand. The whole earth has become the plaything of industrial man. Unless governments decree otherwise the 1970s may see the end of old-style tunnel and pillar mining.

I lament the utter ruination of the hills of my own homeland and the assault surface mining has made on people of my blood and name. I have seen once clear streams choked with mud, and lawns and gardens layered with foul sediments from the spoil heaps. And I have seen wells that once brimmed with crystalline water filled to the top with yellow mud flecked with coal. I have visited the homes of widows and work-worn old men whose basements and cellars reeked of sulphurous slime from the spoil banks. I have seen the shattered roofs, the broken grave-stones and the fences that tell of the blasting that "cast the over-burden" from coal seams. I saw the sad, disbelieving face of one-armed Herman Ritchie of Clear Creek in Knott County, Kentucky after he came home from a federally sponsored vocational school and found his house knocked from its foundations by a massive land slide. I was attorney for Roosevelt Bentley of Jenkins, Kentucky, a paraplegic ex-coal miner whose house was severely damaged by washouts from a mine operated by Bethlehem Steel Corporation. And I sat by the desk of Governor Edward Breathitt when eighty year old Mrs. Bige Ritchie -- a neighbor of Congressman Carl D. Perkins, -- told the Governor how she stood on the front porch of her home and saw the bulldozers come to her family cemetery

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after coal for the Tennessee Valley Authority. She shouted to them that the graves of her children lay in front of them, but they ignored the pleas of an old, impoverished and helpless woman. "I thought my heart would bust in my breast," she told the Governor, "when I saw the coffins of my children come out of the ground and go over the hill." Neither the TVA nor the mining company ever apologized for this enormity. All of these things happened in America and under the protection of the American flag. The Congress, swathed in the bland unconcern that has caused millions of U.S. citizens to despise their own government, took no note of these events. There were, instead, murmurs that the lights must not be allowed to go out.

Experience in the ancient societies of China and India indicates that in the long generations that lie before us all our land will have to be used by growing hordes of people. If we allow strip mining to continue as at present those who carry our genes in the after time will inhabit grim, gray spoil banks, and they will curse us for what we will have done to them.

Our heedless assaults upon the land have already made changes that will endure through a long geologic era. In Appalachia the wind and the rain long ago leached out the minerals and when rain falls upon undisturbed hillsides the runoff is fresh and sweet. The blade of the bulldozer brings up unleached soil and the mineral content of surface water rises at an awesome rate. The Kentucky River just above the town of Hazard is illustrative. In 1963 a study by the U.S. Public Health Service measured its iron content at 0.02 parts per million and manganese at 0.00 parts per million. Just three years later after extensive strip mining had occurred on the upper reaches of the watershed iron rose to 2.1 parts per million and manganese to 0.8 parts per million. The U.S. Public Health Service has set the maximum tolerance levels of these substances at 0.3 parts per million and 0.05 parts per million respectively. On other watersheds ravaged by stripping iron has been measured at 88.8 ppm and manganese at 74.7 ppm! And this water is consumed daily by hundreds of thousands of people. The new, costly and very dead Corps of Engineers reservoir at Pound, Virginia testifies to the impact of strip-mine poisons on living things.

Silt, too, is a deadly and inevitable by-product of stripping, as was determined by a joint federal and state research project conducted on two adjacent neighboring valleys between 1955 and the end of 1963. One of them, Cane Branch, was extensively strip-mined for coal while Helton's Branch was left in its undisturbed stand of second growth timber. Silt traps were installed to catch soil washing down from the hills. The stripped land was reclaimed by an agency of the industry, the Kentucky Reclamation Association, in conformity with state law. The undisturbed valley yielded 27 tons of silt per square mile, while the stripped territory across the ridge gave up mud at the rate of 30,000 tons per square mile "affected."

As global energy and raw material needs climb and more and bigger

ore and coal ships are built to carry our minerals to other shores, mining surges westward. All states having deposits of coal and other minerals are certain to have strip mines in their future. The Interior Department report, Surface Mining and Our Environment, issued in 1967 showed that some form of stripping had already occurred in all states. Only Congress can fix the limits within which such mining can be tolerated and protect American citizens in their homes, lawns, gardens, fields and pastures -- to assure their right to safe drinking water and to sleep at night without fear of floods boiling up from choked waterways.

I urge the Congress to adopt a three-pronged legislative solution to this problem.

(1) The legislation should forthrightly outlaw strip mining in such areas as southern and central Appalachia and the somewhat gentler hills of Ohio where the slopes are so steep and the rain fall so great that restoration of the land to its former and natural utility, contour, and best natural purpose, is impractical or impossible. Unless this is done, and done speedily, there will be no Appalachian heartland. 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 for generations to come. 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 towns and other heavily populated territories where important human values will be disrupted, nor where any highwall will be created. And, of first priority, no stripping should ever be authorized in those situations where legal title to the minerals has been severed from the title to the land generally, and the owner of the surface estate does not consent.

(2) It should authorize strip mining only where total restoration of the land can be carried out promptly and effectively. It should require that the top-soil 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 pits first with the subsoil following in its natural order. The subsoil should be compacted and coated with the original top-soil 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. These things are done now routinely in Germany, England and Czechoslovakia.

It must be noted, however, that even under the careful, systematic and costly procedures I have outlined a severe difficulty

remains: subterranean water flows are permanently disrupted and charged with minerals. Sometimes stripping goes 800 feet into the earth and on such areas no wells can ever produce water for farms and villages. This factor may, in fact, justify the prohibition of such deep stripping, or even all stripping.

(3) The federal government should commence a massive program to purchase and restore lands already stripped. The inventory of ravaged earth is growing daily. It already greatly exceeds the whole land area of the state of Connecticut. In 1967 the New York Times editorialized that there was then enough to make a swath a mile wide extending from the Statue of Liberty to the Golden Gate. In ten 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 healing of dismembered mountains should be assigned to teams of engineers and conservationists. In many areas if acceptable results are to be achieved enormous quantities of dirt will have to be dragged back up the hillsides, perhaps 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 and grain. Other stone will have to be buried. Lavish quantities of fertilizer, and compost, as well as 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 orientation have lain 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

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plundered. We cannot undo history, but we can undo some of the harm history has done. The British are now spending on land restoration about \$1.15 per ton of coal mined, and we must face up to the inevitability of similar heavy outlays. It will cost billions of dollars. The \$750,000,000 indicated by Secretary Udall's report is certain 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 Congress and a 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 lower 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% and a half of the amount should go into a restoration 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.

My proposals aim at restoration rather than reclamation. As I have already noted this is, to a large degree, being achieved routinely in Czechoslovakia, Germany and England and it can be done here. I urge the sub-committee to go to those countries and see for yourselves how it is possible in some terrains and under some conditions to remove minerals without apparent lasting damage to the land and its living things.

Some of you may be thinking along that silly old line, "Well, your proposals will lessen coal production and turn off the lights."

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If so you are pathetically ignorant of the American scene. Deep mines are closing as strip mines take their market. Deep miners are out of work and at this hour hundreds of them are lined up to apply for unemployment insurance benefits. Before you go to Europe to see how land can be restored when a government wants it done, you might make a side trip to Whitesburg, Kentucky and talk to men who have lost their jobs to bulldozers and you might even ask them how they expect to feed their families in the bleak winter that lies ahead. From there you could fly to Iowa, the nation's breadbasket, 45% of which can be stripped for coal. There you might ponder that if your descendants are to enjoy the glories of corn-bread, bacon and beefsteak you must make certain that Iowa survives undisturbed.

If you worry about our lights going out consider slowing coal exports to Japan. It is ironic that during World War II we ravaged our land for fuel to put out the lights in the Japanese empire: now we tear up our land for coal to keep those same lights burning!

Finally and most important, I urge you to hold field hearings in eastern Kentucky and in other parts of our 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.

SUPPLEMENTAL STATEMENT OF
THE NATIONAL COAL ASSOCIATION

The National Coal Association is a nationwide organization representing the producers and sales agencies of most of the nation's commercially mined bituminous coal. The association presented the position of the coal industry on the pending surface mining legislation, including S. 2777, in testimony presented before the Subcommittee on Minerals, Materials and Fuels on November 17, 1971.

This supplemental statement is addressed to S. 3000 which was introduced after the conclusion of the earlier hearings and to the policy issues enumerated in Chairman Jackson's letter of February 9, 1972, to Carl E. Bagge, president of the National Coal Association. NCA's previous testimony covered most of the issues raised in the letter in considerable detail, however, our position on these points will be briefly summarized herein for convenient reference.

At the outset we believe it would be helpful to outline in general terms the basic position of the coal industry with respect to federal surface mining legislation as set forth in the testimony of our four witnesses at the earlier hearing.

The coal industry affirmatively supports comprehensive federal legislation that will establish realistic criteria for achieving sound reclamation and that will require the states to develop and enforce regulations which meet those federal standards. The states should have the primary responsibility for implementing and enforcing the program at the local level. However, if a state fails to comply or fails to adequately enforce the regulations, then the legislation should provide for the federal government to step in, preempt the state program and set up the specific regulations for that state. The same federal criteria should be applicable regardless of whether the state or federal government develops the regulations. Although NCA speaks only for the coal industry, our position set out above is essentially the same as that of the American Mining Congress which represents most of the mineral extraction industries, many of which, like coal, are engaged in surface mining.

The coal industry maintains that the technology exists today to achieve sound reclamation and with realistic federal legislation effective reclamation can be required and achieved wherever surface mining is conducted. The basic objectives of such legislation should be as follows:

1. Provide a nationwide program to insure that adequate measures are taken to prevent or control the adverse effects of surface mining;

2. Provide for the protection of public health and safety as well as the prevention of irreparable damage to the area;
3. Insure sound reclamation of mined lands, and
4. Assist the states in carrying out such a program.

The legislation, therefore, should essentially require the prevention or control of erosion, land and rockslides, the release of toxic substances, and flooding; require compliance with the applicable federal and state air and water quality standards; protect fish and wildlife and avoid unnecessary disruption of their habitat; and protect public health and safety. Sound reclamation requires that actions be planned and taken before, during and after mining operations to shape and stabilize the topography in order to achieve a productive use that is compatible with the vegetation, climate, topography and other conditions of the area. Such uses would include any lawful use that a neighboring land owner could elect for unmined lands, however, surface mined acreage should not be released until the reclamation is successfully achieved which could involve several growing seasons. Provision should be made for reclamation by revegetation where indigenous to the area and called for by the planned use, including a suitable soil material as a growth medium.

We believe the above outline of the coal industry's position provides a frame of reference for discussion of the policy issues enumerated in the chairman's letter.

1. All lands, state, federal, and private, should be covered by federal surface mining legislation. The same federal criteria should be applicable regardless of whether the state or the federal government develops the specific regulations in order to assure effective reclamation and the same degree of environmental protection. Where there is an approved state plan, the Secretary of Interior should require that the program for federal lands within that state be consistent with the state regulations and the enforcement be coordinated.

2. The National Coal Association concurs with the American Mining Congress that federal surface mining legislation should apply to all minerals extracted by surface mining methods. All such surface operations effect the environment to a certain degree dependent upon the size, the method of extraction, the nature of the ore body and enumerable other conditions. Sufficient flexibility should be provided so that the regulations can take into account the different mining methods and all the varying factors involved. Legislation that would apply only to coal overlooks the fact that more than fifty percent of the land affected by surface mining operations involves extraction of minerals and other substances.

3. As pointed out above, federal legislation should establish the criteria for the states to follow in developing their reclamation programs. The Secretary of Interior would have the authority

to determine whether the state programs meet the federal criteria and whether the state is providing adequate enforcement. If a state fails to do the job, the federal government would preempt the state program, set up federal regulations for that state and enforce those regulations. The federal government should provide financial grants to assist the states in funding the development and enforcement of their programs on a continuing basis and should provide technical and training assistance to maintain program effectiveness. The federal government should also conduct the necessary research and study to assist both the states and the industry in improving reclamation technology.

Administration by any federal agency other than the Department of Interior would require needless duplication of the department's existing expertise and functioning administrative structure. The traditional jurisdiction of Interior over mining and mineral development, as well as reclamation on public lands, will be of immeasurable assistance in the effective administration of surface mining and reclamation legislation. In fact, the Mining and Minerals Policy Act of 1970 charges the Secretary of Interior with the responsibility for lessening the environmental effects of all mineral extraction. Federal legislation on surface mining should be consistent with the directives of this recently enacted statement of national mining and minerals policy.

4. The federal government should assist the states in the development, implementation and enforcement of state surface mining

and reclamation programs on a continuing basis by means of financial grants to the individual states. During the developmental period federal funding should bear a substantial part of the cost, but even in subsequent years federal grants should meet at least fifty percent of the cost. Permit fees, fines and any funds left over after reclamation from forfeitures should, of course, be used by the states to meet the cost of administration. These sources alone, however, cannot provide the adequate funding which is so essential to the maintenance of an effective program. The grants to the states and the cost of administering and enforcing the federal aspects of the program should be funded by appropriations from Congress.

5. The basic objectives of federal surface mining legislation and the essential criteria to be considered in reclamation programs are set forth in the outline of the coal industry's position set out above. The federal criteria should not be detailed in the legislation but should be set out with sufficient specificity so as to establish the parameters of the regulatory objectives and the standards for sound reclamation and provide the guidance necessary for the development of the specific regulations.

6. The coal industry recognizes the problems associated with the unreclaimed lands which were surface mined prior to the development of effective reclamation technology and the establishment of

adequate state regulations. They are often referred to as "orphan lands". First of all, surface mining operations in earlier years were conducted on a relatively small scale and the rudimentary techniques utilized limited recovery to those seams lying extremely close to the surface. As a result, nature itself has reclaimed much of this land and, therefore, any effective approach in dealing with pre-law lands should be based upon a national inventory of those areas that still need a significant amount of reclamation work, the extent required and the relative priority.

In many cases the operators who mined these pre-law lands are no longer in business and cannot be traced. Since the property involved has been returned to private ownership, it is essential to create a structure that will insure the cooperation of the private owner in the reclamation of his lands. Consequently, any realistic program must be funded substantially by the federal government, for it would be unfair to require the land owner or the present members of the coal industry to bear the cost to reclaim lands which they did not affect. Any pre-law lands owned today by coal operators are held primarily for the extraction of additional seams and will be reclaimed pursuant to the standards in force at the time these lands are reaffected.

7. Reclamation can be made to work and the disturbed lands can be returned to beneficial and productive uses because the

technology exists to successfully reclaim mined lands in most instances. Even in rugged, mountainous terrain, where admittedly it is more difficult, techniques have been successfully developed (such as mountain top and head-of-the-hollow methods) to control the overburden and achieve effective reclamation, regardless of the degree of slope in many cases (see testimony of Mr. Paul Morton, pp. 1-11). For these reasons, any prohibition should only be decided on a case by case basis as to whether the particular land for which a permit application has been filed can be adequately reclaimed as required by the statute.

Each permit application should be decided on the facts involved. To permit the prohibition of surface mining on an area basis, for example, above a certain degree of slope, would be an unwarranted oversimplification that fails to recognize what can be achieved through realistic legislation. It would be unfair to the responsible operators who are doing an excellent job in the mountains when what is needed is legislation to require the others to meet his standards.

Total or outright prohibition is both unrealistic and irresponsible, not only because it ignores the fact that the technology for sound reclamation exists but also because a vital 44 percent of U. S. production is surface mined coal. Eliminating this coal would have drastic effects on the energy sector, particularly the nation's

electric generating capacity. It could not in the foreseeable future be replaced by coal mined by underground methods. (See testimony of Mr. Carl E. Bagge, pp. 5-8 and 12-19.)

8. The time schedule for the legislation would depend upon what bill is to be enacted. In the federal-state approach as proposed in S. 993 and S. 630, the states could be required to submit their programs within one year after enactment but realistically such a schedule would be quite difficult to meet. Perhaps with the all-out assistance of the Department of Interior it could be done. The state regulations then could be put into effect 60 days after approval within which time the permit applications for active operations could be processed so that on-going operations would not have to be held up by administrative delay. The fact that many of the states have excellent reclamation statutes and regulations which, with federal funding and assistance, could provide adequate regulation until the new programs are approved. In this way the states could be given 18 months or two years to develop their programs.

9. A surface mine operator should have the right to administrative and judicial review of any adverse action, ruling or decision against him by the administrative agency involved. A state should also be accorded the right to review by the federal courts with respect to an adverse determination by the Secretary of Interior in passing upon state regulations and enforcement.

* * *

S. 3000 does not provide a viable approach for the achievement of sound reclamation. The criteria it sets up essentially requires return of the original contour and to the use prior to mining. Such an oversimplified and doctrinaire solution is unrealistic and could actually frustrate the return of mined land to productive and beneficial uses.

Reference to the intent and purpose of the bill is referred to repeatedly throughout S. 3000, yet there is no reclamation definition. The only clear standard is the requirement that the land be returned to a use and topographical conformance substantially as it existed prior to surface mining operations. Restoration of the original contour can require a substantial amount of earth moving, at enormous expense, for little benefit. The so-called original contour is, geologically speaking, only the contour of the moment, the product of ages of erosion and other natural processes. In many instances it is not conducive to the best use of the land. The use prior to mining may have been an inferior use of the land and thus not well suited for the climate, terrain and other conditions in the area. For example, because a crop of some kind can usually be grown, agriculture is carried on in many areas where conditions are such that the yield is marginal at best or erosion cannot be effectively prevented by row crops and the land would be more suitable for pasture or forest lands or for other uses. To require

that mined land be conditioned for such a prior use would definitely not achieve the maximum ecological value and could frustrate productive utilization of the land.

S. 3000 would also set up a needlessly complicated administrative maze calling for four different reclamation programs, none of which are clearly based on the same criteria. Although approval of state plans is provided for, the federal government would pass upon every permit issued by the state. NCA opposes direct federal regulation but if that is the objective, set it up in as uncomplicated a form as possible. The purpose of the legislation should be sound reclamation and a complicated administrative structure could put many companies out of business without achieving that objective. The coal industry is not in accord with S. 2455 or S. 77 but the administrative approaches in those bills are far preferable to S. 3000.

For the reasons set out above, the Secretary of Interior, rather than the Administrator of EPA, as proposed in S. 3000, should administer federal surface mining legislation.

S. 3000 provides for prohibition of surface mining on an area basis. As pointed out above, prohibition should be decided on a case by case approach considering the particular parcel of land involved in each permit application.

The provision for public participation in determining whether a bond should be released would appear to be unnecessary in view

- 12 -

of the other safeguards provided. The public interest would appear to be adequately protected against the abuse of administrative discretion since the state plans must be federally approved, enforcement must be continually monitored by the federal government and periodic review and revision of the state programs are required.

S. 3000 should provide for public notice and the right of all interested parties to comment on proposed rulemaking. There are other aspects of S. 3000 which are not conducive to the achievement of sound reclamation and effective administration, however, we have attempted herein to address only the major concerns of the industry.

In conclusion, we reaffirm our support for federal legislation that will require the return of mined lands to productive use without a complicated and cumbersome administrative structure, as set forth above in our outline of position.

PUBLIC SERVICE COMMISSION,
STATE OF NORTH DAKOTA,
Bismarck, N. Dak., February 15, 1972.

HON. HENRY M. JACKSON,
Chairman, Senate Committee on Interior and Insular Affairs, U.S. Senate, Wash-
ington, D.C.

DEAR SENATOR JACKSON: Thank you very much for your invitation to testify before your Subcommittee on Minerals, Materials and Fuels of the Committee on Interior and Insular Affairs scheduled for February 24.

Our Commission appreciates your invitation. We do have a problem in that we cannot be available at that time due to other conflicts.

Your Committee has already received a copy of my testimony given to the Subcommittee on Mines and Mining, Committee on Interior and Insular Affairs, United States House of Representatives, on October 26, 1971. I believe that the statement will cover the nine questions which you ask.

It would further be my personal observation that your Committee should act with dispatch to try and pass a good, sound, solid spoil bank reclamation law. I believe that the people in this country are in many ways way ahead of Congress on this issue.

I realize that there are powerful economic forces at work to protect their own interest and I also realize there are different points of view ranging from a study of strip mining legislation to a complete ban on spoil bank strip mining.

My own view again is that a position somewhere in the middle is a logical one. No strip mining should be allowed anywhere on private or public lands without very strong strip mining laws. If reclamation can not be achieved, then it is a serious question as to whether strip mining should be allowed.

If you would care to, you may use this letter as part of the record in your Committee hearing.

Sincerely,

BRUCE HAGEN, *Commissioner.*

PUBLIC SERVICE COMMISSION,
STATE OF NORTH DAKOTA,
Bismarck, N. Dak., February 17, 1972.

HON. HENRY M. JACKSON,
Chairman, Senate Committee on Interior and Insular Affairs, U.S. Senate, Wash-
ington, D.C.

DEAR SENATOR JACKSON: I am sending you a letter to further cover my own personal views on the nine questions which you asked in your letter of February 9, 1972. The questions pertain to S. 2777 and S. 3000. My reply covers my personal opinion.

1. *What lands should be covered?*

Answer: I believe that all lands should be covered. First a determination should be made whether the land can be reclaimed. If it can't be reclaimed, I do not favor surface mining.

2. *What minerals should be covered?*

Answer: All minerals.

3. *What is the measure of responsibility between Federal-State governments and what agency or combination of agencies should have the Federal administrative responsibilities?*

Answer: I believe there is a joint responsibility between federal and state governments. If the states can and, in fact, meet their responsibilities, fine. If they do not, then I think the federal government has to insure that strip mining does not occur unless proper reclamation procedures are followed. I would favor resting jurisdiction in the Federal Environmental Protection Agency on the Federal level. The 50 states vary, but logically such jurisdiction should rest in State Departments of Natural Resources.

4. *What provision should be made for funding the reclamation and enforcement program?*

Answer: A tax or imposition on the mineral mined on any or all lands. The general taxpayer should not have to pay for this.

5. What factors should be considered in the reclamation plan? Should these be detailed provisions or guidelines?

Answer: It should be a complete reclamation plan ranging from prior land use with the requirement of equivalent land use after surface mining. A strong, clear law would be best fleshed out with guidelines which could be more flexible, but still follow the intent of the law.

6. What provision should be made for orphan lands?

Answer: Orphan lands should come under the Act. This may be a problem, but it is a national problem and should be met.

7. Should there be prohibition of surface mining?

Answer: Yes, if the surface mined land is not reclaimable, or the ecological affects can not be remedied by reclamation.

8. Within what time schedule should any proposed law be operative?

Answer: Immediately upon passage of the law.

9. What provision should be made for administrative and jurisdictional review?

Answer: Public, formal hearings should be held before permits are issued. Judicial review could rest with the Federal District Courts.

Thank you for the opportunity to further amplify my views.

Sincerely,

BRUCE HAGEN, *Commissioner*

THE GARDEN CLUB OF AMERICA,
New York, N.Y., February 16, 1972.

HON. HENRY M. JACKSON,
Chairman, Senate Committee on Interior and Insular Affairs, Senate Office Building, Washington, D.C.

DEAR SENATOR JACKSON: The Garden Club of America, a national organization with member clubs from coast to coast and in Hawaii has always opposed the desecration of land and therefore strongly urges passages of S. 3000, "a bill to provide for the regulation of surface mining of coal to protect the environment and for other purposes."

Many areas of this country have suffered ecological disaster from unregulated strip and auger mining and we concur with the bill's sponsors when they called this type of mining an "Environmental insult."

We vigorously support passage of S. 3000 for the following reasons:

1. It would set up Federal standards and controls to be enforced by the states, thus insuring uniformity and abolishing the present inequitable system, whereby states which refuse to pass laws to protect the environment serve as shelters for coal operator-despoilers. These operators profit from their ability to undersell in a highly competitive market the coal producers in other states which enforce laws requiring costly reclamation.

2. The Environmental Protection Agency is designated as Administrator of the act. It is empowered to oversee enforcement and to intervene in cases in which states fail to carry out the intentions of the act. We consider this arrangement superior to having the Department of the Interior designated as the administrative agency. Interior has jurisdiction over laws regulating underground mining, but the problems of surface mining are altogether different and need to be policed by an agency such as E.P.A. which is *primarily* responsible for and sympathetic to the needs of the environment.

3. It would require a nine month moratorium on new or substantially expanded surface mining operations while Federal standards and regulations are being drawn up. We feel this to be an extremely important provision. Russel Train, Chairman of the Council on Environmental Quality, estimates that 750 acres a day are being claimed by the strippers. Typical of the national picture is what has happened in Kentucky where strip mines increased by more than 50% in 1971 over 1970 as underground coal operators, pressured by a costly mine safety act and price competition from stripped coal, turned to the latter method.

4. It would prohibit surface mining on any site so steep that it could not be returned to a use and topographical conformance substantially the same as that existing before commencement of the operations, or a different use if such were in conformity with this act.

5. To insure that these provisions will be carried out, performance bonds must be posted, the amount of bond per acre to be determined by the Administrator after receiving the operator's estimate of reclamation costs per acre. Plans and

maps must be submitted detailing the exact techniques by which reclamation is to be carried out. Only if such plans meet the approval of the Administrator can a permit to mine be issued. Moreover, S. 3000 establishes sanctions of such magnitude that they cannot be flouted by irresponsible operators as has so often been the case in states which have fixed bonds and fines at such a low rate that operators could afford to ignore them, forfeit their bonds, pay their fines and still make a profit at the present market price of coal. Under the provisions of S. 3000 violators of any provision of the act will be fined \$10,000 for each day of violation. Repeaters of violations, \$20,000 per day of violation. In addition, the appropriate court may impose fines of \$5,000 for each acre of land stripped in violation of the act's provisions.

If S. 3000 is to be effective it must be adequately funded. The Garden Club of America therefore vigorously urges the Congress not only to pass this legislation, but to appropriate funds for purposes which shall be entirely sufficient to carry out the intentions of the act.

We request that this letter be included in the transcript of the public hearing on surface mining legislation, scheduled for February 24th, 1972.

Sincerely,

Mrs. THOMAS M. WALLER.

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY,
COLLEGE OF ENGINEERING,
Blacksburg, Va., January 26, 1972.

HON. ROGERS MORTON,
Secretary of the Interior, U.S. Department of the Interior, Interior Office Building, Washington, D.C.

DEAR MR. SECRETARY: I strongly urge that you personally institute immediate efforts to obtain through your offices a 60-day moratorium on the strip mining of coal in terrain with surface slopes equal to or in excess of 22 degrees. The purpose of such moratorium would be to enable interdisciplinary investigation of the technical feasibility of operating in such conditions without irreparable environmental damage, and to ascertain whether such damage is currently resulting from mining activities now conducted in such terrain.

The proposed moratorium would not adversely affect the immediate energy needs of the country since coal stocks for power generation are approaching a 90-day supply, and since only a fractional part of total coal production is obtained from the subject operations.

To efficiently implement the requested moratorium, and to avoid adverse financial and social consequences to the individual and corporate interests involved, the following activities must be undertaken:

- (1) Immediate appointment of an interdisciplinary task force to conduct the requested investigation. Such task force to be representative of the pertinent government and private interests involved.
- (2) Efforts in conjunction with the appropriate Federal and State agencies to enable unemployment benefits sufficient to partially alleviate the loss of income to those individuals employed by the affected operations.
- (3) Instigation of efforts to obtain the cooperation of State and industry mining officials, to identify the mining operations of concern and request the proposed compliance. Lacking voluntary compliance to obtain production injunctions, permit revocations, or other prohibitory measures necessary to gain such compliance, in cooperation with State officials.

Additionally, a separate Study Commission should be established to:

- (1) Determine alternative sources of supply for those tonnages lost by any later permanent closure of damaging operations.
- (2) Identify governmental or private emergency funding sources to enable rapid development of underground or surface operations necessary to replace such permanently lost production.
- (3) Determine those programs necessary to retrain, reimburse or relocate those individuals employed by damaging operations.

The utter urgency of the requested moratorium is attested to by the continuing legislative and social struggles to determine reasonable operating guidelines; the increasingly violent environment in which such struggles are taking place; the possibility that irreparable damage to the environment is now occurring; and the harm accruing to responsible operators from the irresponsible operating practices of a few.

Copies of this letter are being sent to the attached list of governmental, industrial, labor, and environmental interests, with a request that they join with you in a concerted effort to formulate the best policy for the common good.

I will gladly assist your office in any way possible in formulating in detail those activities necessary to obtain the desired goal. I intend to pursue the requested moratorium, in order to gain a reasonable solution to a formidable industrial, social, and environmental problem.

I look forward to your response to the requested acts.

Sincerely,

CHARLES A. BEASLEY,
Associate Professor, Mining Engineering.

GOVERNORS

- The Hon. Arch A. Moore, Jr., Governor, State of West Virginia, State Capital Building, Charleston, West Virginia 25330.
 The Hon. Linwood Holton, Governor, State of Virginia, State Capital Building, Richmond, Va.
 The Hon. John J. Gilligan, Governor, State of Ohio, State Capital Building, Columbus, Ohio.
 The Hon. Milton S. Shapp, Governor, State of Pennsylvania, State Capital Building, Harrisburg, Pennsylvania.
 The Hon. Winfield Dunn, Governor, State of Tennessee, State Capital Building, Nashville, Tennessee.
 The Hon. Wendell Ford, Governor, State of Kentucky, State Capital Building, Frankfort, Kentucky.
 The Hon. Richard B. Ogilvie, Governor, State of Illinois, State Capital Building, Springfield, Illinois.
 The Hon. Edgar D. Whitcomb, Governor, State of Indiana, State Capital Building, Indianapolis, Indiana.

SENATORS

- The Hon. Henry M. Jackson, Senator, State of Washington, and Chairman, Interior and Insular Affairs Committee, 137 Old Senate Office Bldg., Washington, D.C.
 The Hon. Wayne N. Aspinall, Representative, State of Colorado, 4201 Cathedral Avenue, Washington, D.C.
 The Hon. Jennings Randolph, Senator, State of West Virginia, 4608 Reservoir Road, Washington, D.C. 20007.
 The Hon. Robert C. Byrd, Senator, State of West Virginia, 105 Old Senate Office Bldg., Washington, D.C.
 The Hon. Wm. B. Spong, Senator, State of Virginia, 5327 New Senate Office Bldg., Washington, D.C.
 The Hon. Robert Taft, Jr., Senator, State of Ohio, 2541 Waterside Drive, Washington, D.C. 20008.
 The Hon. Howard H. Baker, Jr., Senator, State of Tennessee, 3224 Woodland Drive, Washington, D.C. 20008
 The Hon. John S. Cooper, Senator, State of Kentucky, 2900 North Street, Washington, D.C. 20007.
 The Hon. Hugh Scott, Senator, State of Pennsylvania, 3104 Woodland Drive, Washington, D.C. 20008.

REPRESENTATIVES AND OTHERS

- Mr. Si Galpern, Jr., West Virginia State Senator, 17 District, State Capital Building, Charleston, West Virginia 25330.
 The Hon. Ken Hechler, Representative, State of West Virginia, 242 Cannon House Office Bldg., Washington, D.C.
 The Hon. John D. Rockefeller, Secretary of State, State of West Virginia, Capital Building, Charleston, West Virginia.
 Dr. ELBERT Osborne, Director, U.S. Bureau of Mines, Dept. of Interior, Interior Bldg., Washington, D.C. 20240.

INDUSTRIAL ORGANIZATIONS

- Mr. J. B. Alford, Secretary General of AIME, 345 E. 47th Street, New York, New York 10017.

- Mr. W. A. Marting, President, American Mining Congress, 1100 Ring Building, Washington, D.C. 20036.
 Mr. O. V. Linde, President, West Virginia Surface Mining Association, Charleston, West Virginia.
 Mr. Carl E. Bagge, President, National Coal Association, 1130 17th St., N.W., Washington, D.C. 20036.
 Mr. Fred Luigart, President, Kentucky Coal Association, 121 Walnut Street, Suite 300, P.O. Box 1808, Lexington, Kentucky.
 Mr. Stephen Young, President, West Virginia Coal Assoc., 1721 Kanawha Valley Bldg., P.O. Box 1111, Charleston, West Virginia.

OPERATING COMPANIES

- Mr. Tracy W. Hylton, President, Whitesville A & S Coal Co., Beckley, West Virginia.
 Mr. Dee Hall, Vice Pres., Eastern Operations, Peabody Coal Company, N. Memorial Drive, St. Louis, Missouri.
 Mr. J. F. Core, Vice Pres., Coal Operations, U.S. Steel Corporation, 525 William Penn Place, Pittsburgh, Pennsylvania.
 Mr. S. Barker, Jr., President, Island Creek Coal Company, Buckley Bldg., Cleveland, Ohio 44115.
 Mr. Edward P. Leach, President, Bethlehem Mines Corp., 701 East Third Street, Bethlehem, Pennsylvania.

DIVISION OF MINERALS ENGINEERING,
 VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY,
 Blacksburg, Va., February 14, 1972.

HON. ROGERS MORTON,
 Secretary of the Interior, U.S. Department of the Interior,
 Washington, D.C.

DEAR SECRETARY MORTON: On January 27, 1972, I requested your leadership and assistance in attaining a 60-day moratorium on strip mining in steep terrain, and an in-depth study of its environmental effects.

I am hereby transmitting to you a proposed "Plan of Study of Stripping Operations in Steep Terrain" to supplement my earlier request, and to assist you in structuring the proposed study. This investigation is capable of an eight-week completion at an approximate cost of \$99,500. It can be accomplished without the moratorium if necessary.

Although I have not heard from your office, reaction from other legislative, industrial, and private interests that received copies of the initial request overwhelmingly supports the need for the investigation. The trade associations and operators, however, did not believe the moratorium to be necessary for its accomplishment.

Need for immediate action is reinforced by the many proposals concerning surface mine regulation now before the Congress and the State legislatures, and the subsequent need for accurate information for informed judgment. Additionally, the problem of mountain stripping is capable of technical, economic, and legislative resolution and should not be settled through social and political conflict.

I again urge your early and favorable response to this proposal. I reiterate my willingness to assist you in any way possible and my intentions to pursue a rational solution of this problem.

Sincerely,

CHARLES A. BEASLEY,
 Associate Professor of Mining Engineering.

PROPOSED PROGRAM FOR INVESTIGATION OF STRIP MINING IN STEEP TERRAIN

SUMMARY

Results of the program proposed for investigation of environmental effects of coal strip mining in steep terrain:

Rapid determination of any irreparable damage resulting from current operations.

Compilation of accurate data assisting informed decisions by all parties involved in the pending state and federal legislative regulations.

Accumulation of data that would enable action by Federal and State agencies of existing regulations are now being violated.

Identification of problem areas requiring technologic advances for resolution.

Provision of a composite record of the total industrial segment operating in extreme environmental conditions.

This investigation would require the establishment of an Advisory Committee and five separate field task forces. The total cost of the eight-week investigation excluding the internal costs to participating agencies would approximate \$99,500.

ADVISORY COMMITTEE

The Advisory Committee would be composed of ten individuals with demonstrated competence in mineral and environmental matters. Their chief functions would be to advise the structuring of an overall study plan; to insure the cooperation of the industrial, governmental and public segments of the industry; to enable access to all information sources and talent necessary for completion of the investigation; and to review and implement the resultant report.

RECOMMENDED COMMITTEE MEMBERSHIP

A policy decision would be necessary to determine whether the governmental members would be totally from Interior or from other government resource agencies. The suggested committee representative only of Interior and non-Federal members is given below. An alternative committee with inter-government members is given in Appendix I:

Assistant Secretary, Mineral Resources, Department of the Interior.

Associate Solicitor, Mineral Resources & Legal Services, Department of the Interior.

Assistant Secretary, Water and Power Resources, Department of the Interior.

Assistant Secretary, Fish, Wildlife and Parks, Department of the Interior.

Governor of a major coal producing state.

President of a major mining company with surface mining operations.

Deputy Undersecretary for Science and Engineering, Department of the Interior.

Prominent surface mining authority without coal industry ties.

Representative of United Mine Workers of America.

Representative of independent coal operators associations.

TASK FORCES

Five field task forces of five to six members each. Each group concerned with one area of investigation, and each functioning independently.

MINING TECHNOLOGY TASK FORCE

Responsibilities would include:

Description of the mining methods; overburden preparation techniques, and equipment applications of the subject operations.

Determination of operating problems of difficult resolution under current technology.

Development of alternative methods of eliminating problems currently capable of resolution.

Determination of cost—method relationships for evaluation of current and recommended practices.

Force Composition,

Director, U.S. Bureau of Mines.

Chief Mining Engineer, Major Coal Company.

Equipment Applications Specialist, Surface Mining, Equipment Manufacturer.

Civil Engineer, U.S. Corps of Engineers.

Director, U.S. Geological Survey or representative.

ENVIRONMENTAL TASK FORCE

Responsibilities to include:

Determination of the results of current operating practice on physical environment.

Specification of damage to air, water, fish, and wildlife.

Description of ecological interrelationships involved.
 Report on changes in soil and vegetation.
 Delineation of before and after effects of sample operations.

Force Composition

Forest Service Director, or representative.
 Fish and Wildlife Service representative.
 Department of Agriculture representative.
 EPA expert on water and air.
 At large representative.

RECLAMATION TASK FORCE

Responsibilities:

Specification of current reclamation techniques.
 Determination of degree to which current reclamation specifications are being followed.
 Evaluation of the extent of success under present techniques and practices.
 Recommendation of alternative reclamation measures having potential application.
 Citation of instances in which technological advance is necessary.
 Evaluation of probable effects of current practice.

Force Composition

Private Reclamation Association representative.
 Reclamation Supervisor, major operating company.
 Reclamation Director of a major producing state.
 Department of the Interior expert in forestry, or fish and wildlife.
 USGS Representative.
 Bureau of Land Management expert in multiple resource use.

LEGAL, SOCIAL AND ECONOMIC TASK FORCE

Responsibilities:

Determine the broad economic impact of the industry segment operating in extreme environmental conditions.
 Develop all salient statistics affecting production, markets, and employment.
 Investigate the relative profitability of this segment of the coal industry.
 Devise alternative plans for retraining, reimbursing, or relocating employees adversely affected by changes in operations in steep terrain.
 Estimate the importance of, and value, of reserves amenable only to surface mining in steep terrain.
 Determine the feasibility of government purchase of such reserves.
 Determine a just compensation basis for government requisition of such reserves.
 Develop the rationale of legal and judicial guidelines under which the industry functions.
 Determine the social advantages and disadvantages of this segment of the coal industry..

Force Composition

Academic Economist without industry ties.
 National Coal Association economist.
 Director of Economic Analysis, Department of the Interior.
 Representative of a State development and planning agency.
 Representative of the Department of Health, Education, and Welfare.
 Representative from the Solicitors Office, Department of the Interior.

GEOGRAPHIC STUDY AREA

Typical surface mines operating in terrain with surface slopes in excess of 22 degrees would be studied. The suggested area of study includes major coal producing counties in southern West Virginia, eastern Kentucky, Tennessee, and southwestern Virginia.

West Virginia: Raleigh, Preston, McDowell, Monongalia, Kanawha, Harrison, Fayette, Boone, Barbour.

Virginia: Wise, Dickenson, Buchanan.

Tennessee: Campbell, Anderson.

Kentucky: Perry, Pike, Letcher, Knott, Harlan, Breathitt, Bell.

The five task forces would each select a sufficient number of representative operations in accordance with their separate criteria. Since the number of individual operations is large, the task forces would not necessarily study the same operations, since purposes would be best served by the widest possible coverage. At the same time, the number of operations preclude total coverage.

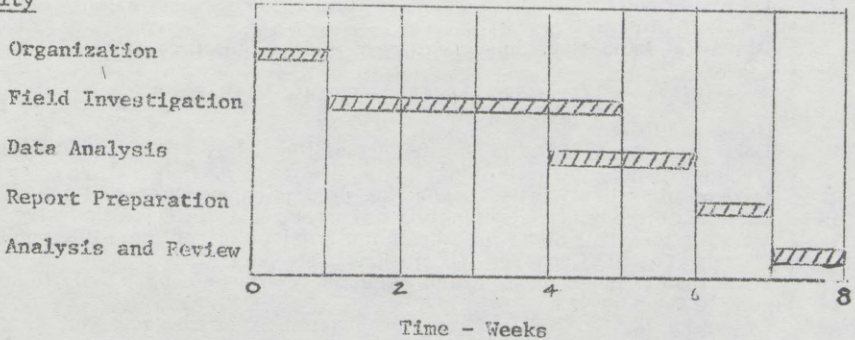
TIME REQUIREMENTS AND SCHEDULING

Eight weeks would be required for completion of the study. The study phases and their time requirements:

	Weeks
Organization and problem approach-----	1
Field investigation-----	4
Compilation and analysis of data-----	1
Report preparation-----	1
Review by Advisory Committee-----	1
Total time-----	8

The scheduling of the study phases is shown below. Efficiencies in overlapping selected work phases could shorten the total time required and could provide longer periods for specific tasks.

Activity



ANALYSIS AND REVIEW

The Advisory Committee would review the total report, in consultation with interdisciplinary experts as desired, and would issue firm conclusions and recommendations covering:

Existence and extent of any irreparable damage now being sustained by the physical environment.

Degree to which such damage, if any, could be alleviated or minimized.

Recommendations for incorporating study conclusions into industrial practice, and for implementing any study conclusions.

Recommendations for continuing study or research to attain a technological level to alleviate any adverse environmental effects.

ESTIMATED STUDY COSTS

Study costs would be minimized by having each participating governmental, state and industry group bear their own cost of participation under current budgets to the greatest extent possible. Therefore no cost is assigned to salaries and wages of field personnel, transportation costs where government vehicles are utilized, report preparation, secretarial, supply, and reproduction costs.

Cash costs would therefore involve only auxiliary field services, field housing, and maintenance expenses, and travel by commercial carriers. Such cash costs are estimated as follows:

Organizational travel to Washington, D.C. (30 participants at average round-trip cost of \$100)-----	\$3,000
Living accommodations during organizational meetings (40 participants at \$30 per day, 10 days)-----	12,000
Field investigation (maintenance of personnel for 600 man days of field work at \$70 per man per day)-----	42,000
Consultant services (150 man days at \$150 per man day)-----	22,500
Contingency costs (20% of total costs excluding auxiliary costs)-----	16,000
Auxiliary costs—services and supplies (Estimated at 5% of total cost excluding contingency costs)-----	4,000
Total -----	99,500

APPENDIX I—ALTERNATIVE ADVISORY COMMITTEE WITH GOVERNMENTAL MEMBERS
OUTSIDE OF INTERIOR

RECOMMENDED ADVISORY COMMITTEE WITH INTER-GOVERNMENTAL MEMBERSHIP

President of a major mining company operating in the study conditions.
Undersecretary for Mineral Resources, Department of the Interior.
Governor of a state with major strip mining activity.
Head of the Environmental Protection Agency.

A prominent surface mining authority having no major ties to the coal industry.

An at-large representative of the public interest.

A labor representative: President of the United Mine Workers.

A representative of the U.S. Attorney General's office.

A representative of an Independent Coal Operator's Association.

A Department of Labor representative.

copy

**American Mining Congress**

February 3, 1972

Honorable Frank E. Moss
Chairman, Subcommittee on Minerals,
Materials and Fuels
Committee on Interior and Insular Affairs
United States Senate
Washington, D. C. 20510

Dear Mr. Chairman:

On November 16, 1971, Mr. Joseph S. Abdnor testified before your Committee for the American Mining Congress on pending legislation to regulate surface mining.

In that testimony, Mr. Abdnor set forth the general views of the American Mining Congress. Taking note of the broad range of legislative proposals then before you, he said that at such time as your Committee approached the point of marking up a bill, we would submit specific suggestions for amendments.

This letter sets out our suggestions for specific legislative language. It also embodies our views on several additional general concepts in the legislation before you. We appreciate the opportunity to submit this supplement to Mr. Abdnor's testimony at this time, in view of the fact that your Subcommittee is about to undertake some hearings in the field. We hope it will be useful to you and your colleagues to have these specific suggestions of the mining industry before you during the course of these hearings, and later on when you reach the point of marking up a bill.

With respect to the legislative language suggestions in this letter we have examined particularly the provisions of S. 630, S. 993, S. 2455, S. 2777, and S. 3000. We have also considered the testimony various

Honorable Frank E. Moss
February 3, 1972
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witnesses have presented. We believe the legislative language we propose -- on the various subjects below -- could be readily adapted to the markup of a final bill in your Committee.

I.

Because of the great diversity in surface mining practices, and the variety of reclamation conditions the pending legislation is intended to cover, there should be separate definitions for strip mining and surface mining, separate definitions for reclamation under each, and a precise definition of the mined area to be reclaimed. We recommend the following:

Sec. _____. For purposes of this Act, the term --

(a) "strip mining" means the extraction of mineral deposits lying near the surface of the earth by means of removing the overburden above the deposits in rows or strips as distinguished from open pits, and where the extraction process is normally moved from place to place and does not involve the extraction of minerals at the same location over a substantial period of time. For purposes of this Act, "strip mining" shall include contour mining and auger mining.

(b) "surface mining" means the extraction of minerals by means other than strip mining, but excluding the underground extraction from beneath the surface of the earth of minerals to which access is gained by wells, shafts, slopes, drifts or inclines penetrating or connected with excavations penetrating mineral seams or strata.

(c) "mined area" means the surface of an area in which strip mining or surface mining operations are being or have been conducted after the effective date of this Act, including private ways and roads appurtenant to any such area, land excavations, workings, waste dumps, refuse banks, tailings, spoil banks, and other areas in which mining operations are situated.

(d) "reclamation" means --

(1) with respect to strip-mined land, actions performed during and after mining operations to shape, stabilize, and

Honorable Frank E. Moss
February 3, 1972
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revegetate such mined areas in order to achieve a condition, appearance, or use as determined by a reasonable and concerned operator which can be sustained by the soil, climate, and topography of the area and where the benefits of such actions are reasonably related to the costs thereof.

(2) with respect to surface-mined land, actions performed during and after mining operations to recondition such mined areas on which mining shall have been completed to a state which, insofar as practicable, will serve a purpose not inconsistent with local environmental conditions and current mining and reclamation techniques, and where the benefits of such actions are reasonably related to the costs thereof.

II.

The pending legislation contemplates State regulation. We believe the Secretary should be required to approve regulations proposed by a State, provided those regulations meet certain minimum requirements set out in the statute. We recommend, therefore, that the following elements [(a) through (e) below] be required with respect to the issuance of permits:

Sec. _____. The Secretary shall approve the regulations or revision of such regulations submitted to him provided --

(a) The regulations require each operator engaged in surface mining or strip mining to obtain a mining permit from a State agency established to administer the regulations, and to file a reclamation plan describing the manner in which reclamation activity will be conducted and assuring that such activity will be conducted in a manner consistent with the regulations.

(b) The regulations require that the State agency must issue such mining permit unless it is specifically found that reclamation of the mined area will not be accomplished by the reclamation plan filed by the operator with such permit application.

(c) The regulations require that (1) the State agency shall notify the applicant within 30 days after the filing of a mining

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permit application whether the application has been approved and if the application is denied specific reasons therefor must be set forth in the notification. Any denial of a mining permit must be only for failure of a plan submitted to provide proper and effective reclamation as determined in the State regulations, (2) the application shall be deemed approved if not denied within 30 days after the filing thereof, (3) within 30 days after the applicant is notified that its application is denied, the applicant may request a hearing into the reasons for said denial and a hearing shall be held, when so requested, within 30 days of the request, (4) at the hearing a record shall be kept of all proceedings, and (5) within 30 days after the hearing is closed, the State agency must issue and furnish the applicant the written decision of the agency containing findings of fact, conclusions of law, and incorporating therein an order either granting or denying the mining permit and stating the reasons therefor.

(d) The regulations provide that mining permits granted under this section shall continue in force at least for the anticipated life of the mining operation and shall not be revoked except after a public hearing on at least 20 days notice to the operator, that such a hearing shall be held before the State agency which granted the permit, that at the hearing a record shall be kept of all proceedings and that within 30 days after the hearing is closed, the State agency must issue and furnish the applicant the written decision of the agency containing findings of fact, conclusions of law, and incorporating therein an order either granting or denying the mining permit and stating the reasons therefor.

(e) The regulations provide that during the term of the mining permit the operator may apply to the State agency for a revision of the mining permit, that such revision shall be approved unless it is specifically found that reclamation of the mined area will not be accomplished by the reclamation plan filed by the operator with such application for revision, that the revision shall be deemed approved if not denied within 30 days after the filing thereof, and that if such revision is denied, the applicant may request a hearing in the same manner and subject to the same requirements as provided in subsections (c) (3) through (c) (5) of this section.

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III.

Requiring a performance bond should be discretionary with the State agency that issues the permit and approves the reclamation plan. As a general guide, we recommend the following:

Sec. _____. The issuing agency may, in its discretion, require the posting of an appropriate performance bond sufficient to provide for compliance with the approved reclamation plan. In determining whether such bond should be required the agency shall consider, among other things, the financial responsibility of the applicant, the amount of time represented in the estimated life of the mining operation and the proposed reclamation plan, whether other bond requirements have been or will be imposed on the applicant for activities encompassed in the mining operation and the proposed reclamation plan, and whether the purposes of this Act would be served by a deferment to a later time of any requirement that such bond be posted.

IV.

In developing a State plan to be submitted to the Secretary, a State should be required to hold appropriate hearings open to the public. Military and Indian lands only should be excepted from coverage. Accordingly, we recommend the following:

Sec. _____. Each State, after public hearings and within two years of the date of enactment of this Act, may submit to the Secretary for review and approval or disapproval in accordance with this section State regulations with respect to the reclamation of mined areas which are subject to the provisions of this Act within such State, except military land or land held in trust by the United States for Indians. A State may at any time thereafter submit revisions to such regulations to the Secretary for review and approval or disapproval in accordance with this section.

V.

This proposed statute should be administered in a manner which will not be inconsistent with the Mining and Minerals Policy Act of 1970 --

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which itself refers to the "reclamation of mined land." Accordingly, we recommend the following findings and purposes, which will include a specific reference to the Mining and Minerals Policy Act.

CONGRESSIONAL FINDINGS AND PURPOSES

Sec. _____. (a) Having recognized in the Mining and Minerals Policy Act of 1970 the importance of an economically sound and stable domestic mining industry, as well as the importance of reclaiming mined land, it is hereby declared that a purpose of this Act is to advance the objectives of the Mining and Minerals Policy Act of 1970.

(b) The Congress also finds and declares --

(1) that extraction of minerals by strip mining and by surface mining are significant and essential industrial activities and contribute to the economic potential of the nation;

(2) 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 strip mining and surface mining operations and for the reclamation of mined areas is not feasible;

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

(4) 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 strip mining and surface mining operations to assure that adequate measures will be taken to reclaim mined areas after such operations are completed, and to assist the States in carrying out such a program.

VI.

Order, efficiency and economy dictate that only one agency in a State be charged with administration and enforcement responsibilities.

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Accordingly, we recommend the following as an additional element upon which approval of a State plan will depend:

Sec. _____. [The Secretary shall not approve the regulations or revisions of such regulations submitted to him unless --]

[_____] The regulations designate a single agency responsible for the formulation, administration and enforcement of the State's reclamation program for mined areas within the State which are subject to the provisions of this Act.

VII.

While the States bear the primary responsibility in dealing with reclamation of mined areas, we recognize that the Federal government has an appropriate role to play in the absence of State action. Accordingly, we recommend the following:

Sec. _____. (a) If, at the expiration of two years after the enactment of this Act, a State having mining areas failed to submit regulations for the reclamation of mined areas subject to the provisions of this Act within the State, or has submitted regulations which have been disapproved and within such period has failed to submit revised regulations for approval, the Secretary in consultation with an advisory committee appointed pursuant to this Act shall promptly issue general regulations for the reclamation of such mined areas: 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 State with mining areas and without a mined land reclamation program shall apply to all lands within each State except

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military lands or land held in trust by the United States for Indians, and shall be consistent with the requirements set forth in subsections _____ of section _____ of this Act. [Reference here to section dealing with Federal standards for State programs.]

(b) The Secretary shall publish in the Federal Register the regulations which he proposes to issue for States without a mined land reclamation program and having mining areas. Interested persons shall be afforded a period of not less than 60 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 after having consulted with the advisory committee regarding such regulation or modification.

(c) The Governor of any State affected by the regulations, or any operator who may be adversely affected by the regulations the Secretary proposes to issue may, on or before the last day of the period fixed for the submission of written data, views, or arguments, petition the Secretary for a public hearing. The Secretary shall not issue final regulations respecting which such objections have been filed until such public hearing has been held and a decision rendered pursuant to the provisions of 5 USC 556 and 557.

(d) If a State submits proposed State regulations to the Secretary after Federal regulations have been issued pursuant to section _____ of this title and, if the Secretary approves such regulations, such Federal regulations shall cease to be applicable to the State at such time as the State regulations become effective. Such Federal regulations, as changed or modified by the Secretary, shall again become effective if the Secretary subsequently withdraws his approval of the State regulations pursuant to subsection _____ of section _____ of this title.

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VIII.

Judicial review should be provided for all decisions and orders, whether they emanate from the single State agency or from the Secretary. Review of State agency decisions and orders should be required in appropriate State courts and should be a requirement of each State plan. Judicial review of decisions and orders of the Secretary should be in the United States Circuit Courts of Appeals in whose jurisdiction the activity involved is located. To accomplish these reviews, we recommend the following:

Sec. _____. [The Secretary shall not approve the regulations or revisions of such regulations submitted to him unless --]

[_____] The regulations provide for judicial review in State courts of orders and decisions of the State agency designated to administer the regulations.

Sec. _____. Any decision or order of the Secretary under this Act shall be subject to judicial review in the United States Court of Appeals for the circuit in which the mining or reclamation activity which is the subject of such decision or order is located, upon the filing in such court within 30 days from the date of such order or decision of a petition by any person aggrieved by the order or decision praying that the order or decision be modified or set aside in whole or in part. A copy of the petition shall forthwith be sent by registered or certified mail to the Secretary and thereupon the Secretary shall certify and file in such court the record upon which the order or decision complained of was issued.

IX.

Criminal penalties are inappropriate under this statute. Civil penalties only should be provided for violations with injunctive relief available in situations where there might be unreasonable health or safety hazards, etc. To do this, we recommend the following:

Sec. _____. [The Secretary shall not approve the regulations or revisions of such regulations submitted to him unless --]

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[] The regulations provide civil penalties of not more than \$100 for each and every day of the continuance of a failure after fifteen days notice by any person to comply with any decision or order issued by the State agency and provide further for the obtaining of such restraining orders or injunctions as may be necessary to deal with those violations of regulations which could reasonably be expected to produce substantial and enduring detrimental effects on mined areas or unreasonably impair or destroy the property rights of others or create unreasonable hazards to the public health and safety. In the case of any action or remedy under this subsection, notice and an opportunity to be heard shall be given to the operator, and upon review of any such action or remedy as provided in subsection _____ of this section the court shall have power, upon good cause shown, to set aside in whole or in part, any penalty or penalties imposed by any such decision or order issued by the State agency.

X.

There should be provision for separate advisory committees on strip mining and surface mining -- at the State level, and at the Federal level where a State fails to produce a qualified State plan. These committees should be limited to an advisory role and should have no authority to review a specific decision or order under the Act. To accomplish these aims, we recommend:

Sec. _____. [The Secretary shall not approve the regulations or revisions of such regulations submitted to him unless --]

[] The regulations provide for the appointment of an advisory committee for matters related to strip mining, and an advisory committee for matters related to surface mining. These committees shall include State officials, persons qualified by experience or affiliation to present the viewpoint of operators of strip mines and surface mines, and persons to present the viewpoint of the public. The advisory committee shall advise the State agency with respect to the State program for mined areas within the State which are subject to the provisions of this Act.

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Sec. _____.

[_____] The Secretary shall appoint an advisory committee for matters related to strip mining, and an advisory committee for matters related to surface mining. These committees shall include Federal officials, persons qualified by experience or affiliation to present the viewpoint of operators of strip mines and surface mines, and persons to present the viewpoint of the public. The advisory committees shall advise the Secretary with respect to the Federal program for mined areas which are subject to the provisions of this Act.

XI.

Annual reports should suffice under statute. We therefore recommend the following:

Sec. _____. [The Secretary shall not approve the regulations or revisions of such regulations submitted to him unless --]

[_____] The regulations provide for reports to be filed annually with the State agency by each operator who has been issued a permit under the provisions of this Act, or as may be provided for in an approved state plan.

XII.

While any reclamation plan should be open to public examination, papers relating to the mining activity itself would often contain confidential data the disclosure of which could have anti-competitive effects. Accordingly, we recommend the following:

Sec. _____. [The Secretary shall not approve the regulations or revisions of such regulations submitted to him unless --]

[_____] The regulations provide that the reclamation plan shall be available to the public but that all other data relating to the mining operation filed by the operator shall, at the operator's request, be treated as confidential by the State agency.

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In addition to the specific legislative language proposals set out in Items I through XII above, we respectfully ask your consideration of the views outlined below:

A. Recovery of costs of administration

We do not believe it good public policy to levy upon one segment of the public the full cost of administering and enforcing any public law. Accordingly, we urge that no provision be included (e.g., Sec. 203 of S.993) that would recover administration and enforcement costs through mining permit charges.

B. Permission of owners for use of land surface

There are proposals before your Committee (e.g., Sec. 4 (a) (5) and 4 (a) (6) of S.2777) that would impose on a permit applicant the requirement that he secure express written permission of the owners for the activity covered by the application. Very often there are multiple owners, and quite often the whereabouts of these owners cannot readily be ascertained. And in the case of leased land, the lessee will already have permission for its use. We are convinced that any such requirement would be both unduly burdensome and unproductive of any useful result.

C. Ecology and historical value considerations

Considerations of ecology and historical value are cited (e.g., Sec. 5 (a) of S.2777, and Sec. 7 (a) (1) (A) of S.630) as bases for the denial of a permit application. In view of the great variety of conditions that will present themselves in reclamation plans, we believe that confusion and an absence of balance are very likely to result from any statutory language that singles out one or more considerations and sets them apart as more important than others. We believe that ample discretion to meet varying conditions is provided in language set out under Item II of this letter that allows the denial of a permit on a finding that the proposed reclamation will not be accomplished under the plan filed.

D. Flexibility in meeting Act's requirements

It is desirable to provide (e.g., Sec. 201 (a) of S.993) for the maximum flexibility and freedom of choice by the operator in meeting requirements set out in the Act. Mine operators should be encouraged and aided in initiating and carrying on development of more effective technology and processes in

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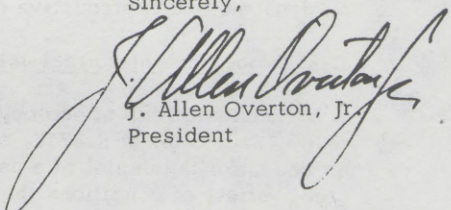
reclaiming mined lands. This should recognize the great variations in States and regions of the country, the current levels of technology and experience, as well as the matter of costs and benefits.

E. "Citizen" lawsuits should not be allowed

So-called "citizen suits" are very undesirable as an enforcement device. Although we are not aware of any such proposal before your Committee, we have noted such a provision in a pending Senate proposal (Sec. 301 of S.2455). It is our view that enforcement of this law should be in the hands of the appropriate public officials. We see great potential for disruption, with no good public purpose being served, by a provision that expressly grants the right to sue to "any person". We urge that no such provision be included.

We very much appreciate the opportunity to present these additional views and suggestions.

Sincerely,



J. Allen Overton, Jr.
President

OREGON ENVIRONMENTAL COUNCIL,
Portland, Oreg., February 22, 1972.

HON. HENRY M. JACKSON,
U.S. Senate,
Washington, D.C.

DEAR SENATOR JACKSON: We are concerned about the destructive effect of surface mining in Oregon when accomplished without reasonable environmental protection. We support your efforts at hearings to formulate reasonable regulation in this area.

One of the most frustrating aspects of our work in this area is the fact that each case must be dug out, publicized and evaluated all by itself. While Oregon State government is developing its own regulations, we feel that Federal legislation and regulation would be less susceptible to adverse pressures from local industry.

We fully understand that a sound economy includes a health mineral resource extraction industry, but it does not mean that these people and their customers (often the public) should not include environmental protection costs in product prices.

Attached to this letter are several clippings and a pamphlet, hopefully for inclusion in the record of your hearings, which illustrate the Oregon situation and our concerns. Two points for your action stand out in this material: (1) the sand and gravel industry probably has more impact on most other mining and (2) the effective public recording of surface mining works would go a long way towards industry self-improvement.

We would like to be placed on your distribution list for surface mining hearing material. Within our financial resources, we would like to help these hearings in any way we can.

Sincerely,

LARRY WILLIAMS,
Executive Director.

State of Oregon
 Department of Geology
 and Mineral Industries
 1069 State Office Bldg.
 Portland Oregon 97201

The ORE BIN
 Volume 34, No. 1
 January 1972

OREGON'S MINERAL AND METALLURGICAL INDUSTRY IN 1971

Ralph S. Mason*

If 1971 could be labelled the year of "Emergent Environmentalism", then 1972 will almost certainly have to be tagged as the year of "Enforced Environmentalism." Of particular interest to the extractive mineral industry will be the implementation of HB 3013, the Mined Land Reclamation Act, which becomes effective on July 1, 1972. Other environmental regulations originating at state or Federal levels will also have profound effect on the industry.

Despite the lackadaisical state of the economy, mineral production in Oregon chalked up a modest gain, rising to an estimated \$68.4 million. As usual, sand and gravel and stone accounted for most of the production. The value of metals and metallurgical products refined in the state is not included in the canvass by the U.S. Bureau of Mines. If this figure were included, the total would exceed \$700 million.

The Big E

The Environment means many things to many people. To the sand-and-gravel producer Environment will mean conformance to the Mined Land Reclamation Act which goes into effect July 1, 1972, and which will require a permit, a mining plan, a reclamation program and the payment of a small fee. Rules and regulations have not been drawn up but will be published in the Ore Bin later this year. To the hard-rock miner Environment means removal of the requirements for digging location cuts on claims and tightened regulations on solid waste disposal and on air and water pollution. To the mill operator the Big E will mean stricter control of chemical and solid wastes and air and water pollution.

Metallurgical plants have already spent large sums in diminishing environmental problems and millions of dollars more are being spent by

*Mining Engineer, Oregon Department of Geology and Mineral Industries

northwest plants. In the state of Washington, where a mined land reclamation act is two years old, production costs have been upped an estimated one to two cents per yard. The enhancement of the Environment in many sectors is badly needed and long overdue. Just what remedies to apply and to what degree they should be enforced will require much study. Environmental Impact Statements attempt to characterize the effects of a proposed activity. It is suggested that a companion Economic Impact Statement also be prepared to evaluate the effects of environmental controls on industry, jobs, natural resources, and related factors. Enhancement of the environment can only be achieved by massive injections of funds derived from a healthy economy. No matter what course environmental controls take, it is certain that the cost of doing business will be increased.

The Metals

The mining and smelting of nickel ore at the Hanna operation at Riddle in Douglas County continued to be the state's most important metal mining activity. Utilization of some of the vast pile of slag accumulated over the years at the smelter has been growing, and now 3,000 tons a month are processed and sold for a variety of end uses. Sandblasting grit is the most important use for the gray-green glassy material, which is also sold for roofing granules, non-skid coatings, and road sanding material.

Several exploration projects for nickeliferous laterite deposits in southwestern Oregon were conducted during the year. The work follows earlier geochemical stream-sediment sampling conducted by the Oregon Department of Geology and Mineral Industries.

The production of mercury declined almost to the vanishing point as the price per flask moved to lower and lower levels. The old Maury mine east of Prineville in Crook County was explored with the aid of an OME loan by C. F. Taylor. Exploration drilling was also conducted just west of the Horse Heaven mine in Jefferson County, where Ray Whiting had previously produced a few flasks. The Horse Heaven mine closed a number of years ago after a long period of production. Cleanup operations at the Elkhead mine, Douglas County, by Alcona Mining Company accounted for the bulk of the state's liquid metal production, with a total of 31 flasks retorted.

Although gold mining in Oregon extends back 120 years, it reached what must be an all-time low during 1971 when no production was reported by the U.S. Bureau of Mines. Actually tiny amounts were produced from a few seasonal placer and small hard-rock mines. Additional quantities were also recovered by part-time skin divers and recreationists, who spent many days in and under the water collecting "colors."

Interest by mining companies looking for gold prospects continued at a slow pace in the state during the year. The old Bald Mountain mine, Cracker Creek district, Baker County, was explored by Nuclear Development Company, which shipped 13 rail carloads of development ore to Tacoma.

Some of Oregon's Minerals at a Glance
Preliminary Figures for 1971
(in thousands of dollars)

	1970	1971
Antimony	\$ ---	\$ 21
Clays	180	180
Diatomite	5	W
Gem stones	750	750
Gold	9	---
Lime	1,777	1,647
Mercury	112	W
Nickel	W	W
Pumice and volcanic cinders	1,252	1,338
Sand and gravel	25,978	26,803
Silver	6	---
Stone	20,948	20,110
Value of items that cannot be disclosed: Cement, fire clay, copper, talc, and values indicated by symbol "W"	<u>17,084</u>	<u>17,605</u>
Totals	\$68,101	\$68,454

Otherwise most gold activity was by individuals or small partnerships who explored the North Pole Lode, Cracker Creek district, Baker County; the BiMetallic mine, Greenhorn district, Grant County, in northeastern Oregon; and the Humdinger mine and Fall Creek mine in the southwestern part of the state. The Roy prospect adjacent to the Oregon King mine near Ashwood, Jefferson County, was explored with the help of an OME development loan. The Oregon King has produced modest amounts of silver over the years. Although not strictly a mining operation, a considerable quantity of high-grade silver was recovered in the state from old photographic and X-ray film. One of the operators produces pure silver jewelry in addition to the normal silver bars.

Northeastern Oregon and the adjoining area around Cuprum in Idaho saw continuing exploration for copper during the year. Field work ranged from basic geologic mapping to drilling and sampling with most of the work being done by five companies. The Department sparked interest in northeastern Oregon copper a number of years ago when it publicized the results of a limited geochemical sampling program.

In southwestern Oregon copper exploration was conducted at the Rowley mine and at the Lick Creek Copper prospect, both in Jackson County. Duval Corporation employed four men on a stream-sediment sampling program in Douglas, Josephine, and Jackson Counties, with copper as their main objective.

Two tungsten properties, one on Pedro Mountain, Mormon Basin district, and the other on the Little Joe property in the Burnt River district, both in Baker County, were worked in a small way during the year.

Industrial Minerals

Although normal geologic erosional processes annually produce some "new" supplies of sand and gravel, the resource should best be considered to be non-renewable, particularly so in view of the rapidly growing demands for this irreplaceable construction material, and the equally rapid urbanization of areas underlain by potential source beds. Growing numbers of communities are becoming aware that their local supplies of sand and gravel will not last forever and have begun studying how best to preserve their deposits. At the state level several studies have been proposed which would inventory areas underlain by sand and gravel, and identify those areas which (1) are potential sources of aggregate, (2) are aquifers for underground water, and (3) should be left undisturbed as spawning grounds for fish. None of these proposals have received funding. Any effective regional or local long-range planning must necessarily wait until these studies have been completed.

Sand and gravel and crushed stone still are "best buys" in the construction field, with prices rising far less rapidly than most other segments of the economy. As shortages develop in locally deprived areas in the future, this situation will change and prices will rise substantially. Although not

Oregon's Million-Dollar-A-Year Club, 1970*

<u>County</u>	<u>Value</u>	<u>County</u>	<u>Value</u>
Baker	\$ 6,153,000	Linn	\$1,238,000
Benton	1,030,000	Multnomah	7,402,000
Clackamas	11,433,000	Washington	2,276,000
Klamath	2,945,000		

*In addition to the values shown, there was a total of \$21,101,000 which could not be assigned to specific counties. Production from Columbia, Douglas, Gilliam, Harney, Hood River, Jefferson, Malheur, Morrow, and Wheeler Counties was concealed by the U.S. Bureau of Mines to avoid disclosing individual company confidential data. If the state's total mineral production had been divided equally among the 36 counties, each county would have produced an average of \$1,891,000 during the year.

practical at present, the time may come when even used concrete will have to be recycled.

Preliminary figures for 1971 show that Oregon produced 30 million tons of sand and gravel and stone with a value of about \$47 million, a fractional increase over 1970.

Other industrial minerals produced in the state included limestone quarried at Lime in Baker County by Oregon Portland Cement Company; pumice and volcanic cinders quarried by several operators in central Oregon; diatomite mined near Silver Lake in northern Lake County; silica from a quarry near Gold Hill in Jackson County and another east of Roseburg, Douglas County; dimension stone from various small quarries scattered throughout eastern and central Oregon; and soapstone blocks cut out of a stone quarry near Williams in Josephine County. Clay for red-firing brick and tile was dug in various pits throughout the state. Expansible clay for lightweight aggregate and pozzolan was produced at a quarry in Washington County.

Semi-precious gemstones continued their great popularity with a steadily increasing number of rockhounds. Although the activity is almost exclusively based on individual efforts, the value of quartz family stones annually extracted in the state probably exceeds \$750,000. A few commercial gemstone operations are active in the state, but no completely integrated facilities have as yet been developed to cater to both the experienced collector and the casual tourist.

An emery deposit near Sweet Home, Linn County, is being developed by Jerry Gray of the Oregon Emery Company. The deposit was described in the November 1968 issue of the Ore Bin.

* * * * *

QUICKSILVER MAP PUBLISHED

The Department has issued Miscellaneous Paper 15, "Quicksilver Deposits in Oregon," by Howard C. Brooks. The publication consists of a map showing distribution of all known mines and prospects in the State, with a numerical listing giving locations by county. On the reverse side is a summary of the economics of quicksilver, mineralogy of deposits, prospecting guides, and geology of the main districts where mercury mineralization occurs. Trends in Oregon production over the years are shown graphically, and the annual production from individual mines between 1882 and 1970 is tabulated.

The publication is designed to replace the out-of-print map by Francis Frederick (1945) and to update the information in the out-of-print Bulletin 55, "Quicksilver Deposits in Oregon," by Brooks (1963).

Miscellaneous Paper 15, on a sheet 22 by 36 inches, comes folded in an envelope. It can be purchased from the Department's offices in Portland, Baker, and Grants Pass. The price is \$1.00.

* * * * *

OIL AND GAS EXPLORATION IN 1971

Vernon C. Newton, Jr.*

Oregon, along with Washington and Idaho, is still without commercial discoveries of oil and gas. A total of 181 wildcats has been drilled in the state since the early 1900's, but only 26 of the onshore holes and 8 offshore holes have penetrated deeper than 4000 feet. Texaco's wildcat "Federal No. 1," drilled in central Oregon this past fall, drew considerable attention from the rest of the oil industry, but the hole was abandoned at the 8000-foot level.

Onshore activity

Texaco began drilling the "Federal No. 1" approximately in the center of its 250,000 acre lease block in Crook County in August. The drilling contractor was released in December, so it is presumed that Texaco does not plan any more exploration on its 400-square mile lease block in the near future. It is probable that additional drilling was discouraged by environmentalists asking for delay in issuance of drilling permits by the U.S. Bureau of Land Management.

The Oregon Environmental Council asked in October that the Texaco drilling be halted until an impact statement could be filed, which it claimed was required under the 1970 National Environmental Policy Act. The Regional Director of the U.S. Bureau of Land Management and his staff, after making an environmental analysis of the drilling, determined that an impact statement was not required because the operation did not involve a "major Federal action" significantly affecting the quality of the human environment (U.S. Bureau of Land Management News Release, November 13, 1971).

The U.S. Department of the Interior has announced that after April 1, 1972, a public notice will be required for each application to drill on Federal lands. If substantial objections are raised during that period, a review will be made and an impact statement prepared.

Geologic mapping indicates that the area explored by Texaco has marine sediments at depth. Northeast-striking marine sandstone and conglomerate beds of the Bernard Ranch Formation of Late Cretaceous (Cenomanian) age crop out 12 miles east of the Texaco well site. Older Mesozoic and Paleozoic marine rocks lie at the east of the Cretaceous exposures, and Tertiary volcanics overlie them to the west (Dickinson and Vigross, 1965).

* Petroleum Engineer, State of Oregon Dept. Geology & Mineral Industries

(The following articles are representative of the many articles that were submitted by the Oregon Environmental Council. The others were retained in the committee files.)

[From the Oregon Journal, July 28, 1971]

U.S., STATE EYE MINING FIRM—TO QUARRY NEAR CAVES

(By Keith Tillstrom)

State and federal officials are keeping a close watch on a California-based mining company that plans to quarry for limestone in the Siskiyou National Forest a half-mile from the Oregon Caves National Monument.

U.S. Forest Service officials in Portland said they want to know whether the grade of limestone ore the Oregon Calcite Corp. plans to mine is high enough to meet mining claims filed on the federal lands in 1954.

An official of the Oregon Department of Environmental Quality, Harold Burkitt, is more dubious of the operation, however.

"They have planned to start in mid-August, but if they do, they're in trouble, because they have no approval from this department," Burkitt told The Journal.

The firm, which has begun to construct mining and refining operations near the national monument, is a subsidiary of California Time Petroleum, Inc., a Los Angeles-based company.

Burkitt said his department fears it has begun constructing facilities for open pit mining and crushing, plus a pilot refining project near the Oregon Caves to see whether the operation is economically feasible to enter the calcium oxide market. Calcium oxide, or burned lime, is used in the pulp and paper industries, the sugar industry and plywood industry.

Oregon Calcite Corp. officials have told the Department of Environmental Quality their operation will meet all state requirements to protect the environment, but Burkitt said the firm has not yet sent any data to the state for review and approval.

He added that state officials are worried about several aspects of the operation, including:

Anti-pollution devices on the pilot kiln the firm will install to "burn" raw limestone ore.

The possible degradation of nearby Lake Creek and Panther Creek, both tributaries of Sucker Creek and the Illinois River, and subject to Waterways Act.

The amount of truck traffic generated by the mining operation, which Oregon Calcite officials say eventually could involve blasting and mining 400 tons a day to produce 200 tons of calcium per day in order to make the operation pay.

Highway 46, the only access to the Oregon Caves, carries 200,000 tourists a year, and is only 100 feet from the mill the firm will use as a pilot plant, Burkitt said.

"This probably is not a compatible land use," Burkitt said, "but we don't operate under rules to meet land-use planning. We have to come in afterwards if there's a problem in the future.

"Now's the time to lay some of this out to the company, so it knows what it's up against," he said. Company officials have told state officials they plan to build a refining plant near Grants Pass.

If Federal officials give Oregon Calcite the go-ahead, Burkitt fears, the company could begin a full-scale quarry operation and stockpile ore, which then would be trucked to Grants Pass to offset the winter when mining is impossible.

"All those trucks and fumes sure would make the visitors and tourists mad," he said.

Merele Hofferber, chief of the Forest Service's division of lands and minerals in Portland, said his agency already has cut down considerably on the original mining claim sought by the company to create a buffer between the mining site and the Oregon Caves.

"We are asking for data from the company on marketing and mineral content of their claim, to support the validity of the claims they are working," Hofferber said.

The Forest Service withdrew 70 acres bordering the Oregon Caves from mineral rights exploration in 1963, after one mining operation went defunct, he said.

Oregon Calcite Corp. must be able to prove it can extract limestone of a proper metallurgical quality before federal officials approve the mining operation under U.S. mining laws.

"We will insist that any access roads are efficiently and prudently constructed," Hofferber said, "so they will not degrade federal lands."

Blasting done during the quarry operation will not interfere with tourists at the national monument, he said, because of the buffer strip established eight years ago.

John Bennett, president of Oregon Calcite and a vice president of California Time Petroleum, met Monday with Department of Environmental Quality officials and said his firm will follow Oregon's environmental guidelines in carrying out the mining operation, according to Burkitt.

A spokesman for Bennett said Tuesday that the firm is "acutely aware" of environmental problems raised by the mining operation, and "we intend to meet every obligation set by the state."

[From the Eugene Register-Guard, Sept. 21, 1971]

ROCK MESA SHOULD BE OF MAJOR CONCERN

Senator Mark Hatfield is understandably upset because the Forest Service severely censored its own report on Rock Mesa before it made it public. He wants to know why. Others should help him find out.

Rock Mesa is a unique area near the base of the South Sister in the Three Sisters Wilderness Area. The U.S. Pumice Co., a California firm, has a mining claim there. Oregon's Senator Bob Packwood is the principal author of a bill that would keep the firm's cranes, bulldozers and trucks out of the area. Senator Hatfield is also important in the picture because he is on the Senate Committee on Interior and Insular Affairs.

Last month, Irving Brant of Eugene, a noted conservationist, wrote Senator Packwood about the censored report and about the way U.S. Pumice and the Forest Service can operate in beautiful (to them) concert. He had had an opportunity to study closely the firm's operations in the Monocaters region of the Sierra.

From Mr. Brant's report, Senator Hatfield's experience, and the role of the Forest Service in hearings on the Packwood bill last week, it is plain that Rock Mesa will be saved only by the mass efforts of conservation-minded citizens and organizations. In those hearings, the president of the firm made it plain that it was his company's intent not only to remove pumice from the wilderness, but, in that part of the area, to destroy the whole concept of wilderness.

The Forest Service was expected to appear at the hearing on the Packwood bill. Instead, it sent a message saying it didn't care if the bill passed or not. Its report was withdrawn, as was a report from Interior. The excuse for censoring portions of the report was that they contained "confidential cost data." According to Mr. Brant, it is a lame excuse. Also censored were pictures of what the company did to the Monocaters region. Cost data? One uncensored sentence reads: "The method of operation is basically the stripping of undesired material with a D-8 Cat uncovering the desirable block pumice deposit, then using end loaders to load Dodge 600 trucks." The next 40 lines are censored. Cost data? Or an instruction manual for raping the wilderness?

It is imperative that the public see pictures of the Monocaters region. And it is imperative that it know of the methods U.S. Pumice intends to use.

In reporting on the Monocaters controversy, Mr. Brant recalls that a number of persons who favored keeping the area scenic and who also had Forest Service leases on summer homes changed their minds after two leases were summarily canceled. A motel owner who favored preserving the area and who leased forest service land nearby was also pressured.

The Rock Mesa controversy can and should become a national scandal. What the firm, with the apparent approval of the Forest Service, is trying to do is perfectly legal under a law passed in 1872. What the two senators are trying to do is get a new law that will eliminate the giveaway features of a law that was dubious virtue even a century ago. Right now the big guns seem to be trained against the senators. They should be turned around.

OREGON ENVIRONMENTAL COUNCIL,
Portland, Oreg., February 1, 1972.

Re Public Notice NPP 72-33 Willamette River Mile 15 at Portland, Oregon
Dredging (Ross Island Sand and Gravel Company).

Mr. GEORGE E. HYDE,

Chief, Navigation Division, Department of the Army, Portland District, Corps of
Engineers, P.O. Box 2946, Portland, Oreg.

DEAR MR. HYDE: We are in receipt of the above public notice with regards to
the permit application of Ross Island Sand and Gravel Company. We have the
following comments for your consideration:

(1) We think that an application and permit under Section 13 should precede
any dredging as outlined in your Notice. A Section 13 permit can specify condi-
tions to ensure all dredging is done "off-stream."

2. The boundaries of any allowed dredging should be reduced from those shown
on the subject Public Notice to ensure at least a "ring" of land called Ross
Island remains above water all year and affords some area for tree growth.

3. Preservation of an island in the urban area is a relevant factor in your
consideration of this application. Ross Island is surrounded by planned river-
front areas and any action affecting the island should be specifically called to the
attention of the adjacent planning bodies and their approval obtained. The
adjacent planning areas include: Portland Waterfront Plan; Willamette Green-
way System; Corbett Terwilliger Neighborhood Council; Johns Landing (private
development); U.S. Department of the Interior, Recreation Lands in the Sell-
wood Bottom; and Sellwood Improvement League.

To these people, and to the entire Portland community, an island, which is
isolated from the crush of everyday life and yet is within visual and short boat
travel range may be worth more than the gravel Ross Island requests to dredge.

4. We would appreciate amplification of the Public Notice by reference to
present zoning and reference to the laws governing dredging in a river which
appears to be the present situation.

5. If the island were dredged as proposed, it would seem that there would be
shoals or bars remaining just below the water surface which could be a hazard
to navigation. With the Island gone, Ross Island Sand and Gravel Company
would no longer own any property and the Corps of Engineers would appear to
be stuck for the responsibility of perpetual dredging to keep the shoals in their
proper places. This line of thinking again calls for retention of the "island". It
also raises the question of whether a property owner has the right to *eliminate*
his property. What becomes of the tax status of such property?

6. In long range planning, the lagoon of a "ring" island might be a very suitable
spot for small sailboating. At present, Portland does not offer many places like
such a lagoon which is away from strong river currents. Sailboating is already a
popular sport in the vicinity of Ross Island.

7. Your attention is called to a recent bird census in the Portland Area by the
Portland Audubon Society which specifically considered Ross Island and the
Sellwood Bottom as an important urban habitat. This survey, conducted on
January 1, 1972, found great blue heron, double-crested cormorant, mallard duck,
green-winged teal, common merganser, red-shafted flicker, sparrow hawk, song
sparrow, Bewick's wren, red-winged blackbird, starling, rufous-sided towhee,
glaucous winged gull, ring-billed gull, herring gull, black-capped chickadee, house
finch, red-head duck, and Brewer's blackbird. Again, we think this resource
within the urban area is worth nurturing and conserving.

We would appreciate an early response to these comments so that if you are
not convinced by our arguments, we may contact others and together take ap-
propriate action prior to issuance of any permit to include necessary conditions
in a permit to Ross Island Sand and Gravel.

Sincerely,

LARRY WILLIAMS,
Executive Director.

LOUISVILLE, KY., March 1, 1972.

Re Strip Mine Legislation.

Senator FRANK MOSS,

Chairman, Subcommittee on Minerals, Materials & Fuels, Senate Interior
Committee, Senate Office Building, Washington, D.C.

DEAR SENATOR MOSS: Passage of the Hechler-Nelson-McGovern bill, S1498
is the only solution to the unsolvable problems of strip mining, in Kentucky and

nationwide. Reclamation, the great but futile hope of the compromisers, is too costly to be practical and feasible. Can you imagine top soil being carefully set aside to be replaced after removal of the coal, when the giant extraction machines can pick up 200 tons with each bite? Even more remote is the likelihood of a mountain bulldozer gently separating the top soil from the rest of the overburden. Realistic reclamation is an impossibility in the mountains and a failure in the flatlands, except, perhaps, in a small operation and with the expenditure of \$2,000 & up per acre and the passage of many years.

Strip mining is opposed with such great surety and conviction because it is so awesomely destructive to the land, the water, the people and wildlife. The creeks are killed by silt and acid, the land is made barren and ugly, the slides and ruination of the surface owner's land and adjoining neighbor's lands are heartbreaking and cruel and a severe economic hardship to helpless citizens. The broadform deed is in effect in the West, as well as Kentucky and Maryland. Strip mining is a growing environmental, ecological and social menace that should be considered as serious and undesirable as air and water pollution from industries and municipalities. What is happening at Black Mesa is one more national shame in the unheroic history of our treatment of the Indians and their land.

The damage in Appalachia is intolerable and completely obvious, but strip mining coal is the wrong method of extraction everywhere. A 10° slope maximum would probably protect our eastern mountains and the foothills of the Rocky Mountains where coal is to be surface mined. A prohibition against stripping surfaces that have other uses, including farming, grazing, wildlife habitat, recreation, timber, etc. would safeguard vast areas. The existence of pyrite near the coal seam should be another adverse condition forbidding stripping.

It should be outlawed on Indian Reservations, on all Public Lands and National Forests. In the West and Rocky Mountain foothills is where much of our richest variety of wildlife and important native species are making their last stand against man's selfish, thoughtless encroachments. Strip mining would be banned on adjacent lands where any of the above uses would be adversely affected.

Strip mining for coal in these areas of our land would reveal assuredly what our government has decided this country has become. If it is decided that the demands of the electric power and steel interests are "overriding" it will mean to citizens that our government would indeed sell the sunset if there were a price tag on it.

Coal should be deep mined. The miners want to work. The safety and health standards can be met if the pressure of strip mining competition is removed.

Strip mining must be stopped, nationwide. If the government doesn't stop strip mining, the people will.

I respectfully request that this statement be made part of the hearing transcript on strip mining legislation, and that the enclosed material, *Mayhem in Paradise* by Wendell Berry and *People Speak Out on Strip Mining* (transcript of a People's Hearing held in Wise, Va., on Dec. 4, 1971) be recorded in the Senate Interior Committee hearing transcript.

Sincerely,

MRS. WINIFRED HEPLER.

(Material supplied by Mrs. Hepler was retained in the committee files.)

LAFOLLETTE, TENN., February 26, 1972.

DEAR SENATOR MOSS: I have hopes that you can find time to read these newspaper articles.

As you know our surrounding area depends greatly on strip mining, and we are very proud of it, for what would happen to the economy here.

Strip mining will soon be gone as most of it has already been worked out. Maybe by this time, we will have some and enough industry to give people jobs, so they won't have to leave the state and county. Industries are just now beginning to come to our county.

Senator Fred Harris, who has just recently visited here, has humiliated the people of Campbell County. His attitude and language was almost unbearable. He said Campbell County was the third poorest county in the United States. This is news and is unbelievable. To him, we may be poor, but to us, we have much more than he could ever grasp. We as a majority are very happy. As for most

of us, we have the necessities and many luxuries and most of all we have faith in the Supreme Being, God.

The reclamation should be better maybe and I believe will be. But fifteen or twenty years ago, who thought of it. We were very poor and knowledge wasn't as great. But through efforts of strip mining, we have more education and knowledge of what will be and has to be.

Sincerely yours,

JUDY A. RICE.

U.S. SENATE,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C., March 31, 1972.

HON. HENRY M. JACKSON,
*Chairman, Committee on Interior and Insular Affairs,
Old Senate Office Building, Washington, D.C.*

DEAR SENATOR JACKSON: Enclosed is a report, "Improvements Needed in Administration of Federal Coal-Leasing Program," prepared by the General Accounting Office at my request.

I believe that you will find this document useful as we consider legislation within the Senate Interior Committee and continue the national energy policy study pursuant to S. Res. 45.

Very truly yours,

LEE METCALF.



Improvements Needed
In Administration
Of Federal Coal-Leasing Program

B-169124

Department of the Interior

*BY THE COMPTROLLER GENERAL
OF THE UNITED STATES*

MARCH 29, 1972



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-169124

Dear Senator Metcalf:

This is our report on improvements needed in administration of the Federal coal-leasing program by the Department of the Interior.

Since the date of your request, the Department has made several revisions in its policies principally with regard to the payment of rental and royalties. The Department's policy revisions were made after we had substantially completed our fieldwork which showed that the then-existing policies needed improvement. Subsequently we evaluated, to the extent practicable, these policy changes. Our principal observations on these matters, as well as on other matters noted in our review, are summarized in the digest which appears at the beginning of the report.

As a result of an agreement reached with your office, we obtained and incorporated in the report the comments of the Department of the Interior on matters discussed in the report.

Also as a result of an agreement reached with your office, copies of this report are being sent today to Senator Gaylord Nelson and to Congressman Robert W. Kastenmeier who had requested that the General Accounting Office review the Department's coal-leasing program. Copies are also being sent to the Secretary of the Interior.

Sincerely yours,

A handwritten signature in cursive script that reads "James B. Stacks".

Comptroller General
of the United States

The Honorable Lee Metcalf
United States Senate

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COMPTROLLER GENERAL'S REPORT TO
THE HONORABLE LEE METCALF
UNITED STATES SENATE

IMPROVEMENTS NEEDED IN ADMINISTRATION
OF FEDERAL COAL-LEASING PROGRAM
Department of the Interior B-169124

D I G E S T

WHY THE REVIEW WAS MADE

At the request of Senator Lee Metcalf, the General Accounting Office (GAO) reviewed the Department of the Interior's program for leasing Federal lands to be used for mining coal. GAO sought to determine whether

- lease terms required adequate land conservation work to be undertaken in connection with coal mining,
- there had been adequate competition in the leasing of the Federal lands, and
- the Government was receiving equitable royalties for coal extracted.

The review was made in Colorado, Montana, Utah, and Wyoming.

FINDINGS AND CONCLUSIONS

Reclamation of Leased Federal Lands

GAO examined into the conditions of Federal lands at five underground mines and at seven strip mines that were subject to reclamation requirements under the terms of Federal leases.

At the five underground mines, there was no significant visible damage to the surface of Federal lands.

Federal lands at three of the seven strip mines had been restored to the approximate condition of the surrounding area. At two other mines the reclamation work consisted primarily of leveling the tops of spoil banks--piles of earth and other materials which were removed to expose coal deposits--to a width of 25 feet. This was considered acceptable by Geological Survey regional officials. At another mine the spoil banks had been leveled but not to the required 25-foot width. Steep banks existed at the other mine at the time of the GAO visit but, according to a Geological Survey regional official, had subsequently been sloped to an acceptable level.

At the mines visited by GAO, the most satisfactory reclamation work was undertaken primarily as a result of reclamation policies established voluntarily by mine operators or the need to comply with State law.

The Interior Department issued regulations in January 1969 which, if properly implemented, should provide for improved reclamation of Federal lands damaged by coal-mining operations.

MARCH 29, 1972

These regulations, however, do not apply to leases issued before January 1969 and will not be applicable to such leases until they are adjusted, which in some cases might not be until 1988.

Geological Survey has not issued guidelines to its regional staff setting forth the manner in which the requirements contained in the leases issued or adjusted prior to 1969 should be enforced. GAO believes that there is a need for the issuance of such guidelines. (See p. 8.)

Limited mining of coal
on leased Federal lands

Only limited mining of coal has been conducted on leased Federal lands.

Most lessees apparently have no immediate plans to initiate mining operations in the near future. The Interior Department has permitted lessees to defer mining of coal resources by issuing leases for indeterminate periods having no requirement that the coal be mined if the lessees make minimum royalty payments for 1 year in advance. (See p. 22.)

In view of this situation, GAO believes that the lease terms should provide for termination of a lease if mining of the coal is not undertaken in a reasonable time. (See p. 32.)

Limited competition
for leases of Federal lands

Although there has been little competition for the leasing of Federal coal lands, Interior Department officials attributed the lack of competition to the low demand for coal. (See p. 30.) A recent study, however, indicates that there is an upsurge of interest in the leasing of Federal lands where much low-sulphur coal exists. (See pp. 28 and 29.)

Two recent Federal coal lease offerings in Wyoming resulted in substantial competition for the leases and in higher bonus bids than had been received in the past. (See p. 31.)

Improved procedures needed
for determining royalties

The Government has not received equitable royalties for coal produced on Federal lands

- because royalties have been computed on the basis of a fixed amount a ton which has not taken into account variances in costs of extracting the coal and in the coal selling prices and
- because increases in royalty rates have not been applied to outstanding leases on a timely basis; adjustments in the terms and conditions of Federal leases can be made only at 20-year intervals.

In February 1971 a new method was adopted, which provides that royalties be computed on a percentage of the value of coal mined. The rate of percent is

determined by the type of mining to be employed and the depth of the coal deposits. In effect this gives consideration to the cost of extracting the coal and to coal selling prices. The new method, however, will not be applicable to existing leases until their terms are adjusted at the expiration of the 20-year periods. (See p. 34.)

- - - -

Leases of Federal lands in force appear to have no built-in mechanism for adjusting royalty rates or other key lease terms, such as rental rates and those relating to the protection of the environment and the rehabilitation of Federal lands disturbed by mining operations, except at 20-year intervals from the date of the issuance of the leases.

Such lease terms may be too restrictive for the Interior Department to manage its coal resources effectively.

A degree of certainty or stability in lease terms is needed by lessees to permit them to properly plan their operations. The Interior Department, however, should determine whether its leases should provide broader administrative discretion so that, when the Department wishes to revise or add new important lease terms, it will not have to wait until the 20-year adjustment period to incorporate such changes into all leases in force. (See p. 38.)

RECOMMENDATIONS OR SUGGESTIONS

The Secretary of the Interior should:

- Require the Geological Survey to issue guidelines and procedures for use by its regional mining supervisors in enforcing the reclamation and environmental requirements contained in most leases until the leases are adjusted to include the stronger reclamation and environmental requirements established in January 1969. (See p. 21.)
- Consider discontinuing the practice of issuing leases for Federal lands that permit lessees to defer or suspend mining operations on Federal lands by the payment of a minimum royalty for 1 year in advance unless lessees can justify that development or operations should be deferred or suspended. (See p. 33.)
- Initiate a study to determine the desirability of seeking a change in the law that would permit the adjustment of royalty rates and other lease terms on a more timely basis. (See p. 38.)

AGENCY ACTIONS AND UNRESOLVED ISSUES

The Department currently is reviewing its coal-leasing program and will give consideration to GAO's recommendations in its study. (See ch. 5.)

CHAPTER 1INTRODUCTION

In accordance with a request from Senator Metcalf, we examined into the Department of the Interior's program of leasing Federal lands for the purpose of mining coal. (See app. I.) Pursuant to this request and agreements reached with his office, we reviewed certain leases of Federal lands in the State of Montana and in the three States--Colorado, Utah, and Wyoming--from which the largest amount of coal is mined from public lands.

The review was directed toward evaluating whether (1) the lease terms should be strengthened to meet conservation needs, (2) the bidding arrangements resulted in adequate competition, and (3) the royalty rates provided an equitable return to the Government. We reviewed the Department's regulations, memoranda, and pertinent instructions relating to the leasing program, including an analysis of recent changes made by the Department. We also examined into other matters which we considered pertinent to an evaluation of the Department's leasing program.

Under the Mineral Lands Leasing Act (30 U.S.C. 181), also known as the Mineral Leasing Act, and, under the Mineral Leasing Act for Acquired Lands (30 U.S.C. 351), Federal lands containing coal deposits, except certain specifically excluded lands, such as those in national parks, may be leased for the purpose of mining coal.

The Bureau of Land Management and the Geological Survey in the Department of the Interior and the Forest Service in the Department of Agriculture are the agencies most concerned with the management and disposition of Federal coal resources.

The Bureau, through its offices in the various States, processes applications for (1) permits to explore Federal lands for coal resources and (2) leases of Federal lands for the purpose of mining coal.

The Survey is responsible for providing scientific and technical advice to the Bureau to assist it in making

decisions on applications to explore for coal or to lease land to mine coal. Before action is taken on applications for prospecting permits and leases, the Bureau's offices obtain reports from the Survey which include recommendations on (1) the question of whether a permit should be issued or a lease should be entered into, (2) the acreage to be covered by the permit or lease, (3) the royalty rate, (4) the rental rate, and (5) the bonus bid--a one-time payment for the privilege of obtaining a lease.

Also the Survey exercises technical supervision over leasing activities for compliance with the terms and conditions of exploratory permits and leases, operating regulations, and statutes, including the collection of royalties.

Other agencies having jurisdiction over the surface of the lands, such as the Forest Service, issue reports to the Bureau on whether a permit should be issued or a lease should be entered into. The reports may contain recommendations on special provisions to be included in the lease or permit, such as a stipulation covering forest fires, which obligates the lessee to assist in the prevention and suppression of fires.

In accordance with the provisions of the Mineral Leasing Act and as further defined by the Department's regulations, coal prospecting permits and leases are issued as follows:

1. Lands which are known to contain coal deposits in sufficient quantities to support a commercial operation and which are available for leasing are leased by the Bureau under competitive bidding procedures to the applicant who submits the highest bid.
2. For lands where prospecting or exploratory work is necessary to determine the existence or workability of a coal deposit, a prospecting permit may be issued by the Bureau for a primary term of 2 years and, under certain conditions, it may be extended for an additional 2-year period.

3. If, prior to the expiration of the permit, the permittee can show that the lands contain coal in quantities sufficient to support a commercial operation, he is entitled to a preference-right lease for all the lands or part of the lands. Such leases are awarded by the Bureau without benefit of competition.

By Department regulations each permittee is required to pay an annual rental of 25 cents for each acre or fraction thereof to the appropriate Bureau land office. A minimum annual rental of \$20 is required. Lessees are required to pay annual rentals at rates specified in the leases and, after production begins, to pay royalties on the coal produced from the leased lands. The minimum royalty rate established by law is 5 cents a ton.

Under the law coal leases are issued for indeterminate terms, subject at 20-year intervals to such adjustment of terms and conditions as the Secretary of the Interior may determine.

Nationwide, the Government received \$9.7 million under the coal-leasing program during fiscal year 1971, of which about \$9.3 million was received from leasing activities in the four States included in our review, as follows:

	<u>Royalty</u>	<u>Bonus received</u>	<u>Other (note a)</u>	<u>Total</u>
Colorado	\$ 423,651	\$ -	\$107,684	\$ 531,335
Montana	9,467	129,954	152,028	291,449
Utah	328,005	6,414	259,312	593,731
Wyoming	<u>385,078</u>	<u>7,412,417</u>	<u>152,058</u>	<u>7,949,553</u>
Total	<u>\$1,146,201</u>	<u>\$7,548,785</u>	<u>\$671,082</u>	<u>\$9,366,068</u>

^aIncludes revenue from filing fees and annual rental payments.

CHAPTER 2RECLAMATION OF FEDERAL LANDS DAMAGEDBY COAL-MINING OPERATIONS

We examined into the conditions of Federal lands at 13 mines; 12 of which were subject to reclamation requirements under the terms of Federal leases. There was no significant visible damage to the surface of Federal lands at the five underground mines included in our review. Federal lands at three of the seven strip mines that were subject to Federal reclamation requirements had been restored to the approximate condition of the surrounding area. At two other mines the reclamation work consisted primarily of leveling the tops of spoil banks--piles of earth and other materials which were removed to expose coal deposits--to a width of 25 feet. This was considered acceptable by Survey regional officials. At another mine the spoil banks had been leveled but not to the required 25-foot width. Steep banks existed at the other mine at the time of our visit but, according to a Survey regional official, had subsequently been sloped to an acceptable level.

It appears that most reclamation work at the mining sites we visited was undertaken primarily as a result of reclamation policies established voluntarily by mine operators or the need to comply with State law. In addition, some reclamation work resulted from the Department's limited enforcement of reclamation requirements incorporated into leases issued or adjusted after 1951.

The Department in January 1969 issued regulations setting forth detailed requirements for the reclamation of Federal lands. These requirements are to be incorporated into leases issued or adjusted after that date and, if properly implemented, should provide for improved reclamation and conservation of Federal lands.

Since outstanding leases are adjusted only at 20-year intervals, many leases, however, have not been revised to include the new requirements. These leases do contain broad provisions for the protection of the surface and natural resources, and we believe that the Department should require that lessees comply with these broad requirements.

LAND CONDITIONS AS
A RESULT OF MINING OPERATIONS

We examined into the condition of Federal lands at 13 selected coal mines in Colorado, Montana, Utah, and Wyoming. We selected five underground mines and eight strip mines which included mines that were in operation at the time of our review and mines that were not. Our observations which follow were limited to visual observations at the time of our visits. We could not determine whether sedimentation and erosion could occur over a long period and could possibly cause surface or groundwater problems.

At the five underground mining operations that we visited, there was no visible evidence of significant damage to the surface of Federal lands. At two mines, the mine entrances were located on non-Federal land and only tunnels were under the Federal land. At the three other mines, the mine entrances were on Federal land. Waste from mining operations had been accumulated in piles on non-Federal lands by the five mine operators. The Survey's regional mining supervisors, who accompanied us on our visits to the mining sites, did not consider that the mine entrances constituted surface damage to the Federal land, even though in some cases mining operations had been suspended or terminated. We were advised by Bureau and Survey headquarters officials, however, that all surface excavations on leased Federal lands, including mine entrances, came within the Department's surface protection responsibility.

At the eight strip mines--seven of which we visited--surface damage to the Federal land consisted principally of steep cliffs and large pits that had resulted from the strip-mining operations and from the stocking in piles of large quantities of earth and other materials that had been removed to expose the coal deposits. At one mine abandoned buildings were left on the land after mining operations had been terminated.

Some of the problems usually associated with strip-mining operations in the eastern part of the United States were not evident at the sites we visited during our review. For example, the seven sites we visited were not located near streams or rivers that could receive direct runoff from

rain or snow and we did not see any visible evidence that acid mine water had destroyed wildlife habitats or had polluted water. Also, because of the semiarid climate of many of the sites visited, we did not note visible evidence that erosion or sedimentation was a significant problem.

Since 1951 leases of Federal lands for the purpose of mining coal or leases adjusted after that date have required the lessees to take such reasonable steps as may be needed to prevent operations on the leased lands from unnecessarily (1) causing or contributing to soil erosion or damage to forage or timber growth on the leased lands or other lands in the vicinity, (2) polluting waters, and (3) damaging crops or improvements of a land surface owner without regard to whether the improvements are owned by the United States or by its permittees or lessees.

The leases also provide that, upon partial or total relinquishment, cancellation, expiration of the lease or at any other time prior thereto, the Government (1) may require the lessees to fill any sump holes, ditches, and other excavations; remove or cover all debris; and, so far as reasonably possible, restore the surface of the land to its former condition and (2) may prescribe the steps to be taken and restoration to be made with respect to the leased lands and improvements thereon. Additional provisions were included in leases issued or adjusted after October 1967 to preclude air pollution and the destruction, damage, or removal of fossils, ruins, or artifacts.

The Survey has not issued guidelines to its regional staff, setting forth the manner in which the requirements contained in the leases issued or adjusted since 1951 should be enforced. We were advised by Survey regional mining supervisors that reclamation work by lessees of Federal lands leased for strip-mining was considered satisfactory by the supervisors if the spoil banks¹ had been leveled to a width of at least 25 feet.

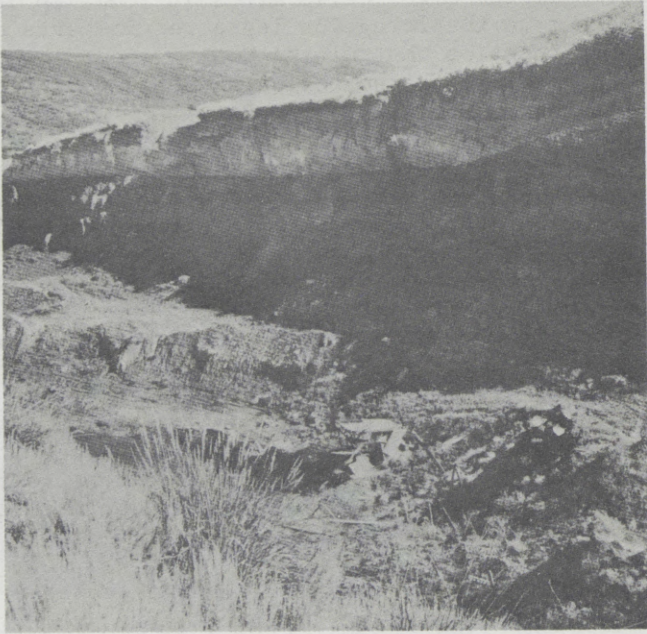
¹A term common in surface mining to designate piles of earth and other materials which have been removed to expose the natural deposits of coal.

Seven of the eight strip mines included in our review were subject to the foregoing lease requirements during all or part of the time that mining took place. The eight strip-mining operators took the following actions to restore the Federal lands:

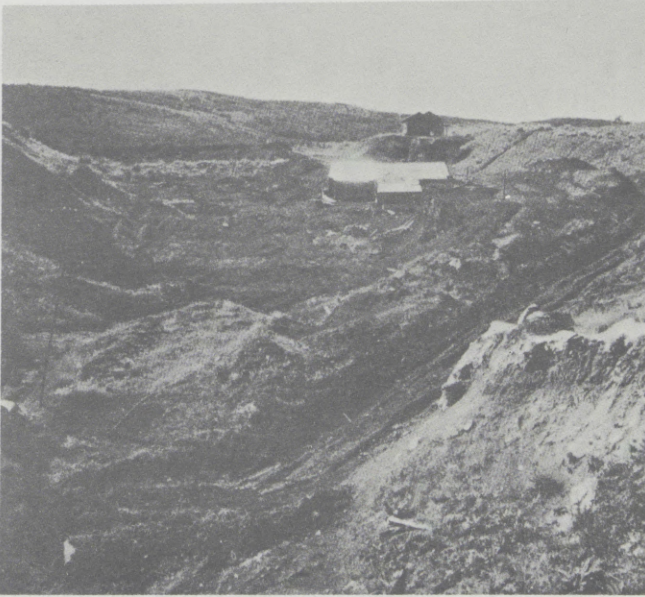
- At three mines, spoil banks were leveled, top soil was redistributed, and the area was seeded. The surface of the mined area had been restored to the approximate condition of the surrounding area, and the restoration appeared to have been completed within a reasonable time after completion of mining operations. At two of the mines, the reclamation work exceeded that required by the Survey regional mining supervisors who advised us that the mine operators had done the work under voluntarily established policies which exceeded those required by the Survey. At the third mine more extensive reclamation work than required by the Survey was done to comply with the State reclamation law.
- At four mines the reclamation work consisted primarily of leveling the tops of spoil banks. At two of the mines, the spoil banks had been leveled to a width of at least 25 feet but only in those areas where mining operations had been conducted after the 1951 reclamation requirements had been included in the leases. At another mine the spoil banks had been leveled but not to the required 25-foot width. At the fourth mine steep banks existed. Subsequent to our visit to this mine, however, we were advised by the Survey regional mining supervisor that the lessee had sloped the steep banks to an acceptable level.

At the remaining mine the operator had not performed any reclamation work because reclamation requirements were not included in the lease when the mining took place.

The following photographs illustrate the condition of Federal land where little or no reclamation has been performed.



Steep cliffs resulting from mining operations on Federal land in Colorado. The Survey regional mining supervisor advised us that some reclamation work had been done on the land subsequent to the time of our inspection.



Abandoned buildings and surface damage on Federal leased land in Colorado where coal-mining operations were suspended in 1968.



View of Federal leased land in Wyoming, showing open pits which remained after removal of the coal. The extent of reclamation required by the Survey can be seen in the upper left center of the photo, which consisted of leveling spoil banks to a width of 25 feet.



Another view of the Federal leased land shown on page 14 also shows open pits which remained after the coal had been mined.

RECENT ACTION BY THE DEPARTMENT TO
STRENGTHEN ITS RECLAMATION POLICY

The requirements for restoration of lands disturbed by mining operations were strengthened materially when the Department issued new regulations on January 18, 1969.

The new regulations contain procedures designed to ensure that adequate measures are taken to avoid, minimize, or correct damage to the environment and to avoid, minimize, or eliminate hazards to the public health and safety with respect to the exploration for, and the surface mining of, mineral resources on lands leased by the Department. With certain exceptions the new regulations apply to permits issued or renewed and to leases issued or adjusted subsequent to January 18, 1969. For example, the regulations do not cover the exploration for minerals owned by the U.S. Government underlying lands, the surface of which is not owned by the U.S. Government.

The regulations provide that, prior to the issuance of prospecting permits or leases, the Bureau make a technical examination of the prospective effects of the proposed exploration or surface-mining operations upon the environment. The Bureau's manual for implementing the Department's regulations states that the examination is to be made by a team of Bureau and Survey resource specialists, including the Survey's regional mining supervisor, to review topography, geology, soil, hydrology, vegetation, wildlife, ecology, climate, surrounding land uses, actual market demand, feasibility of extraction, and proximity to intensive-use areas or inhabited areas. The examination is to be based on available data in the Bureau offices, supplemented by a field examination if necessary.

The manual contains a checklist of items to be considered during the technical examination. For example, in connection with environmental considerations and reclamation requirements, the list requires consideration of (1) damage to natural scenic, historic, and aesthetic features, (2) possible enhancement of future land use by proper reclamation methods--grading, shaping, filling, revegetation, water impoundment and control--and (3) bonding requirements.

The manual requires the preparation of a report on the technical examination which is to include recommendations concerning (1) prohibiting or restricting operations in the area, if appropriate, (2) requirements for protection of nonmineral resources, (3) reclamation requirements on land which will be damaged as a result of surface exploration or surface mining, and (4) the amount of bond needed to ensure compliance with surface protection requirements and all other stipulations in the permit or lease. These requirements are to be submitted in writing to the applicant before the issuance of a lease. If the requirements are accepted by the applicant, a lease is issued and the requirements are incorporated into the lease.

Before commencing any surface-disturbing operations, the operator must file a plan for the proposed exploration or mining operations with the Survey regional mining supervisor or his authorized representative and must obtain Survey approval of the plan. The regulations state that, before any exploration or mining activities may be authorized, the operator must post a bond sufficient to cover the estimated cost of the reclamation work provided for in the exploration or mining plan. The bond is conditioned upon the faithful compliance with applicable regulations, the terms and conditions of the lease, and the exploration or mining plan as approved, amended, or supplemented.

The regulations state also that the Survey is responsible for supervision of the exploration and mining operations and that permittees and lessees are responsible for submitting reports to the Survey on their operations for each calendar year, including grading and backfilling completed as required by the Survey's approved exploration and mining plan and planting or seeding completed in accordance with the approved plans, and on plans to cease or abandon operations.

Upon receipt of these reports, except for the operations report, the Survey is required to make compliance inspections. For example, a permittee or lessee may submit a report of his intention to cease or abandon operations, together with a statement of the exact number of acres of land affected by his operations, the extent of reclamation accomplished, and other relevant information. Upon receipt

of a report to cease or abandon operations, the Survey is required to make an inspection to determine whether operations have been carried out and completed in accordance with the approved exploration or mining plan.

Under the new procedures, if the Department determines that an operator has failed to comply with (1) the terms and conditions of a lease, (2) the requirements of an exploration or mining plan, or (3) applicable provisions of the Department's regulations, the operator is to be notified of his noncompliance, the corrective action required, and the time limits within which the action must be taken. Failure of the operator to take action constitutes grounds for suspension of his operations by the Survey mining supervisor or for the canceling of the lease and the forfeiting of the performance bond by the operator.

The leases involved in the 13 mines included in our review were issued prior to 1969, and thus the new regulations were not applicable to those leases. As discussed on page 26, considerable time elapses between the issuance of a lease and the commencement of mining operations.

At the time that we completed our review, the regulations issued on January 18, 1969, had not been fully implemented and sufficient time had not elapsed to adequately evaluate the implementation of these regulations. We did note, however, some instances in which the regulations had not been implemented. For example, we noted that the Bureau had not made the required technical examinations for 30 prospecting permits issued from June through December 1969 for Federal lands in Utah and for eight prospecting permits issued in February 1970 for Federal lands in Wyoming.

STATE RECLAMATION REQUIREMENTS

Laws have been enacted by various States within the past few years establishing standards and requirements for the reclamation and conservation of areas--regardless of ownership--affected by surface-mining operations. Utah was the only State of the four included in our review that did not have such a law. Although the Department's regulations apply to leases issued or adjusted after January 18, 1969,

the State laws, with one exception, apply to all surface-disturbing operations which take place after the date that the laws were enacted without regard to the ownership of the surface or the coal. It is the Department's policy, however, that, where Federal standards are lower than State requirements, the State standards be followed.

The Colorado Open Cut Land Reclamation Act of 1969 was enacted by the General Assembly of Colorado, effective July 1, 1969. The act states that anyone removing overburden (the earth and other materials which lie above natural deposits of coal) on or after the effective date of the act must first obtain a permit to do so from the Colorado Department of Natural Resources. In addition, the mine operator must post a bond as surety that he will undertake proper reclamation of the land affected by the mining of coal. Also the operator must agree to comply with all the provisions of the State law and all the rules, regulations, and requirements of the Department of Natural Resources of the State of Colorado with reference to the proper reclamation of land affected by the mining of coal by open-cut methods.

The State law sets forth various requirements, such as those relating to grading spoil banks and covering exposed acid-forming material. The law provides that the operator determine the type of reclamation to be undertaken on the land affected by mining, such as reclaiming the land for forest, range crop, horticultural, homesite, recreational, industrial, or other uses. Also the law provides certain standards or requirements for reclamation; however, the type of reclamation may be chosen by the operator. The operator is required to submit an annual report showing the affected area and other pertinent details, such as roads, access to the area, and the reclamation work accomplished. We were advised by a State official that, after receipt of the annual report from an operator, a compliance inspection was made by the State.

The Wyoming Open Cut Land Reclamation Act, which provides for the reclamation and conservation of land subject to surface disturbance by strip-mining, was approved on March 6, 1969. The provisions of this law essentially are the same as those included in the law enacted by the State of Colorado.

An act providing for the reclamation of lands on which strip-mining is conducted was approved by the Legislative Assembly of Montana on March 1, 1967. The act authorizes the Montana Bureau of Mines and Geology to enter into contracts with strip-mining operators that provide for the reclamation of lands on which the strip-mining of coal has been conducted by an operator. As an incentive for a strip-mining operator to enter into such a contract, the law provides for a refund amounting to one half of the reasonable value of the reclamation work performed by the operator during the preceding year.

The contracts contain standard reclamation provisions setting forth certain requirements and procedures to be followed by the operator, such as preventing contaminated drainage into adjoining lands or streams and revegetating lands affected by mining operations where the land is considered plantable.

The contracts are required also to provide that the operators, after completing 12 months of mining operations, submit for approval a reclamation plan to Montana Bureau of Mines and Geology outlining in detail the reclamation work to be undertaken by the operator. With few exceptions the approved reclamation work must be completed satisfactorily within 5 years after the plan has been approved.

In 1969 the Legislative Assembly of Montana passed another law which requires any operator engaged in surface coal mining in an area where the overburden exceeds 10 feet in depth either to enter into a contract with the State to perform reclamation work or to obtain a permit to engage in surface coal mining. The law sets forth specific requirements that must be adhered to by those receiving permits for protection of the environment and for the reclamation of land damaged by mining operations, concerning such matters as grading of peaks and ridges, construction of earth dams, and reseeded of lands damaged by mining operations.

CONCLUSIONS

Although the Department has incorporated broad reclamation requirements into coal leases issued or adjusted from

1951 to January 1969, Survey has not issued guidelines to its regional staff for enforcing these requirements.

The Department's new regulations issued in January 1969 should, if properly implemented, substantially increase the responsibilities of mine operators for the reclamation of Federal lands damaged by coal-mining operations. These regulations apply only in those cases in which leases have been issued or adjusted after January 1969. The regulations are not applicable therefore to leases issued before January 1969 until they have been adjusted at the end of the 20-year period.

We therefore believe that, with respect to those leases for which the January 1969 regulations are not applicable, the Department, under the broad authority included in leases issued or adjusted after 1951, should increase its efforts to ensure that lessees do an effective job of reclamation to repair damage to the Federal lands which has occurred or may occur in the future.

In view of the Department's policy that, where Federal standards are lower than State standards, the latter be followed, we believe that the reclamation standards imposed by laws enacted by the States of Colorado, Montana, and Wyoming should result in improved reclamation activities of mine operators on Federal lands if the Department requires compliance with these standards.

RECOMMENDATION TO
THE SECRETARY OF THE INTERIOR

We recommend that, to ensure that lessees of Federal lands for mining of coal do an effective job of reclamation, the Geological Survey be required to issue guidelines and procedures for use by its regional mining supervisors in enforcing the 1951 reclamation and environmental requirements contained in leases until the leases have been adjusted to include the stronger reclamation and environmental requirements established in January 1969.

CHAPTER 3LIMITED MINING OF COAL RESOURCES ONLEASED FEDERAL LAND

There has been relatively little mining of Federal coal deposits, and most lessees apparently have no immediate plans to begin coal-mining operations. In our opinion, the leases do not contain adequate provisions to ensure diligent development of the coal resources and continuous production. The Department has permitted lessees to defer mining of coal resources by issuing leases for indefinite periods having no requirement that coal be mined if the lessees make minimum royalty payments for 1 year in advance.

We were advised by Survey officials that, instead of developing the resources, some lessees apparently had entered into leases in the expectation that the coal would be more valuable at some future date because of technological breakthroughs in developing methods and processes for converting coal to gaseous, liquid, and solid fuels and because of new demands from existing markets and the adoption of new uses for coal.

Although there has been little competition in the past in acquiring Federal leases, two recent coal lease offerings in Wyoming resulted in substantial competition for the leases and in the Government's receiving substantially higher bonus bids--one-time payments for the privilege of obtaining the leases--than had been received in the past. A Survey official expressed the opinion that the lessees intended to use the coal on these lands in connection with a plan to convert coal to gas or oil. If the expected increase in demand for coal materializes in the future, the Government may realize greater bonus bids for its coal deposits if the lands are leased at that time.

REQUIREMENTS FOR DEVELOPMENT AND
CONTINUED OPERATION OF MINES ON FEDERAL LAND

The objective of the statute authorizing the leasing of Federal lands for mining is to promote the mining of

coal, phosphate, oil, oil shale, gas, and sodium on the public domain. This statute provides that:

"*** Leases shall be for indeterminate periods upon condition of diligent development and continued operation of the mine or mines, except when such operation shall be interrupted by strikes, the elements, or casualties not attributable to the lessee, and upon the further condition that at the end of each twenty-year period succeeding the date of the lease such readjustment of terms and conditions may be made as the Secretary of the Interior may determine, unless otherwise provided by law at the time of the expiration of such periods. The Secretary of the Interior may, if in his judgment the public interest will be subserved thereby, in lieu of the provision herein contained requiring continuous operation of the mine or mines, provide in the lease for the payment of an annual advance royalty upon a minimum number of tons of coal, which in no case shall aggregate less than the amount of rentals herein provided for. He may permit suspension of operation under such lease for not to exceed six months at any one time when market conditions are such that the lease cannot be operated except at a loss." (Underscoring supplied.)

The statute provides also that court proceedings to cancel and forfeit a lease may be instituted whenever the lessee fails to comply with applicable provisions of the act, the Department regulations, or the lease.

A goal of the Bureau's coal-leasing program is to encourage timely and orderly development of coal deposits and to prevent speculative holding of the reserves without development. The Department's regulations and its leases provide that operations under the leases be continuous except under certain circumstances, such as when operations are interrupted by strikes, the elements, or casualties not attributable to the lessee, or unless the lessee pays a minimum royalty for 1 year in advance, in which case operations may be suspended for that year. The lessee is required to pay an annual rental on the leased lands which is credited

against the royalties as they accrue. In those instances in which the lessee defers development or suspends mining operations, the minimum royalty payable by the lessee generally is equal to the annual rental on the leased lands. Therefore the lease terms relating to diligent development and continued operation of a mine are negated merely by payment of the annual rental, an obligation which the lessee previously has assumed as a condition for obtaining the lease.

On August 9, 1971, the Bureau established the requirement that a clause be included in new leases and adjusted leases requiring the lessee to begin mining coal by the sixth year of the lease term. We were advised by Bureau officials that the purpose of the clause was to stimulate the production of coal on Federal leased lands. This provision does not, however, preclude a lessee from suspending development work or mining operations upon payment of a minimum royalty for 1 year in advance.

In September 1971 we were advised that no leases of Federal lands for mining coal had been awarded or adjusted to include the new requirement for diligently undertaking mining operations; however, Bureau headquarters had instructed one of its field offices to include these new requirements in a lease offering that was to take place in the near future.

Department and Bureau officials have indicated that one way to encourage development of coal resources is to increase rental rates for lease of Federal lands to the point where it is unprofitable for lessees to hold excessive leaseholds for long periods without production. Leases which have recently been issued provide for higher rental rates than those in prior leases; however, sufficient time has not elapsed to determine whether the increase is great enough to be effective.

The law provides that rental rates be fixed by the Secretary of the Interior prior to issuance of the lease but that the rental rates be not less than 25 cents an acre for the first year of the lease; 50 cents an acre for the second, third, fourth, and fifth years; and \$1 an acre for each succeeding year thereafter. In leases issued prior

to 1968, the rental rates generally were the minimum as stated above; from 1968 through June 1970, the rental rate was \$5 an acre in the sixth year and for each year thereafter until coal is mined from the leased lands. In June 1970 the Bureau instructed its field offices that rental rates should be not less than \$1 an acre for each year for the first 5 years of the lease and should be at least \$5 an acre for each year thereafter for all leases entered into or adjusted after that date unless lower rates were approved by the Assistant Secretary, Public Land Management.

On February 3, 1971, the Survey issued new procedures for computing the rental rates applicable to the sixth and subsequent years of the lease term. The new procedures did not affect the existing instructions with regard to the rental rate of \$1 an acre for each of the first 5 years of the lease. The new procedures involve the use of a formula which takes into consideration the thickness of the vein of coal, the relative difficulty of mining, and the quality of the coal.

Examples of rental rates computed by the Survey using the new formula included in the February 1971 procedures include \$2 an acre for the sixth and subsequent years for three lease offerings in Wyoming and \$3 and \$3.50 an acre, respectively, for two lease offerings in Utah. The average thickness of the veins of coal involved in these leases ranged from about 4 to 10 feet. For two other proposed leases of high-quality coal in Colorado, the rental rates computed under the new procedures, however, amounted to \$9.50 and \$13, respectively. The coal veins in these instances were 38 and 39 feet thick.

Thus, under the new formula method of computing rentals, the rates for the sixth and subsequent years are significantly higher than the rate of \$1 an acre provided for in leases issued or adjusted prior to 1968 and in some cases higher than the rate of \$5 an acre provided for in leases issued or adjusted from 1968 through June 1970. Sufficient time has not elapsed, however, since the adoption of the new formula method of computing rentals to evaluate the effectiveness of the higher rentals as a deterrent to lessees holding leases of Federal lands for long periods without production. Moreover most of the leases included in our

review were issued or adjusted prior to 1968 and required rentals of \$1 an acre. The higher rental rates computed on the basis of the new formula will not apply to these leases until some future date when they can be adjusted.

LACK OF MINING OF COAL ON LEASED FEDERAL LANDS

At the present time Federal lands containing large deposits of recoverable coal have been leased, but most lessees are not mining the coal and have not taken action to develop a productive mining operation. According to a Bureau report transmitted to the Assistant Secretary, Public Land Management, on June 18, 1971, about 773 thousand acres of Federal land, containing an estimated 8.6 billion tons of recoverable coal, have been leased for mining. The report points out that 91.5 percent of the total acreage under lease is within nonproductive leaseholds.

At the time of our review, coal was being mined under only 35 of 406 leases in force in the four States included in our review, as shown below.

<u>State</u>	<u>Status of existing coal leases</u>		
	<u>Producing</u>	<u>Inactive</u>	<u>Total</u>
Colorado	17	92	109
Montana	3	12	15
Utah	11	182	193
Wyoming	<u>4</u>	<u>85</u>	<u>89</u>
Total	<u>35</u>	<u>370</u>	<u>406</u>

Coal had never been mined under 297 leases, or 73 percent, of the 406 leases. The Survey regional mining supervisors have advised us that lessees have indicated to them that they plan to initiate mining operations under only eight of the 297 leases within the next 5 years.

We recognize that some lessees may not have had sufficient time to fully develop a mining operation and to begin production. To obtain an indication of the time required to fully develop a mine after a lease is issued, we

discussed the matter with Bureau and Survey officials who were of the opinion that, in the case of most leases, productive mining operations could be started within 5 years after the leases were awarded.

We made an analysis of 72 leases, under which productive mining operations had been initiated, which showed that the elapsed time from the issuance of the lease to the start of production ranged from 13 days to over 18 years and averaged 2 years and 7 months. In some cases production apparently started very rapidly, because the mining companies already had been engaged in mining operations on adjacent lands. Of the 297 leases of Federal lands on which coal had never been mined, 110 leases covering 127,517 acres of Federal land had been in force for 5 or more years.

Generally the coal was being mined by a few large operators who supplied coal for power plants and steel-mill operations and by small operators who produced coal for sale on the local market.

We discussed each of the 297 nonproductive leases with regional Survey officials. These officials told us that they did not have specific knowledge as to why 78 lessees had not mined the coal resources. They expressed the opinion that 158 lessees had acquired the leases to hold the coal as reserves to meet possible future needs of steel-manufacturing industries, power-generating companies, and others. Survey officials expressed the opinion also that mine operators needed a 30- to 50-year coal reserve to justify the necessary investment in mine and plant equipment. Also, these officials expressed the view that 31 lessees had acquired the leases as reserves to be used in the event methods and processes were developed to convert coal into gaseous, liquid, and solid fuels. We were advised that the remaining 30 leases were being held for other purposes including speculative purposes.

The Bureau made a review of the pattern of ownership and of the development of Federal coal resources and submitted a report on the review to the Assistant Secretary, Public Land Management, on June 18, 1971. The report pointed out that the leasing of Federal lands containing coal deposits was growing at an increasing rate. The report states that:

"The reasons for the upsurge of interest in Federal coal reserves are several. First, anti-pollution statutes in many urban areas are requiring the use of low sulfur coal in electric power plants. Much low sulfur coal exists on Federal land. It is expected that the President's proposed legislation which would tax high sulfur fuels will further enhance the attractiveness of the lower-sulfur western coals.

"Second, current and expected increases in the price of oil and gas are prompting many companies to look toward the vast coal reserves of the western U.S. as a primary source of energy. To use these coals, new technologies such as coal gasification, liquification, and solvent refining are being developed.

"It is expected that commercial coal gasification will be a reality within the decade. Many potential gasification sites are located on Federal land. Commercial development of such processes will suddenly and substantially increase the value of the publically-owned coal reserves of the western United States.

"Under these conditions it is advantageous for an energy supplier or consumer to control as much Federal coal as possible."

The report also points out that there is little development of coal resources on Federal leased lands. The report states also that:

"*** For all public and acquired lands, 91.5% of the total acreage under coal lease is within non-productive leaseholds. If all leases issued since 1966 are excluded from consideration (on the average 3 to 5 years are required to fully develop a mine) the unproductive lease acreage is still almost 90% of all acres leased through 1965."

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"*** Of the 529 Federal coal leases outstanding in Nov. 1970, 91% are not producing a single ton of coal. Almost 708,000 of the 773,000 acres under coal lease are unproductive. Some of the non-productive leases are over 40 years old and many are over 20 years old."

In commenting on our draft report, the Department, in a letter dated January 25, 1972, stated that two additional reasons for the upsurge of interest in the leasing of Federal coal lands were

- additional coal needed for existing and new coal-burning power plants and
- the desire of applicants to obtain leases before Government policy changes were initiated.

LIMITED COMPETITION FOR LEASES OF FEDERAL LANDS

Under the Mineral Leasing Act, the Secretary of the Interior is authorized, upon the request of any qualified applicant or on his own motion, to offer land for leasing. In general, an applicant, to qualify for a lease, must be 21 years of age or over, must be a citizen of the United States, and must not hold coal leases or permits covering in excess of 46,080 acres of Federal lands in any one State. When there is sufficient information available for the Government to determine that public lands contain valuable workable deposits of coal, the lands are offered for leasing by competitive bidding to the qualified bidder offering the highest bonus bid--a one-time payment for the privilege of obtaining the lease.

Notice of the offer to lease by competitive bidding is made by publication once a week for 4 consecutive weeks, or for such other period as may be deemed advisable, in a newspaper of general circulation in the county in which the land is located. Also we were advised by a Bureau official that notices of lease offerings are mailed to persons and firms on a general mailing list.

Our review showed that generally there had been little competition for Federal coal lands offered for lease. The following tabulation summarizes the extent of competition and the range of bonuses received for the 215 leases that were in force on April 1, 1970, in the four States included in our review.

<u>Number of bids</u>	<u>Number of leases</u>	<u>Percent of total</u>	<u>Range of bonuses received (amount for each acre)</u>
1	163	72	\$0 to \$32
2	35	15	1 to 100
3	13	6	1 to 53
4	3	1	9 to 51
5	3	1	13 to 91
6	2	1	31 to 166
(a)	8	4	(a)
Total	<u>227</u> ^b	<u>100</u>	

^aData not available on the number of bids or the range of bonuses.

^bThe 215 competitive leases were initially awarded as 227 leases but were consolidated.

Bureau and Survey officials advised us that it was their opinion that the lack of competition on Federal coal lease offers was due primarily to the lack of a suitable market. As stated on page 27, the only markets for western coal reserves at this time are a few power-generating plants, steel-mill operations, and local markets.

Prospects for the economical conversion of coal to gas and oil within the near future apparently have increased the competition for Federal coal reserves, as evidenced by two recent Federal coal lease offerings in Wyoming. Bids were received from nine bidders for one lease and from five bidders for the other lease. Bonus bids of \$505 and \$441 an acre, respectively, were made by the two successful bidders. A Survey official expressed the opinion to us that the two successful bidders intended to use the coal reserves on these lands for conversion into gaseous, liquid, and solid fuels.

CONCLUSIONS

Although the legislative objective of the coal-leasing program is to promote the mining of coal on public lands, only limited mining has been conducted on the large Federal coal reserves on the Federal lands that have been leased by the Department, and it appears that few of the lessees have plans to initiate mining operations in the near future. Lessees are not required to mine coal on the federally leased lands if they make minimum royalty payments for 1 year in advance.

According to Bureau officials, some lessees have acquired leases to hold the coal as a reserve to meet possible future energy needs or in expectation that the coal will be more valuable at some future date.

The Department recently has taken action with regard to issuing new leases and adjusting existing leases, which is intended to stimulate timely and orderly development of Federal coal resources, including the establishment of higher rental rates and new requirements for diligent development of coal resources. The extent to which coal is produced from Federal lands is related, in our opinion, more to the demand for coal than to the terms and conditions under which Federal lands are leased.

Although the Department in the future could require mining of coal deposits on leased Federal lands within a specified period and could make it more costly to hold leased Federal lands without mining the coal deposits, we believe that such action would not necessarily result in a substantial increase in coal production until sufficient demand for coal develops to enable the mine operators to profitably dispose of the coal. Rather, such action could discourage individuals and companies from entering into leases or from continuing to hold leases where there are no plans for development of the deposits in the near future.

The requirements established on August 9, 1971 (see p. 24), concerning the mining of coal from federally leased lands had not been included in any Federal leases at the time we completed our review; however, we question whether these requirements would be effective in stimulating timely mining of Federal coal deposits and whether they can provide an adequate basis for terminating leases when timely production does not occur. For example, leases issued under the requirements would contain a clause requiring diligent mining of coal deposits; however, we were advised by a Bureau official that a lease still would provide that operations be suspended if the lessee pays a minimum royalty for 1 year in advance.

Although we recognize the need for coal producers to acquire sufficient reserves to supply their reasonable needs, we believe that the higher rentals to be set forth in new and adjusted leases might discourage some lessees from holding leases when they have no immediate plans for mining the coal deposits. These new leases, however, will be issued for indeterminate periods and can be adjusted only at 20-year intervals. Presently the Bureau has no way of knowing how effective the higher rental rates will be in encouraging the lessees to mine the coal deposits or whether they will result in the lessees' relinquishing leases in those cases in which they have no plans for mining coal.

We therefore believe that the lease terms should provide for the timely development of coal deposits. The Department could then initiate court proceedings to terminate a lease, as provided for in the Mineral Leasing Act, if the lessee does not undertake development and production within

a reasonable time. Although the termination of some non-productive leases would result in a loss of rental revenues, we believe that the mere leasing of Federal lands is not accomplishing the objective of the leasing program or the intent of legislation authorizing the program. Moreover, if the potential increase in demand for coal materializes, the Government could receive significantly larger revenues from leasing its lands through the receipt of increased bonuses.

RECOMMENDATIONS TO
THE SECRETARY OF THE INTERIOR

We recommend that the Secretary of the Interior consider discontinuing the practice of issuing leases for Federal lands that permit lessees to defer or suspend mining operations on the lands by the payment of a minimum royalty for 1 year in advance unless lessees can justify that operations should be deferred or suspended.

CHAPTER 4IMPROVED PROCEDURES NEEDED FOR DETERMINING ROYALTIES

The Government has not received an equitable royalty for coal produced on Federal lands because (1) royalties have been computed on the basis of a fixed amount a ton, which have not taken into account pertinent factors, such as variances in costs of extracting the coal and in coal selling prices, and (2) increases in royalty rates have not been applied to outstanding leases on a timely basis since the law permits adjustments in the terms and conditions of Federal leases only at 20-year intervals.

In February 1971 the Survey's policy of calculating royalties on the basis of a fixed amount a ton was changed to provide for royalties to be calculated on a basis of a percentage of value, which, in effect, gives some consideration to the factors cited above. This change, however, will affect only leases issued or adjusted after February 1971 and will not affect existing leases until their terms are adjusted at the expiration of the 20-year periods.

VALUE OF COAL NOT CONSIDERED IN
ESTABLISHING THE ROYALTY RATE

Prior to 1964 the terms of the Federal coal leases provided for royalty rates which generally ranged from 10 to 15 cents a ton. For new leases and leases adjusted after that date, the royalty rates applicable to underground mining of low-grade coal (lignite) and coal used primarily as fuel for steam power plants were increased to 15 cents a ton for the first 10 years and to 17-1/2 cents a ton thereafter. A few leases involving high-grade coal provided for a royalty of 20 to 22-1/2 cents a ton. For coal which was to be mined by strip-mining methods, the royalty rates were 2-1/2 cents a ton greater than the rates for underground mines.

In February 1971 the Survey established a new method for computing royalties. The method provides that royalties for new or adjusted leases be computed on the basis of a percentage of the value of coal mined. The percentage for coal extracted by (1) strip-mining is 5 percent and (2) underground mining is determined by the use of a formula which

prescribes rates ranging from 2-1/2 to 4 percent--depending on the depth of the mine.

We were advised by a Survey official that the formula for computing royalties was an attempt to give consideration to the cost of extracting coal by providing (1) a low rate for underground mining of coal that is mined at great depth, which is costly to mine, and a higher rate for coal that is mined near the surface, which is less costly to mine, and (2) a higher rate for strip-mining which is less costly than underground mining.

The sales prices of coal produced under the leases included in our review ranged from \$1.50 to \$10.49 a ton. The royalty rates, however, were based on a fixed amount for each ton, and this price variation was not a factor considered in establishing rates. Royalty payments under these leases will continue at the inequitable rates until the 20-year-adjustment period, and then the royalty provisions of the leases can be revised to provide for the payment of royalties on the basis of a percentage of the value of coal sold rather than a fixed amount for each ton.

The following example illustrates the inequity of providing for the payment of royalties on the basis of a flat rate for each ton of coal sold.

The Government received royalties at 15 cents a ton for about 300,000 tons of coal produced under one lease in Colorado and for about 500,000 tons of coal produced under another lease in Colorado during the period January 1, 1968, through March 31, 1970. On the basis of estimates by Survey officials, the average selling price of the coal produced under one lease was about \$9 a ton and \$3.30 a ton under the other lease. We estimate that, had the royalties been computed on the basis of a percentage of value established by the Survey in February 1971, the lessee who sold coal for \$9 a ton would have paid a royalty of 31-1/2 cents a ton and that the lessee who sold coal for \$3.30 would have paid a royalty of 16-1/2 cents a ton. The resultant increase in Federal royalty revenue would have been about \$58,000. We believe that the payment of royalties at the same rate a ton under each of the leases is not equitable to either lessees or the Federal Government.

INFLEXIBLE ROYALTY RATES

A report prepared by the Geological Survey in 1957 on a review of royalty rates and terms pointed out that:

"Compared with simple percentage royalty, the advantage of tonnage royalty is ease of administration where a product is relatively uniform in quality and value, and a sensitive system is unwarranted for the term of the lease. The disadvantage of straight tonnage royalty over a longer period, or with a variable product, is that it encourages selective mining and it penalizes the operator in depression, the owner in prosperity or inflation."

Following is an example of a case in which no immediate benefits accrued to the Government from the increased royalty rates because the rates are not applicable to existing leases until they are adjusted at the expiration of the 20-year periods.

A lease, issued on June 1, 1956, of Federal coal lands in Wyoming provided for payment of royalties at the rates of 10 cents a ton for the first 10 years, 12-1/2 cents a ton for the next 5 years, and 15 cents a ton thereafter. If the royalty rate of 17-1/2 cents a ton established in 1964 for new and adjusted leases involving this type of coal-mining operation could have been applied to the production under this lease after 1964, the Government's royalties would have been substantially increased. For example, if the higher royalty rate could have been applicable to the production under this lease during the period April 1, 1968, to March 31, 1970, the Government would have received additional royalties of about \$115,000.

The following table shows the average royalty for each ton paid to the Government for coal mined on Federal leased lands in the four States included in our review during fiscal year 1971.

	Coal mined			Royalties	
	Tons	Value	Average value for each ton	Total	Average royalty for each ton
Colorado	2,645,630	\$18,153,384	\$6.86	\$423,651	\$0.160
Montana	89,427	260,223	2.91	9,467	.106
Utah	2,186,698	13,137,793	6.00	328,005	.150
Wyoming	2,814,745	10,339,244	3.67	385,078	.137

We estimate that the Government would have received increased royalties of about \$108,000 in fiscal year 1969 if the minimum royalty rates established in 1964--15 cents a ton for coal produced in underground mines and 17-1/2 cents a ton for coal produced in strip mines--could have been applied to the coal mined on the leased lands in the four States. This difference between the royalties received and those that would have been received on the basis of the 1964 rates illustrates the effect of the statutory provision authorizing the Secretary to unilaterally adjust the lease terms only at 20-year intervals.

CONCLUSIONS

We believe that royalty payments have not been established on a fair basis. We believe also that the Department's new method of computing royalties on the basis of the value of coal mined which, in effect, gives some consideration to the cost of extracting the coal and coal selling prices is an improvement over the prior method. All leases issued or adjusted prior to February 1971, however, provide that royalties be computed on the basis of a fixed amount a ton. These leases provide also that the time to adjust and fix royalties be at 20-year intervals from the date of the issuance of the leases.

As pointed out in chapter 2, the provisions for restoration of lands disturbed by mining operations established in January 1969 will not be incorporated into the outstanding leases until they have been adjusted at the end of the 20-year periods. In chapter 3 we pointed out that new rental rates established by the Survey in February 1971 will not be applicable to existing leases until they have been adjusted at the end of the 20-year periods.

We therefore believe that the Department should give consideration to initiating a study to determine the desirability of seeking a change in the law to permit the inclusion in future leases of provisions authorizing the adjustment of the royalty rates and other lease terms, such as those providing for restoration of lands, more frequently than at 20-year intervals. This study should consider not only the effects that such a change would have on the royalties and rentals and on the improvements in the reclamation of Federal lands affected by mining but also the effect it would have on the lessee's ability to continue mining operations on a profitable basis, particularly in cases in which the lessee has entered into long-term agreement to supply coal at a fixed price.

RECOMMENDATION TO
THE SECRETARY OF THE INTERIOR

We recommend that the Secretary of the Interior initiate a study to determine the desirability of seeking a change in the law that would permit the adjustment of royalty rates and other lease terms more frequently than at 20-year intervals.

CHAPTER 5AGENCY COMMENTS

By letter dated January 25, 1972, the Director of Survey and Review furnished us with the Department's comments on our draft report. (See app. II.) The Department did not comment on the recommendations in our draft report; however, it stated that, because of the energy crisis and the demand for environmental protection, management of the Federal coal reserves had become a high-priority program and currently was under review. The Department stated that it was exploring a variety of alternatives in management procedures, including diligent development and minimum production requirements, escalating rentals, minimum development requirements, bidding procedures, a schedule of production plans, lease term adjustment periods, and other provisions that would aid in the management of the program.

The Director subsequently informed us that our recommendations would be considered by the Department in its review of the coal-leasing program. The Department, in its letter of January 25, 1972, stated that:

"We agree that the GAO has identified some of the most pressing issues before the Department concerning our coal resource management program. However, we are concerned that not all aspects of our minerals and energy resource management programs--the coal leasing programs being one part--are sufficiently discussed to reveal the interrelationships that exist and that are being considered totally by the Department."

The Department did not elaborate on the interrelationships that existed and that were being considered totally by the Department. We were subsequently advised by the Director of Survey and Review that, to devise solutions to the problems raised in this report, the Department could not limit its consideration to only the coal-leasing program.

- - - -

With regard to our discussion in the report on the inequitable royalties received for coal produced from Federal lands (see ch. 4), the Department stated that:

"In general, the Department does not limit its evaluation and fair-market value to a royalty base alone. We use a total resource evaluation, rental, royalty and bonus bid as well as consideration of the method of bidding (i.e., sealed vs. oral auction) to assure the receipt of fair-market values."

Although we recognize that the Department receives revenues for its coal resources other than royalties, we question whether the inequities in the royalty rates are mitigated through the receipt of rentals and bonuses.

With respect to bonuses the Government does not receive a bonus in the event a preference-right lease is issued. About half the leases in force in the four states included in our review were preference-right leases for which the Government had not received any bonuses. As pointed out on page 30, there has been a general lack of competition for competitively awarded coal leases in the past, and only in recent lease offerings has the Bureau received large bonuses for its leases.

The Department's records did not, however, indicate that the Department had considered the inequities in the royalty rates in establishing the minimum acceptable bonus bids. Moreover the bonuses reflect judgments made prior to the award of leases and therefore cannot take into account variances in coal prices that may occur during the next 20 years.

With respect to rental payments, it should be noted that rentals for any year are credited against the royalties as they accrue for that year. Thus rentals are received from only nonproductive or very low productive leases. It should be noted also that rentals, except for a few recently issued leases, are not based on consideration of factors, such as variances in the cost of extracting coal and in coal prices, and cannot be adjusted except at 20-year intervals.

The Department pointed out that our report limited its discussion to coal permits and leases on Federal lands but that the Department, in development of its Federal coal resource management program, considered other than federally owned coal resources. The Department furnished us with tables used in its resource management program, which it believes would add perspective to our discussion of the Federal coal-leasing program. The tables are included in appendix II of this report.

The tables furnished do not, however, provide comparisons of (1) the total acreage of Federal land leased for coal-mining purposes with the total acreage of other land in the four States leased for coal-mining purposes, (2) the extent of coal reserves on leased Federal land with the reserves on other leased lands in the four States, and (3) the number of productive and nonproductive Federal leases with the number of such leases of other land in the four States.

We believe that, in the absence of such data, the tables furnished by the Department do not present an adequate basis for evaluating the Department's program for developing coal resources on Federal lands in relation to what is being accomplished in the development of State and private coal resources.

CHAPTER 6SCOPE OF REVIEW

Our review of the Department of the Interior's program for leasing Federal lands containing coal deposits in the States of Colorado, Montana, Utah, and Wyoming was made at the Regional Offices of the Branch of Mining Operations, Conservation Division, Geological Survey at Denver, Colorado; Billings, Montana; and Salt Lake City, Utah; at the Bureau of Land Management State offices in Denver, Colorado; Billings, Montana; Salt Lake City, Utah; and Cheyenne, Wyoming; at the headquarters offices of the Bureau and Survey in Washington, D.C.; and at the appropriate State agencies in the States of Colorado, Utah, and Wyoming.

We examined pertinent laws and regulations which governed the leasing of Federal coal lands, including State reclamation requirements, and the determination of royalties due from the leased lands and examined into the conditions of Federal lands at 13 coal mines in the States of Colorado, Montana, Utah, and Wyoming.

HENRY M. JACKSON, WASH., CHAIRMAN
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 GAYLORD NELSON, WIS. HENRY BELLMON, OKLA.
 LEE METCALF, MONT.
 MIKE GRAVEL, ALASKA

JERRY T. VERKLER, STAFF DIRECTOR

United States Senate

COMMITTEE ON
 INTERIOR AND INSULAR AFFAIRS
 WASHINGTON, D.C. 20510

11 February 1970

Mr. Elmer B. Staats
 Comptroller General
 of the United States
 Washington, D.C. 20548

Dear General Staats:

The Department of the Interior is responsible for a substantial coal leasing program, important not only from the standpoint of a return to the public from public lands but also from the point of view of conservationists.

Recently, conservationists have expressed concern to me over terms of leases. I also have been told that the bidding arrangements tend to stifle competition, the lease terms should be strengthened to meet conservation needs and the royalty rates need to be reviewed to assure an equitable return to the Federal government and payments in lieu of taxes to local governments.

I would appreciate your making an appropriate review starting with sales currently under consideration or being advertised and going back to sales made since 1 January 1968. In this connection, please include Department regulations, memoranda and pertinent instructions including an analysis of the effect of changes made. In terms of sales, please include any in Montana plus appropriate sales in the three leading public land coal producing states.

Very truly yours,

Lee Metcalf
 Lee Metcalf
 February 11, 1970

APPENDIX II



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

Mr. Max Hirschhorn
Associate Director
Civil Division
U.S. General Accounting Office
Washington, D.C. 20548

JAN 25 1972

Dear Mr. Hirschhorn:

The Department has reviewed your proposed report to Senator Lee Metcalf on the administration of the Department of Interior's Coal Leasing Program. To assist you and our staff, we have worked closely with your auditors concerning the background statistics and historical perspective, concluding this exchange on January 21, 1972.

In face of the energy crisis, increasing pressure has been placed on coal within the past few years to reestablish its position as a major contributor to the nation's energy needs. This, coupled with the identified demand for environmental protection, management of the Federal coal reserves has become a high priority program of the Interior Department. In response to this, we are evolving a viable coal resource management program and numerous issues still are in the process of being reviewed and resolved within the Department.

The Department's mineral management program includes the assurances of (1) orderly and timely resource development, (2) protection of the environment, and (3) the receipt of fair-market value for leased resources.

Currently, the Department is exploring a variety of alternatives in management procedures, including diligent development and minimum production requirements, escalating rentals, minimum development requirements, bidding procedures (sealed bidding vs. oral auction), schedule of production plans, lease term adjustment periods and other criteria that will aid the resource manager in coal lease and permit management decisions.

The Mining and Minerals Policy Act of 1970 provides the Department additional authority to address these problems. Further, enactment of the Mineral Leasing Act of 1971 (S-2726) will assist the Department's attainment of the Nation's mineral resource goals.

We suggest that the report should recognize that in addition to the two reasons stated for the upsurge of interest in leasing of Federal Coal Reserves the Department considers two additional items affecting the increase of applications. They are:

- additional coal needed for existing and new coal-burning powerplants, and
- desire of applicants to obtain leases before Government policy changes are initiated.

Both these items can be supported in fact and through experience.

APPENDIX II

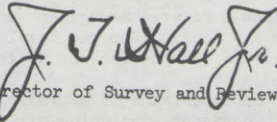
In general, the Department does not limit its evaluation and fair-market value to a royalty base alone. We use a total resource evaluation, rental, royalty and bonus bid as well as consideration of the method of bidding (i.e., sealed vs. oral auction) to assure the receipt of fair-market values.

Also, the draft report limits its discussion to coal permits and leases on Federal lands. The Department in development of a meaningful Federal Coal Resource Management Program considers coal other than Federally-owned (i.e., State and private). We feel that the addition of two tables to the report would add the perspective we use in our overall resource management program. Table 1 illustrates some of the acreage leased under known respective ownership. Table 2 illustrates the percentage of Federal coal production to total production in the four States discussed in the report. Both tables are attached.

We agree that the GAO has identified some of the most pressing issues before the Department concerning our coal resource management program. However, we are concerned that not all aspects of our minerals and energy resource management programs--the coal leasing programs being one part--are sufficiently discussed to reveal the interrelationships that exist and that are being considered totally by the Department.

We appreciate the opportunity to comment on the material being provided Senator Metcalf.

Sincerely yours,



J. J. Hall Jr.

Director of Survey and Review

Enclosure

APPENDIX II

Table 1

Known Acres Under Lease or Permit

<u>State</u>	<u>Acres State Land</u>	<u>Acres Federal Land</u>	<u>Acres Indian Land</u>	<u>Classified Coal Acres</u>
<u>LEASES</u>				
Colorado	250,000	122,040	19,452	4,059,138
Montana	57,537	31,846	-	11,459,070
Utah	86,726	267,418	-	1,695,079
Wyoming	<u>717,986</u>	<u>178,910</u>	<u>-</u>	<u>7,960,946</u>
Subtotal	1,112,249	600,214	19,452	25,174,263
<u>PERMITS</u>				
Colorado	-	35,756	-	-
Montana	-	31,231	394,369	-
Utah	-	166,407	-	-
Wyoming	-	<u>181,149</u>	<u>-</u>	<u>-</u>
Subtotal	-	414,543	394,369	-
Total leases and permits	1,112,249	1,014,757	414,021	
% of total	43.8	39.9	16.3	

Land grant railroads are major lessors in Colorado, Montana and Wyoming. The number of acres under lease is unknown. There is also an unknown amount of private land under lease.

Table 2

COAL PRODUCTION

Fiscal Year 1971

<u>State</u>	<u>Federal Production</u>	<u>Total Production</u>	<u>% Federal</u>
Colorado	2,646,000+	6,048,000+	44
Montana	89,000	3,206,000	3
Utah	2,187,000	5,036,000	43
Wyoming	<u>2,815,000</u>	<u>7,946,000</u>	<u>35</u>
	7,737,000+	22,236,000+	35

ENVIRONMENTAL PROTECTION AGENCY,
Washington, D.C., March 17, 1972.

HON. LEE METCALF,
U.S. Senate,
Washington, D.C.

DEAR SENATOR METCALF: Mr. Ruckelshaus has asked me to thank you for your letter of March 4 concerning the estimated water requirements for the development of the power industry as outlined in the North Central Power Study (NCPS), and for the potential development of the coal gasification industry within the study area.

The NCPS Report of Phase 1, Volume 1, published in October 1971 projected that mine-mouth coal mining and power generating facilities could be developed sufficiently by the year 2000 to generate 53,000 megawatts (MW(e)) of electrical power within the 3-state study area.

The NCPS estimated that the total of existing and potential water resources available in the study area is 2.9 million acre-feet (947 billion gallons annually). The estimated consumptive water use for the generation of 53,000 MW(e) of electrical energy is approximately 341 billion gallons per year, based on a consumptive water requirement of 28 cubic feet per second per 1000 MW(e) of electrical energy generated.

Although the Study did not specifically include the development of a coal conversion industry to produce synthetic gas, char, or synthetic oil, it concluded that the coal reserves in the study area are more than adequate (estimated to be 54 billion tons) to support the projected development of the power industry. If a synthetic gas industry were developed of sufficient size to support the total fuel requirements of the projected electrical load by the year 2000, the net water consumption of that industry is estimated to be 366 billion gallons per year, or approximately equal to the water needs of the power generation industry. This estimate is based on available data which indicates that 30 million gallons per day of water would be needed to support a 250 million cubic feet per day coal gasification plant. The estimated water requirements of the power generation and coal gasification industries producing the 53,000 MW(e) projected electrical load by the year 2000, therefore, would consume approximately 75 percent of the available water resources within the study area.

The estimates of the consumptive water requirements for the power generation and coal gasification industries are based on the utilization of evaporative-type cooling technology (wet-type cooling towers). The eventual utilization of dry-type cooling technology, however, would significantly reduce these estimated water requirements since evaporative water losses are eliminated with a dry-type system.

Sincerely yours,

DONALD M. MOSIMAN,
Assistant Administrator for Air and Water Programs.

RESOLUTION CONCERNING SURFACE MINING, MADE AND SUBMITTED BY THE HARLAN COUNTY EMERGENCY AND RESCUE SQUAD, INC. AT ITS REGULAR MEETING AT LAWNVALE, KENTUCKY HELD FEBRUARY 7, 1972

Whereas the practice of surface mining in Eastern Kentucky Region is devastating large areas on steep slopes to the extent that such areas are now far beyond restoration to anything resembling their original shape. Irreparable damage has already been done and is still being done.

Whereas surface miners are pushing literally millions of tons of loose soil over the edges of strip and auger mine benches causing the soil to wash down the steep slopes during periods of heavy rainfall. This fills the natural water holding pores of the soil with silt thus causing the soil to lose its natural water holding capabilities. This increases the danger of floods from heavy rainfall or cloudbursts which occur frequently in the Region.

Whereas silt and sulfuric acid from surface mining practices in the Eastern Kentucky Region have been washed into the natural streams to cause the streams to be so polluted that aquatic life cannot be supported because of the destruction of the natural cover and the acid content of the water is too high.

Whereas the siltation and acid pollution of the waters of the natural streams of the Eastern Kentucky Region has reached such proportions that the health and safety of the people living in the Region is threatened by an unfit water supply and the danger of floods and that such threats should be, out of fairness to the people living in the Region, removed and the surface mining industry restrained from causing such threats in the future. Therefore the Harlan County Emergency and Rescue Squad, Inc.

Resolves, That State and Federal Officials be advised of the above described threats to the health and safety of the people of the Eastern Kentucky Region and that such officials be asked and urged to support such legislation necessary to regulate and control the mining practices of the surface mining industry which pose the above described threats. This regulation and control should not be unduly delayed because such delay will only cause an already imminent danger to reach such proportions that it is beyond correction.

Copies of this resolution are to be sent by United States mail to the appropriate State and Federal officials of the Executive and Legislative Branches of the government.

We need help! Please give us a Federal moratorium on this issue!

JAMES C. MCCREARY, *Captain*.
GERNA CAMPBELL, *Secretary-Treasurer*.

STATE COLLEGE, PA., April 6, 1972.

FRANK E. MOSS,
Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR SENATOR MOSS: Enclosed is a copy of the report "A Study of the Effectiveness of Backfilling" that I and five other students here at the Pennsylvania State University did last summer. We feel that the results of this study are very important and should be made known to your committee. This study indicates that where acid conditions are present in a coal seam more must be done than contour backfilling to stop the acid discharge after the mine closes down. This report refutes the idea that contour backfilling completely negates the discharge of acid waters from stripped land. I hope that this report can be of help to you in planning future legislation on surface mining.

(Report in Committee files.)

Sincerely,

KEITH G. KIRK.

COALITION TO TAX POLLUTION,
Washington, D.C.

WHY LOW-SULFUR COAL IS NOT THE SOLUTION TO SULFUR POLLUTION

The easiest short-term means to control sulfur pollution (and the only means generally used today) is to switch to low-sulfur coal. Many people, including regulatory agencies in several areas where the sulfur pollution is particularly severe, have assumed that the use of low-sulfur fuel is the appropriate solution to the sulfur pollution problem. Pioneer regulations in sulfur control have often been in the form of restrictions on the sulfur content of fuel. The "need" for low-sulfur coal has been cited as a major reason for the burgeoning exploitation by strip-mining of low-sulfur coal reserves in the West.

However, for several reasons, both economic and environmental, the use of low-sulfur coal is not an efficient or desirable long-term solution. In the first place, even low-sulfur fuel contains significant amounts of sulfur, which will require supplementary forms of abatement anyway. For example, the Four Corners power plant in Arizona, even though it burns low-sulfur coal (.7% sulfur), emits 300 tons of sulfur dioxide daily (150 tons of sulfur). Using low-sulfur fuel is simply a way of lessening the problem. Particularly with the large quantities of fuel consumed by power plants, even a small percentage of sulfur in the fuel can be a major problem.

In addition, the extra cost of using low-sulfur coal is almost higher than the anticipated costs of other forms of abatement. According to H. C. Hottel and J. B. Howard in *New Energy Technology: Some Facts and Assessments*, low sulfur coal usually costs about \$2 more per ton than does high-sulfur. This means

about .8 mills per kilowatt hour, which is the equivalent of paying 3.4 cents per pound of sulfur abated. Adding on the high cost of transporting coal from Western sources to Eastern users (1500 miles adds \$9 per ton, or about 3.6 mills per kilowatt hour), abatement by this method becomes very expensive. Low-sulfur coal transported 1500 miles would cost 18.4 cents per pound of sulfur abated.

Total costs for abatement by other methods vary greatly, but almost all fall well below the cost of using low-sulfur coal as a solution. Figures for abatement by other methods, also taken from Hottel and Howard, show that coal gasification and partial liquefaction to obtain a sulfur- and ash-free extract are both very economical solutions:

Coal gasification: In a new plant taking advantage of higher efficiencies possible with a combined gas-steam cycle, abatement costs are about 4.2 cents per pound of sulfur abated, but by the 1980's, an advanced-cycle gas-steam plant should be able to produce electricity *cheaper* than at present, sulfur-producing power by 1 mill per kilowatt hour, or 4.2 cents saved per pound of sulfur abated. By using gasified coal in a conventional plant, the cost is more—about 10.9 to 12.2 cents per pound of sulfur abated—but even this compares very favorably to low-sulfur coal which is transported long distances, particularly considering the amount of sulfur pollution remaining even after low-sulfur coal is utilized.

Partial coal liquefaction, sufficient to remove sulfur and fly-ash: This process will cost from .3 to 1.3 mills per kilowatt hour, or about 1.3 to 5.5 cents per pound of sulfur abated. Since this method gets rid of fly-ash as well as sulfur, a saving of about .36 mills per kilowatt hour should be taken into account.

A summary of the costs of various forms of abatement available to power plants, in terms of cents per pound of sulfur abated, is found in the following table:

Solution:	<i>Cost per pound of sulfur abated</i>	<i>Cents</i>
Low-sulfur coal.....		¹ 3.4
Desulfurized oil.....		9.3 to 19.0
Coal gasification:		
1. 1970's:		
(a) New plant.....		4.2
(b) Conventional plant.....		10.9 to 12.2
2. 1980's: New plant.....		² 4.2
Partial coal liquefaction.....		³ 1.3 to 5.5
Stack gas removal.....		11.4

¹ Plus 1 cent per 100 miles of transportation.

² Savings.

³ Minus credit for fly-ash removal.

The environmental costs of strip-mining the reserves of low-sulfur coal in this country must be added to the costs to the power companies outlined above. Although the economic damage due to strip-mining is not as clear-cut to evaluate, the costs are significant and cannot be ignored.

In conclusion, the use of low-sulfur coal as a solution to the sulfur pollution problem is not appropriate, economic, or effective:

1. The amount of sulfur pollution emitted from the combustion of low-sulfur coal is not negligible; on the contrary, supplementary abatement would be necessary in most cases.

2. Alternate forms of abatement, which can be implemented regardless of the sulfur content of the fuel, compare very favorably in cost, most of them being significantly cheaper. These alternate forms also can achieve a higher degree of sulfur removal, some close to 100%.

3. Damage due to strip-mining must be added to the costs named above, tipping the balance even more toward alternate forms of abatement.

The only reasonable excuse for using low-sulfur coal as a sulfur pollution control measure is in the very short term. While other abatement measures are being constructed, the use of low-sulfur fuel can lessen the problem.

92^D CONGRESS
2^D SESSION

S. 3282

IN THE SENATE OF THE UNITED STATES

MARCH 1, 1972

Mr. RANDOLPH introduced the following bill; which was read twice and referred to the Committee on Interior and Insular Affairs

A BILL

To provide for the regulation of production of surface mined coal so as to assure the protection of the public health, welfare, and the environment, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "Surface Coal Mine Control
4 Act of 1972".

5 SEC. 2. (a) The Congress hereby declares that it is the
6 purpose of this Act to provide for regulation of production
7 of surface mined coal so as to assure the protection of the
8 public health, welfare, and the environment, and to assure
9 that reclamation of affected areas will be properly accom-
10 plished.

1 (b) Each surface coal mine, the products of which enter
2 commerce or the operations of which affect commerce, and
3 each surface coal mine on Federal lands, including Indian
4 lands, shall be subject to the provisions of this Act.

5 SEC. 3. (a) On and after the expiration of one hundred
6 and eighty days following the date of the enactment of this
7 Act, or the expiration of the sixty-day period following the
8 final publication in the Federal Register of guidelines in ac-
9 cordance with section 5 (e) of this Act, whichever first
10 occurs, no person shall develop or open any new site of op-
11 erations for the surface mining of coal on lands within any
12 State, including Federal lands and Indian lands, unless such
13 person has first obtained a permit from such State or a
14 Federal department pursuant to a plan (including an in-
15 terim plan) approved in accordance with the provisions of
16 section 7 or 9 of this Act. Any such permit so issued shall
17 be valid only during such period as the plan pursuant to
18 which it was issued is in effect and not suspended or re-
19 voked pursuant to this Act.

20 (b) As used in this section, the term "new site" means
21 any disturbance of the surface not covered by a valid permit
22 issued by a State or any Federal department and in effect
23 on the date of the enactment of this Act.

24 (c) On and after the expiration of twenty-four calendar
25 months following the date of the enactment of this Act, or

1 on and after the expiration of a twenty-calendar-month pe-
2 riod following the publication in the Federal Register of
3 final guidelines in accordance with section 5 (e) of this Act,
4 whichever first occurs, no person shall engage in or carry out
5 any activity involving the surface mining of coal on lands
6 within any State, including Federal lands and Indian lands,
7 from a surface mine subject to the provisions of this Act,
8 unless such person has first obtained a permit from such State
9 or a Federal department pursuant to a plan approved in
10 accordance with section 7 of this Act. Any such permit
11 so issued shall be valid only during such period as the plan
12 pursuant to which it was issued is in effect and not sus-
13 pended or revoked pursuant to this Act.

14 SEC. 4. (a) There is hereby established the Coal Surface
15 Mine Control Commission (hereinafter referred to as the
16 "Commission"), which shall be composed of seven members
17 appointed by the President of the United States as follows:

18 (1) one member, appointed from private life, who
19 shall be Chairman of the Commission;

20 (2) two members from the Department of the In-
21 terior (at an Assistant Secretary or equivalent level);

22 (3) two members from the Department of Agricul-
23 ture (at an Assistant Secretary or equivalent level); and

24 (4) two members from the Environmental Protec-

1 tion Agency (at an Assistant Administrator or equiv-
2 alent level).

3 (b) The Chairman of the Commission shall be compen-
4 sated at the rate prescribed for that of level IV of the Execu-
5 tive Schedule. Members appointed pursuant to clauses (2),
6 (3), and (4) of subsection (a) shall receive no compensa-
7 tion in addition to that provided for their regular employ-
8 ment, but all members of the Commission shall be entitled to
9 reimbursement for travel, subsistence, and other necessary
10 expenses incurred in the performance of duties vested in the
11 Commission.

12 (c) Notwithstanding any other provision of this Act, no
13 Federal department shall issue a permit to any person to
14 carry out surface mining operations for coal in any State if
15 the laws of that State prohibit such surface mining in any or
16 all categories of that State's lands, unless the President of the
17 United States determines that the paramount interests of the
18 United States require otherwise. In any case in which the
19 President so determines, the use of any such Federal lands so
20 mined shall thereafter be required to be compatible with land
21 use patterns on adjacent non-Federal lands.

22 (d) Subject to such rules and regulations as may be
23 adopted by the Commission, the Chairman shall have
24 power to—

25 (1) appoint and fix the compensation of an execu-

1 tive director, and such additional staff personnel as he
2 deems necessary, without regard to the provisions of
3 title 5, United States Code, governing appointments in
4 the competitive service, and without regard to the provi-
5 sions of chapter 51 and subchapter III of chapter 53 of
6 such title relating to classification and General Schedule
7 pay rates, but at rates not in excess of the maximum rate
8 for GS-18 of the General Schedule under section 5332
9 of such title; and

10 (2) procure temporary and intermittent services to
11 the same extent as is authorized by section 3109 of title
12 5, United States Code, but at rates not to exceed \$100
13 a day for individuals.

14 SEC. 5. (a) Within one hundred and twenty days fol-
15 lowing the date of the enactment of this Act, the Commis-
16 sion, in consultation with appropriate State and Federal offi-
17 cers, shall, in accordance with the procedures set forth in this
18 Act, develop, promulgate, and revise (as may be appro-
19 priate), mandatory guidelines covering activities involving
20 the surface mining of coal from a surface coal mine subject
21 to the provisions of this Act on all lands within any State
22 (including Federal lands and Indian lands).

23 (b) Such guidelines shall be based upon criteria de-
24 veloped on the basis of research, demonstrations, experi-
25 ments, and such other information as may be appropriate,

1 (c) Such guidelines shall not become effective unless
2 the Commission has first published such guidelines in the
3 Federal Register and afforded interested persons a period of
4 not less than thirty days after publication to submit written
5 data or comments. Except as provided in subsection (d) of
6 this section, the Commission shall, upon the expiration of
7 such period and after consideration of all relevant matter
8 presented, promulgate such guidelines with such modifications
9 as it may deem appropriate.

10 (d) On or before the last day of any period fixed for
11 the submission of written data or comments under subsec-
12 tion (c) of this section, any interested person may file with
13 the Commission written objections to a proposed guideline,
14 stating the grounds therefor and requesting a public hearing
15 by the Commission on such objections. As soon as practi-
16 cable after the period for filing such objections has expired,
17 the Commission shall publish in the Federal Register a no-
18 tice specifying the proposed guideline to which objections
19 have been filed and a hearing requested, and shall review
20 such guidelines and objections in accordance with subsection
21 (e) of this section.

22 (e) Promptly after any such notice is published in the
23 Federal Register by the Commission under subsection (d)
24 of this section, the Commission shall issue notice of and
25 hold a public hearing for the purpose of receiving relevant

1 evidence. Within sixty days after completion of the hear-
2 ing, the Commission shall issue a report setting forth its
3 findings of fact and views on such objections and shall make
4 such report public. Thereafter the Commission shall promul-
5 gate such guidelines with such modifications as it deems ap-
6 propriate. Such guidelines shall be effective upon their pub-
7 lication in the Federal Register.

8 SEC. 6. (a) Guidelines established pursuant to section
9 5 shall provide, among others, that each State or Federal
10 plan submitted pursuant to this Act shall, except to the ex-
11 tent otherwise provided in this Act, contain provisions as-
12 suring that—

13 (1) no activity involving the surface mining of
14 coal from a surface mine subject to the provisions of this
15 Act shall be carried out on any lands within such State
16 (including Federal lands and Indian lands) except in
17 accordance with a permit issued under a plan approved
18 pursuant to this Act;

19 (2) prior to the issuance of a permit pursuant to
20 any such plan, the issuing jurisdiction shall consider the
21 existing use and character of the affected surface and
22 the use to which the owner proposes to put the surface
23 area after mining and reclamation;

24 (3) no permit will be issued except where adequate-

1 ly demonstrated technology exists to reclaim the surface
2 area for the intended use;

3 (4) appropriate standards will be established so that
4 the degree of reclamation required can be determined;

5 (5) the term "reclamation", used with respect to
6 such plan, would mean, at a minimum, actions planned
7 and performed before, during, and after mining opera-
8 tions to shape and stabilize the topography of surface
9 mined lands and appropriately revegetate, in order to
10 achieve a productive use suitable to the soil, climate,
11 vegetation, terrain, and other conditions of the area;

12 (6) each applicant for a permit would be required
13 to submit, as a part of his application, a plan for the min-
14 ing operation and the reclamation intended to be under-
15 taken by such applicant;

16 (7) each applicant for a permit shall provide a bond
17 or cash deposit adequate to assure reclamation and other
18 compliance with the requirements and conditions of any
19 such permit;

20 (8) bonding requirements will be fairly applied and
21 access to adequate bonding assured to small operators;
22 and

23 (9) adequate authority exists (including the power
24 to order cessation of and enjoin activities involving the
25 extraction of coal from surface mines subject to this Act

1 without a permit, or violations of permit conditions) to
2 enable such State or Federal department to administer
3 and enforce such plan; including the authority to recover
4 from any violator the total profits derived as a result of
5 unlawful activities, together with an amount as damages
6 sufficient to restore the land affected by such violation to
7 its original condition.

8 (b) Any action pursuant to clause (9) of subsection
9 (a) of this section may be brought in a United States district
10 court for the district in which the defendant is located or
11 resides or is doing business, and such court shall have juris-
12 diction to restrain such violation, require compliance or
13 provide money damages in accordance with such clause (9).

14 (c) Such guidelines shall further provide a description
15 of—

16 (1) the minimum administrative information to be
17 furnished by an applicant for a permit;

18 (2) the degree of reclamation required for particu-
19 lar uses and the extent to which technology has been
20 demonstrated to accomplish that degree of reclamation
21 for particular slopes, terrains, geologic conditions, and
22 climate and meteorological conditions;

23 (3) surface mining and reclamation methods and
24 techniques, integrating practices for restoration and rec-

1 lamation into overall operating and materials handling
2 procedures, including data on alternative technologies,
3 methods, and operating procedures and their costs;

4 (4) regional physical conditions, including slopes,
5 terrains, vegetation, type climate, and meteorological
6 conditions which of themselves or in combination with
7 other factors may alter the public health and welfare and
8 environmental effects of surface mining on the immedi-
9 ate and surrounding areas;

10 (5) the type and extent of the potential public
11 health and welfare and environmental effects accompany-
12 ing surface mining of coal, including dislocation of resi-
13 dences and businesses and effects on future beneficial
14 uses of the land, surface and ground waters, air pollu-
15 tion, noise, seismic disturbances, flood control, soil ero-
16 sion, forestry, agriculture, and other natural resources;

17 (6) the measures which the Commission deter-
18 mines necessary to protect the environment during the
19 mining operations from siltation, acid runoff, and other
20 problems, including slag and gob piles (which shall be
21 defined in terms of a disturbance of the surface); and

22 (7) the criteria to be followed by States and Fed-
23 eral departments in submitting plans for approval pur-
24 suant to this Act in connection with the issuing of per-
25 mits pursuant to such plan and the conditions to be
26 imposed in connection therewith, such as—

1 (A) a requirement that the face of coal seams
2 and disturbed areas generally be covered with mate-
3 rial suitable to support vegetative cover;

4 (B) revegetation appropriate to the future use
5 of the land be accomplished within a reasonable
6 time;

7 (C) all debris, acid-forming materials, toxic
8 materials, or materials constituting a fire hazard
9 be buried (in a manner preventing leaching into
10 ground or surface waters) ;

11 (D) a specified maximum bench width not be
12 exceeded, and regrading where benches result; and

13 (E) backfilling eliminating all high walls and
14 spoil peaks, and not exceeding the original contour
15 of the land be accomplished as the mining operation
16 proceeds.

17 (d) Such guidelines shall also assure that any plan
18 submitted pursuant to this Act shall contain provisions—

19 (1) requiring surveillance and periodic reporting
20 as a part of each permit issued pursuant to a plan ap-
21 proved pursuant to this Act; and

22 (2) requiring State agency supervision and tech-
23 nical assistance in connection with permits so issued.

24 (e) (1) In order to assist State and Federal depart-
25 ments affected by this Act in developing policies and pro-

1 cedures designed to require permit holders to use, in con-
2 nection with the extraction of coal pursuant to such permit,
3 the best available means to accomplish such extraction, the
4 guidelines of the Commission shall set forth the best mining
5 technology known to the Commission, reflecting regional
6 characteristics. Such mining technology guidelines shall
7 include—

8 (A) the incorporation of environmental protection
9 and reclamation practices into the mining cycle, includ-
10 ing reasonable time limits for the completion of recla-
11 mation or the conducting of surface coal mining opera-
12 tions, which reflect the contribution of seasonal factors
13 to potential adverse effects, planting seasons, and delays
14 beyond the control of the operator;

15 (B) operating procedures and material hauling
16 techniques and methods which minimize potential effects
17 on the environment and public health and welfare; and

18 (C) procedures, methods, and techniques for the
19 use of explosives in surface coal mining operations.

20 (2) Nothing in the provisions of paragraph (1) of this
21 subsection shall be construed as precluding a State or Federal
22 department affected by this Act from permitting an operator
23 to use any other means in the extraction of coal, if he can
24 demonstrate such means to be equally as effective in coal
25 production, consistent with protection of the environment
26 and appropriate reclamation.

1 SEC. 7. (a) Each of the several States and any inter-
2 ested Federal department having jurisdiction over the admin-
3 istration of Federal lands affected by this Act, including
4 Indian lands, shall, after reasonable notice and public hear-
5 ings, be authorized to adopt and submit to the Commission
6 a plan which provides for the effective implementation,
7 maintenance, and enforcement of a program for the regula-
8 tion of activities involving the extraction of coal from a surface
9 mine subject to the provisions of this Act on lands within
10 such State, including Federal lands and Indian lands.

11 (b) (1) The Commission shall, within sixty days follow-
12 ing the submission of any such plan, approve or disapprove
13 such plan or any portion thereof. The Commission shall
14 approve such plan, if it determines that such plan—

15 (A) was adopted after reasonable notice and public
16 hearings;

17 (B) meets the requirements of the guidelines estab-
18 lished by the Commission pursuant to this Act;

19 (C) contains sufficient administrative, scientific,
20 and technical data to evaluate the manner in which
21 surface mining operations for coal will be conducted;

22 (D) requires that at least the minimum adminis-
23 trative information described in such guidelines be fur-
24 nished as a condition for a permit to engage in the sur-
25 face mining of coal;

1 (E) defines those topographical, meteorological, or
2 other physical conditions, or areas such as wilderness
3 areas or those of unique scenic beauty or State, local,
4 or national significance, in which the State or Federal
5 department intends to prohibit surface mining because
6 of potential adverse effects on the environment and
7 public health and welfare which could not otherwise be
8 avoided;

9 (F) requires each applicant for a permit to file a
10 detailed mining and reclamation plan which integrates
11 reclamation into surface mining operations and pro-
12 cedures as a condition for a permit;

13 (G) provides for the regulation of the use of ex-
14 plosives and road construction in surface coal mining
15 operations;

16 (H) provides for a periodic review of all permits
17 issued pursuant to such plan as to their continued com-
18 pliance; including periodic reports by the permittee and
19 agency supervisor;

20 (I) requires posting of performance bonds or cash
21 deposits in accordance with the guidelines;

22 (J) requires the filing, updating, and retention of
23 engineering maps of all surface coal mining operations
24 and of all inactive surface and underground coal mining
25 operations for which engineering or other maps are
26 available;

1 (K) provide for regular monitoring by the State or
2 Federal department of environmental changes in mined
3 areas to assess the effectiveness of regulations for mining
4 operations and the need to revise reclamation plans;

5 (L) designates a single agency with the responsi-
6 bility for administering and enforcing State or Federal
7 surface coal mining laws and regulations which must
8 insure full participation of the agencies responsible for
9 air quality, water quality, and other areas of environ-
10 mental protection;

11 (M) provides adequate authority, funding and per-
12 sonnel to implement and enforce State or Federal laws
13 and regulations, including, but not limited to, authority
14 to deny permits where the area affected cannot be ade-
15 quately reclaimed, and to order cessation of and to en-
16 join mining operations without a permit or which violate
17 permit conditions; and

18 (N) provides for full participation of all interested
19 governmental agencies, groups, and individuals in the
20 development and revision of regulations.

21 (2) If the Commission fails to take action on such place
22 within such sixty-day period, the plan shall be deemed to
23 have been approved.

24 SEC. 8. Following the approval of any plan pursuant

1 to this Act, the Commission shall conduct a continuing re-
2 view and evaluation of such plan and the administration and
3 enforcement thereof. If, as a result of such evaluation and
4 review, the Commission determines that the State or Federal
5 department has failed to carry out the administration or en-
6 forcement of such plan in accordance with the terms and
7 conditions thereof, the Commission shall so notify the State
8 or Federal department and shall suggest appropriate action,
9 or remedies and shall afford such State or Federal depart-
10 ment an opportunity for a hearing. If within one hundred
11 and twenty days thereafter such State or department has
12 not taken appropriate action as determined by the Commis-
13 sion, the Commission shall be authorized to suspend or re-
14 voke its approval of such plan. Such suspension or revoca-
15 tion shall be effective immediately upon the receipt by such
16 State or department of notice to that effect.

17 SEC. 9. During the period commencing on the date of
18 expiration of the six-calendar-month period following the
19 date of the enactment of this Act, and ending on the date of
20 expiration of the twenty-four-calendar-month period follow-
21 ing the date of the enactment of this Act or the date of the
22 expiration of the twenty-calendar-month period following
23 the final publication of guidelines in the Federal Register
24 pursuant to section 5 (e) of this Act, whichever first occurs,
25 each of the several States and any interested Federal depart-

1 ment having jurisdiction over the administration of Federal
2 lands, including Indian lands, shall be authorized to adopt
3 and submit to the Commission an interim plan which pro-
4 vides, at a minimum, a program which requires permits for
5 all surface coal mine operations on lands within such State,
6 including Federal lands and Indian lands, and which pro-
7 vides for protection from environmental damage during such
8 operations, appropriate reclamation, the posting of a bond
9 or cash deposit sufficient to assure reclamation, and statutory
10 authority sufficient to abate violations. If the Commission
11 determines that such interim plan at least meets the fore-
12 going requirements, it shall approve such interim plan. The
13 approval by the Commission with respect to any such in-
14 terim plan may be suspended or revoked in the same manner
15 as that provided for under section 8 of this Act.

16 SEC. 10. (a) There is hereby created in the Department
17 of the Treasury a fund to be known as the Surface Coal Mine
18 Reclamation Fund (hereinafter referred to as the "fund").
19 Any fee which has been collected and any moneys recovered
20 as a penalty pursuant to this Act in connection with a Fed-
21 eral plan, together with any proceeds acquired pursuant to
22 subsection (g) of this section, shall be deposited in the fund.

23 (b) Moneys in the fund may be expended by the Com-
24 mission for the purposes authorized under this section.

25 (c) The Commission may acquire by purchase, donation,

1 or otherwise, land, or any interest therein, which has been
2 affected by surface coal mine operations and has not been
3 reclaimed. Title to all lands or interests acquired shall be
4 taken in the name of the United States, but no deed shall be
5 accepted or purchase price paid until the title thereof has
6 been approved by the Attorney General.

7 (d) The Commission shall prepare plans and specifica-
8 tions for the reclamation of lands acquired pursuant to this
9 section. In preparing a plan of reclamation, the Commission
10 may call to its assistance, temporarily, any engineers or other
11 employees in any Federal department. The engineers and
12 employees shall not receive any additional compensation
13 other than that which they receive from such departments by
14 which they are employed, but they shall be reimbursed for
15 their actual and necessary expenses incurred while working
16 under the direction of the Commission.

17 (e) The Commission shall reclaim the lands, according
18 to the prepared plans, as moneys become available in the
19 fund.

20 (f) The Commission may use moneys from the fund for
21 the engineering, administrative, and research costs necessary
22 for reclamation of the lands.

23 (g) The Commission is authorized to dispose of lands
24 acquired and reclaimed by it under this section in such man-
25 ner as it determines to be in the public interests. The proceeds

1 from the sale or other disposition of such lands shall be
2 deposited in the fund.

3 (h) The Commission is authorized to encourage the
4 several States to establish and carry out comparable pro-
5 grams involving the reclaiming of lands and to make match-
6 ing grants to such States to assist them in connection there-
7 with.

8 SEC. 11. The Commission is authorized to conduct an
9 expanded research and development program for surface
10 coal mining technology with a view to minimizing environ-
11 mental damage and adverse effects on public health and wel-
12 fare including techniques of extraction which incorporate rec-
13 clamation into operating procedures so as to reduce the need
14 for extensive subsequent reclamation. In carrying out the
15 provisions of this section, the Commission is authorized to
16 enter into contracts with institutions, agencies, organizations,
17 or individuals, or through the transfer of funds to the Depart-
18 ment of the Interior, the Environmental Protection Agency,
19 or the Department of Agriculture.

20 SEC. 12. Any Federal department having jurisdiction
21 over the administration of the laws of the United States
22 relating to Federal lands, including Indian lands, shall be
23 authorized to promulgate such regulations as may be neces-
24 sary to enable it to carry out its duties under this Act.

25 SEC. 13. (a) Nothing in this Act shall be construed as

1 authorizing any mining operations in an area otherwise pro-
2 hibited under any law of the United States.

3 (b) The provisions of this Act shall be construed as
4 supplementary to the mining laws of the United States.
5 Nothing in this Act shall be construed as amending, altering,
6 or repealing any other law or regulation of the United States
7 relating to or involving mining, except to the extent that any
8 such law or regulation, or provision thereof, is in direct con-
9 flict with the provisions of this Act.

10 SEC. 14. As used in this Act, the term—

11 (1) "commerce" means trade, traffic, commerce,
12 transportation, or communication between any State, the
13 Commonwealth of Puerto Rico, the District of Columbia,
14 or any territory or possession of the United States and
15 any other place outside the respective boundaries there-
16 of, or wholly within the District of Columbia, or any
17 territory or possession of the United States, or between
18 points in the same State, if passing through any point
19 outside the boundaries thereof;

20 (2) "coal" includes bituminous coal, lignite, and
21 anthracite;

22 (3) "surface coal mine" means any surface mine
23 from which coal is extracted, after removal of all or part
24 of the overburden above, its natural deposits in the
25 earth;

1 (4) "person" means any individual, partnership,
2 association, corporation, firm, subsidiary of a corporation,
3 or other organization;

4 (5) "State" includes a State of the United States,
5 the District of Columbia, the Commonwealth of Puerto
6 Rico, the Virgin Islands, American Samoa, Guam, and
7 the Trust Territory of the Pacific Islands;

8 (6) "surface mining" means all or any part of the
9 process followed in the production of minerals from a
10 natural mineral deposit by the open pit or open cut
11 method, auger method, highwall mining method which
12 requires a new cut or removal of overburden, or any
13 other mining process in which the strata or overburden
14 is removed or displaced in order to recover the mineral;
15 or in which the surface soil is disturbed or removed for
16 the purpose of determining the location, quality or quan-
17 tity of a natural mineral deposit, including the deposit of
18 gob or spoil piles, but shall not include excavation or
19 grading when conducted solely in aid of onsite farming or
20 construction;

21 (7) "permit" means any permit, lease, license, or
22 other paper, document, or item; and

23 (8) "Federal department" means any department,
24 agency, office, bureau, or other entity of the United
25 States.

1 SEC. 15. (a) Except to the extent otherwise specifically
2 provided in this Act and except for permit programs of
3 Federal departments other than the Department of the In-
4 terior, the Secretary of the Interior shall have the admin-
5 istrative responsibility for carrying out the provisions of this
6 Act. For the purpose of assisting the States in carrying out
7 their programs approved pursuant to this Act, the admin-
8 istrative responsibilities of the Secretary of the Interior shall
9 include technical assistance to State and surface coal mining
10 operators, matching grants to States under subsection (b)
11 of this section, loans of Federal personnel and equipment
12 (such as helicopters and monitoring instruments) to States,
13 inspection, and backup enforcement functions on the re-
14 quest of States or under section 8 of this Act.

15 (b) The Secretary of the Interior is authorized to make
16 grants to States in an amount up to 50 per centum of the
17 cost of planning, developing, establishing, improving, or
18 maintaining programs for the regulation of activities involv-
19 ing the extraction of coal from surface mines, which have or
20 will have adequate authority, funding, and personnel to im-
21 plement and enforce State or Federal laws and regulations.

22 SEC. 16. The Commission shall file an annual report
23 with the President of the United States and the Congress
24 concerning the activities of the Commission in carrying out
25 its duties under this Act. The Commission shall file, on or

1 before the expiration of the one hundred and eighty-day
2 period following the date of the enactment of this Act, an
3 interim report to the President and the Congress concerning
4 such activities of the Commission.

5 SEC. 17. (a) The Commission is authorized to make
6 grants to States to provide to any individual unemployed,
7 if such unemployment resulted from the administration and
8 enforcement of this Act and was in no way due to the fault
9 of such individual, such assistance as the Commission deems
10 appropriate while such individual is unemployed. Such assist-
11 ance as a State shall provide under such a grant shall be
12 available to individuals not otherwise eligible for unemploy-
13 ment compensation and individuals who have otherwise
14 exhausted their eligibility for such unemployment compen-
15 sation, and shall continue as long as unemployment in the
16 area caused by such administration and enforcement con-
17 tinues (but not less than six months) or until the individual
18 is reemployed in a suitable position. Such assistance shall
19 not exceed the maximum weekly amount under the unem-
20 ployment compensation program of the State in which the
21 employment loss occurred and shall be reduced by an
22 amount of private income protection insurance compensation
23 available to such individual for such period of unemployment.

24 (b) The Commission is authorized to make grants to
25 States to provide assistance on a temporary basis in the form

1 of mortgage or rental payments to or on behalf of individuals
2 and families who, as a result of financial hardship caused by
3 any such unemployment, have received written notice of
4 dispossession or eviction from a residence by reason of fore-
5 closure of any mortgage or lien, cancellation of any contract
6 of sale, or termination of any lease, entered into prior to the
7 employment loss. Such assistance shall be provided for a
8 period of not to exceed one year or for the duration of the
9 period of financial hardship, whichever is the lesser.

10 (c) (1) Whenever the Commission determines that, as
11 a result of any such employment loss, low-income households
12 are unable to purchase adequate amounts of nutritious food,
13 the Commission is authorized, under such terms and condi-
14 tions as it may prescribe, to distribute through the Secretary
15 of Agriculture coupon allotments to such households pursuant
16 to the provisions of the Food Stamp Act of 1964 and to make
17 surplus commodities available.

18 (2) The Commission, through the Secretary of Agricul-
19 ture, is authorized to continue to make such coupon allot-
20 ments and surplus commodities available to such households
21 for so long as it determines necessary, taking into considera-
22 tion such factors as it deems appropriate, including the con-
23 sequences of the employment loss on the earning power of
24 the households to which assistance is made available under
25 this section.

1 (3) Nothing in this subsection shall be construed as
2 amending or otherwise changing the provisions of the Food
3 Stamp Act of 1964 except as they relate to the availability
4 of food stamps in such an employment loss.

5 (d) The Secretary of Labor is authorized to provide
6 reemployment assistance services under other laws of the
7 United States to any such individual so unemployed. The
8 Secretary shall provide assistance to any such unemployed
9 individual who is unable to find reemployment in a suitable
10 position within a reasonable distance from home, to relocate
11 in another area where such employment is available. Such
12 assistance may include reasonable costs of seeking such em-
13 ployment and the cost of moving his family and household
14 to the location of his new employment.

15 (e) Where the loss, curtailment, removal, or closing of
16 any industrial or commercial facility resulting from the ad-
17 ministration and enforcement of this Act causes an unusual
18 and abrupt rise in unemployment in any area, community,
19 or neighborhood, the Small Business Administration in the
20 case of a nonagricultural enterprise, and the Farmers Home
21 Administration in the case of an agricultural enterprise, are
22 authorized to provide any industrial, commercial, agricul-
23 tural, or other enterprise, which has the potential to be a
24 major source of employment for a substantial period of time
25 in such area, a loan in such amount as may be necessary to

1 enable such enterprise to assist in restoring the economic
2 viability of such area, community, or neighborhood. Loans
3 authorized by this section shall be made without regard to
4 limitations on the size of loans which may otherwise be
5 imposed by any other provision of law or regulation promul-
6 gated pursuant thereto.

7 (f) The Commission is authorized to make grants
8 to any local government which, as a result of the adminis-
9 tration and enforcement of this Act, has suffered a substan-
10 tial loss of property tax revenue (both real and personal).
11 Grants made under this section may be made for the tax
12 year in which the loss occurred and for each of the following
13 two tax years. The grant for any tax year shall not exceed
14 the difference between the annual average of all property
15 tax revenues received by the local government during the
16 three-tax-year period immediately preceding the tax year
17 in which such loss occurred and the actual property tax
18 revenue received by the local government for the tax year
19 in which the loss occurred and for each of the two tax
20 years following such loss but only if there has been no reduc-
21 tion in the tax rates and the tax assessment valuation factors
22 of the local government. If there has been a reduction in the
23 tax rates or the tax assessment valuation factors then, for
24 the purpose of determining the amount of a grant under
25 this section for the year or years when such reduction is

1 in effect, the Commission shall use the tax rates and tax
2 assessment valuation factors of the local government in
3 effect at the time of such loss without reduction, in order
4 to determine the property tax revenues which would have
5 been received by the local government but for such reduc-
6 tion.

7 SEC. 18. There are authorized to be appropriated such
8 sums as may be necessary to carry out the provisions of
9 this Act.



